

ECONOMIC AND FINANCIAL ANALYSIS

A. Macroeconomic and Sector Context

1. During the first half of 2013, Indonesia's gross domestic product (GDP) moderated to 5.9% year-on-year. Notwithstanding, private consumption held up well expanding by 5.1% and contributing almost half of GDP growth. Services and manufacturing were the supply-side growth drivers. Inflation was higher than anticipated, surging to 8.8% year-on-year. Fiscal policy provided modest support for economic growth. The budget deficit was 0.6% of GDP, slightly above the deficit a year earlier. Subsidies on fuel still absorb a significant share of budget expenditure despite the June 2013 fuel price increases. From 1 March 2012 to 28 February 2013, the economy generated 1.2 million new jobs outnumbering the 774,000 new entrants into the labor force during the same period the previous year. Most new jobs were in wholesale trading, construction, and manufacturing. The quality of employment improved, illustrated by an increase of 3.5 million jobs in the formal sector and 2.3 million fewer jobs in the informal sector. Poverty incidence declined to 11.4% in March 2013 from 12.0% in March 2012.

2. Indonesia's urban economy is a significant contributor to the country's GDP. The urban population, currently comprising more than 50% of the country's population, up from 48% in 2005, is projected to reach around 68% by 2025, with an estimated annual urbanization rate of about 4%.¹ Of those living below the poverty line, about 10.65% live in cities. The growth of urban informal settlements and slums has accelerated because of increased urbanization; high number of poor migrants; and limited capacity of local governments to provide affordable land, services, and housing for poor migrants and city dwellers. In 2011, only 40.5% of urban households had access to an improved water source; about 12.6% of the urban population is estimated to live in slums.²

B. Economic Rationale for Community-Driven Infrastructure Development

3. The project will adopt a community-driven development (CDD) approach providing block grants, facilitation, and technical support to communities to (i) improve basic infrastructure in 20 cities, and (ii) establish new settlements for low-income families in at least 5 cities. Overall, project investments are expected to benefit more than 3.3 million people from about 670,000 poor households. The expected economic benefits are significant and include (i) improved public health status and reduced per capita costs for health care and medical treatment, (ii) increased income-generating opportunities through improved essential infrastructure, (iii) considerable short-term employment generation, and (iv) broader socioeconomic benefits and contributions to poverty reduction through multiplier effects.

4. **Enhancing sustainability.** The project will provide capacity building assistance to local administrations to strengthen integrated urban development planning, adopt CDD in spatial planning, foster public-private partnerships in city development for the poor, and ensure sufficient maintenance arrangements of upgraded infrastructure.

¹ The average annual urbanization rate during 1993–2007 was 4.2%.

² From a baseline rate of 27.25% in 1993. The rate indicates a decline by 8.63% (National Survey Census data) due to various government pro-poor housing programs. The National Statistics Board used four indicators to estimate the proportion of urban slums: (i) lack of access to a protected source of drinking water, (ii) lack of access to basic sanitation, (iii) minimum floor area per occupant, and (iv) durability of building materials of the place of residence.

C. Demand Analysis

5. The demand for upgraded infrastructure services within urban slums will remain high. While the government is making credible inroads to reduce the incidence of poverty, the urbanization rate at 4% will mean slum areas will continue to grow while the government addresses the underlying problems, including access to land for affordable housing, urban planning, and urban development. The project meets the government's lending policy in that it is a catalytic innovative approach to supporting infrastructure development in slums, and can be replicated by the government in other cities once they have met the preconditions for support. Project preparation demonstrated strong demand for the project. The government and/or the project team visited all of the 50 cities identified based on the set preconditions. Consultations on the project approach were undertaken with city administrations and community groups in slum areas. The preconditions for participation were discussed and focus on the existence of approved spatial plans (RTRWs) and development strategies (SPPIPs).³ They identify slum areas in the respective city, provide guidance to improve slums, include written commitment by the city administration to participate in the project, and provide the necessary resources to facilitate all project activities. After intensive consultations during project preparation with city administrations, which included workshops and field visits involving 50 cities, 20 cities were preliminarily selected based on the following criteria: (i) local governments have approved spatial plans and development strategies identifying slum areas in the respective city and providing guidance to improve slums; (ii) at least 5,000 households live in slum areas; (iii) at least 5% of households in slum neighborhoods live on a monthly income of less than Rp2.2 million; (iv) formal confirmation of the local government to participate in the project;⁴ and (v) confirmation that households without legal title to the land (informal dwellers) in the selected slum neighborhoods would be allowed to participate in and benefit from the project.⁵

D. Project Alternatives and Least-Cost Analysis

6. Least-cost analysis requires the identification of alternative approaches to deliver the project outcome. The design of this CDD project means that infrastructure investments will not be identified until the project begins; community members will identify the investments. Therefore an assessment of alternatives approaches is not possible at this stage. An infrastructure assessment will be conducted at each slum neighborhood at the beginning of the project to identify various upgrading needs. The community and local administration will prioritize the identified needs and review, in detail, alternative investment plans and cost structures. Most of the community infrastructure will be low technology and include a large component of local and in-kind labor. Ongoing operation and maintenance (O&M) costs will be provided in-kind or through fee for service payments by households. These mechanisms will be established by the community and are not predetermined.

³ Strategi Pengembangan Perumahan dan Infrastruktur Perkotaan (SPPIP) (Strategy for the Development of Urban Housing and Infrastructure).

⁴ Local governments of the project cities will sign a memorandum of agreement with the executing agency validating their readiness and contributions, including (i) establishment of a local coordination office with experienced and committed staff; (ii) provision of additional resources to finance complementary infrastructure works and to improve public services in slum areas; (iii) compliance to adopt a CDD approach to identify the specific type and mix of interventions to be financed by the project, based on needs assessments carried out by the communities; and (iv) adjustment and/or revision of the spatial plans and development strategies, if necessary, based on feedback received during the consultation process with slum communities.

⁵ During project preparation, 50 cities were considered eligible to participate in the project based on the precondition criteria. During a thorough consultation process between the executing agency and the candidate cities, which included field visits to explain the project scope to city administrations and community groups, 20 cities confirmed their commitment to participate in the project.

7. **Cost-effectiveness.** Evaluations of CDD projects show that CDD approaches provide good quality infrastructure at significantly lower costs than technically comparable projects using traditional (non-CDD) modes of government contracting. These results suggest that the investment costs of CDD-provided infrastructure were on average about 15%–25% lower than similar infrastructure using conventional contracting by local governments.

E. Cost–Benefit and Sensitivity Analysis

8. The total project cost is estimated at \$102 million. As the project will adopt a CCD approach, the specific interventions at each of the 20 cities will be identified through a participatory process during implementation based on needs assessments and careful assessments of alternative investments within the investment ceiling provided for each city. Thus capturing all the benefits through economic and financial analysis at this stage is difficult. However, benefits that will with a high degree of probability accrue through the project will be thoroughly analyzed during the process to formulate the consolidated city investment plans with the intent to determine the most efficient use of project funds.

9. **Uncalculated economic benefits.** Currently, only about 40% of the urban population has access to safe water, about 28% do not have access to improved sanitation facilities. About 35% of urban areas lack proper drainage systems. Constructing or expanding community-driven sanitation and water systems will contribute to improving healthy livelihoods in urban neighborhoods and reducing public health costs associated with the discharge of raw sewage into water bodies or open defecation. Poor slum communities living in densely populated neighborhoods are more exposed to the negative impacts of poor sanitation and lack of safe water; in such confined spaces human excreta that is not properly disposed of or treated will pollute water resources, spread disease, and increase health risks among the neighborhood residents. Improvements in water, sanitation, and drainage will reduce the number of unproductive days, reduce time for accessing water and sanitation services, and improve overall health of the community. A World Bank study of sanitation in Indonesia found that poor sanitation and hygiene have a wide array of effects.⁶ In 2006, Indonesia lost an estimated \$6.3 billion due to poor sanitation and hygiene, or 2.3% of GDP. The annual per capita cost of poor sanitation and hygiene in urban areas was estimated at \$31.10. These costs cannot be broken down to slum areas but do represent the magnitude of the impact on the Indonesian economy.

10. The benefits of improving flood control infrastructure will depend on the location in the slum area. Potential benefits include (i) significant additional days of operation of government services where these are no longer being flooded, (ii) improved health of inhabitants where existing sanitization services are no longer being flooded, (iii) reestablishment of lost production and production days for small businesses where their stock and sales points are no longer flooded, and (iv) depending on the extent of flooding usually experienced, a potentially large reduction in the maintenance costs of public infrastructure, such as pathways that no longer get washed away.

11. **Quantified economic benefits.** In costing the project's economic benefits, the experience of the Asian Development Bank (ADB)-financed Neighborhood Upgrading and Shelter Sector Project,⁷ two rural infrastructure support to PNPM Mandiri projects,⁸ the ongoing

⁶ World Bank. 2008. *Economic Impact of Sanitation*. Washington, DC.

⁷ ADB. 2003. *Report and Recommendation of the President to the Board of Directors: Proposed Loans to the Republic of Indonesia for the Neighborhood Upgrading and Shelter Sector Project*. Manila.

⁸ ADB. 2008. *Report and Recommendation of the President to the Board of Directors: Proposed Loan to the Republic of Indonesia for the Rural Infrastructure Support to the PNPM Mandiri Project*. Manila. ADB. 2009. *Report*

Urban Sanitation and Rural Infrastructure Support to PNPM Mandiri Project,⁹ and consultations during the project preparatory stage were used to develop practical assumptions of the benefits of CDD projects in Indonesia, including the proposed project.

12. Increased short-term employment. Community members will identify project interventions through a participatory process within each slum area. During project implementation, local laborers are expected to carry out most of the civil works to upgrade basic infrastructure in the 20 project cities. The project will generate about 4 million person-days of short-term employment at an estimated average wage rate of \$5.0/day. The person-days of labor are assumed to be spread evenly over years 2, 3, and 4. Evidence, from similar projects that supported civil works using local manual labor, indicates that increased demand for manual labor has a significant impact on raising the wages of unskilled workers even outside of project activities, which could further contribute to poverty reduction.¹⁰

13. Improved income-earning opportunities. Improving the community infrastructure environments of poor urban neighborhoods where people are engaged in informal economic activities will provide a better working environment in communities for income-earning opportunities of small home industries, particularly related to food processing, handicraft, batik, and small repair services. Upgrading roads and pathways, and improving water and power supply, and providing common working spaces will improve the conditions for community-based small-scale businesses of informal entrepreneurs (e.g., food-stall owners, small restaurants, repair shops). Organized clean common spaces will be used for drying batik, making handicrafts, processing food, and selling products. Improved roads in slums will provide easier and safer access for consumers to reach shops and workshops. Improved drainage systems will contribute to reduced damage and loss of stocked products due to flooding. Data obtained during project preparation indicates that about 20% of the 670,000 households impacted by the project, or 134,000 households, are engaged in small businesses as their primary source of income; the project is expected to improve their monthly net income by at least 3%, starting in year 4. For calculation purposes, a monthly household income of Rp3,500,000 is assumed for households involved in informal sector activities.¹¹

14. Lower construction costs. An assessment of a PNPM-supported infrastructure project adopting a CDD approach showed that CDD infrastructure projects are at least 15%–25% cheaper to design and implement than similar projects managed through traditional government approaches. Community-implemented infrastructure financed under the project has an estimated cost of \$10 million for 2015, \$10 million for 2016, and \$10 million for 2017 if local governments use conventional contracting. The potential cost saving of using local labor that accrues in these years is estimated at \$7.5 million over the 3 years.

15. Improved healthy environments. While many of the project's health costs cannot be calculated until the infrastructure and its location is determined, an assessment carried out for the ADB-financed Metropolitan Sanitation Management and Health Project estimated the

and Recommendation of the President to the Board of Directors: Proposed Loan to the Republic of Indonesia for the Rural Infrastructure Support to the PNPM Mandiri Project II. Manila.

⁹ ADB. 2011. *Report and Recommendation of the President to the Board of Directors: Proposed Loan and Administration of Technical Assistance Grant to the Republic of Indonesia for the Urban Sanitation and Rural Infrastructure Support to the PNPM Mandiri Project.* Manila.

¹⁰ In comparison, the 2008 ADB-financed Rural Infrastructure Support to the PNPM Mandiri Project (footnote 8), which was successfully implemented in 1,840 villages during 2006–2009, is estimated to have generated about 5 million person-days of employment for poor community members participating in civil works under the project. The 2009 second Rural Infrastructure Support to the PNPM Mandiri Project (footnote 8) was implemented in 1,724 villages and generated about 8 million person-days of short-term employment for the construction of basic infrastructure.

¹¹ The estimation is based on feedback during field visits during project preparation.

avoided health costs of having access to sewerage systems at Rp47,500 per person per year for urban households.¹² As urban slum households face the same health costs, this can act as a good proxy for the health benefits of the project: 268,000 households are expected to benefit from improved sanitation services. With an average 5 persons per household, 1,340,000 people will be affected. At a benefit of Rp47,500 (\$4.32) per person per year, this amounts to \$5.79 million per year starting in year 4.

16. **Reduced cost of drinking water.** The project targets improving water supply facilities and systems to benefit 134,000 slum households. These households are assumed to currently not have access to safe drinking water, and thus are required to buy drinking water from vendors at a monthly cost of Rp50,000. After the project these households will benefit from new water supply facilities and will not need to buy drinking water from vendors. Assuming that these households will pay a monthly fee for water from the new water supply facilities (Rp15,000), and still boil the water for drinking purposes (Rp5,000 for gas), the saved costs for water will be Rp30,000. Thus the annual savings are estimated at about \$4.4 million starting in year 4.

17. **Economic internal rate of return.** The project's capital costs are estimated at \$7.20 million in 2014, \$23.90 million in 2015, \$28.49 million in 2016, and \$32.90 million in 2017. Recurrent costs during project implementation are estimated at \$4.15 million to cover government wages and other recurrent costs. The economic internal rate of return (EIRR) was calculated using cost estimates from the project administration manual and the calculated benefits (paras. 13–18). Using a discount rate of 12%, the net present value (NPV) for a project life of 20 years is \$45.23 million. The EIRR is calculated to be 20.8%, well above ADB's benchmark 12% (Table 1).

18. **Sensitivity analysis.** Using a standard approach to measure the sensitivity of the EIRR and the NPV, the calculations were subject to a +/- 10% for costs and +/- 10% for benefits (Table 2). A worst-case scenario using these parameters resulted in an EIRR of 15.2% and an NPV of \$18.58 million (Table 3).

F. Financial Sustainability Analysis

19. Indonesia's economy has been growing strongly with sustained growth of more than 6%. It is making credible inroads into reducing the incidence of poverty. The government invests heavily in health and education, and is actively investigating a range of social protection measures for its poorer citizens. The long-term development plan, 2015–2025 targets meeting the MDGs and the government invests heavily in infrastructure to achieve these targets. The government will not onlend the project loan to city authorities or local communities. The ongoing recurrent O&M costs estimated by the project team are small at \$500,000 per year.¹³ This reflects the small-scale nature of the infrastructure and the community involvement in its ongoing maintenance. More than one approach will be used to finance O&M costs. The approach will be determined on a site-by-site basis, depending on the community consultation and agreement established at each site. Signing the agreement is one measure to safeguard the infrastructure. The prevalent agreement will be for a mechanism that is consistent with the

¹² ADB. 2010. *Report and Recommendation of the President to the Board of Directors: Proposed Loan and Technical Assistance Grants to the Republic of Indonesia for the Metropolitan Sanitation Management and Health Project*. Manila.

¹³ Calculations are based on the following assumptions: (i) water and sanitation facilities and systems will be built and/or upgraded in 250 neighborhoods and an average \$50 will be required monthly for O&M (in cash and/or in kind), thus O&M of sanitation facilities and systems will cost \$150,000 annually; (ii) 300 neighborhoods will upgrade roads, pathways, and drainage; on average \$1,000 will be required annually for O&M (in cash and/or in kind), thus O&M of roads, pathways, and drainage will cost \$300,000 annually; and (iii) 10 cities will upgrade specific flood control infrastructure (to prevent tidal floods at the seashore or overflowing rivers), and \$5,000 will be required annually for O&M (in cash and/or in kind), thus the annual cost for O&M of flood control infrastructure is \$50,000.

community's political economy. Options might include fee for service at sanitation sites, rostered maintenance as in-kind support, a specific tax established by local authorities, or a general grant provided through city revenues.

Table 1: Economic Internal Rate of Return Estimate
(\$ million)

Year	Economic Cost			Economic Benefit			Total	Net Benefit	NPV (12%)
	Project Cost	Recurrent	Total Costs	Reduced Health Care (Sanitation)	Increased Small Business Income	Drinking Water Cost Savings			
2014	7.200	0.682	7.882	0.000	0.000	0.000	0.000	(7.882)	(7.038)
2015	23.900	1.102	25.002	0.000	0.000	0.000	0.000	(25.002)	(19.931)
2016	28.490	1.234	29.724	0.000	0.000	0.000	0.000	(29.724)	(21.157)
2017	32.900	1.133	34.033	0.000	0.000	4.000	4.000	(30.033)	(19.087)
2018	0.000	0.500	0.500	5.790	16.080	4.000	25.870	25.370	14.396
2019	0.000	0.500	0.500	5.790	16.080	4.000	25.870	25.370	12.853
2020	0.000	0.500	0.500	5.790	16.080	4.000	25.870	25.370	11.476
2021	0.000	0.500	0.500	5.790	16.080	4.000	25.870	25.370	10.247
2022	0.000	0.500	0.500	5.790	16.080	4.000	25.870	25.370	9.149
2023	0.000	0.500	0.500	5.790	16.080	4.000	25.870	25.370	8.168
2024	0.000	0.500	0.500	5.790	16.080	4.000	25.870	25.370	7.293
2025	0.000	0.500	0.500	5.790	16.080	4.000	25.870	25.370	6.512
2026	0.000	0.500	0.500	5.790	16.080	4.000	25.870	25.370	5.814
2027	0.000	0.500	0.500	5.790	16.080	4.000	25.870	25.370	5.191
2028	0.000	0.500	0.500	5.790	16.080	4.000	25.870	25.370	4.635
2029	0.000	0.500	0.500	5.790	16.080	4.000	25.870	25.370	4.138
2030	0.000	0.500	0.500	5.790	16.080	4.000	25.870	25.370	3.695
2031	0.000	0.500	0.500	5.790	16.080	4.000	25.870	25.370	3.299
2032	0.000	0.500	0.500	5.790	16.080	4.000	25.870	25.370	2.946
2033	0.000	0.500	0.500	5.790	16.080	4.000	25.870	25.370	2.630
2034	0.000	0.500	0.500	5.790	16.080	4.000	25.870	25.370	2.348
2035	0.000	0.500	0.500	5.790	16.080	4.000	25.870	25.370	2.097
2036	0.000	0.500	0.500	5.790	16.080	4.000	25.870	25.370	1.872
2037	0.000	0.500	0.500	5.790	16.080	4.000	25.870	25.370	1.671
2038	0.000	0.500	0.500	5.790	16.080	4.000	25.870	25.370	1.492
NPV for 20 years=								45.230	
EIRR for 20 years=								20.8%	

Source: Asian Development Bank estimates, NPV=net present value, EIRR=economic internal rate of return.

**Table 2: Economic Internal Rate of Return Estimate
Sensitivity Analysis -10% costs and +10% benefits**
(\$ million)

Year	Economic Cost			Economic Benefit			Total	Net Benefit	NPV (12%)
	Project Cost	Recurrent	Total Costs	Reduced Health Care (Sanitation)	Increased Small Business Income	Drinking Water Cost Savings			
2014	7.200	0.682	7.094	0.000	0.000	0.000	0.000	(7.094)	(6.334)
2015	23.900	1.102	22.502	0.000	0.000	0.000	0.000	(22.502)	(17.938)
2016	28.490	1.234	26.752	0.000	0.000	0.000	0.000	(26.752)	(19.041)
2017	32.900	1.133	30.630	0.000	0.000	4.000	4.400	(26.230)	(16.669)
2018	0.000	0.500	0.450	5.790	16.080	4.000	28.457	28.007	15.892
2019	0.000	0.500	0.450	5.790	16.080	4.000	28.457	28.007	14.189
2020	0.000	0.500	0.450	5.790	16.080	4.000	28.457	28.007	12.669
2021	0.000	0.500	0.450	5.790	16.080	4.000	28.457	28.007	11.312
2022	0.000	0.500	0.450	5.790	16.080	4.000	28.457	28.007	10.100
2023	0.000	0.500	0.450	5.790	16.080	4.000	28.457	28.007	9.018
2024	0.000	0.500	0.450	5.790	16.080	4.000	28.457	28.007	8.051
2025	0.000	0.500	0.450	5.790	16.080	4.000	28.457	28.007	7.189
2026	0.000	0.500	0.450	5.790	16.080	4.000	28.457	28.007	6.418
2027	0.000	0.500	0.450	5.790	16.080	4.000	28.457	28.007	5.731
2028	0.000	0.500	0.450	5.790	16.080	4.000	28.457	28.007	5.117
2029	0.000	0.500	0.450	5.790	16.080	4.000	28.457	28.007	4.569
2030	0.000	0.500	0.450	5.790	16.080	4.000	28.457	28.007	4.079
2031	0.000	0.500	0.450	5.790	16.080	4.000	28.457	28.007	3.642
2032	0.000	0.500	0.450	5.790	16.080	4.000	28.457	28.007	3.252
2033	0.000	0.500	0.450	5.790	16.080	4.000	28.457	28.007	2.903
2034	0.000	0.500	0.450	5.790	16.080	4.000	28.457	28.007	2.592
2035	0.000	0.500	0.450	5.790	16.080	4.000	28.457	28.007	2.315
2036	0.000	0.500	0.450	5.790	16.080	4.000	28.457	28.007	2.067
2037	0.000	0.500	0.450	5.790	16.080	4.000	28.457	28.007	1.845
2038	0.000	0.500	0.450	5.790	16.080	4.000	28.457	28.007	1.647
NPV for 20 years=								64.147	
EIRR for 20 years=								25.0%	

Source: Asian Development Bank estimates, NPV=net present value, EIRR=economic internal rate of return.

Table 3: Economic Internal Rate of Return Estimate
Sensitivity Analysis +10% costs and -10% benefits
(\$ million)

Year	Economic Cost			Economic Benefit			Total	Net Benefit	NPV (12%)
	Project Cost	Recurrent	Total Costs	Reduced Health Care (Sanitation)	Increased Small Business Income	Drinking Water Cost Savings			
2014	7.200	0.682	9.537	0.000	0.000	0.000	0.000	(9.537)	(8.515)
2015	23.900	1.102	30.252	0.000	0.000	0.000	0.000	(30.252)	(24.117)
2016	28.490	1.234	35.966	0.000	0.000	0.000	0.000	(35.966)	(25.600)
2017	32.900	1.133	41.180	0.000	0.000	4.000	3.600	(37.580)	(23.883)
2018	0.000	0.500	0.605	5.790	16.080	4.000	23.283	22.678	12.868
2019	0.000	0.500	0.605	5.790	16.080	4.000	23.283	22.678	11.489
2020	0.000	0.500	0.550	5.790	16.080	4.000	23.283	22.733	10.283
2021	0.000	0.500	0.550	5.790	16.080	4.000	23.283	22.733	9.181
2022	0.000	0.500	0.550	5.790	16.080	4.000	23.283	22.733	8.198
2023	0.000	0.500	0.550	5.790	16.080	4.000	23.283	22.733	7.319
2024	0.000	0.500	0.550	5.790	16.080	4.000	23.283	22.733	6.535
2025	0.000	0.500	0.550	5.790	16.080	4.000	23.283	22.733	5.835
2026	0.000	0.500	0.550	5.790	16.080	4.000	23.283	22.733	5.210
2027	0.000	0.500	0.550	5.790	16.080	4.000	23.283	22.733	4.652
2028	0.000	0.500	0.550	5.790	16.080	4.000	23.283	22.733	4.153
2029	0.000	0.500	0.550	5.790	16.080	4.000	23.283	22.733	3.708
2030	0.000	0.500	0.550	5.790	16.080	4.000	23.283	22.733	3.311
2031	0.000	0.500	0.550	5.790	16.080	4.000	23.283	22.733	2.956
2032	0.000	0.500	0.550	5.790	16.080	4.000	23.283	22.733	2.639
2033	0.000	0.500	0.550	5.790	16.080	4.000	23.283	22.733	2.357
2034	0.000	0.500	0.550	5.790	16.080	4.000	23.283	22.733	2.104
2035	0.000	0.500	0.550	5.790	16.080	4.000	23.283	22.733	1.879
2036	0.000	0.500	0.550	5.790	16.080	4.000	23.283	22.733	1.677
2037	0.000	0.500	0.550	5.790	16.080	4.000	23.283	22.733	1.498
2038	0.000	0.500	0.550	5.790	16.080	4.000	23.283	22.733	1.337

NPV for 20 years= 18.581

EIRR for 20 years= 15.2%

Source: Asian Development Bank estimates, NPV=net present value, EIRR=economic internal rate of return.