



Chapter XIV

The State of Teledensity Diffusion in Least Developed Countries: A Review of the Literature

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ABSTRACT

This chapter reviews research from academic and major international organizational literature to examine and synthesize the current understanding of teledensity development in Least Developed Countries (LDCs). The obstacles to the growth of teledensity are discussed, and the importance and opportunities for growth of teledensity to solve priority problems and to realize sustainable development in LDCs are examined. The literature findings suggest that various policy, economical, financial, managerial, organizational, technological, political, and geographical factors are important determinants for growth of teledensity in LDCs. A variety of strategies to advance teledensity in LDCs are suggested.

INTRODUCTION

The pervasive role of telecommunications in modern world economies is well documented. Across the world, countries are seeking to improve telecommunications infrastructure and benefit from anticipated increases in economic activity (Dutta, 2001). Both

developing and developed countries are investing tireless efforts to improve their telecommunications infrastructures. One such infrastructure is Teledensity.

Teledensity is used to refer to the number of main telephone lines for every one hundred inhabitants. Teledensity is also used to refer to the level of a country's telecommunications infrastructure (Gille, 1986; Mbarika, Musa, Byrd, & McMullen, 2002, Saunders, Warford, & Wellinius, 1994). *Least Developed Countries (LDCs)* are defined as low-income countries that are suffering from long-term constraints against growth, in particular, low levels of human resource development and severe structural weaknesses: economic, social, and political (Austin, 1990). These countries are particularly ill equipped to develop their domestic economies, which are vulnerable to external shocks and natural disasters.

Table 1 contains the list of 48 LDCs, as currently defined by the United Nations General Assembly that was used for this study. The list was most recently updated in December 1998, with the "graduation" of Botswana and the addition of two new countries, Angola and Eritrea, to the list. Of the 48 LDCs, 30 are in Africa, 13 in Asia and the Pacific, four in the Arab Region, and one in the Americas. There were 25 LDCs in the original group in 1971, indicating that the number has virtually doubled in 20 years. The criteria used by the United Nations General Assembly for inclusion in the list of LDCs are discussed below.

Old Criteria for Inclusion

The original set of criteria for constructing a list of countries classified as LDCs was adopted in 1971. This includes:

- Per capita income per year less than US \$200. This figure has been revised periodically, and stood at US \$600 in 1998.
- Share of industrial production in the Gross National Product (GNP) under 10%.
- Adult literacy rate less than 20%.

New Criteria for Inclusion

New criteria for determining LDCs was established in 1994:

- Population less than 75 million.
- Per capita Gross Domestic Product (GDP) less than US \$700 (average 1990-92).
- Augmented physical quality of life index (APQLI) less than 47.¹
- Economic diversification index (EDI) less than 26.²

Premise of this Study

In a study carried out by the International Telecommunications Union (ITU World Telecommunication Indicators, 1995), LDCs were represented to be among the least developed in terms of the state of their telecommunication networks and limited range of services offered. The study showed evidence that LDCs are falling farther behind other developing countries in the race to construct modern telecommunication networks. For example, as far back as 1984, among commonwealth countries, Singapore (a developing country) generated the fourth highest telecommunications traffic after the UK, Australia, and Canada (developed countries), as opposed to LDCs that currently have less than one telephone for every 100 inhabitants (Eward, 1984).

The same ITU study mentioned above shows further evidence that the falling of LDCs behind other developing countries in the race to construct modern telecommunication

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