

## Chapter 4

# The Social and Economic Benefits of Nepal Wireless

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### ABSTRACT

*Information and Communication Technology (ICT) has become a vital instrument for delivering a number of services such as education, healthcare, and public services. Community wireless networks are community-centric telecommunication infrastructures developed to provide affordable communication for those who live in remote areas. This chapter discusses the role of Nepal Wireless in achieving socio-economic development of rural communities by facilitating affordable Internet access. In particular, the authors discuss the philosophy and objectives of the project, used network technology, financial resources, and management structure. In addition, the chapter discusses its key services including e-learning, telemedicine, e-commerce, training, and research support. The authors also analyze the challenges Nepal Wireless faced and articulate on the approaches it took to address those challenges. These challenges include lack of technical skills, selecting appropriate technology, ensuring funding resources, difficult geographical terrains, unstable political situation, and expensive devices. They conclude the chapter with some suggestions for policy makers, community developers, and academicians.*

### BACKGROUND

Governments and individuals in developing countries usually give higher priority to fundamentals of living such as healthcare, education, agriculture, clean water, roads, and other public infrastruc-

tures. That is greatly overshadowing the need for developing Information and Communication Technologies (ICTs) in remote areas where the majority of population live (Aitkin, 2009). As a result, ICTs services are available mostly for the people living in big cities and their peripheries.

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This group of people is known as ‘haves.’ On the contrary, access to information and online resources in most of rural areas in developing countries is limited (Heeks & Kanashiro, 2009). Therefore, people living in these areas cannot explore the opportunities. This group of people is known as ‘have-nots.’ This is one of the reasons why there is a huge digital divide between people living in rural and urban areas. The difference of socio-economic opportunities between ‘haves’ and ‘have-nots,’ due to the technology is pronounced as digital divide (Herselman & Britton, 2002; Cullen, 2001). The concept of digital divide is not limited to the physical access of technology, but it is extended to social, political, economic, human, and cognitive spheres (Heeks, 2008; Warschauer, 2003).

However, besides having major inequalities across the regions and continued gaps in access to ICT, such tools and techniques can have positive impacts on development of the poor communities (Hamel, 2010; Nair & Prasad, 2002; Unwin, 2009). The cheaper version of new technologies can create conducive opportunities in the rural and remote areas. Studies show that proper implementation of the ICT services can facilitate socioeconomic development (Jensen, 2007; Díaz, Andrade, & Urquhart, 2009; Heeks & Kanashiro, 2009), and can reduce the digital divide (Zheng & Walsham, 2008).

Following a similar approach, the Nepal Wireless was established to narrow the digital divide prevailing in the mountain regions of Nepal. Before describing the details of the conception, implementation, and achievements of the projects, the following section gives a brief background of the ICT scenario of Nepal. Thereafter, subsequent sections will describe how the Wireless project started from one village and extended to more than 150 villages. Furthermore, the chapter assessed the achievements of the Nepal Wireless using Unwin’s (2005) model of successful ICT4D projects.

Nepal is a small country located between China and India. It has about thirty million people. It is

mostly a mountainous country with majority of the highest mountains of the worlds. Politically, Nepal is the youngest republics of the world, which is officially called the Federal Democratic Republic of Nepal (CIA, 2012).

A brief overview of ICTs services that are presently available in Nepal has been given in order to make readers understand clearly the reason behind the evolution of Nepal Wireless in 2001. Even if the mobile penetration rate has increased significantly in recent years in Nepal, many people in rural areas are still deprived from communication services including the Internet. Table 1 shows that in 2011 about 55% of Nepali people do not have telephone services and almost 90% of them have no access to the Internet (NTA, 2011).

Nepal Wireless started in 2001 as a grassroots project to connect some of the mountain villages of Nepal. The projected population of Nepal for 2010 was 28,584,975. Table 2 shows some statistics of the growth of telephone and Internet users between 2003 and 2011 (NTA, 2003).

## SETTING THE STAGE

Prior to the start of Nepal Wireless in 2001, rural residents and remote communities had very limited knowledge about computer and Internet. In addition, there was no telephone or electric infrastructure in the villages. People had to walk five to eight

*Table 1. Percentage of people using telephone and internet services in 2011*

Voice Services being provided by different operators	Users	Penetration Rate %
Fixed	837,705	2.93
Mobile	11,299,735	39.53
Others (LM, GMPSC)	695,893	2.43
Total	12,833,333	44.90

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