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DIRECTIONS IN DEVELOPMENT

Information and Communication Technologies

# Transforming Government and Empowering Communities

*The Sri Lankan Experience  
with e-Development*

Nagy K. Hanna



THE WORLD BANK

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Washington, D.C.

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1 2 3 4 11 10 09 08

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ISBN-13: 978-0-8213-7335-4  
eISBN-13: 978-0-8213-7336-1  
DOI: 10.1596/978-0-8213-7335-4

Cover photo: © Anushka Sheran Wijesinha

#### **Library of Congress Cataloging-in-Publication Data**

Hanna, Nagy.

Transforming government and empowering communities : the Sri Lankan experience with e-development / by Nagy K. Hanna.  
p. cm.

Includes bibliographical references and index.

Includes bibliographical references (p. 195–209) and index.

ISBN 978-0-8213-7335-4—ISBN 978-0-8213-7336-1 (electronic)

1. Information technology—Economic aspects—Sri Lanka. 2. Communication in economic development—Sri Lanka. 3. Telecommunications—Sri Lanka. 4. Sri Lanka—Economic policy. 5. Internet in public administration—Sri Lanka. I. Title.

HC424.Z9I557 2008  
303.48'33095493—dc22

2007039304

# Contents

<i>Foreword</i>		<i>xi</i>
<i>Acknowledgments</i>		<i>xiii</i>
<i>About the Author</i>		<i>xvii</i>
<i>Acronyms and Abbreviations</i>		<i>xix</i>
<b>Chapter 1</b>	<b>Introduction</b>	<b>1</b>
	E-development as a Holistic Vision	2
	The e-Sri Lanka Program	5
	Learning from e-Sri Lanka	6
	Notes	8
<b>PART 1</b>	<b>Developing e-Leadership Institutions</b>	<b>9</b>
<b>Chapter 2</b>	<b>An Institutional Innovation in e-Leadership: The ICT Agency of Sri Lanka</b>	<b>11</b>
	The Institutional Model	12
	Evolution of the Authorizing Environment and Governance Model	19
	Mandate	31
	Paths to Sustainability	36
	Core Competencies	39
	Partnerships	43

	A Learning Organization	46
	Role of Aid Agencies	51
	Lessons and Conclusions	53
	Annex 2.1 The ICT Agency in Search of a Corporate Identity	59
	Annex 2.2 The ICT Policy Framework and the Organizational Structure of the ICT Agency	59
	Annex 2.3 Internal and External Risks Facing the ICT Agency at Inception	61
	Notes	63
<b>Chapter 3</b>	<b>Managing Results</b>	<b>65</b>
	Objectives of Monitoring and Evaluation for e-Sri Lanka	66
	Framework for Monitoring and Evaluation	68
	Arrangements for Monitoring and Evaluation	69
	Emerging Lessons	71
	Annex 3.1 Results Framework for Monitoring and Evaluation	75
	Notes	78
<b>PART 2</b>	<b>Transforming Government</b>	<b>81</b>
<b>Chapter 4</b>	<b>Best Practices and Options for Planning and Implementing e-Government</b>	<b>83</b>
	Approaches to Planning e-Government	84
	Implementation of e-Government: Four Phases	91
	Leadership, Partnership, and Change Management	99
	Providing Leadership, Building Partnerships	99
	Conclusions and Implications	101
	Notes	103
<b>Chapter 5</b>	<b>Readiness for e-Government: A Historical Perspective</b>	<b>105</b>
	History of e-Government in Sri Lanka	106
	Analysis of the Situation	114
	Findings and Recommendations	118
	Notes	120

<b>Chapter 6</b>	<b>A Vision of e-Government</b>	<b>121</b>
	Motivations and Aspirations	122
	Challenges to Realizing the Vision	127
	Lessons Learned: A Postscript	131
	Notes	134
<b>Chapter 7</b>	<b>A Strategy for e-Government: Initial Priorities and Lessons</b>	<b>135</b>
	Planning for e-Services	137
	Building e-Governance	144
	Implementation Agenda	148
	Early Experience and Lessons	152
	Annex 7.1 Criteria for Determining the Impact and Feasibility of Offering Services Online	163
	Determining Impact	163
	Determining Feasibility	164
	Notes	165
<b>PART 3</b>	<b>Empowering Communities</b>	<b>167</b>
<b>Chapter 8</b>	<b>Innovation in ICT Use for Poverty Reduction</b>	<b>169</b>
	Bottom-Up Planning and Participatory Development	169
	Serving the Bottom of the Pyramid	171
	The User Innovation Revolution	172
	Demand-Driven ICT-Enabled Development	173
	Notes	175
<b>Chapter 9</b>	<b>Financing ICT Innovation: Lessons from InfoDev</b>	<b>177</b>
	Conditions for Ensuring Impact by Small Grants	178
	Strategies for Soliciting and Funding Good Proposals	187
	Good Practices in Managing a Small-Grant Program	195
	Notes	201
<b>Chapter 10</b>	<b>E-society: Design and Early Experience</b>	<b>203</b>
	Overview of the Fund	204
	Practices in Soliciting and Funding Proposals	209

	Arrangements for Implementation and Monitoring	213
	Early Operation and Lessons Learned	218
	Notes	227
<b>Chapter 11</b>	<b>Key Lessons of e–Sri Lanka</b>	<b>229</b>
	Designing and Implementing a Holistic Framework for e-Development	229
	Developing e-Leadership Institutions	236
	Transforming Government	240
	Empowering Communities	243
	Notes	246
<b>Appendix 1</b>	<b>Main Program Components of e–Sri Lanka</b>	<b>249</b>
	ICT Policy, Leadership, and Institutional Development Program	249
	Information Infrastructure Program	250
	Reengineering Government Program	251
	ICT Human Resource Capacity-Building Program	252
	ICT Investment and Private Sector Development Program	252
	E-Society Program	253
<b>Appendix 2</b>	<b>Selected Indicators for Sri Lanka and Comparators</b>	<b>255</b>
	<b>Bibliography</b>	<b>257</b>
	<b>Index</b>	<b>265</b>
<b>Boxes</b>		
2.1	Analyzing the Dynamics of Institutional Development and Strategic Management	20
2.2	Stakeholder Analysis of the ICT Agency	22
2.3	Matching Scope to Resources and Capabilities	35
4.1	How Colombia’s Top-Down Approach Made e-Government Happen Fast	85
4.2	Examples of e-Government Applications with High Impact Potential	87
4.3	Partnering with the Private Sector for e-Government in Andhra Pradesh	100

7.1	Selected e-Services to Be Introduced in the First Phase of e-Government in Sri Lanka	151
9.1	Good Practices in Designing and Implementing an ICT Project	179
9.2	What a Request for Proposals Should Do	190
9.3	Key Elements of a Good Project Proposal	191
10.1	Selection Criteria for e-Society Fund Grants	214

## Figures

1.1	Links Among Key Elements of e-Development	3
2.1	Proposed Governance Mechanisms for e-Sri Lanka	29
4.1	A Road Map for Developing e-Government	92
4.2	Framework for Ranking Malaysia's e-Government Pilots by Priority	97
6.1	Transparency and Accountability in the Provision of e-Services	126
7.1	Proposed Business Services Architecture for e-Government in Sri Lanka	138
7.2	Steps in Prioritizing e-Services	141
7.3	Matrix for Prioritizing e-Services	142
7.4	Proposed Multilevel ICT Training Programs for e-Government in Sri Lanka	147
7.5	Proposed Framework for the First Phase of e-Government in Sri Lanka	149

## Tables

2.1	SWOT Analysis of the ICT Agency, February 2004	18
3.1	Inputs and Outputs of the Monitoring and Evaluation Process for e-Sri Lanka	67
4.1	Criteria for Selecting e-Government Pilots and Measuring Their Potential Benefits	95
4.2	Architecture of e-Government	98
5.1	Factors for Success and Failure in ICT Case Studies, Sri Lanka	115
5.2	E-government Readiness Scores for Selected Countries, 2003	117
5.3	SWOT Analysis for the e-Government Strategy of Sri Lanka	118
6.1	Selected ICT Applications Creating Value for Citizens	124

7.1	Selected e-Services Identified as Priorities	143
7.2	Responsibilities of ICT Units in Sri Lankan Government Agencies	146
10.1	Some Innovative Community Grant Proposals from the First Round	220
10.2	Partnership Grant Projects from the First Round	221

## Foreword

This book is about e-development in action. It is the second of two volumes on moving from a vision to a full-fledged program design and on to early implementation. The book focuses on e-Sri Lanka—the first program of its kind to be funded by the World Bank. It is about investing in the necessary policies, institutions, and capabilities for a developing country to harness the information technology revolution to transform government services and empower local communities. It is about a new type of development strategy.

As did the earlier book, *From Envisioning to Designing e-Development*, this volume captures the rich knowledge generated while designing holistic e-development programs in partnership with client countries. It draws on a Bank-client team and the author's long development experience in search of practical lessons.

The book focuses on the institutional innovations needed to lead the diffusion of the new information and communication technology (ICT) that can help transform developing economies into knowledge economies and information societies. It shows that developing e-leadership institutions is a long-term process, fraught with uncertainties, but a process that remains at the heart of implementing ICT-enabled development strategies.

The book covers the processes of envisioning, prioritizing, and implementing ICT-enabled modernization of the public sector. It also focuses on the use of ICT for poverty reduction and community empowerment. It examines the design and early implementation of a national innovation fund to promote experimentation and partnerships in support of ICT-enabled grassroots initiatives for poverty reduction.

This publication is responsive to the strong demand from policy makers and development practitioners for “how-to” literature—a rare example of a book that bridges the gap between theory and practice. It should resonate with academics as well as practitioners, including aid agency practitioners and program designers in developing countries who are engaged in translating their visions of ICT-enabled development into sound strategies and investment programs. Its frank and balanced treatment should facilitate learning from experience and bring realism to the literature and practice of ICT for development. We at the Bank are already drawing on these lessons for the benefit of our client countries.



Praful C. Patel  
Vice President of the South Asia Region  
World Bank

# Acknowledgments

This book, the second of two volumes on the experience of Sri Lanka in designing and implementing a comprehensive e-development program, represents the collective work of many people over several years. Ongoing implementation of the e-Sri Lanka program owes much to the current government of Sri Lanka, particularly to the championship of H.E. the President of Sri Lanka, Mahinda Rajapakse; Lalith Weeratunga, secretary to the president of Sri Lanka and a passionate advocate of a reengineered government; Professor Tissa Vitharana, minister of science and technology; and the late Professor V. K. Samaranayake, former chairman of Sri Lanka's Information and Communication Technology (ICT) Agency and a pioneer of ICT policy development and education in Sri Lanka.

The e-Sri Lanka program also owes much to early Sri Lankan champions and visionaries: the Honorable Milinda Moragoda, then minister of economic reform, science, and technology; and Eran Wickramaratne, chief executive officer of Sri Lanka's National Development Bank, the first chairman of the ICT Agency, and the person most instrumental in setting up the agency. Credit also goes to the early e-Sri Lanka steering committee (set up in June 2002), which served as a counterpart to the World Bank team: Eran Wickramaratne (chairman), Professor V. K. Samaranayake, Dr. Hans Wijesuriya, P. Thayaparan, Jayantha Fernando,

Kavan Ratnayake, Santhust Jayasuriya, Malathi John, and Dinesh Rodrigo. The diversity in the steering committee's political affiliations has ensured the successful continuation of the program despite changes in government.

Credit also goes to Manju Haththotuwa, the first chief executive officer of the ICT Agency, who helped build the agency during turbulent times. The agency's current leadership team—Reshan Dewapura (chief operating officer), Wasantha Deshapriya, and Jayantha Fernando—continues to play the key role in shaping implementation of the e-Sri Lanka components covered in this volume. Current and former members of the agency's board provided valuable comments, with special thanks due to Professors Vijaya Kumar and Lloyd Fernando.

On the World Bank side, several champions enabled the task team to collaborate with our Sri Lankan counterparts in preparing the e-Sri Lanka program and to navigate the Bank's rigorous requirements. I am most grateful to Praful Patel, vice president of the South Asia Region of the Bank, for his clear support of this new field of development assistance and for his encouragement to disseminate the lessons learned. Simon Bell, manager of the Finance and Private Sector Development Unit of the Bank's South Asia Region, has sponsored the publication of this volume and has continued to support the implementation of the pioneering e-Sri Lanka program. Mohamed Muhsin, former chief information officer of the Bank, and Peter Harold, the Bank's former country director for Sri Lanka, were early champions. The World Bank's core task team members included Sandra Sargent, monitoring and evaluation specialist; Eduardo Talero, e-government consultant; Ritin Singh, senior telecommunications specialist; and Francisco Proenza, telecenter specialist at the Food and Agriculture Organization.

Many of the chapters of this volume benefit from the contributions of others. Chapter 2, on developing the ICT Agency, draws on the collaborative work of the agency, particularly that of Jayantha Fernando and Manju Haththotuwa. It also benefits from an advisory mission by Margreet Doodewaard, regional adviser of the United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP). Chapter 3, on monitoring and evaluation, draws on the work of Sandra Sargent; Shoban Rainford, former ICT Agency manager; and Jonathan Miller and Tilman Hecker, international consultants. It also benefits from comments by Jayantha Fernando and Jagath Seneviratne.

Chapter 4, on international best practices in e-government, benefits from contributions by Larry Meek, international e-government consultant

and former chief information officer of the city of Vancouver, and Eduardo Talero. Chapter 5, which provides a historical perspective on e-government in Sri Lanka, is based on the vast experience of Professor V. K. Samaranyake. Chapter 6, a vision of Sri Lanka's e-government, is inspired by the early champions Milinda Moragoda and Eran Wickramaratne. Chapter 7 draws on the work of Wasantha Deshapriya, e-Sri Lanka program director for reengineering government; Eduardo Talero; and the consultancy work of NCS of Singapore.

Chapter 9, on lessons from the grant making of the Information for Development Program (*infoDev*), benefits greatly from input by Louis Chamberlain and discussions with Carlos Primo Braga, Henri Bretaudeau, Vivek Chaudry, John Daly, and Bruno Lanvin, all involved in the management of *infoDev* at different times during its first seven years of operation. Colleagues Kerry McNamara and Ellie Alavi from the *infoDev* team have also contributed in important ways, as have Carlos Gomez and Juan Navas-Sabater from the World Bank.

Chapter 10, on the design of Sri Lanka's e-society fund, draws on the work of Chitranganie Mubarak and Patrick Canagasingham, current and former e-society program managers, and Christopher Smith, international consultant. It also benefits from the advice of the focus group for the e-society fund and of Rajiv Ranjan of the United Nations Development Programme.

While I benefited greatly from many colleagues, I would like to particularly acknowledge Larry Meek; Peter Knight, author, coordinator of e-Brasil, president of Telecommunications and Development and former World Bank manager; John Daly, editor of the ICT for Development Web site, sponsored by the Development Gateway Foundation, and former research director at the U.S. Agency for International Development; Ernest Wilson, dean of the Annenberg School for Communication, University of Southern California; and Michael Best, professor at Georgia Tech University and editor in chief of *Information Technologies and International Development*. Among World Bank colleagues, I would like to acknowledge the reviews of Philippe Dongier, manager, Global Information and Communication Technologies (GICT) Department; Randeep Sudan, e-government practice leader; and Samia Melhem, senior operations officer, GICT Department.

Finally, I wish to express my deep appreciation to Alison Strong for excellent editorial support.



## About the Author

Dr. Nagy K. Hanna currently is a senior adviser to governments and international development agencies on national information and communication technology (ICT)-enabled development strategies. He is also a senior research fellow at the School of Public Policy at the University of Maryland. At the World Bank, he served for 30 years in many senior positions involving various aspects of development policy and strategy. He serves as an executive coach for national chief information officers. He is an author, speaker, and leader on global thought regarding policies and institutions for advanced strategies for development.

Dr. Hanna is an internationally recognized development strategist, with extensive experience in advising developing countries and aid agencies on designing and implementing programs to leverage ICT in support of competitiveness, governance, public sector reform, and sustainable national development. He was the Bank's first senior adviser on e-strategies and the founder and chair of the global community of practice on e-development. He pioneered e-Sri Lanka, the first World Bank lending operation in support of comprehensive ICT-enabled development. He advised governments across East and South Asia, the Middle East, Eastern Europe, Russia, and the Americas on designing and implementing national e-development strategies. He also advised aid agencies and

client countries on e-government strategies, software, and IT-enabled services development strategies, innovation funds for ICT industry and e-society, policy and institutional development programs in support of innovation and ICT diffusion, telecommunications and connectivity, and capacity development programs for chief information officers and public leaders. He helped pioneer World Bank assistance for India's software export strategy in the early 1990s, which helped unleash India's innovation.

Prior to his work on e-development, Dr. Hanna designed strategies and investment programs for World Bank lending in technical and business education, state modernization, and private sector development. As principal corporate strategist for the World Bank, he contributed to its transformation into a "knowledge bank."

Dr. Hanna has lectured and published extensively on the knowledge economy, the information society, e-development, e-leadership, e-government, national innovation systems, science and technology, strategic planning, and executive education.

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# Acronyms and Abbreviations

APDC	Asia Pacific Development Center
ATM	Automated Teller Machine
CINTEC	Council for Information Technology
CIO	Chief Innovation Officer
EDI	Electronic Data Interchange (Committee)
GDP	Gross Domestic Product
GIS	Geographic Information System
G2B	Government to Business
G2C	Government to Citizen
G2E	Government to (government) Employee
G2G	Government to Government
ICT	Information and Communication Technology
IRDP	Integrated Rural Development Program
IT	Information Technology
LEARN	Lankan Educational and Research Network
MP	Member of Parliament
NGO	Nongovernmental Organization
OECD	Organisation for Economic Co-operation and Development
PPP	Public-Private Partnership

R&D	Research and Development
RFP	Request for Proposals
SENS	Sri Lanka EDI Network Services
SWOT	Strengths, Weaknesses, Opportunities, and Threats

## CHAPTER 1

# Introduction

E-development harnesses the information and communication technology (ICT) revolution to promote social and economic development. The ICT revolution is opening up new sources of growth and new opportunities to solve long-standing development problems. It is transforming industries and services so fundamentally that it is changing the competitive advantages of countries. A country that fails to fully leverage ICT risks falling ever further behind.

E-development is also about an integrated approach to development—pursuing mutually reinforcing ICT-enabled initiatives at the national or regional level. It is about creating an information society or knowledge economy “ecosystem”—a holistic approach that defines a vision, coordinates the work of stakeholders, and maps the connections and shapes the relationships among diverse players.

Creating an information society requires direction from a national e-development strategy. Such a strategy provides a guide to policies, investments, and implementation mechanisms for developing ICT and using it to achieve a country’s development objectives.<sup>1</sup> It focuses the actions and resources of different stakeholders—but especially the government—on national priorities for harnessing ICT for development. It taps the interdependencies among these actions and investments over the medium term to

realize a shared vision of ICT-enabled development. And it explains how institutions will collaborate and share responsibilities for this development.

This book draws on the experience of Sri Lanka to explore what is involved in moving from vision to implementation of a comprehensive e-development strategy—the e-Sri Lanka program. The focus is on building local e-leadership institutions to drive this process and leveraging ICT to transform government and empower communities through e-government and e-society.

A companion volume explores the challenges of designing e-development programs for countries seeking to join the global knowledge economy (Hanna 2007a). It focuses on developing the software and information technology (IT)-enabled services industries and building the information infrastructure for the e-Sri Lanka program. It also provides an overview of how the World Bank worked with the government's local team to create the e-Sri Lanka strategy and secure World Bank funding for the program.

## **E-Development as a Holistic Vision**

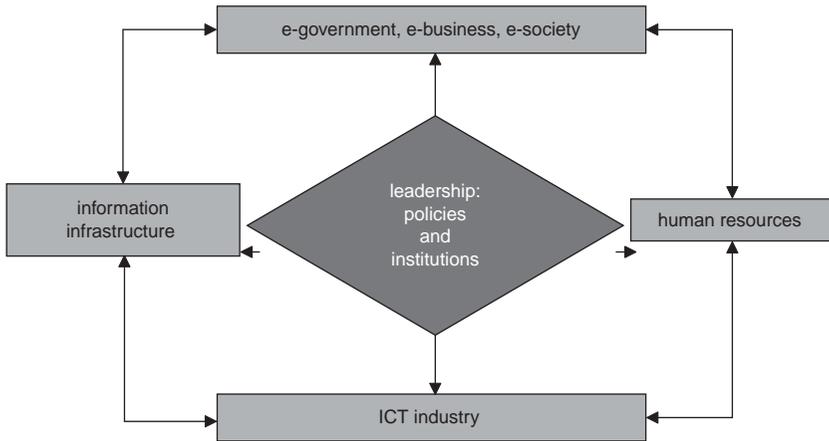
E-development can be conceived as composed of key, interdependent elements: an enabling policy and institutional environment, an affordable and competitive information infrastructure, a dynamic and competitive ICT industry, broad ICT literacy and education, a coherent investment program to apply ICT to modernizing the public sector, and incentives to promote the effective use of ICT for developing the private sector and empowering civil society (figure 1.1).

Collectively, these elements—or pillars—of e-development cover the package of policies, investments, and institutions that enable an economy to leverage ICT for social and economic development. At the heart of e-development are e-leaders and e-leadership institutions—individuals, networks, and institutions that develop a vision of a knowledge society, set policies and priorities, forge national consensus on reforms, and coordinate and create synergies among the elements of e-development.

A holistic vision of e-development emphasizes these synergies. Appropriately coordinated and sequenced, programs covering these pillars can exploit the synergies, transforming the economy and driving development.

### ***Exploiting the Synergies***

The interdependencies—and the synergies—are significant in advanced knowledge economies and even greater in developing and emerging

**Figure 1.1 Links Among Key Elements of e-Development**

Source: Authors.

economies. Studies in OECD countries indicate a strong link between ICT investment, productivity growth, and competitiveness (OECD 2004). Moreover, they show the significance of “interaction effects”—for example, interactions between ICT investment, infrastructure, skill levels, and the policy environment (Economist Intelligence Unit 2004). A critical mass or minimum threshold of ICT development can have a significant positive impact on a country’s economy. For a developing country in particular, with circular and multiple causation for information poverty (Hanna 1991; Myrdal 1957), the impact of one element of e-development is heavily dependent on progress in others.

Consider e-government and e-business. Making e-government and e-business services broadly available to citizens and enterprises requires accelerating Internet penetration and affordable connectivity. And the take-up of online services depends critically on the development of digital literacy and an information culture. Education and the policy environment are keys to making technology work.

Moreover, when governments tap domestic firms and private investors to act as partners in providing e-government solutions, they support private sector development in ways that can broaden e-development. Investments in e-government can create competitive domestic markets and learning opportunities for developing the local ICT industry, particularly software and ICT support services. And e-government can influence—and be influenced by—the extent to which ICT has been adopted by the private sector and the depth of e-business transformation in enterprises.

Governments can play a critical role in shaping all these interdependencies. And over time, policy makers and leadership institutions should be able to identify more and more synergies among applications in e-government, e-business, and e-society. Leaders should rethink and act simultaneously on the ICT infrastructure, human resources, ICT industry and its innovation system, the policy and institutional environment, and the investment strategies necessary to effectively use and diffuse this general purpose technology in support of national development priorities. The benefits of tapping these synergies and securing complementary investments should outweigh the cost of coordination.

### ***Integrating e-Development into Broader Strategies***

E-development presents a new type of development strategy that exploits the opportunities and addresses the challenges arising from the information and communications revolution. ICT is driving changes in institutions, learning processes, and innovation systems (Hanna 2004). But ICT does not operate in isolation. Investments in ICT must be accompanied by investments in human resources, process and institutional changes, and policy reforms to fully realize the potential benefits. E-government, for example, cannot progress far without being integrated into a larger national development strategy and public sector reform.

A national e-development strategy is shaped by the broader goals of national growth and development. It may focus on improving governance and the delivery of public services, bridging economic divides, promoting social inclusion, and drastically cutting transaction costs across the economy. It may seek to exploit new sources of growth, employment, and competitiveness by promoting the ICT and IT-enabled services industries and the use of ICT by small enterprises to network and compete.

Thus, a holistic approach to ICT for development gives primary attention to the organic links between information, communication, and knowledge and the broader national development goals. It goes beyond the traditional preoccupation of ICT (and science and technology) ministries with technology, innovation, and research and development. It goes beyond organizational “silos” reflected in ministries’ isolated information and communication systems. And it goes beyond aid agencies’ common approach of focusing on ad hoc ICT applications in development projects while neglecting shared information infrastructure, systemic constraints, and sustainability.

A coherent e-development strategy has other advantages over current practices of governments and aid agencies in developing and applying ICT.

By tightly linking national ICT strategies to broader development visions and strategies, it engages policy makers and public leaders in driving the ICT agenda in response to national development priorities—rather than the other way around. It helps focus the attention of program managers on ICT-enabled development results. ICT becomes an enabling force for pursuing policy reforms, transforming institutions, and improving governance and transparency. It can catalyze reforms in education and mobilize knowledge and other resources for social inclusion. Enlightened leaders become engaged in shaping this vision and in using it to build consensus on institutional change and economic transformation.

An e-development strategy is not a mere vision; it operates within institutional and financial constraints. Thus, it seeks to optimize the allocation of resources, focusing scarce public resources on the investments with the greatest development impact or those that can produce quick wins with little demand on managerial resources. Investments have to be sequenced and phased in line with these resources and with political demands for tangible and timely results.

By shaping an integrated national program, an e-development strategy also clarifies the comparative advantages of the government, the private sector, civil society, and academia and determines what roles each can best play in designing and implementing programs. In doing so, it helps build partnerships and coordinate work among these stakeholders. It also establishes a learning framework that supports pilots and bottom-up initiatives and promotes shared learning and the scaling-up of successful projects. Finally, it provides an enabling policy environment for implementation and a healthy ecosystem for the information society.

### **The e–Sri Lanka Program**

The e–Sri Lanka program takes a holistic approach in using ICT for development, making it a fully integrated ICT-enabled development project. Conceived as a multidonor-funded program, this national development initiative aims at using ICT to reduce poverty, promote growth, and foster social integration and peace. The initiative cuts across government, the private sector, civil society, and communities at large.

The e–Sri Lanka program consists of six basic component programs (see appendix 1 for details):

- *ICT policy, leadership, and institutional development*—a policy development and capacity-building program to create an enabling environment

for the knowledge economy and develop the local institutional capacity to lead and implement an ambitious ICT program

- *ICT human resource development and industry promotion*—an innovation fund to build ICT human resource capacity and create jobs through a dynamic ICT sector, foreign and local investment in the sector, and diffusion of ICT among small and medium-size enterprises
- *Regional telecommunications network development*—a smart, least-cost subsidy scheme to extend the information infrastructure and connectivity to serve poor communities and rural areas
- *Telecenter development*—smart subsidy and entrepreneurial development schemes to develop affordable access to ICT tools, ICT literacy, local content, e-government services, and e-commerce applications—using the new information infrastructure, e-government applications, and a grass-roots-oriented innovation fund
- *Reengineering government*—a coherent investment program in ICT applications, information sharing, knowledge management, process reengineering, service innovation, and human resources to deliver faster, more efficient, and more transparent government services to all citizens and businesses
- *E-society*—an innovation fund to mobilize local knowledge, digitize and share local content, and use ICT for social development and grass-roots participation, with the aim of promoting ICT-enabled rural development, social capital, mutual understanding, equitable access to knowledge, and empowerment of the poor.

The design of the e-Sri Lanka program captures many synergies among these components (see Hanna 2007a, chapters 2 and 3). A newly created national e-leadership institution, the ICT Agency, is designed, authorized, and equipped to realize these synergies and to partner with other stakeholders to create an ecosystem for capturing future synergies and leveraging ICT for development. And monitoring and evaluation systems are designed to promote coordination across the entire program, maximizing learning and adaptation throughout its implementation.

### **Learning from e-Sri Lanka**

Several challenges facing e-Sri Lanka give it broad relevance as a case study. First, the program was developed despite difficult initial conditions and political uncertainties. Sri Lanka is a poor country (with gross

national income per capita of about US\$1,000 in 2004), and it shares with many other countries the challenges of a weak democracy undergoing conflict and social turmoil. That a coherent ICT-enabled strategy could be forged for Sri Lanka, and a national consensus reached on that strategy, raises hope that similar achievements are possible even in the most difficult environments.

Second, Sri Lanka lacked a focal point or ministry to lead e-development and partner with international aid agencies. The existing body for national ICT policy was politicized, dysfunctional, and marginal. It had to be dismantled, and new coordinating institutions created. This work had to be done in the context of a bloated civil service with limited access to ICT and little awareness of its potential as an enabler of development—common challenges among developing countries.

Third, with its small population (20 million), Sri Lanka presents a case relevant not only for countries of similar size but also for poor states within large countries facing digital divides as well as digital opportunities. Advances in e-development in large countries such as Brazil, China, India, and the Russian Federation have attracted attention, but the highly aggregated e-readiness and knowledge assessments for these countries conceal the diversity among their regions.<sup>2</sup>

Unlike other country studies of e-development, this study goes beyond static assessment of the knowledge economy and e-readiness to capture the dynamics of developing and implementing a strategy and building partnerships within the country and with aid agencies. It goes beyond the typically long laundry list of recommendations for transforming a country into a knowledge economy. It reflects the hard choices and tradeoffs that must be made in designing and implementing e-development within real-life human, financial, and institutional constraints. It takes account of initial conditions, stakeholder interests, institutional learning, and political dynamics.

Like its companion volume, *From Envisioning to Designing e-Development* (Hanna 2007a), this book attempts to capture the experience of Sri Lanka in moving from a vision of e-development to a full-fledged program design and then to early implementation. E-Sri Lanka is an integrated, client-driven program and the first of its kind to be funded by the World Bank. The book captures the rich knowledge generated in designing a holistic e-development program and building knowledge partnerships with client countries. It opens up the design process and the influence of stakeholders to examination and reflection in order to search for lessons—lessons in building e-leadership institutions, designing

e-government programs, and promoting innovation in ICT use for reducing poverty and empowering communities.

## Notes

1. For a review of many national e-strategies, see World Bank (2006b, 87-124).
2. The e-Sri Lanka model and experience are having much influence on other World Bank-assisted programs, including e-Bharat (in India), e-Ghana, e-Pakistan, and e-Rwanda. And the e-Sri Lanka framework is influencing programs in large countries. One example is e-Brasil (see Chahin and others 2004 and <http://www.tedbr.com/projetos/e-dem.br/e-gov.br-english.htm>).

## **Developing e-Leadership Institutions**

ICT-enabled development strategies demand new e-leadership institutions and capabilities. Creating these requires substantial institutional innovations and learning. And it requires investments of time and resources by the government and its development partners to build a cadre of e-leaders, a set of governance mechanisms, and a network of e-leadership institutions.

Countries have been experimenting with different institutional arrangements for e-leadership, shifting from one model to another, trying new hybrids, and creating wholly new models. But all of them face the same fundamental choices and questions: What kinds of institutional arrangements are needed to help integrate ICT into development strategies and management? To tap the synergies among the different elements of e-development? To leverage the competencies and resources of the private sector and civil society? To lead ICT-enabled transformation of the government? How much should the government centralize or decentralize planning and decision making in e-development and ICT investments? And how should the new e-leadership institutions and capabilities be shaped to fit into (or perhaps transform) the country's political culture and institutional structures?

Choices on these issues lead to a set of strategic institutional design questions—on the mandate and governance mechanisms for the new institutions; on ways to ensure their sustainability; on the core competencies and skills they will need; on policies and managerial practices needed to foster effective partnerships and a smart, agile learning organization. Getting the right mix of all these qualities in a developing country may be difficult. But it is worthwhile to pursue systematically.

For e-Sri Lanka, the response to these choices and questions was a public-private partnership model, an institutional innovation from which practitioners can learn a great deal (chapter 2). Experience so far suggests several advantages—freedom from government bureaucracy, flexibility to react swiftly to changing demands, and greater ease in hiring cutting-edge professional staff at competitive wages. But the experience also suggests vulnerabilities. During the long lead time required before the new agency can work effectively, the public-private partnership may not receive the political and financial support it needs, and the bureaucratic culture of the public sector may reassert control. Political leadership and governance play a critical part in making this model viable and sustainable. Aid agencies, to play their part effectively, may have to be realistic about the demands of sociopolitical changes, be willing to invest in capacity building and periodically carry out objective assessments in partnership with their client country, and make course corrections where necessary.

The complexity of e-development programs puts a premium on monitoring and evaluation systems, and such systems need to be made an integral part of e-leadership institutions. E-Sri Lanka pioneered innovative ways to institutionalize monitoring and evaluation and use it for learning and accountability (chapter 3). Emerging lessons show the importance of nurturing an evaluation and learning culture, especially for new institutions under pressure to establish credibility and produce results.

## CHAPTER 2

# An Institutional Innovation in e-Leadership: The ICT Agency of Sri Lanka

A country's ability to move from vision to development results depends most critically on having the right institutions and capacity in place. That Sri Lanka lacked these elements for e-Sri Lanka was apparent from the outset.<sup>1</sup> Despite sponsorship of the e-Sri Lanka vision at the highest political level, the World Bank team had no focal institution to work with in designing or implementing the program. During early program development (2002–03) its local counterparts were an informal team drawn from the public and private sectors and academia, all of whom were volunteering their time.

Building e-leadership institutions and implementation capacity presented a challenge and an opportunity. There were no blueprints, no existing candidates, and no standard models to follow. The World Bank-Sri Lanka design team recommended the creation of a new agency to provide leadership in directing e-Sri Lanka program activities, building public-private partnerships, and mobilizing donor assistance. The team envisioned an agency that would remain small, play a catalytic role, partner with all sectors of society, and focus on strategic management of the overall program while leaving direct implementation mainly to others. The agency would also be expected to develop relationships with key stakeholders

and secure quick learning from pilots and early implementation and to continually adapt the program to the rapidly changing global markets, information technology, and political environment.

The national ICT Agency emerged from a process of thinking through some key issues and options:

- What *institutional model* would be most feasible and effective in the context of Sri Lanka?
- What kind of *authorizing environment and governance mechanisms* should be nurtured to enable and direct the new agency?
- What should be the *mandate* of the new institution?
- How could early pilots, program design processes, and funding mechanisms be used to secure *sustainability* for the institution?
- What *core competencies* and skills would the e-leadership institution need to function effectively?
- How could a new agency implement such an ambitious and cross-cutting e-development vision—through *partnerships*?
- What should be done to ensure that the new agency becomes an adaptive *learning organization*—a force for transformation rather than just another part of the expanding and ineffective civil service?
- What role should *aid agencies* play as partners in institutional innovation and capacity building for a new cross-cutting dimension of development?

## The Institutional Model

Finding an institutional locus for e-Sri Lanka was a critical early task for the design team. The ambitious vision pointed to a need for a central driving force to shape and coordinate the program—and to provide a strategic high-level push.

How could the country create a central e-leadership institution relatively quickly? There was a window of opportunity that might not open again soon: not only was the country's leadership motivated to adopt an ICT-enabled development strategy, but top World Bank leadership was open to supporting the novel request for assistance (Hanna 2007a).

The first step was to assess the institutional environment in Sri Lanka, for insight into what kind of institutional arrangement would be feasible. The team also needed to examine the experience of leading countries in implementing comparable national ICT development programs (Hanna 2007b).

### ***Assessing the Institutional Environment***

Several features of Sri Lanka's economy and polity are key in understanding the institutional environment. The government has a large number of ministries (as of June 2006, nearly 60), with fragmented mandates and overlapping responsibilities. The public sector is hugely over-staffed (accounting for more than 15 percent of the labor force), and some parts of the civil service are widely used for political patronage. Substantial economic disparity exists between urban and rural areas and particularly between Colombo and Western Province and the rest of the country. There is an ethnic divide between the Sinhalese majority and the Tamil, and political fragmentation among the Sinhalese. And government services have been highly centralized (though some progress has been made in decentralizing functions).

The government still has many vestiges of colonial rule. It is very hierarchical. Line ministries have traditionally had complete control over programs and would be threatened by the prospect of ceding any control, even for a new functional area. And the scarcity of public resources leads to inevitable rivalry among agencies for access to donor funding.

Aid agencies are also an important part of the institutional environment. At the time e-Sri Lanka was initiated, the World Bank's relationship with the government was at a low point (the government's relationships with other aid agencies were no better). Its program preparation team had to gain the trust of government counterparts and build a knowledge-based partnership consistent with the need to create adaptive learning institutions and innovative ICT-enabled programs (for a description of this process, see Hanna 2007a, chapter 2). At the same time, Sri Lanka had a low disbursement rate for aid, reflecting a poor record of implementation. So the Bank had little trust in local capacity to implement ambitious programs.

Earlier experiences of national ICT institutions were also relevant.<sup>2</sup> The key national ICT institutions in place at the time were the Council for Information Technology (CINTEC, under the Ministry of Economic Reform, Science, and Technology) and the Telecommunications Regulatory Commission (under the Ministry of Posts and Telecommunications).

While CINTEC had early successes, its evolution was not encouraging. Established early on in the ICT revolution, in 1984, CINTEC was intended to lead national ICT development through policy coordination. Originally functioning directly under the president, CINTEC embarked on several initiatives in such areas as public sector computerization and legal and policy reforms. Despite gaining broad recognition for some of its initiatives, the institution was later placed under a ministry and relegated

to a layer under another apex policy-making body in 1994. As a result of these and other steps, CINTEC failed to realize its mandate, lost its capacity to attract the right skills, and by 2002 was bogged down by bureaucratic and low-priority activities.

CINTEC was also constrained by civil service compensation rules, a limited budget, poor incentives to influence others, limited authority to enforce compliance, narrow technical skills, and inadequate capacity to design or implement national programs. Its experience is consistent with that of similar bodies in other countries, which could not drive change alone or coordinate implementation across established ministries.

Having a ministry lead the e-development process would have been more consistent with the sectoral view the government traditionally took for ICT, and it would have provided a clear, established institutional base for e-Sri Lanka. But there was no formal ministry for ICT at the time. The Ministry of Posts and Telecommunications and the Telecommunications Regulatory Commission—considered weak, ineffective, and bureaucratic and lacking credibility in the ICT sector—were poor candidates for taking on or sharing the new responsibilities.

Nor were other ministries good candidates for leading the effort. The Ministry of Finance was interested only in developing some of its own information systems. The Ministry of Economic Reform, Science, and Technology was a natural possibility, since the minister was an early adopter of the e-Sri Lanka vision and the sponsor of the government's request for Bank financing for the program. But while the minister had a strong political base, his ministry was extremely weak and lacked the expertise to manage development projects. Moreover, locating the ICT-enabled development agenda under this ministry would emphasize the technology over development and the ICT industry over user industries. It was also likely to raise the risk of turf wars with other sector ministries.

Distributing responsibility among existing ministries was not a viable option either. Line ministries had almost no capacity to develop their own ICT-enabled business or sector strategies. The public sector lacked adequate consensus to initiate a process to design a national ICT strategy, let alone to implement it. And there was no strong tradition of collaboration across agencies or coordination of investments.

### ***Identifying an Institutional Model***

Sri Lanka's lack of a credible institution meant that other options had to be explored—and fast. The diversity of institutional arrangements adopted by other countries meant there was no clear blueprint (Hanna 2007b).

The search for options quickly focused on creating a small core team or central executive agency with an effective cross-cutting mandate to implement ambitious medium-term programs and the capacity to handle donor funding. Other countries in Asia, such as the Democratic People's Republic of Korea and Singapore, had developed successful e-leadership institutions along these lines. But these countries offer competitive compensation to civil servants and more directive political and managerial leadership. The model most inspiring to Sri Lanka's political leadership was the Indian state of Andhra Pradesh. Under the leadership of Chandrababu Naidu, the state chief executive, a small team had taken charge of the e-development agenda and promoted public-private partnership strategies for e-government and service delivery.

Yet delegating leadership to an agency tied to the civil service rules and procedures and the government financial regulations and administrative bureaucracy presented big problems. Conditions in the civil service had become too unattractive to recruit and retain the needed talent—and bureaucratic constraints so tight that they would stifle the agility, creativity, and businesslike decision making needed for the e-Sri Lanka program.

These concerns led to an institutional innovation of public-private governance—the Information and Communication Technology (ICT) Agency of Sri Lanka. The concept for the agency's institutional design emerged from an evolutionary process, beginning in 2002, in which decision makers weighed a range of options relating to ownership and control. One of the key aims was to ensure that the agency would be freed from the administrative rules governing the public sector including those relating to staff salaries and benefits. Another aim was to ensure both accountability and cross-cutting implementation authority for the new agency.

In the end it was determined that the ICT Agency would be a company fully owned by the government and vested with authority through an act of Parliament. Legally and administratively, the agency is structured so that it can operate like any other company, ensuring responsiveness. The agency is free from the procedures and restrictions affecting other government agencies, and its board has the authority to offer salaries and other benefits commensurate with those in the private sector. Thus, while it is ultimately responsible to the country's political leadership, the agency operates along the lines of a business.

This public-private model is aimed at promoting partnerships and introducing a new work ethic and new project management practices. The model is perhaps the most challenging because it requires striking a

balance between public and private participation and between autonomy and influence. It is also perhaps the most inclusive, representing an attempt to involve all stakeholders in ICT programs from design to final evaluation.

The agency's freedom from the constraints of civil service recruitment regulations has been critical to its agility and performance. The agency has been able to recruit staff with a skill set and experience reflecting the array of e-Sri Lanka's stakeholders—staff from the private sector, the government, civil society, academia, and even the Sri Lankan diaspora. This staff mix has helped in dealing effectively with different partners and balancing the perspectives of different stakeholders. But the blend has also created challenges for the agency's management, requiring it to integrate perspectives and create synergies rather than conflicts.

Competitive salaries have attracted the best of Sri Lankan talent. But having most staff on relatively short-term or annually renewable contracts has made it difficult to retain staff or maintain a long-term view of the program—though it may have put more emphasis on performance.

The institutional model for the agency has posed other challenges. The number of staff is kept small to prevent the agency from becoming another bloated government bureaucracy. That forces the agency to work through partnerships and outsourcing. And despite its small size, the agency has needed to have core competencies, a good range of skills to cover its holistic mandate of e-development, and staff representing a good balance along the lines of ethnicity, gender, experience, and educational background. The agency must also manage expectations, avoid excessive centralization, and secure sustained political support without intensive political interference or diminished autonomy and professionalism.

### ***Balancing the Public-Private Mix***

The public-private balance of the ICT Agency has been evolving in response to political changes. The challenge for the agency is to combine the pragmatic, businesslike approach needed to deliver its ambitious program with the political reality in which it has to operate.

The early impetus for injecting a private sector perspective and culture into a publicly owned agency was, as suggested, prompted by the poor conditions in the civil service and the experience of CINTEC. It was also influenced by the strong participation of private sector representatives in forums shaping the early design of e-Sri Lanka. In addition, the first chief executive officer came from the private sector, as did some young, dynamic staff. The first chairman came from the National Development Bank, a publicly owned bank driven by business principles.

From the start, the ICT Agency had an ongoing internal debate about the nature of its relationship with the government. Some of its staff, particularly those from the private sector, felt that the government should be left out as much as possible, to prevent the agency from becoming another bureaucratic or politicized entity. Some senior staff and others from a private sector background, lacking government experience, sought deeper dependence on the government and forged closer links to the political leadership to secure the agency's authority as an agent of change. (This was necessitated in part by the lack of a functioning board, which would have shielded the agency staff from potential politicization, over a seven-month period.)

The ICT Agency had to learn to balance its need to partner with government agencies with its need to remain politically neutral and accessible to all stakeholders. With its authority never made clear, especially at the beginning, it has had to rely on the patronage of the political leadership. Yet it has also had to remain transparent and responsive so as to broaden its constituencies, remain inclusive of the private sector and civil society, support implementation of its mission, and secure funding from aid agencies.

The elections of 2004 and 2005 changed the political environment, and with it the balance in this partnership. As the e-government program grew in size and importance and the telecenter program became more politically and socially driven, the balance of the agency's activities and culture shifted toward a public sector orientation. Striking a balance in its staff and operating approach to reflect its partnerships and beneficiaries—and the changing political environment—remains a big challenge. Despite the pressures, managerial staff from the private sector continue to outnumber those from the public sector.

Striking the right balance between a business culture and public accountability has also been a challenge. While structured like a business, the ICT Agency cannot escape its identity as a government agency receiving much political attention. To ensure continued neutrality and political and financial support from all sides, the agency has increasingly had to reconcile the go-getting single-mindedness associated with the private sector (a crucial element of its success) with the slower-going consensus and diplomacy associated with the public and nonprofit sectors.

### ***Creating a Corporate Identity***

The ICT Agency needs the capacity to meet the expectations of aid agencies and other partners. To guide the work to build this capacity, an analysis of strengths, weaknesses, opportunities, and threats (SWOT) was

carried out among the agency's staff and program design team early on, then repeated at an early stage of its institutional development (table 2.1). The results suggest that the ICT Agency had all the ingredients needed to make an excellent start—political support, substantial resources, highly skilled staff, and a positive, energetic outlook. As a young organization, the ICT Agency also had gaps that needed to be addressed in a corporate development strategy.

One of the gaps was a fully developed corporate identity. To build a strong corporate identity, both internally and externally, the ICT Agency needed to address some key questions and challenges:

- What are our hopes for the future?
- What are our principles and values?
- What are the basic requirements that must be met?
- To what extent should the ICT Agency distance itself from sole dependence on a World Bank project?
- What are our core competencies, and which ones do we need to develop?
- Who are our key partners and stakeholders? Who are our key clients?

As part of its corporate development strategy, the ICT Agency continues to need to answer these questions, developing a strong corporate identity that is in line with the expectations and perceptions of its core partners and yet remains a driving force for change and innovation (see annex 2.1).

**Table 2.1. SWOT Analysis of the ICT Agency, February 2004**

<i>Strengths</i>	<i>Weaknesses (gaps)</i>
<ul style="list-style-type: none"> <li>• Skilled staff with diverse experience</li> <li>• Seed fund secured</li> <li>• Proactive, energetic, forward-looking</li> <li>• Optimistic culture</li> <li>• Networked, partnership-oriented organization</li> <li>• Small and flexible</li> <li>• World Bank partnership</li> <li>• Young organization</li> </ul>	<ul style="list-style-type: none"> <li>• Corporate identity not fully developed</li> <li>• Agency only recently established</li> <li>• Internal strategies not fully developed</li> <li>• Focus diluted by political pressure</li> <li>• Bias toward short-term results</li> <li>• Limited resources relative to objectives</li> <li>• Private sector corporate image</li> <li>• Salary inequalities between staff from the public sector and those from the private sector</li> <li>• Perceived World Bank control</li> </ul>
<p><i>Opportunities</i></p> <ul style="list-style-type: none"> <li>• To be the key force behind ICT development in Sri Lanka</li> <li>• To be a model local institution</li> </ul>	<p><i>Threats</i></p> <ul style="list-style-type: none"> <li>• Long-term financial sustainability</li> <li>• Limited mobilization of private investment</li> </ul>

*Source:* Author, with input from the ICT Agency.

## **Evolution of the Authorizing Environment and Governance Model**

To lay the groundwork for the institutional development and strategic management of the ICT Agency, the design team had to diagnose its authorizing environment and the political support it would need. As a new agency, covering a poorly understood new sector and a cross-cutting dimension of development, the ICT Agency would face an ambiguous and highly uncertain authorizing environment. Moreover, its authorizing environment would condition and interact with its mandate and its resources and capabilities (box 2.1).

The design team also had to determine what kinds of mechanisms would be needed to govern the ICT Agency and relate it to its stakeholders and environment. Despite the political leadership's broad, development-driven vision of e-Sri Lanka, government officials commonly perceived it as a technology initiative to be led by a functional ministry—with little involvement of political leadership or society at large. The design team therefore engaged top policy makers and broadly representative stakeholders in defining the kinds of committees, councils, and task forces that would be needed to secure governance, coordination, and ownership.

### ***Planning the Initial Governance Structure***

Creating the enabling policy environment for developing ICT and integrating it into the country's development strategy was an urgent task. But the first need was to build the policy-making mechanisms to create that environment. The ICT Agency would need to be embedded in a broader network of e-leadership institutions and enabled by a clear authorizing environment.

This network of e-leadership institutions began to take shape during and soon after the first World Bank mission on e-Sri Lanka in June 2002, when the prime minister agreed to the following initial steps:

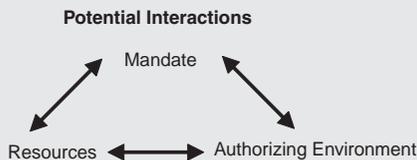
- Appoint a national task force to give ICT policy directions and supervise implementation.
- Establish a national consultative committee to provide advisory input on ICT policies to the prime minister and the task force, with members to include the secretaries of key ministries, leaders of the ICT industry and ICT user industries, international experts, and representatives from multinational corporations, think tanks, and professional associations.
- Create an ICT agency, to be headed by a chief executive officer and reporting to the minister in charge of ICT through the agency's chairman.

**Box 2.1****Analyzing the Dynamics of Institutional Development and Strategic Management**

For analysis of the dynamics of the institutional development and strategic management of the ICT Agency, several concepts are useful:

- *Authorizing environment*—the political and social environment that impinges on the agency, its mandate, and its ability to act (political leadership, governance mechanisms, laws and regulations, key government ministries such as Finance, public opinion, the media, nongovernmental organizations, the private sector, other key stakeholders)
- *Mandate*—the role, scope of mission, strategic direction and focus, and public value of the agency
- *Resources and capabilities*—the core competencies, financial and human resources, knowledge management, and learning culture of the agency.

These are the concepts of Mark Moore, as advanced in his seminal book *Creating Public Value: Strategic Management in Government* (1997), though here they are adapted to developing countries and, in particular, to the context of e-Sri Lanka. Each of these three concerns has potential interactions with the others (see figure).



Because the ICT Agency model straddled the public and private sectors, its management would have to go beyond a well-defined mandate or a fixed, bureaucratic role to interpret, define, discover, and maximize public value over time. Leaders of the ICT Agency would have to act less as administrators and more as public entrepreneurs or strategic managers. They would have to question the scope and focus of their activities and test whether their projects and services have public value—though they could do so only to the extent allowed by their authorizing environment and capabilities. And they would have to assess whether their mandate (their interpretation of the scope of their program) would be politically and legally authorized and administratively and operationally feasible.

- Support the chief executive officer with program directors covering ICT human resource development, information infrastructure, e-government and e-society, ICT promotion and partnerships, and technology procurement services.
- Provide leadership in coordinating donor assistance and in promoting public-private partnerships in ICT through the ICT Agency.
- Establish ICT units in all key ministries to carry out their components of the ICT program. Each minister would create a position of chief innovation officer (CIO) or assign this accountability to a high-level champion in the ministry.<sup>3</sup> Each key ministry would have its own in-house champion for, and clear ownership in, the modernization of government services.<sup>4</sup>

The ICT Agency was legally established in May 2003. Yet the institutional and governance mechanisms did not materialize as agreed or planned, in part because of major changes in government and political leadership. As a result, many across the government and in the stakeholder community questioned the authority of the agency to implement a cross-cutting program such as e-Sri Lanka. And from the start, the agency had to develop and operate within a turbulent political environment.

The governance model was clarified and developed relatively slowly.<sup>5</sup> Not until more than a year after the agency's creation did the agency gain the cross-cutting authority and mandate to implement e-Sri Lanka, through a Cabinet decision in October 2004 (see annex 2.2).

### ***Engaging Stakeholders***

From the outset a key issue has been how to nurture an information society "ecosystem." As a new entity, the ICT Agency could not afford to be passive, simply accepting whatever niche it might be assigned in this ecosystem. To survive and, more important, to thrive, it needed to proactively engage stakeholders. It was stakeholders that would shape the agency, providing it with governance and guidance and ensuring that ICT programs are driven by development strategies and results. In turn, the agency would engage stakeholders in the pursuit of its mission.

Who would be the key stakeholders shaping the authorizing environment and governance of the ICT Agency? The agency needed to conduct an analysis of the stakeholders and the authorizing environment (box 2.2). This was not a one-time exercise; the ICT Agency has repeated it as the authorizing environment has changed and governance mechanisms have had to be revamped. At times, political uncertainties and the fluidity of coalitions defied any clear, stable identification of its stakeholders.

**Box 2.2****Stakeholder Analysis of the ICT Agency**

The stakeholders of the ICT Agency can be broadly categorized in four areas: the decision makers, the financiers and donors, the beneficiaries, and the implementers. All these groups have changed in influence and composition over time.

*Decision Makers*

While the reporting framework for the ICT Agency has changed over time, an important part of it is the Administrative Reform Committee, which reports to the president on all issues associated with reforms of government administration. The committee provides guidance and support relating to the e-government program, obtains agreements from government agencies to program proposals, and issues instructions to agencies.

*Financiers and Donors*

Financiers and donors include the World Bank, the government of Sri Lanka, the Swedish International Development Cooperation Authority (Sida), the Export and Import Bank of Korea, and the Japan Social Development Fund. As of June 2007, the World Bank remained the primary financier. Reliance on a single financier may have reduced the burden of donor coordination for the ICT Agency, but it has presented its own dilemmas and runs the risk of equating e-Sri Lanka with a single, time-bound World Bank project.

*Beneficiaries*

The beneficiaries, the target groups for e-Sri Lanka projects, include the ICT and IT-enabled services industries, government agencies such as the Ministry of Public Administration, and the citizens of Sri Lanka, particularly rural communities. Beneficiaries are engaged mainly at the level of projects and, through non-governmental organizations (NGOs), program focus groups. They are also represented on the board of the ICT Agency.

*Implementers*

The implementers, those with whom the ICT Agency works, include industry players, ICT multinationals, government departments, NGOs, and civil society. For all e-Sri Lanka activities, multiple partners are contracted to carry out projects while the ICT Agency provides contract management and ensures a focus on results. The agency also works closely with NGOs and civil society to implement their proposals funded under the e-society program (see chapter 10).

NGOs not only act as project implementers but also play an advisory role through focus groups and other channels.

Implementing partners have been engaged through focus groups to provide advice and serve as a consultative forum for setting program goals and developing strategies for implementation. To ensure broad representation of stakeholders in planning programs, the focus groups are drawn from the government, the private sector, civil society, professional associations, and other institutions relevant to a program.

Implementing partners also include chief innovation officers, appointed by the government to provide an institutional channel for the e-government program. This cadre is expected to provide the main interface between the ICT Agency and the departments' reengineering information systems and processes. The chief innovation officers also are expected to take on responsibility for implementing ICT policies and projects.

*Source:* Author

### ***Surviving Political Turbulence: Three Phases***

Despite its short history, the ICT Agency has had to adapt to at least three major changes in its political and authorizing environment. Frequent changes in government have created uncertainty in setting priorities and program directions. Even so, the agency has been able to enhance its de facto mandate and authority.

***First phase: relative autonomy***—The agency was established under the Ministry of Economic Reform, Science, and Technology. The minister took a hands-off approach. He entrusted the selection of key staff to his designated chairman of the board, a busy executive who believed in giving much autonomy to a trusted chief executive officer. The chairman and the board met often from 2003 until March 2004, establishing good operating methods and principles as well as governance and reporting measures. Yet the board—and the entire agency—operated in relatively collegial and unbureaucratic ways, and this informality helped in making timely and businesslike decisions.

The agency's role and mandate were left for the chairman and chief executive officer to negotiate with government agencies. Still lacking an effective authorizing environment and cross-cutting mandate, the agency was able to win over government stakeholders thanks to early successes in

pilot projects and the marketing strategy and dynamism of its leadership. The chairman provided access to political leadership, meeting heads of other agencies on the ICT Agency's behalf.

With the election of June 2004 approaching, the agency strived to avoid becoming politicized despite a politically charged atmosphere. The popular media sought to portray the agency as a politically motivated creation. Questions were raised in the Parliament about political objectives relating to e-Sri Lanka. And the salaries of the staff, especially the leadership, were discussed in the public domain.

But the agency remained free from political interference and was insulated by an effective board. That made the agency both receptive to and acceptable to some parts of the private sector and civil society. It also gave the agency the autonomy to build its own culture and initiatives, independent of its political patrons.

***Second phase: struggle for survival***—In the period leading up to the elections of June 2004 and until the elections of late 2005, the ICT Agency had to deal with uncertainty and, for a substantial time, a vacant board. In the run-up to the elections, the opposition attacked the ICT Agency as elitist—and e-Sri Lanka as being linked to the current government's political objectives and concerned exclusively with urban areas and the relatively affluent software industry.

In June 2004, the president placed the ICT Agency under the leadership of the prime minister, who became identified with elements of the program perceived to be responsive to rural development, such as the telecenters. The shift signaled the adaptability of the cross-cutting coverage of e-Sri Lanka and the primary emphasis of the new coalition (previously in the opposition) on rural development.

In the period from June 2004 to February 2005, when the ICT Agency was operating without a functional board of directors, the chief executive officer and some senior staff started reporting directly to the secretary to the prime minister. This link provided greater opportunities—for example, the agency gained cross-cutting authority to implement e-Sri Lanka through the Cabinet decision of October 2004 (see annex 2.2). But it also exposed the agency to pressures to become more responsive to political needs in key program areas, such as the telecenter program.

A new chairman and new board were appointed in February–March 2005. But the agency staff had become used to operating without this layer for months, and subtle friction arose between the board and management. Key operational decisions were made without consultation with the board. World Bank interventions in support of the agency's

management conflicted with attempts by the board to exercise executive authority. This conflict eroded the early partnership established between the Bank and the government (and the board).

The ICT Agency was under stress during this turbulent time. But its struggle to win over the opposition helped the agency stay nimble and flexible and prompted it to push for pilots and quick wins. Its counterpart team in the World Bank was going through a parallel struggle as it prepared to negotiate with the new government and worked to win approval from the Bank's management for financing e-Sri Lanka. This helped cement the partnership between the two teams.

Meanwhile, the ICT Agency learned the importance of coalition building, social marketing, and strategic communication for institutional survival. But the pressures may also have made the agency eager to be more politically responsive through quick wins, short-term payoffs, and temporary partnerships. These responses sowed the seeds for politicization.

***Third phase: new opportunities and challenges***—In January 2006, the ICT Agency was placed under the country's newly elected president, under whose purview the agency had functioned during his tenure as prime minister. A new board was formed, with the new appointees coming primarily from the public and academic sectors.

The agency's position under the president presented both opportunities and challenges. It gave the agency the visibility and cross-cutting power it needed to overcome resistance to change in the civil service. Being at the center of government, however, also meant that it had to meet the demands and political pressures associated with this position. For example, the telecenter program both gained visibility and began to be increasingly driven by ambitious political objectives.

The agency's chief executive officer, whose term was up for renewal by July 2006 and who was seen as having been appointed in a different political environment, resigned, feeling that he lacked an adequate mandate from the political leadership. The departure of some key staff followed. Gaps left by an earlier failure to create or develop governance mechanisms became a source of vulnerability.

Strong governance measures combined with an effective board of directors that has the necessary clout could insulate the agency, serving as a buffer against the political layer. The process of filling the position of chief executive officer may eventually demonstrate the effectiveness of this buffer.

With the creation of the new position of chief operating officer and a formal leadership team, and with the selection of a new chief executive

officer, a new phase may be emerging. The governance mechanisms are under review. They will need to evolve in view of the emerging vulnerabilities and the lessons learned (see the section in this chapter on lessons).

### ***Securing the Authorizing Environment and Clear Governance***

During the early stages, securing the authorizing environment and clear governance remained the most challenging task for the ICT Agency and e–Sri Lanka policy makers. As noted, while under the prime minister the agency gained cross-cutting authority to implement the e–Sri Lanka project through the Cabinet decision of October 2004 (see annex 2.2). Later, while placed under the president, it gained additional authority, through a Cabinet decision of September 2006, related to coordinating and implementing key e-government projects.

The added authority did not come without risks, however. Expectations of the agency remain unrealistically high, leading to mission creep and a focus on the short term. And governance mechanisms remain underdeveloped, as do links with key agencies and ministries.

***Weaknesses in governance***—The ICT Agency’s board has not been able to consistently advance the e–Sri Lanka initiative, in part because of the changes in its makeup after each national election and the long hiatus when the agency operated without a board. The initial board, highly motivated and committed, played a strong role in developing programs and strategies for the agency. But subsequent boards have had to devote time to administrative issues, which may have diverted them from providing strategic guidance.

More recently, however, the board has sought to provide steady strategic guidance in an otherwise turbulent environment. It has also worked to build goodwill and coalitions for reform and shield the agency from unreasonable political interference in its staffing and operations.

Still, the board cannot fulfill the governance function alone. Experience so far suggests that governance and leadership capacity for managing the e–Sri Lanka program have not been adequately developed. Governance mechanisms are especially critical in steering a complex program of transformation under uncertain political conditions and weak and shifting coalitions. Several weaknesses have become evident:

- Limited capacity of the Office of the President to provide strategic guidance on e–Sri Lanka, despite the high level of ownership and symbolic support

- Lack of a forum for policy setting that involves all key stakeholders of the e-Sri Lanka program and lack of strategic partnerships between the ICT Agency and key ministries and agencies (such as the Ministries of Finance and Education and the Telecommunications Regulatory Commission)
- Lack of a mechanism for prioritization and coordination across all agencies involved in the reengineering government program
- Lack of a forum for CIOs to facilitate coordination, collaboration, and knowledge sharing to lead ICT-enabled institutional change and transformation of government services
- Unclear role for the ICT Agency's board, lack of a strategic focus for its agenda, and unbalanced board composition.

**Possible solutions**—International best practice for e-development and e-government programs, which emphasizes coordination at the highest levels, suggests a possible set of governance or e-leadership institutions that would address these weaknesses (figure 2.1):

- Strengthening the capacity of the Office of the President to provide strategic guidance on ICT policy and the e-Sri Lanka program by appointing a national CIO. This official could work closely with the secretary to the president, who leads the e-Sri Lanka program and is the key to its political ownership; lead a national council of CIOs; and take responsibility for establishing and enforcing ICT governance for the public sector.
- Establishing a committee to formulate a national ICT policy and ensure its implementation through the ICT Agency's board. This ICT policy committee could be chaired by a minister and include the ICT Agency's chairman and chief executive officer, the chairman of the Telecommunications Regulatory Commission, senior representatives from key ministries, and representatives from the private sector and civil society.
- Creating an interministerial committee of selected core ministries (including the Ministries of Finance, Public Administration, and Interior) to set the priorities for the reengineering government program and address conflicts and coordination problems across ministries as they arise. The committee could be chaired by the secretary to the president and include representatives of the key ministries involved in the program.
- Creating a new cadre of CIOs; many of those now in place are not yet qualified to act as true leaders of ICT-enabled transformation of government. Developing and certifying new CIOs, or appointing

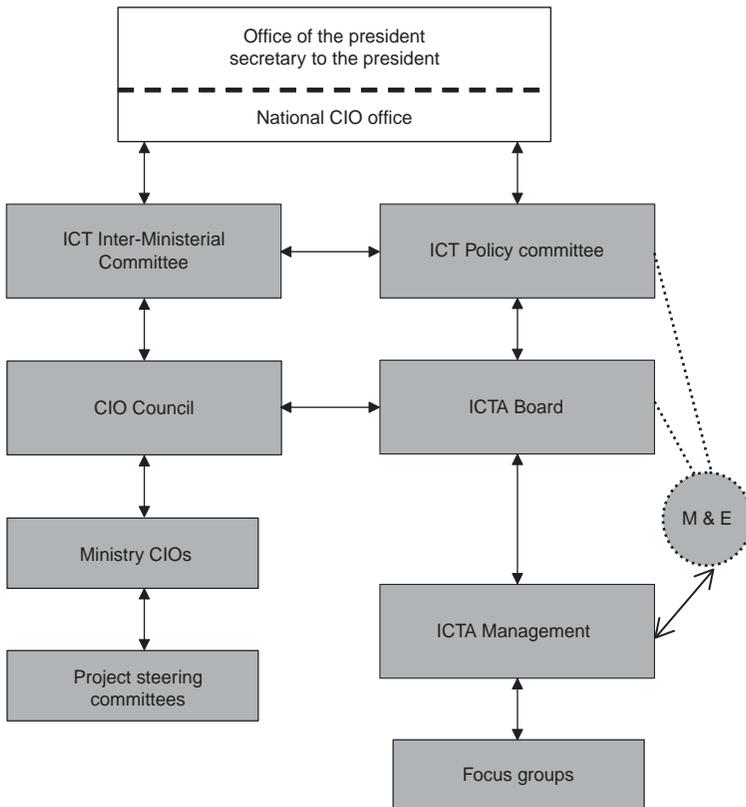
- interested and influential ministry secretaries to these roles, could help ensure effective coordination and management of the investments in shared information infrastructure and systems development.
- Creating a council of CIOs, chaired by the national CIO or the secretary of the Ministry of Public Administration, whose members might include up to 20 CIOs from key agencies as well as the ICT Agency's program director for reengineering government, to support communication and coordination with that agency.
  - Clarifying the role of the ICT Agency's board and improving its composition. The board could play a stronger role in providing strategic direction to the ICT Agency's management and ensuring financial accountability. The Ministry of Finance representative now on the board could strengthen the ministry's role in rationalizing ICT investments in line with the national development strategy. The board, which already has good representation from civil society, could be further strengthened by good representation from private sector associations. Greater ethnic and religious diversity could signal the government's interest in an inclusive process of e-development.
  - Strengthening the role of monitoring and evaluation (M&E). M&E should support both program management and the evolving governance mechanisms (see chapter 3). This suggests extending the focus of M&E beyond the inputs and outputs of single projects and toward policy impact, development results, and feedback to improve e-leadership institutions and governance over time.

These complementary governance mechanisms would help institutionalize leadership for ICT for development in Sri Lanka. They would also provide informed policy input and some checks and balances in a highly charged political environment. They should be viewed not as hierarchical but as a governance network for setting policies, engaging stakeholders, and guiding and supporting the ICT Agency's implementation of the e-Sri Lanka program. And they should help ensure that the success of e-Sri Lanka does not depend on any single individual.

Other options for governance mechanisms also are possible. Past policy and interministerial committees have had a poor record, and building on the National Economic Council could provide an alternative to both. Chaired by the president, the council meets regularly and includes the secretary to the president, the secretary of finance, the Central Bank governor, professors of economics, and the director of the Institute of

Policy Studies. Using this forum to set ICT policies and interministerial priorities for e-government would have two main advantages: It is already a functioning, authoritative forum for development policy making, and it could link e-development issues to overall development policies and priorities. The challenge is to ensure that its agenda can accommodate the strategic issues of e-Sri Lanka, and especially of e-government. This could be achieved by including the lead ministries on e-government (such as the Ministry of Public Administration) and giving the responsibility for bringing such issues to the forum to the secretary to the president, assisted by a national CIO and CIO council.

**Figure 2.1. Proposed Governance Mechanisms for e-Sri Lanka**



Source: Author.

Additional policy steps could reinforce the proposed set of governance mechanisms:

- Amending the ICT Act of 2003 (which created the ICT Agency) to reflect the proposed changes to strengthen the governance structure for e-Sri Lanka—spelling out the roles and authority of the ICT Agency and of the proposed councils and committees—and to extend the ICT Agency’s existence beyond the five-year sunset clause in the act
- Developing a national ICT budget process, to ensure that information on ICT investments in the public sector is shared with the Ministry of Finance and the ICT Agency
- Defining the role of the ICT Agency in advising the Ministry of Finance to avoid duplication in investments and secure budgets for recurrent costs
- Preparing a national ICT policy through a process engaging all stakeholders, to develop a long-term, shared vision for e-Sri Lanka in line with the new political environment and the updated long-term development plan.

### ***Balancing Formal Authority with Informal Influence***

Early work in designing the governance framework also addressed questions about formal authority for the ICT Agency: How much power would the agency need to carry out the necessary coordination for a comprehensive e-development program? And what tools would it need to ensure compliance or induce cooperation and collaboration across sectors and agencies? In particular, what tools for coordination and collaboration should the agency have to promote a “whole of government” approach to e-government?

The ICT Agency has gained formal authority over ministries on ICT-related matters through the recent decisions of the Cabinet. In addition, it has achieved some degree of credibility from being under the president and from what it has to offer the private sector and civil society in ICT initiatives for development. But while the agency is classified as the apex body for formulating and directing ICT policy, it has no formal coordinating role in government beyond initiatives funded under the e-Sri Lanka project. Nor does it have access to the channels needed to offer advisory services and collaborate with government bodies.

To be effective in its role as an apex institution for all ICT programs, the ICT Agency needs to be formally notified of all ICT-related issues and projects in government bodies. It also needs to be recognized by donors as Sri Lanka’s lead institution for national ICT policy and strategy.

The proposed governance mechanisms should help clarify and strengthen the ICT Agency's role as an apex organization. But the agency also could use informal mechanisms and incentives to influence other government bodies. Its leadership could build coalitions for reform. The agency could join forces with others to shape critical policies that affect e-Sri Lanka but are beyond the agency's direct control, such as telecommunications policies relating to access and interconnection. And the communication strategy for e-Sri Lanka could emphasize the ICT Agency's role as enabler, adviser, and capacity builder for government agencies and civil society.

One way in which the ICT Agency could exert informal influence is to rigorously assess the impact of current practices and policy inaction on public spending and services and widely share the results of its independent assessments. The agency could calculate the costs of poor public services for all stakeholders—citizens, business, and government—as well as the significant costs arising from the lack of interoperability and the duplication in public ICT investments. Sharing the results with the Ministry of Finance and with the media could strengthen the demand for e-leadership and for the governance of ICT spending in the public sector and lead to a stronger authorizing environment for the ICT Agency.<sup>6</sup> The ICT Agency can also exert indirect but powerful influence through the development of policy and legal frameworks for e-development. The agency has helped establish a legal framework and business code of practice to support e-commerce.<sup>7</sup> In addition, it is part of an advisory committee on cybercrime legislation. And it plays a leading role in building legal and judiciary capacity in enforcing e-laws and intellectual property rights.

## **Mandate**

As e-Sri Lanka took shape as a comprehensive program cutting across many government agencies, the private sector, and civil society, the design team had to decide what mandate the leading ICT institution should have. What scope of business should the new agency cover? In practice, the ICT Agency's mandate was developed through an iterative process—and continues to evolve along with the changing environment.

The ICT Agency's overall mandate is to implement the e-Sri Lanka initiative, including the following:

- Build the necessary connectivity infrastructure throughout the country
- Create the enabling environment, working with ministries to accelerate the enabling laws for e-government and e-commerce

- Develop human resources at multiple levels
- Modernize the public sector and partner with other agencies to deliver citizen services through e-government
- Bridge the digital divide with funds to promote ICT innovations and uses aimed at poverty reduction and inclusiveness.

### ***Defining the New Agency's Scope***

Several factors argued for centralization, comprehensive scope, and strong authority: the scarcity of expertise in the government, the propensity for fragmentation, and the need for common platforms in the early stages of developing e-government and information infrastructure. Countering these factors, however, was an expectation that any powerful agency attempting to interfere in what many ministries perceived to be their own mandate and means for delivering their services would encounter strong resistance.

It was decided early on to start with a small agency, rely on partnerships and outsourcing to leverage in-house expertise, and expand scope and size only in response to demonstrated demand and results. Because of its limited size, the agency would need to focus more on the policy environment, enabling infrastructure, and governance framework for ICT use—and less on operational management and implementation of specific projects. Pilots and program preparation would provide testing grounds for the capabilities and comparative advantages of the ICT Agency and for the tools needed to secure coordination and collaboration.

Even with a formal settlement on the new agency's size and mandate, reflected in the ICT Act, the scope of its activities and their relative emphasis on public or private sector development continued to be contested. Pilots focused initially on telecenters and e-government applications, mainly because these areas were considered to be relatively untested or to need assessments of bureaucratic resistance. But private sector leaders, sensing that early attention and resources were shifting to the public sector, pressed the government in early 2004 to shift resources toward the information technology industry and the urban centers. The change in government in 2004 helped shift the balance of resources back toward e-government and e-society applications. Thus, the scope and strategic focus of the ICT Agency have continued to evolve along with stakeholders' perceptions and the agency's authorizing environment and proven capabilities.

### ***Matching the Agency's Scope to Its Resources***

With size and resources severely limited, the ICT Agency confronts several dilemmas: How should it balance competing priorities? How

should it maintain its strategic focus while responding to key opportunities and policy changes? How should it balance short-term demands offering quick wins with long-term aims to provide sustainable infrastructure and economywide impact? And how should it evolve to capture new opportunities to improve the government's investments in ICT and the diffusion of ICT in support of the national development strategy?

A big challenge for the agency is to maintain its strategic focus on the key programs agreed on with the World Bank—and other aid agencies—even while responding to emerging political priorities and unexpected opportunities to score quick wins, broaden ownership, and maximize its development impact. With the frequent changes in government, the agency has often faced pressure to satisfy the short-term objectives pursued by fragile coalitions. It also faces growing demands from the many ministries with a backlog of needs but little capacity or expertise to harness ICT to meet them.

As an apex institution, the ICT Agency cannot ignore the urgent needs arising beyond the major systems funded under the World Bank project. There are good reasons for flexibility and responsiveness to new demands. The ICT Agency needs to be perceived as responsive to all agencies seeking advice on technology standards and management of projects and contracts. Providing assistance on demand helps build the agency's legitimacy, create goodwill, and move agencies along the learning curve in preparation for changes in major systems and processes.

But accommodating ad hoc demands may lead to mission creep and, if not managed well, to tensions with aid agencies such as the World Bank. Given the ICT Agency's limited human resources, unchecked mission creep could put the core program in jeopardy, ultimately frustrating stakeholders' expectations and undermining the agency's performance. Indeed, the mismatch between the growing demands for the ICT Agency's services—such as for meeting ambitious targets for telecenters and e-government projects—and the agency's capacity may be putting the entire program at risk.

The ICT Agency's role as an apex institution for the reengineering government program may be the most critical—and the most challenging. The program is properly focused on developing common platforms and shared infrastructure—the fundamentals of e-government. But such projects take time to implement, and meanwhile there is an urgent need to develop content and deliver services and thus show benefits in the short run too.

Two successful cases illustrate the ICT Agency's response to these pressing demands and opportunities for quick wins. The first involves

engaging consultants to develop Web sites for agencies on demand. With small sums, the ICT Agency is building goodwill while also promoting common standards and best practices in Web site design. The other case is the Government Information Center, an innovative effort to connect citizens to government and make information on government easily available. This small initiative, requiring little investment in information technology, has been extremely popular.

Another demand on the ICT Agency is likely to emerge as a result of the growing need to rationalize ICT investments throughout government. The agency will be asked to provide the Ministry of Finance with advice (and possibly approval) on proposed investments and their fit within the “whole of government” architecture (see chapter 4). Compliance with governmentwide enterprise architecture is critical for establishing ICT governance in the public sector, and ensuring that compliance fits well with the enabling role that the ICT Agency should play. But it would put further strain on the agency’s capacity.

The ICT Agency also faces pressures and deadlines on projects that are political priorities but that demand careful design and realistic phasing if they are not to put the entire e-government program at risk. One example is the national identification card (see chapter 7).<sup>8</sup> The ICT Agency lacks a mechanism to prioritize and sequence such demands or to examine the trade-offs and communicate them to top policy makers so that they can set priorities. Several strategic options for matching its scope to its capabilities could be considered (box 2.3).

### ***Strengthening the Agency’s Strategic Focus***

In response to excessive expectations and short-term political objectives, the ICT Agency has developed a bias for action, quick wins, and physical implementation. That has created challenges for its ability to maintain strategic focus and develop its organizational capabilities—to balance its role in implementation with its role in policy setting, attend to sustainability and long-term development impact, define and secure core competencies, and emphasize the human and institutional (softer) aspects of the e-Sri Lanka program in strategy implementation and project management.

Experience in implementing e-Sri Lanka suggests several measures that could help strengthen the strategic focus of the ICT Agency. The agency’s leadership could participate in the proposed policy mechanisms, balancing policy setting with implementation capacity. The proposed national ICT policy could focus expectations on development outcomes and results,

**Box 2.3****Matching Scope to Resources and Capabilities**

To help ensure that the ICT Agency's scope matches its capabilities, the agency's board and e-leadership forums could consider one or more of the following four broad options:

- Create a filter or prioritization mechanism to protect the ICT Agency from having to be “everything to everyone.” While the agency's board could play some role, competing priorities among major projects would be best resolved at the policy level or by the interministerial committee. This option would protect the ICT Agency's strategic focus while providing strategic flexibility and clarity.
- Expand the ICT Agency's staffing in selected areas to accommodate growing programs and emerging priorities in such areas as reengineering government and the telecenter program.
- Take a firm stand on early priorities defined on the basis of economic studies, prioritization by stakeholders and focus groups, and project appraisal by the World Bank. For the ICT Agency, this would mean continuing to emphasize outsourcing and partnership rather than implementation while keeping in-house such core competencies as policy setting, ICT governance, and knowledge sharing.
- Build capacity in large ministries to take care of their own ICT applications, leaving the ICT Agency to focus on common infrastructure, standard business processes, and shared platforms. This option would be for the long term, as building distributed capacity would take time. Moreover, if taken too far, this option may lead to fragmentation, duplication, incompatible systems, and loss of potential synergies.

*Source:* Author.

reinforcing the human, strategic, and sustainability aspects of the program. Staff recruitment for the agency, which has emphasized project managers and technologists, could be selectively expanded to include policy-oriented social scientists and economists to assess development results and attend to sustainability and the “soft” aspects of systems modernization.

Even while maintaining an emphasis on implementation, the agency could ensure reflection and learning beyond individual projects through

an appropriate skill mix, policy analysis, independent evaluation, partnership with policy and research institutions, and substantive engagement with think tanks. Finally, major projects could be analyzed with a view to identifying which steps in the value chain are critical—and for which core competencies should be kept within the organization—and which steps should be outsourced.

### **Paths to Sustainability**

The e-Sri Lanka design team was concerned from the start about pressures that would work against the sustainability of the program and its leadership institutions. Aid agency staff and government officials consulted during program preparation viewed the ICT Agency as essentially a project implementation unit—not an apex institution that should be sustained beyond the five-year horizon of the World Bank–financed e-Sri Lanka project. Some stakeholders viewed ICT as a passing fad that the development community might abandon in favor of other pressing needs or new promising topics. Others were concerned about the proliferation of government ministries and agencies in Sri Lanka and questioned the creation of a new one.

The ICT Act's five-year sunset clause for the ICT Agency was intended to coincide with the proposed completion of the e-Sri Lanka project. This clause reflected political factors beyond the team's control and weak consensus on the long-term affordability of a new institution dedicated to a new dimension of development. While the design team had recognized early on that a lead institution would be needed for the long term, it had no choice but to accept this political compromise.<sup>9</sup>

To enhance sustainability, the team pursued several complementary paths: engaging the ICT Agency in early design of the program and in piloting and testing its capabilities, emphasizing the need to demonstrate results in the first two years of program implementation, identifying and managing risks, and building capacity in the agency to mobilize resources and attract and retain the necessary skills.

### ***Leading Program Preparation and Pilots***

Work in preparing the program and implementing pilots helped strengthen the competencies of the new institution and build local capacity and ownership. From inception the new agency was engaged in shaping the program (see Hanna 2007a, chapter 2). An iterative process ensued: developing the e-Sri Lanka strategy helped in defining the

organization, the new institution then helped in designing e-Sri Lanka programs, and early implementation of these programs in turn helped further develop the new institution.

Early pilots pursued during preparation of the program proved to be critical in establishing the credibility of the new ICT Agency and in gaining support for sustainability. Despite limited funding (savings from the project preparation fund provided by the World Bank), the ICT Agency embarked on an ambitious program of 20 pilot projects to test critical hypotheses about how ICT could be used in enabling socioeconomic growth, to develop and demonstrate the agency's ability to deliver results, to provide early fruits to key stakeholders, and, importantly, to develop implementation strategies and test operational approaches.

The agency's nascent institutional capacity meant that pilots did not always lead to great successes. Many were poorly planned, leading to a host of implementation issues. The pressure to quickly implement pilots led to too little focus on long-term results, evaluation, and sustainability. But the ICT Agency needed to create excitement, momentum, and some promising results—and to prove its public value. Some of the pilots were targeted to key constituencies such as the Parliament and the Office of the President.

The payoffs in institutional learning and understanding of sustainability were well worth the modest investments. The pilots gave the ICT Agency a chance to learn about project management and to improve its partnership and contract management practices. They showed the new agency and its implementing partners the importance of project planning. And the ICT Agency gained greater appreciation of the importance of addressing project sustainability early on, in the design process, not at the end of implementation.

### ***Demonstrating Early Results***

Demonstrating early results to both political leaders (political rationale) and aid agencies (economic rationale) was critical to securing support for the ICT Agency and launching it on the path to sustainability. After the first two to three years of the e-Sri Lanka program the agency was expected to be well on its way to having implemented some key projects with high political and social visibility and thus augmenting its authorizing environment.

Early results were also needed to address the initial doubts of the World Bank and to demonstrate the economic rationale of the program to other aid agencies that were potential funding sources. The five-year

time frame—relatively short for such an ambitious initiative—calls for rigorously prioritizing objectives and phasing programs while at the same time pursuing a coherent strategy for mobilizing resources. Because the World Bank is providing the initial funding, primarily for the core building blocks of e-government, timely and successful delivery of these elements clearly should have first priority. Midway in the five-year program, it was hoped that the agency would have begun to mobilize additional resources beyond World Bank funding—and development results would be the best marketing tool for doing so. Meanwhile, the midterm review of program implementation in 2007 was expected to provide a good opportunity for thoroughly reviewing the ICT Agency and redirecting its strategic focus if necessary.

At times, the political and economic rationales were in conflict, with the political rationale demanding results in the very short term and to the detriment of the core medium-term program. In addition, both the political and aid constituencies of e-Sri Lanka may have held unrealistic expectations about early results. But neither could be ignored without jeopardizing the sustainability and very survival of the new agency and its nascent e-development program.

### ***Identifying and Managing Risks***

An important factor in the success of the ICT Agency is its ability to identify and analyze risks and to counter these risks effectively and efficiently—whether organizational risks or project and program risks. Risk analysis and management should feature not only in the agency's corporate strategy but also in each project proposal.

The most important element of risk management is to be aware of the risks an organization is facing. Analysis of the risks facing the ICT Agency at inception identified both internal and external risks as well as actions that the agency could take to counter them (see annex 2.3).

Risk awareness and management, rather than risk aversion, should guide the behavior of the agency and the implementation of e-Sri Lanka. E-development and ICT-enabled transformation involve inevitable risks. True leadership is the ability to lead through the risks and pains of transformation where there are no easy answers (Heifetz and Linsky 2002).

### ***Mobilizing Resources***

The sustainability of the ICT Agency depends in the medium term on the continued financial sustainability of the e-Sri Lanka program beyond the World Bank's initial five years of financing. The agency's mandate to

deliver the program is a huge task requiring substantial resources. Indeed, it is expected to mobilize an estimated US\$250 million from sources other than the World Bank, according to *E-Sri Lanka: An ICT Development Road Map* (Sri Lanka, Ministry of Science and Technology 2002). Will the agency be able to mobilize the resources needed to deliver the full program before Bank funding for the first five-year phase runs out?

Financial resources are only part of the equation, however. The sustainability of an institution depends critically on its ability to attract and retain the skills it needs and to develop a working environment compatible with its mandate. For the ICT Agency that means that its strategy for mobilizing resources is tied in with its strategies for communication and for managing partnerships. An effective strategy for mobilizing resources would take the following aspects into account:

- Mobilizing resources is more than “getting money from donors.” Alternative sources should be explored, such as the private sector (through public-private investment partnerships) or the end users (through user fees from telecenters and e-procurement, for example).
- Resources come in a wide variety—including knowledge and contributions in kind.
- Mobilizing resources to finance the delivery of projects and programs is different from mobilizing resources for operational costs. The ICT Agency could meet these costs in part by taking on operational responsibilities—as long as this does not distract it from its core governance and investment functions.
- Mobilizing resources becomes easier once there is something to show for resources provided in the past—that is, proven capacity to deliver quality services.
- Three other things could also help make it easier to mobilize resources—staying lean and efficient so as to minimize the agency’s claims on the resources available for the program; developing sound, transparent systems of financial management and procurement; and communicating the public value and savings realized from effective ICT investment and governance.

### **Core Competencies**

Early work to develop the ICT Agency needed to identify which core competencies the agency should have and how best to provide them. The design team faced several strategic choices: What is the core set of

competencies the agency would need to function effectively and leverage its resources most strategically? Should the agency focus on generic competencies (such as project management) or substantive expertise in the main areas of the program (such as information infrastructure and e-government)? Should it recruit expatriate Sri Lankans with cutting-edge skills and knowledge of global best practices or draw staff only from local sources—nongovernmental organizations (NGOs), government, and academia? And should it emphasize experience in business, government, or academia? Given the small size of the agency, all these choices were critical.

The design team identified three core competencies for acquisition and internal development:

- The ability to manage complex ICT projects and programs
- The ability to build and maintain partnerships, especially with the government, the private sector, and the donor community
- The ability to understand and communicate effectively with stakeholders, particularly the intended beneficiaries of programs.

These decisions suggested that the ICT Agency would need to be staffed by experienced managers, ICT experts, development professionals in different disciplines, and program managers able to partner with the public and private sectors. A diverse staff might provide the broad range of skills, experiences, and perspectives needed to work with both the public and the private sector as well as civil society and beneficiaries.

The design team also recognized the need to develop e-leadership capabilities across the government, particularly to bridge the gap between ICT professionals and business or sector managers. Finally, it realized that the ICT Agency would need to mobilize the talents and resources of the Sri Lankan diaspora.

### ***Attracting and Developing Core Competencies***

The ICT Agency's small size makes effective management of its human resources critical to success. A key part of this is recruiting and retaining highly qualified staff. The ICT Agency needs to develop ways to evaluate staff fairly and constructively, promote their professional development, and encourage learning and capacity building.

Attracting scarce skills to the public sector can be a big challenge. The ICT Agency has had to deal with both public perceptions (salaries in the public sector are typically low, though they are relatively high in the ICT

Agency) and market reality (private sector salaries for ICT professionals are even higher). As a result, it has had to offer incentives other than salaries—such as training opportunities and special leave arrangements—to recruit, retain, and motivate staff.

The ICT Agency's initial staff contributed a great deal to its promising performance. While efforts were made to ensure diversity, the ICT Agency also set high professional standards. Employees hired from the public and private sector alike were of high caliber, with a clear focus on achieving the agency's goals. Being part of a pioneering institution and working in a new environment that demands innovation proved to be a strong source of motivation for the staff.

### ***Developing e-Leadership***

Beyond building its own core competencies, the ICT Agency has needed to support the development of an e-leadership cadre—to articulate the vision of e-Sri Lanka, to lead the ICT-enabled institutional changes, and to staff the ICT units of other government agencies (Hanna 2007b). Early initiatives have provided training for CIOs, but these local programs have been too technical in orientation, lacking experiential learning and local case studies. Perhaps most critical, however, is the lack of programs targeted to higher-level CIOs and to policy makers and development leaders—that is, e-leadership. This group can play an essential part in improving the authorizing environment for e-Sri Lanka and in enabling CIOs and change agents within organizations to use ICT to transform public services, enhance business competitiveness, and empower community organizations.

The ICT Agency is exploring options for further developing its core competencies and professional leadership while also developing a national cadre of e-leaders:

- Inviting educators and training providers (suppliers) and policy makers (demand definers) to work with the ICT Agency in further developing the nation's e-leadership resources and in sharing international best practices
- Developing partnerships with centers of excellence (such as the Indian Institute for Smart Government and the Indian Institutes of Management) to create e-leadership development programs and nurture professional networks and knowledge sharing
- Institutionalizing the e-leadership development function within Sri Lanka by engaging, among others, the Sri Lanka Institute of Development

Administration (SLIDA), the country's leading public management development institution

- Preparing leaders to act as change agents and to enable trained civil servants to assume new roles or to apply new skills in their present jobs
- Taking e-leadership training beyond IT literacy, to prepare top policy makers and public managers for leadership in ICT-enabled development and to improve the authorizing environment for e-Sri Lanka.

### ***Leveraging the Diaspora***

Early on, the design team nurtured a hope that the Sri Lankan diaspora could play key roles in supporting the new ICT Agency, facilitating technology transfer and institutional innovations, serving as mentors and partners to leading ICT institutions, and acting as pioneer investors and venture capitalists. The design team engaged a few Sri Lankans in Silicon Valley in the early process of envisioning e-Sri Lanka and in dialogue with the new ICT Agency. Inspired by the vision of e-Sri Lanka and by the Indian diaspora model, key figures in the ICT industry—recent returnees from the United Kingdom or the United States—were ready to engage in institution building, to share ideas and proposals, and to link the ICT Agency with regional and global networks in the industry. Moreover, the peace process appeared promising at the time, encouraging overseas Sri Lankans of Tamil origin to hope that they could contribute to the new vision and perhaps return home or invest in partnerships.

The potential role of the diaspora in staffing the ICT Agency and building the core competencies needed to lead ICT-enabled development was also recognized early on. Indeed, many start-up employees—including the chief executive officer and several key program directors and managers—had had significant education and experience overseas, working in organizations ranging from high-profile private corporations to international NGOs.

But the experience in mobilizing the diaspora for e-Sri Lanka has been mixed. Part of this has to do with the dynamics between the diaspora and the domestic elite. Segments of Sri Lankan society have sometimes failed to recognize expatriates (those abroad or recent returnees) as an asset and as potential mentors or guides to the knowledge-intensive global economy. Proposals submitted by expatriates have had a mixed reception.

Another possible factor is the limited capacity of local institutions, which may have constrained their ability to collaborate with their overseas counterparts. In addition, some politicians may have reinforced the divide, trying to erect barriers against expatriates engaging in a national

effort such as e-Sri Lanka. Attempts to build bridges and institutionalize relationships with the diaspora have been weak or short-lived.

Within the ICT Agency conflicts sometimes arose during the formative days when nationalists perceived expatriate or foreign-educated colleagues as not being attuned to local needs. At times, these conflicts may have arisen in part because of the expatriates' inability to adequately recognize the value of local experience and grassroots knowledge. Still, the ICT Agency has had more instances of successful integration of international and local expertise, and this integration remains key to maintaining its performance and innovativeness.<sup>10</sup> And attitudes have changed more broadly as Sri Lankan professionals have become increasingly exposed to the international arena and increasingly aware of the demands of the knowledge economy.

Much can be done to leverage the diaspora for e-Sri Lanka and for building the knowledge economy. One key is to change the dynamics so that political leaders and the local elite see expatriates as partners and key players in development and in knowledge transfer, not just as a source of remittances.

The ICT Agency has played and could continue to play a key part in this. It could provide forums for promoting discussion among expatriates and for building commitments and turning them into projects and investments. Champions could be sought to initiate and institutionalize the process. Funding sources such as the e-society fund and the ICT capacity-building and industry promotion fund could be used to provide seed money for initiatives that engage expatriates with local partners in innovation and learning to leverage ICT for development and export. Aid agencies and ICT multinationals could also help mobilize the diaspora network, enabling the country to draw on its substantial talent abroad and to use ICT to turn its brain drain into brain gain and circulation.

## **Partnerships**

The ICT Agency is a new type of organization for Sri Lanka. It represents a shift from hierarchy to teamwork and collaborative leadership, from in-house systems development and full control of projects to outsourcing and public-private partnership. The aim in designing the agency was to create an institutional infrastructure that would enable actors and agencies to collaborate, cocreate, standardize common business processes, govern ICT across sectors, and make systems interoperable.

But the agency was not born ready to partner. It had to learn how to partner and to outsource. While its leadership was convinced of the need to work in partnership with others, this proved difficult in practice. Still, the agency has made much progress in learning to manage diverse partnerships.

### ***Learning to Work with Different Kinds of Partners***

Two broad groups of partners with which the ICT Agency works are the beneficiaries of its programs and the implementers—government agencies, civil society organizations, local contractors, and local consultants.

***Beneficiaries***—The ICT Agency serves a plethora of different people, communities, organizations, and other stakeholders. Its ability to deliver programs depends on the involvement of these groups not just as recipients but as active participants. That requires the capacity to fully understand the needs of these groups, the capabilities they have, and the obstacles they may face. At times it may require the ability to anticipate and adjust to their pace and allow them time to incorporate new developments into their social structure.

To provide a mechanism for working with beneficiaries, the ICT Agency created focus groups of key stakeholders (see box 2.2). These groups started functioning early in program preparation and have continued to contribute through implementation. Many questions have arisen relating to what role they should play and how to enhance their effectiveness. Should they remain involved in policy setting and program design or focus just on implementation issues? Should they be chaired by ICT Agency staff or by rotating stakeholder representatives? How could membership be broadened to ensure balanced yet effective participation?

While the focus groups proved effective in detailing the design of the program and broadening ownership, their performance has been mixed. The leadership of focus groups and the ICT Agency's style of involvement have both been key factors in performance. Despite some attempts to broaden geographic representation, the focus groups remain dominated by people from the capital city of Colombo. Yet the focus groups have provided new partnership models for stakeholders and for beneficiary-driven innovation in program design and implementation in Sri Lanka.

***Implementers***—Experience in early pilot projects suggests that the commitment and capacity of implementing partners have been both uneven and limited. The local consulting industry is relatively underdeveloped, and small contractors and consultants have lacked the sophistication to

deal with large contracts. Similarly, civil society organizations have lacked the sophistication to deal with a powerful organization. At times, such partners have failed to deliver.

The ICT Agency has therefore had to manage projects more closely than would be ideal. It has also had to provide informal technical assistance to the implementers, a heavy burden for a small organization.

Meanwhile, the ICT Agency has had to operate in an environment of low trust, which has not always been conducive to sharing information and building strategic partnerships. Another impediment in building relationships with government organizations is the agency's very different work ethic, work environment, staff profile, and remuneration packages. These differences may sometimes get in the way of objective assessments of the agency's intentions.

### ***Developing a Partnership Strategy***

All these limitations pose challenges for both the ICT Agency and its partners. An explicit and effectively managed partnership strategy could help. Forging strong partnerships based on mutual trust and understanding takes time. Thus, a partnership strategy should take both a short-term perspective (recognizing the need for early results and the time constraints the ICT Agency faces) and a long-term one (focusing on strategic partnerships and on building capabilities for managing partnerships).

A partnership strategy could differentiate among types of partners, defining a different approach for each. "Strategic" partnerships—such as those with government agencies implementing several programs—require substantial investments, a long-term perspective, mutual understanding of objectives, reciprocity, knowledge sharing, and capacity building. For weaker partners too, such as NGOs and community organizations, capacity building may be a key to effective partnership. Transactional-type partnerships are more amenable to traditional procurement procedures, arm's-length contractual arrangements, and minimal investment in the institutional relationships.

Long-term relationships with suppliers and consultants are often preempted by donor procurement practices, out of fear of corruption and loss of transparency. But procurement practices that do not allow investing in strategic, long-term partnerships may not always be the most beneficial. Thus, the ICT Agency could work with aid agencies such as the World Bank in adapting procurement practices to accommodate and even encourage the development of long-term partnerships and local consortia. At times, this may mean "bending the rules" of aid agencies to

support entrepreneurship as well as accountability in engaging the highly dynamic ICT services industry.

Good practices in contracting can help build and deepen partnerships. Terms of reference and contracting-out approaches should reflect best practices in knowledge-based partnerships and outsourcing, particularly when working with small enterprises and weak local consulting capacity. Contracts should be actively managed, especially those for complex activities or novel initiatives. Contract payments should be phased and tied to deliverables whenever possible. Partnerships should be emphasized over hands-off outsourcing when deliverables are intangible and a client organization's capacity and commitment in doubt.

Trust is key to any successful partnership. It needs to be built over time, particularly in a new field and when beginning from a low level. Good starting points are information sharing and frequent interaction. Other measures could include conducting joint field trips, engendering mutual respect, providing partners with information and other resources enabling them to succeed, and signaling an intention to treat consultants and contractors as partners. Periodic M&E of partnerships could help keep them strong.

Partnerships also require two-way communication and give and take. It is important that the ICT Agency not only define what it is looking for in each partner but also what it has to offer. Moreover, partners need to be viewed as sources not only of funding or implementation capacity but also of new knowledge, perspectives, and innovations. This suggests a need for ICT Agency staff to build process and partnership skills—skills to bring parties together and to smooth out potential conflicts.

The ICT Agency is learning to put such lessons into practice. For example, it is learning to keep expectations about business process reengineering (under the e-government program) in line with partners' commitment to reform. Early initiatives set unrealistic targets for engaging partner institutions in such exercises and assumed that processes could be mapped and redesigned in one shot. The agency has learned to adapt its practices and timelines to the commitment level of its partners and the need for building counterparts' ownership and understanding.

## **A Learning Organization**

From the outset the design team and the leadership of the ICT Agency were preoccupied with creating a learning-oriented, results-driven, and client-centric organizational culture—a culture deemed essential to

achieving effectiveness and sustainability in a new development field and a fast-changing and uncertain environment. What could be done to build such a culture? Could a learning organization be nurtured in an otherwise unmotivated, slow-moving, and highly politicized civil service? Could it learn to sense changes in the environment, be open to client feedback, and be ready to experiment and adapt?

While the initial focus in developing the ICT Agency has been on e-Sri Lanka programs related to delivering services to external stakeholders, over time the agency's leadership and World Bank missions began to address functional areas key to creating an adaptive learning institution: communication and situational awareness, knowledge management and sharing, M&E, and the nurturing of an institutional learning culture.

### ***Developing External Communication and Situational Awareness***

Communication has become a core activity for the ICT Agency—both as a tool for raising awareness on ICT for development and as a tool to position the agency in Sri Lanka and possibly more broadly. Communication can help smooth the way for e-Sri Lanka programs, support resource mobilization and financial sustainability, and promote mutual learning.

To develop an external communication strategy, the ICT Agency needed to address several core questions:

- What are the key messages that should be included in all the agency's communications?
- Who communicates these messages and to whom? Can every staff member speak with the media? How freely can staff speak about the agency's affairs?
- How will the agency deal with a negative press or a negative image?

In a pioneering initiative such as e-Sri Lanka, imperfectly understood by most people, communicating the right messages to the stakeholder community is imperative. Much of the agency's early communication effort has gone into general awareness building as well as project-specific communiqués to targeted audiences. Some of the projects, especially those in government, are expected to lead to massive change. Such projects will inevitably meet with resistance—as well as misunderstandings and misconceptions resulting in anxiety and roadblocks. A smart, targeted, and timely communication strategy can help smooth the way to successful implementation.

The ICT Agency has learned how important it is to communicate to the general public to raise awareness and engender broad support for e-Sri Lanka. Also important is to identify what and how to communicate to specific parties—implementation partners, political stakeholders, and potential beneficiaries. The ICT Agency needs to determine how open to be about its operations, what influence different parties can have over its activities, and how best to communicate with these parties. A good communication strategy needs a budget and dedicated staff to ensure its implementation. Each project and program also needs a budget for external communication.

Communication consists not only of the messages an organization delivers but also of the attitudes and behavior of staff. To ensure that these are consistent with its communication strategy, the ICT Agency could include communication behavior as part of its human resource strategy.

The ICT Agency has learned to focus on the mainstream media as the key channel to the general public. It reaches out to broad audiences through radio and television programs in local languages. And it has provided training for e-journalists—a network of interested reporters—to promote awareness and e-literacy. Concrete stories illustrating the relevance of ICT and successes in the agency's work are culled weekly from program managers and made available to mainstream media. The ICT Agency has also developed a corporate Web site, corporate brochures, and annual and monthly reports.

Promoting situational awareness requires two-way communication and multiple feedback channels. Situational awareness is critical to effective leadership—but especially for e-leadership institutions, since they are expected to influence diverse stakeholders and operate in a fast-changing sector. The ICT Agency is learning to use its partners and focus groups as channels for situational awareness. Corporate strategy development, SWOT analysis, e-readiness assessments, and M&E systems provide additional opportunities for taking stock and improving situational awareness. And the ICT Agency's relatively flat structure and small size help keep each part of the organization closely linked to the external environment.

### ***Developing Knowledge Management and a Monitoring and Evaluation System***

An organization that is aware of the environment in which it operates, and is continually expanding its knowledge of its field, is better prepared for what the future might bring. Recognizing this, the ICT Agency has made knowledge management a key part of its corporate strategy.

As the ICT Agency accumulates experience, its staff will be able to identify lessons and good practices. The staff also needs to keep up with developments in the ICT field. Yet there is little time for these activities. A knowledge management strategy must therefore reconcile the need to learn with the time constraints on learning. Another challenge arises from the agency's use of contract employment and the consequent staff attrition, which risks the loss of institutional knowledge. The agency has begun to develop formal mechanisms to capture tacit knowledge and retain and disseminate this institutional knowledge effectively.

A few suggestions should guide the development of a knowledge management system:

- Develop institutional memory and knowledge-on-demand systems—adopting modern management techniques and best practices (see, for example, OECD 2002, 2003)
- Seek knowledge from outside the ICT Agency, such as from suppliers, client agencies, and research and development institutions
- Engage consultants, implementing partners, and all ICT Agency staff in discussions on findings from M&E and disclose the results of independent evaluations to outside stakeholders to project the image of a learning organization—and capture these lessons in the institution's knowledge management system
- Identify and share best practices in knowledge management with other organizations in Sri Lanka and with peer e-leadership institutions in advanced countries.

A key tool for creating an adaptive learning organization is an appropriate M&E system. Creating such a system was an important focus in developing the ICT Agency (see chapter 3 for a description of this system and early lessons from its further design and implementation).

### ***Building an Institutional Learning Culture***

As a pioneering program, e-Sri Lanka demands experimentation, adaptation, and rapid learning. The ICT Agency, designed as an agile, fast-learning organization, should have the capacity to develop the processes, practices, and culture needed to nurture such learning within itself and with partners. Indeed, the agency scores relatively high on these competencies—though it is still learning how to institutionalize them. Despite a promising start, nurturing and sustaining a learning organization will not be easy. Institutional learning practices are rare in Sri Lanka; political uncertainty and the colonial legacy have not encouraged their development. External

pressures, political conflicts, and criticism from interest groups often threaten the agency's learning culture. Staff turnover and short-term demands leave senior managers little time to coach newcomers or design a coherent corporate development strategy. The slow development of M&E left the agency with few tools to support structured learning from the early phases of e-Sri Lanka. And the agency remains oriented toward implementation—with no policy or research staff yet on board.

Yet the ICT Agency also has some strengths in this area. As a young and small organization, it has had the advantage of being informal, flexible, and entrepreneurial. It strives to maintain a results-oriented management style and culture. Setting clear milestones and deadlines has enabled it to reach its performance targets and, in some cases, to surpass them. The agency also maintains a nontraditional office environment that has proved conducive to informal learning and communication, such as an open-plan layout, wireless spaces, and comforts to promote creativity.

In addition, the ICT Agency has maintained a flexible structure. Initially, it had no sectoral or program departments. Directors were the only designated role, with all other employees allocated across programs and projects, with cross-cutting roles and, when needed, cross-cutting designations. This flexibility helped promote learning and collaboration across programs and projects.

Promoting and sustaining shared institutional learning and synergies across programs requires leadership, incentives, processes, and systems that recognize cooperation, information sharing, and cross-program team building. Adopting a few practical suggestions could help nurture and sustain the ICT Agency's learning culture:

- Formalize investments of time in learning as part of the human resource strategy
- Provide incentives and develop roles for managers and staff to share knowledge (through mentoring, training practices, mobility, and links between performance assessment and knowledge sharing)
- Keep staff informed through regular staff meetings and the sharing of knowledge from overseas conferences, training experiences, and project outcomes
- Institutionalize learning from M&E by developing checklists to guide project managers, placing the findings on the ICT Agency's Web site, inviting comments on the findings from others, and incorporating M&E into the terms of reference of contractors for each project

- Develop a seminar or “brown-bag” lunch series to exchange lessons in an open environment and use videoconferences to share experience with international counterpart organizations.

To ensure that institutional learning and adaptation are timely and effective, the ICT Agency’s board and management will need to give due attention to designing a corporate development strategy. Doing so is especially important for an agency operating in a new development field while dealing with fast-changing technology, a turbulent political environment, and an innovative institutional model.

The ICT Agency could also provide a model for other public sector agencies in Sri Lanka on how to become a learning organization. In Sri Lanka, as in many developing countries, there is little awareness of knowledge management practices among policy makers, administrators, and public servants. Bureaucracies further discourage experimentation, risk taking, information sharing, client feedback, and institutional learning. The agency could develop practices that support the ability of public managers to create, organize, and share information and knowledge for making policies, making decisions, and including citizens as coproducers of knowledge.

### **Role of Aid Agencies**

The e-Sri Lanka program was developed in close partnership with the World Bank, and this relationship goes beyond the Bank’s funding of the initial core program and the ICT Agency’s start-up costs. It was expected that the Bank would help the ICT Agency evolve as an apex organization.

Indeed, the World Bank’s keen interest in ICT for development and its championing of e-Sri Lanka as the first Bank-funded national e-development program were a source of great support for the ICT Agency. This support not only helped in creating an appropriate institutional infrastructure and environment; it also motivated staff and strengthened interest among various groups. This relationship has survived elections, political shifts, and the sometimes unrealistic expectations of local constituencies as well as the Bank. And the strong association with the Bank is expected to help buy the ICT Agency time to establish itself more firmly in the ICT arena in Sri Lanka.

At times, the relationship with the Bank has been able to help keep the ICT Agency on track. The agency’s dependence on donor institutions and the government for funding has sometimes constrained its ability to

launch innovative projects and programs. And it may have left the agency with less room than its leadership desired for tapping the creativity of employees and enhancing their professional development. But this constraint may also have helped prevent the agency from diverting its attention from long-term efforts to short-term initiatives with little development impact.

The partnership between the Bank and the government over e-Sri Lanka has changed over time, and it is bound to be tested (see Hanna 2007a, chapter 2). It has come under growing pressure as a result of an assertive government, a faltering peace process, changes in the Bank team, and differences in development perspectives. Tensions are likely to arise between focusing on the Bank's approved program and responding to new political priorities and opportunities. The complex information systems under development, the dynamic nature of ICT markets, and the agile role to be played by the ICT Agency—all suggest a need for adaptability in Bank procedures and procurement methods to accommodate these realities and perhaps capture the opportunities.

Developing a shared understanding of the political economy surrounding the e-Sri Lanka program could strengthen the partnership. In addition, the government could engage the Bank as a "knowledge bank" to provide advice on strategic directions. A knowledge-based partnership cannot be conducted at arm's length or limited to narrow issues of procurement and disbursement. But it is easy to drift from this role to micromanagement. Donor engagement should influence and empower rather than control and displace local initiative.

Aid agencies could help strengthen the ICT Agency's authorizing environment by supporting its role as an apex organization for overall national e-development. They could also help by being prepared to support the e-Sri Lanka program as it evolves and adapts to the new political realities and government policies. In addition, aid agencies could support the development of the proposed governance mechanisms through capacity building and possibly through twinning arrangements with e-leadership institutions in advanced countries. They could also provide support by helping the ICT Agency's board tap the experience of similar bodies in advanced countries and helping its management remain professional and independent from excessive political interference.

To sustain progress, both the government and the aid agencies concerned should seek mutual understanding and constructive engagement. Trust is essential for true partnership. Effective governance mechanisms should go a long way toward rebuilding this trust. But no formal governance or

accountability mechanism can substitute for a collegial, professional working relationship and development diplomacy between the staffs of an aid agency and the ICT Agency.

## Lessons and Conclusions

E-Sri Lanka implies massive social and institutional change—including empowering citizens with information and connectivity and transforming the way government works and institutions interact. The ICT Agency is learning how to induce such change. Yet it has a long way to go. It remains a young agency, tasked with a challenging multisectoral program and working in a complex institutional environment and difficult political conditions.

The ICT Agency's effectiveness will continue to depend on:

- Its governance and authorizing environment and its ability to adapt to changes in the political and socioeconomic environment; the strength of the public, private, and civil society coalition for reform; and the supportive role of international aid agencies
- Its own strategic focus and clarity of vision
- Its ability to acquire core competencies, partner with others, and nurture a learning culture.

The ICT Agency's experience and its success so far in navigating complex political and socioeconomic issues offer lessons for e-leadership institutions in other developing countries.

*The position of the national e-leadership institution on the public-private continuum is a critical political and institutional design decision.* This position needs to be guided by the comparative advantages of partners, and it may shift with changes in political leadership. The value of private sector participation in ICT policy setting, governance, and implementation is undisputed, particularly where the civil service may lack key competencies and professional expertise. Yet, a corporate image that is too close to the private sector may alienate public sector organizations that are essential for e-development and weaken the authority to push for ICT-enabled modernization of public service. Conversely, placing an e-leadership institution at the center of government or too close to political leadership may create possibilities for politicization.

While getting the balance right can be tricky, the experience in Sri Lanka so far suggests that the public-private institutional model offers

several advantages. Freed from bureaucratic requirements, an agency can react swiftly to changing demands. It can more easily hire cutting-edge professional staff at competitive wages. It can rely on outsourcing and partnerships, allowing itself to remain lean, agile, and focused.

The model also has several potential disadvantages. The lead time between the creation of an agency and its ability to deliver results may be long, posing a risk of being overtaken by political developments—especially if the agency lacks a proper mandate and authorizing environment.<sup>11</sup> Unless the agency has direct links to a strong ministry or the head of state, it may not receive the political and financial support it needs. In addition, the bureaucratic culture of the public sector could attempt to reassert control.

Creating a corporate culture that preserves the intended flexibility can be critical. Having a respected, professional board for the agency and the ability to create strong links with key ministries is also important. The viability of this model also depends on the authorizing environment and the political leadership's commitment to allowing the agency the autonomy to operate like a business and avoiding political interference in its staffing and day-to-day management.

*The development and strategic management of e-leadership institutions require orchestration and integration of three factors: the authorizing environment, mandate, and resources and capabilities.* Creation of a new agency to lead the national ICT agenda is gaining currency, even among developed countries (see Hanna 2007b). A new agency may have greater freedom than an entity operating within ministerial boundaries and civil service constraints. Yet it faces an even more public authorizing environment. It is less shielded from public criticism and politicization, and more in need of governance mechanisms and active mobilization of its stakeholders.

E-leadership institutions need to be acutely aware of the political economy of e-development and the authorizing environment within which they operate, which tends to be fluid and uncertain in developing countries and particularly so for the cross-cutting ICT sector. They need to diagnose their political environment, understand public expectations, and adjust their mission and capabilities accordingly. They need to engage in entrepreneurial advocacy, stakeholder mobilization, strategic communication, and social marketing of their services. And as strategists, not just implementers and technicians, they need to engage in the politics surrounding e-development. For the ICT Agency, whose influence on its authorizing environment is limited by its size and resources, the board and other governance mechanisms need to take on a greater role in such activities.

*Building the governance mechanisms for e-leadership institutions is difficult but essential*—to secure an adequate authorizing environment, to engage stakeholders, to nurture e-leadership forums, and to mobilize private sector participation. Governance mechanisms are also necessary to integrate ICT into the development agenda and to enable an information society ecosystem to emerge.

The e-Sri Lanka design team proposed governance mechanisms early on—national committees and task forces to shape ICT policy and guide the ICT Agency. But creating these mechanisms proved difficult as a result of the frequent changes in the political environment and the diffusion of authority below the president.<sup>12</sup> While authorizing laws for e-Sri Lanka were passed and the ICT Agency became sophisticated in understanding and engaging its stakeholders, its governance mechanisms remained underdeveloped. That became a source of vulnerability during political transitions and departures of senior staff. Even placing the agency directly under the president was not enough to compensate for the missing governance mechanisms.

Building governance mechanisms takes time and commitment from the highest levels of political leadership. It also requires a respect for the principle of subsidiarity, to avoid simply adding another layer of bureaucracy that slows implementation. The task should be driven by political conviction that institutionalized governance mechanisms are needed to ensure strategic guidance, to secure broad local ownership of the e-development program, and to sustain institutions beyond any single political cycle. The governance mechanisms may also assure aid agencies of the government's commitment to integrating ICT into the development process. And they can strengthen an agency's position as an apex institution for national ICT governance and programs—far beyond the horizon of a single donor project.

*The strategic management of e-leadership institutions requires defining their mandate and adapting it to a fluid authorizing environment and to the resources and capabilities at their disposal.* The mandate of an e-leadership institution, including its role and strategic focus, needs to be continually reexamined and redefined. The mandate needs to be broad enough to cover the key components of e-development and thus maximize the agency's development impact. Yet, the mandate has to be pursued within the constraints of the agency's authorizing environment, and it has to be focused to match the agency's resources and capabilities.

Maintaining a strategic focus can be difficult in the face of pent-up demand, mounting expectations, emerging opportunities, and shifting

political priorities. Even with initial agreement on the ICT Agency's mandate, it continued to be tested by results and shaped by stakeholders' perceptions and expectations. At times the leadership of the ICT Agency tried to compensate for a weakening or uncertain authorizing environment by seeking to expand the agency's scope of activities—to capture opportunities to demonstrate public value. At other times, political actors changed or expanded the agency's mandate from above.

Accommodating ad hoc demands can lead to mission creep and a mismatch between mandate and capabilities. That in turn undermines performance and accountability—and can put an entire e-development program at risk. An agency facing such demands needs to develop mechanisms to prioritize and sequence them or rely on political and policy leadership forums to set priorities. It also needs to strike a balance between short-term demands and long-term sustainability and development impact—a balance that should be reflected in a national ICT policy.

The role of an e-leadership institution will evolve in response to the state of e-readiness and the capacity of other leading and implementing partners. Its ability to play a catalytic role depends greatly on its authorizing environment and its ability to read and anticipate changes in this environment. And its ability to add value and tap synergies across e-development programs depends on its collaboration with the network of institutions of which it is a part.

*Building e-leadership institutions involves identifying, recruiting, and developing core competencies.* E-leadership institutions need to develop the core competencies necessary to match their mandate. They need to promote e-leadership forums and capabilities across government. They also need to mobilize support and resources for the agencies they lead while enlisting the aid of partners that can help them realize their mandate and maximize public value.

Perhaps the most critical competencies for these institutions are the ability to manage complex ICT projects and programs, the ability to attract and motivate competent staff, the ability to build and maintain partnerships, and the ability to understand and communicate effectively with stakeholders. A country's diaspora may provide a valuable pool of talent, professional experience, and innovation.<sup>13</sup> In Sri Lanka, both the diaspora and recent returnees with rich experience overseas helped shape the e-Sri Lanka vision, build the core competencies of the new ICT Agency, and create the ICT services industry.

*Executing and innovating through partners takes practice.* Partnerships constitute a key part of the resources and capabilities the leading ICT

agency needs to fulfill its mandate, realize public value, and play a catalytic role. They are essential to the success of national ICT policies and programs, especially where resources are relatively scarce. Partners may be government departments, implementing agencies, private contractors, or beneficiaries—but in all cases they are a participant and a fellow owner of the work being done.<sup>14</sup>

Partnering effectively requires differentiating between short-term, arm's-length contracting and sustained strategic partnerships. Developing strategic partnerships requires substantial investments, a long-term perspective, mutual understanding of objectives, reciprocity, knowledge sharing, and capacity building. Explicit partnership strategies can help. Also helpful are specific efforts to nurture a partnership culture—in the central ICT agency, across government agencies, and perhaps in the private sector and civil society organizations.

*Building a learning organization is difficult, particularly for public institutions and where institutional learning practices have been constrained.* What does it take to be a smart, agile learning organization? Ensuring that each part of the organization captures the information it needs quickly and accurately; empowering staff and developing flat decision-making structures to ensure that decisions are made at the right level and by the people with the best information about clients; ensuring that each part of the organization knows what it needs to know when it needs to know it, often through a first-class knowledge management system; focusing on core priorities and simplifying processes to fight information overload and enhance agility and flexibility; and operating as part of a network of knowledge partnerships and applying these principles to the entire network or value chain (see, for example, Mendelson and Ziegler 1999).

Sri Lanka's ICT Agency has adopted some of these practices. But excessive expectations and high pressure to deliver continue to constrain institutional learning. Learning requires safe spaces and time for reflection, particularly among leaders of the organization, for whom time is especially scarce. In a new and fast-moving field like e-development, organizational learning is essential. E-leadership institutions need to plan to learn as well as learn to plan.

*Governments and aid agencies need to be concerned from the start about the sustainability of e-development programs and their lead institutions.* Development projects and new institutions both face inherent risks and sustainability issues. The pressures to implement aid projects often militate against sustainability, diverting attention from long-term capacity building to quick-disbursing activities and near-term outputs. Yet e-development

is a long journey, not a one-time event. Several complementary paths can be pursued to enhance sustainability: engaging the implementing institutions in the early design of the program and in piloting and testing their capabilities; emphasizing the need to demonstrate results early while managing expectations; identifying and managing risks; and building capacity in the lead agency to mobilize resources and attract and retain the necessary skills.

*Aid agencies can play a critical role in creating new e-leadership institutions and shaping their authorizing environment.* This role is demanding and often remains unfulfilled. Donors often expect instant and visible results. They often take the driver's seat, and they enjoy asymmetric power in their partnerships with new agencies (Hanna and Picciotto 2002).

Yet institution building and governance go beyond physical results and procurement procedures. They go beyond the confines of a single project. In the case of e-development, the governing institutions cut across sectoral turfs, and aid agencies therefore need to see beyond their own sectoral blinders. Institutional innovation and learning require patience, sustained support, risk taking, change management, knowledge-based partnership, and a long-term perspective and commitment (Hanna 2007a, chapter 2). Influencing without micromanaging is a balancing act and a true measure of partnership in development.

Developing e-leadership institutions is a long-term process, fraught with uncertainties, but a process that remains at the heart of creating knowledge societies and implementing ICT-enabled development strategies. This process involves substantial institutional innovation, experimentation, and learning (Rodrik 2005).<sup>15</sup> It requires investments of time and resources by the government and its development partners (Hanna 2007b). And it demands effective political leadership.

Can innovative e-leadership institutions be grafted onto government? Can they become models for agile, networked, information-age public agencies? Can they survive the inevitable resistance to change from government bureaucracies and the inevitable political interference from above? Can they reconcile short-term political pressures with the need for long-term structural transformation? Perhaps more ambitiously, can new institutions that are innovative and growth-oriented reform those that are not?

For the ICT Agency in Sri Lanka, it is too early to provide definitive answers: the agency has taken only the first steps on a long journey. But these are critical steps, and they have already produced interesting results, pointing to some valuable lessons for others and for the future.

## **Annex 2.1: The ICT Agency in Search of a Corporate Identity**

The ICT Agency could earn recognition as the leading agency in ICT (and beyond) if it establishes a corporate identity that reflects the expectations of the environment in which it works. Such a corporate identity would need to include these aspects:

- *Vision and focus*—knowing where it is going and why
- *Openness*—ensuring that all those interested in the agency also know where it is going and why and allowing all stakeholders to contribute in some way to its direction and its day-to-day activities
- *Trustworthiness*—delivering what it promises, conducting its business fairly and honestly, and pursuing activities in line with its principles
- *Integrity and transparency*—ensuring that its actions and transactions are always ethically sound and easily traced
- *Quality delivery*—ensuring not only timely delivery but also high quality in what it delivers
- *Social and political neutrality*—showing no bias toward any social group (such as the private sector) or any political or religious group
- *Strong client orientation*—understanding its clients and successfully fulfilling their needs.

*Source:* Sri Lanka, ICT Agency.

## **Annex 2.2: The ICT Policy Framework and the Organizational Structure of the ICT Agency**

Legally established as a company in May 2003, the ICT Agency became operational in July 2003—even before the Parliament enacted the Information and Communication Technology Act, which identifies the agency as the legal successor to CINTEC.

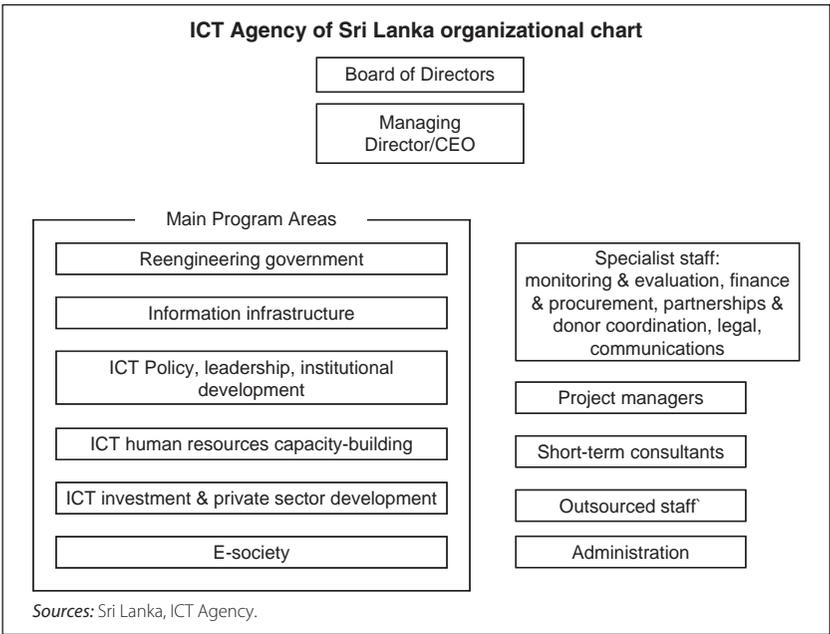
The ICT Act, enacted in September 2003, outlines responsibilities of the ICT Agency. It requires the agency to assist the Cabinet in formulating the national ICT policy, to prepare ICT strategies and programs to be implemented in the government and the private sector, and to support implementation of the national ICT policy and the action plan of the government.

A later decision by the Cabinet, issued in October 2004, approved a cross-cutting mandate for the ICT Agency relating to e-Sri Lanka. This decision not only granted the agency the rights to implement e-Sri

Lanka but also authorized it to make recommendations to the Cabinet on the appropriate policy and regulatory framework for implementing the program and supporting ICT development in the country.

Besides a chief executive officer, the ICT Agency has program directors, program managers, project managers, and support staff (see figure). It remains a small organization, with about 45 staff as of May 2007. The agency's board provides guidance to the chief executive officer (and the chief operating officer, a position created by the board in February 2007) and approves all major initiatives of the agency. The board is responsible to the Parliament and reports through its chairman to the secretary to the president.

The program directors have primary responsibility for initiating projects within the program framework, while responsibility for day-to-day coordination of projects rests with the project managers. The project managers also serve as the points of contact between the ICT Agency and the implementing partners and beneficiaries. The agency retains responsibility for contract management and disbursement through its finance and procurement units.



### Annex 2.3: Internal and External Risks Facing the ICT Agency at Inception

<i>Internal risk</i>	<i>Prevention</i>	<i>Action if prevention not successful</i>
Loss of key staff	Motivate good staff to stay and poor staff to leave	Identify why staff are leaving and revise human resource management strategy accordingly
Difficulty in finding skilled personnel	Use as many channels as possible to find skilled staff, including international recruitment Hire staff who are not entirely qualified in some cases and provide extensive training	Identify why skilled staff are difficult to recruit Expand recruitment practices Periodically review compensation, incentives, and corporate culture
Organizational culture not in line with desired corporate identity	Ensure that all staff are aware of the corporate identity and encourage compliance through a code of conduct Ensure that program and financial management processes are in line with the targeted corporate identity	Analyze the cause of the problem If the problem is one or more staff members, first warn them and then, if there is no improvement, release them If the problem lies in a program or financial management process, change the process If the problem has been recognized by the public, launch a communication strategy to restore trust and confidence
Not enough resources to meet changing expectations and deliver e-Sri Lanka	Develop a strategy for mobilizing resources Prioritize objectives Carry out regular reality checks: How feasible is our target?	Manage expectations to match likely resources Prioritize projects to be implemented Persuade political leadership to implement a few projects well rather than many projects badly
<i>External risk</i>	<i>Prevention</i>	<i>Action</i>
Friction between the requirements of the World Bank and those of the government	Ensure that the World Bank's requirements are consistent with the government's requirements, priorities, and activities	Identify the cause of the friction

(continued)

<i>External risk</i>	<i>Prevention</i>	<i>Action</i>
Political situation or ICT Agency governance deteriorates	Continually rebuild the authorizing environment by engaging the ICT Agency's board, the Office of the President, the private sector, and e-champions	<p>Establish an open dialogue to address the problem at high levels and work together toward possible solutions</p> <p>Seek other sources of financing</p> <p>Ensure that the ICT Agency has the full support of all key parties and maintains political neutrality</p> <p>Ensure that the ICT Agency continues to be relatively independent from political interference</p> <p>Keep a low profile in the press and emphasize neutrality in external communications</p>
Donors change their strategies, moving away from ICT or mainstreaming ICT in other areas	<p>Advocate the need for ICT as a tool for development in Sri Lanka</p> <p>Continually raise awareness in the donor community of the role ICT can play in development and encourage donor participation in e-Sri Lanka</p> <p>Keep base for mobilizing resources as wide as possible (including generating resources internally)</p>	<p>Align resource mobilization strategy with new donor preferences</p> <p>Seek alternative resources and aim at independence from donors</p>
The global ICT market stagnates or fails to provide a niche for Sri Lanka	<p>Develop a long-term perspective; aim at forging long-term relationships with international business partners</p> <p>Revisit strategies for ICT industry promotion and capacity building</p>	<p>Identify the root of the problem</p> <p>If root is external (market failure), revisit export orientation</p> <p>If internal, work with the private sector to find joint solutions</p> <p>Manage any damage through marketing and communication strategies</p>

*Source:* Author, with input from the ICT Agency.

## Notes

1. For a description of the process of designing the e-Sri Lanka program, see Hanna (2007a, chapter 2).
2. This is another aspect of the path dependency of institutions. See North (1990).
3. While the common term is *chief information officer*, Sri Lankan leaders prefer *chief innovation officer*, to emphasize the role of such officials in leading process innovation and organizational change.
4. This original arrangement for e-government was significantly changed during the struggle to establish the scope and authority of the new agency and its relationships with ministries. See chapters 6 and 7.
5. The elevation of the agency's e-government program director to the position of secretary to the prime minister soon after the April 2004 elections helped address some of the issues.
6. There are limits to what an agency can do to influence its authorizing environment. But partners (such as aid agencies and the media) can help in strengthening the authorizing environment.
7. These include Electronic Transactions Act No. 19 of 2006 and the framework for a business code of practice for protecting data.
8. The ministry concerned perceives the national identification card project as the highest priority for the e-government program and is unwilling to sacrifice speed, whatever the costs for the project or the program. The government has assigned the project high priority, as it is expected to improve public revenue collection, facilitate electronic voting, and enable all kinds of financial transactions if the card is transformed into a social security card. But if pursued in a rush, without adequate review of the options, this project could be risky and costly. And giving it absolute priority in the near term could divert energy and resources from the rest of the program.
9. One advantage of the sunset clause is that it requires revisiting the ICT Act and the ICT Agency, creating incentives for businesslike performance and ensuring that agency staff remain agile and mobile. In any case, the sunset clause is under review by the present administration.
10. Examples of successful integration at the ICT Agency include the present chief operating officer (who came from HP Europe) and the chief technology officer (from IBM Watson Labs in the United States).
11. Additional concerns arise when the establishment of an e-leadership institution is linked to the closure of existing organizations. Failure to manage this carefully can undermine the credibility of the new institution and its ability to build relationships with government agencies and other vital stakeholders. The ICT Agency's creation was linked to the closure of its predecessor, CINTEC, and the process was poorly managed, resulting in negative publicity

highlighting the grievances of redundant employees and the market-rate salaries paid to the new agency's staff. Though amicably settled more than a year later, the issue diverted legal and leadership resources that could have been better used elsewhere.

12. These mechanisms were never implemented by successive governments, a position supported by some senior staff of the ICT Agency, who felt it would have created an additional reporting layer and the associated bureaucracy and therefore impede fast-track implementation and quick wins.
13. For an excellent treatment of this topic, see Kuznetsov (2006).
14. Much can be learned from the experience of the private sector in developing partnerships and strategic alliances.
15. A central idea of the new industrial policy literature (represented by the work of Dani Rodrik) is to learn through institutional innovation and experimentation, to rely on institutions that are working to reform those that are not working, and to make these centers of excellence springboards for change rather than enclaves. See, for example, Rodrik (2005).

## CHAPTER 3

# Managing Results

E-development is a complex venture, involving many variables and poorly understood causal relationships as well as synergies and interdependencies. ICT solutions can be costly, and failure rates high. Moreover, the learning about ICT as a new dimension of development is still at an early stage. Little is known about the impact of ICT on economic growth and social development (World Bank 2005). So the impetus for developing a monitoring and evaluation (M&E) system for e-Sri Lanka went beyond the conventional concern of ensuring timely implementation and toward managing for results.

An M&E system cannot ensure the success of a project beset by faulty design. But for an adaptively developed and well-led program such as e-Sri Lanka, performance management and a well-designed system to support it can significantly enhance the chances of success (see, for example, Gauld and Goldfinch 2006). Thus, the importance of an appropriately developed and owned monitoring M&E system cannot be overemphasized.

As the e-Sri Lanka design team focused its attention on M&E, it was concerned with three key issues: clarifying the objectives of the M&E system for the program, defining a framework of outcome indicators for the program and determining how these indicators would be used, and designing the institutional locus and implementation arrangements for M&E.

The design team prepared an M&E system for e–Sri Lanka—a results framework and arrangements for implementation—that is consistent with the national evaluation policy of the Sri Lankan government.. The M&E system is designed to promote the objectives of this policy, including these:

- Using evaluation to “manage for results”
- Developing human and institutional capacities, tools, and methods for the practice of evaluation
- Enabling the learning of lessons from experience
- Improving the design of development programs
- Establishing accountability, transparency, and good governance.

The environment for carrying out this evaluation mandate for e–Sri Lanka has been less than conducive. The political imperatives are to demonstrate success and quick results. Implementation concerns are overshadowed by unrealistic expectations. Skills in monitoring and evaluation are scarce. Frequent changes in government and the senior civil service undermine cumulative learning. And indicators on the new sector of ICT and on e-readiness are scarce or nonexistent, preventing the establishment of baselines at the start of program preparation for e–Sri Lanka. Nevertheless, the ICT Agency has taken concrete steps toward establishing effective M&E.

### **Objectives of Monitoring and Evaluation for e–Sri Lanka**

To clarify the objectives of the M&E system for the e–Sri Lanka program, the design team first looked at the underlying needs. These needs helped in defining the purposes for M&E.

#### ***Defining the Needs***

The e–Sri Lanka design team aimed to integrate the national ICT strategy into the country’s overall development strategy (Hanna 2007a, chapter 2). But developing this integration up front was difficult because data and empirical knowledge about e-development were in such short supply. Integration would have to be guided by continual feedback on results, learning from pilots, and timely information from participating agencies and beneficiary communities. That would require a strong, results-based M&E system.

This system would also be essential to support a flexible, programmatic design for e-Sri Lanka (Hanna 2007a, chapter 2). Such a design relies on substantial learning and adaptability—rather than authoritative blueprint plans and rigid up-front financial commitments. M&E would have to become a strategic tool for agility, learning, and adaptation. Program outcomes would depend on many external factors over which the design team and implementing agency might have little control.

In addition, the e-Sri Lanka program would involve several bottom-up and cross-agency mechanisms for implementation. These would require involving and coordinating many local participants, including government agencies, private enterprises, and civil society. It was therefore important that the M&E system be transparent and useful for these local participants as well as external stakeholders—the World Bank, other donors, investors, and partners. M&E was expected to become a tool for making e-Sri Lanka more comprehensible, meaningful, and convincing for all stakeholders.

### ***Developing Results-Based Management***

Based on these and other needs, the design team identified several purposes for M&E: measuring performance, evaluating progress toward outcomes, supporting institutional learning to sharpen the focus on performance, helping to understand stakeholders' perspectives, ensuring public accountability, and measuring impact. To support these functions, it specified the inputs, outputs, tools, and techniques that would be part of the M&E process (table 3.1).

To ensure that M&E is an ongoing process providing critical feedback to decision making and adaptation of program design, the ICT Agency instituted an integrated change control system. The purpose of

**Table 3.1. Inputs and Outputs of the Monitoring and Evaluation Process for e-Sri Lanka**

<i>Inputs</i>	<i>Outputs</i>	<i>Tools and Techniques</i>
Outcome indicators	Evaluation reports	Participatory approach
Baselines	Action plans	Change control system
Data collection	Change requests	Qualitative and quantitative analyses
Results assessment	Lessons learned	International expertise
Monitoring and evaluation manual	Revised baselines	
Results framework	Performance reports	
Capacity building for participatory monitoring and evaluation		

*Source:* Sri Lanka, ICT Agency.

this system is to influence factors that cause changes in a project, identify changes that are needed or have happened, and manage changes across all components of the project during its life cycle. The agency's M&E unit is responsible for administering the integrated change control system in collaboration with senior management.

If corrective actions require adjustments to a project's management and implementation, change requests are issued by the M&E unit and managed through a change control process by senior management. Once changes have been implemented, the M&E unit prepares a revised baseline for measuring the project's performance, encompassing the project's scope, schedule, and cost.

### **Framework for Monitoring and Evaluation**

The e-Sri Lanka design team developed an initial framework for M&E during preparation of the program (see annex 3.1 for a summary table). The aim was to move beyond measuring inputs and outputs to capture outcomes and development results. The framework was designed to help measure and report performance, evaluate effectiveness, obtain support from stakeholders for ongoing programs, integrate lessons learned, and define a strategy for adapting and scaling up programs.

But lack of consensus on indicators posed a challenge for the design team. There were almost no baseline data. The e-readiness studies available were too aggregate to help link program actions to outputs or outcomes. And few national surveys—whether household, government, or business surveys—addressed the ICT dimension. The initial framework thus had to rely on many assumptions and a synoptic view of the program.

The plan was to engage an internationally reputed consulting firm to establish the methodology, process, systems, and surveys over time. In the process, the firm would transfer know-how and build local capacity, in the ICT Agency and beyond, to conduct effective, results-based M&E for the entire program.

Besides outputs and outcomes, the monitoring would also assess the contribution of the e-Sri Lanka program over its five-year duration to improvement in Sri Lanka's standing in several subindexes of the Networked Readiness Index.<sup>1</sup> Using the 2003–04 indexes as a baseline, the monitoring would focus on the following global outcome indicators (World Economic Forum 2004):

- Improved standing in infrastructure environment (broadband access, public access to the Internet, telephone mainlines per 1,000 people) for ICT (from 66th to 50th)

- Improved standing in government readiness and usage of ICT (from 64th to 50th)
- Improved standing in business readiness (from 66th to 50th) and business usage of ICT (from 67th to 50th).

### **Arrangements for Monitoring and Evaluation**

In designing the institutional locus and arrangements for M&E, the design team was guided by considerations of ownership, authority, expertise, and partnerships:

- *Ownership.* Should M&E be conducted by the ICT Agency or by an independent, external agent?
- *Authority.* Should the M&E team be linked to the highest levels of policy making or to grassroots implementers? Should it derive its legitimacy from the highest levels of government?
- *Expertise.* Should the e–Sri Lanka program leverage international and local expertise in M&E or build this new competency within the ICT Agency?
- *Partnerships.* What are the most relevant sources of data for different results of the e–Sri Lanka program? While operational information is likely to reside in the ICT Agency, with the team responsible for implementing the program, much of the information on outcomes and impact is likely to come from national statistical offices, line ministries (such as education), and NGOs, and accessing these data requires forging partnerships.

The emerging arrangements reflect a balancing of these considerations. The arrangements are likely to be reviewed over time in view of experience and the changing strategic context of the e–Sri Lanka program.

### **Outsourcing Monitoring and Evaluation**

While the ICT Agency maintains a role of oversight and integration, it outsources the M&E of progress. The outsourcing is guided by the dual principles of capitalizing on economies of scale by outsourcing activities common to all program areas while ensuring compatibility and consistency of approach.

The ICT Agency’s small internal M&E unit fulfills the oversight and integration role. As part of this responsibility, the unit develops a common evaluation framework across all program areas, determines the

frequency and content of measuring and reporting, defines the reporting structure and format, and supervises the international consulting firm that performs the M&E. The unit is also responsible for consolidating evaluation results, identifying lessons learned, and disseminating the knowledge produced through evaluation to stakeholders; facilitating input from stakeholders; and supporting the results management process.<sup>2</sup>

The M&E consulting firm is expected to subcontract firms, teams, or individuals to provide the expertise needed to address the cross-sectoral nature of e-development and the different components of the e-Sri Lanka program. This firm is responsible for preparing a manual for M&E, a task that includes developing appropriate outcome indicators, baselines, and methods of assessment for each component; further refining a baseline schedule for all indicators; and defining data to be collected for all outcome indicators. It also has ongoing responsibilities for collecting data, interpreting quantitative and qualitative data, and reporting results to the ICT Agency.

In addition, the ICT Agency will recruit external experts to assess the impact of the e-Sri Lanka program at midterm, at the completion of implementation, and ex post. Performed by international experts, external evaluation will allow comparison of experiences in e-Sri Lanka with international best practice, generating lessons and aiding in the preparation of recommendations for future program design and implementation.

### ***Pursuing a Participatory Approach***

To ensure a participatory approach in M&E, the ICT Agency aims to engage primary stakeholders and share control over decision making with them. In doing so, it intends to pursue best practices in participatory M&E—by ensuring that primary stakeholders are active participants, not just sources or recipients of information; engaging stakeholders from the grassroots to top policy makers; investing in building the capacity of local stakeholders to analyze, reflect, and take action; engaging in joint learning with stakeholders; and taking corrective actions on the basis of recommendations from stakeholders.

The focus groups established to guide the design of each program have continued to follow the progress of the programs during implementation. The ICT Agency's M&E unit is expected to survey the information needs of these focus groups as well as those of other stakeholders, including the agency's board and senior management. In addition, the ICT Agency will consult stakeholders in specifying target groups, direct and indirect beneficiaries, outcomes, outcome indicators, and projected impact.

The agency's M&E unit, in collaboration with the consulting firm, is expected to prepare a consolidated annual overview of evaluation results and share these with the agency's management and other stakeholders, including the World Bank and any additional financier. Based on the recommendations from stakeholders and final decisions by the agency's board, the agency will adjust arrangements for implementation where needed and direct the M&E unit to adjust the M&E framework for the coming year.

### ***Building Internal Capacity for Monitoring and Evaluation***

The ICT Agency's M&E unit was expected to consist of a manager, an M&E specialist, and a development economist, with the staff to be complemented by short-term consultants as needed. But so far, only one staff specialist in the ICT Agency has been dedicated to the M&E function.

To strengthen the M&E capacity and encourage learning, partnerships, and innovation, an advisory board has been formed to provide guidance through the sharing of best practices and lessons learned. The advisory board includes representatives from the Sri Lanka Evaluation Association, the Ministry of Finance, NGOs representing best practices in evaluation, the United Nations Development Programme, and the World Bank.

### ***Relying on Partners for Data***

In collecting the detailed data to establish baselines and measure performance, the M&E consulting firm relies on the following key sources:

- Government statistics
- Telecenter user statistics
- Board of Investment data
- Telecommunications Regulatory Commission data
- Statistics provided by training institutions
- Networked Readiness Index data (published annually by the World Economic Forum)
- Interviews, surveys, and questionnaires completed by beneficiaries.

### **Emerging Lessons**

Developments since the early phase of program implementation illustrate both the potential and the challenges in creating a national M&E system for a new program, a nascent sector, and a cross-cutting dimension of development. There were the usual contractual delays in engaging an international consulting firm to deliver a complex M&E system.

The firm had to learn about the program and each of its projects, then select key projects and develop logical frameworks (logframes) of inputs, outputs, outcomes, and impact for each. Finally, it developed results-based frameworks to capture outcomes and impact and piloted one on some advanced projects to demonstrate its utility to program managers. Once the first set of logframes, results-based frameworks, and indicators are developed for key projects, the aim is to create a prototype of the entire management information system and launch the process of providing inputs into the system and use its outputs.

Setting up the M&E system and beginning to use it for learning and accountability took longer than expected because of challenges encountered along the way. The process has generated some key lessons.

*A monitoring, evaluation, and learning culture needs to be nurtured in e-leadership institutions.* The ICT Agency, focused on implementation, lacked a strong M&E culture. Its management perceived M&E as a secondary activity for busy program and project managers. M&E thus became an isolated function within the agency, with most of the work outsourced to expensive international specialists.

One promising approach to promoting early ownership of a M&E system is to use it to highlight achievements. Of course, a key objective of M&E is to provide critical feedback, quality assurance, and course corrections. But an equally important use is to motivate project staff, managers, and other implementing partners—by highlighting their achievements, success stories, and positive responses from beneficiaries. That feedback can also increase program managers' cooperation with M&E staff and their ownership of the system. This approach is particularly relevant where the authorizing environment is weak and the M&E culture is nascent.

*Implementation of an M&E framework may have to be phased in as capacity develops and a program unfolds.* Monitoring and evaluating the outputs of some 20 active e-Sri Lanka projects required a series of project-specific data collection and reporting procedures. Complicating the task, the set of active projects kept changing as some were dropped and new ones added. Initially, it had been assumed that a detailed M&E plan and a full set of indicators could be put together for all projects and programs up front and in one go. The reality is that projects unfolded in phases and over time, and the development of their M&E frameworks had to follow this phasing.

A phased approach to M&E acknowledges that conventional designs for such systems are often complex and difficult to implement well in a

poor country. Indeed, the emerging system for e-Sri Lanka was too complex to create in one swoop. Yet no prototypes were attempted first to gain familiarity, understanding, and confidence in the system, laying the groundwork for investing in more complex and comprehensive systems. Meanwhile, changes in the ICT Agency's staff and leadership undermined continuity and ownership.

Cumulative, experiential learning using simple prototypes by diverse stakeholders would have built ownership and confidence. This approach also would have encouraged program managers to use a mix of data collection methods (formal and informal, qualitative and quantitative) to assess the successes and failures of interventions, rather than awaiting a fully developed formal system.

*Data collection for new programs may be costly and demanding.* M&E for the e-Sri Lanka program and its projects requires gathering diverse data with broad coverage, first to establish baselines and then to measure outcomes and impact. Much of the data needs to be gathered through existing surveys, such as household surveys, computer literacy surveys, and those on ICT use in government. New surveys are also required—covering government employees, government service users (including e-service users), the ICT industry, the workforce, and the accessibility and affordability of ICT.

With e-Sri Lanka being a new program in a new sector, it is not surprising that significant efforts are needed to design special surveys and systems to gather indicators and data on its potential impact. Yet, important gaps remain in the responsibility for survey design and data collection.<sup>3</sup>

*Monitoring and evaluation is a difficult but essential task for effective e-government programs.* Despite early recognition of the need to consider M&E as integral to the e-government program, not an add-on, neither the ICT Agency nor line ministries have given due attention to the function.<sup>4</sup> The division of responsibility for this function has remained ambiguous. The ICT Agency at times has felt that it had the authority to initiate new projects—but not the authority to monitor and sustain them.

The role of M&E also has remained ambiguous, with little clarity about how much emphasis should be put on monitoring progress and ensuring accountability and how much on achieving results in service improvement and learning from successes and failures. M&E has focused on implementing technology, not on innovating services and processes or solving public-sector performance problems. This raises a risk of failing to capture much of the rich experience arising from early implementation through institutional learning.

*Monitoring and evaluation should not be perceived as an imposition by an aid agency but as a tool for learning and empowerment.* When pressure mounted from the World Bank for progress on the M&E system, a senior manager in the ICT Agency had to push hard to get program managers to provide inputs for the new system. The system had introduced new language and frameworks that were unfamiliar to program and project managers—and without full understanding or buy-in, they were reluctant to cooperate and to share data that they considered their own or too confidential to share. Busy staff and managers needed time to gain appreciation of the M&E function and to learn the concepts and skills necessary to provide inputs.

*Technical assistance should focus as much on ownership and transparency as on the conceptual frameworks and technical systems.* M&E is an interactive learning process that demands active participation by all stakeholders, including implementing partners and owners of the new e-government systems. To foster this participation, building broad ownership of the M&E system is critical—as is ensuring transparency in how it operates.

In providing technical assistance, however, the consulting firm may have paid too little attention to the human aspects. Moreover, the ICT Agency's M&E team failed to bring the agency's project managers on board. Both these factors made it difficult for the consulting firm to get the time and cooperation needed from project managers.

*Buy-in from top decision makers is essential for creating demand for monitoring and evaluation and for ensuring effective development and use of the function.* The M&E system for e-Sri Lanka has been developed and introduced with little involvement by the ICT Agency's board or other external stakeholders. The consulting firm and the agency's M&E unit did not have enough interaction with the board, focus groups, and other stakeholders. They lacked effective demand from stakeholders for results from M&E, and did not seek to mobilize this demand. Instead, they had to anticipate likely information needs in designing the system.

The ICT Agency's managers, lacking a dialogue on M&E with external stakeholders, did not view the system as a tool for producing evidence of value or results for critics and skeptical stakeholders. Program managers were not made responsible for the M&E of their programs through their terms of reference or performance criteria. Meanwhile, the board and other external stakeholders did not demand access to the M&E system or its use as a tool for ensuring accountability for results.

These challenges of mobilizing demand and engaging the ICT Agency's board, leadership, and key external stakeholders in using M&E

are being addressed. The recently formed advisory board is providing guidance. The ICT Agency's M&E unit is reorienting its role from owning the function and managing the relationship with the international consulting firm to promoting and facilitating the use of the system by program managers and other stakeholders, who should be the true owners of the function. The agency's leadership team has elevated M&E to a higher status. In addition, the agency is reaching out to new partners—think tanks such as Learning Initiatives on Reforms for Network Economies–Asia (LIRNEasia) and associations such as the Sri Lanka Information and Communication Technology Association—to forge knowledge-based partnerships, measure progress, and broaden learning among stakeholders.

These are important steps toward institutionalizing M&E, using the contract with the international consulting firm to secure maximum knowledge transfer, and ensuring the effective use and sustainability of the new system after the firm leaves the scene.

Even so, the M&E system that is evolving is unlikely to capture the ongoing societal and organizational learning brought about by the ambitious e–Sri Lanka program. Program managers and external stakeholders are inevitably concerned with short-term progress and immediate results. Implementers are focused on their projects and programs and the day-to-day struggles to make them work. M&E indicators are seldom good at measuring changes in social and organizational capital. The hope is that the formal M&E system will induce and be supplemented by informal networks, communities of practice, societal learning, and open political debate about Sri Lanka's transformation toward an information society and knowledge economy.

### Annex 3.1. Results Framework for Monitoring and Evaluation

#### E–Sri Lanka Program

<i>Objective</i>	<i>Outcome indicator</i>	<i>Possible issues flagged by outcome data</i>
Greater access to and use of information and communication tools	<ul style="list-style-type: none"> <li>5,000 beneficiaries in each targeted community regularly using telecenters to improve communication and access to services (health, education, employment, and government services), with a 70 percent satisfaction rate</li> </ul>	<ul style="list-style-type: none"> <li>Low number of beneficiaries would flag low demand, high cost, implementation lags, irrelevant services</li> </ul>

(continued)

**E–Sri Lanka Program** *(continued)*

<i>Objective</i>	<i>Outcome indicator</i>	<i>Possible issues flagged by outcome data</i>
	<ul style="list-style-type: none"> <li>• A percentage or absolute increase over baseline in use of and satisfaction with services established as a result of e-society fund grants</li> </ul>	<ul style="list-style-type: none"> <li>• Low utilization might indicate low awareness, low capacity, or low demand; low satisfaction might indicate lack of affordable and relevant content and services</li> </ul>
Greater access to and use of public services online by businesses and citizens	<ul style="list-style-type: none"> <li>• 5 percent of target beneficiaries (citizens and businesses) conducting transactions with the central government online</li> </ul>	<ul style="list-style-type: none"> <li>• Low percentage of users would flag low demand, irrelevant content, or poor access</li> </ul>
Greater competitiveness of the private sector, particularly the knowledge industry and small and medium-size enterprises	<ul style="list-style-type: none"> <li>• Reaching a 4.2 score on the business usage subindex of the Network Readiness Index in four years</li> <li>• 10,000 jobs created in software services and IT-enabled services industry</li> </ul>	<ul style="list-style-type: none"> <li>• Low score would flag low awareness, market constraints, limited size of suitably qualified labor force</li> <li>• Low rate of employment creation might indicate ineffectiveness of employment creation programs</li> </ul>

*Source:* Sri Lanka, ICT Agency.

*Note:* These were the original indicators at the launch of the program. They have since been extended and specified in greater detail.

**Component Programs of e–Sri Lanka**

<i>Objective</i>	<i>Outcome indicator</i>	<i>Possible issues flagged by outcome data</i>
<b>Reengineering government</b>		
Effective, citizen-centered, and business-friendly government	<ul style="list-style-type: none"> <li>• 100 government agencies with an operational portal or Web site (four years)</li> <li>• 20 online services created for and used by private sector</li> <li>• Three online services created for and used by public sector</li> </ul>	<ul style="list-style-type: none"> <li>• Low implementation capacity of government agencies</li> <li>• Low demand for specific services</li> </ul>
<b>ICT policy, leadership, and institutional development</b>		
Local leadership developed in ICT and enabling environment	<ul style="list-style-type: none"> <li>• Certified teams of CIOs responsible for e-transformation established in 80 percent</li> </ul>	<ul style="list-style-type: none"> <li>• Lack of awareness, lack of training, poor selection process, inadequate incentives</li> </ul>

**Component Programs of e-Sri Lanka** *(continued)*

<i>Objective</i>	<i>Outcome indicator</i>	<i>Possible issues flagged by outcome data</i>
	of government agencies (650 agencies) <ul style="list-style-type: none"> <li>• The ICT Agency effectively meeting its strategic plan</li> <li>• 5 percent annual improvement in rating of ICT policy environment based on Network Readiness Index</li> </ul>	<ul style="list-style-type: none"> <li>• Lack of political support, inappropriate staff skills, incorrect focus</li> <li>• Lack of cooperation by the Department of Justice with the ICT Agency</li> </ul>
<b>Regional telecommunications network development</b>		
Improved access of target population to ICT infrastructure	<ul style="list-style-type: none"> <li>• Regional telecommunications network constructed in the south, north, and east within two years of license award</li> <li>• 30 percent of population with access to private phone connections (excluding telecenters) in the south, north, and east</li> <li>• 30 percent of population with Internet access (excluding telecenters) in targeted regions</li> </ul>	<ul style="list-style-type: none"> <li>• Legal hurdles</li> <li>• Broadband investments unaffordable</li> <li>• Reduced geographic coverage by regional telecommunications network</li> <li>• Low ICT literacy</li> <li>• Delays in construction</li> </ul>
<b>Telecenter development</b>		
Improved access to and use of ICT by targeted low-income communities, particularly women and youth	<ul style="list-style-type: none"> <li>• 200 telecenters established in four years, with 170 fully operational and 75 financially sustainable (income exceeding operating costs)</li> <li>• 40 percent of telecenter users are women, 70 percent youth (ages 12–25)</li> </ul>	<ul style="list-style-type: none"> <li>• Low number would flag implementation delays, low demand, nonviable business models; higher number would flag high demand</li> <li>• Low percentage would flag irrelevant content, high cost of access, lack of awareness programs targeting these groups</li> </ul>
<b>ICT human resource development and industry promotion</b>		
Expanded skill base in ICT; employment creation; greater use of ICT by the private sector	<ul style="list-style-type: none"> <li>• 80 percent of 5,000 participants in ICT awareness and training programs from non-ICT private sector rating their experiences as applicable to their work (four years)</li> </ul>	<ul style="list-style-type: none"> <li>• Low percentage would flag low quality of training programs</li> </ul>

*(continued)*

**Component Programs of e-Sri Lanka** *(continued)*

<i>Objective</i>	<i>Outcome indicator</i>	<i>Possible issues flagged by outcome data</i>
	<ul style="list-style-type: none"> <li>• 20,000 beneficiaries of an accredited IT-enabled services training program in four years</li> </ul>	<ul style="list-style-type: none"> <li>• Low number of beneficiaries would flag lack of demand, possible quality issues; high number would show increased demand for IT professionals or depletion of local pool of IT professionals through migration</li> </ul>
<b>E-society</b>		
Greater awareness of ICT opportunities; greater capacity to implement ICT projects and to contribute to socioeconomic development	<ul style="list-style-type: none"> <li>• 70 percent of population in targeted communities aware of ICT opportunities and with access to the services provided under the e-society fund</li> </ul>	<ul style="list-style-type: none"> <li>• Lower percentage would flag problems with location of facility, language of content, affordability, preferential treatment, appropriateness of service, and effectiveness of awareness-building campaign</li> </ul>
	<ul style="list-style-type: none"> <li>• 80 percent of projects recommended by e-society fund board for funding accepted by other donors and scaled up or replicated</li> </ul>	<ul style="list-style-type: none"> <li>• Lower percentage would flag problems in implementation of projects</li> </ul>
	<ul style="list-style-type: none"> <li>• Ratio of applications for partnership grants to grants awarded</li> </ul>	<ul style="list-style-type: none"> <li>• Small ratios would indicate weak competition for grants; large ratios, strong competition</li> </ul>
	<ul style="list-style-type: none"> <li>• Ratio of applications for community grants to grants awarded</li> </ul>	

*Source:* Sri Lanka, ICT Agency.

*Note:* These were the original indicators at the launch of the program. They have since been extended and specified in greater detail.

**Notes**

1. The Networked Readiness Index may be superseded as an outcome indicator for e-Sri Lanka by the International Telecommunications Union's Digital Opportunity Index.

2. Because the oversight and integration function has been slow to develop in the ICT Agency, the international consultants have so far carried out much of this function.
3. The responsibility for survey design and data collection was not included in the terms of reference for the consulting firm.
4. The parallel to this at aid agencies such as the World Bank is the relatively low priority and limited resources assigned to project supervision or implementation assistance once a project is approved for financing.



## Transforming Government

Governments around the world are embracing e-government as a powerful means to improve and reinvent service delivery. They are motivated by the growing demand for better performance and better services—and by the need to deliver more with less. They are incorporating e-government into their public sector reform goals and using it to make institutions more effective, information and services more accessible, and decision making more decentralized. All this requires—but also enables—a transformation of government, because most of today’s governance structures were built for internally focused administrative control rather than client-centered service delivery.

In developed countries, e-government is often defined as simply using electronic means to deliver public services and information to the government’s clients—citizens (G2C) and businesses (G2B)—from the client’s perspective. In these countries, governments have already gone through at least one generation of computerization and process rationalization, and the Internet provides an opportunity to solve the front-end problem through online delivery. Recently, e-government programs have moved beyond online delivery of services to deeper reforms involving back-office process reengineering and even reforms of entire value chains, working across institutional boundaries and public-private partnerships.

But in developing countries, starting from a low level of computerization and high level of information poverty, the definition needs to be broadened to include reengineering entire business processes from the front to the back end and the sharing of information with civil service employees (G2E) and with other government agencies (G2G). It can also optimize the whole value chain, working across sectors, institutions, and the public-private divide. Thus, developing countries have a strategic opportunity to leapfrog to deeper ICT-enabled reforms. Reengineering government to harness the potential of ICT can vastly improve the sharing of information and simplify complex, fragmented processes between agencies, businesses, and citizens. It can promote partnerships across the public, private, and civil society sectors to deliver client-centric service. It can also promote greater transparency, participation, and trust in government.

Reengineering government is also an enormously complex undertaking. Fundamental choices must be made at the outset in deciding which investments are priorities and how best to sequence them. Leadership and change management tasks become more challenging as we move from simply adding electronic delivery one service at a time to fundamental redesign of core business processes and entire value chains, with multiple sectors and institutions.

Sri Lanka began by engaging stakeholders in a review of best practices and alternative approaches to planning e-government (chapter 4). What could be learned from other countries, both leaders and agile followers? Early pointers came from examining emerging international experience, particularly from neighboring countries. Taking a historical perspective was also useful (chapter 5). Case studies of past e-government initiatives in Sri Lanka identified critical factors for success in using ICT in government.

Meanwhile, a vision of a better government, enabled and transformed by ICT, was emerging in Sri Lanka (chapter 6). This vision motivated initial steps toward e-government, including actions to establish leadership for an e-government program. The vision also guided a strategic planning exercise to identify priority investments in platforms and applications (chapter 7). Early implementation of the strategic plan that came out of this exercise is already producing rich lessons that can guide continued efforts in Sri Lanka as well as those in other developing countries.

## CHAPTER 4

# Best Practices and Options for Planning and Implementing e-Government

As the knowledge revolution, particularly the Internet, touches every aspect of our everyday lives, it is evident that governments can hardly stay out of it. Citizens are going to demand levels of service comparable to what they get from the private sector, and governments will be under immense pressure to deliver them—yet without organizational and financial structures geared to do so. Thus the challenge for the government of the 21st century is to combine the best of private and public decision-making systems with the leadership abilities to transform the way government acts and interacts in society—with technology as the key to making it happen.

There is no single best approach to e-government. Best practices are those that fit a country's political and institutional context—its vision and aspirations, its leadership and capabilities, and its stage of development and e-readiness. Lessons from other countries must be relearned, reinvented, and adapted to the country and its stage of development. E-government is a journey, not a destination, and its path is determined by many subtle contextual factors that must be understood and tested along the way.

The experiences of global leaders in e-government, and of some in the midst of implementing it, point to options and implications for Sri Lanka and other developing countries. Lessons from these experiences guided the process of developing a plan for e-government in Sri Lanka and continue to guide its implementation.<sup>1</sup>

## Approaches to Planning e-Government

While countries have followed widely varying paths in planning for e-government, these can be grouped under two fundamentally different approaches:

- An integrated, top-down strategy that is tied to broader economic and development goals. The national government sets policies and provides frameworks and plans for prioritizing investments, implementing projects, and governing, monitoring, and evaluating ICT systems.
- A decentralized, bottom-up strategy that fosters entrepreneurship and allows agencies the independence to launch their own programs. Different agencies or functions of government are ICT-enabled with relative speed; applications can then be scaled up or spread across other agencies.

Each strategy has factors that support success as well as risks that may lead to failure. Most countries experiment with a hybrid approach that combines features of the top-down and bottom-up strategies. A hybrid approach, for example, might adopt a top-down approach to interoperability standards, architectural frameworks, shared infrastructure, and common services while allowing varying flexibility for bottom-up development of applications and services. This balance often shifts over time (Hanna 2007b).

### ***Using a National, Top-Down Strategy to Drive an Integrated Plan***

A national strategy directed by government at the executive level, an approach first launched by such countries as Sweden, Singapore, and the Democratic People's Republic of Korea, has several advantages. Guided by a shared vision, e-government develops relatively evenly across the government. Integrated platforms are developed, allowing seamless information exchanges and transactions between agencies. The integration of government processes reduces transaction costs to citizens, who can access services from multiple agencies through a single interaction using a smart card or a one-stop shop. Common business processes, open standards, and common guidelines for investment and procurement reduce duplication in spending and allow secure information sharing.

***Success factors***—The key strength of the top-down approach is that it is centrally driven. The cultural change, reengineering, and training involved

in e-government are best achieved through central oversight and guidance. Scaling up beyond the pilot phase and transferring lessons learned in e-government from one agency to another also can best be facilitated by a national strategy, which fosters information exchange, joint project planning, and common business processes.

*Political Leadership and Commitment.* Perhaps the factor most important to success in e-government is strong and sustained political leadership—to articulate the need for change, create momentum in the early stages, and guide the push for reform during implementation (box 4.1). Gaining support from senior management across all agencies is important when creating a common concept of information sharing, as in Sweden.

#### **Box 4.1**

### **How Colombia's Top-Down Approach Made e-Government Happen Fast**

In Colombia, President Andres Pastrana led the commitment to introducing e-government, known as Government OnLine. The effort began with the release in 2000 of a “connectivity agenda,” which established a strategic framework with key objectives. Even more significant was Directiva 02, a presidential decree in which President Pastrana mandated that federal agencies

- Create a Web site and post basic information (directories, mission plans, budget information) by December 31, 2000
- Make public procedures available online by December 31, 2001
- Conduct purchases online by June 2002.

President Pastrana also created a new unit in the Office of the President, the Government Online Network, to provide advice on such issues as training, standards, and technology and to coordinate and monitor agencies' ICT investment plans, required under Directiva 02.

Government OnLine developed rapidly. In August 2000, when Directiva 02 was issued, 44 percent of Colombia's federal agencies had no Internet presence and only 5 percent offered online information useful to citizens. By May 2001, 94 percent of federal agencies had Web sites, all with a standard organization and appearance and offering better-quality information. The rapid progress has been attributed largely to the mandatory nature of Directiva 02.

*Source:* Author.

*High-Level Oversight.* Oversight, coordination, and planning are keys to the successful deployment of e-government. Central to this effort are policy-guided reengineering and reform of government processes, followed by sound technology planning for infrastructure services (such as security and telecommunications) at the national level and within each agency. These activities require the dedicated resources and advisory expertise of a national chief information officer, an ICT agency, or both.

*Integration and Standardization of Data Sources.* All government processes depend on easy access to data sources—which in turn requires interoperability and the sharing of data. Achieving those objectives can depend on clear architectural direction, as exemplified by the Democratic People's Republic of Korea and Singapore. Bringing integrated, transactional services online requires a “whole of government” service delivery architecture. This architecture needs to allow room for building on existing developments and for making changes in the light of experience, as in Australia and the United Kingdom. Open standards shorten the development time for e-government systems, making it easier to achieve system compatibility and interoperability, as in Hong Kong, China.

*Change in Government Culture.* The success and sustainability of e-government applications depend on changing government culture—through comprehensive communication campaigns, change management initiatives, and relevant and sequenced training. This process can encounter big challenges in the civil service, which generally has weak incentives to improve the delivery of public services and little awareness of the transformational potential of ICT. A national vision can drive the transformation of government from an inward-focused bureaucracy to a client-oriented, service-centered agency.

*Sequencing and Prioritization.* A national strategy can guide the implementation of e-government through a careful approach of sequencing and prioritization, focusing on applications that can produce a quick, visible impact on revenue generation and services for citizens and businesses (box 4.2). Sequencing and phasing also allow the necessary time for organizational learning—learning to reengineer processes, restructure organizations, and manage the human factors involved.

*Rationalization of Financial and Resource Planning.* A national strategy provides guidance and a framework for planning resources and budgets for e-government. This avoids duplicative spending and increases resource sharing. Effective national strategies have incorporated a framework for allocating the budget for e-government investments.

**Box 4.2****Examples of e-Government Applications with High Impact Potential**

A menu of e-government applications with high impact potential for many developing countries suggests that impact and quick wins do not necessarily come from complex technological solutions. Most important instead is simple access to the most commonly used forms and information.

**Revenue-Generating Services**

1. Electronic collection of individual and corporate taxes
2. Electronic collection of license and permit fees
3. Electronic collection of fines and penalties
4. Electronic collection of registration fees

**Citizen Services***Outbound Payments*

- Electronic disbursements of loans
- Electronic tax refunds
- Electronic issuance of grants and scholarships

*Public Feedback*

- Public e-mail box
- Online voting, surveys, and census
- Online discussion forums

*Forms Processing*

- Online applications
- Easy processing of licenses and permits
- Online certification and registration of births and deaths

*Dissemination of Information*

- Online information on government services
- Online social, cultural, and tourism information
- Online disaster warnings
- Online speeches
- Electronic publishing

*(continued)*

**Box 4.2** *(continued)***Business Services***Dissemination of Information*

- Online foreign trade information
- Online information on agriculture

*Procurement and Acquisition*

- Online invoicing and payment
- Online ordering
- Online tendering

*Source:* Author.

*Integration into National e-Development Strategy.* E-government will thrive only if it is part of a national e-development strategy for putting into place the elements critical to its success. E-government services depend on reform of the telecommunications sector to extend the reach and affordability of ICT services. They also rely on human capacity, access to affordable and reliable ICT infrastructure, and the ability of citizens and businesses to interact with government through online channels. And the ability to implement and sustain e-government programs depends on adequately trained IT professionals and IT-aware managers and political leaders.

**Risks**—National e-government strategies are not without risks, which can delay or block implementation. Experience in such countries as Indonesia and the Russian Federation provides important lessons.

*Political Problems.* Strong leadership and political commitment are required for e-government to succeed. Where dramatic political shifts occur, e-government goals can be left hostage to political agendas typified by a desire for quick wins rather than sustained efforts. Indonesia, Thailand, and Russia, among many other countries, continue to struggle with these problems.

*Lack of Space for Local Initiative.* Rigid rules and top-down plans constrain pioneers and early adopters who could cut paths for others to follow. Strategic direction is essential to guide local initiatives toward interoperability and enterprisewide architecture. But too much control inhibits innovation and local initiatives.

Government agencies too need space, to set goals in line with their own priorities and capabilities. Too much central direction can prevent buy-in among midlevel public administrators, leading to resistance to change and poor use of new processes and systems.

*Unrealistic Sequencing.* Many governments have been unrealistic in their strategies and investment plans, launching many projects at once without first carefully analyzing the e-readiness of each agency—that is, whether the necessary staff capacity, infrastructure, and content are in place. E-government programs can result in major failures when they impose an unrealistic pace of implementation—not sequenced with capability development, change management, and enabling infrastructure. A central agency, however, can accelerate implementation and capacity building across agencies through partnerships, knowledge sharing, and monitoring and evaluation (M&E). Guidelines and deadlines need to be carefully matched with capabilities and resources, which can vary greatly across agencies and regions.

*Supply-Driven Program.* A top-down strategy also runs the risk of promoting a supply-driven e-government program without carefully assessing whether citizens are ready to interact with government online. A number of countries overinvested in e-government well ahead of demand mobilization and the take-up of services. The experience of the United Kingdom suggests that the effort to mobilize demand, raise awareness, and educate and attend to relevant user groups can be substantial.

### ***Following a Decentralized, Bottom-Up Approach to Foster Initiative***

Many governments—and aid agencies—encourage an approach in which efforts to implement e-government target specific sectors or functions. This decentralized approach has been politically popular because it has led to small but quick and visible wins. The strategy allows government agencies to embark on their own cutting-edge projects across a sector or service by service. Speed is the decisive element. The central government provides only approval and, in some cases, financial assistance. Some states in India, for example, have had visible local initiatives providing a specific service to a limited target population.

*Success factors*—Easy implementation and quick payoff are the main advantages of the decentralized approach. Few stakeholders are involved. Initiatives are typically bounded by the knowledge domain available to the implementing agency. Institutional and process changes affect only the one agency involved. The approach requires few resources, all under

the control of one agency. The success of a small, focused project builds momentum and excitement within government and provides a “showcase” example that may motivate other agencies to follow. Awareness grows and lessons are learned over time. Entrepreneurial zeal is unleashed, champions are created, and coalitions formed.

The decentralized approach is particularly useful when top-level leadership is missing—or when one agency is eager to implement e-government but top government leaders are not committed to a shared vision for transforming government. In these situations, small, focused projects minimize the risk of project failures across multiple agencies, since collaboration and coordination are limited and plans can be rapidly adjusted during implementation.

**Risks**—The decentralized approach also involves risks inherent in the lack of central direction and oversight.

*Slow Diffusion.* A decentralized strategy has often led to visible but isolated successes with no “trickle across” effect—because innovations were not diffused and replicated widely enough to have a substantial impact. Moreover, government agencies are usually cautious about embracing new initiatives and need central guidance and encouragement. Some state-level initiatives in India, for example, have introduced e-government applications that were well received by the public yet inspired little change across government. The reason was largely lack of vision at higher levels of government and lack of incentives to draw lessons and provide direction to other agencies.

*Limited Scale-Up.* The bottom-up approach has led to the problem of “a thousand flowers blooming.” With no central vision or direction, agencies invest in duplicate databases, infrastructure, and systems. Systems are reinvented many times over—at a slow pace and high cost. Progress is made at the grassroots level, but the capacity to scale up and provide more integrated services remains limited.

*Mismanagement of Resources and People.* The decentralized approach may lead to resources being spent on duplicative or suboptimal investments rather than the most strategic and promising ones. A common problem has been redundant purchases of software licenses. With resources tied up in licenses, agencies lack the funds to start new projects. Another longer-term and more fundamental problem is that local solutions—developed without regard to governmentwide information and technology architectures—lead to problems in interoperability, barriers to information sharing, and, later, expensive integration remedies.

*Poor Maintenance and Sustainability.* Quick apparent successes may be short-lived and gained at the cost of solutions to systemic problems. Local champions may initiate new Web sites and pilots but then fail to maintain or sustain them—functions that often require some central support infrastructure and sharing of resources. Lack of budget, lack of experienced IT project managers, and lack of resource planning for e-government at the national level leave local agencies without the means to sustain solutions.

*Lack of Targets and Metrics.* Lack of national monitoring and evaluation leads to problems in measuring development impact and progress toward the integrated delivery of client-focused services. In contrast, integrated e-government programs allow M&E at the program level, making it possible to capture complementarities across projects and linking inputs to development results. The Australian and Canadian governments both have advanced systems for monitoring and incorporating citizens' needs even at the pilot phase of projects. These systems survey citizens often, using the feedback to ensure responsive design, continual learning, and adaptive implementation.

### **Implementation of e-Government: Four Phases**

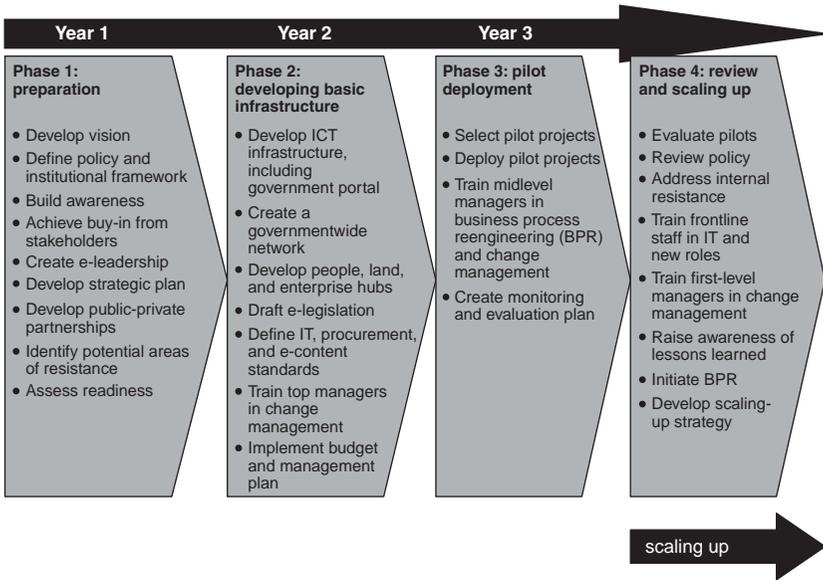
Developing a common vision is a logical starting point in implementing e-government. Beyond that, resource constraints and learning requirements call for proceeding in phases. In practice, however, the phases will overlap and will combine both top-down direction and bottom-up initiatives. Not all agencies can or should move in lockstep—some may lead others, and the program will inevitably consist of a portfolio of projects in different phases. Work to create the basic building blocks of e-government could proceed in parallel with pilots for some services and with the scaling up of others in response to demand.

While there are many variations, the process of implementing an e-government strategy can be conceptualized in four phases (figure 4.1):

- Phase 1: Developing the vision, policy framework, and e-leadership
- Phase 2: Creating basic information infrastructure and networks
- Phase 3: Identifying, prioritizing, and developing key pilot projects
- Phase 4: Scaling up, learning, and deepening the transformation

The following discussion of these phases highlights features relevant to Sri Lanka.

**Figure 4.1. A Road Map for Developing e-Government**



Source: Author.

**Phase 1: Developing the Vision, Policy Framework, and e-Leadership**

Phase 1 centers on developing a clear vision of the role of e-government in reinventing the public sector and on crafting a detailed strategy and plan for implementation. An e-government policy framework should clarify why the country is pursuing e-government, what its aims and priorities are for transforming government, and what kind of e-government it is ready for. It should define the policy planning process and the institutional framework for implementing e-government initiatives. And it should formulate the objectives of the government for the medium term.

This policy framework should be put into the public domain and disseminated to as many stakeholders and interest groups as possible. This should be followed by national consultations seeking detailed feedback. Once the government has achieved broad buy-in from key stakeholders, it can conduct a study to identify services that could be modernized and taken online. This study should focus on both the front end (service delivery) and the back end (internal infrastructure and process reengineering). It could start by assessing the e-readiness of the country: taking stock of its leadership assets and its information, infrastructural, and human resources to determine whether the country is ready to begin the journey and at what pace it should progress.

The strategic plan emerging from this exercise should be the basic road map that defines the roles and responsibilities of all the key actors. It should also contain aspirations—those of the government and other stakeholders—and time frames for implementing e-government. The strategy should be coherent, covering the potential impact and prioritization of different services, the phasing and sequencing of major investments within likely resource constraints, the promoting of potential partnerships among stakeholders, and the development of strategies for mobilizing resources. At this stage the plan should be at a strategic level, not a detailed blueprint. It should reflect initial consensus on priorities. Once completed, the road map, along with an ICT policy, should be formally adopted by the government.

Phase 1 also involves building the necessary e-leadership to manage the profound changes that must accompany e-government. It involves creating a cadre of chief information officers, a council of such officers from key agencies, and other mechanisms for coordination and change management. This leadership should be involved from the start in developing common frameworks for ICT investment and governance, setting priorities, and creating the enabling environment and human resources for implementation. Building e-leadership capacity requires a long lead time, so it should start as early as possible.

### ***Phase 2: Creating Basic Information Infrastructure and Networks***

Phase 2 centers on creating the building blocks for implementing e-government. It marks the beginning of work to create the required digital infrastructure—the wide area network and “last mile” options; the people, land, and enterprise databases (“hubs”); and other shared information infrastructure within government. It includes the development of a common interface—a country or government portal, allowing individual Web sites for government agencies. It also involves setting common standards, designing governmentwide technology and application architectures, and developing governance of ICT investment and management. Training the top administrators to lead change is also recommended at this stage, given the lead time needed to build capacity for change management; the leaders should model the new values and behavior and enable change at lower levels.

***Creating a government portal***—A government portal can efficiently guide users to the public information and services they need. It can aggregate and organize content and services around citizens’ needs. It can serve as a one-stop shop so citizens no longer need to go to separate agencies to

complete a task. And it can provide links to the Web sites of all government agencies and ministries.

A government portal can both provide a quick win and also help set longer-term directions for the e-government architecture. It can serve as a framework for identifying gaps and opportunities for collaboration. And it can engage citizens and businesses in providing user feedback and promoting citizen-centric government. In these ways, the portal can help drive the transformation toward an integrated government.

***Creating a governmentwide network***—Once established, a wide area network would become the primary carrier of electronic communications from government to citizens. It could initially connect a country's larger cities and then spread to include smaller towns. A wide area network may be best established through a public-private joint venture. In such a case the government should secure open access to the network to ensure a level playing field for any telecommunications firm wishing to lay fiber or explore alternatives for last-mile connectivity.

***Creating people, land, and enterprise hubs***—Creating a master database on all citizens and their socioeconomic data, though not essential for delivering e-services, can provide efficient technical solutions for doing so. This is the approach used in many countries, such as the Democratic People's Republic of Korea and Singapore.<sup>2</sup> Gathering and sharing such information in one database, however, may be controversial and even illegal, as it is in Canada. At the very least, creating such a database requires addressing issues relating to privacy and use of information about individual citizens by the government, along with drafting the enabling laws.

Completing such a database may take two or three years. Systems will then need to be put into place to continually update the data and ensure the highest security for the database. Similarly, a land hub may be created on a geographic information system (GIS) platform. This could then be integrated with the people hub, making all information relating to a household available at one click. An enterprise hub can complete the key basic information hubs in support of a wide range of applications and information sharing.

### ***Phase 3: Identifying, Prioritizing, and Developing Key Pilot Projects***

Phase 3 involves rolling out pilots as proof of concepts in selected citizen services. Pilots are usually conducted in geographically compact areas under relatively controlled conditions so as to learn from mistakes in

implementation before full-scale rollout of services. Pilots can also reveal weaknesses in back-end systems that should be assessed and addressed before the full-scale rollout.

The selection of pilots should favor programs that can both deliver results rapidly and (through the pilot) showcase benefits and lessons. Such preimplementation measurement criteria should be used as a guide by all agencies concerned. To help identify the pilots most closely aligned with an agency’s mission and with the overall goals of government reform, the government should define criteria to guide the assessment of potential benefits of pilots in such terms as customer value and social value (table 4.1).

Pilot projects should be prioritized and deployed in phases to accommodate financial and implementation constraints and allow time for

**Table 4.1. Criteria for Selecting e-Government Pilots and Measuring Their Potential Benefits**

<i>Project selection factor</i>	<i>Definition</i>	<i>Potential benefit criteria</i>
Direct customer (user) value	Associated with the value realized by the user	G2C: Quantity of time saved  G2G: Value associated with staff time G2B: Value associated with business time G2E: Value associated with government’s employee time
Social (nonuser) value	Realized by individuals and organizations that are neither direct users nor providers of the service	G2C: Improved trust in government G2G: Improved sharing of information G2B: Improved monitoring of regulatory compliance G2E: Greater visibility
Government operational or foundational value	An order-of-magnitude improvement achieved in current performance and in preparation for future requirements	On-time completion rate Redundancy Network congestion Flexibility
Strategic or political value	Associated with the ability to move an organization toward fulfilling its mission	Political image Legislative guidelines met Advancement toward goals
Government financial value	Benefits with a direct impact on organizational and other federal government budgets	Cost per transaction step Cost per transaction Reduced cost of materials Reduced costs of correcting errors

(continued)

**Table 4.1. Criteria for Selecting e-Government Pilots and Measuring Their Potential Benefits** (*continued*)

<i>Project selection factor</i>	<i>Definition</i>	<i>Potential benefit criteria</i>
Risk	Factors that might directly prevent a project from meeting goals	Project success ratio for project team Project risk: cancellation, scope creep, schedule, program management Organizational risk: demand/use, impact on other delivery channels Technical risk: feasibility, obsolescence, security, integration complexity

*Source:* Author.

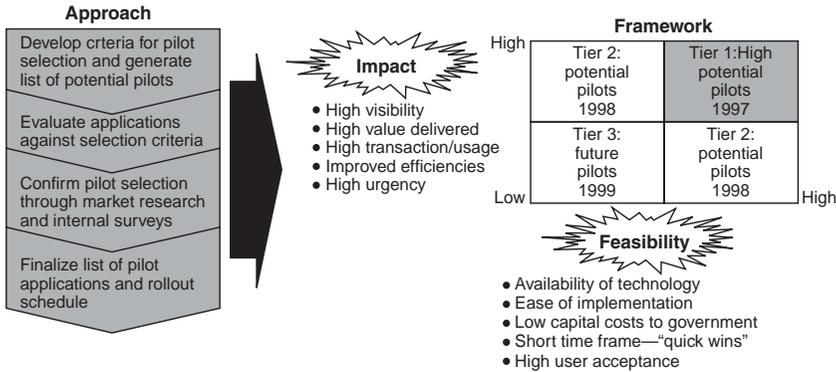
learning. Once appropriate, mission-aligned pilot projects have been selected, the government should rank them by priority and outline a phased implementation strategy targeting those that can deliver the highest values within a short time. Governments have developed several frameworks for prioritizing e-services. One useful framework for ranking pilots evaluates them by impact and feasibility criteria, as done in Malaysia's e-government program (figure 4.2).

A key area for pilots is common business processes such as procurement, usually one of the most complex and often corrupt systems in government. Some countries (such as Mexico, with its Compranet) have chosen to initiate e-government with e-procurement because of the huge potential gains possible; others (such as India) have deliberately gone slowly, coming to e-procurement relatively late because of its complexity and because of institutional resistance. In Sri Lanka, the consensus appears to be that e-procurement can be implemented in phases. Bulk purchases, where the biggest gains are possible, are a good place to begin. These purchases would include most government procurement of furniture, office equipment, and IT systems and hardware.

#### ***Phase 4: Scaling Up, Learning, and Deepening the Transformation***

Phase 4 is a time of consolidation of experience and learning and of planning next steps toward e-transformation through public-private partnerships. The government needs to develop a strategy for expanding beyond simple pilots into a broad rollout program—and to evaluate sustainability, secure momentum, and plan to learn. Implementing and

**Figure 4.2. Framework for Ranking Malaysia's e-Government Pilots by Priority**



Source: <http://www.mymalaysia.net.my>.

evaluating the pilots is likely to take about one to two years, providing an opportunity to look at the strengths and weaknesses of each pilot and identify common issues arising in implementation before developing a strategy for moving ahead with full-scale rollout.

**Scaling up**—If a pilot is successfully implemented, the pilot application can expand in both reach and functionality. Meanwhile, the rollout program will continue to initiate new pilot applications to transform other government services. E-government will thus grow in reach, functionality, and areas of application.

While pilots may be funded by either the government or the private sector, full-scale rollouts should fully leverage potential public-private partnerships (except for information infrastructure projects such as a citizen database, because of privacy and security concerns). This is where a government’s project management and execution abilities are put to the test. The government will need to develop requests for proposals and service level agreements governing the large-scale rollout of services, taking into account the lessons learned from the pilots about the choice of technology, back-end interface, and project execution. Creative partnership-building skills will be needed to balance the demands of government accountability and the need to attract the private sector with the correct incentive framework.

The government will also need to develop its e-government architecture so as to open opportunities for innovative methods of partnering with the private sector. It needs to assess the maturity of the architecture

for e-government: the front end, the middleware, and the back-end systems (table 4.2). The point of decision (back end) for a government service always remains within the confines of the government, for it is a statutory function. But the point of delivery (front end) can be the private sector, such as a kiosk or a cable television station. This can happen only if the architecture is sufficiently mature—using a secure network and middleware. Shifting the point of delivery into the private sector has powerful implications for good governance, for it creates multiple options from which citizens can choose and, more important, injects competition into service delivery.

**Learning**—This phase is also the time at which a government begins large-scale internal computerization and process reengineering. As more and more manual databases are converted to an electronic format, the government also needs to begin training its vast cadre of employees in the use of e-government systems. Providers of technology packages or solutions often include a training component, but this training needs to be complemented by general information literacy and IT skills.

Different skill sets are likely to be needed at different levels of government. Training for public administrators needs to include competencies in change management. And training for middle managers should also prepare them for a new culture involving electronic intermediation, information and knowledge management, and new ways of doing business.

**Deepening the transformation**—This phase is also the time for the government to deepen and broaden transformation—to start exploring new services, process innovations, common business processes, and shared infrastructure services such as electronic identification cards, payment

**Table 4.2. Architecture of e-Government**

<i>Role of agency</i>	<i>Role of secure middleware</i>	<i>Delivery channels</i>
Back-end computer systems and all data to be owned only by the government	Provides a secure, reliable, controlled interface between the agency and citizens and businesses through a network	Kiosk communication centers Personal computers Cable televisions Service centers Agency outlets
Point of decision for a government service		Point of delivery for a government service
Back-end systems	Secure network	Front-end delivery

Source: Author.

systems, or smart cards for citizens. As part of this, the government could initiate a public debate on e-participation, privacy rights, and security.

It is at this stage that a connected, client-centered government can emerge. As value-added services expand—in applications for serving citizens, businesses, and government agencies—the government can move ever closer to the goal of “anytime, anywhere” services.

## **Leadership, Partnership, and Change Management**

E-government requires strategic direction from the political leadership as well as active partnerships with the private sector and civil society. Government needs to act as a catalyst, bringing together the leading private actors in partnerships to create information infrastructure and deliver ICT-enabled citizen services. And since e-government involves transforming established ways of doing things, it can achieve maturity only if serious attention is given to change management and new ways to relate to clients and partners.

### ***Providing Leadership, Building Partnerships***

The key to effectiveness for any public-private partnership is to play to the strengths of each partner. The role of government is that of a leader, a catalyst, and, most important, a domain expert who knows “what business it is in.” Government alone can resolve legal and procedural problems in implementation, bring together rivals to discuss potential means of competition for the larger public good, decide the terms of competition and regulate them where required, set standards, and provide public infrastructure for the e-government environment. The private sector can provide investments, the latest technology, expertise in delivery and execution, global knowledge, and best practices.

The recipe for success in implementing an e-government strategy is to bring out the best elements of each partner and weave them into a cogent strategy. The Indian state of Andhra Pradesh has shown how these ingredients work together. Its e-government initiative was driven by selected civil servants under a dynamic political leadership and implemented in close partnership with the private sector (box 4.3).

### ***Managing Change***

Implementing a nationwide e-government strategy is similar to introducing a disruptive technology into an extremely traditional system. Indeed, it

**Box 4.3****Partnering with the Private Sector for e-Government in Andhra Pradesh**

The Indian state of Andhra Pradesh has emerged as a regional leader in e-government. Its e-government initiative—which also included creating a technology cluster aimed at boosting the competitiveness of its economy—was driven largely by a handful of members of the elite Indian administrative service under the leadership of the state’s then chief minister, Chandrababu Naidu.

What set this initiative apart from similar ones was its acute focus on strategy and implementation. Planners thought through each project in great detail, considering service maturity and delivery, return on investment, options for financing through private partnerships, the dovetailing of projects to ensure internal consistency, and brand building and management. Among the key achievements:

- Andhra Pradesh was the first Indian state to create a statewide area network. Created in partnership with a leading telecommunications service provider, on a build-own-operate basis, the network connects all 25 major cities and 1,122 mandals (the next level of administration) with fiber. The network is used for videoconferencing to ensure rapid implementation of development schemes and projects.
- Andhra Pradesh was the first state to create a citizen database—76 million records, each with 110 fields. This database, along with a land hub—12 million records on a GIS-based platform—forms the state’s master database, housed in a supercomputer in the state’s secretariat.
- Andhra Pradesh was the first state to offer remote citizen services, through its eSeva centers. This project provides citizens integrated services from 20 departments across a single counter.
- Andhra Pradesh has rolled out a “digital nervous system” for the state—the secretariat knowledge and information management system (SKIMS). This enormous project, which involved automating all file movements and document management in the secretariat, was carried out in partnership with leading private sector players.
- Andhra Pradesh has created a high-tech corridor and the “AP Inc. brand” and marketed itself through global forums. It is now home to software development and back-office centers for such leading companies as Microsoft, Oracle, GE, HSBC, Motorola, Infosys, TCS, and Satyam.

*Source:* Gupta, Kumar, and Bhattacharya 2004.

turns the traditional model of government on its head. That model is centered on the agency providing the service—with service levels, timing, payment mechanisms, and procedures built around the agency. E-government makes the citizen the center of all activity—government services must be available anytime the citizen demands them, anywhere the citizen wants to receive them, and through whatever medium the citizen wants to use. This is the model of public administration beginning to emerge all over the world, in such countries as Canada, Singapore, the United Kingdom, and the Nordic countries.

The biggest challenge in implementing this model lies in getting organizational buy-in and dealing with the attendant change management issues. This single factor almost always separates the successes and failures in implementing e-government. So beyond ensuring a clear political intention, there must be serious assessment of political and administrative mechanisms to ensure that they have the depth and maturity to manage the change that any process of implementing e-government will create. The system must also have the capacity to cope with the hard choices and trade-offs that it will encounter, such as fundamental reengineering of business processes, skill changes, and staff redeployment.

Moreover, both the political and the civil service leadership need to understand and accept all the hard trade-offs before they embark on the e-government journey. Finding the right people to lead change in the civil service is another big challenge.

Change management is critical to overcoming resistance and avoiding duplication of delivery channels. During the pilot and initial rollout stages, it is advisable to retain duplicate delivery channels—the existing manual government counters as well as the online and single-window delivery of multiple services—to reduce resistance to change among both clients and civil servants. Once there is full-scale rollout, however, phasing out some of the existing government service centers is preferable: it can lead to big cost savings by reducing needs for physical infrastructure and making better use of government staff, who can be retrained to work in other areas.

## Conclusions and Implications

International experience points to best practices that can benefit Sri Lanka as well as other developing countries in pursuing e-government.

*A strategic, “whole of government” approach to e-government offers key advantages.* While more demanding than ad hoc, bottom-up initiatives,

this approach is likely to economize on investments, reap economies of scope and scale, help citizens deal with government as a single entity, and integrate ICT into the national development strategy. It supports the development of common policy guidelines and frameworks—such as standards for information sharing, interoperability, security, and privacy—that are critical for effective e-government. It clarifies roles and responsibilities within government and with private sector and civil society partners for policy, planning, financing, implementation, and M&E. It can speed the scaling up of successful initiatives by addressing systemic constraints and establishing the enabling policies and institutions for replication and diffusion. It can support the sharing of infrastructure and of such business processes as financial management, human resources, and public procurement. And it can lower long-term support and maintenance costs.

Striking the right balance between setting top-down strategic directions and supporting bottom-up initiatives is a key issue in designing and implementing e-government programs. The balance may shift over time as common frameworks, governance, architectures, and coordination mechanisms mature and as single agencies and local governments build adequate capabilities and shared understanding for integrated e-government.

*An e-government strategy should be based on a holistic vision of transforming public service.* An energizing vision of a transformed public service—one that is connected and client centered—can drive the big changes and intensive coordination and collaboration among agencies that are involved in e-government. This vision should be clearly communicated to all stakeholders, including citizens. Broad buy-in from citizens can be key in countering resistance from organized groups with strong vested interests. Moreover, investments in e-government can have the greatest impact when combined with civil service reform: e-government involves not only introducing process innovations and engaging clients, but also transforming the skills, incentives, and culture of the civil service to increase professionalism, accountability, and transparency. Achieving those changes requires substantial investment in transforming organizations and power relations—a long-term investment that can be sustained only with a clear and motivating vision.

*E-government programs demand leadership for change, innovation, and integration.* This leadership needs to come from senior executive and legislative officials. Dealing with the challenges of implementing e-government calls for a mandate from the chief executive to support change and process reengineering, a managerial culture that promotes innovation and client-focused service, a cadre of chief information officers,

and leadership networks that cut across public agencies, private entities, and civil society organizations. To overcome organizational silos, it is often necessary to anchor ownership at the highest levels, in a dynamic, proactive executive leadership team.

*Investments in e-government need to be focused, sequenced, and prioritized.* Focusing efforts and sequencing investments not only contain costs; they also produce quick wins and early learning and thus help sustain political commitment to policy reforms and institutional change. Moreover, quick wins can build confidence and momentum, while small projects allow organizational learning at low cost and risk. Giving early priority to public services with the largest number of potential users and beneficiaries can similarly help sustain commitment to and demand for continual improvement. But all fast-track projects should be pursued within a holistic and sustainable e-government strategy.

*Designing e-government programs is about strategizing and thinking through implementation processes, not developing rigid, detailed blueprints.* Many governments have developed ambitious strategies only to falter during implementation. The key is to focus on making strategic choices, managing continual change, piloting and prioritizing investments, learning and adapting, and sustaining the process of transformation through difficult times. That requires building the institutions and capabilities needed to translate an e-government vision into results. Mechanisms for developing and implementing strategies need to be worked out with the cooperation of stakeholders, with oversight and political commitment at the highest levels. Resistance to change within agencies and to coordination across agencies should be expected and effectively managed.

## Notes

1. This chapter draws on the extensive experience of the author in many developing countries as well as the literature on both advanced and developing countries, many examples of which are listed in the bibliography. Some of the best practices of lead countries cited come from the annual surveys of Accenture (2003, 2004). Other key references include Heeks 2006a; Cisco Systems 2004; OECD 2005; West 2005; Ramsey 2004; Gupta, Kumar, and Bhattacharya 2004; Curtin, Sommer, and Vis-Sommer 2003; and Fountain 2001.
2. See, for example, Singapore One (<http://www.ecitizen.gov.sg>), which maps a citizen's life from the cradle to the grave and offers services along each step of this journey.



## CHAPTER 5

# Readiness for e-Government: A Historical Perspective

Sri Lanka started efforts to take advantage of computerization in government relatively early, in the 1970s. These efforts then lost momentum, in part because of the political turmoil and civil war. Many government computerization initiatives and ICT-related policies have been proposed, but none fully implemented. Several shortcomings hampered these efforts. Among these were a shortage of internal champions and the lack of a process leading to buy-in. Other constraints included the lack of a national strategy and road map to guide investment priorities and the absence of a strong authority to enforce policies and standards for information sharing, to support e-leaders and champions, and to build a shared information infrastructure across government.

Understanding past successes and failures in introducing ICT to Sri Lanka's public sector is important to draw lessons and set realistic expectations about the future of e-government. This experience defined the perceptions, expectations, and practices of current senior public servants—the institutional and cultural context for implementing e-government. This chapter discusses the history of ICT use in government, describing 14 ICT initiatives launched before the e-Sri Lanka program. It also benchmarks Sri Lanka's e-government readiness against that of other

countries and assesses the strengths, weaknesses, opportunities, and threats that would face an e-government initiative.

New political commitments, diffusion of the Internet, and advances in ICT provide new opportunities to overcome systemic constraints and realize the growing potential of ICT for transforming government services. Critical factors for success and failure in past efforts point to ways to move forward in exploiting those opportunities.

### **History of e-Government in Sri Lanka**

Computing was introduced to Sri Lanka in 1962, when IBM supplied the Insurance Corporation with accounting machines (Samaranayake 1998). Soon after, the State Engineering Corporation and later the Department of Census and Statistics, using their IBMs, provided computing facilities to many state agencies and universities. In 1977, under a new government that promoted a liberal economy, a lump-sum depreciation scheme was introduced to encourage computerization. That prompted many state as well as private sector organizations to use computers.

The 1980s saw the advent of microcomputers and the personal computer. The minister of education introduced computers to a large number of schools, along with curriculum development and teacher training, conducted with the aid of a few universities competent in IT. A comprehensive plan was developed to introduce computing to all universities and to train university teachers. British aid supported overseas training and equipment purchases. The University Grants Commission, a state body, also provided strong support for the program.

Many public sector computerization projects followed. Some were featured by the Asia Pacific Development Center (APDC) in its Asian case studies on public sector computerization, alongside examples from India, Malaysia, Singapore, and Thailand (APDC 1986). Analysis of such projects points to some common patterns in their successes and failures.

#### ***Introducing ICT in the Public Sector: 14 Case Studies***

A quick review of 14 significant cases of computerization in Sri Lanka, briefly described here, covers diverse applications and agencies and provides a reasonable picture of e-readiness and relevant lessons for the future.<sup>1</sup>

***Regional pension and decision support systems***—In the mid-1980s, the Sri Lankan Treasury introduced two IT pilot projects at the Government Agent's Office in Kalutara, a district close to Colombo. One computerized

pension payments, providing pensioners with a detailed account of their pensions and greatly speeding payment.

The other introduced the use of computer spreadsheets to record disbursements to projects funded from the decentralized budgets provided to each member of Parliament (MP). Administrators could show how the funds allocated to each MP in the Kalutara District were performing. They could also move underutilized funds to other projects, something the MPs were unable to object to given evidence of the slow progress of their projects.

The pilots were to be replicated elsewhere, but the technology quickly became outdated—or so it was perceived. Administrative developments also played a part. At the time, however, the pilots were considered a showcase project and featured as a case study by the Asia Pacific Development Center (APDC 1986).

***Integrated rural development program***—In the early 1980s, Sri Lanka introduced the Integrated Rural Development Program (IRDP) in all districts of the country. Funding came from several donor countries, each of which took responsibility for several districts. Data relating to each district were recorded and used as a decision support system. Geographic information systems provided layered displays that were also used to support decision making. These systems were used, for example, to show that an area chosen for a sugarcane plantation in the Moneragala District was in the middle of a pathway between two elephant habitats.

The program received much political support and donor interest. Resource databases were prepared for most districts. But changes in government led to dwindling political support, and donor interest and follow-up dropped off. Sustainability became a problem.

***Trade***—In the early 1980s, the Export Development Board, led by a minister with a vision (the late Lalith Athulathmudali), took some imaginative steps to support export trade. The board formed the Sri Lanka Trade Facilitation Committee (SRILPRO), on lines similar to the U.K. trade facilitation agency Simpler Trade Procedures Board (SITPRO), and took steps to simplify and streamline the interchange of trade data between ports, shippers, customs, banks, and the like. As part of this, in the mid-1980s the board set up a subcommittee to promote the use of IT in trade data interchange, with members drawn from CINTEC, banks, customs, the port authority, and shippers' associations. This subcommittee, instrumental in promoting computer-based trade data interchange, led to

the later formation of the CINTEC Electronic Data Interchange (EDI) Committee and the National EDI Committee.

The EDI Committee initiated Sri Lanka EDI Network Services (SLENS) to establish an electronic data interchange. Because the name included *Sri Lanka*, it needed the approval of the minister of trade—and the minister was deliberately delaying. CINTEC had to take the matter to the Cabinet through its own minister. When SLENS called for “expressions of interest,” several international groups responded, and a slow process of evaluation was put into place. At the same time another ministry submitted a parallel proposal—also approved by the Cabinet. Ultimately, the evaluation process was undermined by conflicting proposals, vested interests, and weak mechanisms for resolving conflicts among agencies. As a result, the project collapsed.

The National EDI Committee, though established with Cabinet approval, ran into difficulties. Cabinet ministers were not honoring their collective decisions. Moreover, the committee’s work involved agencies under a range of ministries—including Trade and Commerce, Ports and Shipping, Finance, Science and Technology, Airports and Aviation—and decision makers followed the narrow interests of their own ministers.

***Project monitoring for state accounts***—In the mid-1980s, the Department of National Planning initiated the use of IT for monitoring development projects. The department had a remote link to the minicomputer system at the National Institute of Business Management, a state sector pioneer in IT training and consulting services. The director general of external resources, an IT champion, resurrected a donor-funded project monitoring system that had been on the verge of collapse because of a predecessor’s lack of interest. The system continued to evolve thanks to professional interest and strong support from aid agencies.

***Banking sector***—Local banks moved to computerization early, driven in part by competition from foreign banks that had already done so. The Central Bank of Sri Lanka then established an automated interbank clearinghouse, in the late 1980s. With design and acquisition carefully completed, the project was a success, and the clearinghouse functioned as a branch of the Central Bank until it was recently made an independent body.

Less successful was an effort centering on automated teller machines (ATMs). ATMs and debit cards were first introduced by the newly established Sampath Bank, looking for a competitive advantage. Soon the availability of around-the-clock banking was seen as a tremendous

benefit by the public. Other banks followed suit, but the high cost of ATMs and the primitive communication infrastructure made for slow progress despite the demand. Because the telecommunications monopoly, Sri Lanka Telecom, was unable to provide the banks with reliable service, the private sector came in to help with dedicated data communications (made possible because the monopoly had excluded data communications).

With the ATMs extending banking hours, the demand for service grew. But most banks preferred to set up ATMs at popular locations in the city and were reluctant to serve their clients elsewhere. It became clear that an ATM switch was needed to allow ATMs to handle cards from different banks. The CINTEC Committee on Banking and Finance proposed such a system, launching discussions that all banks participated in.

The discussions, which lasted several years, almost led to the establishment of an ATM switch in the mid-1990s. But at the last moment, two banks withdrew from the consortium, and the project collapsed. CINTEC lacked the clout to take it forward. The Central Bank was asked to look into the possibility, but there still is no ATM switch. Thus, while Sri Lanka has many ATMs, bank customers can use their cards only in the ATMs of their own bank.

***Employees' provident and trust funds***—The Employees' Provident Fund is managed by a board that functions under the Ministry of Labor. But its computerization was handled by the Central Bank, using its mainframe computer. To make a payment, employers had to fill in forms in triplicate and send a copy to the fund's office with a duplicate (and the payment) to the Central Bank. Problems naturally resulted for both employers and employees. The Employees' Trust Fund, introduced later, is managed by another board, which computerized its operation.

The large amounts collected by the two funds give each of their boards much power—and no incentive to combine operations. Nor has there been any sign that the Central Bank will give up its position as collector of funds for the Employees' Provident Fund. At the very least, the two funds should have data interchange facilities, which would reduce the workload all around. But leadership to overcome the ministerial barriers has been lacking.

***Government printer***—The Department of the Government Printer publishes the *Government Gazette* and handles all printing for elections.<sup>2</sup> These responsibilities mean that it must adhere to government policy, be ready to print in all three common languages, and undertake urgent

assignments with necessary security. So the agency has had to keep up with technology and was quick to adopt computer typesetting.

In 2000, the agency made a digital version of the *Government Gazette* available through its intranet. But the publication still is not available on the Internet. The issues involved in charging and collecting payments and, above all, in retaining the revenue have all contributed to the delay. Any income generated would go into the consolidated fund, while expenditure has to be budgeted from the Treasury. This arrangement, which applies to all state agencies, frustrates initiative and reduces incentives to modernize public services.

***LK portal***—With the advent of the Internet, Web pages about Sri Lanka began to appear from all over the world. Some were merely the home pages of college students overseas, many of which displayed inaccurate information. But there was no Web page giving accurate and official information about the country. In the mid-1990s, CINTEC therefore launched a national Web portal, [www.lk](http://www.lk). The portal was linked to several sites, such as the Information Department's site and those of Sri Lankan newspapers. A few years later, the portal was improved at the request of the Ministry of Foreign Affairs, which needed a means to counter the negative publicity Sri Lanka was receiving from sites sympathetic to terrorist groups.

In 2000, a new Ministry of Information Technology was formed. The ministry directed CINTEC to establish yet another portal, [www.gov.lk](http://www.gov.lk), with much overlap with [www.lk](http://www.lk). It also directed government departments to set up Web sites. Some hurriedly established badly designed sites that remained static, with no infrastructure for regular updates.

***Department of inland revenue***—The Department of Inland Revenue began its computerization program several decades ago. But progress was slow, and the department was left with a legacy of manual operations and an IT-illiterate workforce. There still is almost no digital exchange of information between the department's units. Lack of political will and effective leadership has led to repeated failures in coordination and cooperation.

Initially, using a large computer, the data processing division undertook the computerization of the files of a thousand big taxpayers. Another computer division handled the statistics of regional offices and the Colombo branch offices. More recently, on the recommendation of a consulting service funded by the International Monetary Fund, the Department of Inland Revenue established a research and policy unit. This unit set up a computer network to provide the statistics and other

analysis policy makers need; it also set up a Web site. After the officer in charge was transferred, however, the unit deteriorated, and the Web site has not been maintained. The staff transfer system has also adversely affected IT use, because units often lose staff trained in IT to transfers.

A new opportunity came as Sri Lanka prepared to switch from a turnover tax to a goods and services tax as part of an aid-funded project. The Department of Inland Revenue, however, used the donor funding it received mainly to train the staff on the process and associated regulations, making almost no effort to identify the digital infrastructure needed for effective implementation. The reason may have been lack of knowledge among senior management about the importance of IT.

With the switchover date fast approaching, a concerned ministry official sought the assistance of CINTEC, and a fast-track procedure was adopted. CINTEC asked the Sri Lanka Association for the Software Industry to nominate three members to take part in a systems development exercise; this would be followed by restricted but separate bidding by the same parties to provide the system. That produced an IT-based solution before the switchover date, and the system is still being used, now for the value-added tax that has since been adopted.

Nevertheless, the important aspects of data and information interchange for efficient revenue collection are still a long way off. Databases are not shared, and there is no proper exchange of valuable taxpayer information within or between branches of the department. The national identification number is not used to track down taxpayers and potential taxpayers. There is no information sharing about individual and corporate taxpayers to reconcile earnings. Nor is there any online use of the information sent by banks and similar entities for tax calculation. All this has led to substantial revenue losses because of nonpayment and underestimation of taxes.

***Citizen database***—One of the most obvious e-government initiatives would be to integrate the data relating to citizens and share these data across agencies. In Sri Lanka, most people go through a standard sequence of procedures with government agencies: the Registrar General registers their birth, the Registrar of Persons issues their national identification number and card, the Controller of Immigration and Emigration issues their passport, the Registrar of Motor Vehicles issues their driver's license, the Registrar General registers their marriage, the Commissioner of Elections registers them as a voter, and the Registrar General registers their death.

All these procedures would benefit from the use of a computerized national identification card linked to a shared population database.

So would many others, such as tax payments and the tracking of taxpayer information. The national identification card, however, has yet to be computerized.

In the mid-1990s, CINTEC launched discussions on a way to integrate the data while retaining the data-capturing functions of the major agencies. A detailed program was worked out in which the national identification number would be issued at the registration of birth, and a photo identification card at age 16. A single database was proposed to enable the agencies to share information. The proposal called for housing three major agencies in a complex with a single computer facility, and a building plan was completed, land purchased, and tenders issued for the construction work. The legal changes that would be needed were identified, and a decentralized system of data capture was worked out in collaboration with the IT industry.

With all this work completed by late 1999, an integrated system would be available today if not for the Cabinet decision to suspend all operations. Ministries disagreed about who should take the lead in this project and in the lucrative contracts to follow—a classic example of how vested interests can disrupt initiatives of great national interest. Only now, almost a decade later, has a project to introduce a computerized national identification card (e-citizen ID) been given its due urgency, under the e-Sri Lanka program.

***Lankan educational and research network***—As e-mail came into use, at least between computer scientists, Sri Lankans overseas created a store-and-forward e-mail facility: a volunteer took a daily telephone call from the United States, then sent the day's collection of e-mail to the University of Moratuwa. Thus began SLNet, which later turned into the Lankan Educational and Research Network (LEARN).

In the early 1990s, the U.S. government, at the initiative of Vice President Al Gore, promised to help Sri Lanka develop Internet facilities. CINTEC and state agencies knew nothing about it, however, and whatever aid was promised seems to have been used by the country's first commercial Internet service provider, established by a few Sri Lankans living in the United States. CINTEC came forward to help LEARN establish a proper Internet service for the university and research community. LEARN became an interuniversity committee and then an independent institute under the University Grants Commission.

Since the days of the initial e-mail facility, LEARN has benefited from the services of a few dedicated people who have put much time and effort into developing it. CINTEC and the University Grants Commission

also provided much support. Moreover, funding that the Swedish International Development Cooperation Authority (Sida) provided in 1998 has helped hire paid staff to improve and sustain the network. Still, uncertainty about whether client universities will pay their user charges remains a concern.

**Y2K task force**—The Y2K preparations in Sri Lanka give useful insight into some aspects of e-government. Initial pressure for action at the national level came from the Central Bank and from several Western embassies, including those of the United Kingdom and the United States. Most ministries were uninterested. The pressure, however, led the Cabinet to approve establishment of a Y2K task force led by CINTEC.

The task force consisted of professionals from key agencies. They all worked as a team and kept the Cabinet and the public informed. They also handled the funding provided by the World Bank. That the project was successful is due mainly to the dedication of the task force members and the urgency and narrow focus of their mission.

**Utility billing**—Billing and payment collection for utility services—telephone, electricity, water—are an excellent target for computerization. These functions remain only partially computerized, however, and are not yet online. There are long delays in billing and further delays in collection, resulting in economic losses. Recent attempts to computerize billing and collection systems have been pursued separately by each utility, often with donor assistance that reinforced the silos and poor local coordination.

**Release of examination results**—The Department of Examinations has been computerizing the scoring and administration of national exams for more than 30 years, continually modernizing and improving the system. Recently, the department released the results of the national exams through the Internet, giving hundreds of thousands of university candidates instant access to their results. The University of Colombo School of Computing uses the Web to release not only exam results but also model exam papers and correct answers to exam questions.

A significant event was the use of microcomputers to process the presidential election results in 1982. Later, television and the Internet were used for the live release of national election results, convincing the public of the usefulness of ICT-based services. So, even as these initiatives provided a useful service, they also helped raise awareness and prepare citizens for e-government.

### ***Weighing Factors for Success and Failure***

The case studies suggest some common factors for success and failure (table 5.1). Key success factors are leadership, political awareness and sustained commitment, incentives and professional interest, and adequate funding, coordination, and collaboration. The most important factors for failure are the public sector culture, silo mentality, and weak incentives and leadership for change and collaboration. Interestingly, technical skills do not figure high on the list of factors for either success or failure.

### **Analysis of the Situation**

Beyond learning from past attempts to introduce ICT in government, Sri Lanka had to conduct a thorough situational analysis before embarking on an ambitious e-government program. Yet time was of the essence: the program needed to capture the window of opportunity created by a new political environment favorable to a shared vision of an ICT-enabled and transformed government. The situational analysis therefore had to be carried out quickly—without the benefit of extensive sector reviews.

The analysis assessed Sri Lanka's readiness for e-government as of 2003 and took stock of relevant strengths, weaknesses, opportunities, and threats. Results point to great challenges—but also great opportunities—awaiting Sri Lankan policy makers as they embarked on the e-government journey.

### ***Assessing Readiness for e-Government***

One useful tool for assessing a country's readiness for e-government comes from the United Nations Global e-Government Survey. This survey ranks countries on an e-government readiness index, itself a composite of three indexes: the Web measure index (an assessment of a government's ability to use e-government effectively based on its online presence), the telecommunications index (based on the number of personal computers, Internet users, persons online, telephone lines, mobile phones, and televisions per 1,000 people), and the human capital index (based on the adult literacy rate and combined primary, secondary, and tertiary gross enrollment ratio).

On the composite measure, Sri Lanka scores 0.385, below the global average of 0.402 (table 5.2). Sri Lanka ranks well among such developing countries as India on the human capital index, but well behind on the government's Web presence.

**Table 5.1. Factors for Success and Failure in ICT Case Studies, Sri Lanka**

	<i>Regional systems</i>	<i>IRDP</i>	<i>Trade</i>	<i>Project monitoring</i>	<i>Banking sector</i>	<i>Employee funds</i>	<i>Government printer</i>	<i>Lk Portal</i>	<i>Department of Inland Revenue</i>	<i>Citizen database</i>	<i>LEARN</i>	<i>Y2K task force</i>	<i>Utility billing</i>	<i>Release of results</i>
<b>Factor for succes</b>														
Leadership	√	√	√				√				√	√		√
No political interference				√	√		√	√			√	√	√	√
Donor funding		√		√							√	√	√	
Good coordination	√	√		√			√				√	√		√
Professional interest and collaboration				√	√		√	√			√	√	√	√
Private sector interest					√						√	√	√	
Outward-looking organization, staff	√	√		√			√				√	√	√	√
Collaboration with nonprofit agencies											√			√
<b>Factor for failure</b>														
Bureaucratic culture, resistance to change, inward-looking organizations	×	×	×	×	×	×			×	×				
Compartmentalization, isolated initiatives, weak coordination			×	×	×					×	×		×	
Weak incentives	×	×	×	×		×			×		×			

(continued)

**Table 5.1.** (Continued)

	<i>Regional systems</i>	<i>IRDP</i>	<i>Trade</i>	<i>Project monitoring</i>	<i>Banking sector</i>	<i>Employee funds</i>	<i>Government printer</i>	<i>Lk Portal</i>	<i>Department of Inland Revenue</i>	<i>Citizen database</i>	<i>Y2K task LEARN force</i>	<i>Utility billing</i>	<i>Release of results</i>
Lack of e-literate or motivated leaders	×	×	×		×	×			×		×	×	
Donor policy and funding shifts	×	×											
Political shifts and lack of continuity	×	×		×		×			×				

**Source:** Author.

**Table 5.2. E-government Readiness Scores for Selected Countries, 2003**

<i>Country</i>	<i>E-government readiness index</i>	<i>Web measure index</i>	<i>Telecommuni- cations index</i>	<i>Human capital index</i>
United States	0.927	1.000	0.801	0.98
Australia	0.831	0.812	0.691	0.99
Singapore	0.746	0.703	0.666	0.87
New Zealand	0.718	0.552	0.613	0.99
Sri Lanka	0.385	0.279	0.036	0.84
India	0.373	0.522	0.027	0.57
Global average	0.402			

*Source:* Extracted from United Nations, Department of Economic and Social Affairs (2003).

*Note:* The top-ranked country on each index is given a score of 1.

Another way to benchmark Sri Lanka's readiness for e-government is to compare its performance on ICT indicators with that of its South Asian neighbors (see appendix 2). Data for 2004 show that Sri Lanka does better than the regional average in fixed-line and mobile telephony (based on connections per 1,000 people) and in IT expenditure as a percentage of GDP. But it lags behind in affordability (based on the monthly charge for a fixed-line connection and the price of a call to the United States) and in Internet use (users per 1,000 people). Sri Lanka also scores lower than the regional average on the e-government readiness index.

### ***Assessing Opportunities and Challenges***

An analysis of strengths, weaknesses, opportunities, and threats (SWOT) in introducing a comprehensive e-government program suggests several strengths (table 5.3). These include a high literacy rate, political commitment, donor support, and reasonable telecommunications infrastructure. In addition, proximity to India presents an opportunity to learn from a country with similar conditions. Moreover, the availability of a local IT labor pool should help reduce the cost and improve the sustainability of e-government.

Sri Lanka also faces many weaknesses in introducing e-government, including a politicized civil service and inadequate implementation of reforms. Most positions at the senior secretary level are now filled from the private sector or through political patronage. This practice brings in rich private sector experience. But it also weakens core public sector competencies and undermines administrative continuity and institutional memory and learning when there is political regime change.

**Table 5.3. SWOT Analysis for the e-Government Strategy of Sri Lanka**

<i>Strengths</i>	<i>Weaknesses</i>	<i>Opportunities</i>	<i>Threats</i>
High literacy rate (91 percent)	Limited professional leadership in the civil service to execute the vision	Urgent need to reform government delivery systems and internal processes	Possible deadlock in the peace process
Strong political commitment	Limited execution capability	New peace dividend taking shape (at time of assessment, in 2003)	Fiscal constraints
Donor support	Limited financial participation by private sector	Global e-government and e-commerce products, services, and consulting industry looking for emerging markets	Too much vision, too little capacity to implement
Proximity to India, to draw on lessons and expertise	Limited action on civil service reform	E-government a huge untapped market for local private sector participation	
Inexpensive, English-speaking, skilled IT labor pool	High level of political interference		
Reasonably good telecom infrastructure	Limited IT labor pool		

*Source:* Author.

Sri Lanka has a poor record of implementing civil service reform, with failed attempts in 1987, 1991, and 1996. The key problems include extraordinary overstaffing (600,000 government employees for a population of 19 million), no competitive recruitment to the administrative service, a patronage-oriented bureaucracy, and a highly unionized lower-government staff.

Taken together, these conditions hardly create the best environment for implementing e-government, which brings both power dislocation and change management issues. Some of the best-organized vested interests would want to block the process. Yet countering this are strong political pressures to improve the public sector's performance. Public frustration with the poor quality and limited access to services is high, and trust in government at an all-time low. Moreover, the government of Sri Lanka has demonstrated clear commitment by creating the proposed ICT Agency directly under the highest political command in the country.

## **Findings and Recommendations**

The case studies of introducing ICT in government and the e-readiness and SWOT analyses suggest several findings and recommendations.

*Sri Lanka needs to make up for lost time to take advantage of a fundamental shift in ICT.* Early to recognize the importance of ICT for development, Sri Lanka began formulating national ICT policies in the 1980s. But beginning in the 1990s, civil strife and deteriorating conditions in the civil service distracted the government from investing in ICT to transform public service delivery. Meanwhile, the technological possibilities were expanding as the Internet became a basic platform for communication and service delivery—introducing changes that called for collaborative efforts and managerial innovations. With CINTEC neither equipped nor empowered to become the central policy and governing agency for using ICT to transform government, Sri Lanka's government missed at least a decade of learning to leverage the Internet.

*The past approach to ICT investments was ad hoc, confined to automation and single agencies.* Projects created pockets of excellence, but led to little diffusion and limited impact. Technical skills were not the binding constraint; they could be procured locally or internationally from academia or the private sector. But ICT was not effectively used for cross-agency solutions or process transformation. Ministries and agencies were unaware of plans elsewhere in the government and sometimes within their own organization. Driven by ad hoc and fragmented donor funding, progress was isolated, episodic, and uneven across ministries.

*Institutionalized learning is lacking.* The historical account in this chapter is based primarily on personal accounts and interviews, not documented research or formal evaluation. Much can be learned from systematically examining past experience and recurrent problems. But Sri Lanka lacks a forum or institution for monitoring and evaluating ICT investments and sharing lessons learned.

*E-leaders and e-leadership institutions are essential.* Reformers and innovators in Sri Lanka lack the tools, resources, and forums to act on their ideas and persuade others to do the same. CINTEC lacked the authority and the resources for effective leadership. Yet the few success cases involved influential leaders and CINTEC support, pointing to the importance of identifying, developing, and empowering e-champions to lead ICT-enabled transformation of services. A central agency needs to be empowered to coordinate policies and investments and develop ICT governance mechanisms for the public sector.

*Basic ICT and change management skills are scarce in the public sector.*<sup>3</sup> Implementing e-government requires skills in selection and management of vendors, system management and maintenance, procurement, and technical evaluation as well as skills in change management and process

reengineering. Civil servants need training in these skills and encouragement to deploy e-government tools. They also need to be trained as knowledge managers and knowledge workers.

*Partnerships with academia, the private sector, and NGOs could accelerate the deployment of ICT in government.* The few success cases involved partnership and collaboration. But frameworks to promote such partnerships are lacking in Sri Lanka. Also lacking are partnership frameworks to help make the best use of local and foreign consultants and to develop local capabilities and resources even while implementing e-government.

## Notes

1. This review of the computerization cases was carried out by Professor V. K. Samaranyake, a pioneer of ICT education in Sri Lanka, and his team at the University of Colombo. The review drew on Professor Samaranyake's personal involvement as chairman of CINTEC, personal interviews, unpublished studies, and the APDC study (1986). These cases are not, however, a comprehensive inventory of the many computerization projects that have been completed in Sri Lanka, successfully or otherwise.
2. The *Government Gazette* contains state proclamations, job notices, tender notices, examination results, and similar things important to the public. It is issued weekly, with special issues released as needed. Printed copies are sent to all post offices for display, and the public may subscribe to it.
3. This observation holds as much for developed nations as it does for developing countries such as Sri Lanka. According to a group of more than 100 managers in the U.S. government who shared their insights about unresolved e-government challenges in 2003, none of the challenges involved technological barriers. They all centered on such behavioral or policy issues as leadership support, turf- or agency-centric thinking, funding constraints, and problems in communication between such entities as the Office of Management and Budget, lead agencies, and the Congress. See United States, Executive Office of the President (2003).

## CHAPTER 6

# A Vision of e-Government

Engaging stakeholders in developing a shared vision of e-government helps clarify their aspirations and priorities, mobilize their knowledge and resources, and commit them to act on difficult decisions. It also helps them visualize the destination—a reformed, client-centered government, transformed through the use of ICT. As the shared vision emerges, and is communicated by leaders to their organizations and sectors, it can guide the downstream exercises of developing strategic plans, establishing governance frameworks, and mobilizing demand for change. It can help nurture the attitudes and service culture needed to realize the possibilities of ICT in line with the national development strategy, national aspirations, and agency missions.<sup>1</sup> Moreover, it can help civil servants identify with these profound changes and prepare for their new roles.

A vision statement for e-government in Sri Lanka was prepared in 2003 for consideration by the Cabinet. The aim was to raise awareness of the opportunities and challenges in implementing e-government and to motivate the Cabinet to take key steps toward developing a national e-government program and building a cadre of e-leaders to meet the challenges.

The proposed vision also provided a framework for reconciling the many competing visions and priorities for ICT in government. The prime

minister was inspired by the e-government initiatives of Andhra Pradesh after a recent visit there—his vision was of the government as a modernizer and facilitator of a globally competitive service economy. The then minister of economic reform, science, and technology was more concerned with building a common information infrastructure for uniting the country and enabling the delivery of public and private services. The then secretary of finance saw e-government as a tool for achieving good governance and mobilizing the civil service around a theme of better public service. The private sector saw e-government as an opportunity to expand its domestic market for ICT services. The emerging vision statement provided an initial step toward reconciling these different visions.

The vision statement identified challenges to realizing the aspirations of the country for a connected government and better access to public services and proposed that the Cabinet establish the policies, institutions, and strategies necessary to meet them. Public administrations in all countries face high cultural and incentive barriers to adopting ICT—significantly higher than those faced by the private sector. But Sri Lanka faces higher barriers than most, and explicitly acknowledging those barriers in the vision statement was necessary to move from aspirations and high expectations to commitments and concrete actions.

Cabinet debate led to agreement on immediate actions—creating the ICT Agency and launching a strategic investment planning process, both guided by the vision. Since implementation of e-Sri Lanka began, the vision has been slowly evolving yet has remained a constant guide. In the process, valuable lessons have been learned about the role of vision in launching e-government programs. The following sections are based on the vision statement prepared for the Cabinet.

## **Motivations and Aspirations**

It is the vision of the Sri Lankan government to use e-government to make the full range of public information and services available electronically to citizens, businesses, and all parts of government—enabling efficient, responsive, accessible, client-focused, transparent, and accountable public service. E-government should ultimately lead to better government, a more competitive economy, and a higher quality of life. But it requires national commitments—to transform the internal activities of public organizations and to alter the relationships between these organizations and the citizens and businesses that use their services. It also requires a clear vision, a comprehensive strategy, and effective leadership.

The leadership of Sri Lanka has indicated its interest in and commitment to meeting these challenges and harnessing the transformative power of the ICT revolution for the benefit of citizens and businesses. E-government is an integral part of the e-Sri Lanka vision: to harness ICT as a lever for economic and social development by taking the dividends of ICT to every village, to every citizen, to every business—and to reengineer the way government thinks and works (Sri Lanka, Ministry of Science and Technology 2002).

The vision of e-government in Sri Lanka—as expressed in *E-Sri Lanka: An ICT Development Road Map* (Sri Lanka, Ministry of Science and Technology 2002) and related documents—is “innovative e-government for empowered citizens.” The government intends to achieve this vision by

- Fundamentally transforming and rationalizing the work of the public sector through judicious use of digital networking technology
- Making the delivery of services more convenient to citizens
- Achieving order-of-magnitude increases in efficiency, transparency, accountability, and customer satisfaction for all public sector services
- Reducing transaction costs to businesses through effective use of ICT in providing cost-effective, citizen-centered public services.

The government intends to achieve good governance by

- Empowering civil servants through information and communication tools and facilitating coordination across government agencies
- Providing government that is accessible and accountable to the average citizen
- Improving competition and transparency in procurement and reducing transaction costs
- Decentralizing and broadening public participation in the formulation of development policy and implementation of programs
- Providing citizen-centered services, with government agencies becoming virtual one-stop shops.

These initiatives are expected to foster trust and confidence in the government among both citizens and businesses and to accelerate development efforts with the business community through greater cooperation.

### ***Envisioning the Impact of e-Government***

There is a growing realization in Sri Lanka that public services are slow and costly to citizens, businesses, and government agencies. Information about government services is scarce, fragmented, and unreliable. Government

procedures are rigid and complex, and transactions that can take a few minutes or hours in electronically enabled governments take days or months in Sri Lanka.

Political pressures to control the cost and size of the public sector are mounting. There is an urgent need to enhance the quality and responsiveness of public services in partnership with the private sector. E-government is not a technical project, but a political and developmental one. It is essential to restore confidence in government and trust in public service.

The Sri Lankan government aims to use e-government as a key entry point to enhance the performance of the public sector—to improve the access to and quality of public services, increase transparency and accountability to citizens and policy makers, and boost efficiency and revenue generation.

**Better public services**—In an electronically enabled government, public services are processed and delivered more quickly and efficiently and with fewer errors. Agencies communicate and share information more frequently and with greater standardization. And delivery of online services through multiple channels, including telecenters, can extend access to government information and services.

The main targets of e-services are citizens and businesses. As the use of ICT has created customized and responsive services in the private sector, the public has come to demand similar service standards in the public sector. Citizens and businesses want rapid, efficient, and timely service and access to relevant information. Where e-services are introduced, they can have a big impact on time and convenience for citizens (table 6.1). Creating effective new e-services has led to a dramatic increase in demand in many developing countries, even where ICT infrastructure is not well developed, as in the case of Andhra Pradesh.

**Table 6.1. Selected ICT Applications Creating Value for Citizens**

<i>Government</i>	<i>Process</i>	<i>Time to complete before application</i>	<i>Time to complete after application</i>
Chile	Paying taxes	25 days	12 hours
Andhra Pradesh, India	Registering land	7–15 days	5 minutes
Karnataka, India	Updating land registration	1–2 years	30 days for approval; request completed on demand
Singapore	Issuing tax assessments	12–18 months	3–5 months

*Source:* World Bank, e-government case studies (<http://go.worldbank.org/KJG1R90WH0>).

***Greater transparency and accountability***—E-government can improve public services not only by enhancing efficiency but also by increasing transparency and accountability. And greater transparency and accountability in turn lead to better governance, better policy formulation, higher credibility for the government, and greater trust in public service.

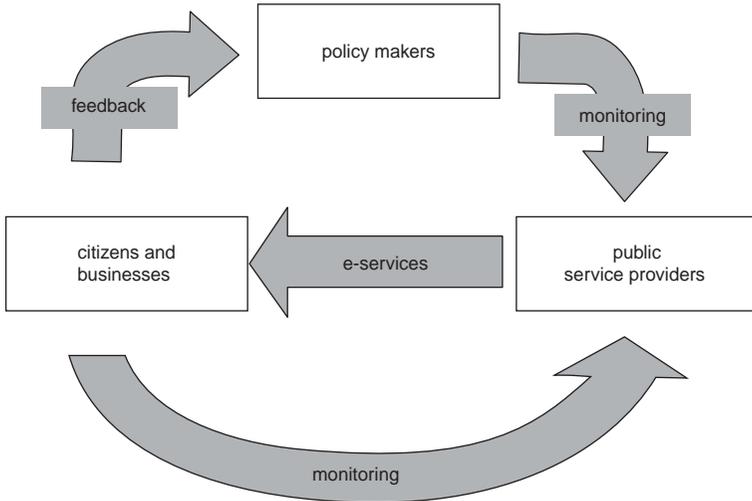
E-government promotes transparency by separating the point of delivery for a public service from the point of decision for that service and by expanding the menu of choices for citizens in accessing government. The point of decision for a public service is a statutory function that always remains within the confines of government, but the point of delivery can be anywhere technology permits. Once the government decides to issue a tax receipt, a driver's license, or a birth certificate, the document can be delivered anywhere across the Internet. This also brings competition into the delivery of public services—perhaps the best antidote to corruption, especially the petty corruption at the point of delivery.

Ensuring the quality of public services has been a big challenge in developing countries, especially for services targeted to poor and disadvantaged groups (World Bank 2003). The problem is the lack of direct accountability of service providers to the customer. In theory, the accountability should come through an indirect route: from users influencing policy makers and from policy makers influencing providers. In reality, this scheme rarely works as intended. Customers lack mechanisms to influence policy makers, and policy makers lack incentives and feedback from customers to properly monitor service providers.

E-government can help alleviate this problem (figure 6.1). By introducing new delivery channels, it gives customers choice and some direct influence over service providers. By providing customers better access to information and feedback channels (e-mail, forums, online performance surveys, online government information), it helps hold both policy makers and service providers accountable. And because some services can be contracted to the private sector and NGOs, it allows better separation of the decision makers from the providers as well as contractual relationships with rewards and penalties depending on performance.

***Greater revenue generation***—E-government facilitates tax collection and public payments, reduces the number of intermediaries involved, and allows governments to more carefully monitor fraud and noncompliance. All this can lead to higher revenue, a critical payoff for many developing country governments that, like Sri Lanka's, are strapped for resources. This payoff is typically the most clearly quantifiable and the most visible to the finance ministry.

**Figure 6.1. Transparency and Accountability in the Provision of e-Services**



Source: Author.

**Linking the Vision to the Long-Term National Development Strategy**

A vision of e-government should reflect the aspirations of the country. The aspirations of Sri Lanka are set forth in the long-term national development strategy, *Regaining Sri Lanka* (Sri Lanka, Government 2002). The aims are to promote public sector efficiency and private sector investment as the key drivers of future growth and prosperity. And they are to respond to the opportunities and challenges brought about by globalization and the information technology revolution.

To achieve those aims, Sri Lanka will enhance its capacity to access, create, adapt, and use global and local knowledge. It will transform its public sector into one that is transparent and focused on results—a public sector that can effectively develop and implement public policy, provide responsive information and services to citizens throughout the country, and effectively use the private sector in the competitive delivery of goods and services.

E-government is a key tool for realizing this long-term vision. It will help unify the country through efficient communication and uniform delivery of public services across all regions. It will reduce the transaction costs of doing business, improve the productivity of the public sector, and substantially increase the quality of services to all members of society. It will facilitate access to public information resources. And it will promote

IT literacy and e-learning at all levels of education and government, accelerating Sri Lanka's progress toward becoming a knowledge economy and information society.

### ***Linking the Vision to a National ICT Strategy***

The government has developed e-Sri Lanka as a comprehensive approach to leveraging ICT for its development strategy, and e-government is a core part of this vision. Indeed, e-government both depends on other aspects of the national ICT strategy—the promotion of the IT industry, the information infrastructure, and human resource development—and contributes to other aspects.

An ICT infrastructure—particularly accessible and affordable telecommunications and public access centers—is essential for making e-government services socially inclusive and accessible throughout the country. Similarly, adequately trained IT professionals and IT-aware managers and political leaders are critical to implementing and sustaining e-government. E-learning for civil servants and government leaders will be needed to support the skill upgrading and change management necessary for successful e-government. A vibrant IT industry could reduce the investment and operating costs of e-government programs. Meanwhile, investment in e-government could help develop a domestic market for IT services and a local IT industry.

Advances in one area should reinforce progress in the others. The e-government vision therefore advocates a strategy that supports and builds on other elements of e-Sri Lanka.

### **Challenges to Realizing the Vision**

None of the benefits of e-government will be realized unless a critical mass of Sri Lankan citizens use electronically mediated services. Ensuring that they do will require transforming the way the public sector does business—by introducing new delivery channels and new ways of interacting with clients, by involving the private and voluntary sector in delivering public services, and by providing the skills, incentives, structures, and financing needed to make it all happen. Achieving this transformation will pose big challenges for leadership and change management.

Apart from a few pockets of excellence, the Sri Lankan public sector has limited awareness of information technology. Government agencies are typically unaware of the huge potential for modernizing government

offered by the ICT revolution. Incentives in the civil service for improving delivery of public services are weak. Frequent leadership changes in the senior civil service and short-term budgetary allocations to public IT projects undermine the sustainability of IT-enabled organizational and process changes. Antiquated laws and regulations make it extremely difficult to reengineer business processes.

Where IT units exist, they are typically isolated and inward-looking.<sup>2</sup> They tend to focus on the acquisition of hardware rather than shaping their agency's business processes and service delivery. Moreover, IT managers and their units often serve as barriers to change. They have a vested interest in stand-alone systems; coordinated services and shared infrastructure or the more recent Web-based technologies may erode their monopoly on information and technology-oriented services.

### ***Meeting the Challenges***

The challenges in modernizing government and creating sustainable e-government services make it critical to secure broad consensus on a vision for change. Central direction is required to integrate the ICT agenda with the national development strategy, to bridge organizational silos, to coordinate public investment in ICT infrastructure, to exploit economies of scale and network benefits, and to prioritize initiatives to reflect the economic and social needs of the country.

Bottom-up approaches and agency-driven programs are unlikely to generate optimal investments, to create seamless services, to manage cross-cutting issues, or to lead to sustainable initiatives. But a centralized approach is likely to inhibit innovation and produce resistance from the implementing agencies. What is needed is a mix of top-down and bottom-up approaches. For an e-government program to be effective, however, the center needs to provide leadership, incentives, and resources.

***Building leadership and capacity***—Vision is necessary for progress, but is not enough. Processes for putting vision into practice are weak in Sri Lanka, just as in many other countries. Top-level leadership for e-government is needed. The Cabinet ministers should be closely involved in leading change, through regular communications and genuine ownership of the change agenda, and should have e-government as a key part of their responsibilities. The ICT Agency should lead and facilitate the process, under the guidance of the prime minister or the president. This leadership should be assisted by a national e-government strategy, including a framework to ensure that resources are directed as effectively as possible and

that departmental applications follow open standards that ensure interoperability and data sharing.

The Ministry of Finance bears special responsibility because of the role the budget can play in prioritizing and disciplining the investment process. This ministry is also a key player because its major financial management systems cut across departments and will be a core part of the e-government infrastructure. The Ministry of Finance should make investments in large systems conditional on their fit within the e-government strategy.

The ICT Agency is not expected to micromanage the process nor to implement e-government projects on behalf of the ministries. Its role is to set policies, establish strategic plans and governmentwide priorities, set key standards, and provide shared resources. Key technical standards to ensure interoperability and security should be made mandatory and enforced by the ICT Agency. The agency should also mobilize the funding for developing and implementing common information infrastructure for shared services. In addition, it should support the sharing of information on best practices and monitor and evaluate program implementation.

To ensure that the service providers have the capacity to deliver services to citizens and businesses, the government will initiate a massive training program for all levels of civil service, starting with the leadership. The focus of this training will range from broad awareness and strategic management of technological change and process reengineering for senior managers to more technical and specialized training for IT professionals. The government may also experiment with incentive schemes and special pay to attract IT skills from within the country and abroad.

In all major public service organizations a chief information officer, reporting to the top leadership, will be appointed. Indeed, it may be preferable to use the term *chief innovation officer* to emphasize the role of this position as a leader of process innovation and organizational change.

***Promoting accountability and trust***—Sri Lanka's vision of e-government seeks to enable people to develop vital skills and easy access to information, to put services on channels that encourage use, to make e-services easy to find and use, and to create trust and security in such services. The government will promote access through such venues as online community centers, workplaces, and schools. It will also work with the private sector and community organizations to promote a variety of other delivery channels. The choice needs to reflect the abilities and preferences of the users of the service—television, the telephone, public kiosks, and community centers all should be used. The Internet will be the backbone of

service delivery, but other, more traditional channels will remain essential to social and economic inclusion.

The government will also promote IT education and training in schools and the workplace and through lifelong learning opportunities. It will emphasize the development of local content, working with local content providers and all government agencies. Initiatives to promote access will be coordinated to ensure that the most important services are made available and that needy target groups are reached.

To promote confidence in e-government services, the government will address concerns about security, privacy, and trust. Sri Lanka will draw on international best practices to reconcile privacy and security concerns with opportunities for information sharing and for coordinated or one-stop services. It will give serious attention to the reputation and trustworthiness of e-government services and to the brand values of reliability, confidence, professionalism, and personalized service. And it will promote the use of e-government services through marketing, to make people aware of the services and the benefits they offer in convenience, time savings, and reliable and faster service.

***Coordinating investment***—For common infrastructure and core applications, funding will be guided by a prioritization framework and an up-front strategic plan. Shared databases and core applications will be piloted and evaluated before scale-up. Investments by public agencies in e-government services will be driven by user demand, so agencies will need to be clear about the levels of demand they expect and how they will meet them. The ICT Agency will be expected to review ministerial plans for e-government investments and provide technical recommendations on their approval to the Ministry of Finance.

### ***Committing to Key Action Steps***

To turn the vision into reality, the government commits itself to

- Establishing and staffing CIO or ICT units in key agencies.
- Ensuring that the ICT Agency provides the technical basis for the Ministry of Finance's budget decisions to finance major ICT acquisitions and core information systems for e-government.
- Ensuring that all ministries cooperate in developing common policies, core systems, and networks across government, starting with people and land databases and the piloting and development of common channels for the delivery of e-government services to citizens.

- Preparing a medium-term e-government investment strategy, including investment in leadership, civil servants, and government business processes to facilitate and manage the necessary changes.
- Developing the ICT governance framework necessary for coherent e-government investments, including policies for ICT procurement and standards, shared information and communication infrastructure, technology and application architectures, change management and business process reengineering, and ICT project management.

### **Lessons Learned: A Postscript**

Much change has occurred since this vision was debated in the Cabinet. The experience points to a few key lessons—about the potential role of aid agencies in helping to articulate such a vision, the critical role of leaders in communicating a vision so that key stakeholders identify with the need for change, and the way political forces can shape and reshape a vision over time.

*Aid agencies should engage with client countries in envisioning the new possibilities opened to effective adopters of e-government.* While the idea of e-Sri Lanka came from the client country, the World Bank, as a neutral external agent, was viewed as a helpful partner in providing a framework for reconciling competing visions and priorities (for a fuller analysis of the partnership, see Hanna 2007a, chapter 2). The World Bank's involvement in the upstream debate and envisioning exercise was unusual in several ways. It called for an unconventional and nontechnocratic view of its analytical and advisory assistance. It engaged the Bank in an open partnership with the client to articulate possibilities and envision a destination.<sup>3</sup> Moreover, it reflected trust in the ability of a World Bank team to contribute to a Cabinet paper that called for sensitive changes and difficult actions. Transcending its usual narrowly prescribed role, the World Bank was engaged in a partnership that aimed to use e-government as a Trojan horse to promote public sector reforms in an environment where direct approaches are not politically feasible.

*Developing a vision can help engage a broad set of stakeholders and thus bridge the gap between public leaders, sector managers, and development specialists on the one hand, and ICT specialists and technology managers on the other.* An e-government vision should be couched in the language of public sector reform and good government, not ICT—focusing on improving performance and reducing transaction costs and regulatory burdens. It is less about “e” and more about government. It is less about internal systems and more about agencies' relationships with clients and partners.

An e-government vision is also future oriented—concerned about governance in an information society and competition in a global, knowledge-based economy. For Sri Lanka it is about government operating in a profoundly different environment, moving from a resource-based to a service-based economy and from a local to a globally connected society.

By using nontechnical language, a vision of e-government can help all stakeholders identify with a desired shared future. This is as true for developing country participants as it is for aid agency staff. When ICT specialists leap directly into ICT plans and projects, bypassing the vision stage, they often alienate non-ICT specialists and potential allies and lose the chance to use e-government as a powerful enabler of development and public sector reform. In contrast, engaging stakeholders in developing a vision can help mainstream e-government into development.

*A vision may raise unrealistic expectations—but without one, policy guidance and political commitment to change will be lacking.* Economies that have been pioneers in e-government have articulated ambitious visions. Singapore's vision is about "many agencies, one government." Canada's Government On-Line is about providing access to federal, provincial, and local information and services through a single window. The United Kingdom's is about "information-age government." And Andhra Pradesh's is about SMART (Simple, Moral, Accountable, Responsive, and Transparent) government.

Do visions such as these raise unrealistic expectations that can lead to frustration and disappointment? Perhaps, if poorly communicated and managed. A vision is an ideal state that cannot be approached without a fundamental change in direction and status quo. It should not promise a quick fix or painless change. It is about mobilizing forces and resources for transformation and expanding the possibilities for change. It involves more than persuasion; it requires the ability to inspire and induce willingness to sacrifice in pursuit of long-term objectives.

The experience of Sri Lanka suggests that managing expectations is a challenge. Targets need to be realistic, and expectations continually managed without losing the energizing vision (see chapter 7). And challenges to implementation need to be explicitly acknowledged in the vision statement and acted on in practice. But bypassing the vision stage would have deprived the government and other stakeholders of a key tool for building commitments to collective action. Some of the shortcomings in implementing e-government and managing expectations in Sri Lanka may be traced to the fact that the vision stage was too short and that subsequent changes in government and senior staffing undermined the initial ownership and communication of the vision.

*Visionary leadership is a key to driving the transformation of public services.* By communicating the vision, leaders help key stakeholders identify with the need for change—and strong, sustained public demand can be a potent force for transforming government. The initial vision in Sri Lanka was communicated by a few leaders—the minister of economic reform, science, and technology and, later, the program director for reengineering government (who later became secretary to the president). To ensure an evolving vision and sustained program, a broad cadre of leaders should be developed, mobilized, and regularly engaged in further development of the vision. Developing a vision is not a one-time exercise, but a regular function that is key in leading change.

*Political forces and frequent changes in government continued to shape the vision and at times undermined its potential power.* The vision of using e-government as a force for unifying the country and building the 21st-century highway was eclipsed by subsequent setbacks in the peace negotiations. Over time, the government became focused on using e-government to rebuild its credibility and deliver services to citizens. With the shift to a populist government in late 2004, government-to-business services took a backseat. The government became increasingly interested in presenting itself as a caring, connected, citizen-centered government, particularly for the rural population.

At the same time, the e-government vision failed to adequately engage a key stakeholder in government—the Ministry of Finance—undermining the push for efficiency-oriented applications for such services as financial management, tax administration, and public procurement. The then secretary of finance, a close ally of the prime minister, shared a vision of transformation through ICT. For more than a decade, the ministry had been pursuing a long-term program to improve budgeting and expenditure control and introduce a governmentwide, integrated financial management information system with the help of the Asian Development Bank, International Monetary Fund, and World Bank.

These activities predated e-Sri Lanka and could have been integrated into a new, overarching vision and strategy for e-government. But the ministry departments implementing the program preferred to continue on their own, with the assistance of the Asian Development Bank, protecting their turf and systems against integration under e-Sri Lanka. Rivalry between the Asian Development Bank and the World Bank also may have prevented a search for synergy.

This was clearly a missed opportunity. The experience of the Ministry of Finance, its consultants, and the funding agencies could have added to the e-government effort and provided a model for other government

agencies in using ICT to transform their performance. Moreover, a vision of e-government that balanced an emphasis on better services with an emphasis on greater efficiency and financial transparency would have engaged the Ministry of Finance as a stronger ally in enforcing the strategic plan for e-government through the budget process. A vision that fails to engage a key stakeholder—mainly because of rivalry over turf—is a weaker vision.

## Notes

1. For a discussion of such leadership qualities, see Zander and Zander (2000).
2. This was the predominant situation at the time the vision statement was being prepared in 2003.
3. For an appreciation of the art of envisioning, see, for example, Zander and Zander (2000).

## CHAPTER 7

# A Strategy for e-Government: Initial Priorities and Lessons

E-Sri Lanka has been driven by a vision of government better connected and more responsive to citizens. But as this vision emerged, a huge gap was revealed between the vision and past performance in applying ICT to public services. What to do in view of this gap and the attendant challenges? Many questions had to be explored before a strategic plan for e-government could emerge.

Where should the initiative start, and whose priorities should it take into account? Should it emphasize public services to citizens or to businesses? Should it start with back-office modernization (for big efficiency gains for government) or online delivery of services (for better interface with citizens and businesses)? Should it focus on a few public agencies (sectoral or vertical applications) ready to deliver quick results and provide demonstrative effects—or tackle infrastructure and common business processes (horizontal applications) shared across government agencies?

How would plans and priorities be enforced and implemented across competing agencies? Should the initiative rely on ICT budget processes and governance tools such as cost-benefit or business case analysis for each investment? Would these tools be enforced? Would they substitute for developing a multiyear ICT investment plan? Given the fast pace of technological change and the uncertainty of the political environment,

would any strategy or medium-term plan continue to be viable beyond the first year?

To address these challenges, the World Bank team worked closely with the government's team. Together, they focused on the basic building blocks of e-government—to redress past neglect in investing in infrastructure and shared services and to capture economies of scale and advances in integration technologies. Improving key public services would require common building blocks—such as networks, data centers, and e-service gateways—and reengineered processes that cut across agencies. In contrast, working with just a few agencies would have reinforced organizational silos and led to more duplication in information infrastructure.

The teams decided to develop a national strategy for e-government, with a prioritized investment plan for the next four to five years. An upfront ICT investment plan was necessary, they judged, because national budget tools and processes would take time to improve and take hold, and the nascent ICT Agency would be unlikely to be able to enforce them. To bring some authority to the plan, it was decided to contract a consulting firm with an international reputation for developing such plans. The authority derived from drawing on international best practices, and from donor backing through financing for key building blocks of e-government, was considered essential to meet initial challenges in implementation.

This approach also suited World Bank practices, because it gave some assurance that a multiyear investment program would be guided by a formal, well-developed strategy. Still, it was recognized that the plan should not be a rigid one and that Bank financing should be programmatic and subjected to regular review and adaptation.

The e-government program that emerged has several main objectives: to promote equitable delivery of citizen-centered government services, to support ICT-enabled administrative reform, to build e-leadership capacity, to coordinate multilevel ICT training of the public sector workforce, to create the enabling policy and governance framework, and to put into place the technology infrastructure for e-government.

This chapter reports on selected outcomes of the strategic planning exercise, covering two key elements:

- Prioritizing and planning e-services while also reengineering the corresponding internal government processes
- Putting into place key enablers, such as e-government policy and governance

The chapter also captures some of the emerging lessons from the already rich experience of early implementation.

## **Planning for e-Services**

The process for prioritizing e-services was an iterative one, guided by both objective criteria and the perceptions of stakeholders. The international consulting firm—NCS, from Singapore—was expected to provide an impartial view of priorities, drawing on international best practices in rationalizing, phasing, and sequencing investments. To capture local knowledge and initial conditions, a local consulting firm was contracted to survey ministries and agencies to identify their key services and stakeholders and the services they perceived as priorities for improvement. A long list of 400 services emerged. Through successive stages of prioritization, this was eventually reduced to a short list of services and infrastructure investments with the highest impact.

### ***Identifying Broad Categories of e-Services***

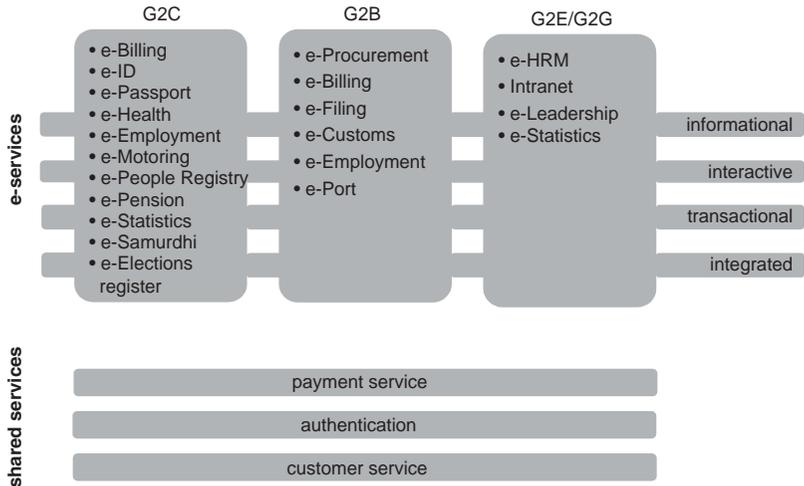
The process began by sorting potential e-government services into broad categories—those for citizens (G2C), businesses (G2B), government employees (G2E), and the government itself (G2G). Underlying these are the shared services needed to help deliver all e-services, such as customer service, authentication, and payment service.

A business services architecture that emerged after a few stages of prioritization identifies e-services in all these categories (figure 7.1). This first, high-level architecture, which defines a concept for structuring the whole environment, is what is needed first—rather than a detailed description of projects and technologies to facilitate consistency of design and implementation across a decentralized program.

***Government-to-citizen services***—G2C services will include providing information and facilitating transactions such as paying bills electronically, making appointments, and renewing licenses. G2C is about giving Sri Lankan citizens the convenience of choosing when and where they access public services.<sup>1</sup> It is about changing the way people view the government. And it is about being transparent and efficient rather than bureaucratic.

***Government-to-business services***—G2B services could include providing information, such as industry standards and supplier directories and ratings, and conducting transactions, such as electronic quotations and company registrations.

**Figure 7.1. Proposed Business Services Architecture for e-Government in Sri Lanka**



Source: Sri Lanka, ICT Agency and NCS project documents.

Note: For a discussion of the maturity levels of e-services (informational, interactive, transactional, integrated), see the section in this chapter on targeting maturity.

G2B is about making interactions, transactions, and communication faster, clearer, and easier for business. Public sector efficiency is especially important to businesses in areas of the economy in which government must be involved through regulation (such as international trade) or the provision of infrastructure (such as building construction). G2B services would reduce the cost of doing business in Sri Lanka. They would also help establish a more flexible and innovative working partnership between government and businesses.

**Government-to-employee services**—G2E services—services or transactions between employees and their ministry or agency—could include information management (intranets), knowledge management (content management systems), and collaborative and communication management (e-mail, messaging systems).

Government employees in Sri Lanka typically work in a culture in which information is considered an asset best kept to oneself. There is little incentive to share information and work as a team. In addition, employees are governed by rules and regulations, and they are expected to comply with these in carrying out their duties. This compliance-centric attitude is often reflected in the way government employees serve the public. Customer service is often quite remote from their minds.

G2E involves changing the culture of public employees from one that is compliance-centric to one that is customer-centric. It is about collaborative learning and knowledge building. It is about transforming the workforce into vibrant, efficient, cost-effective, and responsive agents for the government in serving the public. It is about empowering civil servants as knowledge workers and learners.

**Government-to-government services**—G2G services—services or transactions between ministries or agencies—could include the provision of central services and information.

Because in an earlier era there was no need to collaborate, every public sector organization in Sri Lanka has its own work methods, business processes, rules, and procedures. Computer systems are rarely configured to provide a holistic view of data, knowledge, and resources across agencies. With many disparate systems, each with its own set of data, information becomes inaccessible. With each agency having its own IT unit and IT policies and standards, data definition, collection, and management remain uncoordinated. Even within agencies standards often go unenforced. Lack of information sharing between levels of government further reinforces centralization and weakens accountability and timely feedback.

G2G is about streamlining and automating work and business processes—both horizontally, across government agencies, and vertically, between levels of government.<sup>2</sup> It will involve the concerted effort and cooperation of every agency to align with the governmentwide IT initiatives and to ensure interoperability and data exchange. It will also provide the basis for developing the knowledge management systems and infrastructure needed to transform government agencies into learning organizations.

**Shared services**—To provide reliable and efficient e-services, any government agency will typically need to provide customer support, collect payment online, and authenticate the users.

Customer service is a capability that will be needed for all e-services, to guide and support users. The Sri Lankan government will essentially use the call center infrastructure, providing such support services as a help desk, customer feedback, and responses to customer inquiries—ideally through a single telephone number.

Payment service, a common service to be shared by all agencies, will facilitate online payment for e-services involving transactions. The payment service will prompt the Internet user to select the desired payment mechanism, such as credit card, direct debit, or cash card. This

service will include network connectivity to the relevant service providers (such as clearinghouses and financial institutions) to process the payments electronically.

Authentication service will be needed for e-services that involve information or transactions with security and privacy considerations. This governmentwide service will support Internet-based transactions between the government and citizens or businesses, allowing all agencies to authenticate users of their e-services.

### ***Identifying and Prioritizing e-Services***

The process used in identifying and prioritizing government services to determine which should first be offered online involved several rounds of surveys of stakeholders and analysis of results. These activities can be grouped into five main steps (figure 7.2).

***Step 1: Inventory of government services***—The first step involved conducting a survey in the government to inventory services and collect feedback on three dimensions of e-government readiness in Sri Lanka:

- Government services inventory
- ICT hardware inventory
- ICT policy

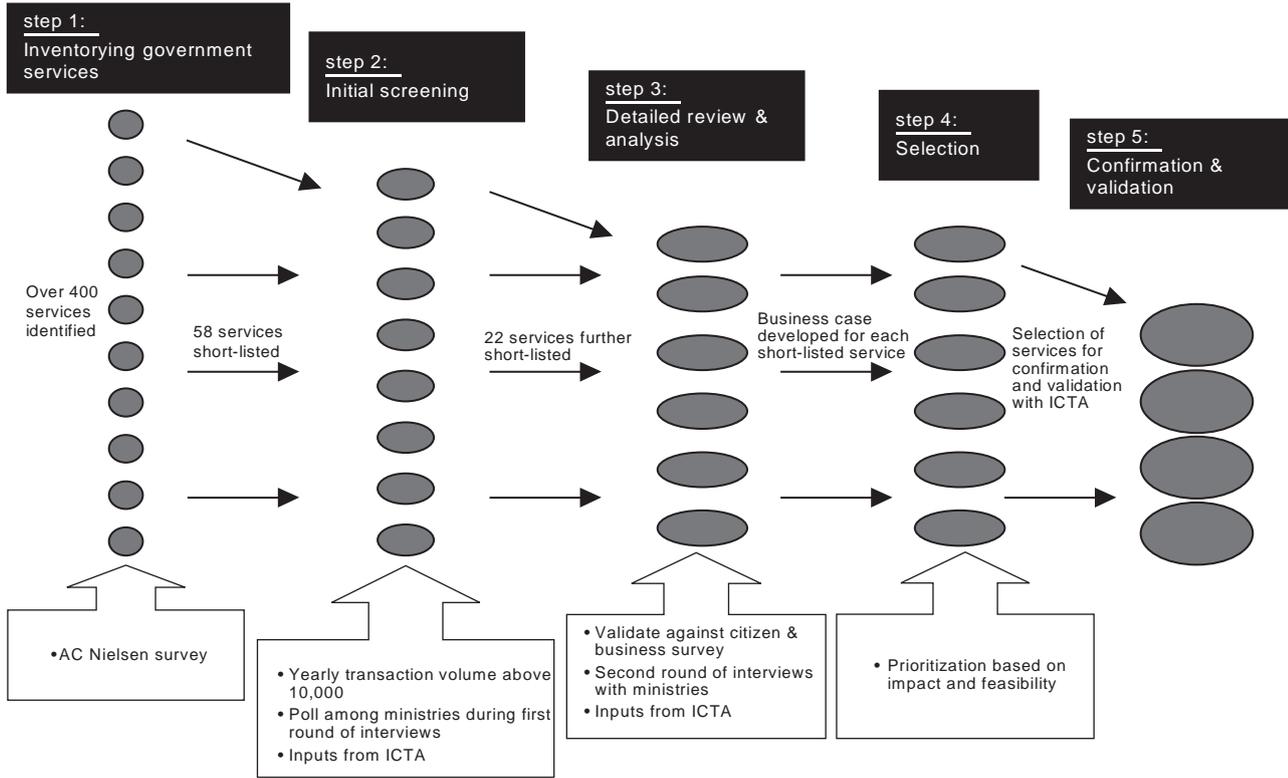
The survey, designed by NCS and administered by ACNielsen, a Sri Lankan firm, was distributed to as many participating ministries and agencies as possible through an e-government workshop. It identified more than 400 government services.

***Step 2: Initial screening***—The second step was aimed at reducing the pool of 400 government services to a manageable size for detailed review and analysis. Services with a yearly transaction volume of 10,000 and above were automatically retained; others were reviewed to identify those that are critical.

In addition, ministry representatives were polled (as citizens) to identify government services that are used frequently and that posed challenges. This was done to validate the initial short list and ensure that it included all critical government services.

After this initial screening, the list was reduced to 22 services for detailed review and analysis.

**Figure 7.2. Steps in Prioritizing e-Services**



Source: Sri Lanka, ICT Agency and NCS project documents.

**Step 3: Detailed review and analysis**—A business case was developed for each of the 22 short-listed services. To validate these services, a survey of citizens and businesses was conducted to determine:

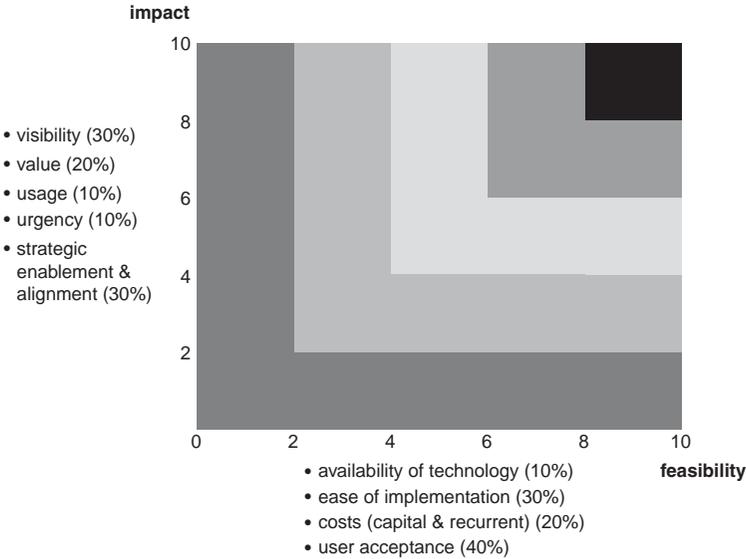
- Which services are most important and most commonly used
- What value these services provide
- What reasons (if any) there are for dissatisfaction with these services

Interviews were then conducted with the ministries responsible for the short-listed services to evaluate the impact and feasibility of offering the services online (see annex 7.1).

**Step 4: Selection**—Criteria were established for scoring the impact and feasibility of offering a service online (see annex 7.1). Weights were assigned to each criterion, and impact and feasibility scores then calculated for each service. The services were then plotted on a matrix based on those scores, generating the initial cut for priority e-services (figure 7.3).

**Step 5: Confirmation and validation**—The final step involved validating the prioritized list of services through the national ICT Agency. While

**Figure 7.3. Matrix for Prioritizing e-Services**



Source: Sri Lanka, ICT Agency, and NCS project documents.

inputs from the ICT Agency were sought throughout the process (steps 2–5), final confirmation was completed at this stage, involving the highest policy levels. The results included services in all four main segments of e-government (table 7.1).

**Targeting the Maturity of e-Services**

Planning for e-services involves not only identifying the priority government services to put online but also deciding what stage of maturity to target. When government departments begin their journey toward e-government, they typically start with simple applications to provide information online. The e-services then generally progress through sequential stages in the maturation of e-government:

- *Informational services.* These include general information, information supplied to the client in the form of instructions, information required by the user in the normal course of life, and information that pertains to the individual user and is likely to be private (for example, the user’s medical history).
- *Interactive services.* These services are more sophisticated, formal interactions between citizens and government in which communication is conducted through e-mail, online feedback, and the like. Interactive services also include the ability to search for records, to download forms and applications, or to submit them.
- *Transactional services.* A government can provide a wide array of services through online transactions, such as enabling users to apply for housing, pay traffic fines, or apply for permits. It is at this stage that e-government becomes functionally interactive and therefore especially useful to the public.
- *Integrated services.* With integration, services become seamless and client focused. Government services are clustered along common needs and linked for ease of use.

**Table 7.1. Selected e-Services Identified as Priorities**

<i>G2C services</i>	<i>G2B services</i>	<i>G2E services</i>	<i>G2G services</i>
E-motoring	E-procurement	E-human resource management	E-statistics
E-foreign employment	E-tax filing	Intranet	E-leadership
E-citizen ID	E-customs		E-population registry
E-divisional secretariat	E-payments		
E-pensions			

Source: Sri Lanka, ICT Agency project documents.

Most of the government services selected for Sri Lanka's e-government program are in the first stage of maturity, with only minimal information available to citizens and businesses over the Internet. Like many countries, Sri Lanka could follow an evolutionary approach in e-government, moving sequentially through the stages of maturity. But for some key services, the strategy suggests leapfrogging to higher stages to more quickly achieve the benefits of deep process transformation and integrated transactions.

Some countries that are latecomers to e-government have succeeded in leapfrogging to higher stages of maturity in e-services. Moving to transactions or even to integration and full transformation involves greater complexity and thus higher costs and risks. But this selective leapfrogging may be possible through leadership, partnership, coordinated investment, and selective adoption of best practices.

### **Building e-Governance**

One of the greatest challenges in implementing e-government is building the "single face" of government—linking ministries, departments, provinces, districts, and divisional secretariats (the lowest level of local government in Sri Lanka), all entities that may have independent authority and statutory powers. Bringing these entities together requires a governance model that balances the need for strong individual leadership with collaborative project development. Such a model should include:

- Clear policies and operating structures to maintain and develop e-government
- A steering committee to set binding principles and standards
- A methodology to justify budgeting requirements
- A strategy for funding e-government projects
- Metrics to monitor the performance of e-government projects.

Three critical parts of the policy framework are e-leadership mechanisms, e-leadership capacity building, and ICT planning and management.

### ***Creating e-Leadership Mechanisms***

To guide implementation of the e-government program, leadership mechanisms are needed both at the national level and in each implementing (owner) agency.

**National leadership**—The institutional mechanisms to lead e-government are an integral part of the overall leadership institutions for e-Sri Lanka (see chapter 2). Besides the ICT Agency and its board, these include a national chief innovation officer (CIO), a CIO council, a national ICT policy council, an e-government program focus group, and a panel of ICT advisers to guide the development of government enterprisewide architecture.<sup>3</sup> The ICT Agency has several roles relating to e-government:

- To develop and monitor the master plan for e-government while also coordinating the e-government initiatives in ministries and departments
- To serve as the central point for approving funding of all ICT-related projects in the government
- To define standards for ICT infrastructure in government
- To partner with agencies to support implementation of their own ICT projects.

While the roles and responsibilities of the ICT Agency in managing the e-government program are defined, it can be creative with its staffing. The agency needs only a small core team of professionals and can engage or contract for expertise in specific ICT areas as needed (see chapter 2 for details on partnership and outsourcing strategies).

A big concern in e-government projects is ensuring consistency in implementation across all agencies. In the past, agencies could typically implement projects on their own without consulting other agencies, an approach that usually leads to the duplication or contraction of government services. One way to avoid this outcome would be to have ICT Agency staff seconded to owner agencies to allow them direct influence in their ICT projects, as was the case in Singapore. If this relatively centralized approach to implementation proved infeasible for Sri Lanka, influence may have to be indirect, through the CIO forum.

**Agency-level leadership**—The strategic plan calls for each government agency to appoint a CIO or the equivalent who reports directly to the head of the agency. Each agency also should have a unit that manages all ICT functions, including planning, funding, implementation, and monitoring of ICT projects (table 7.2).

The basic approach for implementing e-government projects centers on outsourcing. Still, agencies will need some ICT staff to help in planning and operations for e-government projects. In addition, the ICT Agency should have a project management office that promotes good

**Table 7.2. Responsibilities of ICT Units in Sri Lankan Government Agencies**

<i>Function</i>	<i>Description</i>
Project management and outsourcing	<ul style="list-style-type: none"> <li>• Manage the implementation life cycle of outsourced ICT projects (procurement, development, testing, deployment, maintenance)</li> <li>• Manage vendors to ensure that outsourced projects can meet agreed deadlines, functionalities, and budget</li> </ul>
Planning and policies	<ul style="list-style-type: none"> <li>• Define and monitor the ICT master plan for the agency (consolidate the strategies of the user units), align them with the national master plan, obtain technical approval and funding for projects)</li> <li>• Coordinate closely with the ICT Agency to implement policies across the agency</li> </ul>
Business operations (staff familiar with day-to-day business operations)	<ul style="list-style-type: none"> <li>• Operate the ICT systems from the user's perspective and make suggestions to improve the business process</li> </ul>
Delivery teams (vendors)	<ul style="list-style-type: none"> <li>• Provide the services to implement and operate the computer systems</li> </ul>
ICT committee (chaired by agency head, with representation from all units)	<ul style="list-style-type: none"> <li>• Approve all ICT projects in the agency</li> <li>• Serve as review board to track the progress of ICT projects</li> </ul>

*Source:* Sri Lanka, ICT Agency.

practices in and sets policy for project management throughout the government. Besides serving as a center of excellence on project management, this office should also manage the outsourced development of information and communication systems.

One recommendation is to centrally coordinate the staffing of the ICT team, as is done for legal, accounting, and other governmentwide functional services. This would

- Attract the most competent ICT professionals into the service
- Provide career paths for these professionals
- Ensure consistency in providing the professional services

If central recruitment of ICT professionals reporting to the ICT Agency turns out not to be feasible, a ministry could recruit and maintain its own ICT team.

### ***Building e-Leadership Capacity***

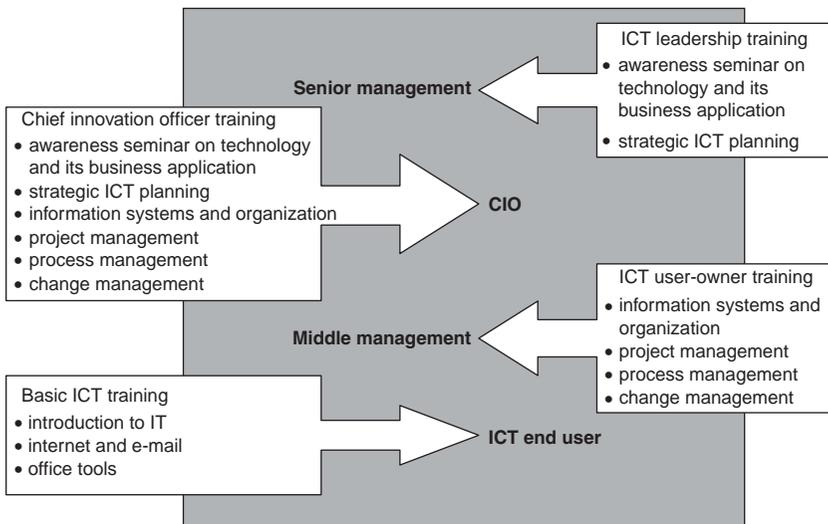
As a new way of delivering services and communication, e-government requires new skills and a different, faster-paced culture. Trained civil

servants are needed to manage an electronically mediated and networked administration. Employees need to be equipped with new skills, competencies, and capabilities to fill new roles and create, use, and deliver new e-services. These skills include contract negotiation and management, project management, relationship management, system security, ability to share best practices, electronic auditing, IT skills training, and Internet use. A system of rewards and recognition is needed to cultivate a culture that fosters an e-savvy and e-enabled workforce.

Building this new capacity in the civil service requires training, which is to be guided by the following policies (figure 7.4):

- All senior management and middle management staff in the civil service will be competent in the use of ICT in their daily work. At least five days a year will be set aside for ICT training.
- Staff expected to be user-owners of ICT applications will undergo separate training to equip them with the skills needed for process and change management.
- All civil service staff with administrative duties will undergo basic ICT training to prepare them to operate the e-government services. The training is to include instruction in basic computer skills, word processing, spreadsheets, use of the Internet, and communication through e-mail.

**Figure 7.4. Proposed Multilevel ICT Training Programs for e-Government in Sri Lanka**



Source: Sri Lanka, ICT Agency, and NCS project documents.

At the governmentwide level, the ICT Agency is responsible for overall monitoring of the training programs. Within each agency the ICT unit needs to take on this role, to ensure that training is relevant, customized, and on time.

### ***Coordinating ICT Planning and Management***

The ICT Agency is responsible for developing the e-government investment plan for the whole of the Sri Lankan government. This master plan provides a framework for the government to map out ICT activities for the next three to five years. Each ministry and agency is responsible for developing its own ICT strategic plan, aligned with the master plan as well as its own business objectives. These plans are approved by each ministry's ICT committee and the ICT Agency's e-government program department.

The ICT Agency and related committees are responsible for approval of ICT projects. Once a project has been approved, funding can be sought from the government or from donor agencies through the regular funding process. The ICT Agency coordinates and monitors all ICT planning activities in the government.

### **Implementation Agenda**

Sri Lanka's e-government initiative involves an ambitious implementation agenda:

- Massive infrastructure projects to be implemented within an aggressively short time frame
- The rollout of a large number of e-government services that require constant prioritization and reprioritization
- Massive change management and training to prepare public servants for the new challenges ahead.

Showcasing quick wins is important to convey the tangible benefits of e-services to the public. But the foundations of e-government, which are long-term and less visible, must not be given second priority. These foundations will potentially support a large number of e-government services and programs. The action plan thus calls for giving early priority not only to implementing communication and information infrastructure but also to introducing ICT policies to enable e-government and establishing governance frameworks for ICT leadership, procurement, and management.

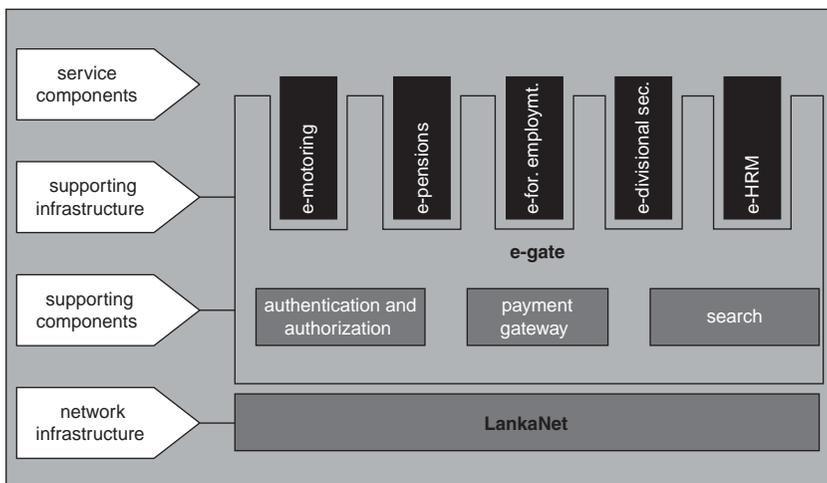
Because of resource constraints, implementation is unlikely to progress uniformly across the entire nation. Moreover, because the maturity of e-government varies across agencies, different deployment strategies are likely to be adopted. Agencies that have undergone earlier phases of computerization may decide to strengthen their IT infrastructure and pilot-test the architecture, while those with paper-based setups may need to make reengineering their internal processes the first priority. As the ICT Agency plays the role of overall program manager, it needs to keep in mind these differences, coordinating projects and ensuring consistency and alignment with Sri Lanka's e-government objectives.

### ***Implementing the First Phase of e-Government***

The first phase of implementation focuses on the general framework of infrastructure and government services that comprise e-government (figure 7.5). Key components are as follows:

- *LankaNet*, a network to facilitate electronic communication across government ministries, departments, and agencies. The network is a secure, reliable backbone connecting all government organizations (initially 325 locations in three phases) through Internet, e-mail, and Internet-based voice services. This network provides the basic infrastructure for the flow of information and supports the reengineering government program.

**Figure 7.5. Proposed Framework for the First Phase of e-Government in Sri Lanka**



Source: Sri Lanka, ICT Agency, and NCS project documents.

- *E-Gate*, a government portal providing access to e-services and the shared services to support them (authentication and authorization, payment, and search services). This government portal will eventually become part of LankaGate, a country portal that will provide a seamless interface to all segments of users—citizens, businesses, and civil servants—allowing them to obtain information and integrated public services from a single portal.
- *E-population register*, a single, consolidated source of information on citizens—a people hub—that should enable authorized public institutions to verify the identities of citizens before providing them services. This national database will support the sharing of information among public institutions and provide reliable, accurate, and up-to-date information while also protecting citizens' privacy through essential controls.
- *E-services*, the government services to be made available electronically. The pilot applications chosen for the first phase of implementation—e-motoring, e-pensions, e-foreign employment, e-divisional secretariat, and e-human resource management (e-HRM)—cover all the main segments of e-government, from G2C to G2G (box 7.1).

### ***Managing the Implementation of the First Phase***

In the implementation of e-government projects, the ICT Agency works with a large number of government agencies. If these work relationships are to succeed, there must be clear arrangements for implementation. Clear guidelines, understood by all stakeholders, need to define the roles and project management responsibilities of the implementing or owner agencies—those responsible for providing the e-services associated with a project—relative to the ICT Agency.

***Project management***—The general policy is that the ICT Agency does not directly manage projects. Instead, several mechanisms play different roles:

- A project steering committee for each project (for example, e-motoring) sets objectives, assesses progress, and makes all project-related strategic decisions.
- A project management committee coordinates overall project management. This committee is made up of the project manager from the owner agency and a senior ICT Agency project manager, who oversees progress on the ICT Agency's end. It may also include heads of agencies affected by the project.

**Box 7.1****Selected e-Services to Be Introduced in the First Phase of e-Government in Sri Lanka**

*E-pensions* aims to increase the efficiency of the pension system, which is plagued by poor service. The project will reengineer processes and develop a comprehensive ICT solution covering all the functions of the Department of Pensions—to ensure that pensioners receive correct and timely payments, have their applications completed quickly, and their grievances resolved faster. It will improve statistics for policy making for a vast program with 2 million beneficiaries.

*E-foreign employment* will handle all the management and operational activities of the Bureau of Foreign Employment—catering to millions of Sri Lankans overseas. The Web-based system will allow Sri Lankan citizens to register for overseas employment and allow those abroad to request welfare support, provide a channel for overseas recruiters and efficient matching processes, speed job approvals, and serve as a resource for training information.

*E-divisional secretariat* will rationalize and automate paper-based processes and digitize manual records to provide timely and effective citizen services through district governments (320 divisional secretariats). The project will integrate three systems—management information, document management, and work flow management—to provide ready access to information and support decision making at the district secretariat.

*E-human resource management* (e-HRM) will build an efficient management information system to be shared by the whole government. It will capture all human resource information for the public service and modernize the processes of the Ministry of Public Administration and Home Affairs, contributing to effective recruitment and utilization of human resources in the government.

**Source:** Sri Lanka, ICT Agency, and NCS project documents.

- A project office is created at each of the owner agencies to carry out day-to-day oversight.
- A user work group provides advice to project managers and allows all stakeholders to participate. Selected CIOs form part of the work group.

The ICT Agency signs an official memorandum of understanding with the owner agency for each project to spell out the arrangements. This memorandum defines roles and responsibilities (particularly those related

to third-party contractors and suppliers), resource commitments, policies and standards, procedural guidelines, and targets for completion and evaluation indicators.

***Financial management***—The central e-government program would not normally finance 100 percent of the investment or operating costs of a project; instead, it is expected to finance only the seed money needed for pilot implementation. The owner agency for the project is thus expected to contribute (budget) most of the investment and operating costs.

The ICT Agency assists owner agencies in preparing official project documents, such as bidding documents, and in obtaining approval for the documents from the relevant government procurement bodies.

***Facilities management***—The memorandum of understanding defines the security levels for hosting and operating each e-government application system. The owner agency is responsible for hosting the application according to the standard, and the ICT Agency audits compliance.

The ICT Agency competitively outsources the hosting and operation of e-Gate, LankaGate, and LankaNet according to model security standards. This outsourcing contract allows the addition of new e-government applications at predetermined levels of security and unit costs. Owner agencies may choose to join the central outsourcing contract, operate their own facility, or directly contract hosting services as long as these services meet the security standards.

## **Early Experience and Lessons**

As implementation of the e-government program began, the focus was on a few high-impact, high-visibility applications, an approach that recognized the limited capacity of government agencies at the time (2005). This approach meant that delivery of e-services could be launched even as work was done to increase capacity by providing training and building a shared infrastructure.

Indeed, the design of the e-government program deliberately provided for scaling the portfolio of applications up or down depending on (among other factors) the responsible agencies' capacity to manage and implement projects. The aim was to use the strategic plan to keep the e-government program focused and prioritized and to carefully manage the scope and expectations in view of the limited capacity and resources.

The experience in early implementation suggests key lessons for Sri Lanka and other developing countries:

- For countries that are latecomers to e-government, pursuing a top-down strategy is an effective way to accelerate the move to ICT-enabled government. A balance must be struck, however, between top-down central direction and local initiative—and getting it right is difficult.
- Quick wins should be pursued without losing focus on the long-term strategy. Balancing short- and long-term imperatives is a challenge that needs to be managed at the highest levels.
- E-government programs must deal with the political context and cycle.
- A mix of evolutionary and leapfrogging approaches may be appropriate, to accommodate political imperatives and differing states of e-readiness when necessary, and to sustain deep service integration and process transformation when feasible.
- Developing e-leaders is a challenge that takes time, and implementation plans need to take their availability into account.
- Priority setting is not a one-time exercise; it should be appropriately led, owned, and institutionalized.
- Public-private partnership in financing and implementation can be a key accelerator for e-government, but needs an explicit strategy tailored to country conditions.
- Thinking beyond technology—and in terms of transforming services—should drive process innovation.
- Aid agencies should facilitate integrated approaches to e-government.

### ***Striking the Right Balance between Top-Down Direction and Local Initiative***

Was a strategic planning exercise necessary to identify and prioritize e-services and develop a medium-term investment program for e-government in Sri Lanka? In hindsight, some might argue that a standard short list of targeted services for citizens and businesses would have been enough to initiate action and guide implementation on several fronts.<sup>4</sup> The experience in Sri Lanka, however, suggests that this bottom-up approach would have missed many benefits and opportunities.

A strategic plan, backed by international best practices and donor financing for key immediate elements, helped build consensus, engender ownership, promote shared understanding, induce policy reforms, enforce priorities, and mobilize resources. It cut short a possibly endless debate about competing investment priorities in the face of pent-up

demand and a large service delivery gap. It provided an objective and transparent process for prioritizing services across government.<sup>5</sup> It ensured that the list of services identified reflected local priorities and the differing states of e-readiness among agencies.<sup>6</sup> Moreover, it gave the new ICT Agency an authoritative tool for enforcing priorities in line with governmentwide needs. In short, the strategic planning exercise was not only about designing a plan or arriving at a short list of prioritized online services, but also about facilitating implementation of the entire program.

Yet adopting a top-down strategy was not without limitations. Pressures to secure the World Bank funding and get the international consultants to produce the plan relatively quickly did not allow adequate time for data collection and broad local participation. Without enough robust data and research on users' needs, preferences, priorities, and capabilities, the planning exercise had to start with many assumptions. That led to a need for an iterative and adaptive process.

The top-down strategy also posed challenges for the ICT Agency. The agency learned that it had limited formal authority to impose its early blueprints—despite its location under the Office of the President. Lacking clear and strong formal authority, and recognizing the importance of ownership by the implementing ministry, the ICT Agency spent more time than originally planned on persuasion and consultation. Moreover, as elections and changes in government led to turnover among senior civil servants, it had to engage in new cycles of educating and engendering ownership. It also had to rebuild its relationships with the owner agencies. Where resistance blocked progress and lack of ownership, the ICT Agency learned to reprioritize or disengage.

The ICT Agency continues to struggle to reconcile its limited capacity with the growing demands from line ministries that it take primary responsibility for developing applications. Should greater capacity be built in the owner agencies? What can be done in the interim while capacity remains in short supply? Which aspects of the e-government program should be centralized, and which decentralized? Countries all over are seeking an optimal level of centralization that is consistent with effective adoption of the technology, the need to secure complementarities among investments, and the prevailing sociopolitical culture.<sup>7</sup> Sri Lanka has to chart its own course.

Striking the right balance will require differentiating among partners and developing partnership frameworks that match the uneven capabilities of the owner agencies. While some ministries are fully committed

to the program, others view the ICT Agency as responsible for the outcome of their e-government applications.

The partnership frameworks also need to be guided by the level of centralization that Sri Lanka has to set for itself. Given its limited resources, the ICT Agency needs to require greater commitment, resources, capacity, and involvement in project management from its partners, the owner agencies. Through the memorandum of understanding, the ICT Agency places ultimate responsibility for the success of a project on the owner agency and offers support and resources conditional on its partner's complying with clearly specified obligations. When this support is extended to project management in selected cases, the memorandum gives ultimate responsibility for decisions to the owner agency's project manager. It also spells out the conditions under which the ICT Agency could suspend funding for a project and disengage.

Another decentralization issue relates to district government. Pilots at the district level showed that staff at that level are often more eager to receive training than those at the central level. Moreover, district government is less prone to staff changes and political interference. Moreover, it has the greatest interaction with citizens and the largest number of services to deliver. To the extent that Sri Lanka is moving toward decentralization of government in general, e-government applications at the district level may assume increasing priority. The challenge is that this level is the least prepared, in terms of skills and infrastructure, to adopt e-government.

### ***Pursuing Quick Wins without Losing Focus on the Long-Term Strategy***

Quick wins proved irresistible to the ICT Agency at times, particularly when they involved an eager implementing agency, a proactive vendor, or augmented funding through private participation. Some quick-win proposals were also attractive because they promised to expose civil servants or the public to new technologies and information-sharing practices—and thus to change the climate for participation and empowerment. Yet by design, the e-government strategy emphasized foundational projects or basic building blocks as first priorities for funding—projects focused on establishing the common infrastructure and architecture for the entire program (such as LankaGate).

Lacking immediate tangible results from foundational projects, political leaders pressed for visible quick wins. The need for such projects was reinforced by the political imperatives of an embattled coalition government. Meanwhile, there were growing demands from agencies and newly appointed CIOs to initiate their own new e-government projects and

score some quick wins. Such demands and opportunities could not be ignored. Empowering potential reformers and innovators to act on local initiatives beyond those mandated by the national plan was important. These new demands, however, risked overstretching the ICT Agency's small e-government team and diverting its limited resources away from the fundamental but long-gestating projects in the strategic plan.

In retrospect, the e-government plan underestimated the pressures for quick wins. It also underestimated the time it takes to develop foundational projects—including the time for building relationships with the owners of the new systems, mapping and reengineering processes, analyzing systems requirements, and managing change. The ICT Agency had to respond to short-term requests from implementing agencies (such as for assistance in developing Web sites) to build the ownership and relationships necessary for longer-term strategic projects.

The political context in Sri Lanka is likely to demand attention to the short term. Yet the strong demand for visible quick wins risks dissipating capacity and scarce resources on isolated and unsustainable successes. While adapting to the political and social context, government reformers and aid agencies need to protect the investments necessary for sustainable solutions and broader development impact.

### ***Dealing with the Political Context***

The frequent changes in government and the peace situation in Sri Lanka have had a profound impact on the pace and priorities of the e-government program. One reason is that it has become difficult to advance public sector reforms that had been expected to proceed in parallel with e-government investments—difficult reforms for which these investments cannot be expected to substitute.

The changing political context has also influenced priorities. As suggested, quick wins have become important to provide success stories and market the e-government program. In addition, changes in government lent more urgency to bringing ICT dividends to rural areas. One example is the Government Information Center, an initiative to share up-to-date information about government services with citizens. This initiative has begun to reach citizens and small entrepreneurs in rural areas who are otherwise isolated and starved for information. (For more on this initiative, see the discussion in this section on public-private partnership.)

Much has been written about why e-government projects often fail, even in developed countries (see, for example, Heeks 1999). Best practices to avoid such failures are emerging, including properly analyzing

requirements, involving users, fitting solutions to users' needs and local realities, ensuring transparent and realistic contract management, and striking a balance between centralized and decentralized management (Heeks 2006a). Yet these good practices are often ignored. Why? Because the political or election cycle determines the horizon of attention: projects are pushed to deliver before the next election, without due attention to users' requirements or local realities. These political drivers influence the priorities for entire e-government programs as well as for single projects. Moreover, they apply with special force in developing countries with political uncertainties and horizons shorter than even a regular election cycle.

To deal with the political context, e-government programs therefore need to synchronize short-term actions with the political cycle even while building the pipeline for medium-term, high-impact applications and long-term infrastructure for sustainable transformation. They need to plan a portfolio of projects with different time horizons so they can pursue evolutionary steps and quick wins even while building the long-gestating foundational projects. Managing this portfolio will require continually rebalancing investment priorities in response to changes in the political economy, political actors, and key stakeholders.

E-government programs cannot be disconnected from political horizons in the hope of allowing stable priorities and efficient management. Efforts can be made, however, to “depoliticize” e-government programs (and complex, multiyear projects) by engendering cross-party ownership, phasing programs into incremental achievements, securing multiyear donor financing, and keeping projects small and simple. Moreover, program managers can maintain a balancing act to allow continual successes and steady progress toward the long-term vision.

### ***Mixing Leapfrogging and Evolutionary Approaches***

In a whole-of-government strategy, a mix of leapfrogging and evolutionary approaches can accommodate constraints in implementation capacity while promoting sustained results over the short and long term. Few governments in developing countries can afford to leapfrog to full integration of all public services and deep transformation of all agencies. Instead, they need promising entry points—key services with a broad impact. Fully implementing these, with the corresponding complex systems and back-end process reengineering, will take time. In the meantime, then, many other services could be improved through an evolutionary process of small steps and incremental quick wins.

Process reform or BPR requires a long lead time, particularly when it involves multiple institutions or the whole value chain. In Sri Lanka, this has been a new practice, and inexperienced agencies have needed much consultation and hand-holding. Most government agencies manage complex business processes that have not been documented or examined for decades. Reengineering these processes has required policy changes and, sometimes, legal changes. Local consultants were inexperienced in process reengineering and change management, and the time and effort required for these activities were underestimated. Though prudent, the procurement procedures of the World Bank proved slow, complex, and difficult to follow. All these factors argue for prudent planning for long gestation periods for large, complex e-government applications.

### ***Developing e-Leaders—and Adjusting to Their Availability***

Developing e-leaders in the Sri Lankan government turned out to be a greater challenge than expected. The government initially selected more than 600 CIOs from government agencies based on nominations from the ministries concerned. The hope was that those selected would become leaders in ICT-enabled process innovation. But most were not qualified to become change agents—because most were technologists, not institutional leaders or service innovators.

Vendors and consulting firms were invited to deliver training to the recently appointed CIOs. Most focused on narrow technical training—hardly appropriate for these officers in their new roles as process innovators and change leaders. Moreover, many different levels of e-leaders are needed, and developing such leaders requires different training modules.

The ICT Agency, in collaboration with local institutes and the World Bank Institute, launched a videoconference training program for CIOs and e-champions. The program invited some internationally recognized chief information officers and thought leaders to share their experience. In taking stock of this program, it has become clear that videoconferences need to be embedded in a broader capacity-building program. They are a cost-effective way to leverage global best practices. They cannot, however, substitute for core face-to-face training, mentoring, and team building—particularly for practitioners and leaders.

Developing CIOs as e-leaders requires more than training. CIOs must have appropriate status, authority, and influence within their agency to fulfill their new role. They need appropriate institutional mechanisms and processes (including budgets and standards) and forums for coordination and knowledge sharing (such as a CIO council) to ensure coherence and

consistency in implementation across government. Moreover, they need adequate compensation, incentives, and career structures.

Special programs are needed for developing top-level e-leaders—the equivalent of secretaries or deputy ministers, who often chair the steering committees for complex e-government projects, act as CIOs or lead them, and define where ICT could be strategically used in their agency or across government.

In Sri Lanka, prioritization schemes could not anticipate or measure the availability of champions and leaders at the agency or service level. Moreover, while agency heads were the primary leaders identified, these actors have often been reshuffled or replaced as the government changed and new political coalitions emerged. Top-down plans must deal with the realities of such changes and their effects on implementation capability and initiative at the agency or local government level.

### ***Institutionalizing the Priority-Setting Process***

Governments all over are using methodologies to identify and prioritize e-government services, and these methodologies are growing in diversity and sophistication.<sup>8</sup> In parallel, as aid agencies such as the World Bank become increasingly interested in funding programs for e-government and public sector modernization, major studies are being undertaken to measure and prioritize investments in e-services.

As noted, in Sri Lanka the government–World Bank team had to finance a prioritization study as part of developing a medium-term investment program for e-government—and had to do so up front and quickly so as to provide comfort to the funding agency, an authoritative plan to the young ICT Agency, and initial consensus among local stakeholders. In retrospect, this prioritization exercise would have been more valuable if it had been used less to provide a final investment plan and more to generate deeper understanding and consensus among stakeholders and greater ownership of priorities among the implementing agencies.

The experience of Sri Lanka and many other countries points to the need to institutionalize the priority-setting process for e-government services. It is tempting to bypass this process to save time and costs—when a strong political leader is confident about which 20 or so most important services to proceed with, and quickly, based on local knowledge or a standard list. Once a major study is undertaken, however, it is tempting to view prioritization as a one-time event, a process that produces a blueprint plan that can remain unchanged for the medium term or for the duration of a donor-funded project.

Using this logic, both countries and aid agencies tend to focus on the techniques to produce a rigorously prioritized investment plan—regardless of who leads or owns the process and in what institutional setting it is applied. Yet priority setting is likely to recur, in response to changes in the political environment, to champions and resistance, and to the piloting and testing of capabilities and commitments.

Experience with e-Sri Lanka (among other programs) suggests that the best way to proceed is to develop the institutional arrangements up front, clarifying the leadership and ownership of the prioritization process, and then use the process to build constituencies, commitments, and ownership. Local capacity to manage this process, and to repeat it when needed, is more critical than the sophistication of the technique or the first prioritized list of services.

### ***Tailoring a Public-Private Partnership Strategy to Local Conditions***

Though Sri Lanka's e-government program is still in the early stages of implementation, with no full transaction-based public-private partnership (PPP) models completed, PPP in implementation is emerging as a key accelerator of the program.<sup>9</sup> Two projects suggest innovative private participation and point to some lessons. One is the Government Information Center, which provides citizens a one-stop location for obtaining information on government services—24-7 and in all three common languages—through either a call center or a Web site. The other is the government network, LankaNet, which provides the infrastructure to connect all core government agencies at the national, state, and provincial levels.

For the Government Information Center, the PPP leverages local private sector infrastructure and capabilities by using existing call centers. A full concession was granted to the private sector to deliver a specified level of services for a fee, with no equity cost to the government. By using private call centers rather than government offices, the project avoids potential problems of corruption, unresponsiveness, and excessive bureaucracy. To compensate for lack of knowledge about government services, the private operators have hired retired public servants to supervise the centers. The ICT Agency played a leadership role in the project, conceptualizing the problem for the government and seeking innovative solutions from the private sector.

For LankaNet, the PPP involves the foreign (Korean) private sector in partnership with the local industry. Each partner leverages its comparative advantage, with the Korean company providing integrated hardware solutions and the local company focusing on training, systems integration,

and help desk and support. The ICT Agency helped broker bilateral aid financing for a fully managed services facility and acted as a catalyst and negotiator to bring about greater participation by the local private sector than has been the norm for the Korean export-financing program.

Several factors made private participation possible in these two cases. First, neither transaction was perceived as privatizing an existing public service or asset—a perception that would have blocked these initiatives given the socialist ideology of the current government. Second, the ICT Agency staff who led their design and implementation came from both the public and the private sector. Those from the public sector knew the public information and processes involved and the likely receptivity of government to these PPPs. Moreover, those from the private sector were aware of the capabilities of the local and foreign ICT industry and the potential for leveraging these capabilities to advance both the e-government program and the local ICT industry. Third, neither project involved major BPR, public sector reforms, or outsourcing of existing public services—change efforts that cannot be openly driven by the private sector under today's sociopolitical conditions in Sri Lanka.

These early experiences suggest that an entrepreneurial approach to developing PPPs may be needed to help build experience and confidence in involving the local and foreign private sector in investing in and managing e-government applications. There were successful PPP models in other sectors in Sri Lanka, but no such models in e-government and no general policy framework.

Private participation in advancing e-government is likely to vary across countries, and every country could benefit from developing an explicit strategy that takes into account local conditions. Such a strategy should draw on experiments with different PPP models and forms and be informed by the views of the local private sector and by emerging international best practices. It also should address common challenges and misconceptions. PPP is about a shift in focus from providing the services directly to managing the service delivery process and the standards agreed with the private operator. Yet it often raises fears about loss of government control or lack of accountability for public services.

The strategy also should be guided by strategic considerations. These include the capabilities of the public and private sectors, the risks the government may wish to share with the private sector, public financial needs and risks, the government's capacity to design and enforce service-level agreements, the likely business models and revenue streams and thus the attractiveness of services to the private sector, the prevailing

political view about the roles of the private and public sectors, and global technology trends and business practices.

Beyond the national strategy, a policy framework should guide public and private sector actors in initiating, planning, implementing, monitoring, and evaluating public-private partnerships. This framework would help mainstream the use of such partnerships to harness the strengths of both the public and the private sector and accelerate development.

### ***Thinking beyond Technology***

The focus of e-government is better government, not better technology. Yet this principle is often forgotten in practice. The main reason is that e-government is typically led by CIOs and technology-focused agencies, not political leaders, policy makers, and business managers.

In Sri Lanka, some of the most innovative initiatives have come from senior public leaders with little knowledge of technology but an appreciation of its transformational potential. The secretary to the president of Sri Lanka—driven by a passion for making government more responsive and connected to citizens—discovered opportunities to capture and share information with little initial investment in technology. One initiative he sponsored is the Government Information Center. By focusing on citizens' needs, information resources, and problems in public sector performance, such innovators have often come up with simple solutions and quick wins. More technologically sophisticated e-government solutions followed.

### ***Facilitating Integrated Approaches to e-Government***

Current practices of aid agencies do not encourage rational and systematic allocation of authority and implementation capacity for major ICT applications within government. Aid-financed projects implementing such applications typically focus on vertical ICT applications in a single sector or agency, without the horizontal infrastructure, common frameworks, and the sharing of resources, capabilities, and other factors essential to sustainability. Pursuing e-government programs project by project can exacerbate problems of coordination and institutionalization. Moreover, a donor bias toward isolated ICT applications may be a key obstacle to adherence to common frameworks for prioritizing investments and open standards for information sharing.<sup>10</sup>

Aid agencies have at least as much to learn as developing countries to make e-government programs effective and sustainable, regardless of the sources of funding. Their focus on vertical ICT applications or agency-by-agency projects without cross-cutting oversight poses a serious reputational

risk. Aid agencies need to think strategically about their role in developing integrative approaches, innovative business models, and budget processes that take into account the whole of government as well as other actors, including other aid agencies, the private sector, and civil society.

## **Annex 7.1: Criteria for Determining the Impact and Feasibility of Offering Services Online**

### **Determining Impact**

To assess the impact of offering government services online, each short-listed service was evaluated and rated on five dimensions: visibility, value, usage, urgency, and strategic enablement and alignment.

#### 1. *Visibility* refers to

- Frequency of use—for example, monthly or annually
- Segment of the population using the service—for example, all citizens, households, tertiary students, or senior citizens
- Number of people who use the service in a specified period—for example, 4 million households pay electricity and telephone bills every month

#### 2. *Value* includes three aspects: value to agency, value to citizens, and value to businesses.

Value to agency refers to

- Improvements in information sharing within and between agencies in terms of speed, availability, and accuracy
- Reduced facility cost, as agencies may not need to maintain office space for counter services
- Cost avoidance in maintaining legacy systems and processes
- Revenue-generating opportunities from charging a service fee
- Process improvements, since operational processes supporting the service will be streamlined to bring about greater productivity and efficiency

Value to citizens refers to

- Improved trust (as customers are able to perform transactions online without fear of privacy or security violations), improved transparency, and reduced possibility of corruption
- Improved access to information on services

- Reduced cost and saved time
- Improved convenience, as citizens are able to conduct transactions anytime and anywhere and to choose among multiple delivery channels—such as agency branches and the Internet

Value to businesses refers to

- Lower cost of doing business, as travel, waiting, and turnaround time is reduced
  - Improved convenience, as businesses are able to conduct transactions anytime and anywhere and to choose among multiple delivery channels—such as agency branches and the Internet
3. *Usage* is defined as the number of transactions over a specified period—for example, monthly or annually.
  4. *Urgency* refers to the immediacy of the need for the service. It may be measured in terms of
    - Critical needs expressed by citizens and businesses, based on market research
    - Dependence of other agencies, or outside expectations of enhanced services provided by the agency
    - An increase in complaints from customers
    - Feedback from forums, dialogues, “meet the people” sessions, and the like
  5. *Strategic enablement and alignment* refers to the extent to which the e-service will contribute toward achieving macro objectives such as faster GDP growth, greater local ICT competencies, greater employment opportunities, and better governance.

## Determining Feasibility

To assess the feasibility of offering government services online, each short-listed service was evaluated and rated on four dimensions: availability of technology, ease of implementation, cost, and user acceptance.

1. *Availability of technology* is described in terms of
  - Proven technology that is stable to adopt
  - Local support—in maintenance and expertise—that is readily available

2. *Ease of implementation* is characterized by:
  - The current state of computerization and ICT infrastructure and the potential technology gap
  - The extent to which process, people, policy, organization, leadership, and information need to be aligned<sup>11</sup>
  - Time frame—for example, the speed with which the online service can be rolled out
3. *Cost* refers to both capital cost and recurrent cost. Capital cost is defined as the amount of capital outlay required by the government and the possibility of employing business models to help reduce that capital outlay. For example, a business model in which vendors are compensated per transaction would contribute to the financial viability of an online service. Recurrent cost refers to the cost of maintenance and improvement.
4. *User acceptance* refers to the propensity of citizens to use the service over the Internet. This is dependent on language, access points, user friendliness, and readiness of users (for example, awareness and Internet access).

## Notes

1. Since few Sri Lankans have access to the Internet at home, intermediaries (Internet kiosks or even call centers) are expected to play a critical part in helping citizens take advantage of e-services during the initial years of e-government.
2. The terms *government agency*, *implementing agency*, *line ministry*, and (e-government project) *owner agency* are used interchangeably in this chapter, to distinguish these entities from the national ICT Agency that provides oversight and coordination for the e-government program. The ICT Agency typically is not the implementer or owner of e-government projects.
3. As of late 2006, only the ICT Agency and its board were in place.
4. One example of a standard list is the European Union's, recommending 20 targeted services for its member countries.
5. Many prioritization schemes, designed for use in developed countries, involve high levels of quantification and sophistication. Care should be taken to use methodologies that are consistent with local conditions, including capabilities and the availability of demand data.

6. For example, the European Union's standard list does not include foreign employment, a major source of income, employment, and remittances for Sri Lanka.
7. For detailed treatment of such issues, see Hanna (2007b).
8. Examples include the value-measuring methodology applied by the United States, the demand and value assessment framework applied by Australia, the economic efficiency assessment applied by Germany, and the European Union's eGovernment Economics Project.
9. A full transaction-based model of public-private partnership would require sharing costs, revenues, and risks with the private sector, not merely outsourcing implementation.
10. A case in point is a recent health development project in Sri Lanka being financed by the Asian Development Bank: it involves major information systems applications, but no coordination with the ICT Agency. To alleviate such problems in coordinating ICT investment, the Sri Lankan government in early 2007 approved a Cabinet paper on ICT budgeting for the whole of government.
11. Institutional leadership was not adequately emphasized by the prioritization methodology. Leadership turned out to be the most important ingredient for feasibility and success. Even when taken into account, however, it is an unpredictable factor, subject to change with frequent political changes.

## Empowering Communities

Grassroots initiatives can empower communities to lead their own ICT-enabled development projects, mobilize their local knowledge and resources, and address their local priorities. Moreover, they can empower communities and the poor to innovate—an end in itself as well as a means to many community development and poverty reduction objectives.

As the initial preparation of the e-Sri Lanka program unfolded, proposals for grassroots initiatives were springing up from civil society, business associations, and academic and training institutions (see Hanna 2007a, chapter 2). These initiatives were fragmented—and unlikely to succeed without partnerships bringing together academia, civil society, and the public and private sectors. Yet such grassroots initiatives were also essential to the success of the e-Sri Lanka strategy.

How best to prioritize and respond to these demands for funding? The ICT Agency had to focus on implementing complex, top-down projects in infrastructure and e-government. It could not afford to dissipate its limited capacity on appraising and promoting large numbers of bottom-up initiatives. The need for a solution led to the idea of creating a fund for grassroots initiatives—an e-society fund.

The aim would be to promote community initiative, learning, and capacity building in using ICT for poverty reduction and social development. It would also be to create cross-sectoral partnerships—critical to promoting social learning and sustainable institutional change (see Wilson 2004). And by identifying simple initiatives for quick wins and mobilizing local knowledge and creativity, the fund was expected to help promote popular enthusiasm and broad ownership for the new e-Sri Lanka program.

The design effort looked first to the lessons of development experience and the literature on innovation (chapter 8). It also drew on the experience of an international grant program, the Information for Development Program, or *infoDev* (chapter 9). The experience of *infoDev* in providing small grants to catalyze innovation in ICT applications for economic development and poverty reduction offers useful lessons. Along with much else, it shows how small-grant funding can be used as a tool for leveraging local resources for innovation.

The design work led to a funding mechanism focused on technological innovation, adaptation and diffusion, not as an end but as a means—a tool that can transform the absorptive capacity of communities, the performance of institutions, the functioning of markets, the potential for partnerships, and the livelihoods of the poor. Early operation of the funding mechanism suggests that this institutional innovation is likely to continue to evolve and become an effective, sustainable means for empowerment (chapter 10).

## CHAPTER 8

# Innovation in ICT Use for Poverty Reduction

The rationale and principles motivating the design of Sri Lanka's e-society fund are drawn from several realms. Experience in economic development shows the importance of bottom-up planning and participatory development. Increasingly, knowledge economies and advanced development strategies are innovation driven. The business literature provides lessons on how to serve the markets at the “bottom of the pyramid” and to engage leading users in innovation. The emerging experience with innovative uses of ICT for social development and poverty reduction also offers valuable lessons in fostering innovation.

### **Bottom-Up Planning and Participatory Development**

Development practitioners have realized, slowly but conclusively, that participation in a project by its primary stakeholders boosts performance. More recently, participation by stakeholders in planning and implementing large-scale national programs also has shown promise. Participation is critical to local commitment and ownership and to local adaptation of technologies and solutions to specific development contexts. Strengthening participation and ownership requires institutional innovations at all levels, such as community-driven development organizations and social funds (Blackburn, Chambers, and Gaventa 2002). Innovation mechanisms

such as microfinance and small grants provide the tools and resources to empower community-based organizations to harness new information and technologies for local problem solving and homegrown strategies.

Formulating and implementing strategies are intertwined, adaptive learning processes (Hanna 1985; Hanna and Picciotto 2002). And studies of both development and corporate planning show that strategies often emerge from bottom-up learning and experimentation (Rodrik 2000; Mintzberg, Ahlstrand, and Lampel 1998). Successful strategies use local knowledge to create local solutions (Scott 1998). And they emerge where people have the capacity and resources to learn. Once identified as promising, pilots, local experiments, and emerging strategies can be evaluated, selectively propagated, and scaled up.

No amount of central planning or international best practice imposed from above or from outside can substitute for agile, systematic learning from local experience. Development strategies and practices must be developed locally, relying on local knowledge, experimentation, and hands-on experience. Top-down, blueprint plans tend to perpetuate dependency and overwhelm local capacity. Meanwhile, practical local knowledge and learning—resources that could enrich the repertoire of development practitioners—remain underused.

Local knowledge and learning are particularly important for ICT-enabled development, because it is still a largely unexplored territory. Much of the know-how for ICT-enabled development is tacit knowledge involving institutional innovation and social adaptation. ICT-enabled economic transformation is specific to local conditions and factor endowments—an area of low-specificity activity in which everything depends on (among other things) context, history, social structure and culture, and local leadership and capabilities.<sup>1</sup> The most critical input will come from people immersed in local conditions. Moreover, the menu of ICT applications available in advanced countries may be inappropriate to the diverse needs of developing countries—let alone those of local communities. There is no automatic “technology transfer.”

Lessons from pedagogy, social learning, and development assistance underline the importance of locally driven development (Hirschman 1992; Schumacher 1973; Freire 1970; Ellerman 2002). These lessons suggest that development professionals and planners (helpers) have to start from where the local actors (doers) are, through incremental improvements and grassroots initiatives. Helpers have to see through the eyes of doers. And they cannot impose transformative change from above. Local actors must be in the driver’s seat.

Financing bottom-up ICT-enabled initiatives can contribute more broadly to local development by promoting social learning, mobilizing local knowledge, and building change-oriented grassroots institutions. Financing mechanisms can be used to build awareness, knowledge, and capabilities at the grassroots level. Institutions such as these—reinforcing and reinforced by social capital and trust—are at the heart of development (Hirschman 1992; Fukuyama 1995).

Social capital matters for the effective implementation, widespread uptake, greater social inclusion, and sustainability of ICT initiatives such as the e-Sri Lanka program. Bottom-up initiatives integrate hard and soft technologies for development and capture local assets and tacit knowledge much better than top-down and uniform initiatives. They help create trust, shared vision, enabling networks, and expanded possibilities among otherwise vulnerable populations.

### **Serving the Bottom of the Pyramid**

Serving the bottom of the pyramid with ICT-enabled development solutions presents many challenges (Prahalad 2005). Many poor people not only lack access to ICT; they also lack ICT applications suited to their needs. Pilot projects have demonstrated the utility of ICT in many fields. But more concerted efforts and more effective mechanisms are needed both to develop new ways for ICT and digital content to meet social needs and to scale up and diffuse such applications.

Grant-funded, relatively small projects have a potentially important part to play. And there are strong arguments for subsidies for such efforts. One is pump priming. Investments in ICT infrastructure and applications appear to have positive returns to scale, so that initial returns are lower than average returns over time. Subsidies for start-up costs can therefore speed the initial learning process. Another argument rests on equity concerns. Many ICT applications that benefit the poor help meet basic human needs more fully and efficiently. Yet another has to do with the strong externalities of pilot and demonstration projects. Such projects have positive effects not only for their own direct beneficiaries; through the lessons they provide, they also have positive effects for those of other projects.

Emerging business strategies also offer lessons on potential ways to promote ICT use and adaptation to address development and poverty challenges. Innovative business thinkers and strategists are exploring ways to partner with the poor in developing products and marketing strategies

that serve the needs of the bottom of the economic pyramid. Consisting of 4 billion poor people living on less than two dollars a day—the majority of the population in developing countries—this is a potentially huge market.

Serving this market requires new strategies for creating, marketing, and distributing products and services. Such schemes as prepaid cards have helped spread the use of mobile phones among poor people across the developing world; the Grameen phone has done the same in Bangladesh (see Prahalad 2005, 14). Telecenters such as e-Choupal, launched in India by one of its largest private companies, ITC, allow farmers to check prices and improve their margins. Innovative microfinance and purchasing schemes have expanded the capacity of the poor to consume.<sup>2</sup>

Guiding such innovation are some common principles<sup>3</sup> Serving this market requires engaging NGOs and local community-based organizations in cocreating new products and services. It requires focusing on price performance. And it requires hybrid solutions—blending advanced technologies with traditional ones. Moreover, to serve the large markets of poor populations, solutions must be scalable, adaptable, and transferable. Innovations must conserve on resources and build on local advantages. And they must take into account local skill levels, infrastructure quality, and access to service. Also important is investing in consumer education on the use of products.

Many of the emerging business strategies and guiding principles for serving the bottom of the pyramid can be adapted to community-driven application and adaptation of ICT for poverty reduction.

## **The User Innovation Revolution**

Recent business experience also points to a “user innovation revolution,” as companies increasingly recognize the role of customers in product innovation and adaptation (Leadbeater 2006). Traditionally, consumers have been viewed as the final link in the value chain—free to choose between products but with little say in their design or creation. Innovation was assumed to come only from companies. But recent literature suggests changes in the behavior of both consumers and companies.

Consumers, once passive, are becoming adaptors, inventors, and innovators. They are contributing to the way in which products and services are developed and produced. Meanwhile, companies are learning to identify and work with groups of leading users. They are removing barriers to user innovation, providing easy-to-use tools and incentives to innovate,

creating settings for testing prototypes, and fostering supportive communities for sharing ideas.

This experience is relevant to community-driven application and adaptation of ICT in developing countries. ICT producers and suppliers are just beginning to understand the communication and information needs of poor people and rural communities in developing countries. Mechanisms to engage these groups as coproducers and coinventors could help overcome the cultural, institutional, and skill barriers to realizing the potential of ICT applications in developing countries. Such mechanisms need to start with respect for the poor as cocreators, and treat local NGOs and poor communities as important partners and joint problem solvers.

A new innovation paradigm is needed—a pro-poor, user-driven process that democratizes innovation (Von Hippel 2005). Innovation funds, research institutions, and national innovation systems have focused mainly on advancing the technology, not on understanding the needs of users, particularly those of poor people and small enterprises. Just as the promise of the green revolution for small farmers depended on adapting agricultural technology to the many varied social and ecological settings where it was applied, so the promise of the ICT revolution for poor people depends on adapting information technology to its many varied settings. That requires partnerships between government, business, academic institutions, and community organizations to cocreate value and services for the poor.

The lessons from engaging users in innovation can be extended to the design and delivery of e-government services. Advanced e-government programs have learned to engage leading users in codesigning new e-services and providing continual feedback on these services. Canada's use of citizen feedback and focus groups is a best practice. Moreover, because the adoption of online services depends on widespread e-literacy and the creation of information culture, e-government programs rely on parallel advances in promoting digital awareness and literacy among a large segment of the population. Digital literacy prepares citizens to engage as informed users in cocreating and improving e-government services.

### **Demand-Driven ICT-Enabled Development**

Mainstreaming ICT in development assistance requires subordinating the technology to more fundamental development objectives. Yet the potential contribution of ICT cannot be identified and realized solely

through top-down mechanisms. Linking ICT potential to local development problems and strategies requires holistic frameworks and local capabilities—capabilities of local institutions to “discover” and harness this potential within the local context.

Holistic frameworks such as the Livelihoods Framework can help communities and aid agencies view ICT in the wider information and communication environment in which technologies operate and move beyond top-down, technology-driven approaches to the diffusion of technology (see, for example, Duncombe 2006). The Livelihoods Framework provides a way of thinking about the poor as operating in a context of vulnerability, with access to certain assets and capabilities, mediated through prevailing institutions and social processes. It may be adopted to focus action and innovation on ICT applications and information used within livelihood strategies of the poor: to serve immediate information needs such as for improving agricultural productivity and market opportunities, to strengthen longer-term social capital assets, and to develop other local assets. Such approaches encourage the holistic understanding of information as a cross-cutting resource and ICT as integral to development and livelihood strategies.

Financing local, grassroots ICT initiatives can help empower NGOs and communities to pursue innovation and learning about the uses of ICT for development. As a new and general-purpose technology, ICT must be “rediscovered,” enacted, and adapted to different social contexts (McNamara 2003; Fountain 2001). While there is substantial anecdotal literature on ICT for development, little of the practical knowledge has been codified. Investment in local learning and experimentation is needed to make this practical knowledge accessible and relevant at the local level.

Financing of ICT innovations for poverty reduction must also empower users and local NGOs to address market failures and other constraints. ICT markets are highly imperfect, particularly in responding to the needs of the poor. ICT multinationals face relatively weak incentives to meet the information and communication needs of those at the bottom of the pyramid. Lack of resources and partners constrain innovation and adaptation as well as the scaling up and diffusion of innovations relevant to poor people and rural areas.

Nor has public research and development (R&D) funding for the ICT sector of developing countries been oriented toward the needs of the poor. Instead, it has been driven primarily by the priorities of the ICT industry—the suppliers and exporters of ICT. Yet most developing countries stand to benefit more from the effective use and wide diffusion of ICT among the key sectors of their economy than from mere production

and export of ICT products (see, for example, Hanna 2004, 1994, 1991). To maximize the exploitation of ICT as an enabler for the whole economy, public R&D funds for ICT should be directed to local adaptation needs in the user sectors with the most promise for national development. Funds should also be directed to empowering local users and communities to enact and adapt the new technologies to meet local priorities for development.

Realizing the potential benefits of ICT applications is not an automatic process. It requires substantial R&D for adaptation, experimentation, and localization. Mainstream ICT products have been designed almost wholly for industrial countries and their physical and human capital endowments. These designs, which rarely reflect the capital mix of lower-income groups in developing countries, pose major barriers to small enterprises and local NGOs in adopting such applications as e-business. R&D can help lower the complexity barrier and increase the affordability and sustainability of ICT uses for schools, small enterprises, local governments, NGOs, and community-based organizations. R&D is also essential for improving access and use by poor people and rural communities.

Adapting ICT to local needs calls for a government role that promotes incremental innovation—continual improvement of products and processes. Incremental innovation is critical to national competitiveness. The cumulative and pervasive effect of incremental innovation in ICT use and adaptation is likely to outweigh the effect of major “disruptive” innovations or ICT inventions. Disruptive innovation stimulates demand for the highest engineering skills, but it is risky and costly for most developing countries. Moreover, it may divert scarce research resources and talents away from the challenges of adapting ICT to the pressing needs of the majority of the population. Small-grant funding for communities, NGOs, and small and medium-size enterprises is particularly suited to stimulating continual adaptation and incremental innovation of ICT applications for poverty reduction and community-driven development.

## Notes

1. See Fukuyama (2004) for discussion of high- and low-specificity activity in development.
2. ITC is an Indian subsidiary of British American Tobacco, a diversified multinational. The ITC e-Choupal story, a profitable rural transformation, is detailed in Prahalad (2005, 319-57).
3. The guiding principles here are adapted from Prahalad (2005).



## CHAPTER 9

# Financing ICT Innovation: Lessons from InfoDev

The Information for Development Program (*infoDev*), a multidonor grant facility managed by the World Bank, operates internationally, and it had its start relatively early in the development of information and communication technology. Nevertheless, it was expected to have similarities with—and to offer useful lessons for—Sri Lanka’s e-society fund.<sup>1</sup> Like the e-society fund, its aim is to promote innovation in the use of ICT for social and economic development.

*InfoDev* was established in 1995 by the World Bank, in collaboration with the private sector and bilateral donors, to explore the unprecedented opportunity for developing countries expected to come with the advances in telecommunications and information technology. Its objective is to ensure that developing countries are able to benefit from the new innovations and to participate fully in the global economy.

The program was founded out of a belief in the potential of ICT applications for grassroots development. Because it was not known what applications were needed and which would work, the program was to follow a “demand-driven” approach. (In practice, demand had to be stimulated in areas where there was little knowledge of ICT use.) Proposals have come from a range of organizations—NGOs, the private sector, academic and research institutions, international organizations, government agencies—and *infoDev* has funded several hundred projects. Its broadly

inclusive definition of target areas has laid the groundwork both for technical support to ICT policy and regulatory processes and for grassroots programs such as e-commerce in rural areas.

A critical part of *infoDev*'s mission is to disseminate lessons and findings from projects so that others can replicate successful efforts. Drawing and disseminating lessons has proved difficult and has required significant investment of resources. Nevertheless, the projects the program has sponsored have contributed to the growth in ideas and have inspired the effective use of ICTs in many countries—and continue to inspire new efforts.

To benefit from the guidance offered by *infoDev*'s experience, the e-Sri Lanka design team initiated a review of that experience to

- Identify conditions for generating development impact through small grants for ICT applications that address social needs
- Draw lessons on the grant-making process—from soliciting proposals to administering grants and evaluating projects
- Recommend ways to incorporate these lessons into the structure, strategy, and design of Sri Lanka's e-society fund.

The review showed that much can be learned about good practices in small-grant making from *infoDev* and similar programs, allowing new programs to avoid costly learning and having to “reinvent the wheel.”

### **Conditions for Ensuring Impact by Small Grants**

Ensuring that small grants for ICT activities have impact requires broadly determining where they should be applied (and where not); laying the foundations for scale-up, replication, and sustainability; and creating effective partnerships with the right partners. It requires attention to the details of the duration and size of funding. And it can include learning from the failures of earlier grant-funded projects. Designing ICT projects to ensure development impact should draw on good practices and lessons learned, such as focusing on solving a development problem rather than delivering a technology (see chapter 8 and box 9.1).

### ***Using Small Grants to Leverage Other Resources***

Small-grant funding is a tool for leveraging other resources for innovation—local ownership, local knowledge, local partnerships, local capacity to articulate needs. Grant funding leverages the skills of local organizations and entrepreneurs who have the necessary know-how and mandate but lack

**Box 9.1****Good Practices in Designing and Implementing an ICT Project**

Developing successful ICT-for-development projects requires following good practices in their design and implementation—practices that should be considered before the project starts or even before funding is sought. To be effective, such projects should

- Focus on meeting a need or solving a problem—rather than delivering a technology
- Identify low-cost solutions to the problem
- Be demand-driven, not supply-driven, so the solution is adapted to the problem and not the other way around
- Take advantage of complementary growth in infrastructure
- Understand the target group and design the project accordingly
- Work actively to include all categories of the target group in the project
- Focus on sustainability from the beginning
- Plan for evaluation of outcome and impact from the beginning
- If a pilot project, include a demonstration and dissemination plan.

*Source:* Author.

funds. It provides seed funding for pilots and new ventures as well as for feasibility studies in unexplored areas. It also leverages *other* grant funding, hedging risk for donor organizations.

It follows that small grants usually should *not* be applied where

- Risk capital should be available, such as in practices already shown to be commercially viable.
- Projects are so large that the grant provides only a marginal addition to funding.
- The grant is the only source of funding for the project, so it funds all operating costs for the implementing organization, and there is not even an in-kind contribution.
- The project does not appear capable of delivering the kind of leverage intended—because the project plan is unrealistic or inadequate or because the proponent is incapable of carrying out the plan.

Small grants can also be an effective tool when funds cannot be distributed through official channels (for example, when the donor needs to find alternative distribution channels to avoid empowering already corrupt officials).

Grants should be regarded as a gift to the recipient and should not be used in place of contracts to purchase services. The grant-making organization should feel that it will achieve its own purposes by enabling the recipient to fulfill the purposes for which the grant was made.

Like many philanthropic and donor organizations, *infoDev* uses its grants with the aim of generating public goods. These public goods potentially include the reduction of poverty among a project's direct beneficiaries. More often for *infoDev*, the main public good reaches indirect beneficiaries, through broad dissemination of the lessons learned from a project.

### ***Planning for Scale-Up and Replication***

Grant-making organizations typically fund an innovative pilot project to test new ideas. If successful, the project is often expected to lead to scaling up (expansion of the project in the same country or region) or to replication (application of the same model elsewhere).

New ideas proved to be useful in ICT pilot projects may also be disseminated by other means, such as conference presentations, formal publications, informal communication, and course curricula. For *infoDev*, dissemination has occurred far more often through these means than through scale-up or replication. Another dissemination strategy centers on demonstration projects. These demonstrate technological, service, or process innovations—already known to work in other settings—in new settings where they are expected to be useful.

Where scaling up or replication is the goal, active investments are needed in learning and evaluation. Many *infoDev* projects that were intended for scale-up or replication lacked the strategies, communication structures, and resource commitments needed to ensure that outcome. When parallel initiatives were undertaken by other donors, and too little attention was paid to learning and evaluation, it was impossible to know which were more cost-effective, had greater impact, or were more sustainable.

Even so, many *infoDev* projects have been scaled up or have served as models for others. These appear to be projects that were anchored in the local or regional establishment, that were dissemination activities in themselves, or that actively disseminated their findings through conferences, newsletters, Web sites, and the press.

Neither dissemination nor replication occurs by itself. Pilot projects need to develop a plan for communication: How will others learn about the project, and how can its merits be effectively described and communicated? Publishing information on a Web site or in a newsletter is not enough. The plan must identify which groups to target and when and how dissemination will take place. Dissemination plans should be made not only by grant recipients, for their grant-funded projects, but also by the grant-making entity, for the body of information generated by its grants.

### ***Laying the Foundations for Sustainability***

Small grants are useful to fund start-up costs for new programs extending ICT access to the poor or using ICT for new services benefiting the poor. For such programs, the ability to sustain operation after the start-up has been completed is fundamental. Small grants are also useful to fund tests, studies, and other activities that can and should be terminated when completed. The hard part, of course, is to distinguish activities that should be sustained after grant funding from those that should not be, and to plan accordingly.

Projects that are to be sustained must have a plan for financial and institutional sustainability from the start. Many ICT start-up projects have had sustainability problems because they failed to develop a model for continued operation before getting launched. Telecenter projects have been particularly prone to sustainability problems, often because of a poorly defined business model. Telecenters that needed to be run as a business to achieve sustainability were not run according to sound business principles—and where sustainability depended on further funding, commitments from potential funding sources had not been obtained in time.<sup>2</sup>

Continued reliance on subsidies from government or donors is an important option, but only for services that justify subsidies and are managed by organizations (such as international NGOs) able to raise such funds. Philanthropic donations are almost always limited to a few years of operation.

Since government and donor funds are limited, the only real options for financial and institutional sustainability seem to be the following:

- Developing a viable business model, as either a for-profit or a not-for-profit entity
- Developing the project within the framework of government, as part of a larger scheme that has government funding, or eliciting government subsidies at an early stage

- Using community-based organizations, consumer or producer cooperatives, or similar collective solutions
- Relying on mixed financing, by combining resources from fees for service, in-kind contributions from users or the community, and subsidies from government, aid agencies, or philanthropy
- Engaging the implementing institution from the beginning, to ensure institutional sustainability<sup>3</sup>

Sustainability is a critical issue when evaluating a proposed project and the qualifications of the proponent. Some of the best proposals *infoDev* receives come from NGOs that go from grant to grant and seek funding for projects to sustain themselves. Some of these organizations implement projects very successfully, ensuring local ownership and other good practices. Others, however, implement a project and then simply move on to the next, leaving loose ends.

### ***Creating Effective Partnerships***

A range of partners have appropriate roles to play in ICT-for-development projects—government, corporations, academia, civil society, and multilateral institutions and international agencies.<sup>4</sup> The key to making the partnerships effective appears to be ensuring that each partner contributes a critical resource to the project—contributing what it knows best or can deliver at least expense—and has a stake in the project.

For private companies, the optimal role is rarely that of donor. While *infoDev* initially sought support from the private sector in the role of investor or sponsor, attracting private companies to this kind of partnership turned out to be difficult. The incentive to become involved as donors was weak. And large corporations seemed to prefer to start their own initiatives, allowing them to retain control and create greater corporate visibility.

Other potential roles for the private sector are emerging, more closely related to the private partner's core business—to invest, to develop technology, and to expand markets. Private companies have participated in *infoDev* projects as technology suppliers and as implementing organizations.

The private sector, especially small and medium-size firms, can also contribute to development through “social entrepreneurship.” Datamation, an Indian information services company, has shown that it is possible to hire the most disenfranchised, with no prior skills, and train them to be fully productive—on entirely market-based terms.<sup>5</sup> Examples such as this could be replicated—though it requires that development partners demonstrate to other companies that the strategy is possible and profitable.<sup>6</sup>

Providing grant funding to private companies is a complicated issue—though private companies are not the typical proponents. Among the hundreds of proposals submitted to *infoDev*'s core program, only a small share were submitted by private sector proponents—and an even smaller share of these were approved. Care must be taken to ensure that a project does not give the private sector proponent an unfair advantage or enable it to crowd out competitors. Moreover, providing grant funds to activities expected to be profitable in the future is sometimes difficult to justify.

Partnerships representing local presence and community support are sometimes critical for success. Projects implemented by only one organization, typically an NGO, can be successful if the organization has the skills, resources, and outreach network required. But if that one organization is an international NGO or company with no local outreach network, the project is likely to fail.

For “public sector” initiatives, *infoDev* has increasingly selected projects that demonstrate tangible government support and involvement. Requiring formal endorsement letters or other evidence of government support with the proposal is useful, to safeguard against the risk that the support will never materialize.

### ***Choosing Effective Implementing Organizations***

To succeed, a grant-funded project must have an effective implementing organization. That requires, first of all, that the organization have knowledge in the sector and area of application. An organization implementing a project to improve rural health care, for example, should demonstrate a prior understanding of the processes involved, including the conditions for rural health workers.

The implementing organization also must have a certain level of technical savvy. Some projects have been poorly implemented because the grant recipient and its partners lacked the knowledge to make effective technology choices. Understanding the technology includes understanding how it will interact with the local terrain and market. For example, will satellites be inoperable because of frequent bad weather? Will generators be needed to compensate for frequent electricity cuts? Will it be possible to get the appropriate licenses? Will maintenance of the chosen technology be affordable?

The best guarantee of competence might be an experienced leader. While a strong organization or support network can sometimes compensate for lack of experienced staff, leadership is critical. Besides a competent leader, the organization should have the ability to mobilize and manage

social support and the involvement of the local community and any project partners. And for projects that involve transactions, the organization will usually need minimum business skills.

Beyond technical qualifications, the requirements are the same as for any development project: The implementing organization must have a genuine interest in achieving development goals and the resources to carry out community mobilization or other participatory exercises. Its staff must have a clear understanding of the circumstances in which the project will operate, to anticipate risks or obstacles. And the organization should have sound accounting practices and reporting mechanisms in place before opportunities for misconduct may arise.

### ***Allowing Adequate Time for Implementation***

Implementing a grant takes time. For *infoDev* projects the typical time frame is one to two years. But projects commonly need an extension of the grant agreement. The reason for delay is often that activities—such as informing the local community, conducting baseline studies, or mobilizing local support—take longer than expected.

As a rule of thumb, a time frame of less than one year is unrealistic for a project with a complex plan and multiple activities. Keeping this in mind is particularly important for projects involving a sequential flow of activities—so that one is a prerequisite for another—and for those dependent on promoting awareness in a village or community.

Beyond what is practical, there is probably no maximum time frame for implementing a project. Continuity of staff may be a problem, and longer projects probably cost more in supervision. But any project involving a local community will take time to implement and, certainly, to evaluate. Indeed, the real impact of a project is likely to be measurable only after—perhaps long after—implementation is completed and funding has ceased.

All this means that schedule management is a critical part of managing a portfolio of grant projects. Project proponents are often too optimistic about the speed with which they can achieve their goals. In a portfolio of grants expected to be completed in two to three years, many may still be active in the fourth or even fifth year. The grant-making organization must manage its staffing and budgeting accordingly.

### ***Getting the Size Right for Grants***

Getting the size right for grants is important—both for the range of grants and for each one. Proponents can generally be expected to achieve

more per dollar with smaller grants. But this consideration must be balanced against making grants large enough to attract good applicants (there are always other sources of funding) and being able to manage the portfolio. The more grants are made, the more resources a program must have in place to monitor and evaluate them.

The minimum grant might be a size that is just economically meaningful to administer, and the maximum a size that can still be considered a small grant. *InfoDev* has set its upper limit (beyond which direct approval from its donors is required) at US\$250,000. Interestingly, many projects proposed have been in the US\$245,000–250,000 range. So, it is useful to think carefully about what a “good” size might be—proponents are likely to aim just under the maximum.

What size is appropriate for a particular grant depends on the activities, and a program can better assess this question as it gains experience. Early in its existence, *infoDev* approved projects that later seemed possible to carry out at much lower cost. Both *infoDev* and proponents were apparently going through a learning process. Later, *infoDev* more closely reviewed and negotiated proposed budgets, reducing the average grant size and allowing funding for more projects. To ensure cost-effectiveness, it is useful to maintain a healthy skepticism about all costs, but perhaps especially such costs as hefty travel budgets or equipment that could be considered nonessential.

### ***Requiring Cost Sharing***

A grant program should require cost sharing by its implementing partners—grant recipient, project partners—and, if possible, cofunding by other donors to ensure that

- There is local ownership and buy-in
- The implementing agency has a stake in the project
- Resources are managed economically
- There are resources available to sustain the project
- Grant funds cover only direct costs of the project, not organizational capacity
- Other donor resources are complemented and leveraged, to maximize sustainability.

Cost sharing can be financial or in kind. Project partners often contribute knowledge, a skill, a technology, or use of their networks or premises.

Community-driven projects should ensure cost sharing by the community. Surveys and practice suggest that a 10–30 percent share is reasonable.

The community may be able to contribute only a small share (perhaps 5–15 percent) financially, with the rest in kind. Even in the poorest communities, however, it is possible to generate cost sharing if there is buy-in.<sup>7</sup>

In-kind contributions—staff, labor, use of office premises, and the like—are difficult to appraise. Grant recipients therefore unavoidably use a great deal of “creative accounting.” To cope with this, a grant-making organization must require transparent reporting and be able to identify when something is wrong. The smallest of signals might offer a clue, such as funds not being used for the right activities.

For an experiment, a demonstration, or a feasibility study, cost-sharing requirements might be relaxed or reduced, but *some* resource commitment is always necessary. Some projects clearly do not involve an entire community or are not location specific. In such cases, cost-sharing requirements should depend on who the proponent is and whether this organization could be expected to contribute funds. If a local government office seeks grant funding for a feasibility study on a government information system, for example, the grant program might fund 100 percent of direct marginal costs. But the government office should still be required to contribute staff resources and senior staff time to the evaluation of results and outcomes.

### ***Learning from Failure***

Funding innovative pilots is inherently risky. Many highly innovative pilots will fail, and this fact must be clear to donors and others. It might help to apply a venture capitalist’s outlook—if 1,000 innovative projects are possible, 100 will be proposed to the program, 10 can be implemented, and one will be sustainable.

Failure to achieve the objectives of a project, however, is not always failure in a larger sense. A project may “fail” in many different aspects and still be worthwhile if it leads to learning. Perhaps people in the village where the project took place learned more about ICT and undertook better ventures on their own. Perhaps someone improved on the project and replicated it elsewhere. Or perhaps the project, by proving an innovation to be ineffective, led someone to avoid investing in replication.

Indeed, it is sometimes argued that we can learn more from projects’ failures than from good practices. While this is true to some degree, it would be even more so if we could identify *true* failures—projects whose design and implementation followed good practice, yet still failed to deliver on their objectives. Such failures are not easy to detect, however, and their causes probably cannot be analyzed without in-depth case studies.

Among its hundreds of projects, *infoDev* has seen many that had large and obvious problems in implementation. And many failures probably went unreported by grant recipients. Grant-seeking organizations have strong incentives not to report failure, because doing so would reduce their chances of obtaining a future grant.<sup>8</sup> Given the law of unintended consequences, however, there are probably also many unexpected successes in the form of outcomes that were not anticipated.

Failure by *infoDev* projects to meet objectives rarely appears to have been due to mysterious technical reasons; more often weak design or implementation was at fault. When it comes to failure then, ICT projects may not differ much from other development projects. So it may be useful to think about which aspects or components of projects worked well and which did not, and to seek learning in every project. A funding organization with this intention needs to invest substantially in appropriate evaluation and dissemination efforts.

## **Strategies for Soliciting and Funding Good Proposals**

Generating good proposals for a grant program requires thinking through some key issues—from how to define the program’s mission to what approach to use in evaluating proposals. The experience of *infoDev* offers lessons on the importance of communicating the mission to proponents and beneficiaries and ensuring transparency in mechanisms for soliciting and evaluating proposals. It also shows the value of providing technical assistance: the best ideas are not always those that are best articulated, particularly when they come from poor communities or small NGOs.

### ***Defining the Mission***

Defining the mission of a grant program is a key step toward generating the kinds of proposals desired. For a program aimed at promoting innovation, an important part of that step is deciding what it means by innovation. Defining “flagships” can help attract proposals for the most critical issues or development priorities.

***Deciding what innovation means***—A grant program seeking to promote innovation needs to ask a central question: What is innovation, or how do we define it?

One way to define innovation is as introducing something new to the country or local context. A grant program operating in a single country is

likely to get few proposals with truly innovative ideas—that is, disruptive innovations. So it would be unproductive to discourage the use of ideas that have proved successful elsewhere. Indeed, the program should encourage prospective grant recipients to explore and learn from outside ideas. The program might even offer funding for research, study trips, and other means for such learning.

Moreover, seeking innovative solutions does not necessarily mean using innovative technology. Indeed, while embracing the latest technology can be important for international competitiveness, it is not a universal priority in ICT for development. Some of the projects most successful in terms of impact and cost-effectiveness use relatively old technology, such as radio or telephony.

Being practical may be more important than being innovative. Experience suggests that in developing countries practical solutions are more effective than innovative ones. Methods that have worked well in an industrial country may not be practical or sustainable.

***Defining flagships***—A program searching for innovative solutions within one country should perhaps be broadly defined, to generate as many strong proposals as possible. Having a core program that is more experimental and has experience-based program areas with a narrower focus on strategic development priorities—“flagships”—has worked well for infoDev and other programs. This approach ensures a regular influx of new ideas while also allowing gradual improvements as learning accumulates.

The idea behind flagships is that the program identifies areas where the need is great and areas where it expects that it can have the most impact. These areas can be sectors, geographic areas, or specific development problems. One flagship that Sri Lanka’s e-society fund could consider, for example, would be ICT applications to promote peace and integration of conflict areas.

*InfoDev* introduced flagships after it was decided, by its second year of operation, that the demand-driven approach—implemented as an open call for proposals—was not doing enough to generate ideas and focus resources on some of the most critical areas. Its flagships, priority program areas for which it issues more specific calls for proposals, have included regulatory issues, the Y2K initiative, connectivity in Africa, IT in education, and ICT industry incubators.

Without defining flagships, a program risks being flooded by fully fundable proposals that do not address the priority development

problems that it seeks to address. Identifying the right flagships can therefore be critical.

Even with flagships identified, however, a program should remain flexible about which approaches to accept. Even experienced managers of ICT grant programs cannot predict all the good solutions that can be devised. Prescribing the types of projects or activities eligible for funding is therefore unwise.

### ***Communicating the Mission to Stakeholders***

The ability of a grant program to communicate its mission will to some extent predict its success. Communicating this mission to stakeholders is also one of its hardest tasks. To begin with, it can be difficult to achieve consensus within the organization—and between its staff and its funders—on what the mission translates into in practice. It is also hard to communicate the mission effectively to external peer reviewers, consultants, and others who participate temporarily in project management. Harder still is to communicate with the population of prospective grant applicants so that they deliver the project ideas desired.

Two important means for communicating the program's mission are through a request for proposals—the first and main point of communication with proponents—and through “marketing” efforts.

***Using requests for proposals as communication tools***—Preparing a good request for proposals (RFP) is a difficult art. But taking the time to get it right is worthwhile: good RFPs improve the relevance of proposed projects and the quality of grant portfolios (box 9.2).

For reasons of transparency, RFPs should always be used to solicit proposals. RFPs make the conditions of the grant transparent and available to everyone. This is critical for the program's stakeholders, who have an interest in grants being allocated fairly and openly. In addition, whenever management makes funding decisions at its own discretion, it risks subjecting itself to criticism for bias or inappropriate favor. Making the rules for funding decisions known to all reduces this risk, because it is the rules or their application that then may become the subject of scrutiny, not the decisions.

When the RFP cannot be formulated too precisely, perhaps because donors want to avoid excluding unanticipated possibilities, the program can strengthen transparency through the evaluation process, by using external evaluators or evaluators who represent the interests of different stakeholders, or by otherwise making the evaluation process transparent

**Box 9.2****What a Request for Proposals Should Do**

The function of a request for proposals is to provide clear instructions to proponents on how to prepare proposals. The request should therefore include information on

- The goals, mission, and philosophy of the grant program
- Eligible project activities
- Eligible funding categories and minimum and maximum grant amounts
- Who is eligible to apply and any partnership requirements
- When to apply and how to submit the proposal
- How to fill out the form or template for proposal submission (developing a template and placing limits on the number of words for each topic is recommended)
- The criteria and process for evaluating proposals
- When proponents can expect an answer and how they can get information on the status of their proposal
- How long funding will take to materialize if the project is approved, and any significant steps in that process
- Other application guidelines.

*Source:* Author.

to outsiders. Transparency also requires, however, a common understanding by evaluators, proponents, and program managers of the objectives of the grant program.

***Marketing the program***—Beyond having a clear and instructive RFP, the grant program can communicate its mission through its staff.

Staff are the critical link between the program and its mission, and those working with grant recipients must understand the mission and be able to communicate it effectively. They need to be able to relate to local conditions and to translate what the mission means for people on the ground.

“Face-to-face marketing” is a good way to bring attention to what the program is trying to achieve. This entails sending a skilled representative

to meetings where potential proponents are present in large numbers, to discuss the importance of using ICTs in addressing issues important to the group and to respond to questions and issues that may arise.

### ***Helping Proponents Prepare Good Proposals***

Once a program has defined and communicated its mission, how can it help proponents prepare effective project proposals? Guidelines for proposals are one important tool. Another possible instrument is technical assistance.

***Developing useful guidelines for proposals***—The preparation of a proposal should be a useful exercise for the proponent. It should reflect careful consideration of what the design of the work entails—a process that the proposal guidelines should support.

The guidelines should help keep the proponent focused on the function of a project proposal: to communicate the idea and goals of the project, to demonstrate how it will contribute to solving a key development problem, and to convince the reader that the proponent has the capabilities to successfully carry out the project (box 9.3). There will generally be differences in project objectives between the

#### **Box 9.3**

### **Key Elements of a Good Project Proposal**

*InfoDev's* extensive reviews of proposals over several years of its existence suggest that a good project proposal

- Is prepared by a consortium of partners with the key nonfinancial resources to implement the project, including local networks and human capital
- Proposes a practical solution to a relevant development problem
- Involves the application of an ICT that is a cost-effective and nonharmful solution
- Expresses an overall development goal that is consistent with that of the grant-making organization (such as poverty reduction) and makes a logical and substantiated case for why the project will contribute to attaining this goal

*(continued)*

- Demonstrates an understanding of the target group by analyzing qualitatively and quantitatively the prevalence of different strata (by gender, ethnicity, literacy, and the like) and how the project will ensure that its activities correspond to the needs of each
- Specifies objectives, activities, and deliverables in sufficient detail
- Presents a credible case for how and why the project will become sustainable and describes the aims and opportunities for scaling up or replication
- If innovation is a requirement, explains how the project differs from comparable projects in the subject area
- Describes the staffing and administration of the project and demonstrates the prior merit of partner organizations and key staff or consultants in the types of activities to be undertaken
- Describes the time line, with milestones and deliverables, and the processes for monitoring progress
- Includes a detailed budget, specified by activity and type of cost, that is reasonable in terms of cost-effectiveness and alternative cost
- Otherwise complies with the guidelines.

*Sources:* InfoDev; author.

grant maker and the proponent, and it is appropriate to ask the proponent to discuss the degree to which the proposed project will serve the grant maker's objectives.

The guidelines should also help the proponent avoid common shortcomings. Many project proposals make the mistake of describing in detail what the project is going to do but not why it is needed. Or worse, the proposed project may be driven by an exogenous technology or method rather than by the needs of the target community.

Preparing grant proposals is a burden on the proponent—as reviewing proposals is on the reviewers—so the guidelines should keep the length and complexity of proposals to the minimum needed for appropriate disclosure and review. Requiring some degree of complexity is reasonable, however, to deter proponents who lack the capabilities to implement projects.

In addition, guidelines should be written to meet the needs of their target audience: those for university experts can be quite sophisticated, while those for midlevel government officials should be simpler and less demanding. Courses on how to prepare proposals can help. It also may

be useful to use a proposal format that links to an online aid or instruction package.

Beyond designing sensible guidelines, another way to reduce the burden is to invite concept notes rather than complete proposals. Among the hundreds of proposals that *infoDev* receives in a year, only a handful are funded. A lot of effort goes into proponents' writing and *infoDev*'s review, effort that is largely wasted because most projects are never funded. Moreover, even proposals that are approved often require refinement or adaptation, so that detail beyond a certain level may be superfluous. Further sequencing might be considered—for example, requesting a full financial proposal only from proponents whose technical proposals are judged adequate.

***Offering Technical Assistance***—Even with ideal guidelines for proposals, the best ideas are not always well articulated. This may be especially so for a grant program operating in a single country and attempting to reach rural communities, where capabilities and resources are limited. So it may be useful to extend technical assistance in critical areas after funding for a project has been agreed. This will allow funding for some of the right proponents and some of the good ideas.

Areas where proponents may be weak include partnerships, networking, sustainability, risk management, financial administration, development of a business plan, knowledge of prior approaches to a problem, M&E, and gender and social analysis.

Sometimes it is more cost-effective to offer grant recipients the means to obtain technical assistance of their own choice (as *infoDev* did with its core grant program), and sometimes more cost-effective to establish technical assistance contracts to make services available to a group of grant recipients (as *infoDev* did with its Y2K and incubator programs). Expertise should be pooled and scarce technical assistance shared whenever cost-effective.

### ***Evaluating Proposals and Making Funding Decisions***

*InfoDev* has tried two different models for evaluating proposals. At the beginning, it used a two-stage process involving external evaluators, mainly to assure donors that the World Bank, which hosts the program, would not have excessive influence on the selection of proposals.

Under this process, each proposal received would be assigned to an external evaluator from a pool. The *infoDev* committee, consisting of staff under the leadership of the program administrator, would then review the evaluation and recommend whether the proposal should move on to a

second stage, to be evaluated by another evaluator. After reviewing the second evaluation, the committee would make a final recommendation to the program manager on whether to approve or decline funding. During the process, the committee often requested written clarification from proponents. The proposals approved for funding were placed in a pool, to be funded when matching donor funds became available.

This approach, considered too long and costly, was abandoned in 2001 for another type of two-stage process. Now a deadline was set for submitting proposals, and all proposals received by that deadline were screened by the *infoDev* committee, still consisting of staff. Of those complying with the guidelines, some 30 proposals were selected for further review by a panel of external evaluators. The panel then made recommendations about which should be funded, listing the proposals in order of priority. The final decision was still made by the program manager. For the applicant, it was still a two-stage process, but significantly shorter and probably fairer, because funding decisions were all made at the same time.<sup>9</sup>

The experience with these two processes led to some useful lessons:

- *The evaluation process must be transparent, competitive, and limited in time.* Transparency is essential to mobilize funding, stimulate demand, and secure sustainable development results. Competition introduces fairness and incentives for proponents to excel. A time limit ensures efficiency and a response for proponents within a reasonable time frame.
- *Using external evaluators may increase the quality of reviews but also adds a risk of deviating from the program mission.* Because of the challenge of ensuring that external evaluators and others outside a program understand its mission—and the types of projects wanted—it may be better to use program staff at least for screening proposals. In addition, staff are in a position to accumulate experience in assessing proposals, which enhances quality and efficiency.
- *Having staff play an active role in the evaluation process enhances program learning.* A program's "institutional memory" resides with its staff. To help ensure continuity in funding decisions, and to learn which previous decisions were good or bad, the staff need to be involved in the evaluation process.
- *Funding decisions can be made by an external panel, but program management should be a party to the process.* Management can enrich funding decisions through its experience in implementation and also ensure that decisions take into account portfolio balancing requirements. This

role is particularly important for pilot programs and those pursuing multiple goals.

- *Delegating the funding decision to a committee of donor representatives and other stakeholders can enhance transparency.* The *infoDev* model of using external review panels would allow institutional memory to accumulate if the panel consisted of individuals appointed to longer, overlapping terms.
- *Diversity should be a main criterion in putting together evaluation panels or groups of external evaluators.* Just as with any team, insisting on diversity—in experience, technical and sectoral expertise, ethnicity, gender, and other relevant characteristics—is likely to improve the quality of output.
- *Processes requiring administrative clearances should be avoided if possible.* Any requirement for approval from a particular ministry (or, in *infoDev*'s case, the World Bank country mission and, in some instances, the government) will almost surely introduce delay.

In any grant program, but especially an experimental one, the quality of projects funded increases with time and learning. For *infoDev*, the quality of projects at entry has been much higher in recent years, in part because of a gradual improvement in the quality of proposals and in part because of an increase in the ability of staff to recognize and add value to good proposals. There has been a learning process for both proponents and program managers.

### **Good Practices in Managing a Small-Grant Program**

The management of a small-grant program for innovative ICT application is likely to draw on a range of expertise. It also requires explicit management of the risks that come with funding grants. And it needs adequate M&E systems, critical for both risk management and quick learning.

#### ***Managing and Supervising Grants***

Managing and supervising grants requires staff with a variety of technical skills:

- A manager with knowledge of the ICT sector, economic and social development, or both
- A systematic person with a financial background to take charge of allocating funds to approved grants, executing grants, and assuming relevant fiduciary responsibilities

- A staff person to take charge of project monitoring, evaluation, dissemination, and proposal evaluation—in a small program with funding decisions delegated to an external committee, the manager could assume responsibility for coordinating these tasks
- Staff or process consultant to supervise and provide technical assistance to proponents and their projects—like management, these staff should have a sound understanding of ICT for development and be capable of accumulating and sharing lessons of experience
- Staff to manage external communications through a variety of channels, including meetings and the Web
- Administrative staff who can handle the administration of proposals and grants.

Monitoring and supporting grants requires very different skills than executing grants. For the first function, a program needs someone who is interested in the substance of grant projects, who has the patience and ability to communicate with grant recipients and others, and who has the analytical ability to learn, interpret, and disseminate lessons. For executing grants, in contrast, the program needs someone who can deal with the legal and fiduciary requirements of grant making and can standardize the process to increase its speed and efficiency.

Each project should be assigned a staff person responsible for its monitoring and supervision. Otherwise, lessons are likely to go unlearned, and project requests for support unheard. As part of this, projects should be grouped by technical or geographic area. Having responsibility for a technical area helps build staff members' specialist skills and develop networks with partners and peripheral stakeholders. Grouping projects by region may be more economical for supervision, especially if long trips are required. This structure may need to develop gradually along with the program, as the volume of grants grows.

If grant recipients are doing comparable things, networking and peer review among them can be productive. Grant recipients often can help one another more than the grant maker can, and they can hold one another to high standards when a monitor finds it difficult to do so.

Finally, to allow sound selection and management of projects, particularly in a national context, it is critical that the program be free from pressure by government, private companies, or others that may seek to use the program to exercise their influence. The more independent the program is, the better able it will be to carry out its mission.

### **Managing Risks**

Grant funding entails inherent risks of adverse outcomes. These risks include

- *Project failure.* The inability of a grant project to reach its goals is the least costly of the risks here, because it provides important opportunities for learning (see the section in this chapter on learning from failure).
- *Adverse impact.* Projects may have adverse effects on the target population. It is plausible (though there is no hard evidence of this) that some ICT projects would, for example, aggravate gender inequalities, encourage corrupt practices, or give greater power to the already powerful. These risks need to be carefully considered when evaluating project proposals.
- *Misuse of funds or fraud.* InfoDev has had cases in which recipients used grant funds for purposes other than those designated or were simply incapable of carrying out their fiduciary responsibilities. To safeguard against this risk, a grant program needs to evaluate the ability of potential grant recipients to manage funds appropriately. Every warning signal should be taken seriously and thoroughly investigated; once a grant has been issued, it is too late. The smaller the grant, however, the fewer resources should be spent on due diligence.
- *Incapacity of the implementing organization.* If the implementing organization becomes insolvent or goes into bankruptcy, the project will need to be terminated. This risk is hard to foresee, but that underlines the argument for doing due diligence before awarding a grant.

### **Evaluating Project Outcomes**

To assess the outcomes of projects and determine whether the projects can be scaled up or replicated, a program needs an integrated, systematic evaluation component. Like other donors providing grants for ICT innovation for development, *infoDev* has faced serious challenges in performing this function. Underestimating the need for evaluation, it did not allocate enough resources for this task. And the evaluation efforts that were undertaken met with difficulties—because collecting lessons from projects that someone else has implemented is not a straightforward task.

To overcome these challenges, *infoDev* encouraged grant recipients to self-evaluate their projects. This too met with problems, however. Many grant recipients are unfamiliar with the practice of evaluation, so making them responsible for evaluation requires imparting knowledge of the

fundamental concepts and tasks involved. Self-evaluation reports from grant recipients have generally been unsatisfactory, tending to overstate successes and understate problems. Projects did not deliver reports on time, and few of the reports were relevant or complete.

These problems were aggravated by the limited time and resources *infoDev* had for project supervision. In addition, mechanisms for disseminating the project information were weak. And the target group for information was not clearly defined, making it difficult to tailor efforts in extracting and disseminating lessons.

The lack of investment in evaluation is not unique to *infoDev* but is common to the ICT-for-development practice. This lack probably reflects an underestimation of the effort it takes to collect and communicate broad lessons. The following recommendations outline an alternative approach:

- *Progress reporting should be kept to a minimum and based on direct observation.* Some regular reporting from projects is necessary, as is some summary progress reporting based on this information. And *infoDev's* experience shows that standard templates can help remedy quality problems in progress reports from projects. In addition, a national program can benefit from project managers' ability to travel and collect information by observing and interacting with implementing agencies.
- *Project evaluation should be systematically carried out by third parties.* The program needs to have a system for discerning, at the end of a project or midterm, whether the project is likely to generate interesting lessons and for undertaking case studies of such projects. Separate case studies should also be conducted for a certain share of all projects, with the aim of answering specific questions. Case studies should be conducted by people who have experience and expertise in evaluation as well as ICT for development and, ideally, are independent from all aspects of grant management.
- *A program of national scope must be able to learn lessons at the program level.* In a portfolio of projects, it is probably sufficient to evaluate representative cases that stand out as particularly conducive to improving social and economic conditions for their target groups. Determining at the outset what number or share of projects will be evaluated as case studies makes it possible to provide for this activity in the budget. The budget should also include costs for synthesizing overall lessons from the projects.

- *The evaluation process should be as participatory as possible.* It is useful for grant recipients to contribute to and observe the process so they can learn from mistakes and successes.
- *Evaluation efforts should be supported by appropriate investment in dissemination.* Unless evaluation findings are effectively communicated to those who will use them, such as through a newsletter or a Web site, they will be in vain.

A small-grant program might consider using a phased process for program evaluation, as *infoDev* and similar programs have done. Developing a good small-grant program takes time—to train staff, perfect procedures, create a cadre of prospective grant recipients—and the first cycles of grant awards are likely to be less promising than later ones. For *infoDev*, an external review was conducted after several cycles to consider the evolution of the program and the quality of the projects funded. More complete efforts focusing on the outputs and impacts of the projects were phased in only after grants made in later cycles were completing their funded activities.

### ***Managing Funds***

In setting up a grant program, ensuring that financial management processes are well designed is a worthwhile investment of time and resources. These processes must support sound management of funds—keeping track of which money and how much is available for allocation, matching projects to funding sources, and enabling fiduciary processes such as accounting and reporting. They must allow comparison of the transaction costs of different options. And they must provide a link between financial management and reporting to donors.

Managing funds from donors sometimes involves meeting conditions attached to the funds. These “tied” funds may be harder to use, because they require identifying projects that match the criteria (though they can sometimes be used for other purposes, with the donor’s approval). Untied funds, in contrast, can be used for any projects in the program. In practical terms, managing tied funds merely requires keeping separate bank accounts.

Managing donor funds can be complicated by the time lag between commitment and disbursement. For *infoDev*, the average lag between the commitment and actual receipt of money is around one year, though with donors that have particularly efficient processing systems it may be as little as six months. Donors generally want fairly detailed information

about the use of their funds and the projects they funded. To keep costs down, reporting by the program manager to different donors should be standardized. It must be made clear to all stakeholders what the audit requirements are.

### ***Managing Donor Relations***

Official donors (typically bilateral aid agencies) invest in a multidonor program such as *infoDev* in part because it allows the pooling of resources. They also seek access to capacity beyond their own resources—including grant management, local reach, and technical capacity—and to the exchange of knowledge among the donors.

But donors' commitment cannot be taken for granted. Donors' mandates are set primarily by parliamentary decisions and government priorities. Given political vagaries and competing demands for funds, donors' interest and commitment may vary from one year to the next depending on the course the program takes and its perceived relevance to their current agenda.

A clear "business plan" for a grant program can help attract commitment. Donor representatives need to be able to communicate the program's goals and targets effectively within their bureaucracy to secure support. Defining goals and activities intelligibly can make this task easier.

Management and administration that inspire confidence also help. Donors need to be assured that grants will be effectively managed, that transaction costs are reasonable, and that program management is credible.

Donors also need to be assured of transparency and accountability in transactions. One strength of *infoDev* is its link to the World Bank, which provides a guarantee of transparency and accountability. Other organizations may have to go to much greater lengths to demonstrate credibility, transparency, and accountability. To demonstrate fiduciary strengths, Sri Lanka's e-society fund might need to establish a link to—or guarantee from—the national government or the World Bank. And to show technical strengths, it might need to have on board from the start senior staff with experience in both grant administration and ICT for development.

Prospective partnerships with private sector donors should be carefully evaluated. The experience of *infoDev* shows that pooling private sector donors with official donors is not viable. Given private sector interests, large corporations are unlikely to donate funds "with no strings attached," and the process for donating corporate funds may be as difficult as that for official funds. Moreover, some official donors resist the presence of private

sector donors in policy discussions—for fear of giving unfair advantage, allowing undue access to key officials, or being improperly influenced.

## Notes

1. This chapter does not attempt to summarize the extensive literature on grant financing. Instead, it is based on interviews with many managers who led infoDev (see the acknowledgments). The International Development Research Centre and infoDev itself have conducted extensive studies and may provide good sources on experience with grant financing, but there has been no comprehensive synthesis of such experience that could guide practitioners in designing similar innovation funding mechanisms at the national level. Moreover, the lessons distilled in this chapter not only are relevant to ICT for development but also are likely to be relevant to all other development sectors.
2. There is an ongoing debate in the telecenter community about the extent to which “the right to communicate” should be government funded. Some champions of telecenters argue that those serving the neediest cannot and should not be profitable, though the business models that have proved viable speak for themselves. Still, no single approach works everywhere; models need to be developed to fit local circumstances.
3. An information society awareness project in the Russian Federation failed to become sustainable because the institution, a government agency, was merely the recipient of project services. In contrast, an Indian health project is expected to be sustainable thanks to its close collaboration with state government from the outset.
4. For a discussion of the appropriate roles for these partners, see Primo Braga, Daly, and Sareen (2003).
5. See Datamation’s Web site (<http://www.datamationindia.com/>) and highlight on [http://www.digitaldividend.org/knowledge\\_bank/knowledge\\_bank\\_01\\_data.htm](http://www.digitaldividend.org/knowledge_bank/knowledge_bank_01_data.htm).
6. Digital Partners’ Social Enterprise Laboratory competition is a noteworthy effort in this regard. See <http://www.digitalpartners.org/sel.html>.
7. That cost sharing is possible even in the poorest communities if there is buy-in was demonstrated in Sri Lanka under the Community Development and Livelihood Improvement Project (World Bank 2004).
8. Ideally, a grant program would respond positively to a grant-seeking organization that demonstrates it has learned from its failure. But whether it does so depends on whether the program and its key staff encourage a “learning culture.”
9. This process was used for infoDev’s core program, now closed. A similar process is now used for its new flagships.



## CHAPTER 10

# E-society: Design and Early Experience

The e-society fund, a key part of the e-Sri Lanka program, provides small grants to catalyze innovation in ICT applications for economic development and poverty reduction.<sup>1</sup> Its overarching goal is to facilitate access to ICT among the most vulnerable groups in Sri Lanka and ensure that the benefits of ICT development flow to these groups—the rural poor, women, displaced persons, persons with disabilities, other minorities and marginalized groups, and those living in conflict-affected areas. By promoting more balanced access to information, the fund is expected to assist in closing the development divide between urban and rural areas and help integrate postconflict regions.

The goals and purpose of the e-society fund are shaped by several sources. One is the literature on participatory development and innovation suggesting that ICT-for-development programs have failed to meet expectations because of an overemphasis on technology—rather than on the use of technology in providing information and opportunities for communication and on the engagement of users in innovation (see chapter 8).<sup>2</sup> The design of the fund is thus guided by a holistic view of information and communication in development, a view derived from the livelihood strategies of poor communities.

Also shaping the fund's goals and purpose is an intention to build social capital, encourage ownership and bottom-up participatory development, and ensure that initiatives accurately reflect the priorities of the rural poor, women, displaced persons, and those living in conflict-affected areas. A key guide is *E-Sri Lanka: An ICT Development Road Map*; specifically, its vision to bring the dividends of ICT to every village, to every citizen, to every business (Sri Lanka, Ministry of Science and Technology 2002). The e-society fund is integrated with the country's national development framework through its links with the e-Sri Lanka telecenter development program. As telecenters spread throughout the country, the fund will leverage this new asset to create and deliver local content, establish a network of communities, and build partnerships by promoting access to information.

The design of the e-society fund is similarly guided by the lessons of *infoDev* and other international grant funds for innovation in ICT and its application to development (see chapter 9). And continuing to shape the e-society fund and adapt its operating procedures to local conditions is the focus group for the fund, composed primarily of representatives of local NGOs.

The first part of this chapter describes the key design features of the e-society fund, which draws on the lessons learned about innovation in the development process (see chapter 8). The fund adapts the lessons of *infoDev* to a national-level program—a first for World Bank funding. Not surprisingly, the proposal to create such a fund under the e-Sri Lanka program met with doubts in the Bank about its likely impact and transparency and the risks of capture by local vested interests. The second part reports on the outcomes and lessons learned since the launch of the fund in June 2005 and up to the end of 2006. Although this year-and-a-half is too short a period of time for final judgments on the success of such an innovative mechanism, the early response is encouraging, and early lessons are sufficiently rich and important to share with other developing countries.

## Overview of the Fund

The e-society fund is a competitive grant program, providing both community and partnership grants. The community grant program gives community groups an opportunity to develop proposals for funding based on priority needs identified by their community. The partnership grant program is aimed at helping to involve public and private entities and NGOs as partners in providing ICT-enabled development opportunities to the targeted beneficiaries.

### ***Administering the Community Grants***

Community grants—and the responsibility for implementing them—go directly to communities. Initially, the program is targeting communities where some implementation capacity and access to ICT infrastructure (especially telecenters) exists or is being established. To encourage innovative and original proposals, the program places as few restrictions as possible on the initiatives that may be proposed, except that they must focus on the use of ICT in solving everyday problems and have a demonstrable impact on the quality of life in the community.

The community grants are being awarded in cycles. The fund was established in June 2005, the first batch was awarded in the middle of 2006, and subsequent cycles are expected to occur at six-month intervals during the four-year project. Each cycle is also expected to be accompanied by a cycle of awareness raising and community capacity development.

Awarding grants in batches permits economies of scale in the review and evaluation. It also allows time for capacity building in communities as they move through the stages from identifying problems to developing proposals.

***Scope***—The first round of competition for community grants, along with the accompanying awareness and capacity-building exercises, has been limited to the areas in the South, North, and East where telecenters are being established. Beginning with the third round, the scope of the program may be broadened to encompass the entire country.

The initial focus on the South, North, and East allows the community grant program to complement the capacity-building initiatives undertaken as part of the telecenter development program. It has also helped reduce the risk of overextending the grant program during its start-up phase.

Administrative and management capacity was still being developed when the fund was launched. In addition, it was recognized that mounting a nationwide awareness and community capacity-building program would require a larger managing agent structure than initially envisaged. Finally, feedback from NGOs in early focus group discussions suggested that the credibility and, thus, the ultimate success of the community grant program would depend on creating a perception among target beneficiaries of a quickly responsive program—and starting with a nationwide program would clearly have increased the risk of failing to meet that expectation.

***Eligibility***—To be eligible for community grants in the first two rounds, a community has needed to demonstrate access to a telecenter and frame

the grant proposal around its use. The eligibility criteria have therefore mirrored those used in selecting locations for telecenters: a focus on underdeveloped regions in the South, North, and East; a sufficiently large community to provide a critical mass for cost-effective implementation and sustainability; and readiness in terms of access to electricity and an established produce market within 5 kilometers of the community (see Hanna 2007a, especially chapters 8 and 9). These criteria have limited eligibility for the first two rounds of grant competition to about 90 communities.

For the next round, the eligibility criteria are being revised to broaden the scope to nationwide competition. The revised criteria are being prepared by the managing agent on the basis of the experience with the first two rounds, M&E reports, and broad consultation with stakeholders. Once approved by the fund's board, the revised eligibility criteria will be broadly disseminated in awareness and publicity materials.

Most recipients of community grants are expected to be rural communities. Because a village (generally fewer than 50 families) is considered too small to be a viable center for a stand-alone ICT project, the target recipients are *grama niladhari*, the base units of local government, each covering about 300 families.<sup>3</sup> Using *grama niladhari* as the principal targets for community grants has several merits: They are the lowest-level administrative unit with a formal local government structure. The telecenter development program is generally aimed at providing telecenters to clusters of three *grama niladhari*. And a focus on *grama niladhari* offers a balance between addressing issues at the local, grassroots level and ensuring that investments go to communities large enough for them to be viable.

Still, selection criteria remain flexible enough to allow grant applications from smaller groups within a community—for example, from special interest groups for health or education or from only one or two of the villages in a *grama niladhari*. Care is taken to ensure that competing proposals do not emerge from the same community, to avoid running counter to the goal of contributing to social harmony. The community awareness program and any technical assistance provided for preparing grant proposals includes consensus building within the community on the proposed grant activities. This consensus building is particularly important across villages within a *grama niladhari*.

A selection requirement in all cases is that the grant recipient be an independent financial entity. It is this entity, formed by the members of a community, that enters into a grant agreement with the ICT Agency.

Three types of entities may receive a community grant: a cooperative, an association, or a “people’s company.” The first two structures—the cooperative and the association—are less formal and enjoy tax-free status. The more formal people’s company introduces the complexity of taxation. But its formation may be a useful indicator of a shift in perception in the recipient community to viewing the grant-funded ICT activity as a sustainable income-generating initiative.

***Duration of grants***—Community grants are in principle limited to a duration of 12 months, though some flexibility is allowed for proposals of particular merit. The fund’s board may decide to provide a grant of greater than 12 months’ duration, but no grant may extend beyond 18 months.

Drawing on the experience of *infoDev*, the fund gives special attention to evaluation, scaling-up, replication, and dissemination and, consequently, to adequate funding for such activities. At the conclusion of a grant, an independent review, coordinated by the managing agent, evaluates the implementation and impact of the grant. This review includes a recommendation to the fund’s board as to whether it should consider expanding the scope of the initial grant in the recipient community or determine whether the grant constitutes “a good-practice model” that could be transposed to other communities. Both these cases imply additional funding.

The fund is unlikely to finance the expansion of the scope of an initial grant, but is expected to assist the community in seeking funding from bilateral or multilateral donors. And if a successful grant is determined to be a good-practice model, the fund is expected to finance costs associated with disseminating best practices to other communities. The share of community grant resources budgeted for grants awarded in the six-month cycles is therefore limited to 90 percent, with the other 10 percent retained to finance the dissemination activities.

***Size of grants***—Community grants average US\$5,000 each and may be no more than US\$10,000. The size is determined in part by the complexity of the proposed pilot and the implementation and financial capacity of the community and in part by the resources available to the fund and the aim to spread ICT benefits more broadly among vulnerable communities. In practice, ceilings for individual grants have been determined largely by the requirement for a 25 percent matching contribution—consisting of 5 percent cash and 20 percent in kind, such as labor or materials—from the recipient community.<sup>4</sup>

**Cofunding requirements**—Matching funds from a community are considered an indicator not only of its “ownership” of the grant-funded initiative but also of its ability to absorb and sustain the investment. Finding the right level for such contributions—high enough to provide a significant indication of ownership and capacity to sustain the investment but not so high as to discriminate against the poorest communities—is a challenge.

Initially, a 10 percent cash contribution was planned, but feedback from the fund’s focus group (composed primarily of NGO representatives) suggested that this requirement might represent too great a financial burden for the targeted communities, among the poorest and least developed in the country. The cash requirement was therefore reduced to 5 percent, and both this level and the 20 percent requirement for in-kind contributions are being closely monitored by the fund’s board. Either requirement may be revised if it is found to be a significant factor in limiting the access of the poorest communities to community grant funding.

### ***Administering the Partnership Grants***

Partnership grants are intended to contribute to the overall goals of the e-society fund: facilitating access to ICT among the most vulnerable groups, assisting in closing the urban-rural development divide, developing social capital, helping to integrate postconflict regions, promoting greater local content in the Sinhalese and Tamil languages, and piloting innovative ICT applications to improve the quality of life among the target beneficiaries. The grants are intended for situations in which communities in the target beneficiary population do not wish to undertake direct responsibility for implementing an ICT project or lack the capacity to do so. Grants may also be awarded for an ICT project that benefits more than a single community or is not specific to a location—for example, development of Sinhalese or Tamil Web sites and local language content, or applications for handicapped communities.

Partnership grants are being awarded through annual rounds of competition for the first three years of the project. The awards are made through a formal competitive process in compliance with World Bank guidelines (see the section in this chapter on soliciting and funding proposals).

**Eligibility**—To complement the narrower focus of the community grant program in the country’s South, North, and East, the partnership grant program has minimal eligibility criteria and no geographic requirements. Grants may be awarded to private sector companies, public social-sector institutions (such as health or education agencies), or NGOs. The aim is to stimulate as broad a base of competition as possible and to foster

innovative and creative ICT solutions with the potential for scaling-up and wide diffusion.

**Size of grants**—Partnership grants may average US\$50,000 and may not exceed US\$100,000.<sup>5</sup> The target number of partnership grants is limited to 30, within the initial constrained resources available to the fund. This target is likely to be revised upward, however, as cofunding from other donors and aid agencies materializes. The duration of partnership grants varies depending on the project, but will not exceed three years—consistent with lessons from *infoDev* about the need to allow adequate time for pilot implementation and learning but not so much as to lose momentum and control.

### **Practices in Soliciting and Funding Proposals**

The processes used by the fund in soliciting and funding proposals are designed to ensure transparency, fairness, and integrity, as well as to support the fund's broad development objectives. These processes are modeled on those of *infoDev* (see chapter 9). But with the help of the focus group, they have been adapted to reflect the small size of grants, the incremental innovation being considered, and the limited implementation capacity of the targeted communities. They include practices to support communities in preparing proposals, solicit partnership proposals through a competitive process, and evaluate proposals and award grants using a fair process and clear selection criteria.

### **Ensuring Transparency and Fairness**

**Communication Tools for Transparency**—For both community and partnership grants, the call for proposals is published in a daily newspaper with national circulation at least 30 working days before the close of receipt of proposals. In addition, awareness campaigns are being conducted for both programs through print and electronic media and community outreach.

Broad-ranging efforts are being made to stimulate interest in the community grant program. Even before the e-society fund began operation, the ICT Agency launched initiatives through a network of NGOs to raise awareness of ICT and especially of the fund. The awareness campaign uses a variety of media—including print, radio, and television—and gives high priority to community meetings and continued involvement of NGOs.

To ensure that the same range of information can reach all communities and that language proficiency is not a barrier, publicity and training

materials are available in English, Sinhalese, and Tamil. In addition, proposals are accepted in any of these three languages.

To further promote transparency, a dedicated Web site serves as an open source of information on the grant programs. Proposals that are short-listed are shown on the Web site. And within 10 working days of a decision to award grants, a list of the grant recipients is posted on the Web site along with a brief summary of the proposed projects and funding details of the grants.<sup>6</sup>

***Fairness and equity in technical assistance***—All communities have equal access to the opportunity for technical assistance to help in developing a problem statement, using it to formulate a concept, and then developing the concept into a full proposal. But ensuring fairness and equity in the quality of the technical assistance provided is difficult. Several safeguards are in place to help.

As an initial safeguard, consultants are recruited through an open, transparent process conforming to World Bank procurement guidelines for the services of individual consultants. The recruitment process is conducted by the independent managing agent, and the decision to appoint made by the fund's board. This separation of the administrative function (recruitment) and the executive function (appointment) provides a check and balance.

Consultants recruited to provide technical assistance to communities undergo a standard one-week training program coordinated by the managing agent. To further ensure equity in the assistance provided to communities, a monitoring program, also coordinated by the managing agent, periodically reviews the quality of technical assistance provided.

***Independent review***—Applications for both community and partnership grants undergo an independent review, coordinated by the managing agent (see the section in this chapter on evaluating proposals).

***Separation of administrative and executive functions***—The process for reviewing and awarding proposals also separates administrative and executive functions to provide a check and balance. Reviews are independently conducted by randomly assigned reviewers who are independent subject matter experts and are required to declare any potential conflict of interest. Each proposal is reviewed “blind” by a minimum of two experts against clearly defined criteria. A consolidated score is prepared by the independent managing agent, and the decision-making authority

in awarding grants is retained by the fund's board, yet another independent body. A grant becomes effective once a contract is entered into with the ICT Agency. All payments are then made against deliverables.

### ***Supporting Communities in Preparing Grant Proposals***

Because the target beneficiary groups for the community grants are unlikely to be familiar with ICT, a four-step process is used to support communities in preparing proposals: community awareness, needs analysis, concept proposal, and concept review and feedback for preparing the final proposal.

***Step 1: Community awareness and training***—The community awareness and training effort includes advocacy, e-society promotions, public awareness activities, and e-society capacity building. This effort is targeted to the vulnerable groups and communities meeting the eligibility criteria of a critical mass and access to infrastructure.

***Step 2: Needs analysis***—As underscored by feedback from focus group discussions, target communities are unlikely to have the capacity on their own to define problems and develop a proposal for an ICT solution. The capacity of communities and the technical assistance they may need are therefore assessed case by case during the awareness-raising stage. Depending on the needs of a community, technical assistance may include one or more of the following:

- Literature, such as guidelines and templates for proposal preparation
- Voluntary fieldwork by students from a university—for example, through the Volunteer IT Ambassador Scheme (VITAS) at the University of Moratuwa
- National capacity-building consultants funded by the project.

The managing agent coordinates the assessment of capacity-building needs and prepares a report for the fund's board detailing the results. The report recommends an action plan for providing the assistance needed, which requires the board's approval before being implemented.

***Step 3: Concept proposal***—The concept proposal is essentially a draft proposal prepared by a community before it attempts the much more resource- and time-consuming full proposal. A concept proposal analyzes the strengths, weaknesses, opportunities, and threats (SWOT) faced by

the community; proposes an ICT intervention to build on the strengths or address the weaknesses; and expresses interest in obtaining support through a community grant. The concept proposal step

- Provides a mechanism for assessing capacity in a community and identifying its needs for technical assistance
- Allows early feedback so a community can avoid spending significant time and effort on developing a full proposal that would be inappropriate for a community grant
- Enables a community to become familiar with the community grant program before committing itself by forming the financially independent entity required for implementing a grant
- Gives a good concept that a community cannot or does not wish to implement another possibility for being developed, by allowing it to be referred for consideration as a partnership grant.

***Step 4: Concept proposal review and feedback***—The concept proposal is reviewed by at least three reviewers drawn from a review panel established by the managing agent and approved by the fund's board. Each reviews the proposal independently using the following criteria: project objectives and design; community relevance and benefit; feasibility of design and budget; community commitment through matching funds; links to the SWOT analysis; and efficiency, effectiveness, and sustainability.

The managing agent collects and consolidates the reviewers' scores and provides a report to the fund's board. It then provides the community with the consolidated report, including reviewers' comments, within 10 working days of the board's review and decision on whether to proceed to a full proposal. At the same time, the managing agent posts basic information about the proposal on the e-society fund's Web site.

The aim is to provide timely and accurate written feedback to both successful and unsuccessful applicants for grants. The feedback also serves as terms of reference for the provision of technical assistance to develop capacity in formulating the full proposal.

### ***Soliciting Proposals for Partnership Grants***

Partnership grants are awarded through a formal competitive process, conducted annually, that complies with World Bank procurement guidelines for consultants. The process is open to the public and private sectors and to NGOs. No prequalification is required, to maximize the possibility for innovative and creative proposals.

Soliciting proposals starts with a general awareness campaign. A description of program goals is published in national newspapers, and expressions of interest are invited. Next, a series of meetings are held for prospective applicants, in all local languages, to ensure clear comprehension of fund goals and procedures. Then, expressions of interest are evaluated against basic eligibility criteria for partnership grants, including at least three years of audited accounts and consistency with e-society goals. A request for proposals, comprising technical and financial aspects, is then sent out to short-listed applicants.

When calling for proposals, the board may specify themes or issues on which it would particularly welcome proposals. If the board decides to weight proposals based on their responsiveness to these themes or issues, it includes those weightings in the request for proposals. This is a feature adapted from *infoDev*'s flagship programs.

### ***Evaluating Proposals and Awarding Funding***

Applications for both community and partnership grants undergo an independent review, coordinated by the managing agent.

***Review process***—Three reviewers evaluate each proposal. To help ensure fairness, only selection criteria in the public domain and specifically stated in the call for proposals can be used in the review (box 10.1). Each reviewer independently scores the proposal against the weighted criteria in a standard matrix provided by the managing agent and provides a written explanation for the scores given in each category.

From these scores, the managing agent produces a consolidated score. If the consolidated score exceeds the cutoff set by the fund's board, the managing agent recommends the proposal to the board for a grant award. Awards are made at the discretion of the board, though it is accountable for its decisions to the ICT Agency's board.

### **Arrangements for Implementation and Monitoring**

The design of the institutional arrangements for managing the fund is aimed at ensuring transparency, fairness, and accountability; clarifying and separating the administrative and executive functions; developing effective partnerships; promoting coordination with all concerned donors to exploit synergies and economies of scale; and ensuring effective M&E to enhance development impact—all consistent with lessons from

**Box 10.1**

**Selection Criteria for e-Society Fund Grants**

*Community Grants*

For the community grants, the selection criteria are as follows:

- The quality of the problem statement
- The availability of baseline data (so development impact may be assessed)
- The value (quantitative and qualitative) of the expected impact
- Cost-effectiveness
- Prospects for successful implementation
- Prospects for sustainability
- Demonstrated community ownership
- Availability of matching funds
- Establishment of a financially independent entity to receive and manage the grant.

*Partnership Grants*

For the partnership grants, the basic selection criteria are as follows:

- Expected impact on the quality of life for the beneficiaries and the presence of a baseline and appropriate indicators for implementation and impact
- Feasibility—clarity of goals, roles, and deliverables and an appropriate operational plan
- Cost-effectiveness
- Involvement of stakeholders in planning and in identifying problems, issues, and opportunities
- Potential for quick realization of results (within one year)
- Track record of the grant recipient in community development
- Management capacity of the grant recipient.

*Source:* Sri Lanka, ICT Agency.

infoDev and other bottom-up approaches to development and innovation (see chapters 8 and 9).

***Administering the Fund: The Role of the Fund Management***

The ICT Agency retains overall responsibility for the e-society fund while outsourcing the day-to-day administration and reporting to a

managing agent and the community consultations and support to a process consultant (together, the fund management). The activities of the fund management are overseen by a staff coordinator, nominated by the ICT Agency from its staff. The fund management provides the coordinator with written monthly and annual progress reports and meets with the coordinator as required.

**Selection**—Assembling the skills and experience needed for managing the fund was not expected to be straightforward. Many firms would be able to provide what was required for a team leader—extensive experience with day-to-day administration and implementation. But no existing firm was likely to have the wide range of specialized technical expertise and experience that would be periodically required from the fund management—a range extending across agriculture, industry promotion, community development, education and training, and ICT.

For this reason, the ICT Agency used a phased selection of individuals to create a team with the needed expertise and experience. Its board first recruited a team leader and then worked with that person in putting together a team. The process essentially mirrored that used in establishing the ICT Agency. It ultimately led to the selection of a reputed international private consulting firm to act as the managing agent and a national NGO to provide process consultancy. The two combined act as an independent fund management.

**Responsibilities**—Among the first tasks of the fund management was to review, refine, and develop the operational procedures of the e-society fund in an operations manual. Once approved by the ICT Agency, these procedures then guided the fund management's work. The managing agent does not participate in implementing activities that are funded but manages the process on behalf of the ICT Agency. Its responsibilities are to

- Establish and maintain a register of international and national peer reviewers and national capacity-building consultants
- Provide appropriate training for the national peer reviewers and capacity-building consultants
- Build on the publicity efforts undertaken by the ICT Agency to raise awareness of the e-society fund and expand and enrich those initiatives, with particular attention paid to predominantly Sinhalese- or Tamil-speaking communities
- Coordinate the review and evaluation of, and make funding recommendations on, proposals for community and partnership grants and

any other service agreements to be provided under the program, as directed by the staff coordinator from the ICT Agency

- Coordinate the disbursement of funds to communities awarded grants and inform the ICT Agency's procurement adviser about the satisfactory attainment of agreed deliverables that trigger contract payments under partnership grants
- Monitor and evaluate the implementation of community and partnership grants and promptly advise the ICT Agency of any problems.

### ***Deciding on Grant Awards: The Role of the Board***

The e-society fund's board makes all decisions on the award of community and partnership grants based on the recommendations of the managing agent. The board meets at least quarterly, with more frequent meetings during proposal evaluation periods and at the time of award decisions. It reports annually to the ICT Agency's board, covering activities undertaken during the previous 12 months and planned for the coming year.

The board consists of up to seven members drawn from civil society, the private sector, and relevant government ministries at the invitation of the ICT Agency's board. Board members and officers (chair and deputy chair) are appointed for two-year terms with the possibility of extension. The managing agent coordinator serves as the *ex officio* executive secretary of the board. Board members and officers receive a stipend to cover meeting allowances and communications, in line with standard government rates for membership on a committee or board with comparable responsibility.

### ***Ensuring Accountability for Funds***

The e-society fund's financial management process puts great emphasis on ensuring accountability for the funds provided to grant recipients. The M&E process plays a critical part in this, with the reviews of progress in implementing grants and their outputs and impacts used to validate reporting by grant recipients (see the section in this chapter on monitoring and evaluation).

Procurement under community grants is expected to involve small values, such as for goods, minor works, and consulting services. For goods and minor works, grant recipients are required to prepare written specifications, to be attached to all requests for quotations, detailing the goods and materials required and identifying quantities and standards sought, a delivery schedule, and, where relevant, installation requirements. For consulting services grant recipients must prepare terms of reference to be attached to all requests for proposals.

### ***Working with Donors***

An important objective of the e-society fund is to identify, among the activities financed by grants, sustainable social or business models that can be scaled up and applied in other locations. Financing for the scaling-up is sought from bilateral and multilateral donors at a donor workshop held in the month following the completion of each round of community or partnership grants, where fund management presents the results of an impact and outcome assessment. Donors are invited to expand the scope of projects for which the impact assessment indicates a potential for realizing further substantial benefits.

In addition, where donors or NGOs have established or planned development initiatives whose goals and strategies may overlap with those of the e-society fund, the ICT Agency and fund management are expected to work with them to exploit opportunities for synergy, minimize duplication, and promote efficiency in the use of development funds.

### ***Monitoring and Evaluating Performance and Impact***

Routine M&E of the performance of the e-society fund is conducted by a unit established by the ICT Agency. This M&E unit periodically reviews the process for funding proposals and reports to the ICT Agency's board on the integrity of the process and any possibilities for refining it. These reviews initially are to be biannual, with their frequency and scope to be adjusted as necessary by the e-society fund's board.

Other arrangements are in place for monitoring the implementation of grants and the impact and output both of grants and of the e-society fund. These arrangements reflect the lessons of *infoDev*, among others, on the critical role of continual M&E in both improving the process of grant making for ICT-enabled development and innovation and enabling replication, dissemination, and scaling-up.

***Monitoring progress in implementation***—During the implementation of each community grant, a team of two reviewers drawn from the national peer review panel visits the recipient community at least once every six months to review progress and verify the quarterly written reports provided by the community. Where the reviewers find substantial deviation from those reports, they recommend a course of action to remedy the problems, and the fund's board seeks written agreement on an action plan with the community. The plan may call for actions that range from obtaining extra technical assistance to improve implementation, to delaying or withholding any pending grant payments until the

problems have been resolved, to canceling the grant and recovering any remaining balance where malfeasance was uncovered. Similar arrangements are used to monitor the progress of partnership grants.

***Monitoring output and impact***—The output and impact of every community and partnership grant are reviewed upon its completion by a team of two reviewers drawn from the national peer review panel. The reviewers prepare a report, seeking input from all stakeholders, and submit it through the managing agent coordinator to the e-society fund's board.

To monitor the community grant program, the fund's board seeks to involve the donor community in undertaking an annual technical audit. If appropriate arrangements cannot be made for involving the donor community, the fund's board may recruit an independent firm to conduct the technical audit, covering a sample of at least 20 percent of the recipients of community grants.

The partnership grant program is subject to a similar annual technical audit, conducted by an independent firm. The firm reports on the effectiveness of implementation for each of the grants covered, outlines any generic lessons learned, and makes recommendations for refining the funding process. The report is reviewed by the fund's board and provided to relevant oversight bodies for review, comment, and process improvement.

## **Early Operation and Lessons Learned**

By the end of 2006, about 18 months after the launch of the e-society fund, 64 projects had been initiated under the community grant program and eight under the partnership grant program (Mubarak 2007). Early experience with the e-society fund has been promising. Much has been learned from early pilots and from the first round of proposals. These lessons are being applied to the next rounds and to the processes for soliciting and evaluating proposals.

The demand for community and partnership grants has been strong, as reflected in the number of proposals.<sup>7</sup> This response is due in part to an early and effective media campaign to familiarize target communities and stakeholders with the fund. It is also a result of engaging international and local NGOs active at the grassroots and of using a process consultant to facilitate communication and work with community-based organizations and NGOs. Thus, a small amount of seed money has been generating excitement and a sense of participation in the e-Sri Lanka program, particularly among the rural population. If the strong demand continues, the fund is likely to be disbursed more quickly than originally expected.

### ***Assessing the First Round***

The first year of operation for the e-society fund was consumed in putting the institutional arrangements into place, learning about soliciting and evaluating proposals, and making the new processes work. Although it is too early to judge the outcomes of the first round of fund grants, it is possible to glean knowledge about demand and opportunities for e-society innovations from the grants approved.

The response by rural communities was expected to be low in the first round. Yet the fund received more than 190 applications for community grants, of which, as noted, 64 had been approved by the end of 2006. But most of the applications focused on creating telecenters to access the Internet and conduct computer classes and thus involved little innovation.

To improve the quality and diversity of community grant proposals, the process consultant and ICT Agency took a proactive approach to building the technical capacity of target communities. In addition, the e-society fund set thematic priorities and targets to ensure some balance in the distribution of grants among development priorities and target groups. The thematic areas targeted include access to learning, income generation, access to services, capacity building, ICT for the disabled and elderly, ICT for peace, indigenous knowledge, and the environment.

Most awards have gone to the first three themes (table 10.1). But indigenous knowledge attracted an unexpected level of interest. Villages expected that documenting knowledge on folklore, artifacts, and traditional herbal remedies not only would put them on the map but also would attract tourists and other visitors and thereby boost incomes.

Several grassroots projects considered for financing through community grants are developing Web sites to promote local economic development. One Web site, a "gateway to Hambantota," will provide information for tourists, such as on where to stay and what to do in the district. Another will document the rich heritage of Tantirimale village, a remote rural location of archaeological significance. Other sites are developing a Web presence for marketing the products of farmers and rural entrepreneurs.

The first call for partnership grants attracted 247 expressions of interest, most of which focused on capacity building because of the ease of conceptualization. After the first screening against the basic criteria, 86 were short-listed and, as noted, eight grants were awarded.

The partnership grants that were awarded target the most vulnerable segments of Sri Lankan society (table 10.2). Two grants seek to develop ICT applications to assist people with disabilities. One partnership plans to work with schools on assistive technology for blind students, and

**Table 10.1. Some Innovative Community Grant Proposals from the First Round**

<i>Project concept</i>	<i>Target beneficiaries</i>	<i>Benefit</i>
Online “do you know” contest conducted across four districts with 225 participants	Rural children	Greater ICT awareness among schoolchildren and a “Q&A” database on general knowledge
Contest to create local content in two districts in North Central Province, an area rich in cultural heritage	Rural communities	Greater capacity in rural communities to collect, digitize, and present content and documentation of indigenous knowledge in local language
Remote medical consultation through the Human Genetic Unit of the University of Colombo’s Medical Faculty	Rural communities in two areas with high incidence of genetic disorders	Piloting of a new concept using ICT that, if successful, can be replicated; greater community awareness
Networking of 20 villages	Rural farming communities	Higher incomes through coordinated pricing and exchange of information on pests and disease

*Source:* Mubarak 2007.

another to assist hearing-impaired children and their caregivers. Another initiative aims to combat violence against women and address the special information and communication needs of women suffering abuse (targeting conflict areas in the Northeast). Two grants attempt to reach rural children, one through interactive educational tools in the local language deployed through telecenters, and another through English instruction by satellite. Still another aims to develop a trilingual disaster warning system. Other initiatives target small enterprises.

### ***Funding Promising and Complementary Initiatives***

Early indications suggest that the fund is helping to provide inputs for other parts of the e-Sri Lanka program and to respond to opportunities and gaps in the program. The fund has financed local initiatives to catalyze local knowledge and digitize relevant content for delivery through the telecenters. Meanwhile, telecenter operators trained in content development and management under another e-Sri Lanka component have partnered in seeking e-society partnership grants to jointly develop

**Table 10.2. Partnership Grant Projects from the First Round**

<i>Beneficiaries</i>	<i>Project</i>
Women	Documenting incidents of violence against women and empowering women through ICT in three divisional secretariats in the Jaffna District (in the north)
Disabled (visually impaired)	Information accessibility for the print disabled through the production of digital talking books using Daisy software
Disabled (hearing impaired)	Video on sign language for the benefit of both hearing-impaired children and caregivers
Rural schoolchildren	Interactive educational content based on school curriculum to facilitate self-learning, deployed through the telecenter network
Rural schoolchildren and youth	Program to teach English by satellite directed at unemployed school leavers in two villages, one in Hambantota (in the south) and the other in Batticalo (in the east)
Rural entrepreneurs	Translation and digitization of industrial content, creation of relevant video content, dissemination to micro and small rural enterprises
Rural communities	A fully automated community radio station as a sustainable medium of education and training in Kurunegala (North Western Province)
Rural communities	Video and audio trilingual disaster alert system using an existing FM radio frequency

*Source:* Mubarak 2007.

local content and services. Innovative proposals are also seeking to promote e-literacy and popularize ICT for development. All these grassroots initiatives are filling gaps in local capacity, services, and content development for the telecenters and e-government programs. Another initiative funded through a partnership grant is e-curriculum development, designed to enable rural children grades 6–11 to access school curriculum in local languages through the telecenters.

The e-society fund is also capturing promising innovations, initiated without its assistance, for adaptation and scaling-up. One example is

e-Village, the outcome of a successful initiative by a local teacher to promote e-literacy in one of Sri Lanka's poorest villages, Mahavilachchiya, and then to work with the e-literate youth in generating employment opportunities for them and markets for the village's products. Further assistance to the village is being considered for ventures to promote its economic sustainability. With rigorous evaluation of these efforts, replication may be possible in other poor villages. The ICT Agency has already identified a few villages for this, and the government hopes to eventually replicate the pilot in 300 villages if corporate donors and credible local champions can be identified.

### ***Identifying and Bridging Gaps***

Some development priorities went unaddressed in the first round of proposals, and the gaps are being analyzed so that proposals in these areas can be solicited in subsequent rounds. For example, few community proposals sought to develop content in support of peace and mutual understanding, perhaps because this is an area where communities do not expect to have an impact.<sup>8</sup> Government agencies submitted some partnership grant proposals for digitizing content and making it available in local languages, but no proposals for R&D to enhance the delivery of pro-poor public information and services. Nor did universities and research institutions engage in the first round as partners in developing ICT applications for poverty reduction—though their low-cost structure and their technical capabilities could mean low-cost proposals with a high R&D content.

Very few proposals for partnership grants came from the private ICT sector. Local ICT enterprises can be a key source of innovation and diffusion of ICT for local needs. In Sri Lanka, however, the local ICT enterprises are typically very small, with limited time and resources for R&D. Larger companies in other industries, such as the diversified agricultural conglomerate John Keele, have been more willing to donate time and expertise. Exploring ways to increase private sector participation in partnership grants is important as a way to generate truly innovative proposals and to increase the chances for scaling up and replicating successful pilots and proven innovations.<sup>9</sup>

### ***Balancing Accountability and Innovation with Capacity and Reach***

The ICT Agency and fund management put much effort into striking a balance between complying with rigid government and World Bank procurement procedures, so as to maintain transparency, and adapting these

procedures to match the capacity of grant applicants and the small scale and simplicity of proposals, particularly for community grants. One example relates to the requirement that target communities raise a bank guarantee up front to help mobilize the funds for their contribution; this requirement was eased somewhat by allowing communities to pay their contribution in small installments.

The fund's board and management also had to strike a balance between approving truly innovative and high-quality proposals and achieving broad participation from grassroots organizations and vulnerable communities. Many proposals were denied funding in the first round, giving rise to complaints and misunderstandings. Disagreements arose between the process consultant, who preferred to be inclusive and thus more tolerant of uneven quality in proposals, and the fund's board, which preferred a smaller number of high-quality proposals.

This debate pitting quality against reach proved helpful, however, in developing a shared understanding of the role of ICT innovations in empowering communities and bridging the information divide. It pointed to the mutual, cumulative learning by the fund management and grant recipients that is required to generate truly innovative proposals from relatively unsophisticated rural and vulnerable communities.

That proposals for the small community grants have been less innovative than expected should not be surprising: communities lack familiarity with the potential of ICT to address local problems—and need help in visualizing the possibilities. The innovation process needs to be interactive and both bottom-up and top-down—engaging those who know about social conditions and the capabilities of communities with those who know about the potential of technology.

One promising approach to easing capacity constraints in communities is to have organizations with technical competence engage in consortia with community-based organizations that may lack ICT competence but have grassroots presence and can facilitate implementation. Another is to have local telecenter operators collaborate with community organizations in developing local content, using community grants. The ICT Agency and process consultant also worked with local communities to bring about greater innovation and diversity in proposals. But they had to exercise caution so as to avoid lessening the bottom-up nature of community grants.

Holistic frameworks may be a useful guide for both the process consultant and nongovernmental and community-based organizations in thinking about integrating ICT into rural development and livelihood strategies of the poor. As suggested in chapter 8, the Livelihoods Framework provides

a way of thinking about the poor as operating in a context of vulnerability, with access to certain assets and capabilities, mediated through prevailing institutions and social processes. It could be adopted to focus action and innovation on ICT applications and information used within livelihood strategies of the poor. Other helpful frameworks might include value chain and supply chain analyses, which can identify key constraints facing actors in the chain and opportunities for incorporating ICT in support of local farmers and microenterprises.<sup>10</sup>

### ***Communicating with Rural People and the Disadvantaged***

Taking ICT to rural people and disadvantaged members of society—who are among those least likely to be familiar with the new technologies—presents many challenges. The e-society fund's focus group, composed mainly of NGO representatives, has helped build understanding between the ICT Agency and NGOs and create awareness of ICT among the target population. Radio, television, and the print media have also helped improve awareness. The most effective means have been local community meetings and street dramas.

This emphasis on communication campaigns has had dividends beyond the e-society fund. For example, the Pan Asia ICT R&D Grants Program, a somewhat similar grant-making program, saw a significant rise in proposals in Sri Lanka in 2006 compared with previous years. Building the awareness and capacity of citizens and communities not only helps mobilize demand for ICT innovation and diffusion funds. It also prepares local communities to use e-government, e-commerce, e-education, and multipurpose telecenters, among others—another example of the potential synergies among e-development activities.

### ***Supporting Sustainability and Scalability***

The sustainability and scalability of pilots have emerged as important issues. The focus of the program remains on innovation in ICT use for local communities and poverty reduction. It is also important, however, to give systematic attention to sustaining and scaling up successful pilots.<sup>11</sup> Grant applicants should explain how they plan to sustain and scale up their pilots, including possible partnerships and funding sources. Potential partners could be engaged early on in sharing knowledge and providing in-kind inputs for promising pilots, even though they may not be recipients of a partnership grant.<sup>12</sup> The ICT Agency could play a catalytic role in mainstreaming innovations and attracting financing from government agencies, private companies, aid agencies, and foundations.

While the community grant program monitors progress until a grant is fully disbursed, it has no provision for monitoring or support thereafter. The ICT Agency is unlikely to provide such support. Partnerships with the private sector and civil society organizations should be sought to sustain promising community initiatives beyond the relatively short disbursement period.

Effective use and diffusion of ICT for development is essentially a social learning process. It requires timely monitoring and participatory evaluation, to learn quickly from pilots, to measure the satisfaction of the target group, and to disseminate knowledge for sustainability and scaling up. It requires a knowledge management system to augment, complement, and capture the tacit local knowledge being mobilized. Sharing the lessons of experience is perhaps both the greatest challenge for the e-society fund and the biggest determinant of its development impact.

### ***Promoting Policy Reform***

The e-society fund is proving to be a good forum for identifying and helping to address policy and regulatory constraints to bottom-up, ICT-enabled development initiatives and innovations. One such constraint is illustrated by two partnership grants that were awarded in the first round but have been delayed by lack of clearance by the Telecommunications Regulatory Commission. Grants involving community radio applications have been similarly delayed. Another example involves the intellectual property rights for innovations that draw on partnership grants. To encourage innovation, the ICT Agency adopted joint rights: the agency has royalty-free rights to the application to facilitate widespread use, but may not distribute these rights to third parties.

Such micro-macro links can provide powerful feedback to policy makers on the impact of policies and regulations and on ways to reduce the administrative burden. Potential applications involving e-commerce and ICT-enabled small and medium-size enterprises are likely to point to policy constraints relating to security, privacy, and consumer protection. And those involving the promotion of local content are likely to point to policies and practices that constrain access to content from the public sector and the formation of public-private partnerships. The ICT Agency could take a proactive approach and provide forums for grant recipients to engage policy makers in addressing the policy issues hindering ICT-enabled development at the microeconomic level.

Closer to home, the ICT Agency's engagement with the e-society fund and the NGO-based focus group continues to affect the agency's

culture and the e-policies being developed through the e-Sri Lanka program. E-society is bringing new perspectives from the grassroots to the centrally directed e-development strategy, identifying micro-level constraints, and pointing to the crucial role of partnerships between the public sector, the private sector, civil society, and research institutions.

### ***Evolving toward a Pro-poor National Innovation System***

The e-society fund fills a critical gap in the innovation system of Sri Lanka, creating an enabling institutional mechanism or innovation ecosystem for grassroots application of ICT. Meanwhile, as in many other developing countries, the R&D institutions in Sri Lanka focus on complex technology applications, serve large enterprises, or pursue the interests of their own scientists. Reorienting these institutions to promote demand-driven incremental innovation and adaptation—particularly to serve rural people and the poor—will require much learning and experimentation. The e-society fund can help point the way.

To evolve into a national innovation system, this new institution—and its processes—needs to be continually adapted and improved. M&E plays a critical part in this. The ICT Agency and the fund's board and management should work closely together to develop a detailed framework of baselines and targets for the e-society program. And the agency's staff should remain heavily involved in monitoring and evaluating results.

A related issue is knowledge management and the dissemination of lessons from pilots and other grants. Effective use and diffusion of ICT for development is essentially a social learning process. It requires a knowledge management system to augment, complement, and capture the tacit local knowledge being mobilized. But work to develop an effective system to capture and disseminate lessons from pilots is still at an early stage at the ICT Agency. Completing this work is critical. Sharing and disseminating the lessons of experience is perhaps both the greatest challenge for the e-society fund and the biggest determinant of its development impact.

The e-society fund has demonstrated the potential demand and partnerships for ICT-enabled development innovations—and new developments on the grant front indicate other promising opportunities for donor financing of such innovations. Several civil society organizations have won donor-funded grants aimed at bridging the digital divide, such as from Microsoft's Unlimited Potential grant program and the Last Mile initiative of the U.S. Agency for International Development.<sup>13</sup> The multiplication of funds with common aims but diverse procedures presents new opportunities and challenges: to harmonize procedures, explore options for specialization and complementarities, and promote the sharing of

lessons learned. Donors and the ICT Agency could contribute to the evolution of these initiatives toward a coherent national innovation system.

## Notes

1. For a full picture of the e-Sri Lanka program and the role of the e-society fund within it, see Hanna (2007a, chapter 3).
2. For this reason, the guidelines of the e-society fund set a 30 percent ceiling on the share of grant proceeds that may be spent on hardware or infrastructure.
3. Sri Lanka has around 14,000 *grama niladhari*, each a cluster of five to six villages and around 250–300 families.
4. The maximum grant from the fund for a community is therefore US\$7,500, matched by a cash contribution from the recipient community of US\$500 and an in-kind contribution of US\$2,000.
5. Contrast this with *infoDev* grants, at US\$250,000.
6. ICT Agency, “Community Assistance Programme Grants Awarded,” [http://www.icta.lk/insidepages/programmes/e-Society\\_granted\\_awards\\_cap.asp](http://www.icta.lk/insidepages/programmes/e-Society_granted_awards_cap.asp); and “Partnership Assistance Programme Grants Awarded,” [http://www.icta.lk/insidepages/programmes/e-Society\\_granted\\_awards\\_pap.asp](http://www.icta.lk/insidepages/programmes/e-Society_granted_awards_pap.asp).
7. In contrast, a somewhat similar program in Sri Lanka—the Pan Asia ICT R&D Grants Program, supported in part by the United Nations Development Programme—has struggled to find good proposals. For information on this grant program, see <http://www.apdip.net/projects/ictrnd/general>.
8. Partnership grant proposals, particularly those from NGOs, did address ICT for peace.
9. In addition, private sector participation in the fund should guard against potential conflicts of interest, as the experience of *infoDev* suggests (see chapter 9).
10. One interesting application of value chain analysis to rural development in Sri Lanka is the U.S. Agency for International Development’s proposed Private Enterprise and Competitiveness Expansion Project (USAID 2007).
11. A case in point is the uncertain fate of the Farmers’ Knowledge Service pilot, which proved highly successful as a pilot but has not garnered government, donor, or commercial funding to secure sustainability and scaling-up.
12. One example is the Farmers’ Knowledge Service pilot, which engaged the Ministry of Agriculture and Rural Development as an early partner.
13. See Microsoft, “Microsoft Unlimited Potential Grants,” <http://www.microsoft.com/about/corporatecitizenship/citizenship/giving/programs/up/grants.mspx>; and U.S. Agency for International Development, “Last Mile Initiative: Sri Lanka,” [http://www.usaid.gov/our\\_work/economic\\_growth\\_and\\_trade/info\\_technology/last\\_mile\\_initiative\\_sri\\_lanka.html](http://www.usaid.gov/our_work/economic_growth_and_trade/info_technology/last_mile_initiative_sri_lanka.html).



## CHAPTER 11

# Key Lessons of e–Sri Lanka

This book, together with its companion volume, *From Envisioning to Designing e-Development* (Hanna 2007a), provides a full picture of an integrated e-development program in action. The two volumes explore the challenges Sri Lanka confronted as it progressed from vision to strategy and then to early implementation—in designing and securing funding for an e-development program, in developing the software and IT-enabled services industries, in building the information infrastructure for the program, in developing e-leadership institutions, and in harnessing ICT to transform government and empower communities. This rich experience offers lessons for other developing countries seeking to join the global knowledge economy.

### **Designing and Implementing a Holistic Framework for e-Development**

At the heart of e-development are e-leaders and e-institutions that develop a vision of a knowledge society, set policies and priorities, forge national consensus, govern the implementation of key elements of e-development, and tap potential synergies among them. Their work shapes—and is shaped by—an e-development framework. The framework

for e-Sri Lanka is composed of several key, interdependent elements: an enabling policy and institutional environment, an affordable and competitive information infrastructure, a dynamic and competitive ICT industry, broad ICT literacy and education, a coherent investment program to apply ICT to modernizing the public sector, and incentives to promote the effective use of ICT for developing the private sector and empowering civil society (see chapter 1 and Hanna 2007a).

This framework has guided the design and implementation of e-Sri Lanka as well as the learning that continues to inform that work. The lessons from this experience can be summarized in six broad themes that cut across all components.

*E-development provides a framework for integrating ICT into development strategies by reframing ICT issues in terms of broader development results and placing ICT interventions within a broader development context and making them meaningful to policy makers.*<sup>1</sup> Experience with national ICT strategies suggests that their links with overall development strategies tend to be weak, particularly in low-income countries (see World Bank 2006b, 87–124). Even when such links are articulated in planning documents, they are often forgotten in practice. The reasons are many: perverse incentives, scarcity of e-leaders, poor understanding of the links, low awareness and ownership of ICT among most public administrators, weak involvement of core ministries such as finance and economic planning, and pursuit of narrow, technology-driven agendas by ICT ministries or their equivalent.

Tightly linking the national ICT strategy to the broader development strategy helps ensure that national development priorities drive the ICT agenda—not the other way around. And defining the national ICT strategy in terms of development outcomes (such as growth or rural development) rather than ICT sector indicators (such as teledensity) helps focus the attention of policy makers and program managers on ICT-enabled development results.

In Sri Lanka, the e-development framework reframed what were typically seen as isolated ICT applications, separate infrastructure investments, and distinct technical issues into a broader whole and an integral dimension of the country's development strategy.<sup>2</sup> Considered holistically, these interventions can be linked to a broad, ICT-enabled development vision that keeps the focus of debate on development outcomes and the focus of program design on linking means to ends. Rather than assuming causality between each of the elements of e-development—such as telecommunications, content, e-literacy, and e-government—and

development outcomes, these enablers and applications are strategically combined to secure the intended development outcomes.

E-Sri Lanka suggests that e-development can appeal to broad and diverse groups of stakeholders, not just telecommunications specialists, members of the IT industry, or owners of single issues or applications. The e-development framework helped articulate an inclusive vision, linking interdependent actions to coproduce sectoral as well as cross-sectoral outcomes. It sought to identify the competitive advantages of Sri Lanka that ICT could best leverage and the development programs that ICT could enable. It aimed to link Sri Lanka's aspirations as a regional service hub to what ICT might offer as an enabler. Presenting e-Sri Lanka as an enabler of other sectors and programs, such as rural and entrepreneurial development, also helped gain the support of some key sectors and ministries.

Integration of ICT into the development strategy is not a one-way street or a one-time exercise. The vision of e-Sri Lanka had to evolve in line with changes in political leaders, policy makers, and top administrators. As implementation proceeded and awareness grew, the vision developed and the links became clearer to leaders and implementers alike. An early vision driven by the ICT industry evolved into one encompassing the use of ICT to transform the entire economy—a vision in which the national development strategy would drive the e-strategy.

These links to the development agenda cannot be taken for granted. Unless systematically established, reiterated, and rebuilt within an e-development framework, the links may weaken over time and be displaced by narrower, technology-driven agendas.

*An e-development framework allows opportunities for tapping potential synergies, building cross-sectoral links, and leveraging entry points.* An integrated approach to ICT poses a challenge for aid agencies and developing country governments alike. Both face incentives that militate against collaboration and integration (see Hanna and Picciotto 2002). Aid funding and public budgets follow sectoral lines, and it can be hard to get new money for centralized, cross-sectoral initiatives. Whatever the source of funding, ICT efforts—e-government investments, telecommunications reforms, connectivity programs, ICT industry promotion, human resource development, content development, sectoral applications—are typically pursued in isolation. Even within an e-government program, ICT investments are typically pursued agency by agency or system by system (see Fountain 2001). Yet integration offers many opportunities for tapping synergies among the elements of e-development.

In Sri Lanka, the integrated approach mapped and explored the links among key pillars of ICT for development, helping to move the program from opportunistic entry points toward mutually reinforcing ICT-enabled initiatives at the regional and national level.

The process was iterative and cumulative. It started with the private sector's strong interest in promoting software exports, then moved to include the elements of the e-development framework that are key to coproducing the national development outcomes. The ICT Agency received a mandate encompassing the strategic management of all elements of e-development, allowing many interdependencies to be discovered and synergies tapped along the way.

This comprehensive view of ICT for development does not imply addressing all constraints, opportunities, and investment possibilities at once. Instead, it allows designers and implementers to prioritize, select, and sequence the most critical interdependencies and bottlenecks in view of the whole and of the overall resources and capabilities. It helps anticipate, recognize, and manage the key interdependencies.

In Sri Lanka, the e-development framework has compelled prioritization, selectivity, and sequencing. World Bank financing has followed a programmatic approach rather than imposing a rigid blueprint of required investments. That approach acknowledges the importance of pursuing selective activities for maximum impact and maintaining flexibility to reallocate resources among interdependent programs. This focus on impact is reinforced by the ICT Agency's institutional model and mandate: kept small and focused on a catalytic role, the agency has to make tough trade-offs in managing and sequencing activities—between quick wins and long-gestating investments, between sectoral and cross-sectoral applications, between core and noncore activities.

*E-development programs need to understand stakeholders and engage them as enablers, partners, and implementers.* National ICT strategies typically describe plans and initiatives in lifeless and bureaucratic terms, devoid of actors and stakeholders. They make little mention of influence, coalitions, partnerships, stakeholder participation, social interactions, governance mechanisms, conflicting interests and perspectives, power relations, and authorizing environments. Yet it is factors like these that drive the success or failure of efforts to diffuse ICT (Wilson and Wong 2006).

E-development provides a framework for thinking about the stakeholders of an information society ecosystem—an approach to help coordinate the work of stakeholders and map the connections and shape

the relationships among diverse players. This framework has helped the designers and implementers of e-Sri Lanka tap the interdependencies among the actions and resources of different stakeholders over the medium term to realize a shared vision. It has helped clarify the roles of the government, the private sector, civil society, academia, and aid agencies, with the aim of building partnerships among them.

How has e-Sri Lanka done in building partnerships? Its performance so far provides both a mixed record and a rich set of lessons. The ICT Agency is itself a public-private partnership, and the case study suggests both advantages and disadvantages of bringing this mix of stakeholders to the ICT governance process. Despite the agency's businesslike model, its governance mechanisms did not evolve enough to reflect the interests and perspectives of the private sector and civil society. Frequent political changes did not help. Neither did the changes in the World Bank's task management and partnership style.

In both design and implementation, the e-Sri Lanka program has promoted partnerships across almost all components of e-development—though not always successfully. The need to retain key constituencies as partners influenced the final scope of e-Sri Lanka and the balance of funding among its components. Smart subsidy schemes to encourage private investments in broadband in rural areas did not materialize, in part because of changes in the political environment and resistance from incumbent telecommunications operators. Contextual factors influence partnerships of all kinds, including public-private partnerships. As was to be expected in a polarized society, building partnerships has tended to be difficult because it inevitably demands trust and reconciliation of interests. Programs and incentives had to be developed to pilot and nurture cross-sectoral partnerships, such as the partnership grant program under the e-society fund.

*Short-term quick wins (for political sustainability) need to be balanced with long-term investments (for economic sustainability).* Neither the design of national ICT strategies nor the reporting on them captures the dynamics of implementation and the trade-offs between responding to short-term imperatives and staying the course on strategic and foundational investments. Policy makers and e-leadership institutions face tremendous pressures to attend to quick pilots and visible interventions, to diffuse resources across many initiatives, and to limit attention to short-term political horizons.<sup>3</sup> Moreover, newly established ICT agencies face both a backlog of demands from powerful ministries and resistance to establishing governmentwide standards for ICT investments and architecture.

A holistic e-development framework underlines the need to strategically balance and orchestrate the elements of the ICT agenda. It gives due attention to the less tangible investments that take a long time to yield results—such as the development of e-literacy, e-leadership, e-policies, e-institutions, core competencies, and ICT human resources—but that are fundamental to the sustainability of e-development. Similarly, an e-development framework emphasizes the fundamentals in e-government: shared networks, data centers, an e-services gateway, common business processes, and governmentwide architectures and interoperability frameworks. But it also acknowledges the need to balance this portfolio of high-impact investments against ease of implementation and the political imperatives to produce visible improvements in services in the short term.

The case study of e-Sri Lanka documents how the ICT Agency, with limited capacity and resources, sought to balance the demands for quick results against sustained progress on longer-term goals. This balance was continually swayed by political factors, the strength and stability of the authorizing environment, and the need of a young agency to establish legitimacy. At times the political pressures were too strong to ignore. And at times this led to mission creep. But thanks to the balanced e-development framework and the support of the World Bank and other partners, the political rationale did not predominate over the economic rationale guiding the program.

*Centrally driven programs, top-down reforms, and well-communicated national visions need to be complemented by bottom-up initiatives, innovations, partnerships, and grassroots empowerment and learning.* National ICT strategies have been driven by the desire of political leaders and central authorities to leapfrog to the knowledge economy and by their fear of being separated by the digital divide. Often designed by international consultants or the central ICT ministry, the strategies have centered on large investments and complex projects that can be centrally funded and managed to achieve economies of scale. At times they have been intended to balance the many isolated pilots and fragmented investments suffering from duplication and lack of sustainability and scalability. But many of these centrally driven programs have lacked mechanisms to promote bottom-up initiatives, to build capacity at the grassroots, and to induce innovative partnerships—all critical to mobilizing local knowledge and capabilities and achieving scalability and sustainability.

E-development attempts to balance top-down direction with bottom-up initiative. The balance will vary depending on a country's size, the diversity of its regions, and its tradition of political and administrative

centralization. But since ICT is a new dimension of development and a malleable general-purpose technology, the balance should favor mechanisms to empower grassroots organizations, promote local ownership and innovation, ensure local fit and flexibility, and meet the special needs of rural populations. It is at the local level that many of the links between elements of e-development must be sought and built—such as those between telecenter development, content development, e-literacy, and the delivery of e-government services.

E-Sri Lanka has used several mechanisms to institutionalize and support bottom-up initiatives, including the entrepreneurial telecenter program, the e-society fund, and the ICT capacity-building and industry promotion fund. These mechanisms and the corresponding focus groups unleashed a flood of ideas and energy. They encouraged small enterprises, ICT associations, and nongovernmental and community-based organizations to engage with the ICT Agency in creating and integrating parts of the e-development program. They helped the central agency understand its most vulnerable clients—rural communities and the poor. They helped identify the impact of regulation and policy at the grassroots level. And they continue to address challenges: working toward the scalability and sustainability of local initiatives and capturing the tacit knowledge generated to guide adaptation of the centrally defined programs.

*The need for flexibility and adaptability in e-development demands an emphasis on social learning, user-driven innovation, and participatory monitoring and evaluation.* National ICT strategies are often conceived of as detailed, long-term investment plans, to be centrally financed, monitored, and controlled. Their outcomes are monitored largely through ICT indicators, which focus mainly on teledensity, equipment, and information traffic flows. But there are big gaps between access to ICT and its use. Moreover, establishing causality between interventions and changes in development impact indicators is difficult; many other factors come into play, most of which can be understood only in the local context.

ICT is a new and fast-changing technology, and diffusing it in diverse social and economic settings requires much contextual adaptation, experimentation, and learning. E-development programs need to be flexible, and innovation, learning, monitoring, and evaluation become central functions and critical success factors.

Pursuing e-development through an inclusive shared vision and a holistic strategy—rather than a detailed blueprint—encourages learning from pilots and sharing experience from successes and failures. It also points to the need to discover complementarities and synergies over

time. This cannot be done only from the center, top-down, or up front. Deliberate strategy, emphasizing focus and control, is complemented by emergent strategy, emphasizing learning and venturing (Mintzberg, Ahlstrand, and Lampel 1998). An e-development strategy thus requires institutionalized learning, user-driven innovation, multiple feedback mechanisms, systems for managing and sharing knowledge, knowledge partnerships between stakeholders, and participatory monitoring and evaluation.

The e-Sri Lanka program shows the importance of the central ICT agency's role as a learning organization. Starting with the motto "ideas actioned" and piloting activities even while preparing the program, Sri Lanka's ICT Agency encouraged innovation and "action learning" from the start. It viewed pilots as key to developing a strategy and designing programs, not as ends in themselves.

But embedding M&E in the ICT Agency proved difficult for several reasons, including weak ownership of the function by the political leadership and the belief that the function could be fully outsourced. Moreover, the daily pressures to move forward with an ambitious program left little time for reflection and collaborative learning with clients.

Focus groups and other consultative forums helped fill the gaps, providing the agency with substantive feedback from stakeholders and beneficiaries. In addition, the innovation funds for promoting the ICT industry, experimenting with new human resource development programs, and empowering communities to appropriate ICT for local development all provided channels for social learning and institutionalized innovation.

## **Developing e-Leadership Institutions**

Establishing an institutional framework to develop and govern the implementation of a national e-development strategy is key to ensuring that it moves from vision to reality. In Sri Lanka, the creation of the ICT Agency to lead this change emerged from a process of thinking through some key issues: the institutional model, the authorizing environment, the governance framework, core competencies, strategic partnerships, learning mechanisms, and institutional innovation and sustainability. The ICT Agency's experience in navigating complex political and socioeconomic issues offers lessons for e-leadership institutions in other developing countries.

*The position of the national e-leadership institution on the public-private continuum is a critical political and institutional design decision.* This position is guided by the comparative advantages of public and private actors,

and it may shift with changes in political leadership. While getting the balance right can be tricky, the experience in Sri Lanka suggests that the public-private institutional model offers several advantages—advantages that can make it a good fit where the civil service lacks key competencies. Freed from bureaucratic requirements, an agency can react swiftly to changing demands. It can hire cutting-edge professionals at competitive wages. It can rely on outsourcing and partnerships, allowing it to remain lean, agile, and focused. The model also has potential disadvantages, including the lead time needed to deliver results in a turbulent political environment. And unless the public-private partnership has direct links to a strong ministry or the head of state, it may not receive the political and financial support it needs.

*The strategic management of e-leadership institutions requires defining their mandate and adapting it to a fluid authorizing environment and to the resources and capabilities at their disposal.* The mandate of an e-leadership institution, including its role and strategic focus, needs to be continually reexamined and redefined. The mandate needs to be broad enough to cover the key components of e-development and thus maximize the agency's development impact. Yet the mandate has to be pursued within the constraints of the agency's authorizing environment. And it has to be focused so as to match the agency's resources and capabilities.

Maintaining a strategic focus can be difficult in the face of pent-up demand, mounting expectations, and shifting political priorities. An agency facing competing demands needs to develop mechanisms to prioritize and sequence them or rely on political and policy leadership forums to set priorities. It also needs to strike a balance between pressing demands and sustainable development impact.

An e-leadership institution should evolve in response to the state of e-readiness and the capacity of implementing partners. Its ability to play a catalytic role depends greatly on its authorizing environment and its ability to read and anticipate changes in this environment. And its ability to add value and tap synergies across e-development programs depends on its collaboration with the network of institutions of which it is a part.

E-leadership institutions cannot afford to take their authorizing environment as static or as a given—it is likely to be fluid, uncertain, and subject to influence. They must diagnose their political environment, understand public expectations, and adjust their role and capabilities accordingly. They need to engage in entrepreneurial advocacy, stakeholder mobilization, strategic communication, and social marketing of their services.

*Building the governance mechanisms for e-leadership institutions is difficult but essential*—particularly when these institutions are expected to play catalytic and strategic roles. Strong governance is needed to secure an adequate mandate and authorizing environment, to engage stakeholders, to mobilize private sector participation, to integrate ICT into the development agenda, and to enable an information society ecosystem to emerge. Building governance mechanisms takes time and commitment from the political leadership. The task should be driven by political conviction that the mechanisms are needed to ensure strategic guidance, to secure broad local ownership of the e-development program, to lock in commitments, and to sustain institutions.

*Building e-leadership institutions involves identifying, recruiting, and developing core competencies.* E-leadership institutions need to develop core competencies to match their mandate. Among the most critical are the ability to manage complex ICT projects and programs, the ability to build and maintain partnerships, and the ability to understand and communicate effectively with stakeholders. Also important is to develop e-leaders within the authorizing environment and across the government and to enlist the aid of partners to maximize public value. A country's diaspora may provide a valuable pool of talent, professional experience, motivation, and innovation.

*Executing and innovating through partners takes practice.* Partnerships constitute a key part of the resources and capabilities the leading ICT agency needs to fulfill its mandate, to realize public value, and to play a catalytic role. Willingness to collaborate across line ministries, the private sector, civil society, and academia is critical to the success of e-development. Partnering effectively requires differentiating between short-term, arm's-length contracting and sustained strategic partnerships. Strategic partnerships demand substantial investments, long-term commitments, mutual understanding of objectives, reciprocity, knowledge sharing, and capacity building.

*Effective development and use of monitoring and evaluation require buy-in from top decision makers and from external stakeholders*—essential for creating demand for this function. M&E should play a central part in e-development, guiding the design of programs and being embedded in their implementing institutions. It should not be considered an imposition by aid agencies or an isolated function to be outsourced or relegated to specialists. But an M&E system may need to be phased in as capacity develops and a program unfolds.

M&E should be conceived as a tool for adaptive design and learning. It involves an interactive learning process that demands active participation by all stakeholders, including the beneficiaries, implementers, and owners of new e-government systems. To foster this participation requires building broad ownership of the M&E system—and ensuring transparency in how it operates. Indeed, technical assistance should focus as much on ownership and transparency as on conceptual and technical design.

In a new and fast-moving field like e-development, organizational learning is essential. But building a learning organization is difficult, particularly in the public sector, where institutionalized learning practices have been constrained. What does it take to be a smart, agile learning organization? The experience of e-Sri Lanka shows that a learning culture needs to be nurtured. Institutional learning can be constrained when an agency faces excessive expectations and high pressure to deliver near-term outputs rather than sustainable results. Learning requires safe spaces and time for reflection, particularly among leaders of an organization, for whom time is especially scarce.

*Governments and aid agencies need to be concerned from the start about the sustainability of e-development programs and their leading institutions.* The pressures to implement aid projects often militate against sustainability, diverting attention from long-term capacity building to quick-disbursing activities. Several complementary paths can be pursued to enhance sustainability: engaging the implementing institutions in the early design of an e-development program and in piloting and testing their capabilities, demonstrating quick results while managing expectations, anticipating and managing risks, and building institutional capacity to mobilize resources and attract necessary skills.

Developing e-leadership institutions is a long-term process, fraught with uncertainties. It involves innovation, experimentation, partnership, learning, and sustained commitment. And it demands effective political leadership. Aid agencies can play a critical role both in creating new e-leadership institutions and in strengthening their authorizing environment. Yet this role often remains unfulfilled. Donors often take the driver's seat and demand instant, visible results. To influence without micromanaging is a balancing act and a true measure of partnership in development.

Institution building goes beyond physical results and the confines of a single project. In e-development, it involves governance issues that cut

across sectoral turfs—calling on aid agencies to see beyond their own sectoral blinders.

## Transforming Government

E-government has been embraced as a powerful response to the growing demand for better public services—and to the need to deliver more with less. But reengineering government is an enormously complex undertaking. Introducing ICT into business processes and service delivery involves perverse incentives for public administrators, who may lose resources and autonomy as redundancies are eliminated and interagency and enterprisewide systems implemented. At the national level, difficult choices must be made at the outset in determining which service improvements are priorities and how best to sequence them. Sri Lanka's experience in designing and implementing e-government suggests key lessons for the country, its partners, and other developing countries.

*Developing a vision is necessary to mobilize resources and engage a broad set of stakeholders.* Developing a vision of e-government is a political and social process that should help bridge the gap between policy makers, public administrators, development practitioners, and ICT specialists. Aid agencies should also take part, envisioning the new possibilities with their clients.

By using nontechnical language, a vision of e-government can help all stakeholders identify with a desired shared future. It can mobilize forces and resources for transformation and raise awareness of the possibilities for change. A vision may raise unrealistic expectations—but without one, policy guidance and political commitment to change will be lacking. A vision should be renewed in response to major political changes.

*Striking the right balance between top-down central direction and local initiative is a key challenge.* For countries that are latecomers to e-government, pursuing a top-down strategy is an effective way to accelerate the move to ICT-enabled government. In Sri Lanka, a strategic plan, backed by international best practices and donor financing for key immediate elements, helped build consensus, engender ownership, promote shared understanding, induce policy reforms, enforce priorities, and mobilize resources.

Yet adopting a top-down strategy was not without limitations. Pressures to secure funding and get the international consultants to produce the plan relatively quickly did not allow adequate time for data collection and broad local participation. The top-down strategy also posed challenges for the ICT Agency, which learned that it had limited

formal authority to impose its early blueprints. Moreover, as changes in government led to turnover among senior civil servants, the agency had to engage in new cycles of educating policy makers, engendering ownership, redefining priorities, and building partnerships. Local and sectoral initiatives had to be accommodated, if not promoted.

*The balance between short- and long-term imperatives needs to be strategically managed, with timelines aligned with political dynamics and learning processes.* Quick wins are attractive because they often expose civil servants and the public to new technologies and information-sharing practices—and thus change the climate for participation and empowerment. They also help build political support. Yet by design, an e-government strategy assigns priority to projects that take time to implement and produce tangible results—foundational projects to establish common infrastructure, standard business functions, and enterprisewide architecture.

Political leaders and newly appointed CIOs in Sri Lanka pressed for visible quick wins—and these demands could not be ignored. But the new demands and mounting expectations risked overstressing the ICT Agency's small e-government team and diverting its limited resources away from the fundamental but long-gestating projects in the strategic plan. In retrospect, the e-government plan underestimated the pressures for quick wins and the time it takes to implement foundational projects.

The political context in many developing countries focuses attention on the short term. Yet the strong demand for quick wins risks dissipating scarce capacity and resources on too many isolated and unsustainable interventions. While adapting to the political and social context, government reformers and aid agencies need to channel their limited resources to priority objectives and protect the investments necessary for sustainable solutions and broader development impact.

The need to deal with the political context suggests planning a portfolio of projects with different time horizons. In this way, an e-government program can pursue evolutionary steps and quick wins even while leapfrogging to transform key services and building the long-gestating foundational projects. Managing this portfolio will require continually rebalancing investment priorities in response to changes in the political economy.

Frequent changes in government have a profound impact on the pace and priorities of an e-government program. The e-Sri Lanka program anticipated support from a reform-oriented government—including public sector reforms that would proceed in parallel with e-government investments. But political change made achieving quick wins and bringing

ICT dividends to rural areas of paramount importance. This shift underlines the importance of capturing windows of opportunity and adjusting to the election cycle and unanticipated political changes.

Designing an e-government program is about owning and thinking through strategic choices and implementation processes, not imposing a rigid, detailed blueprint. It is a dynamic process that involves prioritizing, piloting, learning, and adapting. As the political environment changes, and as pilots test capabilities and commitments, priorities are likely to have to be set anew.

*Developing e-leaders takes time, and implementation plans need to take their availability into account.* E-government programs demand leadership for change, innovation, and integration. To overcome organizational silos, it is often necessary to anchor ownership at the highest levels, in a dynamic, proactive executive leadership team. Adequately aware and informed e-leaders at the highest levels play a critical part in developing policies and human resources and integrating e-government into the governance and public management agenda.

In Sri Lanka, developing e-leaders turned out to be a greater challenge than expected. Most of the quickly appointed CIOs were not qualified to become change agents—because many were technologists or status quo bureaucrats, not institutional leaders or service innovators. Training providers focused on narrow technical training—hardly appropriate for innovators and change leaders. There was an unmet need for special programs for developing top-level e-leaders—the equivalent of secretaries or deputy ministers, who often chair steering committees for complex e-government projects, act as CIOs or lead them, and define strategic uses of ICT in their agency or across government.

Most developing countries lack ready-made e-leaders in their public sector. They also lack forums for institutionalized learning or for sharing lessons from experience. Reformers and innovators lack the tools, resources, incentives, and forums to act on their ideas and persuade others to do the same. Strategic plans and prioritization schemes need to deal with shortages of e-leaders—and frequent changes in leadership—and their effects on implementation.

*Public-private partnerships should be guided by a strategy tailored to local conditions.* Private participation in advancing e-government is likely to vary across countries, and every country could benefit from developing an explicit strategy for public-private partnerships that takes into account local conditions. Such a strategy is best based on learning from different forms of partnerships—rather than on a single model or rigid

plan. It should be informed by the views of the private sector and by emerging international best practices. It also should be guided by strategic considerations—such as the local political economy, the capabilities of the public and private sectors, the government’s capacity to enforce service-level agreements, and the likely revenue streams of different services and thus their attractiveness to private investors.

*Thinking beyond technology—and in terms of transforming services—should drive innovation.* The focus of e-government is better government, not better technology. Yet this principle is often forgotten. The main reason is that e-government is typically led by technologists and technology-focused agencies, not political leaders, policy makers, and business managers. In Sri Lanka, some of the most innovative initiatives have come from senior public leaders with little knowledge of technology but an appreciation of its transformational potential and of the need to build a service culture.

*Aid agencies should facilitate integrated approaches to e-government.* Current practices of aid agencies do not encourage systematic allocation of authority and implementation capacity for shared information infrastructure and cross-sectoral ICT applications within government. Aid-financed projects typically focus on a single vertical application, sector, or agency, without the sharing of resources, capabilities, and other factors essential to sustainability—exacerbating problems of coordination and institutionalization. A donor bias toward silo approaches and isolated ICT applications may be a key obstacle to adopting a “whole of government” approach and an overarching architecture that can guide the development of infrastructure and applications across different government agencies. Aid agencies need to think strategically about integrative approaches and budget processes that take into account cross-sectoral applications and the roles of other actors, including other aid agencies, the private sector, and civil society.

## **Empowering Communities**

Funding grassroots initiatives can empower communities and local organizations to lead their own ICT-enabled development projects. It can help communities enact and reinvent the technology to create meaning for themselves. And it can empower communities to innovate.

Through a new funding mechanism, the e-society fund, the e-Sri Lanka program has sought to promote grassroots initiatives that would complement its top-down strategic directions and build local capacity and relevant content. Its approach draws on the lessons of

development experience, the literature on innovation, and the rich experience of an international grant program—the Information for Development Program, or *infoDev*—which has shown how small-grant funding can leverage local resources for innovation in the use of ICT.

The e-society fund focuses on ICT and innovation not as an end but as a means—a tool that can transform the capabilities of communities, the performance of institutions, the functioning of markets, the potential for partnerships, and the livelihoods of the poor. Early operation suggests that this funding mechanism is likely to become an effective, sustainable institution for innovation and empowerment. The experience is already producing lessons, and these are being fed back into further rounds of grant making. They are also relevant to similar initiatives aimed at adapting ICT to community needs, local conditions, and national development priorities.

*Mechanisms to fund grassroots initiatives can be a good complement to centrally led national programs.* Through Sri Lanka's e-society fund, a small amount of seed money has been generating excitement and a sense of participation, particularly among the rural population. The fund is helping to provide inputs to the centrally led national program, supporting grassroots initiatives that are developing local capacity and content for e-government programs and the regional networks of telecenters. It is building awareness and capacity at the user's end, including community capacity to partner with local and national institutions. And it is capturing promising innovations, initiated without its assistance, for adaptation and scaling-up.

The e-society fund is also helping to identify and bridge gaps through quick rounds of mobilizing demand and making grants. The first round of proposals left some development priorities unaddressed, and the gaps are being analyzed so that relevant proposals can be solicited and structural constraints addressed in subsequent rounds. For example, universities and research institutions did not engage as partners in developing ICT applications for poverty reduction—though their low-cost structure and their technical capabilities could mean low-cost proposals with a high R&D content. Similarly, few proposals came from the private ICT sector.

These gaps indicate weak incentives and undeveloped capacity for partnership at the grassroots level. Exploring ways to increase participation by universities and the private sector could help generate truly innovative proposals and increase the chances for scaling up and replicating successful pilots and locally proven innovations.

*Concerns about ensuring innovation and accountability in grant making should be balanced with concerns about reaching the poor and building the capacity of their organizations.* Where innovation funds receive simple, small-scale community proposals, there is a need to strike a balance between compliance with rigid procurement procedures—to maintain transparency—and flexibility in adapting these procedures to match the capacity of grant applicants. There is also a need to strike a balance between approving truly innovative and high-quality proposals and achieving broad participation from vulnerable communities and grassroots organizations.

Generating truly innovative proposals from relatively unsophisticated rural and vulnerable communities requires mutual, cumulative learning by the grant program and recipients. In addition, the innovation process needs to be interactive—engaging those who know about local social conditions and capabilities with those who know about the potential of new technologies.

*Strategic communications and awareness-raising campaigns play a critical part in mobilizing demand and empowering the disadvantaged.* Taking ICT to rural people and disadvantaged members of society—who are among those least likely to be familiar with the new technologies—presents many challenges. Yet the e-society fund has met with strong initial demand for its grants. This response is due in part to an early and effective multimedia campaign—including street dramas and local community meetings—to familiarize target communities and stakeholders with the fund. It is also a result of engaging international and local NGOs active at the grassroots and using a process consultant to facilitate communication and work with community-based organizations.

*Scalability, sustainability, and knowledge sharing should be primary concerns of innovation funds.* Innovation funds should ask grant applicants to explain how they plan to sustain and scale up their pilots, including possible partnerships and funding sources. Where pilots are promising, potential partners could be engaged early on in sharing knowledge and providing in-kind inputs. National e-leadership institutions could play a catalytic role in mainstreaming innovations and attracting financing from government agencies, private companies, aid agencies, and foundations.

Effective use and diffusion of ICT for development is essentially a social learning process. It requires a knowledge management system to capture, augment, and complement the tacit local knowledge being mobilized. Sharing the lessons of experience is perhaps both the greatest

challenge for innovation funds and the biggest determinant of their development impact.

*Innovation funds can help identify policy constraints to adoption of ICT at the grassroots.* The e-society fund has proved to be a good forum for identifying policy and regulatory constraints to bottom-up, ICT-enabled development initiatives. Through its links with grassroots initiatives, the fund can provide powerful feedback to policy makers on the impact of policies and on ways to reduce the regulatory burden, particularly among the most vulnerable. For example, ICT applications that promote local content are likely to point to policies and practices that constrain access to content from the public sector. Similarly, potential applications involving e-commerce and ICT-enabled small and medium-size enterprises are likely to point to policy constraints relating to security, privacy, and consumer protection.

Through its links with the grassroots, the e-society fund has also influenced the culture of the ICT Agency—by bringing new perspectives to the centrally directed e-development strategy and pointing to the crucial role of partnerships between the public sector, the private sector, civil society, and research institutions.

*Demand-driven innovation mechanisms that support grassroots initiatives can complement and help reorient the national innovation system.* Research institutions in Sri Lanka, as in many other countries, focus on complex technology applications, serve large enterprises, or pursue the interests of their own scientists. The e-society fund has filled a critical gap in this national innovation system, creating an enabling institutional mechanism for grassroots application of ICT. The fund could also help show how to reorient these institutions to promote demand-driven incremental innovation and adaptation, particularly to serve rural people and the poor.

The e-society fund and its processes are likely to be continually adapted and improved as technology applications at the grassroots are shaped by community needs and social contexts and as quick rounds of grant making are completed, providing feedback from demand and results. Over time, this experience should provide lessons for making the long-established national innovation institutions responsive to local demand and grassroots needs.

## Notes

1. Little theory or research has linked concepts of development studies to ICT-for-development research. See Heeks (2006b).

2. On the issue of reframing, see Wilson (2005).
3. At times, quick wins are driven by an economic rationale and the need to learn, build user capacity, and sustain confidence in a program. Politicians may also prefer smaller, citizen-oriented initiatives that have lower risks and fewer implementation problems. Here, however, the discussion focuses on tensions and trade-offs between high-impact but long-gestating investments and low-impact but short-term initiatives.



## APPENDIX 1

# Main Program Components of e-Sri Lanka

### **ICT Policy, Leadership, and Institutional Development Program**

The ICT policy, leadership, and institutional development program focuses on developing an environment conducive to achieving the objectives of e-Sri Lanka. Its goal is to create a proactive policy and a regulatory environment supportive of ICT reform and ICT-based development, to develop ICT leadership and capacity, and to communicate these initiatives and policies to the wider stakeholder audience.

#### ***Vision***

The ICT Agency as a center of excellence and a source of global knowledge, driving the successful implementation of a nationwide ICT-for-development initiative.

#### ***Strategies***

- Facilitate the formulation and adoption of a national ICT policy, ICT action plan, and necessary legal framework in collaboration with the Administrative Reform Committee and relevant stakeholder groups

- Provide focus and leadership in ICT for development, including building e-leadership skills among top government officials and business and civil society leaders
- Establish the ICT Agency as a project management center of excellence through timely and cost-effective implementation of projects and build external capacity in project management skills
- Monitor and evaluate progress to ensure a focus on development results, obtaining feedback and lessons learned so as to inform decision making and continually adjust strategies
- Create a knowledge culture at the ICT Agency, utilize global knowledge and best practices in ICT for development, and share lessons and experience from e-Sri Lanka with partners and stakeholders
- Build awareness of e-Sri Lanka and the ICT Agency and of the benefits of ICT through an effective communication strategy

### **Information Infrastructure Program**

The information infrastructure program handles all activities aimed at giving citizens affordable access to information, modern communication, and electronic services at any time, from anywhere, enabling them to be a part of the global community.

#### ***Vision***

A user-friendly, state-of-the-art technology infrastructure throughout Sri Lanka that enables all citizens to have ready access to information, modern communication, electronic services, and content that lead to improvements in the quality of life.

#### ***Strategies***

- Facilitate the installation of information and communication backbones (the rural telecommunications network) to provide competitive, affordable telecommunications services for different users and provide appropriate channels for delivery of e-citizen services, including e-government services, e-commerce, and e-learning
- Establish a network of a thousand telecenters in rural areas to empower the population through affordable access to information and communication technologies in local communities
- Design and implement technical architecture, security, and standards across government and for all nationwide activities related to ICT

- Create a “single window” for citizens to access services provided by the government by establishing interoperability standards

## **Reengineering Government Program**

The reengineering government program pursues major, sustainable improvements in the Sri Lankan government’s efficiency, transparency, effectiveness, and quality of services. For this purpose it will reinforce and expand fundamental governance and public management reforms as a complement to and enabler of required solutions.

The program will reengineer public sector work processes through the strategic use of ICT and by implementing novel ICT-enabled administrative policies such as the following:

- Processes designed around the client rather than the organization
- Government accountability to clients for service level standards
- Electronic sharing of data across agencies
- Always-on, user-friendly, distance-neutral information and service facilities for citizens and businesses
- Transparency in government operations

### ***Vision***

To provide citizen services as efficiently as possible by reengineering and technologically empowering business processes to improve the way government works.

### ***Strategies***

- Create the enabling environment in government for a successful e-government program
- Collaborate with the administrative reforms regime and bring about a new governance framework enabled by ICT
- Ensure that public service personnel acquire the ICT skills required for an efficient and effective e-government
- Ensure that the stock of ICT equipment required for an efficient and effective e-government program is upgraded
- Interconnect government agencies to raise productivity through improved interaction
- Make public services “truly citizen centric,” ensuring geographically neutral delivery

## **ICT Human Resource Capacity-Building Program**

The ICT human resource capacity-building program will support the reengineering government program by equipping employees with the required ICT, leadership, and management skills and competencies. In conjunction with the ICT investment and private sector development program, this program will encourage international training institutions to invest in Sri Lanka. In parallel, it will expand the pool of trained ICT professionals so that Sri Lanka is seen as an attractive destination for investment.

The program will also provide education and learning opportunities for all citizens using the ICT infrastructure being established by the information infrastructure program.

### ***Vision***

An ICT-literate society and an ICT-skilled workforce that will be the building blocks for e-Sri Lanka, leading to a better quality of life for all citizens.

### ***Strategies***

- Equip government employees with the ICT skills and competencies needed to manage and administer e-government services
- Establish a multiskilled pool of trained professionals that can support the development of an IT-enabled services industry and the ICT industry in Sri Lanka
- Collaborate with the Ministry of Education to ensure that all schools teach basic ICT skills and integrate ICT into other subjects
- Increase the number of ICT undergraduates in ICT-based university courses and provide higher-level ICT training to university faculties
- Increase the opportunities and incentives for English and ICT education through distance and e-learning methods and radio and television programs

## **ICT Investment and Private Sector Development Program**

The ICT investment and private sector development program has twin objectives aimed at contributing to sustainable economic growth and employment creation in Sri Lanka. First, it seeks to support the domestic ICT sector by endeavoring to increase the use of ICT throughout the private sector. Second, it aims to promote the ICT export industry by

branding Sri Lanka as a destination of choice for foreign direct investment in the ICT industry and ICT-enabled services.

### ***Vision***

A Sri Lanka branded for its adoption of ICT in ensuring an efficient public and private sector and production of “best of breed” ICT solutions for niche global markets—and thus a destination of choice for business process outsourcing.

### ***Strategies***

- Promote growth of the local private sector through the provision of ICT solutions and services to government
- Empower local industry, and consequently the general population, to reap the dividends of using ICT in business and commerce more widely
- Promote local ICT products and services in the global market
- Brand Sri Lanka as an attractive location for global multinational corporations to set up operations
- Create centers of excellence for emerging technologies and increase opportunities for local entrepreneurs to play a key part in global markets

### **E-society Program**

The e-society program seeks to use ICT as a lever for socioeconomic development. By ensuring balanced access to information and knowledge among all sections of society, it aims to promote peace, growth, and equity and assist in closing the gap between urban and rural areas.

The overall goal of the e-society program is to promote the innovative use of ICT to meet the social and economic needs of the most vulnerable communities in Sri Lanka, to develop approaches to scaling up successful applications, and to empower civil society through affordable access to information, communication, and relevant local content.

### ***Vision***

A country where rural communities contribute significantly to the national economy—in other words, “taking the economy to the people.”

### ***Strategies***

- Raise awareness in civil society about the uses and benefits of ICT through a strategic communication campaign

- Develop multistakeholder partnerships in ICT for development to develop links between the ICT Agency and other organizations and institutions engaged in promoting an e-society
- Establish a fund that uses a bottom-up approach to solicit and develop innovative solutions using ICT to benefit the rural poor, women, displaced persons, and those living in conflict-affected areas
- Introduce and mainstream ICT in rural communities to provide greater opportunities for economic growth and a better quality of life
- Enhance the capacity of stakeholders by developing and delivering appropriate training programs

### **Note**

This description of the component programs of e-Sri Lanka is the latest available from the ICT Agency. It reflects the ongoing evolution of programs and current political preferences for naming them, but does not reflect any change in the overall program design.

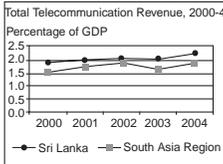
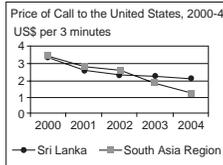
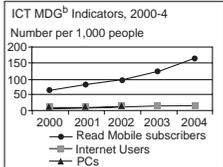
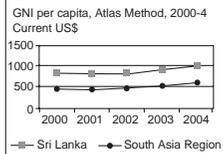
## **APPENDIX 2**

# **Selected Indicators for Sri Lanka and Comparators**



## Sri Lanka

	Sri Lanka		Lower-middle- Income group	South Asia Region
	2000	2004	2004	2004
<b>Economic and social context</b>				
Population, total (millions)	18	19	2,430	1,448
Urban population (% of total population)	21	21	49	28
Poverty (% of population below US\$1 per day)	7.6	..	..	31.3
GNI per capita, Atlas method (current US\$)	850	1,010	1,580	590
GDP growth, 1995-2000 and 2000-4 (%)	5.0	3.8	5.7	5.8
Adult literacy rate (% ages 15 and over)	90	..	90	58
Primary, secondary, tertiary school enrollment (% gross)	..	60	72	60
<b>ICT sector structure</b>				
Separate telecommunications regulator	Yes	Yes		
Status of main fixed-line operator	Mixed	Mixed		
Level of competition: International long distance	M	P		
Level of competition: mobile	P	C		
Level of competition: Internet service provider	C	C		
Government prioritization of ICT (scale 1-7)	..	4.8	3.8	5.3
<b>ICT sector performance</b>				
<i>Access</i>				
Telephone main lines (per 1,000 people)	42	51	192	41
International voice traffic (minutes per person) <sup>a</sup>	10	20	..	4
Mobile subscriber (per 1,000 people)	23	114	255	47
Population covered by mobile telephony (%)	..	40	76	43
Internet users (per 1,000 people)	7	14	70	21
Personal computers (per 1,000 people)	7	13	38	11
Household with television (%)	22	32	59	32
<i>Quality</i>				
Telephone faults (per 100 main lines per year)	132.0	10.6	..	55.1
Broadband subscribers (per 1,000 people)	0.0	0.7	12.6	0.6
International internet bandwidth (bits per person)	1	17	58	4
<i>Affordability</i>				
Price basket for fixed line (US\$ per month, residential)	6.9	7.3	5.5	3.2
Price basket for mobile (US\$ per month)	..	3.7	8.9	3.2
Price basket for internet (US\$ per month)	..	16.1	25.3	15.1
Price of call to United States (US\$ per 3 minutes)	3.29	2.11	1.45	1.21
<i>Institutional efficiency and sustainability</i>				
Total telecommunications revenue (% of GDP)	1.9	2.2	3.6	1.9
Total telephone subscribers per employee	101	166	195	89
Total telecommunications investment (% of revenue)	35.8	24.6	25.5	16.3
<i>ICT applications</i>				
ICT expenditure (% of GDP)	5.0	5.7	5.1	4.1
E-government readiness Index (scale 0-1)	..	0.27	0.26	0.34
Secure internet servers (per 1 million people)	0.3	1.5	1.6	0.4
Schools connected to the internet (%)	..	..	..	..



Notes: Figures in italics are for years other than those specified. – indicates data are not available. C = composition; GDP = gross domestic product; GNI = gross national income; ICT = information and communication technology; M = monopoly; MDG = millennium development goal; P = partial composition; and PCs = personal computers.

a. Outgoing and incoming. b. Millennium development cost indicators 47, 48a, and 48b.

Sources: Economic and social context: UNDP and World Bank; ICT sector structure: ITU, WEF; ICT sector performance: Global Insight/WITSa, ITU, Ncraft, UNDESA, UNPAN, and World Bank. Produced by the Global Information and Communication Technologies Department and the Development Economics Data Group. For complete information, see Definitions and Data Sources.

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# Index

*Figures, notes, and tables are indicated by "f," "n," and "t," respectively.*

## A

accountability, 125, 126*f*, 129  
balancing with other priorities,  
222–24  
e-society funds, 216  
aid agencies, 51–53, 62*t*. *See also* World  
Bank  
developing integrated approaches,  
162–63  
developing leadership, 58, 239  
e-government approaches, 243  
managing relationships, 200  
Andhra Pradesh, India, 15, 99, 100*b*  
Australia, 117*t*  
authorizing environment, 19,  
20*b*, 237  
aid agencies' support, 52, 58  
political turbulence, 23–26  
automated teller machines (ATMs),  
108–9  
autonomy, 23–24

## B

banking sector, 108–9  
bottom-up approach, 89–91  
and centrally driven, 234–35  
balance with top-down, 102, 240  
constraints, 225  
participatory development, 169–71  
business process reengineering (BPR), 158  
business services, 88*b*, 139–40, 143–44  
architecture, 137, 138*f*  
prioritizing, 140, 141*f*, 142–43, 142*f*, 143*t*  
business strategies to help the poor, 171–72

## C

capacity, 222–24  
capacity building, 11, 35*b*, 128–29  
e-leadership, 147  
human resources, 252  
M&E, 71

capital cost, 165  
 case studies, 106–14, 115*t*–116*t*  
 Central Bank of Sri Lanka, 108, 109  
 centralization, 32, 146  
 change management, 99, 101, 119  
 chief innovation officers (CIOs),  
   27, 158, 242  
 Chile, 124*t*  
 citizen benefits, 125  
 citizen database, 94, 100*b*, 111–12, 150  
 citizen services, 87*b*  
 civil service reform, 118  
 cofunding requirements, 208  
 Colombia, 85*b*  
 communication campaigns, 224  
 communications, 47–48, 245  
 community grant proposals, 219, 220*t*, 222  
 community grants, 209, 227*n*  
   demand for, 218  
   selection criteria, 214*b*  
   supporting preparation, 211–12  
 community participation, 243–46  
 concept notes, 193  
 concept proposal, 211–12  
 contracting, 46  
 core competencies, 39–43, 238  
 corporate identity, 17–18, 54, 59  
 cost, 165  
 cost sharing, 185–86, 201*n*  
 Council for Information Technology  
   (CINTEC), 13, 111, 119  
   Committee on Banking and  
   Finance, 109  
   identification card system, 112  
   LK portal, 110  
   Y2K, 113  
 customer participation, 172–73  
 customer service, shared, 139–40

## D

data collection, 73  
 data interchange, 111  
 data sources, 71, 86  
 database for citizen information, 94, 100*b*,  
   111–12, 150  
 Datamation, 182  
 debit cards, 108  
 decentralization, 89–91, 155  
 decision-support systems, 107  
 demand for ICT, 245

Department of Inland Revenue, 110–11  
 development, 1, 226  
   national strategy, 4–5, 126–27  
   priorities missed, 222  
 development, ICT-enabled, 170–71, 230–31  
   demand-driven, 173–75  
 diaspora, 42–43, 56  
 divisional secretariat, 151*b*  
 donor funds, 199  
 donor relationships, 200, 217–18

## E

e-business, 3  
 e-development, 1, 3*f*, 14  
   framework, 229–30, 234, 235  
   programmatic approach, 232–33  
   integrating ICT into, 230–31  
   strategy, 4–5, 88  
   sustainability, 57–58, 239  
   vision, 2–5, 231  
 E-Gate, 150  
 e-governance, building, 144–48  
 e-government, 3, 98*t*, 106, 162–63  
   areas of impact, 123–25  
   best practices, 83, 101–3  
   business services, 137–41, 138*f*  
   prioritizing, 141*f*, 142*f*, 143*t*  
 case studies, 106–14  
 demand mobilization, 89  
 e-services, 143–44, 151*b*  
   impact and feasibility, 163–65  
 examples of applications, 87*b*–88*b*  
 ICT training, 147*f*  
 implementation, 91, 148–52, 149*f*  
 information infrastructure, 93–94  
 investment plan, 148  
 investment sequencing, 103  
 objectives, 136  
 pilot projects, 94–96, 95*t*–96*t*  
 planning approaches, 84–86, 88–91,  
   101–2  
   leapfrogging and evolutionary,  
   157–58  
 political change, 241–42  
 private participation, 242–43  
 programs, 73, 81–82, 103  
 project failure, 156–57  
 readiness, 114, 117, 140  
   scores for selected countries, 117*t*  
 roadmap, 92*f*

- scaling up, 96–99
  - strategy, 102, 135, 136, 240–41
  - sustainability, 128
  - SWOT analysis, 118*t*
  - transforming public sector, 126–27
  - user feedback, 173
  - vision, 121–22, 131–32, 240
    - and policy and leadership, 92–93
  - e-human resource management (e-HRM), 151*b*
  - e-leadership, 9, 119, 158–59
    - aid agencies' role, 58
    - capacity, 146–48
    - development of, 41–42, 242
      - and management, 54–55
    - for e-government, 93
    - mechanisms, 144–46
    - public-private balance, 53–54
  - e-leadership institutions, 11, 12, 63*n*, 236–39
    - network of, 19, 21
  - e-pensions, 151*b*
  - e-population register, 150
  - e-services, 137–41, 150, 151*b*
    - access to, 165*n*
    - determining impact, 163–64
    - feasibility, 164–65
    - prioritization of, 159–60
  - e-society, 6, 78*t*, 216
    - program, 253–54
  - e-society fund, 167–68, 169, 203, 204
    - awarding grants, 216
    - balancing priorities, 222–24
    - community grant proposals, 220*t*
    - community grants, 205–8
    - donor relationships, 217–18
    - enhancing national innovation system, 226, 246
    - grant duration and size, 207
    - grant limits, 227*n*
    - grant selection criteria, 214*b*
    - grassroots initiatives, 243–44
    - helping e–Sri Lanka, 220–21
    - ICT Agency and policy reform, 225
    - implementation and monitoring, 213
    - innovation, 221–22
    - lessons learned, 218–19
    - managing, 214–16
    - monitoring and evaluation, 217–18
    - partnership grants, 208–9
    - policy reform, 225–26
    - target groups, 224
    - transparency and fairness, 209–10
  - e–Sri Lanka, 5–8, 10, 12
    - aid agencies' role, 51–53
    - assessments, 70
    - components of, 76–78, 249–53
    - data collection, 73
    - holistic framework, 230
    - infoDev* experience, 178
    - inputs from e-society fund, 220–21
    - M&E, 65–68, 74
      - framework, 68–69, 75*t*–76*t*
      - inputs and outputs, 67*t*
    - mandate, 31–34
    - partnership building, 233
    - sustainability, 36–37
    - target groups, 22*b*
  - early results. *See* quick wins
  - economic context, 256
  - election cycle impacts, 157
  - electronic data interchange (EDI), 108
  - Employees' Provident Fund and Trust Fund, 109
  - eSeva centers, 100*b*
  - evaluation. *See* monitoring and evaluation
  - evolutionary approach, 157–58
  - Export Development Board, 107
- F**
- facilities management, 152
  - failure factors, case studies, 114
  - failure, learning from, 186
  - Farmers' Knowledge Service pilot, 227*n*
  - financial management, 152, 199
  - flagships, 187, 188–89
  - foreign employment, 151*b*
  - forms' processing, 87*b*
  - funding mechanisms, 168
  - funds, management of, 199–200
  - funds, tied and untied, 199
- G**
- gaps, 222, 244
  - governance, 19, 27, 123
    - M&E, 28
    - mechanisms, 29*f*, 30, 55
      - for e-leadership, 238
    - weaknesses, 26–30

government, 4, 58, 86. *See also*  
 e-government  
 citizen-centric, 101  
 pilot projects, 94–99, 95*t*–96*t*  
 public-private balance, 16–17  
 shifting focus, 133  
 steps for achieving vision, 130–31  
 transforming, 98–99, 128, 240–43  
*Government Gazette*, 109–10, 120*n*  
 Government Information Center,  
 34, 156, 160  
 Government OnLine, 85*b*  
 government portal, 93–94  
 government printer, 109–10  
 government-to-business services (G2B),  
 137–38, 138*f*, 143*t*  
 government-to-citizen services (G2C),  
 137, 138*f*, 143*t*  
 government-to-employee services (G2E),  
 138, 138*f*, 143*t*  
 government-to-government services  
 (G2G), 138*f*, 139, 143*t*  
 grant programs, 187–91, 199  
 attracting donors, 200  
 evaluation and funding decisions,  
 193–95  
 monitoring and supporting grants, 196  
 grants, 178–80, 198  
 awarding from e-society fund, 216  
 balancing priorities, 245  
 community, 205–8, 227*n*  
 cost sharing, 185–86  
 for project sustainability, 181–82  
 funding requirements, 208  
 implementing organizations, 183–84  
 managing and supervising, 195–96  
 pump priming, 171  
 risks and misuse of, 197  
 selection criteria, 206, 214*b*  
 sizing, 184–85, 207  
 third-party evaluations, 198  
 to private companies, 183  
 grassroots initiatives, 167, 174, 243–44  
 and innovation system, 246  
 filling gaps, 221

## H

holistic framework, 174, 223–24,  
 234, 235  
 e-development, 229–30

holistic vision, 2  
 human resources, 16, 77*t*, 151*b*  
 capacity building, 252

## I

ICT Act of 2003, 30, 36, 59  
 identification card, 63*n*, 112  
 implementation, 149*f*, 165, 184  
 e-government, 148–52  
 e-society fund, 213  
 limited, 152–53  
 monitoring e-society progress, 217–18  
 partnerships, 44–45  
 implementing organizations,  
 183–84, 197  
 in-kind contributions, 186  
 India, 99, 100*b*, 117*t*  
 ICT to benefit citizens, 124*t*  
 leadership model, 15  
 information and communications technology  
 (ICT). *See also* information and  
 communications technology-enabled  
 development  
 applications for citizens' benefit, 124*t*  
 case studies, 106–14, 115*t*–116*t*  
 citizen use of, 127, 203  
 community-driven, 173  
 demand, 245  
 development projects, 5–6  
 human resource capacity-building  
 program, 252  
 identifying constraints, 246  
 industry promotion, 77*t*  
 investment and private sector  
 development, 252–53  
 investment approach, past, 119  
 investment prioritization, 136  
 management skills, 119  
 market risks, 62*t*  
 planning and management, 148  
 policy and leadership, 76*t*  
 policy committee, 27  
 policy framework, 59–60  
 project design and implementation,  
 179*b*  
 R&D, 175  
 sector, 222, 256  
 strategies, 5, 235  
 e-Sri Lanka, 249–50  
 national, 127

- Information and Communications  
 Technology (ICT) Agency of  
 Sri Lanka, 6, 12, 15, 21, 32  
 and e-society fund, 215, 225–26  
 as learning organization, 50–51, 57,  
 235–36  
 authorizing environment, 19  
 core competencies, 39–43  
 corporate identity, 17–18, 54, 59  
 creation of, 63*n*–64*n*  
 demands on, 34, 56  
 developing communication strategy,  
 47–48  
 diaspora support, 42–43  
 e-government investment plan, 148  
 e-government project implementation,  
 129  
 e-government roles, 145  
 e-leadership, 236  
 factors for effectiveness, 53  
 formal authority, 30–31  
 improving governance, 27–30  
 inconsistent board, 26–27  
 influencing other agencies, 31  
 institutional development and strategic  
 management, 20*b*  
 leadership development, 41–42  
 leadership turnovers, 25–26  
 M&E, 69–70, 75, 236  
 management style, 50  
 mandate, 31–32  
 organizational culture, 46–47  
 organizational structure, 59–60, 60*f*  
 political turbulence, 23–26  
 public-private balance, 16–17, 32, 53–54  
 quick wins, 37–38  
 resources, 32–34  
 risk management, 38  
 risks at inception, 61*t*–62*t*  
 scope, resources, and capabilities, 35*b*  
 stakeholder analysis, 22*b*–23*b*  
 strategic focus, 34–36  
 sustainability, 38–39, 52–53  
 top-down strategy, 154  
 training programs, 148
- information and communications  
 technology (ICT) team, 146, 146*t*
- information and communications  
 technology (ICT)-enabled develop-  
 ment, 170–71, 226, 230–31, 232  
 demand-driven, 173–75  
 policy constraints, 225
- information dissemination, 87*b*
- Information for Development Program  
 (*infoDev*), 168, 177, 184, 199  
 dissemination, 180  
 evaluating projects, 197  
 evaluating proposals, 193–94  
 failures, 187  
 grant sizing, 185  
 grant use, 180  
 managing funds, 199  
 misuse of funds, 197  
 private sector participation, 183  
 project quality, 195
- information infrastructure, 93–94, 250–51
- informational services, 143
- innovation, 222–24, 243  
 by users, 172–73  
 defining, 187–88  
 diffusion, 90  
 grant funding, 178–79  
 incremental, 175  
 national system, 226  
 quality *vs.* reach, 223  
 to help the poor, 172
- innovation funds, 245, 246
- institutional development, 9–10, 20*b*, 76*t*  
 mechanisms, 145
- institutional environment, assessing,  
 13–14
- institutional learning and adaptation, 51
- institutional model, 12, 14–16
- integrated and interactive services, 143
- integrated approach, 232
- integrated rural development program  
 (IRDP), 107
- Internet access, 165*n*
- investment prioritization, 130
- investments, optimizing, 5
- ITC, 175*n*
- K**
- knowledge economy, 1
- knowledge management, 48–49, 226
- L**
- land hub, 94, 100*b*
- Lankan Educational and Research Network  
 (LEARN), 112–13

LankaNet, 160  
 leadership, 76*t*, 99–101, 166*n*. *See also*  
   e-leadership  
   agency-level, 145–46  
   building, 128–29  
   e-government, 102–3  
   implementing vision, 133  
   national, 145  
   political, 85  
   turnovers, 25–26  
 leapfrogging approach, 157–58  
 learning culture, 46–51, 57  
 learning phase, 98  
 learning, institutionalized, 119  
 Livelihoods Framework, 174, 223–24  
 LK portal, 110  
 locally driven development, 171

## M

maintenance, 91  
 Malaysia, 97*f*  
 management style, 50  
 management, results-based, 67–68  
 mandate, 20*b*, 31–34, 55  
 marketing campaigns, 245  
 Ministry of Finance, 129, 133–34  
 Ministry of Information  
   Technology, 110  
 mission creep, 33, 56  
 misuse of funds, 197  
 monitoring and evaluation (M&E), 10, 28,  
   65, 69, 238–39  
   building internal capacity, 71  
   change requests, 68  
   consulting firm, 70  
   data collection, 73  
   demand and technical  
     assistance, 74  
   development projects, 108,  
     197–99  
   e-society fund, 213, 217–18  
   evolution of, 75  
   framework, 68–69, 72–73  
   in ICT Agency, 236  
   inputs and outputs, 67*t*  
   lack of, 91  
   objectives, 66–68  
   outsourcing, 69–70  
   results framework, 75*t*–76*t*  
 Moore, Mark, 20*b*

## N

Naidu, Chandrababu, 100*b*  
 national development strategy, 4–5, 126–27  
 National Economic Council, 28  
 national exams, 113  
 national identification card, 63*n*, 112  
 national innovation system, 226  
 needs analysis, 211  
 networks, e-government, 94  
 New Zealand, 117*t*

## O

organizational culture, 61*t*  
 outreach, 206, 219, 222–24  
 oversight, 86

## P

participatory approach, 70–71  
 participatory development, 169–71  
 partnership grants, 221*t*, 222  
   demand for, 218, 219  
   e-society fund, 208–9  
   selection criteria, 214*b*  
   soliciting proposals, 212–13  
 partnerships, 43–46, 56–57, 99–101  
   as data sources, 71  
   cost sharing, 185  
   creating, 182–83  
   e-Sri Lanka, 233  
   need for, 238  
   to facilitate e-government, 120  
   undeveloped capacity, 244  
   with private sector, 100*b*, 200–201  
 Pastrana, Andres, 85*b*  
 pensions, 106–7, 151*b*  
 pilot projects, 94–96, 95*t*–96*t*  
   communication plan, 181  
   Farmers' Knowledge Service, 227*n*  
   for sustainability and scaling up, 224–25  
   implementing, 36–37  
   learning from failure, 186–87  
   pension and disbursement records,  
     106–7  
   ranking framework, 97*f*  
   scaling up, 96–99  
 policy reform, 225–26  
 political change, 23–26, 62*t*, 88

political context, 156–57, 241  
 poor people, 171–72, 174  
 PPP. *See* public-private partnership  
 prioritization, 35*b*, 86, 165*n*  
   of e-services, 159–60  
 private sector development, 252–53  
 private sector participation, 160–61,  
   242–43. *See also* public-private  
   attracting, 182  
 private sector partnerships, 100*b*, 200–201  
 process reform, 158  
 procurement, 45–46, 88*b*, 96  
 programmatic approach, 232–33  
 project failure, 197  
 project management, 150–52, 155  
 project outcomes, evaluation of, 197–99  
 projects, 197, 245. *See also* grants; pilot  
   projects  
 proposal review process, 213  
 proposals, 187, 209–13. *See also* requests  
   for proposals  
   development gaps, 244  
   evaluation and award of, 193–95, 213  
   preparation, 191–93, 191*b*–192*b*  
   supporting community efforts, 211–12  
   separation of review and award  
   functions, 210–11  
   soliciting for partnership grants, 212–13  
 public communication, 48  
 public feedback, 87*b*  
 public sector IT units, 128  
 public sector transformation, 126–27.  
   *See also* government  
 public services, 124, 125  
   delivery, 81, 87*b*, 98, 98*t*  
 public-private balance, 16–17, 32, 53–54  
 public-private partnership (PPP), 160–62,  
   242–43

## Q

quick wins, 37–38, 155–56, 247*n*  
*vs.* long-term sustainability, 233–34, 241

## R

recruitment, 16, 40–41, 61*t*  
 reengineering government, 6, 33, 76*t*, 82,  
   240, 251. *See also* government  
 replication, 180

requests for proposals (RFPs), 189–90,  
   190*b*. *See also* proposals  
 research and development (R&D), 175, 226  
 resource mismanagement, 90  
 resource mobilization, 38–39  
 resource planning, 86  
 resources, lack of, 61*t*  
 results release, educational and  
   electoral, 113  
 results, early. *See* quick wins  
 results-based management, 67–68  
 revenue collection, 110  
 revenue generation, 87*b*, 125  
 risk management, 38  
 rural outreach, 224

## S

Samaranayake, V. K., 120*n*  
 Sampath Bank, 108  
 scaling up, 180, 221–22, 224–25, 245  
   bottom-up approach, 90  
 secretariat knowledge and information  
   management system (SKIMS), 100*b*  
 seed funding, 178–79  
 selection criteria, 206, 214*b*  
 sequencing, 86, 89, 103  
 service delivery, 81, 87*b*, 98, 98*t*  
 service providers, 129  
 services. *See* e-services  
 Singapore, 117*t*, 124*t*  
 situational awareness, 47–48  
 social context, 256  
 social entrepreneurship, 182  
 Sri Lanka, 7, 13, 82  
   e-government, 106, 123–25  
   readiness, 114, 117, 117*t*, 140  
   vision, 122–23  
   ICT catch up, 119  
   ICT initiatives, 105  
   selected indicators, 256  
   SWOT, 117–18, 118*t*  
 Sri Lanka EDI Network Services  
   (SLENS), 108  
 Sri Lanka Trade and Facilitation  
   Committee (SRILPRO), 107  
 staff motivation, 72  
 staffing, 40, 61*t*  
 stakeholder participation, 21, 70–71, 121,  
   169–71, 232  
   communicating the mission, 189

strategic enablement and alignment, 164  
 strategic management, 20*b*  
 strategic planning, 153–54, 161  
   long-term, 155–56  
 strategies, national, 4–5, 126–27  
 strengths, weaknesses, opportunities,  
   and threats (SWOT), 17–18, 18*t*,  
   117, 118*t*  
 subsidies, 181  
 success factors, case studies, 114  
 sunset clause, 63*n*  
 supply-driven programs, 89  
 sustainability, 52–53, 57–58, 91  
   ICT projects, 181–82, 224–25, 245  
   quick wins *vs.* long-term, 233  
 synergies, exploiting, 2–4

## T

technical assistance, 74, 193, 210  
 technology availability, 164–65  
 telecenters, 6, 77*t*, 201*n*  
   and e-society fund, 204, 205  
   grant applications, 219  
   sustainability problems, 181  
 telecommunications network  
   development, 77*t*  
 top-down approach, 84–89, 153–55  
   balanced with bottom-up, 102,  
   234–35, 240  
   Colombia, 85*b*  
 trade, 107–8  
 training, 98, 119, 129  
   CIOs, 158  
   for e-government, 147*f*  
   policies, 147–48  
 transactional services, 143

transforming government. *See* government  
 transparency, 125, 126*f*, 209–10

## U

United Nations Global e-Government  
   Survey, 114  
 United States, 117*t*  
 usage, 164  
 user acceptance, 165  
 user innovation, 172–73  
 utility billing, 113

## V

value, 163–64  
 vision, 131–32, 240  
   e-development, 231  
   e-government, 92, 102, 121–22  
   e-Sri Lanka, 249  
   leadership role, 133  
   role of government, 130–31  
   unrealistic expectations, 132

## W

web portal, 110  
 World Bank, 13, 61*t*, 74, 131  
   e-government process, 136  
   e-Sri Lanka role, 51–52

## Y

Y2K task force, 113



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ISBN 978-0-8213-7335-4



SKU 17335



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