

Rural Feeder Roads and Access to Markets: Policy Brief

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1. Policy Motivation for Research

In spite of the central relevance of infrastructure in the development policy debate, there has been little rigorous research on the impact of large scale infrastructure investments in very poor economies. In the past decades, numerous such projects came to be known as “white elephants”, having had mixed or even adverse effects on the neighboring populations rather than the expected positive impact on local economic growth. Meanwhile considerable amounts of foreign aid are still being spent to upgrade infrastructure in Sub-Saharan Africa, and infrastructure-related needs remain immense on the continent. In a 2011 report, the World Bank estimated that it would take Sierra Leone at least 15 years to reconstruct its road network at the current spending level of \$9 million per year.¹ Understanding how and where infrastructure should be improved is therefore central to the foreign aid debate.

2. Policy Impact and Audience

This project will help governments and donors to quantify the potential impact of infrastructure rehabilitation programs, as well as inform on the type of infrastructure projects that should be prioritized, and why. By assessing the magnitude of these impacts the project will contribute to our understanding of whether the substantial cost of investment in road infrastructure is justified by the benefits accruing to farmers. The target audience includes governments and donor organizations seeking to reconstruct or rehabilitate infrastructure networks (roads, electricity, water supply, cell phone coverage) in poor economies. Results from this study will be particularly relevant to policy-makers seeking to allocate funds to priority infrastructure under tight budgetary constraints.

3. Policy Implications

We expect the project to be able to provide evidence on the impacts of rural feeder roads on prices, markets and more generally trading behavior in the rural economy. The results will allow us to better understand the benefits of investments in rural infrastructure, in particular:

- Infrastructure rehabilitation projects must be grounded upon a clear theory of change and a firm understanding of potential impacts in the local context,
- Better infrastructure may be primarily beneficial through its impact on markets and trading agents’ incentives,
- In particular, better roads might enhance price information and market access for smallholder producers,
- Better roads might also increase competition among middlemen, thereby increasing the

¹ “Sierra Leone’s Infrastructure: A Continental Perspective”, The World Bank, June 2011.

- surplus of farming households selling their produce,
- The potential impact of better-integrated markets on crop prices is ambiguous. In theory prices should decrease due to reduced transport costs and increased competition amongst traders, but this effect might be offset by increased demand through increased access to markets for consumers,
 - Understanding the effect of better infrastructure on prices therefore requires a general equilibrium analysis.

4. Implementation and Dissemination

A first action point arising from this study is to prioritize upgrading infrastructure in areas where market failures have been most clearly identified, and where the potential for addressing these failures through better networks is highest. High transport costs and bottlenecks in the supply chain of agricultural produce (for example, a small number of middlemen operating between crop producers and the consumer market) are most likely to hinder market efficiency and to negatively impact the profits and livelihoods of smallholders, in the absence of adequate infrastructure.

The target audience for the dissemination of our results includes policy-makers and donors endowed with a mandate to rehabilitate infrastructure in Sub-Saharan Africa. Once the project is complete with results, we expect to disseminate the results broadly in Sierra Leone, especially given the roads project was conducted by the EU in Sierra Leone. In addition, the government has been working on their strategy for feeder roads and we hope this research will help build on that strategy. We have also been asked to present the results in Kenya where the government there is just starting to think about investments in rural infrastructure.

5. Further Readings

On the impact of infrastructure upgrading in poor or emerging economies: “Dams”, E. Duflo and R. Pande, *Quarterly Journal of Economics*, (2007) 122 (2): 601-646. See also “Railroads of the Raj: Estimating the Impact of Transportation Infrastructure, David Donaldson, *London School of Economics Working Paper* (2009).