



Assessing the socio-economic impacts of rural road improvements in Ghana: A case study of Transport Sector Program Support (II)



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ABSTRACT

Roads are the predominant mode of transport in African countries, and represent a critical element for economic development. In Ghana, this reliance has led to major investments in road construction, including an initiative—the Ghana Transport Sector Program Support—that focuses on revitalizing rural economies and reducing poverty by prioritizing the improvement and maintenance of rural feeder road systems. This research employs a case study approach to assess the socio-economic impacts of rural road improvements in the three northern regions of Ghana. The study measured ex ante/ex post changes in household income and expenditures, crop production, the usage of motorized vehicles, access to markets, school and health facilities, and transport charges. The analysis revealed that road improvements led to dramatic growth in these indicators along each subject road corridor during the initial phase of the program. However, indicators grew to a minor degree or declined during the second phase. The analysis attributes this change to soaring fuel prices impacting freight and passenger charges. These findings suggest that Ghana should better coordinate road maintenance programs with the development of alternative fuels. This strategy would include utilization of natural gas reserves of the Jubilee oil field with a program that would develop natural gas fuels and alternative fuel vehicles. The use of alternative fuel vehicles in concert with rural road improvements could improve access and make transport less vulnerable to petroleum market fluctuations.

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1. Introduction

1.1. Purpose of research

For most developing countries, roads are the predominant mode of transportation, as these countries have not been able to efficiently develop other modes such as rail, air, and water (Government of Ghana National Baseline Studies Report, 2006). This high dependency on road systems has resulted in major investments in the road sector, which have altered the economic and social landscape of many Sub-Saharan African countries, especially Ghana. To better understand these alterations, this study assesses the socio-economic effects of rural road improvement projects in the three northern regions of Ghana.

Specifically, the objectives of this study are listed below:

- To assess the socio-economic effects of the feeder road component of the Transport Sector Program Support project (TSPS-2) for beneficiary communities.
- To identify any means with which the derived benefits can be sustained over time.
- To identify how the impacts of poverty can be mitigated through rural road improvements and other strategies.

1.2. Background

According to the 2000 Population and Housing Census, about 57% of Ghana's population lives in rural areas (Ghana Statistical Service, 2005). The primary means of transportation for this majority rural populace comprise trails and paths that link to feeder roads, which connect to urban and trunk roads. The poverty that is prevalent in Ghana's rural communities is caused by isolation, which in turn is caused by rural households' inability to

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participate in financial and commodity markets and a lack of access to public services that could improve their standard of living. This problem is caused by an insufficient transportation network and road maintenance system. Consequently, development plans in Ghana that target poverty reduction should include effective rural road maintenance. [Donnges et al. \(2007\)](#) further note that rural road maintenance is not merely a financial and economic issue; it is also a humanitarian priority.

1.3. Overview of Ghana's Transport Sector Program Support (TSPS)

Transport sector improvements are one of several priority programs of the Danish Government, one of Ghana's major development partners. The Danish Government, through the Danish International Development Agency (DANIDA), has been involved in Ghana's road transport sector since 1992. In the latter half of the 1990s, this organization met with the Government of Ghana to prepare an expanded program of support for Ghana's road transport sector. This led to an agreement in 1999 in which the two groups established the TSPS project.

The first phase of the TSPS project (TSPS-1) commenced in 1999 and was completed in 2003. Phase 1 comprised the following three components:

- (i) *Trunk roads component*: Rehabilitation of a 29.7 km road section between Takoradi and Agona, supplemented by training, health and safety activities.
- (ii) *Feeder roads component*: Maintenance of feeder roads, training, and assistance to decentralize the Department of Feeder Roads.
- (iii) *Institutional component*: Provision of financial and technical support to the National Road Safety Commission and the Ghana Highway Authority's Road Safety and Environment Division to assist in undertaking safety and environmental responsibilities.

The events and processes that led to Phase 2 of the TSPS project (TSPS-2) included the commitment of the Government of Ghana to the Ghana Poverty Reduction Strategy (GPRS) and a general policy of decentralization, continued support to the transport sector by the Government of Denmark through TSPS-1, and the commencement of the Road Sector Development Program (RSDP) as a coordinated national program in the road sector (Transport Sector Program Support Document, 2005).

The second phase, TSPS-2, was intended to augment Ghana's National RSDP. This program aimed to revitalize the economy and reduce poverty by lowering transport costs and improving rural access; it was also implemented within the framework of Ghana's GPRS. According to TSPS-2 (2004, 2009), the development of the rural environment provided a catalyst for the transformation of the national economy and the drive to economic maturity. This involved providing transport infrastructure to facilitate the flow of agricultural goods to urban markets. Ghana's agricultural sector contributes about 36% to its gross domestic output ([Asare and Wong, 2004](#)). The program intended to rehabilitate the rural road network (roads leading to agricultural areas) and improve rural access by investing in all levels of the network, focusing on trunk and feeder roads, as supported in Phase 1.

The feeder roads component extended the development of the feeder road network, serving five rural regions in Ghana: Ashanti, Brong-Ahafo, Northern, Upper East, and Upper West. These regions comprise some of the poorest areas of the country. Road construction and maintenance was intended to be implemented by labor-based contractors, employing a significant number of laborers from rural communities in the vicinity of the road works

projects. The program placed emphasis on road decentralization, with support for capacity building in selected districts. According to the program, a steady expansion of support would be channeled through the district level with a corresponding decrease in support channeled through the Department of Feeder Roads over the five-year period of Phase 2 (TSPS-2, 2004, 2009).

The Danish International Development Agency (DANIDA) also shared concerns with poverty reduction. The programs in TSPS-2 were planned and coordinated with DANIDA's water sector program; both operated at district levels to harness potential synergies between the two programs. The intended outcome of this coordinated effort was to facilitate improvements for rural populations. According to [Adarkwa \(2003\)](#), this effort has the potential to increase household income and improve social conditions with enhanced access to various social and economic facilities and services. The geographical focus of TSPS-2 also considered these outcomes.

2. Impacts of transport investment in Africa

Aid to Africa is expected to double in the future, and a great part of this increase is likely to be directed towards infrastructure development. It is further noted that among all infrastructure, roads are usually deemed as the infrastructure most likely to reduce poverty by improving connectivity in isolated communities and enhancing economic growth ([Gachassin et al., 2010](#)). Consequently, the relationship between transport and economic growth in Africa has received a great deal of attention in research and policy analysis. Researchers and financial institutions such as the World Bank view road transport in Sub-Saharan Africa as both a problem and a panacea: the high cost of transport has been attributed to slow economic growth, particularly in land-locked regions ([Collier and Gunning, 1999](#); [Limão and Venables, 2001](#)). [Lebo and Schelling \(2001\)](#) further suggest that poverty is more prevalent in developing countries with limited road access.

Conversely, other works advocate transport as a means of providing farmers and other rural residents with access to markets and social services ([Freeman, 2009](#)) and employment through road construction and maintenance ([Riverson et al., 1991](#)). Research on transport investment and economic development focus on three issues: benefits derived from improved access, prescriptive works on the implementation of transport investment, and external factors such as environment, demographics, and governance that affect transport efficiency.

2.1. Road access and poverty reduction

Research on transportation investment recognizes the role of road infrastructure in the economic growth of developing countries. In their seminal work, *Transport Investment and Economic Development*, [Banister and Berechman \(2000\)](#) note that infrastructure in developing countries can have a strong rate of impact serving areas where access was limited. Increased access can induce economic growth, improve environmental sustainability, and alleviate poverty. Among the types of infrastructure making the greatest impacts, transport investment exhibited a consistently high rate of return ([Banister and Berechman, 2000](#), p. 22). The authors further note that a higher rate of return depends on whether services respond to demand in an efficient manner. In addition, the effects are more pronounced in developing countries, where infrastructure is less prevalent in comparison to developed countries with established infrastructure systems.

Most studies view transport as a primary catalyst in economic growth by opening up markets to rural areas, providing employment by maintaining roads in serviceable conditions, and

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