CDIA is a regional initiative established in 2007 by the Asian Development Bank and the Government of Germany, with additional support of the governments of Sweden, Spain, and Austria and the Shanghai People's Municipal Government. The initiative provides assistance to medium-sized Asian cities to bridge the gap between their development plans and the implementation of their infrastructure investments. CDIA uses a demand-driven approach to support the identification and development of urban investment projects in the framework of existing city development plans that emphasize environmental sustainability, pro-poor development, good governance, and climate change.

All rights reserved.

Cover photographs
- Upper center, right: ADB
- Lower center: CDIA
- Others: Liliana Marulanda Montes
INTRODUCTION
Pro-poor infrastructure as a catalyst for reducing poverty and shaping competitive cities 1
Purpose and use of the Guide 1
Structure of the Guide 2

SECTION 1: CONCEPTS AND ISSUES IN PRO-POOR URBAN INFRASTRUCTURE 3
1.1 What is pro-poor urban infrastructure development? 3
1.2 What are the economic and social benefits of pro-poor urban infrastructure? 3
1.3 What are the practical issues in pro-poor urban infrastructure investment? 4
  1.3.1 For rational urban development 4
  1.3.2 For effectiveness in reducing poverty 5
  1.3.3 For safeguarding equality and inclusiveness of minority groups 6
  1.3.4 For securing funding for interventions 6
  1.3.5 For sustainability of interventions 7

SECTION 2: PROJECT DESIGN FEATURES TO ENSURE PRO-POOR IMPACTS 9
2.1 How can infrastructure investments be targeted to benefit the poor? 9
2.2 What are key pro-poor design features in urban infrastructure sectors? 11
  2.2.1 Urban renewal 11
  2.2.2 Slum upgrading 12
  2.2.3 Urban transport 13
  2.2.4 Energy 13
  2.2.5 Solid waste management 13
  2.2.6 Water supply, sanitation, sewerage, and drainage 14
2.3 What are the steps in the design of a pro-poor infrastructure project? 14
  2.3.1 Step 1: Poverty and vulnerability profile 15
  2.3.2 Step 2: Identification of target groups and key areas 16
  2.3.3 Step 3: Assessment of needs and setting of priorities 17
  2.3.4 Step 4: Definition of realistic and pro-poor project objectives and targets 18
  2.3.5 Step 5: Preliminary cost estimates and financial assessment 18
  2.3.6 Step 6: Definition of actions 19
  2.3.7 Step 7: Safeguarding pro-poor implementation and monitoring 20

SECTION 3: LINKING PRO-POOR URBAN INFRASTRUCTURE PROJECTS TO FINANCE 21
3.1 What is an economically and financially viable project? 21
3.2 How can we improve the financial viability of pro-poor infrastructure investments? 22
3.3 What are the financing options?
   3.3.1 Conventional public sector financing
   3.3.2 Private sector resources: Corporate and business sectors, and community contributions
   3.3.3 Specialized funding through national and international organizations and donors

ANNEXES
Annex 1: The 6-A Model: Key design principles to ensure impacts on the poor by infrastructure investments
Annex 2: Key questions related to the steps in the project design process
Annex 3: References and other sources of information on pro-poor infrastructure

ABBREVIATIONS
ADB: Asian Development Bank
FIRR: financial internal rate of return
NGO: nongovernment organization
PPP: public-private partnership
USAID: United States Agency for International Development
INTRODUCTION

Pro-poor infrastructure as a catalyst for reducing poverty and shaping competitive cities

Business opportunities and social and economic benefits come from investing in socially oriented infrastructure and from a sustainable city environment. To be competitive and inclusive, cities need to provide a good business environment—one that harmonizes social, economic, and environmental development with fast-track and transparent procedures conducive to doing business. Clean city environments, with provision of good and inclusive basic services, are an important ingredient of business-friendly cities (Box 1).

Box 1: Potentials of inclusive infrastructure investments

“Cities with proper infrastructure facilitate higher productivity and the resulting higher returns attract foreign direct investment. Within Asia, urban infrastructures display wide variations in terms of quality. In this regard, East and Northeast Asia provides the best the region has to offer and therefore has attracted larger amounts of foreign direct investment than any other subregion. However, it must be noted that the quality of the infrastructure still falls short of standards prevailing in OECD countries.” It is important also to note that, despite increased foreign investment in some Asian regions and high infrastructure standards, a more inclusive approach is needed to reduce the urban population living in slums, which is estimated to be between 33.2% in East Asia and 37.3% in South Asia. (Source: UN-HABITAT and UN-ESCAP, 2010)

Following high economic growth, the Asia and Pacific region is rapidly urbanizing. In 2012, 47% of the region’s population live in cities, up from 39% in 2000. By 2050, it is estimated that 66% of the Asia-Pacific population will live in urban environments. A major reason for this increased urbanization is migration, especially by the poor, who try to benefit from economic growth in cities. Nevertheless, this growth does not always provide sufficient income for them to overcome poverty, or an environment conducive to improved living conditions.

Poverty remains a major problem in the region. UN-Habitat estimates that more than 900 million of the world’s poor live in Asia, and in 2012, 60% of them, or around 540 million, live in urban areas with populations under one million (UN-Habitat and UN-ESCAP, 2010). In the Asian region the number of slums is on the increase, and effective measures are needed to reverse this trend. To achieve significant poverty reduction impacts, infrastructure services need not only to be targeted to low-income areas, but should also be made more inclusive with a focus on vulnerable people living in slums. The cities that positively address infrastructure investments and poverty reduction will have a competitive edge over those whose citizens and urban poor suffer from serious absence of infrastructure and services, poor housing, and unhealthy environments.

The provision of infrastructure stimulates economic growth and development in cities. The key challenge for governments in Asia is to provide infrastructure and basic services for rapidly growing populations in an inclusive manner that not only ensures incentives to economic growth but also targets poverty reduction.

Economic benefits of investing in pro-poor infrastructure

“Every $1 spent on sanitation and water brings an $8 return by keeping people healthy and in work.”
(Source: ONE International. www.one.org/international/policybrief/4035)

For an inclusive city, the link between the urban environment and the poor is an important paradigm. Municipal administrators need to be more proactive in finding ways to fill the gap of urban infrastructure in an inclusive manner.

Purpose and use of the Guide

This publication is intended as a practical guide for mayors, local government officials, sector specialists, planners, and other decision makers involved in the programming and design of urban infrastructure projects in medium-sized cities.

1 The development of this pro-poor urban infrastructure investment guide for municipalities was initiated during discussions at pro-poor infrastructure workshops held in three Asian cities (Chennai, India; Yogyakarta, Indonesia; and Naga City, Philippines) and one regional workshop in Bangkok. A team of sector experts translated the deliberations and recommendations from these events into the present format.
The Guide aims to

- facilitate understanding of concepts and issues related to the design of infrastructure projects that will directly or indirectly benefit the urban poor;
- assist local government officials, sector specialists, and project planners in the formulation and design of pro-poor infrastructure investment projects; and
- stimulate change and motivate mayors, local government officials, and other decision makers in medium-sized cities to make use of pro-poor infrastructure investments in their cities with an eye on increased competitiveness; this should be a two-pronged approach to both urban development and poverty reduction.

Structure of the Guide

As shown in Figure 1, this Guide is divided into four sections. **Section 1** highlights the important role that provision of infrastructure has for the competitiveness of cities and the importance of its provision in an inclusive manner to improve the living conditions of the poor. In addition, it provides practical tips on matters of concern in the conceptualization process of infrastructure investments intended to target or increase positive impacts on the urban poor. **Section 2** provides an overview of principles and steps that will guide decision makers to ensure that, through using either the targeted or the inclusive approach, benefits for the poor are maximized. **Section 3** summarizes issues related to linking pro-poor infrastructure projects to financing. It describes in simple terms how to go about a cost-benefit analysis to test the financial viability of a project. It also describes potential public and private sector financial sources that can be used for their implementation. Finally, a set of **annexes** provide additional information related to the other sections of the Guide.

---

2 A more comprehensive guide on infrastructure finance, including pro-poor investments, is under preparation by CDIA.
CONCEPTS AND ISSUES IN PRO-POOR URBAN INFRASTRUCTURE

Key Questions

- What is pro-poor urban infrastructure development?
- What are the economic and social benefits of pro-poor urban infrastructure?
- What are the practical issues in pro-poor urban infrastructure investment?

1.1 What is pro-poor infrastructure development?

For the purpose of this Guide, pro-poor urban infrastructure development is defined as an approach that enhances the access to and the use of infrastructure and services by the poor, either through city networks or area-specific interventions. In well-managed cities, pro-poor infrastructure investments are already part of city development strategies for poverty reduction.

Pro-poor urban infrastructure development has direct and positive impacts on the poor and on the vulnerable and socially excluded population by improving

- **access to municipal services** such as water, sanitation, waste management, transport, shelter, and electricity, and protection against human-made or natural hazards. The poor are usually ill served by urban infrastructure, leading to a range of problems, exacerbating poverty.

- **access to resources**, such as financial resources, that generate employment or decent income possibilities. Targeted investments in strategic infrastructure provision or improvement, and promotion of small and medium-sized enterprises through finance can stimulate pro-poor economic growth and development, leading to income generation and improved livelihoods for the urban poor. Pro-poor infrastructure investments can also enhance access of the poor and vulnerable to key assets such as land and property titles.

- **access to decision making**, which means participation and empowerment. The poor are generally not sufficiently involved in or consulted about urban planning and infrastructure development. Community empowerment can be a key outcome of a well-managed project development process. Participation also provides an avenue for promoting gender equality and inclusiveness for minority groups.

1.2 What are the economic and social benefits of pro-poor urban infrastructure?

Many benefits for the poor can derive from urban infrastructure:

- **Competitiveness of cities.** Provision of infrastructure enhances the efficiency of cities and stimulates investments by local business people and outside investors seeking to establish their businesses in cities and towns where urban infrastructure is available and services are reliable. This will be positively enhanced in cities where human settlement conditions enable a clean and healthy life for the labor force (Boxes 2, 6).
It is estimated that between 1997 and 2000, in two areas covered by the Ahmedabad Slum Networking Project in India, beneficiary families spent an average of US$675 for home improvements and that such improvements increased property values by 67%. In areas where revitalization projects take place, similar opportunities for increased revenue collection are created. (Source: Joshi, R. Integrated Slum Development – Case of Pravinagar – Guptanagar. 2005)

Box 2: Building a city on the principles of social equity and quality of life in Bogotá, Colombia

“Bogotá, Colombia, proves that cities can be reborn by redesigning them not primarily on economic principles of profit but on those of social equity and quality of life. The city developed a public transport system that included bike lanes and pedestrian-friendly sidewalks. Existing public parks were improved and new ones developed, also in the poorer areas of the city. Efforts were made to connect the slums to the inner city. In short, Bogotá developed infrastructure that benefitted all its inhabitants, especially the poor, resulting in the creation of one of the most competitive and livable cities in Latin America.” (Source: UN-ESCAP. http://www.unescap.org/esd/environment/infra/documents/Guidelines.pdf)

• **Formal and informal sector dynamics.** When infrastructure is targeted to poor areas, it stimulates investments (trade, commerce, housing) and promotes economies of scale that support both formal and informal economic activities in the areas of intervention and their surroundings. Pro-poor infrastructure investments trigger investments in other sectors like housing; trade and commerce; and secondary infrastructure like electricity, water, and sewerage connections to businesses and homes.

• **Local revenues.** Provision or improvement of infrastructure in marginalized and poorly served slum areas contributes to the consolidation and the formalization of such areas and to economic activities that increase the opportunities of urban authorities to raise revenues through property taxes, building taxes, commercial licenses, service fees, etc. (Box 3).

Box 3: Economic benefits for the city

It is estimated that between 1997 and 2000, in two areas covered by the Ahmedabad Slum Networking Project in India, beneficiary families spent an average of US$675 for home improvements and that such improvements increased property values by 67%. In areas where revitalization projects take place, similar opportunities for increased revenue collection are created. (Source: Joshi, R. Integrated Slum Development – Case of Pravinagar – Guptanagar. 2005)

• **The “inclusive city” image.** In the future, cities and their leaders will build their image as smart and just cities. They will be recognized if innovative methods are pursued to address poverty issues. The building of a positive image of a city will be beneficial in many regards: for its competitiveness, for its environmental performance, and for its economic future. Inclusive urban development will be a win-win situation for the urban dwellers, for the city leaders who rely on the votes of the poor for their (re-)election, and for the business world.

• **Environmentally conscious cities.** Cities that are proactive in adapting to the impacts of climate change entertain higher chances to stay competitive by providing a more resilient and sustainable environment for their businesses and populations to flourish and grow. Asian cities, especially coastal ones, are under threat of climate change. Provision of adaptation infrastructure will assist in decreasing the risk of disasters and the devastating effects that normally accompany these events. Since lack of access to adequate land or housing pushes most of the poor to live in high-risk sites, investments need to be made to decrease their vulnerability to natural and human-made hazards (Box 4).

1.3 What are the practical issues in pro-poor urban infrastructure investment?

Practical issues to take into account relate to the following:

1.3.1 For rational urban development

• **Analyzing a project in relation to the project area, its surroundings, and the city context.** Spatial analysis of the project components at the city level widens the understanding of its possible impacts on surrounding areas in particular, and at the city level in general. The project design can take advantage of other projects or programs and of the physical and economic synergies that are created by the investment. This must ensure, to the extent possible, that it benefits the poor. Equally, it needs to be kept in mind which other projects may threaten the livelihood and habitat of poor urban communities.
Box 4: Economic impacts of disasters

Assessments made in 2009 in two districts in Fiji of economic losses caused by a major flood indicate that families and businesses lost more than F$330 million or around 7% of gross domestic product in 2007. (Source: Pacific Islands Forum Secretariat, 2009)

“In 2007 flooding inundated nearly three-fifths of Jakarta, Indonesia, killing 52 people, displacing some 450,000 more and costing nearly US$1 billion. (Source: The Economist, 17 March 2012)

[In Thailand] “… the National Economic and Social Development Board and the Bank of Thailand have initially estimated that the flooding disaster would affect economic growth this year by 1 to 1.7 percentage points.” (Source: Bangkok Post, 18 October 2011)

1.3.2 For effectiveness in reducing poverty

- **Targeting the poor and most vulnerable groups and areas.** Selecting areas with large concentrations of poor residents as targets for infrastructure investments is one of the most effective ways to contribute to poverty reduction. Since the lack of affordable options pushes poor people to settle in locations prone to disasters, a combined focus on both the most vulnerable population and at-risk locations is an effective way to ensure greater impact of infrastructure investments on poverty reduction.

- **Using infrastructure investments to create job opportunities for the poor.** The opportunities created by the synergy between infrastructure investments and the economic sector can be used, among others, to generate income and improve the livelihoods of low-income families. A survey of technical and professional skills available in project areas or among low-income beneficiaries could match project activities with existing skills. Employment generation for the urban poor by an infrastructure project should be one of the criteria to rank a project or component during prioritization of investments.

- **Preventing or minimizing negative impacts on the poor.** Negative impacts may particularly occur with infrastructure investments when the poor are not the direct or even indirect target beneficiaries, or when they are subjected to involuntary relocation. The most common negative impacts of infrastructure projects on the poor are the loss of assets, jobs, and livelihoods. The following aspects need to be looked into:

  - **Negative impacts on formal or informal employment.** Loss of employment or restrictions on small business operations, which are often the case when service delivery is formalized, and increased distance to work opportunities caused by resettlement or relocation mean increased transport costs.

  - **Negative impacts on assets and access to services.** Consequences of relocation are seen in reduced access to land, housing, green areas, infrastructure, and social services. In settlement upgrading and urban revitalization projects, gentrification can be caused by the application of higher standards than those affordable to the poor, thus causing higher income groups to move in. Increased demand for services in industrial areas, for instance for water and electricity, may result in shortages of those services in low-income residential areas.

  - **Negative impacts on safety.** Widening of roads and simultaneous creation of narrow sidewalks may encourage more speed on roads and an increase in accidents; informal modes of transport may be marginalized or pushed out.
The objective of the Tan Hoa Lo Gom Canal Sanitation and Urban Upgrading Project was to provide alternative solutions to canal upgrading in a participatory manner. Since implementation of infrastructure works affected low-income households living along the canals, a comprehensive relocation program that included various options was designed including:

- upgrading of part of the slum along the canal,
- resettlement to in-situ low-rise apartments,
- resettlement to sites and services (roads, utilities, and social infrastructure), and
- socioeconomic measures for income generation and livelihood creation.

(Source of text and photograph: Le Dieu Anh, B. Legrand, Jan Van Lint, ISOCARP Congress, 2007)

Box 5: Comprehensive relocation practice: Tan Hoa Lo Gom, Viet Nam

The slum upgrading project along the canal was completed in 2001 and included the concrete paving of earthen alleyways, the installation of drainage, water and electricity networks, and public lighting. Families were offered low-interest loans for individual septic tanks and house rehabilitation and given incentive grants to offset installation costs of electricity and water meters.

1.3.4 For securing funding for interventions

- Identifying potential financing sources and partners as early as possible. Financing pro-poor interventions is more feasible when potential sources are identified as early as possible during the project design process. Having an early picture of potential financing sources helps the process to maintain realistic objectives and targets. This is especially important when mobilization of poor communities is relevant. It will help to keep the expectations of beneficiaries at a realistic level.

- Making use of creative financing combinations. To enhance affordability to the poor, decision makers can explore creative financing combinations of public and private sources. These may include cross-subsidies, in-kind contributions by beneficiaries and project stakeholders, public-private partnerships (PPPs), etc. Proactive thinking, cost-sharing possibilities, and willingness to provide services to the poor are common ingredients found in projects financed from multiple sources (Box 6).

Box 6: Strategic partnership for poverty reduction

Provision of basic infrastructure and regularization of services through the Step-Up Project, Manila, Philippines. (Source: Florian Steinberg)

1.3.5 For sustainability of interventions

• **Supporting participatory planning and design with beneficiaries and other relevant stakeholders.** Participation of stakeholders from both the public and private sectors in formal and informal planning and programming will ensure that the needs and conditions of beneficiaries and other stakeholders are discussed, understood, and translated into action. Demand-driven and community-driven approaches can help to ensure higher levels of ownership and commitment. Participation of all stakeholders can also ensure a transparent system for decision making that respects the interests of the poor.

• **Establishing a delivery system for sustainability and scaling up.** To facilitate the shaping of an effective delivery system of pro-poor infrastructure and services projects, the involvement of nongovernment organizations (NGOs) and other groups that have experience in delivering services for the poor is recommended. These organizations (such as water and other service providers) can act as intermediaries and ensure that projects, programs, and interventions are more effective and scaled up to reach a larger number of urban poor and to increase impacts on poverty reduction. Special purpose vehicles, like a dedicated unit in the government to deal with these projects, are an alternative option for scaling up, but sustainability concerns need to be taken into account from the outset.

• **Creating synergies among actors and resources for the provision of services.** For the provision of urban infrastructure and services, governments need to take advantage of the synergies that can be created between formal and informal actors to increase coverage and efficiency. In sectors like water, transport, and solid waste management, the role and relevance of the participation of the informal sector in providing services is very significant. The informal sector has a value not only for facilitating access to services and the employment generated for the poor; it is also complementary to formal systems such as in the case of urban mobility and solid waste management.

• **Striking a realistic balance between the standard of infrastructure and the capacity of poor beneficiaries to pay.** The project design needs to ensure that agreement among stakeholders is reached on standards of services that are affordable to poor beneficiaries. It is important to avoid overdesigning of infrastructure, making it less affordable for the poor and, thus, more demanding on government budgets. A realistic assessment of these factors is the key to sustainable solutions.
• Including realistic costs for long-term operation and maintenance as an indicator of sustainability of services or amenities. Irrespective of whether it is a pro-poor investment, a long-term operation and maintenance budget is required to ensure that the value of infrastructure assets is maintained and the services are sustainable. The involvement of community groups and beneficiaries in operation and maintenance activities not only generates employment, but also helps to ensure the sustainability of the infrastructure and amenities provided.

The issues presented in Figure 2 are very relevant and generic in their application to pro-poor infrastructure projects. For each urban infrastructure sector (transport, water supply, sanitation, slum upgrading, urban revitalization, etc.) there are specific features to be considered. These will be dealt with in more detail in the next section of this Guide.
2.1 How can infrastructure investments be targeted to benefit the poor?

By targeting benefits to the poor and to the most vulnerable areas, infrastructure projects can make a significant impact on slum eradication and poverty reduction. There are two routes that can be taken to ensure that the urban poor benefit from infrastructure investments: the direct and the indirect (Figure 3).

The **direct route** includes the urban poor as beneficiaries and embraces two approaches: the targeted approach and the inclusive approach.

The **targeted approach** focuses on the urban poor or on vulnerable areas where poor families live as main beneficiaries of the infrastructure projects. The focus of projects that use this approach is poverty reduction through the improvement of living conditions of the urban poor (Boxes 7, 9).

The **inclusive approach** ensures that all people in the city benefit from equal access to infrastructure or services networks, making the overall system more inclusive. Benefits for the poor are perceived also through complementary interventions.
Box 7: Targeting the poor through the Neighborhood Upgrading and Shelter Sector Project (NUSSP) in Indonesia

The NUSSP is a national program financed through a loan from ADB. The project made loans available to cities for the improving living conditions of the urban poor. The city of Pontianak, as part of its efforts to improve its environment and reduce poverty, decided to participate with upgrading of 10 slums. The project included new urban services (water supply, sanitation, drainage, footpaths, roads, and solid waste management), integrating these communities into city infrastructure networks. Infrastructure was financed through the ADB loan, and social infrastructure was covered by the local government. (Source: text and photographs: ADB, 2011)

Box 8: Targeting benefits of infrastructure and services to the urban poor

As part of a larger pro-poor intervention and urban upgrading, the city of Medellin, Colombia, provided a system to improve the mobility of the urban poor. The Metrocable is an elevated cable-car system that connects areas with very high concentration of poor population to the city’s metro system. Improved mobility by an inclusive system has enhanced, among others, access of the poor to the city’s resources and opportunities. (Source: University of Cambridge DPU. http://www.bartlett.ucl.ac.uk/dpu/metrocables/dissemination/)

The inclusive approach targets citywide improvement of infrastructure or service networks by providing all people in the city equal access to services. Emphasis is placed on trying to extend benefits to the poor either directly or indirectly. The inclusive approach can maximize benefits to the poor by supporting complementary interventions through which the poor can profit. The complementary interventions can be components of the same project or initiatives financed and implemented by other partners (Boxes 8, 9).

Both the targeted and the inclusive approach can use the pro-poor principles included in Annex 1 during project formulation and design. These are meant to ensure that as many options as possible are considered for the benefit of poor households.

Box 9: Pro-poor infrastructure investments in the transport sector

The Khulna City Corporation in Bangladesh is supporting the development of a pro-poor and green approach to the city’s transport sector. Of the eight project components, two were designed to directly benefit the urban poor. The targeted approach focuses exclusively on the accessibility and mobility needs of the urban poor by strengthening and extending existing access routes for both pedestrian and nonmotorized transport to urban slums, benefiting approximately 45,600 urban poor households.

The inclusive approach. Other components include road improvement in various parts of the city, new footpaths, roadside drainage, street lighting and beautification, together with rehabilitation of existing culverts/sluice gates to reduce the vulnerability of the area and the infrastructure to flooding. Some of these roads are on the fringe of low-income settlements, enhancing the mobility of the urban poor with improved links to Khulna’s main transport network and routes. (Source: CDIA, 2010. CRDP Sub-Project: Pro-Poor and Green Urban Transport in Khulna. Project Draft Final Report)
The *indirect route* ensures benefits to the poor through indirect impact channels. With this approach, no immediate benefits will be enjoyed by the poor, but these indirect channels will ensure that the urban poor will eventually benefit from the overall economic uplift that infrastructure investments will bring about. For example, with water supply and sanitation projects, or solid waste management projects that are directed at cities at large, the intention is to improve the performance of public (or private) infrastructure or service corporations. Through cost-efficient service delivery and effective management of cost recovery, impacts will reach a wide range of beneficiaries (Box 10).

**Box 10: The indirect route: Harbin Water Supply Project in the People’s Republic of China**

The Harbin Water Supply Project, partly financed with a loan from ADB, aimed to supply clean water to urban Harbin, a highly populated center in the northeast, from a reservoir on the Lalin River as a viable alternative to the traditional but polluted water source, the Songhua River. The project reduced water shortages and prevented water pollution in Harbin. With strong ownership by the provincial and municipal governments, the project achieved its major objectives of improving water quality and reliability of supply. The project eliminated the severe shortage of quality water 1 year earlier than envisaged at appraisal. (Source: ADB, Evaluation Report, 2010)

**2.2 What are key pro-poor design features in urban infrastructure sectors?**

For the design of pro-poor infrastructure projects, specific features need to be considered. Some of these features can be generic for all sectors and were mentioned in Section 1. In this part of the Guide, other more sector-specific features are discussed. These sectors are as follows:

**2.2.1 Urban renewal**

Urban renewal is inclusive in the sense that affordable and accessible housing and employment options are available to different income groups comprising the area’s existing and potential new inhabitants. Issues of concern for the poor include the following:

- **Formal and informal economic activities of the poor.** Since most of the economic activities of the poor and marginalized are in the informal sector, urban renewal interventions need to devise solutions that provide or improve spaces for medium- and small-scale economic activities by poor shopkeepers, street vendors, food stall owners, those involved in informal transport systems, porters, sweepers, solid waste workers, etc.

- **Impacts of formalization.** Interventions need to consider the impacts that increased prices for space, rent, operation, and maintenance of the renewed facilities and infrastructure services will have on poor and

---

4 For more detailed information on the topic see CDIA, 2011. Prefeasibility Study Guidelines, Appendix 3-B.
low-income shop owners and jointly design appropriate mechanisms so that such people are not pushed out of their area of work or residence. Special attention should be paid to impacts on single-headed households and other vulnerable groups.

- **Potential for employment generation.** Design should explore ways to increase employment opportunities, as well as to improve the conditions of the poor already earning a living from commercial activities in the area, for instance hiring them as part of the operation and maintenance crews of the new infrastructure facility as accountants, security personnel, etc. A technical and professional skills survey of low-income residents as part of the project activities could be used to match opportunities with available skills of the poor population.

- **Housing for poor residents.** If housing is a project component, ensure that there are appropriate housing designs and financial products that permit poor residents to stay, and ensure that the new housing development will not be taken over by higher income groups (gentrification).5

5 Off-site resettlement is to be avoided wherever possible. The potential for urban renewal in parallel with transit development should be assessed to provide additional units for resettlement (CDIA, 2011. Prefeasibility Study Guidelines).

### 2.2.2 Slum upgrading

Pro-poor slum upgrading is sensitive to the problems, needs, and opportunities of the poor and marginalized groups and contributes significantly to the improvement of existing conditions. Although this type of project varies in magnitude, nature, and context, the pro-poor features of slum upgrading need to emphasize the following:

- **Improvements focused on the poor and most vulnerable.** Even slums have a mix of income groups. The process needs to ensure that the poor, the vulnerable, and the marginalized take active part in the project.

- **Key gender issues.** Land ownership, safety and security, assured income, and livelihood are very important aspects for women and need to be addressed in the project design.

- **Design responsive to the needs of the poor.** Consultations on standards and design of services are needed so that the responses and responsibilities that come with these decisions are accepted by the beneficiaries (e.g., community services or individual connections; finished housing or core housing; wider roads and more displacement, or narrow roads and less displacement; who gains and who loses from certain decisions?).

- **Minimizing or adequately compensating negative impacts.** Relocation is especially disruptive to the lives of the urban poor.

---

Left: Improved roads as part of the Kampung Improvement Project, Jakarta, Indonesia (Source: Liliana Maru-landa Montes); Right: Driver’s organizations bring more stability to income. When drivers organize and partner with a local business to provide specialized service to customers, they are able to secure a more stable customer base, and higher income. (Source: CDIA, 2011a)
2.2.3 Urban transport

Inclusive urban transport is affordable, and accessible options are available to different income groups, including poor passengers, especially women and others affected by the project. Special concerns for the poor are the following:

- **Access to opportunities and services.** Transport projects need to include routes that connect low-income settlements and slums efficiently with commercial districts, markets that facilitate commercial and economic activities, and social services like public hospitals and schools that the poor can afford.

- **Gender issues.** In public transport, safety is an important concern for women. It needs to be addressed in the design of the system.

- **The poor and the informal transport sector.** The poor could benefit from the facilitation of stalls inside and near stations, and from a pro-poor regulatory framework that includes a transparent license system to avoid harassment and informal payments. Benefits can arise from the complementarities of the formal and informal modes of transportation. Feeder routes for mass public transport can be organized using existing informal systems, which employ a vast number of poor people.

- **Design concerns.** Transport projects need to consider the various types of users, and their needs. The needs of the poor include, among others, the possibility of transporting bulky packages of products to and from marketplaces, wide sidewalks along high-speed roads for their children’s and their own safety, paved roads in their settlements to improve the mobility of people and goods, and health standards. Consider different standards and means to enhance affordability, provision of good roads for nonmotorized transport, low-cost options for public transport, etc.

6 For example the ban on taking luggage on the Delhi metro has discouraged some low-income groups from using it (ibid).

2.2.4 Energy

Inclusive energy sector projects provide affordable and accessible options for all residents in the target areas. Important features for the poor in terms of energy include the following:

- **Key users.** Involve poor beneficiaries, especially women, who are main consumers and buyers of household-related items such as cooking gas, firewood, coal, and electricity. Safety concerns for women at night and facilitation of schooling activities for children at home are issues to be considered.

- **Exploring alternatives.** Analyze possible positive and negative impacts on the lives and especially on the economic activities of the poor. Explore alternative designs and technologies that are low cost and support informal business and livelihood activities in slums.

2.2.5 Solid waste management

Solid waste management projects are inclusive when all stakeholders, particularly the poor, are invited to participate and to benefit from the project components. The result will ensure a tailor-made and sustainable solid waste management system, accessible and affordable to all regardless of income level, education, gender, etc. Features of relevance to the poor include the following:

- **Livelihood and informality in the sector.** Project design needs to take into account the livelihood ties to waste management activities, especially informal commercial activities connected to collection, recycling, and scavenging at dumpsites, and how the project will affect these negatively or positively.

The informal sector plays a prominent role in solid waste management activities. Formalization of services needs to take advantage of their skills and experience. (Sources: left: Liliana Marulanda Montes; right: CDIA)
• **Employment generation.** Provide new employment opportunities in connection with the possible regularization of informal activities in the service system.

• **Gender aspects.** Women and children are more vulnerable to the adverse impacts of pollution. In low-income households, women are often responsible for waste management, and children are very much involved in scavenging and recycling activities. Thus their concerns and interest are crucial in the design of the project.

2.2.6 *Water supply, sanitation, sewerage, and drainage*

Water supply, sanitation, sewerage, and drainage are inclusive when safe and sustainable services are accessible and affordable to all beneficiaries in the target area. In relation to these sectors, pro-poor features include the following:

• **Gender issues.** Since women, and to some extent children, in slum areas are responsible for water management at the household level, their habits, concerns, and needs are extremely relevant in project design. Privacy concerns of women in relation to sanitation need to be addressed.

• **Accessibility, affordability, and adaptability.** Poor beneficiaries are concerned that services are reliable, that the design suits the needs of their households and livelihoods, that tariffs are within their budgets, and that the collection system responds to their earning/salary schedules. Alternatives should be considered such as bulk meters, public and/or communal water taps, private connections, and community or private toilets that are low cost and can be upgraded.

• **Community involvement.** Participation of poor beneficiaries in the operation and maintenance of water services can reduce costs and generate employment. Poor beneficiaries can be trained to keep accounts, repair water taps or household connections, maintain drains and septic tanks, collect fees, design awareness campaigns for better use of services, etc.

2.3 *What are the steps in the design of a pro-poor infrastructure project?*

These proposed steps can be followed using either the targeted or the inclusive approach to infrastructure investment projects. Independently of the approach used, the project formulation process needs to be participatory, so that public and private sector partners and stakeholders can reach agreement on what will be done, how, when; at what cost; and with what sources of finance for the implementation, operation, and maintenance of project components. All relevant stakeholders, and especially communities and their representatives, need to take active part in the whole process, so that the decisions made reflect fairly the interests of all partners (Figure 4).
2.3.1 Step 1: Poverty and vulnerability profile

Key question: What is the context?

- **Know the city through a poverty analysis.** This step is basically for participants to know the physical, environmental, social, economic, cultural, and institutional context of the city in relation to poverty and the infrastructure sector(s) of interest for the project(s). Poverty analysis plays a crucial role in the design of a pro-poor project, as it should provide a clear overview of the location of the poor in the city, as well as the current status of infrastructure and service provision in these areas. The information and data used for this analysis will justify the relevance of the proposed project from a pro-poor infrastructure and poverty reduction perspective. Most importantly, the results of the analysis will be the basis for the next step in the process, wherein target groups and key areas of intervention will be discussed and defined.

- **Conduct a poverty and vulnerability profile** in a participatory manner with representatives of stakeholders (formal and informal). Special attention should be given to secure representation of poor communities, government, the infrastructure construction sector, service providers, and potential financial institutions.

What is the result of the poverty and vulnerability profile?

The result is a city profile that includes an urban poverty and vulnerability outline and the analysis of infrastructure and services. This document will be illustrated with maps of the city and should show, as accurately as possible, the following parameters:

- **Socioeconomic status.** The spatial distribution of the urban poor, analysis of gender composition, and situation of minority groups; location of the poor and poor areas (formal and informal); map of coverage of service fees being paid, ability and willingness to pay, and savings capacity; challenges and gaps in relation to service levels.

- **Infrastructure status.** The status of infrastructure (formal and informal) in poor areas, with information on coverage, standards, tariffs, location of offices, fee collection systems, and default in payments; needs and gaps in infrastructure.

---

• **Environmental status.** Location of sites vulnerable to hazards (natural and human-made) and connection to areas where the poor live; needs and gaps of prevention or mitigation infrastructure.

• **Institutional situation and stakeholder status.** Spatial mapping of public and private (formal and informal) organizations and their operations in the city related to infrastructure and services provision, as well as operation and maintenance; gaps in roles and responsibilities.

An indicative list of questions to be asked during this and all subsequent steps is included as Annex 2.

### 2.3.2 Step 2: Identification of target groups and key areas

**Key question:** Which groups or areas will be the beneficiaries and why?

• **Infrastructure investments targeted to the poor.** This step will identify the intended beneficiaries and areas in the city where the infrastructure will be provided. There is no need to collect extra data, but instead use the data and information from the poverty and vulnerability profile as the basis and reference point for this step. Since this profile will likely show a considerable number of urban poor living in slums and vulnerable areas, there is a need to prioritize and define who among the urban poor will directly benefit, and the key location(s) to be the recipients of the investment. A multilayered analysis of the concentration of poor population and most vulnerable locations vis-à-vis the services and interventions proposed can be used to facilitate the discussions of the decision-making process. This step can be supported by an overlay of various thematic maps and/or a ranking matrix (Figure 5). Irrespective of the nature of interventions, comprehensive improvement or sectoral interventions, the objective of pro-poor infrastructure will be to target the most vulnerable people and areas, and to consider both the technical and institutional aspects analyzed during Step 1. This needs to be done with a realistic sense not only of the poor and their location, but also of the interests of other stakeholders or partners. The earlier the stakeholder assessment provides insights for other potentials and constraints that could impact particular groups or locations, the better for all.

What is the result of the identification of target groups and key areas?

The result of this step is the definition of main beneficiaries and priority areas, accompanied by a short note about the rationale for the selection of target areas.

**Figure 5: Sample of a ranking matrix**

<table>
<thead>
<tr>
<th>Poverty and Vulnerability</th>
<th>Very high</th>
<th>High</th>
<th>Mid</th>
<th>Low</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very high</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mid</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Highest Priority**
Places with very poor people, very high vulnerability, and very high infrastructure service deficiencies.

**Lowest Priority**
Places with lowest number of poor people, lowest vulnerability, and lowest infrastructure service deficiencies.

(Source: Banarjee, B., modified by Liliana Marulanda Montes)
2.3.3 Step 3: Assessment of needs and setting of priorities

Key question: What is required and what are the priorities?

• **Aim for well-informed decisions.** Planning a pro-poor responsive and cost-effective project requires an understanding of user needs and expectations and of the interests of the various partners. During this step, the information collected in Step 1 about status of services and the needs and practices of the poor must be assessed in more detail with focus on the specific target group(s) of beneficiaries and on the defined areas already identified during Step 2. To keep the pro-poor focus during this assessment, it is recommended to make use of the design principles in Annex 1.

• **Wishes versus realities.** The assessment includes questions related to practices of poor households regarding availability and gaps of specific infrastructure and services. This covers the major constraints to access them, service needs, preferences, and their capacity to pay. Making use of a sociocultural, economic, environmental, and institutional analysis, the assessment enables stakeholders to shape solutions that are realistic and acceptable to the poor, and that address the development concerns of the city.

• **Acceptability and adaptability.** The project beneficiaries or service users need to receive sufficient background on the technical options of infrastructure or services, costs, and financial implications of the various alternatives so that they can make informed decisions. Attention has to be paid to gender-responsive design and the needs of minority groups such as handicapped persons, the elderly, and indigenous people. Designs need to be tested also for their suitability for children and the youth.

• **Enhancing affordability.** During this step, stakeholders can explore options for potential involvement of poor beneficiaries in construction, operation, and maintenance, or potential participation in service delivery or in cooperation with a particular project component (e.g., waste collection, waste segregation). Phasing of infrastructure standards could also be used to facilitate affordability by the urban poor. It may be that in some locations the affordable option initially is the provision of public water taps, and after some time, when the community’s economic situation will have improved, these beneficiaries will be able to afford individual connections.

Priority setting takes into account the advice and guidance of community representatives, and local realities. A variety of ranking matrices can be used to set priorities. A set of criteria for the prioritization of actions needs to be defined and could include, among others, the number of poor benefiting directly and indirectly; employment and assets generated; negative impacts on the poor; responsiveness to gender; concern for minority groups, children, and youth; impacts on poverty and environmental vulnerability; financial viability; and feasibility of implementation (Box 11).

Women and children are the most affected by water supply problems. The issue sometimes is not affordability but availability, as very often poor households pay more for informally and poorly provided services than higher income families connected to formal systems. (Source: Liliana Marulanda Montes)
What is the result of the assessment and prioritization?

The product is an assessment of infrastructure conditions in a specified area that cover the quantity and quality of the available infrastructure in combination with an understanding of the needs, preferences, payment capacity, and willingness to pay of beneficiaries; interests of the various partners; and general financial implications.

2.3.4 Step 4: Definition of realistic and pro-poor project objectives and targets

Key question: What are the impacts and results to be achieved?

This is an important step, during which the objectives and the desired impacts of the project, including impacts on the poor, are discussed and agreed upon. The participatory nature of the process helps to ensure that the impacts are pro-poor, are realistic, and can be monitored and measured.

What is the result of defining objectives and targets?

The results are, on the one hand, defined objectives, and, on the other hand, quantifiable targets to be achieved by the project, together with a set of measurable indicators. These will become the basis for project monitoring and evaluation.

2.3.5 Step 5: Preliminary cost estimates and financial assessment

Key question: What does the preliminary financing plan look like?

This step provides the framework to discuss among stakeholders the financing options for the project, starting with local and national government sources. An estimate of the project cost, and an agreement on the resource commitments (financial or in-kind) of the partners involved, will enable the stakeholders to develop a financing plan for project implementation.

Once the project cost has been estimated, the next step is to assess the sources of funding and how affordable the planned project is for low-income beneficiaries. If it is not affordable, its parameters need to be modified, and it may require other tariffs or cross-subsidies to facilitate affordability. In case cost recovery is not possible, the project formulation process may need to revert to Step 4 to decide on adjusted parameters in a transparent and participatory manner.

Prioritized projects need to be supported by a comprehensive list of expected benefits, which will be achieved through the proposed infrastructure investment.
A full-fledged economic and financial analysis will be made when the project has been incorporated in the city’s medium-term investment programming and prioritization process and when the chief project financiers require a prefeasibility or feasibility study (see Figure 4).

**What is the result of the preliminary cost estimates and financial assessment?**

The result will be a preliminary financial and affordability assessment that comprises:

- estimated project cost,
- identification of financial resources (municipal and/or national government),
- estimated requirements for other resources,
- initial calculation of cost-recovery by users, and
- a list of estimated benefits of the proposed infrastructure investment.

### 2.3.6 Step 6: Definition of actions

**Key question: How do we get what we plan? What, how, who, when, and at what cost?**

The results of Step 3: Assessment of needs and setting of priorities; Step 4: Definition of realistic and pro-poor project objectives and targets; and Step 5: Preliminary cost estimates and financial assessment are the basic information inputs for the design of the actions.

These should be a constant reference point during the design process, so that technical considerations match socioeconomic needs, constraints, and requirements already analyzed and assessed.

- **Clear responsibilities and commitments.** Specifying pro-poor actions implies specifying those activities that need to be undertaken to ensure that they suit the needs of the poor. It implies the definition of project components, identification of who will be responsible for which component, the responsibilities of the partners and stakeholders, and the management framework. It will also include the estimated time frame of the project, the human and financial resources available, and the cost-recovery conditions.

At this stage of the process it is essential to confirm agreements on key points for public and private sector involvement in the implementation of the project components. This implies the identification of key actors, the level of participation required of each actor, and the methods through which these actors will participate. Validation also needs to be made of those measures or mechanisms designed to facilitate affordability by low-income beneficiaries.

- **Pro-poor design and support mechanisms.** This step should also discuss possible design alternatives that can increase benefits to the poor. Different approaches must be explored and discussed. Affordability must be considered when there is a danger that the access of the poor to services will be limited as a result of the project because of standards and/or the pricing of goods and services. Different means and standards of infrastructure and service delivery (such as different modes of public transport in the case of a transport project; or the use of public taps or individual connections in the case of water supply) should be explored. Different options in terms of location, type, size, and materials should be provided to meet the beneficiaries’ affordability, adaptability, cultural background, and user requirements.

- **Safeguarding from negative impacts.** The project plan should also discuss options for mitigating negative impacts as a first step, and, where negative impacts are inevitable, should look at safeguarding the poor from these (described in Section 1.3.2 of this Guide).

**What is the result of the definition of actions?**

The result is the definition and validation of commitments by stakeholders and partners on who will do what and how, when, and at what cost.
2.3.7 Step 7: Safeguarding pro-poor implementation and monitoring

Key question: What is achieved?

- **Safeguarding and measuring performance.** At this stage, the project needs to establish a monitoring and evaluation system that will include indicators to follow up compliance and the progress of pro-poor features established during project formulation and design. Realistic performance measures and implementation benchmarks must be introduced to give all stakeholders involved in the project a goal to work towards, and at the same time to ensure implementation of or compliance with the pro-poor features of the project.

- **Meeting people’s needs.** Pro-poor infrastructure and service investments can be justified on the basis of meeting poor peoples’ needs, improving the living conditions and/or working conditions of poor communities, improving their incomes, and increasing their empowerment. It is therefore important that the effectiveness of the project is reached and, if required, actions are taken to improve outcomes. The operation and monitoring system should provide the mechanisms to facilitate the introduction of such adjustments.

Here again, poor communities need to be involved in contributing to decisions about what should be measured and which indicators should be used, and in participating in the monitoring process themselves. NGOs or civil society groups can also be involved as representatives of the beneficiaries or as neutral parties when necessary.

**What is the result of safeguarding pro-poor implementation and monitoring?**

The result will be a monitoring and evaluation system with measurable indicators to follow up the progress of activities and evaluate the attainment of project objectives and targets. The system should also describe the involvement of beneficiaries.

Poor environmental conditions and lack of services hamper the ability of the poor to enjoy the benefits of urban life. (Sources: left: Baseco, Manila, Liliana Marulanda Montes; right: Dhaka, ADB)
3.1 What is an economically and financially viable project?

Financially viable projects are those that ensure full cost recovery. Cost recovery allows a project to become bankable, either with public or with private resources. Economic viability can be demonstrated through a cost-benefit analysis of estimated costs versus economic (and other) benefits and impacts (Figure 6).

- **Economic analysis.** This analysis will measure the overall benefits that can be achieved by the project and the socioeconomic impacts on beneficiaries and society at large. The economic viability of a project involves computing the economic internal rate of return or the net present value from a stream of incremental benefits and costs attributable to the project over its useful life.

- The economic analysis involves (i) determining the economic viability of the project; (ii) testing the impact of changes in key input variables on the viability; and (iii) analyzing the distribution and impact of economic benefits brought about by the investment to various stakeholders, particularly the poor.

- **Financial analysis.** This analysis will determine the project financial returns and the costs for users. It takes into account willingness and ability to pay for the infrastructure and services. The approach to the financial analysis for revenue-generating projects takes into account two basic indicators of financial viability: (i) financial internal rate of return (FIRR), and (ii) tariff affordability.

---

8 A more comprehensive guide on infrastructure finance, including pro-poor investments, is under preparation by CDIA.
The FIRR is the interest rate at which the net present value of the revenues generated by the project is equal to zero. A proposed project is considered financially viable if the computed FIRR is at least equal to the weighted average cost of capital that is used in financing it.

For nonrevenue-earning projects such as urban roads, drainage, and flood control or protection, the financial analysis may focus on the project owners’ financial capacity to meet the recurrent costs of operating and maintaining the constructed facilities in a sustainable manner. For an income-generating project, costs of operation, maintenance, and capital should be covered by its revenues.

To enhance affordability to the poor, any government- or private sector-initiated project needs to consider the elements of cross-subsidy, dedicated grants, special revenues, general grants, or other credit-enhancing mechanisms within the financing scheme.

3.2 How can we improve the financial viability of pro-poor infrastructure investments?

The following are tips to improve the financial viability of pro-poor infrastructure investment projects:

- Determine realistic project costs that include long-term operation and maintenance, realistic capital cost, asset depreciation, and social objectives.
- Involve beneficiaries of all income levels in consultations to formulate the project and to validate the design, project cost, and users’ willingness and capacity to pay, especially the poor.
- Design transparent mechanisms to enhance the payment capacity of the poor, if required. Where possible, cross-subsidy mechanisms should be built into the project design to spread the burden among higher and lower income groups and businesses concerned.
- Demonstrate the viability of the proposed facilities and services by designing a realistic cost recovery mechanism, including setting appropriate levels of tariffs, incentives, and a sustainable tariff collection mechanism.
- Identify risks as early as possible during the formulation process and build institutional, financial, and operational safeguards to manage them.
- Seek affordable financing sources. Be creative and proactive to combine resources from various local and national sources.
- Where feasible, the engagement of private sector participation, e.g., in the form of PPPs, should be considered. Public and private investors will have their own criteria and procedures for project finance. Hence, any PPP will need to be geared towards fulfillment of these requirements and criteria, and will need to seek a “win-win” situation for all stakeholders.
- If international financing will be sought, make sure that the planned project can be accommodated within the country strategy agreed upon between the international financing organization and the national government.

3.3 What are the financing options?

3.3.1 Conventional public sector financing

- **Using own funds.** The preferred option to fund a pro-poor project is to find funding opportunities within the city first. This means that the financial management will be done within the local administration’s domain, which will allow flexible utilization of funds under the city’s control. Every city has revenue-generating mechanisms in place to pay for public services and other communal activities. Where these are enforced, some of the revenues could be utilized to fund pro-poor projects. Sources of conventional financing are internal revenues, user charges, municipal bonds, and donations.

- **Internal revenues.** A key source of funding for pro-poor projects is local taxes from land and private properties and from construction permits and land use modifications; business permits; and, in some cases, value-added taxes on local goods and services. These internal revenues usually represent a hugely underexploited potential, particularly the land-based taxes. Income from land taxes, commercial taxes, betterment levies, etc. should be collected regularly and in the total amount (the actual efficiency of collection varies across localities).
3.3.2 Private sector resources: Corporate and business sectors, and community contributions

- **Private sector funding.** Financing the project, or parts of it, through PPP schemes is an important option. In a PPP, a private individual or company that is motivated by commercial interests supplies a service (e.g., waste collection, water provision); in return it is paid by the local government, or can collect money from the users of the service. Before entering into a PPP, cities need to ensure that the basic principles that make PPPs effective are understood, respected, and applied by all involved partners. This implies that the private partner must be motivated to perform against agreed-upon criteria; and the public partner will oversee the overall performance against agreed-upon parameters (potentially utilizing participatory monitoring) (Box 13).

**Box 13: Partnerships for affordable pro-poor infrastructure and services**

Willingness to pay and cost recovery are paramount issues for private sector participation in pro-poor infrastructure investments. Maynilad Water Services and the Manila Water Company, both concessionaries for operation of water services in Metro Manila, Philippines, extended services to slum areas, partnering with community organizations, NGOs, and small-scale private service providers. (Source: ADB, 2011)

- **Commercial loans.** If the local government has stable sources of revenue that can be demonstrated by means of robust balance sheets, borrowing from national or international financial institutions can be considered. In most countries of Asia, financing through international or bilateral sources can be obtained only through sovereign debt, i.e., national government-secured loans. However, in the People’s Republic of China, subsovereign borrowing from international financial institutions has started and is likely to expand. In many countries there exist national and subnational financial institutions that extend local currency loans to cities and towns.

**Box 12: Capital markets as potential funding sources for inclusive infrastructure investments**

“Ahmedabad [India] raised US$89.5 million between 1998 and 2006 through four municipal bond issues for the domestic capital market. The Karnataka Water and Sanitation Pooled Fund of the Greater Bangalore Water and Sewerage Project used a USAID credit guarantee to raise more than US$23 million, leveraging US$29 million in domestic capital for each dollar provided. Domestic capital markets are potential funding sources for inclusive urban infrastructure.” (Source: ADB, 2011) Nevertheless, experience also shows that these types of investment projects will have limited success if the revenue base is not healthy and if the systems and mechanisms such as efficient project management that reduce time delays and cost overruns are not in place. Other factors such as the politics of municipal elections and minimal stakeholder involvement were mentioned as the main cause that contributed to the failure of the Singali’s Public-Private Partnership for Water Supply Project in India. (Source: Urban Infrastructure India, Chapter 5: Developing Commercially Viable Infrastructure Projects)
• **Services of pro-poor-oriented financial intermediaries.** Some national financial institutions have developed pro-poor financial mechanisms and services through resources harnessed mainly from the savings of the urban poor. These organizations provide “savings and credit” programs such as revolving funds and microcredits, etc. that can be used as a catalyst for community members to pay for improvements or to improve small-scale infrastructure, housing, and/or the socioeconomic situation of community members (Boxes 14, 15).

**Box 14: City development funds in 70 Asian cities**

The Asian Coalition for Community Action (ACCA) is a program of the Asian Coalition for Housing Rights. ACCA has initiated a platform for city-wide human settlements upgrading projects in Asian cities. In the initial 2 years, the program has set up 70 city-based development funds with capital amounting to US$3.7 million. So far, 21 local governments in eight countries have contributed US$200,000 to complement financing for a variety of neighborhood upgrading initiatives. Although this amount represents less than 5% of the total US$3.7 million capital, it is an important step forward in the commitment of local governments to support city-wide, community-friendly financing mechanisms for the urban poor. (Source: ACHR, 2010) This pro-poor approach to finance small improvements, decided by communities, could be strengthened when these improvements are part of or linked to city-wide improvement programs or infrastructure sector systems. In addition, concerted efforts with local authorities could contribute to the sustainability of improvements and impacts.

**Box 15: Social Enterprise for Women Advancement Bank**

Cost recovery of on-site infrastructure of the Ahmedabad Slum Networking Project was achieved through savings and credit services provided mainly by the Social Enterprise for Women Advancement (SEWA) Bank. The availability of services and products designed for low-income clients like those provided by SEWA Bank are an added value for upgrading projects and other initiatives seeking to recover the cost of the investments. (Source: IADB, 2010a)

• **Contributions by private stakeholders.** There is the possibility to leverage financial resources from private sector stakeholders. This was the case in Ahmedabad, India, during the pilot phase of the Slum Networking Project, where one-third of the funds were provided by business corporations; and in Manila with the Step-Up Project with contributions, motivated through corporate social responsibility, from the corporate members of Philippines Business for Social Progress. Even if the partnership between the government and the private sector in Ahmedabad lasted only 2 years, the experience provided insights and valuable lessons for exploring ways to build such alliances for slum improvement.

Cash and in-kind contributions by the community can also be blended with this approach. In the aforementioned Ahmedabad Slum Networking Project, the beneficiaries contribute one-third of the cost of the on-site infrastructure. Beneficiaries can contribute labor or land, as often practiced in infrastructure improvement or land re-adjustment schemes. There is always an element of savings when the project can combine resources of the partners and stakeholders.

3.3.3 **Specialized funding through national and international organizations and donors**

• **Choices of financing.** Specialized financing of a project by national or international organizations and donors is an option that should also be considered. Most of these financing mechanisms have stringent regulations and often require some time to be set up and to be effective. Usually, financing by international institutions cannot be channeled directly to cities, but rather via the central government.

○ **Grant funding from national and international donors.** Bilateral funds are channeled mainly through special assistance agencies in the donor countries. Development agencies such as German International Cooperation, the United Kingdom’s Department for International Development, the Australian Agency for International Development, the Swedish International Development Cooperation Agency, and many others can also provide sector-specific support programs,
which differ from country to country and which can be looked up via the websites in Annex 3.

Some organizations provide special (sector) grants such as the United Nations Development Programme’s Innovative Project Grants, or climate funds (e.g., Asian Climate Change Resilience Network), or ADB’s Urban Financing Partnership Facility (for environmental infrastructure).

- **Concessional loans.** These are available from multilateral development banks (e.g., ADB, World Bank, Kreditanstalt für Wiederaufbau). Bilateral funds are channeled mainly through the central government in the borrowing country. Additional official assistance is channeled from lending agencies to recipient countries through multilateral organizations. Other funding options could be to access donors’ small projects fund (basket financing), or to explore sectoral approaches where pro-poor development is ensured under the umbrella of adaptation to climate change, for example. A critical limitation of these resources is that they are available only for those programs listed in the strategy agreed to by the finance organization and the client country. Thus, projects need to find a niche within the country strategy in order to access these funds (Figure 7).

- **Special purpose vehicles.** These can be formed to implement individual projects. They can be private or public sector entities. Their roles and responsibilities may be to design, finance, construct, operate, maintain, and/or collect user charges/tolls, sharing revenue with the respective government agencies and transferring the project assets to the concerned agency at the end of the concession period.

- **Making choices.** As explained above, a variety of options are available to finance infrastructure and basic services projects. Every financing option has its own requirements, and not all options will fit every type of project. City governments, possibly with the support of the national government, are encouraged to utilize their skills, creativity, and influence to set up innovative funding options, looking at locally available options first. Decision makers need to be innovative and proactive and consider bundling of revenue-generating (conventional) and pro-poor (mostly subsidized) projects.

Figure 7: Typical project requirements by a large infrastructure financing institution

<table>
<thead>
<tr>
<th>Integrated as well as overarching sectoral approach</th>
<th>• Follow an overall systemic approach: e.g., focus on the entire solid waste management chain; i.e., no investment in improving waterways will be made available if unsound wastewater disposal is taking place further upstream.</th>
</tr>
</thead>
</table>
| Economic sustainability | • Economic and financial analysis  
• City must ensure introduction of infrastructure usage tariffs that at least cover operation and maintenance costs with the overall goal of full cost recovery.  
• Institutional improvements of city agencies to increase efficiency  
• Sizeable counterpart contribution by city (land acquisition, compensation, operation and maintenance of schemes, dedicated project staff, etc.) |
| Social sustainability | • Tariffs must be socially acceptable.  
• Inclusion of informal sector workers in project concept is preferred.  
• Socially sound resettlement practices, where applicable  
• Initial poverty and social impact analysis  
• Summary poverty reduction and social strategy  
• Gender plan |
| Environmental sustainability | • Preparation of an initial environmental examination or an environmental impact assessment demonstrating that the project has no negative impact on the environment  
• Climate-friendly projects or projects mitigating climate change are preferred. |

(Source: Adapted from Kreditanstalt für Wiederaufbau, Chennai Sector Workshop, August 2011)
• When assessing financing of infrastructure projects, the following sequence regarding financing options should be considered:
  ○ First, maximize conventional public sector financing within the city.
  ○ Second, leverage communities and/or the private sector for financing.
  ○ Last, seek specialized funding support from national and international financing initiatives.
Annex 1: The 6-A Model: Key design principles to ensure impacts on the poor by infrastructure investments

The key principles in the design of pro-poor infrastructure projects are intended to guide the overall design process, and their recognition will determine how effective and relevant planned infrastructure will be for poor households and for poverty reduction.

The key principles are based on the 6-A Model. This model provides a structured framework for the use of the principles throughout all steps of the project formulation and design process. It covers Acknowledgment, Availability, Accessibility, Affordability, Acceptability, and Adaptability.

- **Acknowledgment** of the poverty situation in the city and the need for action. Stakeholders need to (i) acknowledge the presence of urban poor, informality, and depleted areas in the city; (ii) recognize the need for action; and (iii) be willing to act to mitigate and reduce poverty.

- **Availability** of services that are accessible to all, in both formal and informal settlements, where the city poor live. Services provided need to be adequate in terms of quantity and quality.

- **Accessibility** of infrastructure services relates to physical location and access to specific infrastructure services.
• **Affordability** of services provided. This means that the resulting fees and tariffs are affordable to those low-income people who will benefit from improvements in the areas where the services will be provided, and thus are expected to pay for them.

• **Acceptability** relates to the balance between the standard proposed by the project design and the adequacy of the infrastructure and service standards.

• **Adaptability** means that the infrastructure investment needs to be adaptable to local needs and lifestyle circumstances. From the perspective of the poor, the building materials should be readily available, and the technology used should be simple and easy to handle and monitor in order to avoid hardware becoming quickly damaged, leading to failure or limited access to the service.

Throughout project formulation and design, special attention should be paid to the principles, to gender issues, and to the concerns of disabled people and other minority groups.
Annex 2: Key questions related to the steps in the project design process

Key questions related to Step 1: Poverty and vulnerability profile

- Who are the poor? What are their vulnerabilities? Where do they live? How many are they? Where do they work? Where are job opportunities for the poor?
- Where are vulnerable areas or locations prone to disasters?
- What is the status of infrastructure services in identified poor and vulnerable areas?
- How do the poor commute? To what do they commute? What do they pay to commute?
- What are water/electricity demand, sources, supply, standards, tariffs, costs, fee collection?
- What are the priorities of the poor in the context of improved urban services?
- Are infrastructure and services responsive to gender and minority groups?
- What infrastructure do the poor use? What infrastructure does the city provide for the poor and where? How does the current provision of infrastructure exclude the poor?
- Are there technical or environmental barriers (existing laws, standards) that would obstruct the provision of services to the poor?
- What formal and informal organizations in the public and private sectors play a relevant role in the provision of infrastructure and services? What is their attitude and ability to perform?
- What is the attitude of the local government toward the poor and poverty reduction?

Key questions related to Step 2: Identification of target groups and key areas

- Where are the most vulnerable areas in terms of population and environment?
- What are the socioeconomic challenges in those areas?
- Which groups/areas are more deprived of infrastructure and services?
- Which areas have more or less technical, institutional challenges?
- What are the different players and their interests? Do they conflict with each other? How?

Based on the analysis of the answers to the above questions, decide on:
- Which groups/areas will produce the desired impacts within a realistic scenario?

Key questions related to Step 3: Assessment of needs and setting of priorities

Questions to ask when assessing current practices:

- How are the poor currently using the city’s infrastructure?
- What are the current practices that could impact the project (cultural, social, religious, others)?
- What alternatives are there when certain services are lacking (for instance water vendors instead of piped water, burning of waste instead of municipal waste collection, indiscriminate dumping instead of sanitary landfill disposal)?

Questions to ask when assessing needs and preferences:

- What is the current situation for the city’s poor with regard to the proposed project?
• What are the needs of the target groups in relation to the project?

• How do other city development plans relate to the poor? What can be done to extend benefits to the poor?

Questions to ask when assessing constraints:

• What are the negative impacts of the project for the poor?
  - Employment (formal/informal): loss or restrictions, proximity to work opportunities
  
  - Assets: land, housing, green areas, access to social services, increased need for services in industrial areas may result in shortage of the same in low-income areas
  
  - Safety: widening of roads and narrow sidewalks, more speed in roads increases accidents, etc.
  
  - Environmental: increased vulnerability to disasters like floods

• What are the main challenges in accessibility, affordability, and usage of the proposed project?

• What is currently keeping the poor from reaching these services?

• What are the obstacles to the poor for using the city’s currently existing infrastructure?

• What are the potential constraints in accessing the proposed benefits and services? How will the project address them?

Questions to ask when assessing capacity:

• What is the basic understanding of the users of the service in regard to hygiene, usage, etc.?

• What is the citizens’ ability and willingness to pay for services, where applicable?

• What are the established and future social and cultural patterns/issues of usage?

• What issues might impact the ability to access services (e.g., connection fees, land issues, legal issues, cultural issues)?

• What are key gender issues that are likely to be relevant to this project?

General:

• What are the impacts on the environment?

• Are all partners in agreement?

• How strong is the possibility of implementation?

Questions for setting priorities:

• What criteria will be used to prioritize actions/subprojects?

• What are the recommended priority actions/subprojects?

Key questions related to Step 4: Definition of realistic and pro-poor project objectives and targets

• What are the desired objectives?

• What are the expected targets to be achieved with the project?

• What indicators will allow progress to be measured?

Key questions related to Step 5: Preliminary cost estimates and financial assessment

• What are the estimated costs and fees? Are they realistic?

• Are they affordable to the poor?

• If not, what measures are needed?

• What are potential public sources and their requirements?

• What are potential private sources and their requirements? Are they corporate business sector/communities/other stakeholders? Is support monetary or in-kind?

• What are potential national or international sources and their requirements?

• What is a feasible combination of financial resources?
• Is there a need for adjustments? Must we go back to consultations?
• What are the estimated tangible and intangible economic benefits?

Key questions related to Step 6: Definition of actions

What?
• What is the design about?
• If a poverty reduction approach is used:
  ○ Is the design affordable, acceptable, accessible, and adaptable to the needs of the poor?
  ○ If not, what can be done to adjust the design features?

General:
• Are gender and minority groups’ needs and requirements considered?
• Are the requirements/interests of other partners considered?
• What design features can be included to maximize pro-poor impacts?
• What design features need to be included to minimize negative impacts?

Who?
• Who is the main target group of the project?
• Which organizations need to be involved from the public and private sectors and beneficiaries, and what are their roles and responsibilities?

How?
• What are implementation modalities?
• Is employment for the poor (beneficiaries or not) going to be created and how?

When?
• What is the schedule of activities? Does it include monitoring and evaluation activities?

At what cost?
• What is the project cost and what are the sources of finance?
• What is the financial and economic viability?
• Is the balance among technical, socioeconomic, and financial dimensions acceptable to the partners?

Key questions related to Step 7: Safeguarding pro-poor implementation and monitoring

Monitoring:
• What objectives, targets, and indicators are planned to measure progress against pro-poor objectives and expected impacts?
• What are the pro-poor project features? What indicators will measure them? How are they measured?
• What are the expected negative project impacts? What indicators will measure them? How are they measured?
• How is the participatory monitoring system going to operate?

Evaluation:
• How is the participatory evaluation system going to be designed?
• What is the content of the evaluation system? How are the pro-poor features going to be evaluated? How are the safeguards going to be evaluated?
• How much progress has been made according to project objectives and targets?
• What are the problems and bottlenecks?
• What actions must be taken (corrective measures and/or new activities)?
• What is the process to introduce adjustments?
Annex 3: References and other sources of information on pro-poor infrastructure

References


———. [no date]. Community-Driven Development for Urban Poor in Ger Areas (formerly Community-Led Infrastructure Development of Urban Poor in Informal Settlement Areas [Ger Areas]): Mongolia.


ONE International. ONE’s submission to the G20 High Level Panel on Infrastructure Investment. http://www.one.org/international/policybrief/4035


University of Cambridge, University College London, Development Planning Unit: Can Local Governments Reduce Urban Poverty? The Case of Medellín, Colombia. http://www.bartlett.ucl.ac.uk/dpu/metrocables/dissemination/


University of Cambridge, University College London, Development Planning Unit: Can Local Governments Reduce Urban Poverty? The Case of Medellín, Colombia. http://www.bartlett.ucl.ac.uk/dpu/metrocables/dissemination/


Other Sources of Information

http://adb.org/Documents/Handbooks/Analysis-Processes/default.asp


———. 2011. Urbanization in Asia: Clean, Green and Competitive Cities Key to Asia’s Future.
http://beta.adb.org/features/urbanization-asia-clean-green-competitive-cities

———. ADB’s Poverty Reduction Strategy.

———. Poverty Reduction Tools and Innovations.
http://www.adb.org/poverty/tools-innovations.asp

Best Practices in Slum Improvement: The Case of Ahmedabad, India.
http://www.urbisnetwork.com/documents/AhmedabadBestPracticesinSlumImprovement-WUF.pdf

CDIA (Cities Development Initiative for Asia). Website: http://www.cdia.asia/downloads/Tools and Publications:
• CDIA (Cities Development Initiative for Asia). 2010a. CDIA Application Guide.
• ———. 2010b. City Infrastructure Investment Programming and Prioritization (CIIPP) Tool-kit.

Citizen Participation and Pro-poor Budgeting.

CODI (Community Organisations Development Institute). Scale — Change — Action— People
CODI: Baan Mankong: 50 Upgrading Projects.

MIT (Massachusetts Institute of Technology). Cities Without Slums - Action Plan for Moving Slum Upgrading to Scale.

Saath (India) – Creating Inclusive Cities.
http://www.saath.org/saath/index.php?option=com_content&view=frontpage&Itemid=1

Starting a Pro-Poor Public-Private Partnership for a Basic Urban Service.

http://www.unescap.org/pdd/prs/ProjectActivities/Ongoing/Best%20practice/Bangladesh.pdf

———. UN-ESCAP. *Housing the Urban Poor – 7 Quick Guides.*
http://www.housing-the-urban-poor.net/QuickGuides.asp

United States Agency for International Development. *Case Studies of Bankable Water and Sewerage Utilities.*
