Chapter 7
Building Sudan Water Knowledge Sharing Based on Global Technology

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ABSTRACT
Advances in information and communication technologies are key agents for global change. The emerging of new digital systems together with the ongoing processes of globalization is facilitating faster sharing of information and innovations. Knowledge is crucial need of any country as well as initiative of international communities which should be empowerment of all its citizens through access and use of knowledge. It listed briefly the knowledge sharing elements which make changes in our organization of work and daily life. The infrastructure of knowledge sharing in the Sudan is carefully studied. The water based knowledge is analyzed and finally digital knowledge assets that support and stimulating knowledge sharing are approached.

INTRODUCTION
Advances in information and communication technologies are key agents for global change. The emerging of new digital systems together with the ongoing processes of globalization is facilitating faster sharing of information and innovations. Quinion (2003) argued the accelerating pace of technological change may lead to a widening of the gap between rich and poor, developed and developing countries. However, the close global connectivity within the technology revolution may itself provide vehicle for improved education and local technical capabilities that could enable poorer and less-developed regions of the world to contribute to and profit from technological advances. This leads international organizations to play a critical role in promoting the application of science, technology and innovation to the Millennium Development Goals “MDGs”. These organizations especially the organs of the United Nations and allied intergovernmental bodies have extensive influence on the development agenda. Deploying these organizations’ efforts
to meeting the MDGs will require them to focus on their functions and competencies rather than jurisdictional mandates.

The main task of this chapter, then, has been to find out what knowledge sharing trend is and why users are going to these approaches. It aims to assess knowledge sharing needs to global knowledge initiatives whose purpose is to help people access knowledge, harness information and communication technologies “ICT” and improve their lives. It directs the sights to adopt knowledge sharing functionalities to the benefit of Sudanese society and studies infrastructure of knowledge sharing as its application for research and development.

This Chapter analyses adopted knowledge sharing in educational, research, governmental and private institutions during 2008 including institutional knowledge capacities and identifying the gaps on its management are carried out. It is also supported by conducting desk studies to review documents of previous studies, institutional documents and websites. It is followed by analysis and interpretation of the collected information of site visits. It draws attention to the need for a sufficient number of organizations to be capable of storing, migrating, and providing access to knowledge. The collected data tries to identify institutional knowledge capacities and the gaps on strategic policy environment, information management, technology management, communication management and service provision and partnerships.

**Knowledge Sharing Fundamental Concepts and Elements**

The author attempts to elaborate a set of fundamental concepts and elements which manage knowledge sharing and access.

**Knowledge**

Amrit Tiwana (2001) defines knowledge as a fluid mix of frame, contextual experience, values, situated information, expertise, and grounded intuition that provides the framework for evaluating, understanding, and incorporating new experiences and information. Such knowledge becomes not only embedded in documents or repositories but also in organizational routines, processes, practices and norms. Knowledge can be either tacit or explicit. Tacit knowledge is subconsciously understood and applied, difficult to articulate, developed from direct experience and action, and usually shared through highly interactive conversation, storytelling and shared experience (Zack, 1999). It is knowledge that people carry in their minds and is, therefore, difficult to access. People are often not aware of the knowledge that they possess or how it can be valuable to others. It is considered more valuable because it provides context for people, places, ideas, and experiences. Effective transfer of tacit knowledge generally requires extensive personal contact and trust. Tacit knowledge is not easily shared and consists often of habits and culture. The concept of tacit knowledge also refers to a knowledge which is only known by an individual and that is difficult to communicate to the rest of same institution. The process of transforming tacit knowledge into explicit knowledge is known as codification or articulation. Explicit knowledge, in contrast, can be more easily to communicate, precisely and formally articulated. Therefore, although more abstract, it can be more easily codified, documented, transferred or shared. Explicit knowledge is playing an increasingly large role in organizations, and it is considered by some to be the most important factor of production in the knowledge economy. It can be extracted, transferred to another medium, eventually digitized and managed with the use of Information and Communication Technologies “ICT” (United Nations, 2005). Knowledge may be used as the basis for developing new knowledge through integration,