

# POLICY AND OPERATIONAL IMPLICATIONS

## Policy Recommendations

This regional technical assistance (RETA) makes a number of policy recommendations at several levels. First, each country team developed policy recommendations for discussion in a national seminar with key policymakers and stakeholders. At a workshop held in Vadodara, India, in July 2003, with ADB and JBIC Institute staff and the Study Coordinator in attendance, the three study teams shared the findings and conclusions from their field work. Workshop participants explored the following potential policy implications:

- eliminate electricity connection fees for the poor;
- improve village roads together with major and secondary roads;
- employ more poor people in labor-intensive road construction, ensuring that such employment is sustainable;
- reduce regulatory barriers to a minimum consistent with safety;
- eliminate all monopolies, even public ones;
- give priority to service improvements rather than new infrastructure investments, especially in urban areas; and
- improve both the quantity and quality of services provided to the poor.

These recommendations apply to projects and programs designed by development partners as well as to the work of national policymakers. The workshop participants felt that subsidized service delivery could serve as a disincentive for individual initiative and community responsibility. It is difficult to ensure that even targeted subsidies actually benefit the poor. To promote sustainability, it is essential to get local “ownership” for projects. Workshop participants felt that project designers should pay more attention to women’s issues, in particular to their safety concerns. They also recommended that projects should seek to maximize the use of local labor in poor areas.

Members of all three country teams felt strongly that investment in transport and energy infrastructure should continue until national networks ensure that all people have access to quality services. If investment stops before the national networks are complete, it is the poorest who will be left unserved. At the same time, the emphasis on service quality underlines the need for continuing maintenance of existing infrastructure networks, and capacity expansion as needed to serve the demands of a growing economy. The desire to provide quality services to all requires efficient planning and operation of centralized systems, decentralized responsibility together with decentralized resources, and effective collaboration with the private sector. Although the country teams did not explicitly address cost recovery policies, the literature and this study support the view that marginal cost pricing should be applied to all consumers, with well-targeted subsidies for upfront costs and micro-credit programs to encourage related investment by the poor, administered in a transparent manner.

The literature and country studies all support the concept of area targeting to reach remaining pockets of poverty and area-wide, cross-sector investment planning to capture synergies among transport, energy, and other forms of support for poverty reduction. In particular, infrastructure investments should be coordinated with social sector investments focused on enabling the poor to take advantage of the opportunities these investments provide. Improved agricultural services, incentives for industrial development, and microcredit programs for the poor should be considered to help the poor diversify their income sources, mitigate risk, and increase productivity. Barriers related to land tenure, home ownership, and legal and social status should be identified and addressed in program design.

While these geographical pockets of poverty that suffer from a lack of transport and energy infrastructure need targeting, this study shows that access to services varies significantly within villages and even, to some extent, within households. Thus, the area targeting approach alone

will not suffice to eliminate poverty. Policies must be designed that will ensure equitable access within communities; address gender, age-specific, and other barriers to the use of services; and encourage decentralized, demand-responsive management by local authorities. Regulation of the private sector should be limited to what is needed to ensure public safety and fair treatment for all, while private and community initiatives should be encouraged.

Of the three studies, only one, in the People's Republic of China (PRC), explicitly addressed the choice of technology in road construction and energy generation as a policy issue. This is rather surprising in the light of the widespread use of labor-intensive methods of road construction, and increasing interest in alternative energy sources for rural communities, especially in India. In Thailand, it is perhaps less surprising, as economic growth in that country has reached a point where even the poorest have higher-productivity uses for their time than building roads with labor-intensive techniques, and grid electricity is available in every village. One can conclude that technology choices should be part of the decision-making process through which projects are designed and approved, rather than being imposed by government fiat. In countries where human labor is still relatively cheap compared with mechanical energy, labor-intensive methods may still be appropriate for road construction; and alternative energy sources such as coal, charcoal, solar cells, or minihydro may still provide more satisfactory service than grid electricity. However, when national networks are well developed and well managed, they are almost certain to provide more cost-effective support to rural communities than solutions based on local labor and local resources.

## Policy Impact

One of the objectives of this RETA was to strengthen the participating domestic research institutions by giving them a voice in policy discussions at the national level. The three country teams created steering committees involving key stakeholders, and with their help, planned and carried out national seminars. The steering committee mechanism was useful in securing input and support for the study design from key stakeholders and preparing the way for the national seminars.

The seminars were limited, however, by the relatively short time allowed and the relatively small number of participants, mainly providing an opportunity for the same stakeholders and other key players to review the country studies' findings and recommendations, and critique the results of the research, rather than disseminating and

debating the findings and policy implications with a wider audience. They should be seen as initiating, rather than concluding, national debates on the poverty reduction effects of transport and energy investments.

So far, apart from the seminars, little has been done to inform the subjects of each country study about its findings and recommendations. Other channels of communication may be used in the future. However, the degree to which this RETA will influence transport and energy sector investment decisions in the countries involved remains to be seen.



*A good road, and a hillside, give this Chinese boy a chance to try out some private transport of his own.*

## Operational Implications

### Support from the International Development Finance Community

The RETA findings support the view that transport and energy infrastructure and related services have a role to play in poverty reduction programs, and the interna-

tional development finance community should continue to support them. While not all the poor will necessarily benefit from such interventions, a significant share will do so. Those who benefit economically are likely to be those for whom other barriers are less significant: those who are relatively better-off (though still extremely poor in international terms), better educated, or in better health; those whose poverty is temporary or seasonal rather than chronic; those who experience fewer social and cultural barriers to participation in economic and social activities. However, many noneconomic benefits associated with transport and energy investments at the community level are equally available to the poor and nonpoor and may be of special significance to the poor. Chief among these are the risk-minimizing and security-enhancing aspects of infrastructure. The study also shows that the quality and reliability of transport and energy services is just as important as the availability of infrastructure, for the poor as well as the nonpoor, and that the ability to achieve time savings is of special significance for the poor, particularly for women.

Some conclusions are implicit in these findings:

- Infrastructure networks should be extended to all communities, since it is the poorest communities that are most likely to be left out if programs stop short of that objective.
- Special measures may be needed to ensure that poorer households within communities gain equitable access to transport and energy infrastructure and services.
- Parallel investments need to be made to maintain and expand existing networks and to ensure continuing quality of service consistent with the needs of a growing economy.
- Programs aimed at reaching the poor may be geographically targeted and should include, or at least coordinate with, complementary investments in other sectors such as education, health care, water supply, agricultural extension, irrigation, and credit for small businesses.
- The study has shown that the use of labor-based construction methods has helped some poor families, particularly in the PRC, to supplement their incomes on a temporary basis. More important, perhaps, they have introduced remote rural residents to the labor market and given them some of the skills needed to seek more productive employment elsewhere.
- The study also shows, however, that significant and sustained poverty reduction from an income perspective depends on enhancing the productivity of indi-

viduals and households through complementary investments, either public or private.

- Finally, development partners may be concerned about the fact that not all households will respond in the same way to the economic stimulus introduced by infrastructure investments in an undifferentiated poor community. Thus, some households will move ahead faster than others, potentially increasing social inequality and social tensions within the community.

## Conceptual Framework

Transport and energy were found to play an important role in poverty reduction, but the types and extent of impacts varied from case to case. Impacts were highly context- and situation-specific. An intervention in one setting will have different poverty impacts than in another. This heterogeneity makes it unlikely that simple benchmarks can be developed for measuring the poverty reduction impacts of transport and energy projects. On the other hand, the overall approach of examining the poverty impacts of transport and energy interventions within a wider conceptual framework of contextual and situational influences is readily transferable from case to case. This framework should be considered when selecting sectors and projects for inclusion in country lending programs, and examined in detail at the time of project formulation. Interventions should explore the scope for incorporating measures to address key situational factors that may affect poverty reduction impacts. For example, it may be necessary to change policies or programs in the sector, or to change policies, reform institutions, or make complementary investments in other sectors.

Contributions to poverty reduction are likely to be highest where existing infrastructure coverage is limited, poverty rates are still high, policies promote competitive services, and the wider framework of government policies and programs supports the poverty-reducing activities that transport or energy investments will facilitate. The wider policy framework has a vital role to play in ensuring that transport and energy investments are, in practice, pro-poor. First, it must ensure that the poor can actually benefit from such investments. Next, it must provide safeguards to protect against adverse impacts and to reduce risks that the nonpoor will capture most of the benefits. Last, a pro-poor policy framework must ensure that savings from efficiency gains in infrastructure management are redirected to support other programs designed to enhance the productivity and welfare of the poor.

## Types of Impacts

Transport and energy are commonly considered primarily as agents of economic growth that contribute to poverty reduction by raising incomes. The case studies strongly confirmed this dimension of the poverty reduction impact: increasing agricultural productivity, raising agricultural wages, reducing transaction costs, increasing labor mobility, and generating opportunities for nonfarm employment facilitated improvements in poor people's incomes and assets. Access to nonfarm employment opportunities, in both rural areas and urban centers, becomes increasingly important as the poverty reduction process gathers momentum and economies diversify.

The case studies also found that transport and energy investments influence important nonincome dimensions of poverty, including health care, education, empowerment, opportunity, security, and freedom. Alleviation of the nonincome dimensions of poverty is also an important underlying factor in raising poor people's incomes over the longer term. This has implications for the role of transport and energy investments in country lending programs. Provision of basic transport and energy infrastructure and services may not only be important for promoting growth, but may also be effective interventions to support education, health care, and other aspects of social development. Such interventions may therefore also be important for achieving the Millennium Development Goals.

## Time Frame

The study also helped to clarify that transport and energy interventions contribute to poverty reduction over an extended time frame, perhaps as much as 15–20 years. Attempts to measure impacts over a shorter period are likely to confuse short-term effects with longer-term impacts, and therefore produce misleading findings. Once operational, transport and energy interventions do begin to have effects on the poor, but the effects in the early years are often not a good indication of the full nature or extent of the eventual impacts. This is especially so for income dimensions. Interventions may lead to a transformation of the types of economic activities in areas served, but this usually takes place only gradually and in a cumulative manner. The effects of impacts on nonincome dimensions of poverty are similar. For example, a transport intervention may have immediate effects on school enrollment and access to health services, but this may not result in improved educational attainment and health status until years later.

## Project Characteristics

The studies found that reducing the distance to the highway network and improving road quality contributed to income poverty reduction for about half of all poor households. In the poor communities studied, road connectivity was a necessary condition for poverty reduction. Since the countries studied provided a generally supportive framework of policies and programs, many other poverty-reducing improvements followed once roads were improved. Identification of poor areas that suffer from low road density and poor road quality, and examination of the supporting framework of policies and programs, are therefore important starting points in the formulation of pro-poor road projects.

The case study of new railways development found that the main contribution to poverty reduction was through supporting general economic growth. It also found that small areas of high growth developed around towns served by railway stations. A case may be made for future railway interventions' trying to extend these growth areas. The case studies of electricity supply identified connection fees, tariffs, and quality of service as critical issues affecting the willingness and ability of poor people to take advantage of existing infrastructure. A strong case can be made for subsidizing connection fees or recovering these over an extended period. Including provision in the tariff structure to provide for low charges for very small consumers may also be feasible. Analysis of how to maximize connections and tariff affordability for the poor should be a critical project formulation issue for energy projects.

The studies found that in very poor and disadvantaged rural areas, poverty reduction impacts were generally greater if both transport and energy were improved, or if transport and/or energy investments were accompanied by other pro-poor interventions, such as provision of small-scale credit and technical training. In the future, when rural transport and energy interventions are formulated, the adequacy of complementary programs should be assessed. Where these are found to be inadequate, it may be useful to make provision for such programs within the scope of the project, or to develop the project on a multisector basis.

## Targeting

The country case studies provide evidence that geographical targeting of poor areas that lack basic transport

and energy provision can have an important impact on poverty reduction, helping to facilitate a virtuous spiral of activities that address both income and nonincome dimensions of poverty. Participatory surveys also found that the benefits of improved transport were seen to be shared quite widely among the target population. Despite efforts at universal service provision, the benefits of energy investments were more likely to be seen as inequitably distributed, due to high costs and the need for individuals to make complementary investments in order to capitalize on energy services. Once the basic networks are in place, less scope will exist for geographical targeting, and it will have diminishing returns for poverty reduction.

The studies also found that some poor households had difficulty taking advantage of the transport and energy improvements in their area. These households tended to have characteristics indicating chronic poverty, including old age, illness and disability, minority status, and a high proportion of dependents. More effort is necessary to tailor interventions to enable the chronically poor to benefit. As basic infrastructure is put in place and absolute poverty decreases, providing household or individual targeting of support for the chronically poor gains priority, for example through subsidized transport services, and possibly through subsidies for electrical connection and cost of basic electrical appliances.

## Safeguards

The study has shown that a small minority of poor households may suffer net negative impacts from transport and energy interventions if their livelihoods are displaced as a result. It is incumbent on project planners to consider this possibility, identify the groups concerned, consult with them, and include specific, targeted remedial measures in the project to ensure that the project does not leave them worse off. These measures are likely to involve assistance aimed at enabling them to move into more productive occupations.

Remarkably, the study has shown relatively little concern on the part of poor households about the environmental impacts of transport and energy infrastructure. Even road safety, where the poor are often those most likely to be victims, seems not to be a high priority concern for the poor surveyed in the studies. Perhaps the unknown risks of moving into the modern world appear minor in

comparison with the known risks of remaining mired in poverty and isolation. With respect to common property resources, the poor appreciate the role that transport and energy can play in facilitating their ability to appropriate such resources to their own use. It is the relatively better-off, who enjoy privileged access under conditions of isolation, who fear the impact of improved access on common property resources.

## Monitoring and Evaluation

Generally, *ex ante* analysis of the poverty reduction impact of projects is likely to be highly speculative, since it is difficult to anticipate the complex chain of long-term changes leading to impacts. While such analysis may sometimes be useful for illustrative purposes, or to ensure that thought is given to situational factors during project formulation, in many cases the results hardly justify the investment resources required. Similar concerns arise in the case of monitoring and *ex post* analysis. Since projects are typically tracked for only 2–3 years after becoming operational—and generally not for more than 5 years—monitoring data and *ex post* analysis are likely to record only short-term effects. These are likely to be misleading, and may understate the eventual impacts. For these reasons, it may be better for *ex ante* poverty analysis to address the sector rather than the project level, focusing on the identification and functioning of the broad impact channels and critical situational factors.

Similarly, the recent trend toward establishing more elaborate poverty impact monitoring of projects, and including poverty impact assessments in audit studies conducted immediately after project completion, may need refinement. Three options may be worth considering to improve the relevance of these studies. First, it should be clear that project-specific monitoring and evaluation studies examine intermediate socioeconomic effects, not final poverty impacts. Second, in view of these limitations, the monitoring instruments and analysis might be simplified to cover a smaller number of indicators. Third, it would be useful to initiate long-term monitoring studies to track the effects and impacts of a small sample of transport and energy projects over a period of as much as 15–20 years.

These concerns about the time frame for monitoring need to be taken into account in current efforts to develop a framework for results-based project monitoring in ADB.



*Understanding the links between transport and energy infrastructure and poverty reduction still has a long way to go.*