ABSTRACT

During the last few decades, Information technology communication in all its forms and manners has grown beyond the realm of the pure IT industry. It has been shown by various groups and individuals how ICT can be leveraged for the betterment of various societal needs. India as a country can benefit from this new wave most yet it is merely begun to exploit the possibilities that this technology can provide. This thesis is an attempt to look at ICT holistically and suggest novel ways of implementing the same for betterment of rural India especially in the field of education, agriculture and healthcare. It has been found by conducting in-depth research and literature survey that already many technologies do exist but they are yet to be adapted by India and some technologies need to be tailor made for the country. This challenge has been met by suggesting a strategic plan via this thesis. Alleviating the present methods and processes to increase profit, productivity and reach using ICT is the main focus here.

An innovative method of agricultural development and management with participation of farmers, various educational institutions, private and public sector has been suggested. It makes use of ICT via high speed wired and wireless networks and various sensor networks. These have been integrated along with private and public agricultural groups for analysis and management. This method can certainly improve the present situation of the agricultural sector in our country.

Education is a prime field where the penetration of ICT can yield immediate as well as long term benefits. Use of high-speed wired and wireless networks along with the concepts of collaborative and distributed learning, Telepresence solutions etc. can really enhance the way our country learns. In a county such as India that shows spurts of growth in selective fields, proper and uniform educational excellence across all sections of the population is a must. The future economic development depends very much on the educational sector. Promoting collaborative learning and removing the barrier of distance will truly allow research and innovations to flourish.

Healthcare concerns are still very grave in our rural areas. Very little improvement has been seen even as technology keeps advancing. Through this thesis, a plan has been suggested where the use of wireless telecom networks and ICT innovations have been integrated along with various sensor technologies for a
comprehensive solution. The present barriers of distance and financial constraints shall be greatly reduced if remote healthcare infrastructure takes root. Providing remote diagnosis shall greatly enable all parties involved to save both time and money.

Poverty alleviation through rural development is the final goal. To achieve this, several factors need to come together. This thesis provides plans for improvement in the major sectors of education, agriculture and healthcare. ICT is the perfect tool to achieve this in the fastest possible manner.