

# OED Précis



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## Maintaining Rural Roads

*The maintenance of road infrastructure has been a concern of the Bank for at least 25 years. It features prominently in the Bank's decisions on road sector lending, and in most sector operations. Even so, road maintenance in many countries has remained very poor, and the costs of necessary rehabilitation for existing rural roads in developing countries could be \$2.5–5 billion a year in the 1990s.*

*Following a case study in the Philippines, a new OED review examines some 85 transport and agricultural projects with rural road construction or maintenance components, completed in 1986–1990. It analyzes the Bank's contributions to rural road maintenance and their results. Investing in new roads has tended to preempt adequate spending on maintenance, even though economic and social benefits from maintenance may have been higher. The study recommends a more balanced and systematic approach.*

Rural roads serve mainly local transport. Most are engineered earth and gravel roads carrying little motorized traffic and often much pedestrian and animal traffic. They are administered by national, provincial, and local government works agencies. Typically, the institutions responsible are weak, lacking enough equipment, know-how and budgetary resources. Rural road networks, which in most countries are at least five times the length of inter-urban road networks, are major public assets. But their condition limits the realization of the economic and social benefits for which they were built.

### Findings

*Limited level of Bank support:* The Bank's two policy papers—"The Highway Maintenance Problem", 1979, and "Road Deterioration in Developing Countries: Causes and Remedies", 1988—focus on inter-urban roads and largely exclude rural roads. In relation to total road transport lending and overall needs for rural road construction and maintenance, the volume of lending for rural roads seems small. Except in smaller countries, particularly in Africa, the Bank has so far reached only fractions of total rural road networks.

*Bias against maintenance:* In assisting rural roads the Bank has given much more attention to major works—that is, new construction, improvement and rehabilitation—than to routine and periodic maintenance (R&PM). A better strategy would have given priority to maintenance over network expansion and upgrading, and to R&PM over rehabilitation (see box on definitions). The emphasis on major works also tended to reduce Bank coverage of rural road networks.

*Design of maintenance components:* Most Bank assistance for R&PM was narrowly conceived, often being confined to financing of equipment, rather than supporting full-fledged R&PM programs. And though most projects contained covenants committing borrowers to adequate maintenance or maintenance-related actions after project investments—typically for whole networks, not just the Bank-financed parts—few covenants

### Definitions

Rural road maintenance comprises three types of activities:

- **Routine maintenance:** local repair of roadways and upkeep of drainage, roadside cleaning and the like.
- **Periodic maintenance:** regravelling of unpaved and resealing of paved roads.
- **Rehabilitation:** works necessary to restore roads to their original state, including structural strength

Routine and periodic maintenance are the least costly and an effective form of upkeep. Though the scope and mix of specific road works recommended under specific conditions can be complex, a good maintenance strategy relies as much as possible on routine and periodic maintenance (R&PM), before resorting to rehabilitation.

contained provisions for verifying compliance. Sanctions were rarely imposed for noncompliance.

*\*"Rural Roads Maintenance: A Review of Completed World Bank Operations", Report No. 10794, June 1992. OED reports are available to Bank Executive Directors and staff from the Internal Documents Unit and from Regional Information Services Centers.*

## Bank Support for Rural Roads in the Philippines

For the Philippines, rural roads—provincial, district, and special purpose roads—are a vital part of infrastructure. Bank lending to improve them dates from the early 1970s, beginning in the context of agriculture projects, and later continuing through two rural roads projects (1980 and 1986). It has directly affected about 13,000 km, or 10 percent of the country's rural road length. The Bank has been the leading aid agency in this subsector.

From the start, the Bank recognized inadequate maintenance as a major issue, but remedial action was slow. The agriculture projects concentrated almost exclusively on road construction. Better maintenance was a goal in the two transport projects, but they proceeded without a comprehensive plan or a considered strategy for this purpose. Maintenance components received little attention, either from the weak government institutions responsible for them or from Bank supervision missions.

The Bank's rural roads support has not produced sustainable maintenance institutions on a desirable scale. District agencies have primary responsibility for district road maintenance, but they typically lack road expertise, and national and provincial agencies are not well equipped to provide technical support. District roads represent 70 percent of all rural roads, and are in deplorable condition.

*Road maintenance in agricultural projects:* Rural road construction and maintenance financed through agricultural projects was noticeably less well planned, engineered and contracted than that financed through transport projects. Agricultural projects performed much less well, in maintaining rural roads, than did transport projects.

*Reporting on road maintenance:* Documentation on the implementation

and results of rural road maintenance projects are too poorly maintained to support rural development objectives, and many cannot be used in the rainy season. Half of them urgently need rehabilitation. Given the districts' very narrow fiscal base, funding is inadequate, despite substantial national aid. Agencies need to be designated and developed with clear responsibility for maintaining these roads. Bank projects have not much affected district roads.

For provincial roads, maintenance budgets are inadequate, funds are inefficiently spent, and equipment availability is limited. Road conditions are not systematically monitored. Overall conditions are not satisfactory.

*Recommendations:* Government should consider preparing a comprehensive maintenance development plan for rural roads, giving full and particular coverage to district roads. Issues covered should include institution building and maintenance financing, costing, and accounting. The Bank should support the government through sector work. It also should plan for a rural roads maintenance project that will address the problems of district roads and keep road construction components within narrow limits.

See: "World Bank Support for Rural Roads Maintenance: Philippine Case Study", Report No. 7728, April 1989.

and results of rural road maintenance was generally poor, especially in agricultural projects. Few PCRs reported on actual road conditions at project completion, raising questions—for the transport projects—about the validity of re-estimated economic rates of return. Feedback was limited on the adequacy of particular project designs or of Bank procedures and approaches to maintenance of rural roads.

## Recommendations

*Framework for maintenance assistance:* The Bank needs to develop explicit policies toward the maintenance of rural roads and the provision of maintenance assistance. It should prepare a sequel, specific to rural roads, to its 1988 maintenance policy paper. This exercise should start by taking inventories of rural roads and their condition, and fully documenting the current maintenance situation, in countries that are active borrowers for roads. Country-specific strategies should be developed on that basis.

*Designing maintenance components:* The Bank should use, in all projects with rural road maintenance components, appropriate procedures for optimizing rural road works. These procedures should be fully described, made the basis for project design, cover the whole rural road networks of the borrower agencies, and consider all major feasible alternatives. "Disinvestments" in roads that are not maintained should be explicitly identified.

All rural road projects should include network-wide R&PM programs as discrete components, with their own specific physical definitions, cost estimates, financing plans, and implementation schedules.

The Bank should incorporate the bulk of its rural roads assistance into transport projects. Agricultural projects should restrict their assistance for roads to the bare essentials.

*Monitoring and evaluation:* The Bank should upgrade monitoring, evaluation, and reporting in all types of rural road operations. Reporting should be mandatory, comprehensive, and based on sound engineering practice. Rural road maintenance "audits" by independent consulting companies should be encouraged, to assure a reliable, complete, and steady flow of road management data.

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