Infrastructure in economic growth

The significance of infrastructure being used as a tool to promote development is one that is very clear from an economic perspective, with benefits such as lower production costs, increased output, discovery of new markets, and increased economic growth driven by capital accumulation and total factor productivity gains. Accordingly, infrastructure facilitates improvement in the quality of life of people, and builds a foundation for human and economic development. (Scott, 2002).

Recent studies indicate that improved infrastructure reduces the cost of transactions for participants in the economy (Makhura, Kirsten & Delgado, 2004) and can improve overall development outcomes and economic competitiveness (DBSA, 2006). Infrastructure is the capital stock that can help to provide goods and services to the public. Wanmali (1992) categorises infrastructure services in agriculture into soft and hard infrastructure. The ‘ soft infrastructure’ includes transportation services, finance services, animal husbandry, input distribution and marketing. This can either improve or hinder agricultural development. Roads, telecommunications, electrification and irrigation are termed ‘ hard infrastructure’. Infrastructure, in all its forms, is viewed as a ‘ means to an end’ (DBSA, 2006) and efforts to improve the competitiveness of emerging farmers should take cognisance of, amongst other things, critical issues in infrastructural factors that have a direct bearing on their production activities and how they could access the market. These would ensure the generation of income, which reflects increased participation in the economy. Roads reduce transport costs and ports reduce transaction and trade costs. Ascheur (1989) for example, finds that road building increased the economic growth of the USA. The World Development

report (1994) highlighted multiple links between infrastructure and development and emphasized how policy can improve the quantity and quality of infrastructure services in developing countries. Most recently, infrastructure investments were explicitly linked with child health, human capital accumulation, and the achievement of the MDG's (Leipzeiger et al, 2003) The positive and significant correlation between infrastructure accumulation and growth at the macro level is now well established. (Leipzeiger, 2001) At the microeconomic level, better infrastructure is associated with greater firm competitiveness, lower poverty, and better health and education outcomes for the poor. Conversely, less investment will lead to lower growth and worsening social indicators. (benchmarking. pdf)

The fact that Africa's infrastructure is central to its future is well understood by African policymakers. Energy, water, sanitation, telecoms and transport have long been mentioned by most heads of state in their speeches as essential concerns for which more resources are needed. Consultation processes reveal that these politicians are in tune with the poorest who also list access to better infrastructure services as critical to their quality of life. The recognition of the importance of infrastructure was most recently collectively endorsed as part of the Commission for Africa report.

Agriculture is the cornerstone of developing economies (DBSA, 2000). However, participation of smallholder farmers in domestic markets in most developing countries remains low due to a number of constraints, one of them being high transaction costs (Machethe, 2004), largely attributable to poor infrastructure.

TRANSACTION COSTS

These are mainly fixed costs associated with the search for trading partners, negotiating and drafting an agreement. Due to the fact that the majority of the smallholder farmers are located in remote areas, the distance to markets, and lack of roads to get to them(or roads that are impassable at certain times of the year) is a central concern for rural communities throughout the developing world. It undermines the ability of producers to buy their inputs and sell their crops; it results in high transportation costs and high transaction costs, both to buyers and sellers; and it leads to uncompetitive, monopsonistic markets. In many countries, the closure of the former parastatal market chain has exacerbated this problem, leaving large numbers of farmers far from any markets. Transport costs – combined with storage constraints – are particularly important for women, who tend to trade locally in vegetables and other perishables.

Difficult market access restricts opportunities for income-generation. Remoteness increases uncertainty and reduces choice: it results in more-limited marketing opportunities, reduced farm-gate prices and increased input costs. It also exacerbates the problem of post-harvest losses, which can reach as high as 50% in some areas. In doing so, it weakens incentives to participate in the monetized economy, and results in subsistence rather than market-oriented production systems. By contrast, improved infrastructure leads to increased market integration and more commercially oriented production systems. Market access is thus a key determinant of household production systems.

In addition, they lack reliable market information as well as information on potential exchange partners. In some instances, these transaction costs tend to be so high that markets can be said to be “ missing” (Omamo, 1998; Key et al, 2000). In this regard, Fitschen and Klitgaardt (1996) and Alwang et al (1996) found strong relationships between rural poverty and isolation from infrastructure in the former KwaZulu homeland.

Poor road conditions, high transport costs and large distant markets have been identified as factors that hamper improved market access for emerging farmers in South Africa (Makhura & Mokoena, 2003; Nieuwoudt & Groenewald, 2003), and also contribute towards the problem of missing markets.

Good infrastructure services are necessary for agriculture and rural development, and differences in regional economic development have been linked to differences in infrastructure investment (Fan & Zhang, 2004; Chandra & Thompson, 2000)

Therefore, if agricultural inputs and output markets are more accessible, rural households will tend to use these services more, leading to improved productivity (Kamara, 2004). This means that investment in infrastructure has the potential to reduce poverty and income inequality between different geographical locations, whilst stimulating improved agriculture and rural development.

Accordingly, following the democratisation of South Africa in 1994, agricultural policy has aimed to create a unified agricultural economy, in which both large and small farm enterprises compete harmoniously on local

and international commodity markets (Department of Agriculture, 2001: 3). A major concern has been for the development of a black commercial smallholder sector (Vink and Kirsten, 2003: 18), a sector which was estimated at 2. 1 million small-scale farmers in 1999.

Thus, integrating these traditional smallholders into the exchange economy is extremely important for stimulating growth, economic development, food security and poverty alleviation, yet this need for increased agricultural commercialization is nowhere as evident as in Sub-Saharan Africa (SSA), with large numbers of African households remain excluded from participating in the cash economy, 1 and risks and transaction costs far exceeding those of any other region of the world (Delgado, 1995).

It has for some time been clear that Africa needs to move beyond adjustment to development (Cornia and Helleiner, 1994), and agricultural commercialization has to play a crucial part in this process if it is to result in poverty alleviation and improved food security.

Despite this, a large proportion of rural households continue to lack access to basic services (Stilwell & Makhura, 2004). Government initiatives to improve the quality and quantity of infrastructure in the rural areas through programmes such as Community Based Public Works Programme, the Consolidated Municipal Infrastructure Programme, the Poverty Relief and Infrastructure Investment Fund and the Comprehensive Agricultural Support Programme, have registered limited impact on the lives of many rural people (Everatt & Zulu, 2004; National Agricultural Directory, 2004/5).

According to Mabogunje (1980), the analysis of the relationship between centre and periphery, particularly the relationship between infrastructure and people, is viewed as a centrepiece in regional development planning in the developing world.

The pattern of rural service infrastructure can be understood by employing the centre-periphery model of rural settlements. This model was implemented in Wanmali et al (1997) to investigate the impact of access to rural service infrastructure and the overall demand for goods and services in the rural areas of Zimbabwe and Zambia. The centre-periphery model itself as described by Friedman (1966) in Wanmali et al (1997) is one of many variations on a theme that imposes a structural concept of centre and periphery on what might be considered respectively ‘ developed’ and ‘ backward’ areas, whether on a sub-national, national or global level. The centre-periphery relationship is described as a relationship where factors of production, raw-material and agricultural goods are drawn from the periphery to the centre, where they are used to produce high value manufactured goods. In time, service infrastructure becomes concentrated in the centre (commonly towns and urban areas) and its relative availability declines in the periphery (commonly villages and rural areas).