



The Poverty Impact of Rural Roads: Evidence from Bangladesh

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Country	Bangladesh
Organizing Theme	Economic opportunities and Access to Assets, Education and Skills
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Sector	Transport
Abstract	<p>A rationale for public investment in rural roads is that households can better exploit agricultural and nonagricultural opportunities to employ labor and capital more efficiently. Significant knowledge gaps persist, however, as to how opportunities provided by roads actually filter back into household outcomes as well as distributional consequences. This study examines the impacts of two rural road-paving projects in Bangladesh using a new quasi-experimental household panel data set surveying project and control villages before and after program implementation. A household panel fixed-effects methodology controlling for initial area conditions is used to estimate the impact of paved roads on household and individual outcomes and account for potential bias in program placement at the village level. Rural road investments are found to reduce poverty significantly through higher agricultural production, lower input and transportation costs, and higher agricultural output prices at local village markets. Rural road development has also led to higher secondary schooling enrollment for boys and girls, as compared to primary school enrollment. We find that road investments have also benefited the poor, meaning the gains are significant for the poor and in some cases disproportionately higher than for the nonpoor.</p>
Gender Connection	Gender Informed Analysis
Gender Outcomes	Gender disaggregated labor force participation, school attendance
IE Design	Difference in Difference
Intervention	<p>This study examines the impacts of two roads projects in Bangladesh the Rural Development Project (RDP) and the Rural Roads and Markets Improvement and maintenance Project-I (RRMIMP-I)The RDP initiative entailed improvement of the surface standard, upgrading of 65 secondary markets and construction of 3700 meters of culverts and small bridges. Its physical works were completed during 1995-96. The Rural Roads and Markets Improvement and Maintenance Project – II (RRMIMP-II), which included improvement of 574 kilometers of FRBs to bitumen-surfaced standard, construction of 1,900 meters of culverts, 1,750 meters of bridges and 2,200 meters of small drainage structures on rural roads, and improvement of 136 Growth Center Markets and 41 Ghats (river jetties for boats and vessels).</p>



Intervention Period	1995-1996
Sample population	The study utilized two different surveys. The RDP survey included 26 project and 12 control villages spanning 1075 households. The RRMIMP survey included 12 project and 2 control villages covering 872 households.
Comparison conditions	The study compares different areas with varying levels of project implementation.
Unit of analysis	Individual Level
Evaluation Period	1995-February 2001
Results	Rural road investments are found to reduce poverty significantly through higher agricultural production, higher wages, lower input and transportation costs, and higher output prices. Road investments are pro-poor, meaning the gains are proportionately higher for the poor than for the non-poor. Male labor supply increases by 49 percent and female labor by 51 percent in RDP villages because of a road development project. average school participation among boys is about 20 percent higher in RDP villages, not controlling for proximity to the project road; road development also has a positive but barely significant impact on girls' schooling in the same sample. In the RRMIMP data, the project effect is fairly similar for boys and girls, leading to a 14 percent increase in schooling. Indeed, in our results only the project indicator seems to have had any significant impact on schooling in the RRMIMP sample. Higher school attendance of boys and girls are therefore some of social returns due to road investment; additional social returns to be assessed from road investment include returns to health and nutrition, which are not pursued in this paper.
Primary study limitations	There were significant pre-program differences between the treatment and the control group. Investment in roads is based on expected long term outcomes, but the time frame on this study is too short to capture long term impacts.
Funding Source	
Reference(s)	Khandker, S. R., Bakht, Z., & Koolwal, G. B. (2009). The poverty impact of rural roads: evidence from Bangladesh. <i>Economic Development and Cultural Change</i> , 57(4), 685-722.
Link to Studies	http://documents.worldbank.org/curated/en/2006/04/6691774/poverty-impact-rural-roads-evidence-bangladesh
Microdata	