

Executive Summary

Infrastructure development supports growth and poverty reduction. Infrastructure development in the Asia and Pacific region has progressed but generally lags behind world standards in both quantity and quality. The region's widest quantity gaps compared with industrialized countries are in electricity generation, roads, and sanitation while the narrowest gap is in telecommunications. After 1990, the region's highest annual growth rate in infrastructure has been in telephone lines and cellular subscribers (25.80%) and electricity generation (8.41%). The annual growth in other areas has been modest to slow—the total road network grew at only 1.80%; the rail network route-kilometers, only at about 0.02%; the proportion of population with access to an improved water source only at 0.90%; and the proportion of population with access to improved sanitation, only at 4.20%. At these rates, Asia and the Pacific will take about half a century to broadly reach the current levels of industrialized countries. In terms of quality, compared with the rest of the world, the region is best in railways and worst in electricity. Infrastructure development varies widely across sectors, across countries, and between rural and urban areas in parameters such as quantity, growth, and quality. At the subregional level, South Asia generally has the greatest lags in overall infrastructure development, while the Pacific and Central Asia face special challenges. Thus, the Asian Development Bank (ADB) effectively has more than one set of clients. The region has substantial successful experience from which to learn and scale up. Responding to the region's needs, ADB has reiterated its broad focus on infrastructure in the Medium-Term Strategy II, adopted in 2006.

Generally beginning in the 1980s, the flow of private funds for infrastructure in Asia and the Pacific grew steadily until the East Asian crisis, declined thereafter, and more recently has shown some clear signs of picking up. The flow of private funds has been concentrated in some countries and some sectors. The top six countries, including the People's Republic of China (PRC) and India, accounted for almost 90% of the total private sector investment in the region's infrastructure during 1984–2005. Only a few areas,

such as telecommunications and power generation, have attracted significant private sector participation, largely reflecting their technological features. The infrastructure investment required in this region is estimated at above 6.0% of regional gross domestic product (GDP) annually during 2005–2010. This is greater than that of other developing regions of the world, which explains why governments in the region assign high priority to infrastructure.

Sustainable infrastructure involves technical and economic as well as environmental, social, and political complexities. The complexities are reflected in slow implementation of reforms. Reforms and private sector participation are more likely to succeed if they pursue basic objectives such as improving operational efficiency and expanding financing options, and are based on sound principles taking into account income level, willingness to pay, market size, and other relevant factors. Reforms of a technical and economic nature pay a good governance dividend, which is not always fully recognized. The key technical and economic features vary across infrastructure services, and are evident in differences in their potential for competition and/or private sector participation. Currently, power generation and telecommunications show the best potential for competition and private sector ownership, while water supply, sanitation, and waste management show the least. As a result, the public sector continues to predominate in most infrastructure services, with competition and private participation limited to provision of services for fixed periods, and operation and maintenance. Often some public sector financing is needed to make the infrastructure viable for the private sector. In particular, roads, transmission of electricity, and water supply and sanitation continue to be almost completely dominated by the public sector. In 2005, private investment in infrastructure accounted for only 0.7% of the total GDP in Asia and the Pacific. Infrastructure development often creates its own demand, as demonstrated by the success of planned urban and industry development in the region. This opens up new possibilities for infrastructure development in the future. The region is likely to build an unprecedented amount of

infrastructure over the next few decades, and infrastructure often lasts many decades with continuing environmental impacts. Hence, environmental considerations should become more closely integrated in the design than has been the case in the past.

Until 2006, ADB's lending for infrastructure has remained at about 50% of total lending since the 1970s. However, ADB's approach to lending for infrastructure has changed and expanded steadily in scope. Further, lower proportion of infrastructure lending has been on highly concessional terms (from the Asian Development Fund [ADF]). In general, ADB operations respond to quantity gaps in infrastructure and market gaps in private sector participation. Recently, ADB's infrastructure lending has become more specialized and focused in a few areas, including roads and highways, power transmission and distribution, and energy sector development. ADB's infrastructure lending through its private sector window has increased sharply. ADB is increasingly engaging with new clients, including subsovereign entities, and is using new modalities. In response to increasing demands, ADB's support for cross-border infrastructure development, particularly in transport and energy, has also expanded fast during the recent past but continues to face barriers.

ADB's infrastructure operations have evolved from the "bricks and mortar" stage to capture a much wider and more comprehensive development agenda focusing on developing financially, socially, and environmentally sustainable infrastructure in the region. ADB's infrastructure operations now address a range of issues including economic, spatial, demographic, environmental, political, and funding issues. Good governance and social inclusion underlie many of these issues. The changes in ADB's infrastructure operations are also reflected in the

- changes in country programming;
- changes in economic analysis;
- increase in urban and regional projects;
- increased emphasis on environmental protection;
- emphasis on reforms including competition, private sector participation, and user charges;

- increase in program loans; and
- changing skill mix of ADB staff and consultants.

In line with the region's changing needs, ADB has introduced several new instruments and modalities, and initiated a number of sector-specific initiatives. These include the Energy Efficiency Initiative (EEI), Carbon Market Initiative (CMI), and Water Financing Program (WFP). Consequently, ADB's lending pipeline for 2007–2009 shows notable changes. First, the level and proportion of lending for infrastructure rises significantly. Second, the proportion of lending rises for most infrastructure sectors, while that of transport and communications decline. Areas of notable rise are electricity generation (including hydropower) subsector, and water supply, sanitation, and waste management sector. Third, the concessionality (or proportion of ADF funding) in ADB's lending for infrastructure continues to decline.

Development of infrastructure in the region will entail continuing evolution of ideas and practice. Some areas needing attention in the future include

- addressing diversity in countries and sectors by considering all possible choices, keeping in view technological, economic, and market features;
- establishing the credibility and track record of recent policies and institutions;
- taking more radical approaches toward private sector participation;
- addressing both local and global environmental concerns;
- promoting technological advancement; and
- developing cross-border infrastructure through regional cooperation.

The pressure on ADB to expand in new business areas, serve nontraditional clients, and offer more advanced knowledge is likely to continue. Pressure will also continue for ADB to further simplify procedures; reduce processing time; and modify project selection criteria to more effectively capture all externalities, particularly the environmental impact.