

SYMPOSIUM ON INTEGRATED APPLICATIONS (B5)
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USING SPACE INFRASTRUCTURE FOR TELEMATIC CITY SERVICES IN RURAL AREAS

Abstract

The paper will report on two key drivers for development and how the Space Infrastructure's distinctive characteristics can interact with the key drivers.

The research is important to underpin the viability of utilising space infrastructure from international programs in Africa and to assist in determining the business case for the space programs of emerging space nations.

Vast numbers of people (300 million extremely poor and 200 million moderately poor) in vast areas of Africa are living in poverty (Sachs 2001, p21). Conventional development impacts have not made any significant impact to date (Easterly, 2008). Although there is promise of the Fortune at the Bottom of the Pyramid (Prahalad), in reality the amount of resources required to achieve the objective is more than is currently available and mechanisms to date has not been very successful.

Understanding some of the key drivers of development and the impact that space technology has on it, enables development impacts at a fraction of the cost of conventional interventions with a focus on effective use of the little available resources.

The two drivers are education and ubiquitous access to Information, Communication Technology.

In education the key insight is to focus on the education of values (character development) as it makes the skills/knowledge that is obtained through traditional education effective. In ICT technology the key insight is that ICT technology forms the fabric of a community that has the benefits of a city infrastructure. Furthermore deploying ICT infrastructure through space infrastructure enables one to simulate the city infrastructure over any area of interest, such as the rural areas in Africa. Compare the effectiveness with which navigation is done today through the use of GPS receivers as an example.

The Concern addressed in this research is understanding development well enough so that the unique properties of space infrastructure can be mapped to it to increase its chances of long term viability. Making the connection between a mission critical requirement for satellite capacity provide a demand for the technology of building satellites to supply into a market pull environment instead of satisfying demands which can be postponed at a moment's notice.

The paper will describe the research process, investigate the concept of socio-economic development from which a model is derived of which the simulation can answer a number of questions.