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Title of the Thesis: Role of Information and Communication Technology in Rural Development: A Case Study of Akshaya Project in Malappuram District of Kerala.

Key Words: Information and Communication Technology, Rural Development, Digital Divide, Akshaya and Data Envelopment Analysis.

Abstract

This study is an attempt to examine the potential of Information and Communication Technology as an important tool to boost the rural development process through bridging digital divide. ICT has a considerable inherent empowerment potential in the integration of social, economic and political life and it has opened a wide range of opportunities for India to achieve its socio-economic and development goals. So the researcher analysed the role of ICT in both macro and micro levels ie, role of ICT in the development of Indian economy in general and in the development of rural areas of Malappuram District of the state of Kerala, in particular. For the broad analysis, an attempt has been made to examine the contribution of ICT in the development of Indian Economy by applying various statistical techniques. There is a rapid growth in the export segment in India's IT sector over the years and India has a comparative export advantage in ICT service and disadvantage in ICT goods segments respectively, and its comparative export advantage in ICT services has been decreasing gradually in the recent years. The Ganger Causality result reveals that there exists only unidirectional causality (from economic growth to ICT export growth) between exports and growth in India. Even though India could become global leader in IT industry, especially in software export, India could not utilise its potentiality of ICT as a tool for development. India has been ranked among low level network readiness countries in different reports of ITU and WEF. There are also geographical disparities among Indian states, according to E readiness assessment reports of Indian states. It emphasizes the needs of high level diffusion of ICT into other social and economic sectors.

Analysis from both demand and supply side of Akshaya project is another feature of this study. This project is being considered as the backbone for the achievement of Malappuram District in the utilisation of ICT for social empowerment and to become first electronic literate district of India in April 2004. Field investigation has been carried out through the collection of primary data from the entrepreneurs of Akshaya Centres, by focusing on second and third objectives of this study. This study examines the role of Akshaya in Rural areas of Malappuram in a Capability approach framework by analyzing the contribution of Akshaya Centres in various areas; providing ICT infrastructure and other communication services, developing entrepreneurship and

generating ICT based employment, boosting the process of financial inclusion and less cash economy, providing education and training(Skill development), delivering E Governance services (G2C and G2B), disseminating information to farmers through various projects, providing health care related services, acting as an implementing agency of government projects and programs and offering other business to citizen (B2C) services. So this study is an important study from the aspect of rural development. In the early stage of implementation of this project, centres did a great role in transforming Malappuram as the first computer literate district of the country in April 2004, but, after this stage of e literacy centres could not contribute more in the area of skill development and training.

This is a detailed empirical analysis of the case of Akshaya project in Malappuram district by applying analytical techniques such as DEA and Mann Whitney U test on primary data. Empirical analysis, by applying analytical techniques such as DEA and Mann Whitney U test on primary data, which were collected from selected Akshaya centers, reveal that there are no differences in performance of rural and urban centers, but results of Malmquist index analysis show that there was more productivity change in rural centers from the year of 2012-13 to 2014-15 due to the implementation of some projects Adhaar enrollment, Banking Kiosks and E District in rural Akshaya Centers.

Further Field investigation to analyze the level of both physical and real accessibility of ICT in rural areas of Malappuram and people's satisfaction on various aspects of E-Governance service of Akshaya centres, based on primary data collection from 450 respondents in the rural areas of Malappuram through questionnaire; it is the fourth objective of this study. One of the major objectives of Akshaya project was to provide service of an ICT facilitated service centre to every citizen within two kilometres from his house, which had been achieved up to a certain level. A majority of surveyed people visited Akshaya centres regularly and more than 95 percentage visitors availed services including e governance, education related and financial services. The findings of the study emphasise the need to strengthen Akshaya Centres with a strategic plan to enhance the role of these centres in the empowerment of society, especially in rural areas, because the Akshaya project could create an excellent link between government and citizens. As far as technology is concerned, it is advancing drastically; existing technology is being replaced by new advanced technology within no time. So the result of any study regarding technology will be affected by the technological advancement. Even though Information and Communication Technologies are the backbone of this fourth Industrial revolution, emerging technologies such as Biotechnology, Nanotechnology, Artificial Intelligence, Internet of Things, Robotic, Quantum computing, Autonomous vehicles etc., have a major role in the empowerment all sections of the economy and society. This study considered only the role of Information and Communication Technologies, so this is a major limitation of this study.