

MEASURING THE IMPACT OF RURAL ROAD REHABILITATION



What is the socio-economic effects of the RAMP2 road rehabilitation program?

Second Rural Access and Mobility Project

SECTOR:

Roads and highways (100%)

TIMELINE:

2013 – 2018

COVERAGE:

4 states (Adamawa, Enugu, Niger, and Osun)

BENEFICIARIES:

1,581,000 of rural residents

IMPLEMENTING AGENCY:

Federal Ministry of Agriculture and Rural Development

COMPONENTS:

Upgrading and rehabilitation of rural transport infrastructure; Community-based road maintenance and annual mechanized maintenance; Project Management and Strengthening of Road Sector Institutional, Policy and Regulatory Framework



Context

Large intra-national trade costs and poor transport infrastructure constitute potentially important obstacles for local development in rural Nigeria. In 2007, it is estimated that less than half of the rural population lived less than 2 km away from an all-weather road. About 30 million Nigerians currently live in near isolation and lack access to social services. Of the country's 160,000 km of state and rural roads, less than 10-15% of rural roads are considered to be in good condition. Underdeveloped road networks increase transport costs and limit connectivity, making it difficult for local farmers to gain access to local and regional markets, both to source key intermediate inputs, and to commercialize agricultural outputs. The resulting negative effects on agricultural productivity and household income make it difficult for poor farmers to have the incentives and the resources to modernize the production process, thereby perpetuating basic subsistence agriculture.

To address these problems, the Federal Government of Nigeria put forward the Second Rural Access and Mobility Project (RAMP2) to upgrade or rehabilitate 1,450 km of rural roads in selected federal states. In addition, about 65 river-crossings such as small bridges, fords, and box culverts will be constructed or improved.

The project aims to allow for significant reductions in travel times and transport costs, thereby facilitating market access for agricultural inputs and outputs, and improving connectivity to local social services.

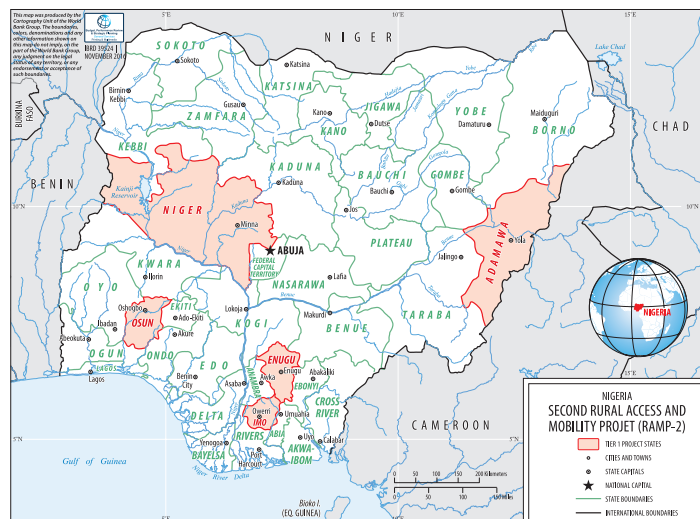
Impact Evaluation Research

This Impact Evaluation (IE) studies the impact of RAMP2 by comparing the change over time in outcomes of interest for the treatment and comparison groups. This change will be measured mainly with household surveys and transporters' surveys data. Among the set of intervened roads by RAMP2, 27 treatment roads are randomly selected. Another 21 comparison roads are chosen as the most comparable to treated roads among the group of roads for which there is no plan to be intervened either by this or by other road rehabilitation programs. According to the result of baseline survey conducted before the intervention, households in the treatment and control groups are generally well-balanced considering initial conditions and growth trends. So, any subsequent relative difference in measured outcomes can be attributed to the impacts of the roads rehabilitation.

This IE also adopts an experimental design piloting community-based programs at a subset of treated sites, to estimate causal effects of community-based road maintenance and annual mechanized maintenance

Policy Relevance

Despite the relatively large flows of international aid devoted to improving rural roads in poor countries, empirical evidence providing causal estimates of these interventions on local development outcomes is still limited. While historical evidence suggests sizable payoffs in terms of improving local economic outcomes from large infrastructure projects—such as railways connecting whole regions within countries—, the extent to which these findings can be extrapolated to smaller interventions aimed



Map of 4 Targeted States

at improving connectivity in less populated rural areas remains an open question. This impact evaluation (IE) will examine the impact of RAMP2 on perceived road conditions and travel times, agricultural activity, access to health and education, and household income and assets, thereby adding to this literature the benefits (and costs) of a rural road rehabilitation program

Additionally, this evaluation will also feature community-based road maintenance and annual mechanized maintenance. Road maintenance is often neglected due to the absence of a clear ownership structure and sustainable funding strategies. Although road investments bring improved accessibility, rapid road deterioration may significantly decrease the benefits of such investments. The proposed IE will also inform the project and other practitioners on the value added of the road maintenance component.

For more information email dimetransport@worldbank.org or visit www.worldbank.org/en/research/dime/brief/transport



The ieConnect for Impact program links project teams with researchers to develop rigorous and innovative impact evaluations that both substantially improve the evidence-base for policy making and induce global shifts in transport policy. The ieConnect program is a collaboration between the World Bank's Development Impact Evaluation (DIME) group and the Transport Global Practice. This program is part of the Impact Evaluation to Development Impact (i2i) multi-donor trust fund and is funded with UK aid from the UK government and by the European Union.