E-Agriculture and E-Government for Global Policy Development:
Implications and Future Directions

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E-Agriculture Development: Conceptual Frameworks

The rapid growth of Information and Communication Technologies (ICT) has increased opportunities to improve agricultural production, distribution, and marketing activities in Sub-Saharan Africa (SSA). Such initiatives are expected to provide vast social and economic benefits to the agricultural community and help uplift standards of living of society in general. The process of how ICT should be applied in agriculture to raise living standards of millions of poor Africans is not yet well understood. Therefore, there is a need to deepen our understanding of the socio-economic benefits expected from ICT use in agriculture, and most importantly, how these benefits will be realized in SSA. Some green revolution technologies failed in Africa and parts of Asia because of inadequate attention to context specific issues, irrelevance, and prohibitive costs. In that regard, this chapter describes a framework for sustainable e-agriculture development in SSA. The proposed framework is divided into three main parts; (i) e-service delivery (ii) ICT development and, diffusion pathway, and (iii) e-information flow and e-content development landscape. In order to facilitate the effective diffusion and adoption of e-agriculture, a set of preconditions and "e-value creation" opportunities are assessed. The preconditions filter out "irrelevant" ICT, and e-value creation facilitates context specific and demand driven e-innovations in agriculture. The chapter identifies and discusses ICT illiteracy, lack of ICT policies, infrastructural deficiencies, and poverty as key challenges affecting the future success of e-agriculture in SSA. The chapter recommends the development of e-policies and e-strategies on e-content, e-trust, e-security, e-value addition to promote sustainable e-agriculture development on the African continent.

Almost sixty five percent of Indian population is engaged in agriculture that contributes to food security of the world's second largest populated country. Though agriculture sector shares 26 percent of GDP, this sector is very crucial for the sustainable growth and development of India. The emerging agricultural challenges demand information intensive agriculture work and applications of state of the art knowledge to enhance agricultural productivity, but non-accessibility of information and subsequently awareness and knowledge gaps that exist in this sector, enormously affect agricultural productivity. Efforts are being made for e-communication of information in rural India. This chapter portrays such efforts of public and private sectors, pinpoints the problem areas for accessibility of latest agricultural knowledge and suggests an e-communication model suitable for transfer of agricultural knowledge in the rural areas of India.

the new information and communication technologies (ICTs), which may be perceived as comprising core, key or critical factors against which the level of capability of National Capacity for ICT or eGovernance may be assessed, measured and/or interpreted. CSFs, perceived to be critical for the success of any eGovernance initiative is best modelled as a three-tier minimalist framework, comprising CSFs at levels described as macro-, meso-, and micro- levels. The nature of any given ICT initiative which is appropriate nationally in central government, locally in local government, or in the public service, in the civil service, or in some selected sector or jurisdiction of the national economy, whether existing or planned, and whether implicit or explicit, must take cognisance of the need for the identification of CSFs at the inception stage of the initiative.

Information and communication technologies (ICT) have transformed health service delivery (HSD) in developing countries although the benefits are not yet fully understood. This chapter examines the use of ICT for HSD in the Namibian context. To obtain insights into the extent and degree of the current ICT uses, the chapter begins by mapping a HSD landscape for Namibia. The reported ICT use patterns are based on a primary survey of 134 patients and key informant interviews held with 27 health service providers (HSPs) in Khomas and Oshana regions of Namibia. The results from the survey indicate that Namibian patients use diverse range of ICT to access health services including the traditional television and radio, and the more modern mobile phones and computers to a limited extent. HSPs reported the growing use of ICT in various functional areas such as admissions, clinical support, family planning, maternity, and emergency services. The chapter identifies key challenges and policy implications to enhance the uptake of ICT-based health services in Namibia. The relatively high penetration rates of traditional ICT such as televisions and radios coupled with a growing use of mobile phones presents new alternative opportunities for expanding HSD to Namibian patients in remote settings. The chapter will benefit HSP and patients as they decide on affordable technology choices; and policy makers as they design interventions to stimulate the use of ICT in HSD in Namibia. The results provide key insights for other Sub-Saharan African countries contemplating ICT integration in health services.

Section 4
Selected Readings

This chapter attempts to enhance the understanding and knowledge of Information and Communication Technologies (ICTs) in relation to the Tanzania National ICT Policy as a case study. The authors

extensively explore these pervading technologies as they impact on the education, commerce, social, cultural, and economic life of the poor Tanzanian people. The chapter looks at how Tanzania is coping with the issue of poverty eradication as one of the eight UN Millennium Development Goals (MDGs). It addresses the issue of digital divide and the role that ICTs can play in poverty reduction. Tanzania's efforts in embracing ICTs and the challenges facing the country in its efforts are also addressed. Overall, the chapter demonstrates that ICTs are a set of tools for knowledge sharing, which is a powerful means for poverty reduction. Furthermore, it is advisable to focus on information literacy rather than just focusing on computer literacy.

ICTs in general and e-governance in particular offer tremendous opportunities for improving demand-driven transparent and accountable service delivery targeting the underprivileged. The objective of this chapter is to examine the effects of E-government implementation in the context of widespread poverty in India through an extensive secondary data analysis on selected pro-poor initiatives in reducing poverty and improving rural livelihoods. Analysis also includes various contexts in which these ICT based interventions operate. Specific recommendations are made to involve the socially excluded groups in the design, implementation and access to e-government services. Governments to design appropriate public policies in implementing socially inclusive e-government strategies in the emerging information society draw the conclusion.

This chapter describes the problem state of organic farming development and procedures for modeling by the means of system dynamics, with emphasis on the organic products market. The modeling principles are described in the following steps: problem state formulation, development of causal loop diagrams, model development, scenario analysis and formulation of acceptable strategies. Basic structures developed by the system dynamics principle are presented. The concept of archetypes in the field of organic agriculture modeling is described. The simulation scenarios are formulated as a case study for the Slovenian organic agriculture.