



# Completion Report

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Project Number: 45198-004  
Loan Number: 3044  
March 2021

## Viet Nam: Secondary Cities Development Project

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Asian Development Bank



## CURRENCY EQUIVALENTS

Currency unit – dong (D)

		<b>At Appraisal</b> (3 September 2013)	<b>At Project Completion</b> (31 January 2020)
D1.00	=	\$0.0000473	\$0.0000431
\$1.00	=	D21,110	D23,173

## ABBREVIATIONS

3R	–	reduce, reuse, recycle
ADB	–	Asian Development Bank
CPC	–	city people's committee
CSB	–	construction supervision board
Dakurenc	–	Dak Lak Urban Environmental Company
DMF	–	design and monitoring framework
EIRR	–	economic internal rate of return
EMP	–	environmental management plan
GAP	–	gender action plan
ha	–	hectare
IEC	–	information, education, and communication
km	–	kilometer
LAR	–	land acquisition and resettlement
O&M	–	operation and maintenance
ODA	–	official development assistance
PCI.QNa	–	Project Construction Investment Management Authority, Quang Nam
PMIS	–	project management and implementation support
PMU	–	project management unit
PPC	–	provincial people's committee
SDR	–	special drawing right
SWM	–	solid-waste management
TA	–	technical assistance

## NOTE

In this report, "\$" refers to United States dollars.

<b>Vice-President</b>	Ahmed M. Saeed, Operations 2
<b>Director General</b>	Ramesh Subramaniam, Southeast Asia Department (SERD)
<b>Directors</b>	Andrew Jeffries, Viet Nam Resident Mission (VRM), SERD Srinivas Sampath, Urban and Water Division, SERD
<b>Team leader</b>	Nguyen My Binh, Senior Project Officer (Urban), VRM, SERD
<b>Team members</b>	Dinh Kieu Oanh, Social Development Officer (Resettlement), VRM, SERD Le Huong Loan, Associate Project Analyst, VRM, SERD Nguyen Thanh Giang, Senior Social Development Officer (Gender), VRM, SERD Pham Quang Phuc, Senior Environment Officer, VRM, SERD Tran Thi Bich Dung, Project Analyst, VRM, SERD

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## CONTENTS

	<b>Page</b>
BASIC DATA	i
I. PROJECT DESCRIPTION	1
II. DESIGN AND IMPLEMENTATION	1
A. Project Design and Formulation	1
B. Project Outputs	2
C. Project Costs and Financing	5
D. Disbursements	5
E. Project Schedule	5
F. Implementation Arrangements	6
G. Technical Assistance	6
H. Consultant Recruitment and Procurement	6
I. Gender Equity	7
J. Safeguards	8
K. Monitoring and Reporting	9
III. EVALUATION OF PERFORMANCE	10
A. Relevance	10
B. Effectiveness	10
C. Efficiency	11
D. Sustainability	11
E. Development Impact	12
F. Performance of the Borrower and the Executing Agency	13
G. Performance of the Asian Development Bank	13
H. Overall Assessment	14
IV. ISSUES, LESSONS, AND RECOMMENDATIONS	14
A. Issues and Lessons	14
B. Recommendations	15
APPENDIXES	
1. Design and Monitoring Framework	16
2. Project Cost at Appraisal and Actual	20
3. Project Cost by Financier	21
4. Disbursement of ADB Loan Proceeds	23
5. Contract Awards of ADB Loan Proceeds	25
6. Status of Compliance with Loan Covenants	26
7. Summary of Gender Equality Results and Achievements	33
8. Land Acquisition and Resettlement	44
9. Economic and Financial Analysis	52



## BASIC DATA

### A. Loan Identification

- |    |                                  |   |
|----|----------------------------------|---|
| 1. | Country                          | Viet Nam  |
| 2. | Loan number and financing source | 3044-VIE (COL)  |
| 3. | Project title                    | Secondary Cities Development Project  |
| 4. | Borrower                         | Socialist Republic of Viet Nam  |
| 5. | Executing agencies               | Quang Nam Provincial People's Committee<br>Ha Tinh Provincial People's Committee<br>Dak Lak Provincial People's Committee |
| 6. | Amount of loan                   | SDR62,690,000<br>(\$95,000,000 equivalent)  |
| 7. | Financing modality               | Project loan  |

### B. Loan Data

- |     |                                  |                  |
|-----|----------------------------------|------------------|
| 1.  | Appraisal                        |                  |
|     | – Date started                   | 20 August 2012   |
|     | – Date completed                 | 24 August 2012   |
| 2.  | Loan negotiations                |                  |
|     | – Date started                   | 19 August 2013   |
|     | – Date completed                 | 20 August 2013   |
| 3.  | Date of Board approval           | 11 October 2013  |
| 4.  | Date of loan agreement           | 8 November 2013  |
| 5.  | Date of loan effectiveness       |                  |
|     | – In loan agreement              | 6 February 2014  |
|     | – Actual                         | 28 February 2014 |
|     | – Number of extensions           | 1                |
| 6.  | Project completion date          |                  |
|     | – Appraisal                      | 31 January 2019  |
|     | – Actual                         | 31 January 2020  |
| 7.  | Loan closing date                |                  |
|     | – In loan agreement              | 31 July 2019     |
|     | – Actual                         | 31 January 2020  |
|     | – Number of extensions           | 1                |
| 8.  | Financial closing date           |                  |
|     | – Actual                         | 4 January 2021   |
| 9.  | Terms of loan                    |                  |
|     | – Interest rate                  | 2%               |
|     | – Maturity (number of years)     | 25               |
|     | – Grace period (number of years) | 5                |
| 10. | Terms of relending (if any)      | Not applicable   |
|     | – Interest rate                  |                  |
|     | – Maturity (number of years)     |                  |
|     | – Grace period (number of years) |                  |
|     | – Second-step borrower           |                  |

## 11. Disbursements

## a. Dates

<b>Initial Disbursement</b> 7 November 2014	<b>Final Disbursement</b> 15 June 2020	<b>Time Interval</b> 67.2 months
<b>Effective Date</b> 28 February 2014	<b>Actual Closing Date</b> 31 January 2020	<b>Time Interval</b> 71.0 months

## b1. Amount (\$ million)

<b>Category</b>	<b>Original Allocation (1)</b>	<b>Change during Implementation (2)</b>	<b>Cancelled during Implementation (3)</b>	<b>Last Revised Allocation (4=1+2-3)</b>	<b>Amount Disbursed (5)</b>	<b>Undisbursed Balance (6 = 4-5)</b>
1. Works	64.96	1.67	0.00	66.63	62.04	4.59
1A Buon Ma Thuot	17.51	1.75	0.00	19.26	16.20	3.06
1B Ha Tinh	22.04	(1.25)	0.00	20.79	19.73	1.06
1C Tam Ky	25.41	1.17	0.00	26.58	26.11	0.47
2. Equipment	1.72	(0.40)	0.00	1.32	1.39	(0.07)
3. Consulting services	2.06	3.23	0.00	5.29	3.72	1.57
4. Incremental costs	3.81	(0.19)	0.00	3.62	0.35	3.27
5. Interest during implementation	4.47	(0.29)	0.00	4.18	1.99	2.19
6. Unallocated	17.98	(11.03)	0.00	6.95	0.00	6.95
99A Buon Ma Thuot	0.00	0.00	0.00	0.00	0.00	0.00
99B Ha Tinh	0.00	0.00	0.00	0.00	0.00	0.00
99C Tam Ky	0.00	0.00	0.00	0.00	0.00	0.00
<b>Total</b>	<b>95.00</b>	<b>(7.01)</b>	<b>0.00</b>	<b>87.99</b>	<b>69.49</b>	<b>18.50</b>

( ) = negative.

## b2. Amount (SDR million)

<b>Category</b>	<b>Original Allocation (1)</b>	<b>Change during Implementation (2)</b>	<b>Cancelled during Implementation (3)</b>	<b>Last Revised Allocation (4=1+2-3)</b>	<b>Amount Disbursed (5)</b>	<b>Undisbursed Balance (6 = 4-5)</b>
1. Works	42.87	4.77	0.00	47.64	44.46	3.18
1A Buon Ma Thuot	11.56	2.10	0.00	13.66	11.54	2.12
1B Ha Tinh	14.54	0.30	0.00	14.84	14.10	0.74
1C Tam Ky	16.77	2.37	0.00	19.14	18.82	0.32
2. Equipment	1.13	(0.16)	0.00	0.97	1.02	(0.05)
3. Consulting services	1.36	2.41	0.00	3.77	2.68	1.09
4. Incremental costs	2.51	0.00	0.00	2.51	0.24	2.27
5. Interest during implementation	2.95	0.00	0.00	2.95	1.43	1.52
6. Unallocated	11.87	(7.02)	0.00	4.85	0.00	4.85
99A Buon Ma Thuot	0.00	0.00	0.00	0.00	0.00	0.00
99B Ha Tinh	0.00	0.00	0.00	0.00	0.02	(0.02)
99C Tam Ky	0.00	0.00	0.00	0.00	0.00	0.00
<b>Total</b>	<b>62.69</b>	<b>0.00</b>	<b>0.00</b>	<b>62.69</b>	<b>49.85</b>	<b>12.84</b>

( ) = negative.

## C. Project Data

### 1. Financing plan (\$ million)

Cost	Appraisal Estimate	Actual
Implementation cost		
Borrower financed	26.71	42.24
ADB financed	90.53	67.50
<b>Total implementation cost</b>	<b>117.24</b>	<b>109.74</b>
Interest during construction costs		
Borrower financed	0.00	0.00
ADB financed	4.47	1.99
<b>Total interest during construction cost</b>	<b>4.47</b>	<b>1.99</b>

### 2. Cost breakdown by project component (\$ million)

Component	Appraisal Estimate	Actual
<b>A. Base Cost</b>		
1. New and improved urban infrastructure and climate change adaptation	97.22	100.81
a. Solid-waste management improvement	15.51	11.73
b. Flood management and storm drainage improvement	23.16	21.35
c. Strategic roads and related urban environment improvements	58.55	67.73
2. Improved community awareness for sustainable environmental management through IEC	1.01	0.68
3. Improved competencies in integrated urban development, environmental planning, climate change adaptation, and project management	0.95	8.25
<b>Subtotal (A)</b>	<b>99.18</b>	<b>109.74</b>
<b>B. Contingencies</b>	<b>18.06</b>	<b>0.00</b>
<b>C. Financial Charges During Implementation</b>	<b>4.47</b>	<b>1.99</b>
<b>Total (A+B+C)</b>	<b>121.71</b>	<b>111.73</b>

IEC = information, education, and communication

### 3. Project schedule

Item	Appraisal Estimate	Actual
Date of contract with consultants	Q3 2013	Q4 2014
Completion of engineering designs	Q3 2014	Q4 2015
Civil works contract		
Date of award	Q1 2015	Q3 2016
Completion of work	Q2 2018	Q4 2019
Equipment and supplies		
Dates		
First procurement	Q1 2017	Q2 2016
Last procurement	Q1 2017	Q4 2018
Completion of equipment installation	Q2 2018	Q4 2018
Start of operations		
Completion of tests and commissioning	Q2 2018	Q2 2019
Beginning of start-up	Q4 2018	Q4 2019
Other milestones		
Project completion date	31 January 2019	31 January 2020
ADB loan closing date	31 July 2019	31 January 2020

Q = quarter.

## 4. Project performance report ratings

Implementation Period	Single Project Rating
From 28 February 2014 to 30 September 2014	On track
From 1 October 2014 to 31 December 2014	Potential Problem
From 1 January 2015 to 31 December 2015	On track
From 1 January 2016 to 31 December 2016	On track
From 1 January 2017 to 31 December 2017	On track
From 1 January 2018 to 31 December 2018	On track
From 1 January 2019 to 30 June 2019	On track
From 1 July 2019 to 31 December 2019	Potential Problem
From 1 January 2020 to 31 May 2020	Potential problem

## D. Data on Asian Development Bank Missions

Name of Mission	Date	No. of Persons	No. of Person-Days	Specialization of Members
Reconnaissance	23 May–3 Jun 2011	3	24	a, b, c
Fact-finding	6–10 May 2013	11	44	a, c, d, e, f, g, h, i, k
Special administration	31 Jul–1 Aug 2014	3	6	a, c, k
Safeguard review mission 1	8–11 Sep 2014	2	6	a, e
Safeguard review mission 2	25–28 Jan 2015	1	3	j
Loan review mission 1	21–23 Sep 2015	5	10	a, c, e, g, j
Loan review mission 2	23–25 May 2016	3	6	a, e, j
Loan review mission 3	28 Nov–1 Dec 2016	4	12	a, e, f, j
Loan review mission 4	3–8 May 2017	4	20	a, e, f, j
Special safeguard review mission	27 July 2017	2	2	a, e
Mid-term review	21–28 Nov 2017	6	32	a, e, f, g, j
Loan review mission 5	24 Apr–4 May 2018	5	35	a, e, f, g, j
Loan review mission 6	21–23 Nov 2018	4	12	a, e, f, j
Loan review mission 7	11–15 Mar 2019	5	20	a, e, f, g, j
Loan review mission 8	18–23 Jul 2019	4	16	a, e, g, j
Project completion review	15–23 July 2020	4	28	a, e, f, k

a = project officer, b = program officer, c = urban specialist, d = counsel, e = resettlement specialist, f = gender specialist, g = operations assistant, h = social development specialist, i = social development officer, j = environment specialist, k = consultant.

## I. PROJECT DESCRIPTION

1. Viet Nam's population and economy are rapidly urbanizing with a structural shift from agriculture to industry and services, which have comprised nearly 80% of the economy since 2005.<sup>1</sup> Although urban poverty has been significantly reduced, inequality in income and access to basic services remain. Natural disasters and climate-induced impacts add to the associated social, economic, and environment costs of rapid urbanization, especially in secondary cities with limited capacity to address the consequences of rapid urbanization.<sup>2</sup> The challenge for Viet Nam in general, and for secondary cities in particular, is to maintain long-term development prospects by minimizing risks associated with urbanization. Adapting critical infrastructure by building climate resilience in coastal and low-lying areas is needed to safeguard vulnerable populations and productive economic sectors.

2. Tam Ky (Quang Nam province), Ha Tinh (Ha Tinh province), and Buon Ma Thuot (Dak Lak province) are provincial capitals representative of Viet Nam's rapidly developing secondary cities. When the project was formulated, inadequate urban infrastructure, degraded environments, and vulnerability to storms and typhoons constrained the growth potential of these cities.

3. The rationale for undertaking the project was sound as it aimed to help the participating cities address critical urbanization and development challenges. The project impact was improved urban environment and climate-resilient infrastructure in Buon Ma Thuot, in the central highland region, and in the coastal cities of Ha Tinh and Tam Ky. The outcome was increased coverage of resilient urban infrastructure and climate change adaptation in the participating cities. There were three outputs: (i) new and improved urban infrastructure and climate change adaptation; (ii) increased community awareness for sustainable environmental management through information, education, and communication (IEC); and (iii) improved competencies in integrated urban development, environmental planning, climate change adaptation, and project management.

## II. DESIGN AND IMPLEMENTATION

### A. Project Design and Formulation

4. During appraisal, the project was relevant to the development priorities of Viet Nam and to the operational priorities of the Asian Development Bank (ADB). It aligned with the government's overarching policies set out in the Socio-Economic Development Strategy 2011–2020 and the Socio-Economic Development Plan 2011–2015, which emphasized the need to (i) use natural resources efficiently; (ii) enhance environmental protection; (iii) prevent and limit adverse impacts of natural disasters; and (iv) respond effectively to climate change. The project was consistent with ADB's urban operational plan, 2012–2020, and the Viet Nam country partnership strategy, 2012–2015, which promoted comprehensive socioeconomic development in urban areas.<sup>3</sup> The project design appropriately incorporated the analysis provided in ADB's urban sector assessment, strategy, and road map for Viet Nam,<sup>4</sup> which prioritized the

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<sup>1</sup> Government of Viet Nam, Ministry of Planning and Investment. 2011. *Socio-Economic Development Strategy, 2011–2020*. Hanoi.

<sup>2</sup> According to the National Climate Change Strategy (approved through Decision No.2139/QĐ-TTg, dated 5 December 2011), since 1963, Viet Nam has experienced an average temperature rise of 0.5° C–0.7° C; a sea-level rise of 20 centimeters; and worsening floods, storms, and droughts.

<sup>3</sup> ADB. 2013. *Urban Operational Plan, 2012–2020*. Manila; ADB. 2012. *Country Partnership Strategy: Viet Nam, 2012–2015*. Manila.

<sup>4</sup> ADB. 2012. *Viet Nam: Urban Sector Assessment, Strategy, and Road Map*. Manila.

development of secondary cities and towns as regional economic hubs to foster balanced regional development and strengthen rural–urban links.

5. At project completion, the project remained strategically relevant, demonstrating consistency with the government's Socio-Economic Development Plan for 2016–2020,<sup>5</sup> including its priorities to improve urban infrastructure and urban planning, link major urban centers with rural areas, and mitigate climate change and environmental degradation. The project was also consistent with two of the three pillars of ADB's Viet Nam country partnership strategy, 2016–2020: (i) increasing the inclusiveness of infrastructure and service delivery and (ii) improving environmental sustainability and climate change response.<sup>6</sup> Furthermore, it aligned with two key operational priorities of ADB's Strategy 2030 - building climate and disaster resilience and making cities more livable.<sup>7</sup>

6. ADB and the government provided adequate resources to formulate the project. Using project preparatory technical assistance (TA), with 61 person-months of international and national consultant inputs and 33 person-months equivalent of government counterpart staff inputs, the medium- and long-term urban development plans and other associated plans of the participating cities were reviewed and updated.<sup>8</sup> These updated plans anchored project investments. Subproject selection was conducted in a participatory manner in consultation with various stakeholders, including multisector urban management authorities, local women's unions, and local community groups.

7. Two minor changes in project scope were made during implementation. First, the revolving funds for providing credit were cancelled in 2018. This reflected the government's policy change on the use of official development assistance (ODA), which disallowed the use of loan proceeds for revolving funds. Instead, the project facilitated access to credit services offered by government-financed credit programs. Second, the Dien Bien Phu road in Tam Ky was extended by an additional 1.46 kilometers (km) to connect coastal communes with a storm evacuation route.<sup>9</sup> Both minor changes increased design relevance.

8. Project outputs are assessed as appropriate to achieve the outcome. Most performance targets and indicators in the design and monitoring framework (DMF) were realistic and measurable. However, lacking official statistical data on solid waste separation, one outcome indicator (improved waste disposal systems with at least 75% waste reused and recycled) was assessed based on project reporting from the reduce, reuse, recycle (3R) IEC pilot.

## **B. Project Outputs**

9. Thirteen out of 14 project outputs were achieved, some with expanded scope, and the remaining one output was partly achieved. The project's output performance indicators, targets, and achievements are summarized in Appendix 1.

<sup>5</sup> Government of Viet Nam. 2016. *The Five-Year Socio-Economic Development Plan 2016–2020*. Hanoi.

<sup>6</sup> ADB. 2016. *Country Partnership Strategy: Viet Nam, 2016–2020—Fostering More Inclusive and Environmentally Sustainable Growth*. Manila. The project is only indirectly related to the third pillar (promoting job creation and competitiveness).

<sup>7</sup> ADB. 2018. *Strategy 2030: Achieving a Prosperous, Inclusive, Resilient and Sustainable Asia and the Pacific*. Manila.

<sup>8</sup> ADB. 2011. *Technical Assistance to the Socialist Republic of Viet Nam for Preparing the Secondary Cities Development Project*. Manila (TA 7856-VIE). The \$1,250,000 TA was implemented from 14 November 2011 to 31 July 2015.

<sup>9</sup> On 5 June 2017, ADB approved a minor change in project scope to extend the Dien Bien Phu road by 1.46 km. The actual extended section after detailed design and construction was 1.79 km.

## 1. Output 1: New and Improved Urban Infrastructure and Climate Change Adaptation

10. **Buon Ma Thuot Hoa Phu landfill.** A new solid-waste, engineered, two-cell landfill in Hoa Phu was constructed as planned and has been operational since the second quarter of 2019. The previous dump site in Cu Eabur was closed in accordance with government regulations, improving environmental conditions for nearby residents. The air quality at Cu Eabur after dump site closing has significantly improved to better than the national standards for three indicators and is marginally meeting the national standard for one indicator (Appendix 1). Out of 305 staff employed for solid-waste management facilities, 69% (201) are female, significantly higher than the target of 25%. The project developed an operations manual for the landfill and used it to train Buon Ma Thuot officials as well as the management and staff of the new landfill.

11. **Buon Ma Thuot urban roads.** Two road sections with a total length of 6.53 km (detailed designs were marginally lower than the 6.80 km estimated at appraisal), which form part of the eastern ring road system, were constructed and are operational.<sup>10</sup> These two road sections are helping relieve congestion in the city and improve access to the Central Highland Regional Hospital.

12. **Ha Tinh flood management and drainage.** Five drainage channels with a total length of 10.51 km (compared to 9.50 km estimated at appraisal) and the 9-hectare (ha) Thach Trung regulating basin were constructed and are operational. These new drainage channels, which completed the city's major flood management and drainage network, started under the Central Region Urban Environmental Improvement Project.<sup>11</sup> They provide a level of protection equivalent to a 1-in-10-year statistical storm event and meet government standards regarding climate change resilience.

13. **Ha Tinh Bong Son Lake environmental improvement.** Works completed under this subproject include land formation, the construction of a footpath and infrastructure for utilities (including lighting), landscaping, extensive tree planting, and the development of areas specifically for children's education and play.

14. **Ha Tinh urban roads.** Three road sections with a total length of 4.80 km, compared to 3.71 km estimated at appraisal, were constructed and are operational. Contract savings were repurposed to fund the improvement of an additional 4.1 km of urban roads.

15. **Tam Ky flood management.** A 10.9-km flood protection dike (compared to 10.7 km estimated at appraisal) was constructed and is operational. One small section of the dike wall was yet to be raised at project completion because the master plan for this area was still being finalized. The Tam Ky city people's committee (CPC) has allocated its own funds to raise this section, which will complete the encircling dike protection for the city. The system is designed to provide protection equivalent to a 1-in-40-year statistical storm event.

16. **Tam Ky urban roads.** For the Dien Bien Phu road, 8.17 km was constructed. It is 1.79 km longer than the targeted 6.38 km at appraisal. The Dien Bien Phu road - which intersects with the World Bank-financed Da Nang–Quang Ngai Highway, National Road No1, and the Coastal Highway (Road 129) – has become a strategic road connecting the western and eastern parts of Tam Ky city.

<sup>10</sup> Tran Quy Cap 3.94 km and Mai Thi Luu 2.59 km.

<sup>11</sup> ADB. Socialist Republic of Viet Nam: [Central Region Urban Environmental Improvement Project](#).

17. **Construction supervision boards.** Twenty-two construction supervision boards (CSBs) were established with the participation of local residents, who helped supervise subproject design and construction. This brought the total number of CSBs to 25 including the three established under the Central Region Urban Environmental Improvement Project. Female representation in the 25 CSBs was 43%, exceeding the target of 35%. The CSBs effectively ensured that subproject designs were appropriate for the local context, e.g., the drainage channel designs in Ha Tinh were adjusted at the request of the CSBs.

## **2. Output 2: Increased Community Awareness for Sustainable Environmental Management through Information, Education, and Communication**

18. All output 2 targets set at appraisal were met. A 3R IEC pilot program was conducted and 3,103 Buon Ma Thuot residents were trained on the 3R approach.<sup>12</sup> The project provided bins for waste segregation, training on composting, and compost activators for household composting. Based on the pilot, the project prepared a plan to roll out the IEC and 3R program to the whole city. Buon Ma Thuot CPC issued Plan 59/KH-UBND in April 2020 to enhance the IEC program using provincial counterpart funds. Initially (up to the end of 2018), the 3R program was adopted slowly. Households placed waste in the wrong bins and waste was randomly discharged into bins by passersby. However, the additional public awareness campaign rolled out in 2019 helped to address these shortcomings. Women comprised 65% of IEC facilitators and gender-sensitive IEC material on flood management, disaster risk reduction and management, and road safety were disseminated. Vocational training programs reached 1,935 women, and credit support and information services were provided to 2,781 women, compared to the revised target of 1,100 women. IEC programs targeting road safety (4,486 people in three cities) and disaster risk management (8,880 residents in Tam Ky and Ha Tinh), including swimming classes for 300 school students (50% girl students), supplemented the 3R IEC program that reached 3,103 Buon Ma Thuot residents.

## **3. Output 3: Improved Competencies in Integrated Urban Development, Environmental Planning, Climate Change Adaption, and Project Management**

19. Two of three targets were achieved: (i) 179 project management unit (PMU) staff were trained on project management (28% being women, against a target of 25%); and (ii) consultations to develop action plans for green growth and climate change adaptation were conducted in three provinces. Women's participation was 54.1% in Ha Tinh, 40.0% in Tam Ky, and 37.5% in Buon Ma Thuot compared to the target of 30.0%. One target was partly achieved, i.e., 12 officials (25% being women) were trained on integrated urban development, environmental planning, and climate change adaptation against the target of 30 officials with 30% female participation. Two overseas training programs were designed to meet the target, however after the first program was organized in the fourth quarter of 2018, it took a very long time for the Ministry of Finance to authorize payments for the training. The second training program was cancelled due to changes in government policy that disallowed the use of ODA funds for capacity building activities.<sup>13</sup>

<sup>12</sup> The 3R approach to solid-waste management focuses on reduction, reuse, and recycling.

<sup>13</sup> Instruction 18/CT-TTg dated 29 June 2019 on Enhancing ODA Management and Utilization in the New Circumstance: Borrowing ODA for Investment only, Not for Recurrent Expenditures.

### C. Project Costs and Financing

20. At appraisal, the project was estimated to cost \$121.71 million, including taxes, duties, physical and price contingencies, and financing charges during implementation (Appendix 2). An SDR62,690,000 (\$95.0 million equivalent) loan from ADB's Special Funds resources was to fund civil works, consulting services, equipment, taxes and duties (for Quang Nam province's Tam Ky city only), incremental administration (excluding salaries of government staff), and financing charges during implementation. The remaining \$26.71 million of the project's estimated cost was to be funded by the government to cover land acquisition and resettlement, detailed design, and the remaining taxes and duties (Appendix 3, Table 1).

21. The total cost of the project at completion was \$111.73 million (Appendix 2), 8.2% lower than estimated at appraisal, with the ADB loan funding \$69.49 million (62.2%) and the government funding \$42.24 million (37.8%) (Appendix 3, Table 2). SDR11.87 million (\$17.98 million equivalent) in contingencies was reallocated to civil works in June 2017 to finance additional works. Land acquisition and resettlement costs financed by counterpart funds were \$30.80 million, 37% higher than the anticipated amount of \$22.21 million. These additional costs were offset by lower consulting services and civil works costs and depreciation of the dong, which made the local content of project costs lower in US dollar terms. Although total project costs were lower than envisaged, project outputs were largely delivered, some with expanded scope.

### D. Disbursements

22. Loan proceeds were disbursed in accordance with ADB's *Loan Disbursement Handbook 2010* (as amended from time to time). Project funds were disbursed into three advance accounts, one for each designated PMU. ADB disbursed \$69.49 million (79% of the net loan amount of \$88.00 million at project completion) from its Special Funds resources, and \$18.50 million (21%) of the loan amount was cancelled at financial closure.<sup>14</sup>

23. The disbursement projections at appraisal were ambitious because they did not consider the typical 1 to 2-year project start-up period in Viet Nam, including frequently delayed consultant recruitment and civil works procurement. Substantial savings in procurement and loan proceeds for contingencies that went unutilized also reduced actual disbursements compared to the projections at appraisal. Disbursements during 2014–2015 were low compared to the projected schedule because the works contracts were not awarded until April 2016 (Appendix 4). Disbursement performance improved in 2016–2018 following a realistic revision of the projections. In 2019, disbursement was constrained by insufficient government budget allocations, despite good civil works progress.

### E. Project Schedule

24. The project was approved by ADB's Board of Directors on 11 October 2013 and signed with the borrower on 8 November 2013. The loan became effective on 28 February 2014 (112 days after signing). The loan closing date was extended from 31 July 2019 to 31 January 2020 to complete the closure of the Cu Eabur dump site and construct the extended Dien Bien Phu road section using the loan savings. A 6-month delay in the bid evaluation process for the Hoa Phu landfill contract (because of a bidder's speculative complaints which took time to resolve) led to delayed completion of the Cu Eabur dump site closure because it could only be closed after the new Hoa Phu landfill was put into operation. To maintain the regulated public debt–gross domestic

<sup>14</sup> Ha Tinh and Dak Lak provinces proposed to use loan savings for additional works but could not complete government approval procedures within the extended project period.

product ratio of 65%, the government tightened ODA disbursement in 2018, which delayed completion of the expanded Dien Bien Phu road subproject.

## **F. Implementation Arrangements**

25. The provincial people's committees (PPCs) of Dak Lak, Ha Tinh, and Quang Nam were the decentralized executing agencies. The CPCs of Buon Ma Thuot and Ha Tinh, and the Projects Construction Investment Management Authority Quang Nam (PCI.QNa) were the implementing agencies. The Ha Tinh PMU under the Ha Tinh city CPC and PCI.QNa were the PMUs in Ha Tinh and Tam Ky. These were permanent PMUs which had implemented the Central Region Urban Environmental Improvement Project and other internationally financed infrastructure projects. In Buon Ma Thuot, two PMUs (Buon Ma Thuot PMU and Dakurenco) implemented the project.

26. The arrangements in Quang Nam and Ha Tinh were effective. The permanent PMUs had prior experience with ADB and other internationally financed projects. As the implementing agencies were reporting directly to the PPC (as in the case of the PCI.QNa), PMUs had adequate capacity and timely access to decision-making authorities. The arrangements in Buon Ma Thuot were adequate but less effective. Coordination between two PMUs and decision-making processes took longer than expected because of multiple layers of review before approvals could be obtained.

27. In 2019, and after the closure of the Cu Eabur dump site (BMT-01C), the contractor for the Hoa Phu landfill (contract BMT-01A) bought a 33.67% stake in Dakurenco, which was the PMU for these two contracts. This raised a conflict-of-interest issue, which was resolved as Dakurenco recused itself from its role in certifying the completed works and payments.

## **G. Technical Assistance**

28. The Secondary Cities Development Project TA<sup>15</sup> helped the government and ADB prepare the project (para. 6). It identified the rationale, outputs, estimated project costs and financing plan, implementation arrangements, and environmental and safeguard requirements. It also supported poverty, social, and gender due diligence and carried out economic and financial analyses. The TA identified subprojects following consultation with local communities, city governments, local women's unions, and other stakeholders. The TA provided a detailed and informed basis for all project documents and project legal agreements.

## **H. Consultant Recruitment and Procurement**

29. As envisaged, the project management and implementation support (PMIS) consultants, financial audit services, and construction supervision consultants were financed by the ADB loan while detailed design consultants were financed with counterpart resources. Recruitment of ADB-financed consultants followed ADB's Guidelines on the Use of Consultants 2010 (as amended from time to time). PMIS consultant recruitment was delayed by lengthy government approval procedures. However, timely recruitment of individual consultants financed by the ADB loan supported preparation of updated resettlement plans, environmental management plans (EMPs), and bidding documents. This expedited civil works procurement prior to the engagement of PMIS. The PMIS consultant's scope of work was therefore reduced from 450.00 person-months as envisaged at appraisal to 186.65 person-months at project completion. The performance of the consultants was generally satisfactory. During the extended project implementation period (31

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<sup>15</sup> ADB. Socialist Republic of [Viet Nam: Secondary Cities Development Project](#).

July 2019–31 January 2020), the PMU adequately managed implementation and closing without PMIS consultants.

30. Goods and works were procured in accordance with ADB's Procurement Guidelines 2010 (as amended from time to time). The contract packaging arrangements at appraisal were appropriate, with one goods package and eight civil works packages estimated to cost \$4 million–\$12 million. One additional civil works package was added (extended Dien Bien Phu road) using loan savings after ADB approved a minor change in project scope (paras. 7 and 16). Procurement methods used were international competitive bidding and national competitive bidding for works and goods. The first bidding documents for each type of contract, once approved by ADB, were used as the master bidding documents for other subprojects to ensure consistent quality and reduce the time used for preparation.

31. There was a gap between contract award projections and actual achievements (Appendix 5). The first sizeable contract was awarded in April 2016, 29 months after loan approval and 25 months after loan effectiveness. This was because of the delays in recruiting the PMIS consultant and in preparing the detailed designs. Like disbursement, actual contract awards in the last year of implementation (2019) were fittingly lower than the revised projections because the projections included \$18.50 million in loan savings that were cancelled at financial closure.

## I. Gender Equity

32. The project was categorized as *effective gender mainstreaming* at entry. The gender action plan (GAP) initiatives implemented as part of the project are rated *successful*, with 15 of the 16 GAP actions (94%) implemented and 11 of 13 GAP targets (84%) achieved at project completion. The project benefited 476,300 residents, of whom approximately 50% are women and girls.

33. The key achievements include (i) new and improved urban access roads, which include safety measures such as pavements, speed bumps, road safety signs, and adequate lights to reduce road safety risks and the vulnerability of local residents including women and girls as road users; (ii) 4,486 residents (of whom 54% or 2,437 are women and girls) received information on road safety to reduce road safety risks; (iii) 8,880 residents (including 5,347 women and girls, or 60%) of Tam Ky and Ha Tinh received training on disaster risk reduction management, including flood protection and swimming skills training; (iv) 65% (68 out of 105) of IEC facilitators are female facilitators; (v) 27% (29 out of 107 members) of disaster risk reduction management committee members for Ha Tinh and Tam Ky were women; (vi) in Buon Ma Thuot, 1,597 female residents (51%) out of a total 3,103 people received training on the 3R of solid-waste management (SWM), household compost making, and solid-waste classification at source; (vii) nine local female residents with composting knowledge gained new livelihoods and earned regular incomes; (viii) 759 (24%) female residents out of 3,125 residents in Buon Ma Thuot, Ha Tinh, and Tam Ky were employed as unskilled workers for project civil works construction; and (ix) 1,935 women received vocational training and 2,781 women accessed credit through women's union credit groups and the Vietnam Bank for Social Policy (Appendix 7).

34. The targets that were not achieved relate to (i) the percentage of female participants consulted on construction design and planning, and urban planning policy (49% versus the target of 50%); and (ii) the percentage of female participants in urban planning and environmental management was 25% compared to the target of 30%.

## J. Safeguards

35. The project was categorized A for involuntary resettlement, B for environment, and C for indigenous people in compliance with ADB's Safeguard Policy Statement (2009).

36. **Involuntary resettlement.** Three resettlement plans for each of the three cities were prepared at project appraisal and nine updated resettlement plans were approved based on detailed engineering designs prepared during 2015–2017. The implementation of compensation and resettlement activities complied with the ADB's Safeguard Policy Statement and the objectives of resettlement have been achieved. In the project area, 3,216 households were affected, with 130.6 ha of land acquired, compared to an estimated 2,417 affected households and 118.0 ha of land to be acquired at appraisal. There were 1,798 severely affected households including 1,402 households that lost more than 10% of their productive landholdings and 396 households that required relocation. Of these households, 360 belonged to vulnerable groups. There was a 37% increase in land acquisition and resettlement (LAR) costs due to (i) a higher number of affected people than estimated at appraisal; (ii) larger areas of land requiring acquisition; and (iii) higher unit costs for compensation payments, mainly in Buon Ma Thuot and Tam Ky cities. Because of the increased LAR costs, the provision of LAR counterpart funding was delayed by up to 1 year in some locations (Appendix 8).

37. Income restoration programs were implemented from late 2017 and integrated into the existing local programs. The income restoration programs provided support to severely affected households and vulnerable groups, covering vocational training, agricultural extension training, and access to credit from social policy banks. The independent resettlement monitor assessed that the lives of all affected households were stable and their economic and social status is consistent with that of their local communities. No households are worse off than they were before project implementation.

38. All subprojects applied a four-step grievance redress mechanism as stipulated by the resettlement framework and resettlement plans. During project implementation, most of the complaints received were related to verification of land ownership, errors in the detailed measurement survey process, and missing entitlements. There were no pending complaints at the time this project completion report was finalized.

39. **Environmental safeguards.** Three initial environmental examinations (one for each city), including EMPs, were prepared at project appraisal. Eleven updated EMPs specifying impacts and mitigation measures were prepared during the detailed design stage and cleared by ADB. Overall, EMP implementation was satisfactory. The cleared, updated EMPs were integrated in the bidding documents and civil works contracts. A contractor's EMP was prepared for each civil works package and approved by the respective PMUs to guide contract specific EMP implementation. The PMUs assigned environment safeguard officers to oversee EMP implementation, monitoring, and reporting. Daily construction supervision, including implementation of EMPs, was done by the construction supervision consultants. Implementation and monitoring of EMPs was supported by three national environment safeguard consultants within the PMIS team and PMU safeguards officers. Eight monitoring campaigns analyzed air, soil, and water quality, and assessed the impact of construction on the environment. Seven semiannual environmental monitoring reports were prepared during the 2017–2019 construction period and uploaded to the ADB website.

40. Environmental mitigation measures were implemented adequately and addressed the impacts arising from the construction, such as air and water pollution, transport congestion, risk of damage to existing infrastructure, and community and occupational safety. There were 160

houses in Tam Ky and Buon Ma Thuot that suffered minor damage from construction activities. All homeowners and residents were adequately compensated by insurance companies in cooperation with local authorities, PMUs, and contractors<sup>16</sup> based on a third-party damage assessment. All PMUs confirmed that there were no pending environmental issues or outstanding grievances at project completion.

41. Collection of environmental baseline data was done through preconstruction environment sampling exercises. The preconstruction condition of public and private infrastructure and facilities was recorded and proved very useful in determining the actual project-related impacts, identifying necessary mitigation and/or compensation measures, and redressing complaints.

42. **Indigenous peoples.** At appraisal, a separate indigenous peoples plan was not prepared.<sup>17</sup> The mitigation measures for impacts related to land acquisition, including income restoration for 42 ethnic minority affected households, were included in the Buon Ma Thuot resettlement plan. During project implementation, categorization C for indigenous peoples was maintained. The number of affected ethnic minority households was reduced to 39, with no severely affected households. Compensation was provided in accordance with the updated resettlement plans. All 39 affected ethnic minority households participated in the income restoration program.

## K. Monitoring and Reporting

43. The loan agreement had 15 covenants of which 13 were complied with at project completion and two were partially complied with (Appendix 6). Of the two covenants which were partially complied with, one required setting sustainable tariffs for the SWM facility. While appropriate tariffs were established, they are higher than the norm set by the Ministry of Construction. Therefore, the Buon Ma Thuot CPC must seek endorsement from the Ministry of Construction before the new rates can be applied. Going forward, this should be monitored. The other loan covenant that was partially complied with relates to gender and development. Twenty five percent of staff who received professional training on integrated urban development, environmental planning, and climate adaptation were women, against the covenant target of 30% (paras. 19 and 34). Covenants were relevant, and no covenant was modified, suspended, or waived.

44. The executing agencies complied with the project's monitoring and reporting requirements. In general, they provided ADB with timely (i) quarterly progress reports; (ii) consolidated annual reports, including (a) the progress achieved by output compared to performance targets, (b) key implementation issues and solutions, and (c) safeguards and social monitoring reports; (iii) audited project financial statements;<sup>18</sup> and (iv) the government's project completion report within 6 months of physical completion of the project. Dakurenco, a project implementing agency, also submitted its audited entity financial statements. The timeliness of submissions significantly improved over time, which reflected the improvement in ADB's monitoring processes and the efforts of the implementing agency.

<sup>16</sup> All construction works were insured in accordance with the provisions of the construction contracts. Contractors were responsible for compensation for cases not covered by insurance contracts.

<sup>17</sup> Forty-two households in Buon Ma Thuot belonging to an ethnic minority group (mainly Ede) were assessed as being affected by loss of agricultural land. As the Ede had lived in this ancient community for several generations, were well integrated with the Kinh majority, and had the same source and level of income as Kinh and did not require relocation, a separate indigenous peoples plan was not required.

<sup>18</sup> As no project expenses were incurred in 2014 when the project became effective, submission of the first audited project financial statements was deferred (without a memo) and combined with the 2015 statements.

### III. EVALUATION OF PERFORMANCE

#### A. Relevance

45. The project is rated *relevant*. At appraisal, the project was designed to increase the coverage of resilient urban infrastructure and climate change adaptation measures. The intended outcome was aligned with ADB's priorities to promote inclusive socioeconomic development in urban areas, climate-resilient infrastructure, balanced growth, and stakeholder participation. The project design was also consistent with the government's desire to divert rural migration away from large cities through the development of secondary cities and strengthening of urban–rural links. The subprojects selected were consistent with the relevant urban master plans for each city. At project completion, the project remained *relevant*. It was consistent with both ADB's and the government's evolving integrated urban development priorities to link urban and rural areas, make cities more livable, and actively respond to climate change.

46. The project modality (project loan) was appropriate. Although there was an increase in LAR costs, the total project cost was lower than estimated because of procurement savings and appreciation of the US dollar. All planned outputs were largely delivered, and the scope of the road and drainage components in Ha Tinh and Tam Ky were expanded. Measuring the accuracy of one outcome indicator would have been improved with more robust baseline and end of project data on recycling. Nevertheless, the DMF was appropriately designed. ADB and the government correctly revised the output on the provision of credit through a minor change in project scope following government policy changes on the use of revolving funds.

47. The project's transformational infrastructure includes climate-resilient drainage channels in Ha Tinh and flood protection in Tam Ky. Connectivity improvements brought about by the project-financed Dien Bien Phu road section, government-financed Dien Bien Phu road section, World Bank-financed Da Nang–Quang Ngai Highway, Coastal Highway, and National Road No 1 are expected to catalyze and accelerate significant socioeconomic development in Tam Ky city and neighboring districts. The pilot 3R IEC program in Buon Ma Thuot demonstrated how to integrate behavior-change initiatives with development of infrastructure and is being scaled-up by urban managers.

#### B. Effectiveness

48. The project is rated *effective*. Thirteen out of 14 output targets were fully achieved, and one was partly achieved. Two outcome indicators exceeded the targets. In Ha Tinh, 2,284.2 ha of land and 88,198 people are protected from frequent flooding and related damage compared with the target of 1,440.2 ha of land and 15,000 people. In Tam Ky, 254.2 ha of land and 50,662 people are protected from frequent flooding and related damage compared with the target of 185.2 ha of land and 14,800 people. For the third outcome indicator, the number of people benefiting from waste collection (337,500) exceeded the target of 300,000 people, while the percentage of household waste recycled increased from an estimated 30% at baseline to about 50% at completion. While this is below the target of 75%, the implementation of Plan 59/KH-UBND, launched in May 2020, is expected to lift the percentage of household waste recycling above the DMF target by 2022.

49. Resettlement plans and EMP measures were effective in minimizing adverse impacts to affected people and ensuring that no households were worse off than before project implementation. Successful GAP implementation effectively facilitated women's benefits and participation in project supervision.

## C. Efficiency

50. The project is rated *efficient*. Economic internal rates of return (EIRRs) have been recalculated for each of the completed subprojects and compared with those calculated at appraisal. The data and assumptions used in the economic reanalysis are set out in Appendix 9. Actual subproject costs and the actual time profile of costs and benefits were incorporated in the economic reanalysis. Also, project support costs (i.e., consulting services, counterpart staff and all safeguards costs for resettlement and environmental management), were included in the reanalysis. All re-estimated EIRRs were greater than a 12% economic cost of capital (Table 1).

**Table 1: Economic Internal Rates of Return (%)**

Subproject	At Completion	At Appraisal
a. Buon Ma Thuot Phu Landfill	12.7	18.1
b. Buon Ma Thuot Tran Quy Cap Urban Road	17.1	18.4
c. Buon Ma Thuot Mai Thi Luu Urban Road	15.7	15.8
d. Ha Tinh Flood Management and Drainage	20.6	13.5
e. Ha Trinh Bon Son Lake Env Improvement	22.1	19.0
f. Ha Tinh Urban Roads <sup>19</sup>	16.3	13.5/14.1 <sup>20</sup>
g. Tam Ky Flood Management and Drainage	14.6	15.2
h. Tam Ky Urban Roads <sup>21</sup>	21.3	18.3

Source: Asian Development Bank estimates.

51. At project completion, the Ha Tinh subprojects all have higher EIRRs than estimated at appraisal, reflecting lower than anticipated contract prices. In Buon Ma Thuot, the reverse is true. Contract prices and resettlement costs were higher than anticipated compared to appraisal estimates. For Tam Ky, the flood management and drainage project had a slightly lower EIRR at project completion than at appraisal, but the urban roads subproject had a higher EIRR at project completion than at appraisal. Sensitivity tests indicate that all subprojects would maintain EIRRs higher than 12% if operation and maintenance (O&M) costs were 10% higher or benefits were reduced by 10%. Activities undertaken under outputs 2 and 3 of the project appear to have been undertaken efficiently, with the programs achieving their targets within the original cost estimates.

## D. Sustainability

52. The project is rated *likely sustainable* as the institutional, financial, and other resources are likely to be sufficient to sustain the project outcome and outputs over its economic life. The capacity building activities provided by the project should strengthen the ability of the PPCs to manage and operate urban infrastructure in each of the three cities.

53. Apart from the Buon Ma Thuot Landfill subproject, none of the subprojects generate direct revenue to cover O&M costs. The city governments in Ha Tinh, Tam Ky, and Buon Ma Thuot are the owners of the project facilities and are responsible for their management and O&M funding. Professional specialized contractors (such as urban environment companies) are hired on a contractual basis to provide O&M services of the project facilities. The required O&M funds for these assets are estimated and provided annually based on government technical and financial norms. Although the sustainable waste tariff had not been applied by project completion, the required O&M funds for the SWM facilities will be provided by the local governments, and therefore depend on the local governments ensuring that these funds are provided.

<sup>19</sup> Nguyen Trung Thien, Hai Thuong Lan Ong, and Nguyen Huy Lung urban roads.

<sup>20</sup> At appraisal, two components of this subproject were evaluated as separate subprojects.

<sup>21</sup> Dien Bien Phu initial subproject and subsequent extension.

54. None of the agencies responsible for operating and maintaining the subprojects have capital invested in the subprojects. The ADB loan proceeds and government funding were passed down as grants to the respective agencies. Therefore, as at appraisal, financial internal rates of return have not been estimated for the eight subprojects. Instead, for the Buon Ma Thuot Landfill subproject, annual revenues to be earned by Dakurencos (the operating company for this subproject) in 2020 have been estimated and compared with average annual O&M and periodic reinvestment costs required over the life of the subproject. This comparison shows that annual revenues will exceed average annual O&M and reinvestment costs if the monthly tariffs rise in line with inflation. If the collection rate can be improved beyond 68.8%, it is possible to increase tariffs at less than the inflation rate (Appendix 9).

55. For the other subprojects (involving drainage and flood protection, urban roads, and environmental improvements), an analysis of past and planned future budgets for O&M in each of the three cities for these types of activities shows that funding in the future is likely to be sufficient in Ha Tinh and Tam Ky cities.<sup>22</sup> However, sufficient funding for the Buon Ma Thuot urban roads subprojects may not be assured because of reductions in the annual amounts of O&M expenditure in recent years and only limited growth in annual O&M expenditure budgeted for future years (Appendix 9).

56. The technical and institutional sustainability of the project is assessed as *high*. All major project-financed assets are operated and maintained by professional agencies with decades of substantial experience in operating and managing urban roads, drainage, and solid-waste systems. For the civil works, contractors provided as-built drawings and O&M manuals. Similarly, suppliers of equipment provided O&M manuals.

57. Technical designs of subprojects include features that support long-term environmental quality. Green spaces have been provided along the roads, some sections of the dikes, around the Thach Trung regulating pond, and at Bong Son lake. Proper closure of the Cu Eabur dump site has significantly contributed to improved air quality in the area.

## E. Development Impact

58. The overall development impact of the project is rated *satisfactory*. The DMF impact targets have been met. The closure of Buon Ma Thuot's Cu Eabur dump site has led to significant improvements in air quality, with indicator measurements now significantly below those at baseline and within national standards, except for hydrogen sulfides (H<sub>2</sub>S) which remains slightly above the national standard at some of the measurement points near the center of the old dump. Readings are, however, within the national standard at measurement stations further from the center, at the gate, and 500 meters from the gate (Table 2).

**Table 2: Air Quality Indicators, Cu Eabur Dumpsite  
(mg/m<sup>3</sup>)**

Air Quality Indicators	TSP	NO <sub>x</sub>	SO <sub>2</sub>	H <sub>2</sub> S
National standards	0.30	0.20	0.35	0.042
At baseline (2012)	0.71	3.77	2.55	4.660
After closure (2020)	0.22	0.07	0.09	0.09

H<sub>2</sub>S = H<sub>2</sub>S = hydrogen sulfides, NO<sub>x</sub> = oxides of nitrogen, SO<sub>2</sub> = sulfur dioxide, TSP = total suspended particulates.

Note: The measurements are average values across eight measurement station positions ranging from the center of the old dump site and then at various distances from the center within and outside the dump site's boundary.

Source: Dakurencos

<sup>22</sup> Also, the drainage and flood control subprojects in these two cities make urban roads protected by these subprojects more resistant to the effects of flooding, thus reducing future urban road O&M requirements.

59. Other positive development impacts include improved flood protection, reduced flood-risk, and new public urban greenspace. Stormwater drainage design standards in Ha Tinh were increased from the baseline (2012) situation of a 1-in-1-year design storm event for internal channels and 1-in-10-year design storm event for major channels, to a 1-in-10-year design storm event for all channels. The flood protection standard in Tam Ky was increased from the baseline (2012) of a 1-in-5-year design storm event to a 1-in-40-year design storm event for the Ban Thach dike and 1-in-25-year design storm event for the Dien Bien Phu road.

60. In Ha Tinh, the Thach Trung and Bong Son stormwater regulation basins improved the urban environment and have created new leisure areas for residents. The urban road improvement subprojects in the three cities have reduced theoretical vehicle operating costs and travel times, and improved connectivity for local residents and businesses. In 2020, the four urban road improvement subprojects had estimated vehicle operating and travel time cost savings of \$5.4 million, growing to \$20.3 million by 2030 based on traffic growth forecasts and travel time values linked to forecast increases in average real wage rates. During construction, the subprojects generated additional employment (3,125 residents in Buon Ma Thuot, Ha Tinh, and Tam Ky were employed for project civil works construction), incomes, and expenditures that benefited local residents and businesses.

61. Development impacts under output 2 include residents' increased awareness of good SWM practices, flood risks and management, and road safety. Under output 3, development impacts include vocational training for 1,935 women, including 39 ethnic minority women; access to credit assistance for 2,781 women; and increased skills of PMU staff in project management, economics and finance, procurement, safeguards, gender, monitoring and reporting, and climate-resilient master planning policies.

## **F. Performance of the Borrower and the Executing Agency**

62. The performance of the borrower and the executing agency is rated *satisfactory*. The executing agencies provided sufficient counterpart staff and funds for project preparation and implementation in the case of Tam Ky and Ha Tinh. Some delays were experienced in the receipt of counterpart funds in Buon Ma Thuot. The borrower and executing agencies complied with social and environmental safeguards and most loan covenants. The Ha Tinh PMU and PCI.QNa implemented the civil works in a capable manner as they had prior experience with ADB projects. However, executing and implementing agencies could have implemented the urban management capacity building program, under output 3, more effectively if the borrower did not restrict the use of ODA funds for training. PMUs were able to manage project implementation during the final six months of the project without PMIS support. PPCs provided O&M budget as soon as project facilities were handed over to city departments for management.

## **G. Performance of the Asian Development Bank**

63. The performance of ADB is rated *satisfactory*. The project was delegated to the Viet Nam Resident Mission in July 2014. This allowed project administration oversight to be led by a national officer and fostered closer interaction between ADB, executing agencies, and the PMUs. ADB staff jointly developed a time-bound detailed project implementation schedule with the PMUs, which was an effective project management tool that helped ensure the timely completion of project milestones. ADB staff proactively provided necessary guidance to PMU staff to enable compliance with environmental and social safeguards and loan covenants. ADB staff responded to PMU requests within 5–7 working days, and no notable delays were reported regarding ADB disbursement processing.

## H. Overall Assessment

64. The overall project rating is *successful* based on the assessment of relevance, effectiveness, efficiency, and sustainability, with satisfactory development impact. The project was *relevant* at the time of appraisal. It aligned with the government's and ADB's development policy objectives and remained *relevant* at project completion. The project was appropriately designed. It is rated *effective* as it substantially achieved the outcome of increased coverage of resilient urban infrastructure and climate change adaptation in the participating cities. The project is rated *efficient* as the project outputs were achieved within budget and the economic analysis at project completion indicates EIRRs for each of the subprojects exceeded the opportunity cost of capital. The project's benefits and outputs are *likely sustainable* given the institutional arrangements and sufficient funding for O&M, and design features allowing for long-term environmental improvement. The development impact of the project is rated *satisfactory* given the (i) significant improvements in air quality, urban environments, flood protection and drainage, vehicle operating costs, and travel time savings; (ii) improved community awareness of SWM, flooding risks, and road safety; and (iii) increased skills and knowledge of PMU staff.

**Table 3: Overall Ratings**

Criterion	Rating
Relevance	Relevant
Effectiveness	Effective
Efficiency	Efficient
Sustainability	Likely sustainable
<b>Overall assessment</b>	<b>Successful</b>
Development impact	Satisfactory
Borrower and executing agency	Satisfactory
Performance of Asian Development Bank	Satisfactory

Source: Asian Development Bank.

## IV. ISSUES, LESSONS, AND RECOMMENDATIONS

### A. Issues and Lessons

65. Start-up delays, a persistent issue in Viet Nam, must be considered when developing the project implementation plan, as well as contract awards and disbursement projections. Recruiting individual consultants to update resettlement plans and EMPs, and to prepare bidding documents should be considered to help project owners accelerate contract awards for civil works without being over-reliant on project implementation support consulting firms.

66. Greater accuracy in project cost estimates at appraisal would have helped prevent project implementation delays and improve disbursement performance. In Viet Nam the cost estimates of procurement packages are prepared and approved by the EA, based on the national cost norms. The bids also tend to follow the national cost norms. However, the project's civil works cost estimates prepared during appraisal were based only on market costs, and could have also considered national cost norms as a reference. Delays in the provision of counterpart funding for the increased LAR costs led to the delays in constructing the two road sections in Buon Ma Thuot. Such delays could have been avoided if a more accurate inventory of losses for affected persons was established out at appraisal. More accurate LAR impact data could also have been gathered by surveying 100% of severely affected households and/or vulnerable households, and by working closely with the local cadastral staff and local land fund development centers. However, at appraisal, sufficient TA budget is often not available to undertake a full assessment/survey. As such, careful consideration is needed at appraisal to assess the potential for LAR cost increases and to mitigate these risks when a full survey cannot be accommodated.

67. Twenty one percent of the ADB net loan amount was cancelled at financial closure. The disbursement ratio did not accurately reflect project progress because surplus loan proceeds were included in the net loan amount available for disbursements, thus lowering the disbursement ratio. Partial cancellations are not normally considered in Viet Nam until financial closure due to lengthy and complex government procedures, so careful consideration is required to anticipate this when preparing contract award and disbursement projections.

68. Appropriate implementation arrangements are key to successful project implementation. Having a professional PMU reporting directly to the PPC and assigned as the implementing agency contributed to the project's success, partly because the PMU was delegated decision-making authority and had direct access to provincial decision-makers when needed. As such, during project preparation PMU capacity assessments should augment the overall procurement and financial management capacity assessments of executing and implementing agencies.

69. The city women's unions played an important role in implementing the GAP. They have (i) available staff network at city, district, and commune levels; (ii) regular meetings with local residents; and (iii) understand the local culture. With new government policies prohibiting the use of ODA funds for non-physical investments, government counterpart funding should be secured to implement the GAP in future projects.

## **B. Recommendations**

### **1. Project Specific**

70. **Future monitoring.** Effective operation of the Hoa Phu landfill is important to limit adverse impacts on the environment and to ensure that the landfill functions for its intended 20-year economic lifespan. The operating agency needs to ensure that the operating procedures in the landfill O&M manual are strictly followed. Buon Ma Thuot city should periodically monitor water and air pollution at the Hoa Phu landfill.

71. For future projects that have SWM components, a covenant requiring waste tariffs to sustainably finance the O&M of the SWM facilities should be agreed with the borrower and maintained. The development and institutionalization of the tariffs should be expedited so that the tariff is applied as soon as the SWM facility is put into operation.

72. **Further action.** During the operations phase, Tam Ky and Buon Ma Thuot cities should install road safety facilities including transport lighting systems, warning sign boards, and safeguard fences using counterpart funds.

73. **Timing of the project performance evaluation report.** The report should be prepared in 2022 or later. By then, the waste tariff in Buon Ma Thuot city should have been adopted and the actual O&M costs of the project facilities will be available.

### **2. General**

74. Project quality at entry is essential to avoid delays during implementation because any changes, however minor, require complicated national approval procedures to be followed. In developing the DMF, only indicators with available and verifiable data should be selected. Future project design should also address start-up delays in Viet Nam by securing resources for DED during project preparation and to support advance consultant recruitment.

### DESIGN AND MONITORING FRAMEWORK

Design Summary	Performance Indicators and Targets	Project achievements
<b>Impact</b> Improved urban environment and climate resilient infrastructure in Buon Ma Thuot in the central highland region and in the coastal cities of Ha Tinh and Tam Ky	By 2021: <b>Buon Ma Thuot:</b> Cu Eabur site will meet at least national standards for key air quality parameter [air quality baselines for TSP (0.71 mg/m <sup>3</sup> ), NO <sub>x</sub> (3.77 mg/m <sup>3</sup> ), SO <sub>2</sub> (2.55 mg/m <sup>3</sup> ), and H <sub>2</sub> S (4.46 mg/m <sup>3</sup> ) and national standards for TSP (0.30 mg/m <sup>3</sup> ), NO <sub>x</sub> (0.20 mg/m <sup>3</sup> ), SO <sub>2</sub> (0.35 mg/m <sup>3</sup> ), and H <sub>2</sub> S (0.042 mg/m <sup>3</sup> )	<b>Achieved</b> Air quality at Cu Eabur site after dumpsite closure significantly improved and achieved 3 out of 4 parameters of the national air quality standard, with only TSP marginally exceeding the standard: TSP (0.22 mg/m <sup>3</sup> ), NO <sub>x</sub> (0.07 mg/m <sup>3</sup> ), SO <sub>2</sub> (0.09 mg/m <sup>3</sup> ), H <sub>2</sub> S (0.09 mg/m <sup>3</sup> )
	<b>Ha Tinh:</b> Storm water drainage standards set at 1:10 years storm event (baseline: 1 in 1 year for internal channels and 1 in 10 years for major channels in 2012)	<b>Achieved</b> All drainage channels were designed and constructed to meet the 1:10 years storm events.
	<b>Tam Ky:</b> Flood protection standard increased to 1:40 years storm event for dike and 1:25 years for road design (baseline: 1 in 5 years storm event in 2012)	<b>Achieved</b> Ban Thach dike and Dien Bien Phu road were designed and constructed to meet the 1:40 year and 1:25 year flood protection standard, respectively.
<b>Outcome</b> Increased coverage of resilient urban infrastructure and climate change adaptation in the participating cities	By 2019: <b>Buon Ma Thuot:</b> Entire city population (300,000 people) benefitted from 100% waste collection and improved disposal systems with at least 75% reused and recycled (baseline: collection is 85% in 2012)	<b>Achieved</b> More than 90% of the city population of 375,000 people, ie. at least 337,500 people, benefitted from waste collection.  <b>Partly Achieved</b> The percentage of waste reused and recycled increased from an estimated 30% at project commencement to about 50% at completion.
	<b>Ha Tinh:</b> 1,440 ha of land and property, and 88,000 people protected from frequent flooding and resulting damage (baseline: 727 ha of land and 15,000 people)	<b>Achieved</b> 2,284 ha of land and 88,198 people are protected from frequent flooding and resulting damage.

Design Summary	Performance Indicators and Targets	Project achievements
	<b>Tam Ky:</b> 185 ha of land and property, and 14,800 households (50,000 people) protected from frequent flooding and resulting damage (baseline: 40 ha of land and 10,000 people)	<b>Achieved</b> 254.2 ha of land and 50,662 people are protected from frequent flooding and resulting damage.
<b>Outputs</b>		
<b>1. New and improved urban infrastructure and climate change adaptation</b>	By 2019 <b>Buon Ma Thuot:</b> New solid waste engineered landfill in Hoa Phu built and operationalized.  Existing dumpsite in Cu Eabur closed scientifically in accordance with government regulations.  At least 25% of the staff employed for SWM are women (baseline: 0 in 2012)  Two road sections with total length of 6.80 km constructed.	<b>Achieved</b> Hoa Phu landfill was completed and put into operation in 2019.  Cu Eabur dumpsite was closed in accordance with government regulations.  201 out of 305 staff, i.e. 69%, employed for SWM are women.  Two road sections totaling 6.53 km constructed.
	<b>Ha Tinh:</b> Five main drains of 9.50 km and a regulating basin of 9 ha constructed (baseline: 0 in 2012)	<b>Achieved</b> Five main drains with total length of 10.51 km and 9-ha Thach Trung regulating basin constructed
	Three road sections with total length of 3.71 km constructed	Three road sections with total length of 4.8 km constructed. An additional 4.1 km of roads were improved. New recreation area built at Bong Son lake. <sup>1</sup>
	<b>Tam Ky:</b> Flood protection dike of 10.70 km and Dien Bien Phu urban road construction of 6.37 km (baseline: 0 in 2012)	<b>Achieved</b> 10.9 km protection dyke and 8.18 km Dien Bien Phu road constructed. <sup>2</sup>

<sup>1</sup> This subproject was included in the RRP and procurement plan but missing from the original DMF.

<sup>2</sup> A minor change in project scope approved in 2017 was to increase the Dien Bien Phu road section by 1.46 km to 7.83 km using loan savings. Eventually, an additional 1.79 kms of Dien Bien Phu road were constructed using loan savings.

Design Summary	Performance Indicators and Targets	Project achievements
	For the three cities: construction supervision boards (CSBs) were established with 35% female representation.	<b>Achieved</b> 22 construction supervision boards (CSBs) were established with 122 members, of which 53 (43.44%) were women.
2. Increased community awareness for sustainable environmental management through IEC	By 2019: Program for rolling out IEC on SWM designed for Buon Ma Thuot (50% of IEC facilitators are women)	<b>Achieved</b> IEC program for the 3R pilot program was completed, with 64.8% of facilitators being female (68 out of 105 facilitators). The IEC program reached the whole city of Buon Ma Thuot.  Buon Ma Thuot city people's committee issued Plan 59/KH-UBND (dated 8 April 2020) on solid waste management and IEC for waste segregation at source. Implementation started in May 2020.
	Gender-sensitive IEC materials on SWM and disaster risk reduction and management developed and disseminated to project areas	<b>Achieved</b> Gender-sensitive IEC material on SWM (waste segregation, composting), flood management/DRRM and road safety were prepared and distributed to 16,469 people (including 9,381 women).
	Vocational training and credit provided to 1,100 women in subproject areas.	<b>Achieved</b> Vocational training was provided to 1,935 women. Access to credit facilitation was provided to 2,781 women. <sup>3</sup>
3. Improved competencies in integrated urban development, environmental planning, climate change adaptation, and project management	By 2019 Knowledge and skills of at least 30 professional staff (30% of whom are women) strengthened in areas of integrated urban development, environment planning, and climate change adaptation (baseline: 0 in 2012)	<b>Partly Achieved</b> 12 professional staff including 3 female staff (25%) were trained on integrated urban development, environmental planning, and climate change adaptation.
	PMUs trained on project management, economics and finance, procurement, safeguards, gender,	<b>Achieved</b>

<sup>3</sup> A minor change in project scope was approved in 2018 to change credit provision using project-financed revolving fund to facilitation to access to Government-financed credit programs.

Design Summary	Performance Indicators and Targets	Project achievements
	and monitoring and reporting (25% of participants are women)	179 PMU staff including 51 female staff (28%) were trained on procurement, disbursements, safeguards, gender, monitoring and reporting.
	Consultation meetings on climate- resilient master planning policies held (30% of participants are women)	<p><b>Achieved</b></p> <p>Consultation meetings on climate-resilient master planning policies were held in three project cities with 267 participants of which, 112 were female (41.9%).</p> <ul style="list-style-type: none"> <li>- Ha Tinh: consultation meeting to finalize Ha Tinh Green City Action Plan was conducted in September 2016 with 61 people (33 women accounting for 54.1%).</li> <li>- Quang Nam: consultation meeting for Master Planning adaption to climate change in Tam Ky city was conducted in 2016 with 65 people (26 women, accounting for 40%).</li> <li>-Buon Ma Thuot: consultation meetings to develop the Green Growth Action Plan for 2015-2020 and the Action Plan to Respond to Climate Change in Dak Lak province were conducted in 2016 with 141 people (53 women, accounting for 37.5%).</li> </ul>

BMT = Buon Ma Thuot; CSB = construction supervision board; DRRM = disaster risk reduction and management; HT = Ha Tinh; H<sub>2</sub>S = hydrogen sulfides; ha = hectare; IEC = information, education and communication; km = kilometer; m<sup>3</sup> = cubic meter; mg = milligram; NO<sub>x</sub> = oxides of nitrogen; PMU = project management unit; SO<sub>2</sub> = sulphur dioxide; SWM = solid waste management; TK = Tam Ky; TSP = total suspended particulates.

Source: Asian Development Bank.

**PROJECT COST AT APPRAISAL AND ACTUAL**  
(\$ million)

<b>Component</b>	<b>Appraisal Estimate</b>	<b>Actual</b>
<b>A. Base Cost</b>		
1. New and improved urban infrastructure and climate change adaptation	97.22	100.81
a. Solid Waste Management Improvement	15.51	11.73
b. Flood Management and Storm Drainage Improvement	23.16	21.35
c. Strategic Roads and Related Urban Environment Improvements	58.55	67.73
2. Improved community awareness for sustainable environmental management through IEC	1.01	0.68
3. Improved competencies in integrated urban development, environmental planning, climate change adaptation, and project management	0.95	8.25
<b>Subtotal (A)</b>	<b>99.18</b>	<b>109.74</b>
<b>B. Contingencies</b>	<b>18.06</b>	<b>0.00</b>
<b>C. Financial Charges During Implementation</b>	<b>4.47</b>	<b>1.99</b>
<b>Total (A+B+C)</b>	<b>121.71</b>	<b>111.73</b>

Source: Asian Development Bank.

## PROJECT COST BY FINANCIER

Table A3.1: Project Cost at Appraisal by Financier

Item	ADB		Government		Total Cost (\$m)
	Amount (\$ m)	% of Cost Category	Amount (\$m)	% of Cost Category	
<b>A. Investment Costs</b>					
1. Civil Works					
Ha Tinh	22.04	90.89%	2.21	9.11%	24.25
Buon Ma Thuot	17.51	90.91%	1.75	9.09%	19.26
Tam Ky	25.41	100.00%	0.00	0.00%	25.41
2. Consulting services	2.06	96.26%	0.08	3.74%	2.14
<b>4. Land acquisition and resettlement</b>					
Ha Tinh	0.00	0.00%	8.07	100.00%	8.07
Buon Ma Thuot	0.00	0.00%	7.67	100.00%	7.67
Tam Ky	0.00	0.00%	6.47	100.00%	6.47
<b>5. Equipment</b>					
Buon Ma Thuot	1.72	91.01%	0.17	8.99%	1.89
<b>Subtotal (A)</b>	<b>68.74</b>	<b>72.24%</b>	<b>26.42</b>	<b>27.76%</b>	<b>95.16</b>
<b>B. Recurrent Costs</b>					
1 Incremental cost	3.81	94.78%	0.21	5.22%	4.02
<b>Subtotal (B)</b>	<b>3.81</b>	<b>94.78%</b>	<b>0.21</b>	<b>5.22%</b>	<b>4.02</b>
<b>Total Base Cost</b>	<b>72.55</b>	<b>73.15%</b>	<b>26.63</b>	<b>26.85%</b>	<b>99.18</b>
<b>(A+B)</b>					
<b>C. Contingencies</b>	<b>17.98</b>	<b>99.56%</b>	<b>0.08</b>	<b>0.44%</b>	<b>18.06</b>
<b>D. Financial Charges During Implementation</b>	<b>4.47</b>	<b>100.00%</b>	<b>0.00</b>	<b>0.00%</b>	<b>4.47</b>
<b>Total Project Cost</b>	<b>95.0</b>	<b>78.05%</b>	<b>26.71</b>	<b>21.95%</b>	<b>121.71</b>
<b>(A+B+C+D)</b>					
<b>% Total Project Cost</b>		<b>78.05%</b>		<b>21.95%</b>	

Note: Numbers may not sum precisely because of rounding.

Source: Asian Development Bank.

**Table A3.2: Project Cost at Completion by Financier**

Item	ADB		Government		Total Cost (\$m)
	Amount (\$ m)	% of Cost Category	Amount (\$m)	% of Cost Category	
<b>A. Investment Costs</b>					
1. Civil Works					
Ha Tinh	19.73	90.91%	1.97	9.09%	21.70
Buon Ma Thuot	16.20	90.91%	1.62	9.09%	17.82
Tam Ky	26.11	100.00%	0.00	0.00%	26.11
2. Consulting services	3.72	96.00%	0.16	4.00%	3.88
3. Land acquisition and resettlement					
Ha Tinh	0.00	0.00%	6.43	100.00%	6.43
Buon Ma Thuot	0.00	0.00%	9.12	100.00%	9.12
Tam Ky	0.00	0.00%	15.20	100.00%	15.20
4. Equipment					
Buon Ma Thuot	1.39	90.91%	0.14	9.09%	1.53
<b>Subtotal (A)</b>	<b>67.15</b>	<b>65.97%</b>	<b>34.64</b>	<b>34.03%</b>	<b>101.79</b>
<b>B. Recurrent Costs</b>					
1. Incremental cost	0.35	4.41%	7.59	95.59%	7.94
<b>Subtotal (B)</b>	<b>0.35</b>	<b>4.41%</b>	<b>7.59</b>	<b>95.59%</b>	<b>7.94</b>
<b>Total Base Cost (A+B)</b>	<b>67.50</b>	<b>61.51%</b>	<b>42.24</b>	<b>38.49%</b>	<b>109.74</b>
<b>C. Contingencies</b>	<b>0.00</b>		<b>0.00</b>		<b>0.00</b>
<b>D. Financial Charges During Implementation</b>	<b>1.99</b>	<b>100.00%</b>	<b>0.00</b>	<b>0.00%</b>	<b>1.99</b>
<b>Total Project Cost (A+B+C+D)</b>	<b>69.49</b>		<b>42.24</b>		<b>111.73</b>
<b>% Total Project Cost</b>		<b>62.20%</b>		<b>37.80%</b>	

## DISBURSEMENT OF ADB LOAN PROCEEDS

**Table A4.1: Annual and Cumulative Disbursement of ADB Loan Proceeds<sup>a</sup>**  
(\$ million)

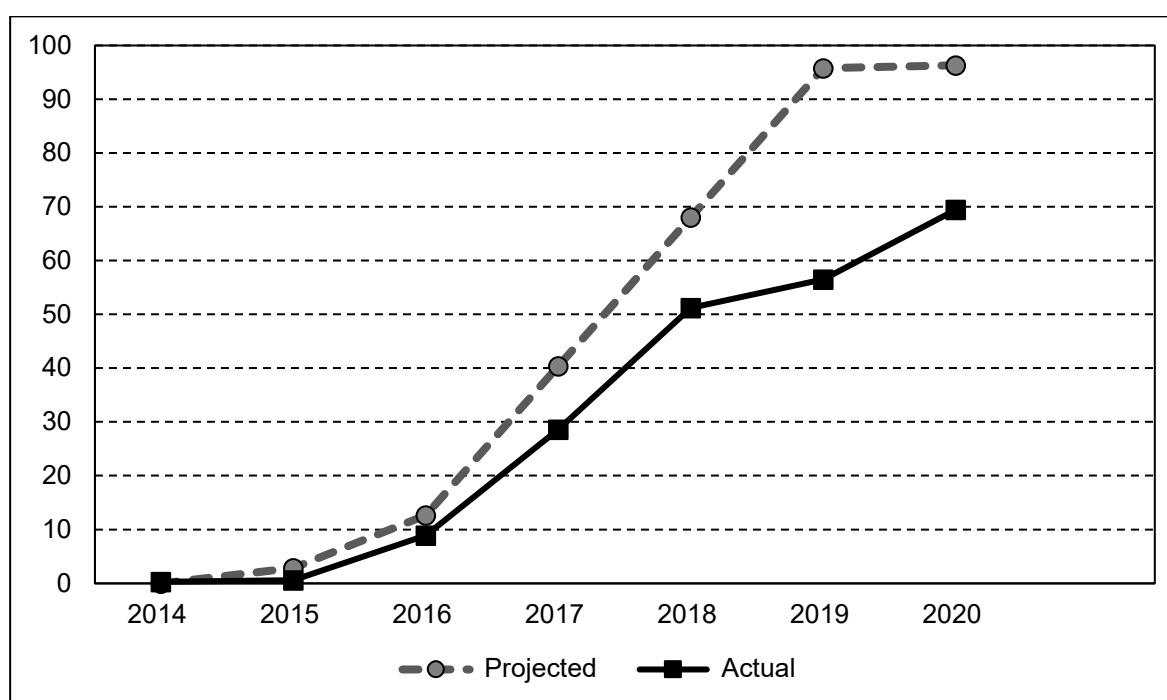
Year	Annual Disbursement		Cumulative Disbursement	
	Amount (\$ million)	% of Total	Amount (\$ million)	% of Total
2014	0.3	0.4%	0.3	0.4%
2015	0.3	0.4%	0.6	0.9%
2016	8.3	11.9%	8.9	12.8%
2017	19.7	28.3%	28.6	41.2%
2018	22.6	32.5%	51.2	73.7%
2019	5.3	7.6%	56.5	81.3%
2020	13.0	18.7%	69.5	100.0%
<b>Total</b>	<b>69.5</b>	<b>100.0%</b>		

ADB = Asian Development Bank.

<sup>a</sup> Includes disbursements to advance accounts.

Source: Asian Development Bank.

**Figure A4.1: Projection and Cumulative Disbursement of ADB Loan Proceeds**  
(\$ million)



**Table A4.2: Contract Awards and Disbursement Projections Changes**

<b>Projection History*</b>	<b>Date</b>	<b>Reasons for Revised Projection</b>
Version 1	28-Feb-14	Project effectiveness.
Version 2	04-Apr-14	Following OSFMD's projections reset exercise in March 2014.
Version 3	07-Oct-14	Aligning with the revised implementation schedule agreed with the PMUs at the loan review in September 2014.
Version 4	31-Dec-14	2014 Actualization
Version 5	31-Dec-15	2015 Actualization
Version 6	26-Apr-16	Following OSFMD's projections reset exercise in March 2016.
Version 7	31-Dec-16	2016 Actualization
Version 8	02-Jan-18	Mid-term review in December 2017
Version 9	31-Dec-17	2017 Actualization
Version 10	31-Dec-18	2018 Actualization
Version 11	31-Dec-19	2019 Actualization
Version 12	31-Dec-20	2020 Actualization
Version 13	1-Mar-21	Adjusted after loan closing on 4 January 2021

\* Source: Baseline Projections, eOps.

## CONTRACT AWARDS OF ADB LOAN PROCEEDS

**Table A5.1: Annual and Cumulative Contract Awards of ADB Loan Proceeds**  
(\$ million)

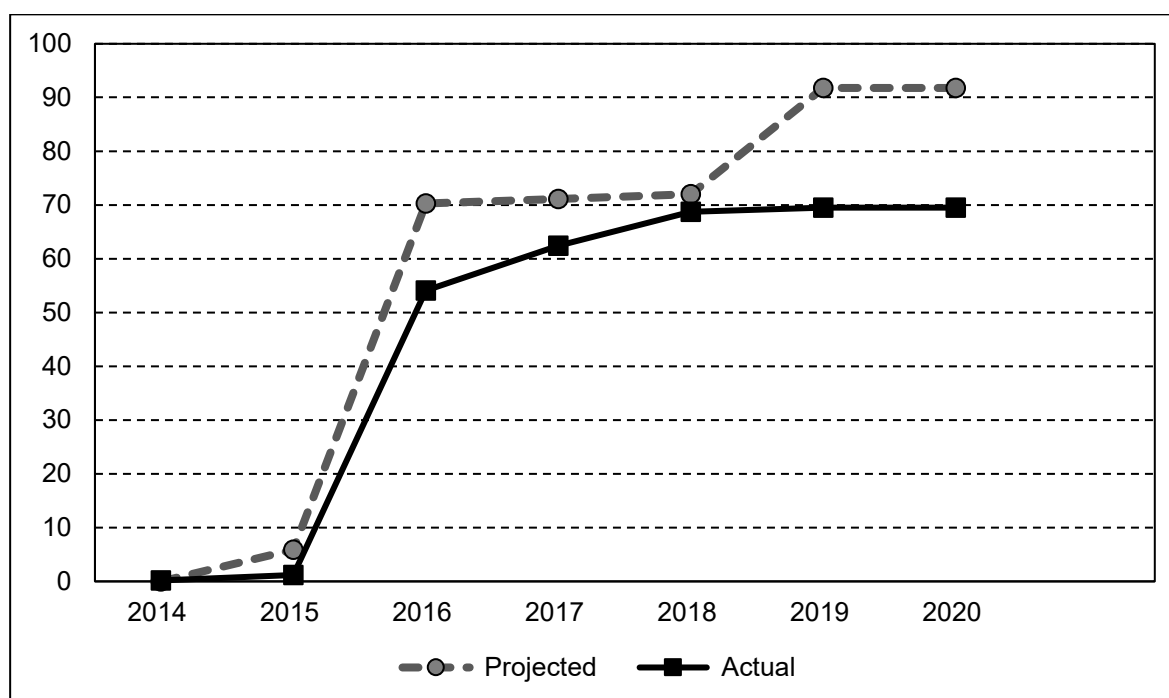
Year <sup>a</sup>	Annual Contract Awards		Cumulative Contract Awards	
	Amount (\$ million)	% of Total	Amount (\$ million)	% of Total
2014	0.2	0.3%	0.2	0.3%
2015	1.0	1.4%	1.2	1.7%
2016	52.9	76.1%	54.1	77.8%
2017	8.3	11.9%	62.4	89.8%
2018	6.3	9.1%	68.7	98.8%
2019	0.8	1.2%	69.5	100.0%
2020	-	0.0%	69.5	100.0%
<b>Total</b>	<b>69.5</b>	<b>100.0%</b>		

ADB = Asian Development Bank.

<sup>a</sup> Classified by contract signing dates.

Source: Asian Development Bank.

**Figure A5.1: Projection and Cumulative Contract Awards of ADB Loan Proceeds**  
(\$ million)



### STATUS OF COMPLIANCE WITH LOAN COVENANTS

Covenant	Reference in Loan Agreement	Status of Compliance
In the carrying out the Project and operation of the Project facilities, the Borrower shall perform, or cause to be performed, all obligations set forth in Schedule 5 to this Loan Agreement.	Section 4.01, Article IV	<b>Complied with.</b> During project implementation, Schedule 5 was complied with.
The Borrower shall enable ADB's representatives to inspect the Project, the Goods and Works, and any relevant records and documents	Section 4.02, Article IV	<b>Complied with.</b> All requests from ADB to inspect works, goods, and documents were accommodated by EAs and PMUs.
The Borrower shall take all actions which shall be necessary on its part to enable the Project Executing Agencies to perform their obligations under the Project Agreement, and shall not take or permit any action which would interfere with the performance of such obligations.	Section 4.03, Article IV	<b>Complied with.</b>
<u>PMU Capacity</u> Within six (6) months of the loan effectiveness date, the Borrower shall cause the Project Executing Agencies and IAs to ensure that their relevant PMU's capacity is strengthened and equipped with professional staff as described in the PAM, including a PMU director, municipal engineers (drainage and flood protection), civil engineers (roads/highways and structures), environmental engineer/solid waste management specialist (Buon Ma Thuot), environmental resettlement specialist(s) (urban planner); social development and gender specialist(s), finance specialist(s), project management and procurement and contracts management.	Paragraph 2, Schedule 5	<b>Complied with.</b> Ha Tinh, Tam Ky, and Buon Ma Thuot, and Dakurenco PMUs as permanent PMUs had been established before the project was approved. PMUs include staff as required in the PAM.
<u>Operation and Maintenance</u> The Borrower shall cause the Project Executing Agencies to ensure that adequate funds are provided through annual provincial budget allocations and/or grants to sustain the operation and maintenance of all the Project facilities in sound functional order after Project completion, including sufficient funds for each of the urban and environmental limited company in each Project province (including the urban and environmental limited company in Quang Nam province) to provide efficient operation and necessary	Paragraph 3, Schedule 5	<b>Complied with.</b> All project facilities are assets of city people's committees. The daily operations and maintenance of project facilities are done by companies (such as urban environment companies -URENCO or similar) which are selected through competitive bidding process. The operations and maintenance budget is provided by provincial and city governments through the annual budgeting process.

Covenant	Reference in Loan Agreement	Status of Compliance
maintenance of all the completed Project facilities (including the Solid Waste Management and Landfill Development subproject for Buon Ma Thuot).		
<u>Buon Ma Thuot Solid Waste Management Subproject Tariff</u> The Borrower shall cause the PPC of Dak Lak Province to ensure that for the solid waste management subproject, (a) a tariff plan is established and set progressively to achieve operation and maintenance cost recovery; (b) an annual review of tariffs is undertaken in accordance with specified tariff-setting mechanism, including mandatory public hearing, where revisions are made; and (c) the impact to the poor of solid waste management fees and tariffs is assessed, and based upon such assessment, provide the necessary financial support to ensure solid waste management services are affordable to the poor while operating and maintaining the solid waste management Project facility in a sustainable manner.	Paragraph 4, Schedule 5	<b>Partly Complied with.</b>  (a) Dak Lak PPC issued Decision 28/2017/QD-UBND dated 19 September 2017 on maximum fees for solid waste collection which reflects 100% cost of the collection services. Dak Lak PPC issued Decision 709/QD-UBND dated 5 April 2018 on service fee for waste treatment in Hoa Phu landfill effective 1 July 2020. As the waste treatment service fee in the Decision 709 is higher than the cost norms issued by the Ministry of Construction under Decision 1354/QĐ-BXD dated 29 December 2017, Buon Ma Thuot Department of Construction is seeking comments from the Ministry of Construction before application. (b) not yet done as the service fee under Decision 709 has not been applicable. (c) study on impact of the solid waste management fees to the poor was completed in June 2018.
<u>Land Acquisition and Involuntary Resettlement</u> The Borrower shall cause the Project Executing Agencies to ensure that all land and rights of way required for the Project and Project facilities are made available to the Works contractor(s) in accordance with the schedule set out in the Works contractor(s) and that all land acquisition and resettlement activities are implemented in compliance with (a) all applicable laws and regulations of the Borrower relating to land acquisition and involuntary resettlement; (b) the Involuntary Resettlement Safeguards; and (c) all measures and requirements set forth in the RPs and any corrective or preventative actions set forth in any Safeguards and Social Monitoring Report. In case of any discrepancy or inconsistency among the Borrower's laws, regulations and	Paragraph 6, Schedule 5	<b>Complied with.</b>

Covenant	Reference in Loan Agreement	Status of Compliance
procedures relating to land acquisition and involuntary resettlement and the SPS, the SPS shall prevail.		
Without limiting the application of the SPS or the RPs, the Borrower shall cause the Project Executing Agencies to ensure that no physical or economic displacement takes place in connection with the Project until: (a) compensation and other entitlements have been provided to affected people in accordance with the RPs; and (b) comprehensive income and livelihood restoration program has been established in accordance with the RPs.	Paragraph 7, Schedule 5	<b>Complied with.</b>
<u>Indigenous Peoples</u> The Borrower shall cause the Project Executing Agencies to ensure that the Project does not have any indigenous people's impact, all within the meaning of the SPS. In the event the Project does have such impact, each Project Executing Agency shall take all steps required to ensure that the Project complies with all applicable laws and regulations of the Borrower and with the SPS.	Paragraph 8, Schedule 5	<b>Complied with</b> in Buon Ma Thuot. No indigenous people in Tam Ky or in Ha Tinh
<u>Gender and Development</u> The Borrower shall cause the Project Executing Agencies to adopt the GAP and ensure that it is fully implemented in a timely manner over the entire period of the Project, and that adequate resources are allocated for this purpose. In particular, the Borrower shall cause (a) the PPC Dak Lak to ensure that (i) the Dak Lak Urban and Environmental Limited Company employs at least 25% female staff for the solid waste management subproject in Buon Ma Thuot and (ii) at least 50% of the facilitators are women for the program for rolling out information, education and communication for the solid waste management subproject in Buon Ma Thuot; and (b) each Project Executing Agency to ensure (i) at least 35% women representation on construction supervision boards, (ii) the knowledge and skills of professional staff are strengthened on integrated urban development, environmental planning and climate adaptation with at least 30% of the professional staff comprised of women; (iii) consultation meetings on climate resilient master planning	Paragraph 9, Schedule 5	<b>Partly complied with.</b>  (a) (i) complied with 201 out of 305 staff, i.e. 69%, employed for SWM are women. (ii) complied with during the IEC pilot, 64.8% of facilitators are women.  (b) (i) complied with 22 construction supervision boards were established with 122 members of which 53 (43.44%) were women. (ii) partly complied with only 25% of professional staff trained are women. (iii) complied with consultation meetings on climate-resilient master planning policies were held with 267 participants of which 112 being female (41.9%). (iv) complied with vocational training was provided to 1,935 women. Facilitation for access to credit was provided to 4,716 women.

Covenant	Reference in Loan Agreement	Status of Compliance
policies are held with at least 30% women's participation; and (iv) 1,100 women from sub-project areas are provided vocational training and facilitation for access to credit for income generation.		
<u>Human and Financial Resources to Implement Safeguard Requirements</u> The Borrower shall cause each Project Executing Agency to make available necessary budgetary and human resources to fully implement, as applicable, the EMPs, the RPs and the GAP.	Paragraph 10, Schedule 5	<b>Complied with.</b>
<u>Safeguards – Related Provisions in the Bidding Documents and Works Contracts</u> The Borrower shall cause each Project Executing Agency to ensure that all bidding documents and contracts for Works contain specific provisions that require contractors to: <ul style="list-style-type: none"> <li>(a) comply with the measures relevant to the contractor set forth in the IEEs, the EMPs and the RPs, and any corrective or preventative actions set forth in a Safeguards and Social Monitoring Report;</li> <li>(b) make available a budget for all such environmental and social measures;</li> <li>(c) provide the Project Executing Agency concerned with a written notice of any unanticipated environmental, involuntary resettlement or indigenous peoples risks or impacts that arise during construction, implementation or operation of the Project that were not considered in the IEEs, the EMPs and the RPs;</li> <li>(d) adequately record the condition of roads, agricultural land, and other infrastructure prior to starting to transport materials and construction;</li> <li>(e) reinstate pathways, other local infrastructure, and agricultural land to at least their pre-project condition upon the completion of construction; and</li> <li>(i) comply with all applicable labor laws of the Borrower on the prohibition of child and forced labor; (ii) give equal pay for equal work regardless of gender, ethnicity or social</li> </ul>	Paragraph 11, Schedule 5	<b>Complied with.</b>

Covenant	Reference in Loan Agreement	Status of Compliance
group; (iii) disseminate information on sexually transmitted diseases (including HIV/AIDS) and human trafficking to sub-contractors/employees and local communities surrounding the Project construction sites; and (iv) implement HIV/AIDS and human trafficking awareness activities.		
<p><b><u>Safeguards Monitoring and Reporting</u></b></p> <p>The Borrower shall cause each Project Executing Agency to:</p> <ul style="list-style-type: none"> <li>(a) submit, at least, semi-annual Safeguards and Social Monitoring Reports to ADB and disclose relevant information from such reports to affected persons promptly upon submission;</li> <li>(b) if any unanticipated environmental and/or social risks and impacts arise during construction, implementation or operation of the Project that were not considered in the IEEs, the EMPs and the RPs, promptly inform ADB of the occurrence of such risks or impacts, with detailed description of the event and proposed corrective action plan; and</li> <li>(c) report any actual or potential breach of compliance with measures and requirements set forth in the EMPs and the RPs promptly after becoming aware of the breach.</li> </ul>	Paragraph 12, Schedule 5	<p><b>Complied with</b></p> <p>(a) Semi-annual environment and LAR monitoring reports were submitted to ADB for disclosure on ADB website and disclosed to affected persons.</p> <p>(b) unanticipated environmental and social risks and impacts during implementation of the project including proposed remedy actions were reported to ADB during loan review missions, quarterly project progress reports, email communications to project team.</p>
<p><b><u>Counterpart Support</u></b></p> <p>The Borrower and the Project Executing Agencies shall ensure that Tam Ky, Buon Ma Thuot and Ha Tinh provide their relevant portions of the counterpart funds for advance actions to: (a) recruit the national consultants to prepare detailed designs based on the engineering concepts developed under the PPTA and prepare the related bid documents and (b) establish a grievance mechanism by each Project Executing Agency acceptable to ADB.</p>	Paragraph 13, Schedule 5	<p><b>Complied with.</b></p> <p>Consultants to prepare detailed design were financed by counter-part funding.</p> <p>Grievance mechanism was established by</p> <ul style="list-style-type: none"> <li>(i) Ha Tinh CPC (Decision 1000/QD-UBND dated 19 June 2017 as delegation of approval authority by Ha Tinh PPC under Document No 3327/UNND dated 2 June 2017)</li> <li>(ii) Quang Nam PPC (Document 3882/UBND-KTTH dated 26 July 2017)</li> <li>(iii) Dak Lak PPC (Decision 549/UBND dated 16 March 2018)</li> </ul>

Covenant	Reference in Loan Agreement	Status of Compliance
<u>Governance and Corruption</u> The Borrower, the Project Executing Agencies and the IAs shall (a) comply with ADB's Anticorruption Policy (1998, as amended to date) and acknowledge that ADB reserves the right to investigate directly, or through its agents, any alleged corrupt, fraudulent, collusive or coercive practice relating to the Project; and (b) cooperate with any such investigation and extend all necessary assistance for satisfactory completion of such investigation.	Paragraph 14, Schedule 5	<b>Complied with.</b>
The Borrower shall cause the Project Executing Agencies and the IAs to ensure that the anticorruption provisions acceptable to ADB are included in all bidding documents and contracts, including provisions specifying the right of ADB to audit and examine the records and accounts of the executing and implementing agencies and all contractors, suppliers, consultants, and other service providers as they relate to the Project.	Paragraph 15, Schedule 5	<b>Complied with.</b> Anti-corruption provisions of the standard bidding documents and approved by ADB were included in all bidding documents and contracts.
<u>Public Disclosure</u> The Borrower shall cause each Project Executing Agency to ensure through each PPC's website and other locations accessible to the general public, the public disclosure of information about various project matters, including but not limited to general project information, procurement, project progress, contact details, feasibility studies, including IEEs, EMPs, RPs, GAP and audited financial statements of each Project province.	Paragraph 17, Schedule 5	<b>Complied with.</b>  <a href="http://hatinh.gov.vn/dautunuocngoai/ODA">http://hatinh.gov.vn/dautunuocngoai/ODA</a>  <a href="http://Quangnam.gov.vn/cmsspages/Baiviet/default.aspx?IDBaiviet=22390">http://Quangnam.gov.vn/cmsspages/Baiviet/default.aspx?IDBaiviet=22390</a>  <a href="https://daklak.gov.vn/-/tieu-du-an-buon-ma-thuot">https://daklak.gov.vn/-/tieu-du-an-buon-ma-thuot</a>
<u>Public Awareness</u> The Borrower shall ensure each Project Executing Agency and each IA to undertake public awareness campaigns through information disclosure, education and consultation on the Project and its benefits, including, but not limited to, information related to the EMP, RP and GAP.	Paragraph 18, Schedule 5	<b>Complied with.</b> Project documents and reports are published on PPC websites, info on EMP and RP were disclosed to local residents.

Covenant	Reference in Loan Agreement	Status of Compliance
<u>Subprojects</u> The Borrower, each Project Executing Agency and each IA shall ensure that no new subproject shall be added or any change or variation to any of the subprojects shall be made to the Project unless all the required due diligence (including safeguards) have been conducted, all relevant governmental and ADB authorizations have been obtained and any necessary changes in the Loan Agreement and Project Agreement have been made	Paragraph 19, Schedule 5	<b>Complied with.</b> EAs obtained prior ADB approval for additional subprojects, variations to existing subprojects. Before ADB approved additional subprojects and variations to existing subprojects, the project team conducted due diligence.

ADB = Asian Development Bank; EA = executing agency; EMP = environmental management plan; GAP = gender action plan; IA= implementing agency; IEE = initial environment examination; PAM = project administration manual; PMU = project management unit; PPC = provincial people's committee; PPTA = project preparatory technical assistance; RP = resettlement plan; SPS = safeguards policy statement; URENCO = urban environmental company.

## SUMMARY OF GENDER EQUALITY RESULTS AND ACHIEVEMENTS

### I. PROJECT DESCRIPTION

1. The Asian Development Bank (ADB) provided financing for the Secondary Cities Development Project that was implemented by the Provincial People's Committee (PPC) of Quang Nam, PPC of Dak Lak and PPC of HT. The project impact was improved urban environment and climate resilient infrastructure in BMT in the central highland region and in the coastal cities of HT and TK. The project had the following outputs: (i) new and improved urban infrastructure and climate change adaptation; (ii) increased community awareness for sustainable environmental management through IEC and (iii) improved competencies in integrated urban development, environmental planning, climate change adaptation, and project management.

2. The project was approved on 11 October 2013 and became effective on 28 February 2014. The project benefited 476,300 people, of whom approximately 50% are women and girls in the three cities Ha Tinh (HT), Nam Ky (NK) and Buon Ma Thuot (BMT). The project gender classification was effective gender mainstreaming (EGM) at entry. A Gender Action Plan (GAP) was developed at the project design, containing 29 activities with 14 quantitative targets. After the midterm review (MTR)<sup>1</sup>, the revised GAP included 29 activities with 13 quantitative targets. There are no non-overlapping gender targets in DMF. The GAP implementation results are presented in Table A7.1.

### II. GENDER ANALYSIS AND PROJECT DESIGN FEATURES

3. **Gender analysis results:** Gender inequality exists in the subproject areas where gender roles are traditionally based. The burden of health care, caring for children, the sick, and elderly falls largely on women and is exacerbated when they deal with evacuation or temporary relocation during heavy storms and floods (e.g., in HT and TK). Additionally, they are hampered by a lack of access to health services, jobs, education, and economic opportunities owing to a lack of good roads. Women face considerable risks and obstacles as a result of flooding, erosion, salinity intrusion, and seasonal shortages of freshwater. Women in the project areas face difficulties in accessing reliable quality water supply during flooding. The current situation exacerbates women's time poverty considerably. They have fewer opportunities than men in accessing information and technical training, and participate less in community decision-making because of their generally lower education levels, time poverty, mechanisms of invitation, lack of necessary technical knowledge for decision making, and unfavorable membership selection in decision-making bodies.

4. **Project gender design features:** The project's GAP included the following key gender features: (i) IEC related to project benefits, community participation, and gender concerns on SWM and DRRM (targeting at least 50% women information recipients via the local Women's Union); (ii) capacity building on gender mainstreaming in integrated urban development planning and implementation of local infrastructure projects (targeting 30% women); (iii) establishing women's representation in local decision-making bodies and structures for each city (targeting 25%–35%); (iv) providing economic empowerment for women by securing them a minimum of 30%–50% of jobs as a result of the project in addition to support on credit access and vocational training; and (v) operationalizing a project performance management system with sex-disaggregated data collection and reporting on performance and benefit outcomes.

### III. GENDER EQUALITY RESULTS

<sup>1</sup>ADB, MTR MOU signed in May 2017, Memo dated 8 February 2018.

## **A. Overall Assessment of Gender-Related Results/Achievements**

5. GAP implementation is rated *successful*, with 15 of the 16 GAP actions (94%) implemented and 11 of 13 GAP targets (84%) being achieved at the project completion. The project benefited a total of 476,300 residents, of whom 50% are female and girls.

6. The key achievements include: (i) urban access roads include safety measures such as pavements, speed bumps, road safety signs, adequate lights to reduce road safety risks and vulnerability for women and girls as road users; (ii) 4,486 residents (of whom 54% or 2,437 are women and girls) received information on road safety to reduced road safety risks. (iii) 4,372 residents (including 2,792 women and girls (64%)) of TK and Ha Tinh received training on DRRM, including flood protection and swimming skills training; (iv) 65% (68 out of 105) of IEC facilitators were female; (vii) 27% (29 out of 107 members) of DRRM committees for HT and TK were women; (v) in BMT, 1,597 (51%) out of 3,103 total female residents, received training on the 3R of solid waste management, households compost making and solid waste classification at source; (vi) 9 local female residents gained new livelihoods and earned regular incomes from the pilot composting experiment and became good role models for household's economic development from compost making; (viii) 759 (or 24%) out of 3,125 female residents in BMT, HT and TK were employed as unskilled workers and (ix) 1,935 women received vocational training between 2014 and 2018 (under IRP and beyond), and 2,781 women accessed credit through Women's Union's credit groups and the Vietnam Bank for Social Policy.

7. The project developed a sex-disaggregated monitoring and evaluation database of all relevant project activities. The GAP monitoring results were regularly updated and attached to project quarterly progress reports.

## **B. Participation, access to project resources and practical benefits**

8. The project promoted effective participation and practical benefits for women. These include:

- (i) Accessible urban roads and flood protection dikes including adequate safety measures such as pavements, speed bumps, road safety signs and adequate lights. These contribute to reduced road safety risks, flooding risks and vulnerability for women and girls as road users/ residents. All the new roads and structures built have improved physical access and therefore better enable local community people, especially women and girls, to participate in local processes. Travel to and from, and access to public places, such as schools, markets, and institutional services, has become easier, safer, and less costly for local residents, especially women and girls.
- (ii) 2,792 women and girls (64%) among 4,372 residents of TK and HT improved their skills on DRRM, including flood protection, storm damage mitigation and swimming skills.
- (iii) In BMT, 1,597 female residents (51%) out of 3,103 total trainees, received training on the 3Rs of solid waste management, households compost making and solid waste segregation.
- (iv) 759 (or 24%) out of 3,125 female residents in BMT, HT and TK were employed as unskilled workers and earned incomes during the project construction stage.
- (v) 51 female staff out of a total of 179 PMU staff (28%) participated in safeguard, gender, M&E, financial and procurement training programs. This enabled them to perform their roles assigned within PMUs more effectively.
- (vi) The 3R pilot program targeting female participants resulted in more women with knowledge and skills on how to make compost and how to apply organic manures to

their high value crops. This helped improve household incomes and women's economic empowerment.

Ms. Pham Thi Bich Thuy participated in the project as a 3R IEC facilitator of solid waste classification and separation and a volunteer in a compost making experiment at home. At home, after the compost making training, Ms Thuy and her husband continue making compost and apply the organic fertilizer to asparagus planting. From the 2,000 asparagus plants in their 1,000 sq. m home garden, they earn around 240,000 D/daily (over \$10 USD per day) for an estimated 8 - 9 months each year. After deducting the inputs cost, they earn approximately 43,000,000 D/year (roughly \$1,900/year) which is much better income from the same area of land when they grew corn, cassava, or sugar cane a few years back. Growing corn before, they could earn about D4,600,000 /year or \$200 yearly after deducting agriculture inputs cost. "Before this program we applied chemical fertilizer to our corn or cassava field. I am glad I could participate in this program. It helped us to improve our living environment, our health and income. We plan to save the increased incomes from this garden to repair our house in two years' time", Ms. Thuy said.

Ms. Thuy is among 15 participants in the 3R program who volunteered to make compost at home for organic fertilizer for improving gardening practice in BMT city. At the end of the pilot, nine out of 15 households succeeded with proven ongoing economic benefits. Thank to this, the city PPC decided to replicate the program to the whole BMT city. The scale up program aims at long term improved solid waste management, a better protected environment, reduced solid waste to land fill and

From left to right below: Ms. Thuy, her asparagus garden, and Ms. Thuy husband (left) with the compost bulk they made, together with ADB project team leader Ms. Nguyen My Binh and former DACKURENCO PMU staff (Ms. Nguyen Thi Thai Thanh) who was responsible for 3R pilot program

increased recycle waste for composting for farming improvement. The scale up program will promote 3R dissemination. Ms. Thuy will continue to be an active advocate among her Women's Union members and in her community.



### C. Strategic changes in gender relations

9. The project contributed to strategic changes in gender relations and women's empowerment, as follows:

- (i) The project promoted women in supervisory roles. 53 out of 122 (43.44%) of local women were appointed members of community construction supervision boards. They have improved their construction supervision skills and self- confidence on public infrastructure supervision through project training and through participation in this project construction supervision;
- (ii) The project promoted women in leadership roles: 68 women out of 105 people (64.76%) were trained and mobilized as IEC facilitators to conduct an IEC program on 3R pilot (in BMT), and in DRRM awareness raising (in HT and TK).
- (iii) The project facilitated positive change in gender division of labor: After the 3R pilot program in BMT, the final KAP survey in BMT city reported that local males, who often

previously considered waste classification as women's tasks, have now participated in households' waste classification.

- (iv) The project promoted women's leadership role models in DRRM activities. 29 out of 107 (27.1%) of DRRM board members in HT and TK receiving training were women. This contributed to increased male leaders' confidence in promoting and appointing women in leading and carrying out other important assignments.



Ms. Nguyen Kim Xuyen is an active member of HT city's DRRM board and attended DRRM training under the project. According to Ms. Xuyen, "the knowledge from the training really helped with planning and monitoring evacuation paths, medicine, food and consumables and water treatment chemicals preparation and informing local residents early in advance of the response plan. These are critical elements for disaster responses prior to, during and post disaster incidents. Thanks to the training and opportunity to be part of the DRRM board, I feel more confident and could contribute meaningfully to support for local women, especially vulnerable women (poor single mums, people with disabilities, etc.) before and post disasters which is part of my mandate".

Ms. Xuyen's performance on the DRRM board has changed people's mindset regarding women's capacity. Ms. Xuyen shared: "I have observed that through this, more male leaders and managers have changed their attitude and mindset regarding women's capacity and became more willing to promote women into management positions and/or other task teams". Ms. Xuyen considers this project a good practice and additionally suggested that all public investment projects should consider including a target on promoting women in leadership roles as a success indicator measurement.

Prior to the project, in HT city, less than 10% (3 out of 33) of the city's DRRM board members were female as most of the members were heads of the related city divisions and the majority of these were men. Now, as a result of the project, 12 (or 28%) out of 42 members are female. Ms. Xuyen is one of the 9 female members added to the board since 31 March 2017. All DRRM board's members attended several training sessions, including sessions on community-based disaster risk management for local authorities' representatives. The training focused on the disaster map of the project areas, the role and responsibilities of local authorities and people in disaster prevention and practical measures to prevent and mitigate the harmful effects of natural disasters in the local community.

#### IV. LESSONS LEARNT AND RECOMMENDATIONS

##### 10. Crucial factors of success in achieving GAP targets

- (i) The project set up a reporting system with sex-disaggregated data collection and reporting which helped the PMUs to monitor the GAP and adjust planning activities to achieve gender targets;
- (ii) The city WUs had opportunities to play an important role in GAP implementation through planning and implementing capacity building and communication campaigns to raise local awareness about environmental sanitation (in BMT), HIV/AIDS and human trafficking prevention, road safety, DRRM and the income restoration program. The WUs in the three cities were very active and had good networks at city and commune levels. This helped facilitate IEC activities.
- (iii) The LIC's gender specialist was active in supporting and coordinating with PMUs' gender focal points in three cities to implement the GAP and to assist PMUs in monitoring and reporting, especially during the first 3-4 years of the project

implementation. Her experience gained from previous ADB project support was an advantage for GAP implementation and reporting.

- (iv) PMUs, especially in HT and TK cities were active and supportive in GAP implementation and reporting and this contributed to positive gender outcomes.
- (v) ADB staff closely monitored GAP progress and provided guidance on GAP implementation and timely adjusted the GAP scope. This is an important factor to leverage GAP successful implementation.

#### 11. Constraints encountered in GAP implementation

- (i) Financial challenge: The government's new regulations restricted the use of PDA for non-physical investments was a challenge to achieve the original GAP target T11 (originally T12): "Target - 30% female staff participation in training for PMU professional staff on urban planning and environment management". Because of this challenge, the GAP was adjusted to a less ambitious target (25%). In addition, the credit fund originally included in the project design was removed during the loan negotiations, leaving the target T11 (\$270,000 credit revolving funds for income generation are established in three cities and targeted at female recipients of vocational training) without resources for implementation. The target was revised credit access facilitation (A11).
- (ii) In BMT the implementation of the 3R pilot program showed some successes as discussed above. The solid waste classification at households in core areas of the city has been scaled-up slowly because DAKURENCO too time to arranging large scale separation and compost making. However, the city continues to expand IEC program on solid waste separation at source.
- (iii) The 3R pilot program with households' compost making faced challenges also<sup>2</sup>. The bio-chemicals introduced by the program to make compost are still considered costly (they cost around \$40/liter, which is adequate for making sufficient compost for two applications to a 1000 sq m garden plot). According to the participants, it is more desirable to have affordable bio-chemicals available on the market after training so they can continue this good practice. Also, for making sufficient compost to apply to a 1,000 sq m garden, one family's organic solid waste accumulation in just a few weeks is not adequate and households will usually need 6 labor days per year to find enough material (grass/other organic materials) for making enough compost to last the whole year.

#### 12. Sustainable elements of the GAP

- (i) Capacity of facilitators of IEC programs (on HIV/AIDs and human trafficking prevention, road safety, and the 3Rs campaigns and DRRMs) will be sustained beyond project closing.
- (ii) Households' solid waste separation with both men and women's participation and composting practices to improve organic farming activities at household levels will continue as a good practice and help scale the 3R program later. More importantly, men's critical engagements in solid waste separation practices, together with secondary

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<sup>2</sup> Interview Ms. Pham Thi Bich Thuy, President of the Hoa Phu Women's Union ward, and participant of 3R pilot program.

schools' boys and girls, is considered a radical change in perception regarding gender roles and is likely to be sustainable.

- (iii) The local government's capacity for women's contribution to DRRM and local authority's recognition of their leadership will be sustained beyond project completion.
- (iv) Local residents, including 2,792 women receiving DRRM training, including swimming skills training will have sustained knowledge and important life skills to survive beyond the project.
- (v) Gender mainstreaming capacity among selected PMUs gender focal points will endure.

### **13. Recommendations**

- (i) ADB staff should provide early and close monitoring and guidance on project GAP implementation. This is an important contribution to successful GAP implementation. It is recommended that the ADB ensures adequate resources are available for this.
- (ii) Adequate GAP budget allocation is an important factor for GAP performance. Because of the government's stricter regulations on using ODA funding for non-physical investments, it is recommended that new project processing teams ensure GAP is supported with adequate counterpart funds.
- (iii) Training courses on compost making should be more practical and adaptable to the local context. Making compost in holes dug outdoors as guided by the program during the rainy season did not yield good quality compost. In the rainy season, producing compost in a covered area produces better quality compost.<sup>3</sup> The PMU should adopt this lesson during future training.

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<sup>3</sup> Interview Ms. Pham Thi Bich Thuy, President of the Hoa Phu ward's Women Union, and participant of 3R pilot program.

Table A7.1 GAP MONITORING TABLE

Activities and Targets	Achievements										
T1. Of residents within the project area consulted on construction design and planning and urban planning policies, at least 50% attendance is women (with flexible time).	<p><b>T1. Partly achieved:</b> Total number of people consulted (on the city planning up until 2030, with the vision to 2050) was 102,306, of whom 50,328 women, accounting for 49.1%. Details are below:</p> <table><tr><th>City</th><th>No. of participants</th><th>Female</th><th>% of female</th></tr><tr><td>Total</td><td>102,567</td><td>50,328</td><td>49.1%</td></tr></table>	City	No. of participants	Female	% of female	Total	102,567	50,328	49.1%		
City	No. of participants	Female	% of female								
Total	102,567	50,328	49.1%								
T2. Technical training on supervision skills (construction, environment supervision) is organized for all members of local construction supervision boards with minimum 35% of women representation. <sup>a</sup>	<p><b>T2. Achieved:</b> Training was conducted on construction monitoring skills for CSB board members. In 3 cities, a total of 122 members were trained, 53 of whom were female (accounting for 43.4% of total participants).</p> <table><tr><th>City</th><th>No. of CSBs</th><th>Female</th><th>Total</th><th>%</th></tr><tr><td>Total</td><td>22</td><td>53</td><td>122</td><td>43.44%</td></tr></table>	City	No. of CSBs	Female	Total	%	Total	22	53	122	43.44%
City	No. of CSBs	Female	Total	%							
Total	22	53	122	43.44%							
A1. Sub-contractors ensure provision of safe working conditions (boots, gloves, lighting, etc.) and separate women’s and men’s latrines at construction sites.	<p><b>A1. Achieved:</b> In 3 cities, contractors arranged separate latrines for their male and female workers and staff to use, while they also provided safe working conditions (boots, gloves, lighting, etc.) for the workers.</p>										
A2. Awareness raising on HIV/AIDs/STI/anti-human trafficking is provided by contractors during workforce mobilization for laborers and community surrounding construction locales.	<p><b>A2. Achieved:</b> Contractors and PMUs conducted communication campaigns on these topics for 576 workers, including 64 women (11%).</p> <table><tr><th>PMU</th><th>Total</th><th>Female</th></tr><tr><td>Total</td><td>576</td><td>64</td></tr></table>	PMU	Total	Female	Total	576	64				
PMU	Total	Female									
Total	576	64									
T3. Target 15% female employment for unskilled labor jobs (prioritize poor and disadvantaged, ethnic minority women and informal waste pickers in current land fill) during construction.	<p><b>T3. Achieved:</b> 759 unskilled female workers (accounting for 24.28%) were hired, out of a total of 3,125 unskilled workers recruited. Details are as follows:</p> <table><tr><th>PMU</th><th>No. of participants</th><th>Female</th><th>%</th></tr><tr><td>Total</td><td>3,125</td><td>759</td><td>24.28</td></tr></table>	PMU	No. of participants	Female	%	Total	3,125	759	24.28		
PMU	No. of participants	Female	%								
Total	3,125	759	24.28								
A3. The design of the urban access roads will have sealed surfaces / pavements for the safety of pedestrians, women, and children.	<p><b>A3. Achieved:</b> The design and construction of urban access roads included sealed surfaces and pavements for safety of pedestrians, women and children.</p>										
A4. Road will have speed bumps and other safety measures to slow traffic for the safety of pedestrians, women, and children.	<p><b>A4. Achieved:</b> Design of roads includes these features. At the sites: TK urban access road (Dien Bien Phu street and extended sections linking to the WB highway) includes speed bumps in almost all sections to slow traffic flows, ensuring safety for travelers and pedestrians (inclusive of women and children).HT road subproject (HT03) already had installed speed bumps.</p>										

Activities and Targets	Achievements
A5. All roads will include road safety signs and adequate lighting for the security and safety of women and children.	<p><b>A5. Achieved:</b> Detailed designs have these features.</p> <p><b>HT: HT03 package:</b> street lighting and road safety signs have been installed. <b>TK:</b> Strategic road construction - Dien Bien Phu Street, safety signs and lightings are installed in all places.</p> <p><b>BMT:</b> BMT 02 and BMT 03 roads are not fully completed, but road safety signs have been installed. In Tran Quy Cap street (BMT 02) lighting is in place.</p>
T4. At least 25% female staff employed by DAKURENCO (among roughly 50 jobs created) for the new SWM facility with priority given to informal waste pickers.	<p><b>T4. Achieved:</b> 4 (or 57.1%) out of 7 new staff recruited for the new SWM are female<sup>1</sup>. In total, 201 out of 305 staff, i.e. 69%, employed for SWM facilities are women.</p>
A6. Ensure SWM facility O&M technical training includes gender-responsive materials integrating women's issues and needs related to environment, health, and security for women waste pickers.	<p><b>A6. Achieved:</b> The technical training program on O&amp;M also included a session on the role of women in SWM, including their role in solid waste separation and recycling<sup>2</sup>.</p>
A7. Provide safety and health equipment (safety gloves, clothes) to men and women workers in new SWM facility.	<p><b>A7. Achieved:</b> In the new SWM in Hoa Phu commune, male and female workers have been provided with safety and health equipment (protective clothes, gloves, boots) to use during working hours<sup>3</sup>.</p>
A8. Family health status improvement is evident among direct beneficiaries living in related sub-project areas (flood protection dike and SWM facility).	<p><b>A8. Achieved:</b> Data on water borne diseases showed improvement of health status among local residents as a result of the flood protection dike and SWM facility subprojects<sup>4</sup>.</p>
A9. Gender-sensitive IEC materials on SWM, DRRM, and road safety developed and disseminated to sub-project beneficiaries.	<p><b>A9. Achieved:</b> Gender sensitive IEC materials for SWM, DRRM and road safety were prepared. SWM O&amp;M manuals include roles of women as informants, problem-solvers, decision-makers, and income earners in the SWM 3R pilot program, and facilitate women's benefit from increased income related to re-cycling and composting. DRRM IEC materials include the role of women in DRRM, including in the DRRM committee.</p> <p><b>T5. Achieved:</b> 64.76% of facilitators are women (68 out of 105 people).</p>

<sup>1</sup> DACKURENCO only recruited an additional 7 new staff (including 4 women) because staff from Cu Eabur SWM facility continue to work in new Hoa Phu SWM facility.

<sup>2</sup> Reviewing SWM facility's O&M training materials submitted to ADB on 16 July 2020.

<sup>3</sup> Interview with Ms. Pham Thi Ngoc Le, female worker in the Hoa Phu SWM facility financed by the project.

<sup>4</sup> Source: Government's PCR: Number of dysentery cases decreased from 8 to 0 (in 2015 and 2019) in HT; number of diarrhea cases in Tam Ky decreased from 103 in 2015 to 45 in 2019, and from 147 cases to 34 cases in HT.

Activities and Targets	Achievements																					
T5. ensure 50% of IEC facilitators are women.	<table><tr><th>City</th><th>Total facilitators</th><th>Female</th><th>%</th></tr><tr><td>Total</td><td>105</td><td>68</td><td>64.8</td></tr></table>	City	Total facilitators	Female	%	Total	105	68	64.8													
City	Total facilitators	Female	%																			
Total	105	68	64.8																			
A10. Ensure dissemination meetings are held at times and locations convenient for women.	<b>A10. Achieved:</b> Meetings were held in the meeting room of People's Committee of wards and communes. This was convenient for women's participation. Meeting times were in the evening or afternoon, convenient for female participants.																					
T6. Target 2,000 BMT residents (with minimum 30% female recipients) trained by DAKURENCO and Viet Nam Women's Union under the pilot IEC program on 3Rs of solid waste management, household composting, and waste segregation.	<b>T6. Achieved:</b> The 3R program was implemented with the participant profile as follows: <table><tr><th>DAKURENCO</th><th>Total</th><th>Female</th><th>%</th></tr><tr><td>Total</td><td>3,103</td><td>1,597</td><td>51.4</td></tr></table>				DAKURENCO	Total	Female	%	Total	3,103	1,597	51.4										
DAKURENCO	Total	Female	%																			
Total	3,103	1,597	51.4																			
T7. Target 4,000 TK and HT residents (with minimum 50% women/girls) to be trained on flood protection and DRRM <sup>b</sup> including swimming lessons.	<b>T7. Achieved:</b> Participants in face-to-face training and sessions on flood protection, DRRM and swimming were: <table><tr><th>City</th><th>Program</th><th>Total</th><th>Female</th><th>%</th></tr><tr><td>Total</td><td></td><td>4,372</td><td>2,792</td><td>64</td></tr></table> <p>In addition, IEC leaflets were distributed to local residents, including women as follows:</p> <table><tr><th>City</th><th>No. leaflets distributed</th><th>No. of leaflets distributed to women</th><th>% of women recipients</th></tr><tr><td>Total</td><td>4,508</td><td>2,555</td><td>56.7</td></tr></table>				City	Program	Total	Female	%	Total		4,372	2,792	64	City	No. leaflets distributed	No. of leaflets distributed to women	% of women recipients	Total	4,508	2,555	56.7
City	Program	Total	Female	%																		
Total		4,372	2,792	64																		
City	No. leaflets distributed	No. of leaflets distributed to women	% of women recipients																			
Total	4,508	2,555	56.7																			
T8. Target 3,000 residents (50% women and girls) residing adjacent to the new roads to receive IEC on road safety. HT: 1,000 people, TK: 1,000 people and BMT: 1,000 people.	<b>T8. Achieved:</b> The project provided 4,486 people with a road safety program, and 54% of participants were female. <table><tr><th>City</th><th>Total</th><th>Female</th><th>% female</th></tr><tr><td>Total</td><td>4,486</td><td>2,437</td><td>54</td></tr></table>				City	Total	Female	% female	Total	4,486	2,437	54										
City	Total	Female	% female																			
Total	4,486	2,437	54																			
T9. Target 25% women out of the total representatives in DRRM committee for HT and TK.	<b>T9. Achieved:</b> 27% (29 out of 107 members) of DRRM committees for HT and TK were women. Details are below: <table><tr><th>City</th><th>Total</th><th>Female</th><th>% of female</th></tr><tr><td>Total</td><td>107</td><td>29</td><td>27.1</td></tr></table>				City	Total	Female	% of female	Total	107	29	27.1										
City	Total	Female	% of female																			
Total	107	29	27.1																			
T10. Vocational training is provided to at least 1,100 women in sub-project areas, with priority given to those from disadvantaged households	<b>T10. Achieved:</b> In the three city project areas, 1,935 women were provided with vocational training - 1,725 women received vocational training from 2014 to 2018, and 210 women received vocational training in the IRP																					

Activities and Targets	Achievements											
(poor FHHs with disable family members, AHs) in project areas in current landfill site. <sup>5</sup> Target: BMT: 400, HT: 350, TK: 350	City	Female participants from 2014 until 2018	Additional female participants in IRP	Total								
	Total	1,725	210	1,935								
T11. A total 270,000USD credit revolving funds for income generation are established in three cities and targeted at female recipients of vocation training. (removed) MTR Revised: <b>A11.</b> Credit access facilitation is provided to those attending vocation training in T10 target	<b>A11. Achieved:</b> Access to credit has been facilitated by the local authorities and especially women unions. Results are below: <table><tr><td>PMU</td><td>Number of females accessed credit from 2014 until 2018</td><td>Number of females accessed credit in IRP</td><td>Total</td></tr><tr><td>Total</td><td>2,556</td><td>225</td><td>2,781</td></tr></table> Note: At loan negotiation, budget for credit was removed from the loan, so vocational training budget was included in the PMU's RP and IRP budget (using counterpart funding).				PMU	Number of females accessed credit from 2014 until 2018	Number of females accessed credit in IRP	Total	Total	2,556	225	2,781
PMU	Number of females accessed credit from 2014 until 2018	Number of females accessed credit in IRP	Total									
Total	2,556	225	2,781									
A12. Urban planning and environment management training program includes gender-responsive materials integrating women's issues and needs.	<b>A12. Not achieved</b> The training was implemented but training materials did not integrate women's issues and needs.											
T11. Target 30% female staff participation in training for PMU professional staff on urban planning and environment management.	<b>T11. Not Achieved:</b> A training study tour on urban planning and environment management to the USA took place in Oct 2018 with 12 PMU staff participants. 3 of them were female (accounting for 25%).											
T12. At least 30% of participants in consultation meetings for climate resilient master planning are women.	<b>T12. Achieved:</b> 41.9% of participants in consultation meetings for climate resilient master planning were women (112 out of 267 participants): <table><tr><td>City</td><td>Total participants</td><td>Female participants</td><td>%</td></tr><tr><td>Total</td><td>267</td><td>112</td><td>41.9</td></tr></table>				City	Total participants	Female participants	%	Total	267	112	41.9
City	Total participants	Female participants	%									
Total	267	112	41.9									
A13. Ensure all PMU staff receives training on GAP and M&E requirements.	<b>A13. Achieved:</b> 94 PMU staff were trained on gender awareness raising, with 21 of them being women (accounting for 22.34%). <table><tr><td>City</td><td>Total</td><td>Female</td><td>% of female</td></tr><tr><td>Total</td><td>94</td><td>21</td><td>22.34</td></tr></table>				City	Total	Female	% of female	Total	94	21	22.34
City	Total	Female	% of female									
Total	94	21	22.34									

<sup>5</sup> T10 and T11 of original GAP is combined in T10, upon MTR, following Memo dated 8 February 2018, on minor change in Project scopes with comments matrix, ADB.

Activities and Targets	Achievements								
A14. Each PMU will develop PMU’s sub-GAP during inception phase to ensure and monitoring and reporting at each provincial level and consolidated into report to ADB.	<b>A14. Achieved:</b> With support of the PMIS’s gender specialists, PMUs of 3 cities prepared city specific GAPs based on project GAP for implementation and reported quarterly.								
T13. Target 25% of female PMU staff join in financial management, procurement, and safeguard monitoring training.	<b>T13. Achieved:</b> A total of 179 PMU staff attended training courses, including 51 women, achieving 28% participation, compared to the 25% target. Details are below: <table><tr><td>City</td><td>Total</td><td>Female</td><td>% of female</td></tr><tr><td>Total</td><td>179</td><td>51</td><td>28</td></tr></table>	City	Total	Female	% of female	Total	179	51	28
City	Total	Female	% of female						
Total	179	51	28						
A15. Operationalize project management information systems and tools including sex-disaggregated monitoring data and reporting systems for GAP activities.	<b>A15. Achieved:</b> Gender specialist supported PMIS consultant to operationalize PMIS and prepared tools to support collection of sex-disaggregated data for GAP and DMF reporting.								
A16. Regular reporting on GAP, inputs in regular mission reports and consideration of gender issues/impact in midterm review and PCR.	<b>A16. Achieved:</b> PMIS gender specialists assisted PMUs to report on GAP implementation to ADB quarterly, semi-annually, and annually.								

3R = reduction, reuse and recycle; ADB = Asian Development Bank; BMT = Buon Ma Thuot; CSB = construction supervision board; DAKURENCO = Dak Lak urban environmental company; DRRM = disaster risks reduction and management; GAP = gender action plan; HT = Ha Tinh; IEC = information, education and communication; IRP = income restoration program; M&E = monitoring and evaluation; MTR = mid-term review; O&M = operation and maintenance; PAM = project administration manual; PCR = project completion report; PMIS = project management and implementation support; PMU = project management unit; SWM = solid waste management; TK = Tam Ky.

## LAND ACQUISITION AND RESETTLEMENT

### A. Introduction

1. The Secondary Cities Development Project (the project) was implemented in three cities, including Tam Ky, the capital city of Quang Nam Province, Ha Tinh, the capital of Ha Tinh Province and Buon Ma Thuot, the capital city of Dak Lak Province. There were 3,216 affected households (AHs) in the whole project area, with 1,306,294 m<sup>2</sup> of land affected. There were 1,798 AHs who were severely affected as they lost more than 10% of their productive landholdings or had to relocate. There were 360 households belonging to vulnerable groups. 39 ethnic minority households were affected with no severely affected households. All these ethnic minority AHs have lived in this community from 3 to 5 generations. They have the same source and level of income as Kinh people and they are fully integrated with the Kinh majority. The project remains category C for Indigenous Peoples comparing with the project appraisal.

2. The project falls under ADB's Safeguard Policy Statement (SPS) category A for involuntary resettlement and category C for indigenous people, due to its nature and scale of resettlement impacts. To address the relocation and compensation of affected people, resettlement safeguards documents were prepared in accordance with the ADB's SPS. Three resettlement plans (RPs) had been prepared and approved in May 2013 for the project during the project preparation. The RPs were also approved by the PPCs and they were consistent with the Government of Viet Nam's policies on land management, acquisition, compensation, and support when the State acquires land for public purposes and ADB's requirements on involuntary resettlement.

3. As discussed and agreed between ADB and the PMUs during project implementation, the RPs were split and updated by sections in line with the detailed technical design and construction stages of each package. From 2015 to 2017, eight (08) updated RPs (uRPs) were prepared and approved for the respective packages as summarized in Table A8.1 below.

**Table A8.1. Social Safeguards Documents Prepared for the Project**

No.	Province/Sub-project	ADB	
		Approved RP	Approved Updated RP
I	<b>Ha Tinh</b>		
1	HT-01: Main drainage routes and Thach Trung Reservoir	Apr-13	16/09/2015
2	HT-02: Improvement of environment in Bong Son reservoir		8/10/2015
	HT-03: Nguyen Trung Thien road (Center + South) + Hai Thuong Lan Ong road + Nguyen Huy Lung road		25/11/2015
II	<b>Tam Ky</b>		
3	TK-01 Package: Construction of Ban Thach River Dike	Jun-13	14/07/2015
4	TK-02 Package: Construction of Strategic Road Development – Dien Bien Phu Road		30/06/2016

No.	Province/Sub-project	ADB	
		Approved RP	Approved Updated RP
5	TK-03: Dien Bien Phu Road, Tam Ky City, Quang Nam Province (Section: Km6+309,8 – Km8+106,22)		11/1/2017
III	<b>Buon Ma Thuot</b>		
6	BMT-01: Solid Waste Management and Landfill Cell Deployment	Dec-15	24/12/2015
7	BMT-02: Development of Strategic Tran Quy Cap Road		10/12/2015
8	BMT-03: Development of Strategic Mai Thi Luu Road		13/06/2017

Source: PMUs (2020)

4. The RPs were prepared in accordance with Viet Nam's laws and ADB's 2009 SPS – Requirements 2 and 3. The tools available to mitigate adverse impacts were: (i) compensation to replace lost physical and non-physical assets, (ii) assistance for relocation, and (iii) assistance for rehabilitation. RPs were prepared and implemented for each package. A detailed measurement survey (DMS) was conducted for the assets of affected households (land, crops and trees and structures). Most of the assets were adequately counted (in some cases of inadequacy, an additional DMS was carried out upon the request of AHs). The uRPs specified the entitlements for the identified impacts, and all were subject to endorsement and acceptance by both the relevant government authorities and ADB.

## B. Land Acquisition and Resettlement Activities

5. A total of 3,216 AHs were affected by the project, with D680,640,000,000 in compensation and assistance paid. Of the affected households, 1,418 were marginally affected, and 1,798 AHs were severely affected as these households lost more than 10% of their productive landholdings or had to relocate. The breakdown by packages is presented in Table A8.2.

**Table A8.2. Severely Affected Households by Packages**

No.	Province/Sub-project	Number of AHs		Number of relocated households		Number of losing more than 10% of total productive land		Number of vulnerable households	
		uRP	Reality	uRP	Reality	uRP	Reality	uRP	Reality
I	Ha Tinh	1,197	1,160	26	18	614	510	55	147
1	HT-01: Main drainage routes and Thach Trung Reservoir	778	801	0	0	378	364	40	119
2	HT-02: Improvement of environment in Bong Son reservoir	52	63	0	0	0	0	0	0

No.	Province/Sub-project	Number of AHs		Number of relocated households		Number of losing more than 10% of total productive land		Number of vulnerable households	
		uRP	Reality	uRP	Reality	uRP	Reality	uRP	Reality
<b>3</b>	HT-03: Nguyen Trung Thien road (Center + South) + Hai Thuong Lan Ong road + Nguyen Huy Lung road	367	296	26	18	236	146	15	28
<b>II</b>	<b>Tam Ky</b>	<b>949</b>	<b>1,438</b>	<b>149</b>	<b>354</b>	<b>378</b>	<b>613</b>	<b>156</b>	<b>144</b>
<b>1</b>	TK-01 Package: Construction of Ban Thach River Dike	265	412	20	20	181	245	49	49
<b>2</b>	TK-02 Package: Construction of Strategic Road Development – Dien Bien Phu Road	619	922	114	320	155	318	106	94
<b>3</b>	TK-03 Package: Construction of Strategic Road Development – Dien Bien Phu Road – Section 3B	65	104	15	14	42	50	1	1
<b>III</b>	<b>Buon Ma Thuot</b>	<b>678</b>	<b>618</b>	<b>10</b>	<b>24</b>	<b>279</b>	<b>279</b>	<b>90</b>	<b>69</b>
<b>1</b>	BMT-01: Solid Waste Management and Landfill Cell Deployment	70	70			56	56	16	16
<b>2</b>	BMT-02 : Development of Strategic Tran Quy Cap Road	245	283	8	8	89	89	39	18
<b>3</b>	BMT-03 : Development of Strategic Mai Thi Luu Road	363	265	2	16	134	134	35	35
	<b>TOTAL</b>	<b>2,824</b>	<b>3,216</b>	<b>185</b>	<b>396</b>	<b>1,271</b>	<b>1,402</b>	<b>301</b>	<b>360</b>

Source: PMUs (2020)

6. **Impacts on Land.** The project affected different types of land. The total land area affected by the project was 1,306,294 m<sup>2</sup>, including 39,040m<sup>2</sup> residential land, 1,239,508m<sup>2</sup> agricultural land, and 27,746m<sup>2</sup> public land. Table A8.3 shows the types of affected lands by package.

**Table A8.3 Land Affected by The Project (m<sup>2</sup>)**

No	Province/ Sub-project	Permanent impacts on land (m2)			
		Total	Residential land	Productive land	Public land
<b>I</b>	<b>Ha Tinh</b>	<b>374,722</b>	<b>11,495</b>	<b>335,481</b>	<b>27,746</b>
1	HT-01: Main drainage routes and Thach Trung Reservoir	271,711	1,285	251,669	18,757
2	HT-02: Improvement of environment in Bong Son reservoir	4,572	122	4,449.70	0
3	HT-03: Nguyen Trung Thien road (Center + South) + Hai Thuong Lan Ong road + Nguyen Huy Lung road	98,439	10,088	79,362	8,989
<b>II</b>	<b>Tam Ky</b>	<b>380,705</b>	<b>26,057</b>	<b>354,648</b>	<b>0</b>
3	TK-01 Package: Construction of Ban Thach River Dike	178,821	2,579	176,242	0
4	TK-02 Package: Construction of Strategic Road Development – Dien Bien Phu Road	167,980	20,234	147,746	0
5	TK-03 Package: Construction of Strategic Road Development – Dien Bien Phu Road – Section 3B	33,904	3,244	30,660	0
<b>II</b>	<b>Buon Ma Thuot</b>	<b>550,867</b>	<b>1,488</b>	<b>549,380</b>	<b>0</b>
7	BMT-01: Solid Waste Management and Landfill Cell Deployment	495,827	0	495,827.40	0
8	BMT-02: Development of Strategic Tran Quy Cap Road	36,492	996.2	35,496.20	0
9	BMT-03: Development of Strategic Mai Thi Luu Road	18,548	491.4	18,056.10	0
	<b>Total</b>	<b>1,306,294</b>	<b>39,040</b>	<b>1,239,508</b>	<b>27,746</b>

Source: PMUs (2020)

7. According to ADB's SPS (2009) and the Government of Viet Nam's policies on compensation, assistance and resettlement, the implementation of the RPs ensured that all APs were compensated for their losses at replacement cost and proposed life rehabilitation methods to help them to improve or at least maintain living standards and income generation capability at

their pre-project level. The compensation, assistance and resettlement commenced in 2015 and was mostly completed by the end of 2018. Based on the uRPs and the data provided by PMUs, the total amount of compensation and assistance for affected households was roughly D712.7 billion (equivalent to \$30.8 million). Table A8.4 provides total compensation made for each package.

**Table A8.4 Total Compensation Cost**

No.	Province/ Sub-project	Number of Affected Households (AHs)	Total Affected Land Area (m <sup>2</sup> )	Total compensation, assistance, and resettlement cost (D billion)
<b>I</b>	<b>Ha Tinh</b>	<b>1,160</b>	<b>374,722</b>	<b>149.00</b>
1	HT-01: Main drainage routes and Thach Trung Reservoir	801	271,711	73.51
2	HT-02: Improvement of environment in Bong Son reservoir	63	4,572	14.97
3	HT-03: Nguyen Trung Thien road (Center + South) + Hai Thuong Lan Ong road + Nguyen Huy Lung road	296	98,439	60.52
<b>II</b>	<b>Tam Ky</b>	<b>1,438</b>	<b>380,705</b>	<b>352.32</b>
3	TK-01 Package: Construction of Ban Thach River Dike	412	178,821	81.70
4	TK-02 Package: Construction of Strategic Road Development – Dien Bien Phu Road	922	167,980	251.00
5	TK-03 Package: Construction of Strategic Road Development – Dien Bien Phu Road – Section 3B	104	33,904	19.62
<b>II</b>	<b>Buon Ma Thuot</b>	<b>618</b>	<b>550,867</b>	<b>211.39</b>
7	BMT-01: Solid Waste Management and Landfill Cell Deployment	70	495,827	63.27
8	BMT-02 : Development of Strategic Tran Quy Cap Road	283	36,492	86.63
9	BMT-03 : Development of Strategic Mai Thi Luu Road	265	18,548	61.48
	<b>Total</b>	<b>3,216</b>	<b>1,306,294</b>	<b>712.71</b>

Source: PMUs (2020)

8. The implementation of resettlement activities required the involvement of agencies at the national, provincial, district, and commune levels. The provisions and policies of the resettlement

plans formed the legal basis for the implementation of resettlement activities. Compensation was managed by Land Fund Development Centers (LFDCs), which followed the resettlement plans that had been prepared by the PMUs, reviewed by PPCs, and endorsed by ADB. All AHs directly received compensation during the payment meetings which had participation from PMUs, LFDCs, and people's committees and ward authorities. Documents related to the project were disseminated and distributed to the AHs. All entitlements of APs, including compensation and allowances, were delivered prior to displacement from houses, land, and assets.

9. **Information Dissemination and Public Consultation.** Project information and compensation policies were disseminated to the affected households upon commencement of resettlement activities. The steps for information disclosure, public consultation and DMS were fully and closely implemented with the participation of the affected people and the community, vulnerable households, women, and political and social organizations. The external monitoring consultants confirmed the affected households' participation in the community meetings and consultations organized by the LFDCs at the affected communes and wards. The following key topics were covered in these meetings: (i) project's objectives and schedule; (ii) rights and entitlements of the AHs to compensation and resettlement; (iii) necessary assistances for severely AHs, relocating households, and vulnerable households; (iv) income and livelihood restoration measures targeting the APs people; and (v) the grievance redress mechanism.

10. **Detailed Measurement Survey Process.** The DMS activities were led by LFDCs and their established inventory units, comprising staff of LFDCs, officials of the project communes/wards, and representatives of AHs. The external monitoring consultants reported on the participation of the AHs in the DMS process, the accuracy of the inventory of affected assets, and on the payment of compensation, both unit prices and total amounts paid. This process identified a relatively small proportion of discrepancies that had been caused by either error in the initial inventory process or by minor design changes. These discrepancies were corrected, and additional compensation paid where necessary.

11. **Compensation for Assets.** Compensation prices were managed by LFDCs, which followed the prescriptions of the RPs that had been prepared by the PMUs and endorsed by ADB. The independent monitoring consultants reviewed unit prices in the local market and concluded that they were consistent with replacement costs. Further, surveys show that nearly 100% of responding AHs in all packages were satisfied with their compensation rates. Through the consultations in the post evaluation mission, the independent monitoring consultants did not receive any complaints regarding compensation prices.

12. **Resettlement Assistances and Other Support Payments.** 396 affected houses needed to be relocated in the 3 cities. Most of them were allocated with land plots in the resettlement sites allocated for the project, which ensured the construction progress of the packages (except 2 AHs in Ha Tinh built new houses on their remaining land and 11 AHs in Tam Ky received money and resettled by themselves). For the AHs who were allocated with land plots in the resettlement sites, they were offered residential land plots equal to the compensation unit rate of their affected land. Relocated households also received transportation allowances, temporary relocation (rental) assistance, and transition subsistence allowance for periods ranging from 6 to 18 months. The evaluation by external consultants concluded that the relocated households have stable lives. Their new houses are better than their previous houses.

13. Under the project, the AHs losing more than 10% of their agricultural land or relocated are considered severely affected households. In 2015 - 2016, the PMIS consultant only paid attention to support PMUs and LFDCs during the compensation payment process. Therefore, there was a

delay in IRP implementation. The IRPs were only formally put into implementation at the end of 2017 – early 2018. By the time of project completion, all severely affected households and vulnerable households received the corresponding support in accordance with the project policies. PMUs worked with local agencies to integrate the project livelihood recovery program for severely affected households/ vulnerable households into local existing programs (including vocational training and agricultural extension training). PMUs also coordinated with social policy banks to allow AHs to borrow money to develop their economic activities. According to the evaluation results of the external resettlement monitoring consultant, the lives of the affected households are stable and are consistent with the development trend of their local community. No households are worse off than their conditions before the project implementation.

14. **Assessment on impacts to ethnic minority households.** As mentioned above, there were 39 affected ethnic minority households with no severely affected households during the project implementation. Compensation was provided in accordance with the updated resettlement plans. All these ethnic minority AHs have lived in this community from 3 to 5 generations. They have the same source and level of income as Kinh people and they are fully integrated with the Kinh majority. All these ethnic minority AHs can speak Vietnamese language as Kinh people (many of them now cannot speak their own language). Consultations commenced with these ethnic minority AHs during the preparation and implementation of uRPs with consultations held before, during and after the implementation of the detailed measurement survey (DMS) to enable communities and affected persons to be fully informed about the project policies, to provide opportunities for them to participate in the decision making on matters that affect them. All these affected ethnic minority households participated in the income restoration program. During the final socio-economic survey (2020), the external monitoring consultants confirmed that the average income of the households in all construction items has increased compared to 2013. Specifically, the average income of the affected households is 7.87 million dong/household (an increase of nearly 1.6 times compared to 2013).

15. **Grievance Redress.** A four-step grievance mechanism was set up in the sub-projects' uRPs and disclosed to the APs during compensation implementation. Based on this mechanism, complainants could be lodged at various levels. In general, the independent consultants confirmed that during land acquisition implementation, all local LFDCs had good cooperation with the PMUs, local authorities, and AHs. Complaints were reviewed and solved on a case-by-case basis. There were some complaints related to land ownership verification, errors in the DMS process, missing entitlements, or impacts that emerged during the construction period, but these were solved at commune or district level in the timely manner. As reported by PMUs, there were 6 cases where complaints were made to the court at the provincial level (including 2 cases in Tam Ky city and the remaining cases in Buon Ma Thuot city). These related to identification of the compensation price, identification of the land plot and allowances for affected structures. However, Quang Nam PMU and the external monitoring consultant reported that the two cases in Tam Ky had been resolved completely and the 2 AHs agreed to receive their compensation and payment. Regarding the complaints in Buon Ma Thuot city, four AHs have received their compensation and payment and handed over their land for construction, but they are still complaining about the land price of the new resettlement slots. Currently Dak Lak Provincial People's Committee has instructed the City People's Committee of Buon Ma Thuot city in Notice No.58 dated July 27, 2020 on the formulation of specific plans and supports to resolve the above cases. ADB requested Buon Ma Thuot PMU to continuously follow up and ensure the AHs are compensated in line with the project policies and report to ADB on progress and final results of these cases. As of October 2020, there are no pending complaint cases.

16. **Monitoring and reporting.** Internal monitoring was carried out by PMUs, and the findings of monitoring activities were included in the quarterly progress reports submitted to ADB. Three individual independent consultants were recruited for the 3 project cities. The independent consultants carried out four semi-annual monitoring missions with corresponding reports and the post evaluation missions to assess the whole resettlement and land acquisition implementation of the project. ADB monitored RPs implementation through review of internal and external monitoring reports and during regular loan review missions. Action plans to address issues during Missions were prepared and incorporated in the Memoranda of Understanding (MOUs), and were implemented by the EAs and IAs, with guidance from ADB.

### C. Conclusion and Lesson learned

17. The project was closed with no significant pending resettlement issues. Below are some lessons that can be used for the design and implementation of LAR in future projects:

- There was a significant difference in the number of APs identified at appraisal (2,147) and at the end of project implementation (3,216), resulting in actual LAR costs of \$30.8 million equivalent, i.e. 37% higher than estimation of \$22.2million at appraisal. The additional LAR costs required Government approval which caused delays in completing civil works. To avoid similar issues for future projects, more accurate cost estimates will be needed by carrying out accurate inventory of AH losses during the project preparation.
- There were delays in IRP implementation due to the lack of consultant resources as well as lack of a consultant experienced in IRP implementation. It is recommended that for all future projects, the IRP must be in place before the AHs are displaced from their assets with support from qualified consultants regarding IRP implementation. A separate consultant for resettlement implementation and income restoration program implementation should be considered for projects which have significant numbers of severely AHs, to have enough resource to support PMUs during the project implementation.
- Local communities, particularly AHs, were closely involved in project design and implementation. This led to strong support for the project, as households felt that their voices and concerns were recognized and taken into consideration.
- Stakeholder coordination, one of the factors contributing to the smooth implementation of land acquisition in the project cities, especially in Ha Tinh and Tam Ky, requires close involvement of the local authorities. In Ha Tinh and Tam Ky cities, leaders of the Provincial People's Committees were directly involved in developing solutions to the project-related issues. Meetings with implementing agencies' relevant departments were organized regularly (e.g. monthly) during the period of land acquisition to understand the issues and seek suitable solutions and respond to urgent issues in a timely manner.
- The provision of an adequate and timely budget allocation is an important factor contributing to the smooth implementation of land acquisition. During the project implementation, while Quang Nam PPC provided the budget for land acquisition in a timely manner, the progress of two road packages in Buon Ma Thuot city and packages in Ha Tinh city were delayed for some time (in 2017) due to the lack of counter-part funds for LAR. Thus, early on during project implementation, it is important for PMUs to work with relevant agencies at the PPC level, to avoid lack of budget for LAR.

## ECONOMIC AND FINANCIAL ANALYSIS

### A. Introduction

1. The project consisted of eight subprojects – three in each in Ha Tinh and Buon Ma Thuot cities and 2 in Tam Ky city. For the PCR, economic re-analysis of these subprojects has been undertaken using a similar approach to that adopted at appraisal but incorporating actual project costs, the actual time profile for costs and benefits and using updated information and data to estimate expected project benefits.

### B. Economic Analysis

2. The assumptions underlying the economic evaluation included the following:
- i. All costs and prices are expressed in constant 2013 values.<sup>1</sup> The Viet Nam and world inflation rates and the dong/US dollar exchange rates used to convert historic price data to 2013 values are taken from ADB and World Bank sources and are summarized in Table A9.1.<sup>2</sup>
  - ii. Economic values are estimated based on the domestic price numeraire;
  - iii. A shadow exchange rate factor (SERF) of 1.075 was applied to the trade content of costs<sup>3</sup>. This is equivalent to the standard conversion factor (SCF) of 0.93 used at appraisal. Shadow wage rates for skilled and unskilled labor were used in the economic analysis of subprojects at appraisal. However, because there was little reported unemployment of skilled and unskilled labor in the project area during subproject implementation, they were not applied in the PCR updated economic analysis. Taxes and duties, estimated at 10% of capital and O&M costs, were deducted from project costs.
  - iv. The economic cost of capital was 12%, the same as at appraisal;
  - v. A project analysis period of 26 years from 2014 to 2039 (inclusive) was used. Capital expenditure commenced in 2014, 2015 or 2016 for each of the subprojects and was completed in early 2020. The 2014 to 2039 analysis period implies operating lives of 20 years for each of the subprojects. As at appraisal, at the end of the analysis period a residual value equal to 40% of the capital cost of the project was assumed. The economic analysis results are not particularly sensitive to this assumption because of the effects of discounting;
  - vi. O&M costs per annum were assumed to be 1.2% of total capital costs. Additional periodic maintenance costs of 3% of total capital costs were assumed every four years after project completion and 4% of total capital costs every 12 years after project completion. These percentages were provided by the subproject implementing agencies;

<sup>1</sup> Usually the analysis would be undertaken in constant prices at the time of preparation of the PCR – i.e. 2020. However it was more straightforward to use 2013 prices given the need to use data on project benefits from the appraisal analysis. This has no impact on the calculation of the economic internal rates of return for each of the subprojects.

<sup>2</sup> Domestic inflation and exchange rate series from: ADB. 2020. *Asian Development Bank Outlook*, Manila and ADB.2018. *Key Indicators for Asia and the Pacific*. Manila (and 2016 and 2013 editions). International inflation series from: World Bank. 2020. *Commodity Prices*. New York. (MUV Index- unit value of manufactured exports for fifteen countries) [www.worldbank.org/en/research/commodity-markets](http://www.worldbank.org/en/research/commodity-markets)

<sup>3</sup> The foreign exchange content of capital costs was assumed to be 30%, as estimated at appraisal.

### C. Subproject Economic Costs

3. The actual annual project capital costs over the project implementation period from 2014 to 2020 were collected from the respective implementation agencies. In addition to civil works costs, these capital costs included an allowance for “support costs” – i.e. consulting services, government staff costs, resettlement costs, environmental management costs and other related subproject costs. The total capital economic costs in 2013 constant prices for each of the subprojects was as follows:

- a. Buon Ma Thuot Hoa Phu Landfill (BMT-01): \$12.809 million
- b. Buon Ma Thuot Tran Quy Cap Urban Road (BMT-02): \$14.735 million
- c. Buon Ma Thuot Mai Thi Luu Urban Road (BMT-03): \$4.858 million
- d. Ha Tinh Flood Management and Drainage (HT-01): \$6.847 million
- e. Ha Tinh Bong Son Lake Environmental Improvement (HT-02): \$3.629 million
- f. Ha Tinh Urban Roads (Nguyen Trung Thien, Hai Thuong Lan Ong and Nguyen Huy Lung) (HT-03): \$8.630 million
- g. Tam Ky Flood Management and Drainage (TK-01): \$6.518 million
- h. Tam Ky Urban Roads (Dien Bien Phu initial subproject and subsequent extension) (TK-02/03): \$20.965 million

4. The inclusion of project support costs which was not done in the appraisal analysis lifted actual project costs relative to those used at appraisal, but this was offset for some of the subprojects by actual capital costs being less than estimated at appraisal.

### D. Subproject Economic Benefits

5. Flood Management and Drainage Subprojects. As at appraisal, the economic benefits for the Ha Tinh and Tam Ky flood management and drainage subprojects were quantified on the basis of the value of property protected<sup>4</sup>, an estimate for flood repair costs of 1% of property values, a flooding frequency of once every two years and a factor of 0.65 applied to take account of other schemes in each city that also play a part in protecting the properties. Property values were assumed to increase at 5% per annum in real terms (i.e. over and above general price inflation) each year after the subproject is completed.

6. Urban Roads Subprojects. As at appraisal, the economic benefits for the urban roads subprojects were based on the estimated savings in vehicle operating and travel time costs as result of increased vehicle speeds and/or shorter journeys. No new traffic flow statistics were available so those estimated at appraisal were used, except that a factor of 0.933 was applied to the estimated benefits for the Buon Ma Thuot Tran Quy Cap Urban Road subproject to account for only 3.942 kilometers of road being improved as compared to the 4.225 kilometers assumed at appraisal.

7. Buon Ma Thuot Hoa Phu Landfill. As at appraisal the economic benefits of this subproject were calculated on the basis of the additional expenditure from tourists (adjusted by a factor of 0.3, as used at appraisal, to account for not all of expenditure being a net benefit to the local economy), expected to stay an additional 0.25 days in Buon Ma Thuot as a result of a cleaner environment in the city. This was combined with estimates for the improved health benefits for local residents using World Health Organization data suggesting these equate to 2% of GDP per

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<sup>4</sup> Covering 444 hectares in Ha Tinh City and 185 hectares in Tam Ky City.

capita. The economic benefits of this subproject were not expected to be generated until 2 years after subproject completion.

8. Bon Son Lake Environmental Improvement. For this subproject, the economic benefits were calculated on the basis of the estimated increase in property rentals as a result of an expected 8% increase in property values surrounding the lake and annual rentals estimated at 15% of property values. The area improved was 1.15 ha and at appraisal an \$11.5 million improvement in land values was estimated as a result of the subproject, giving an annualized benefit of \$0.8 million per annum. This benefit was assumed to increase at 5% per annum in real terms.

## E. Economic Analysis Results and Sensitivity Testing

9. The capital and O&M costs and the estimated economic benefits for each of the subprojects have been combined to calculate the estimated economic internal rate of returns (EIRRs) and net present values (NPVs). Project cashflow and EIRR of each subprojects are presented in Table A9.3 - A9.10. The base case EIRRs and NPVs at a 12% discount rate for each subproject at project completion are shown below together with the EIRRs at appraisal:

Subproject	EIRR at Completion	EIRR at Appraisal	
Buon Ma Thuot Hoa Phu Landfill (BMT-01)	12.7% (NPV \$0.9 million)	18.1%	Much higher capital costs than estimated at appraisal
Buon Ma Thuot Tran Quy Cap Urban Road (BMT-02)	17.1% (NPV \$6.0 million)	18.4%	Higher capital costs in part offset by project delay leading to higher first year benefits from growth in traffic volumes and travel time values
Buon Ma Thuot Mai Thi Luu Urban Road (BMT-03)	15.7% (NPV \$1.2 million)	15.8%	Higher capital costs offset by project delay leading to higher first year benefits from growth in traffic volumes and travel time values
Ha Tinh Flood Management and Drainage (HT-01)	20.6% (NPV \$4.4 million)	13.5%	Lower than expected capital costs.
Ha Tinh Bong Son Lake Environmental Improvement (HT-02)	22.1% (NPV \$2.3 million)	19.0%	Lower than expected capital costs
Ha Tinh Urban Roads <sup>5</sup> (HT-03)	16.3% (NPV \$2.4 million)	13.5% and 14.1%	Project delay leading to higher first year benefits from growth in traffic volumes and travel time values. Also, at appraisal this subproject was evaluated as two separate subprojects.
Tam Ky Flood Management and Drainage (TK-01)	14.6% (NPV \$1.0 million)	15.2%	Slightly higher capital costs.
Tam Ky Urban Roads <sup>6</sup> (TK-02)	21.3% (NPV \$16.2 million)	18.3%	Higher overall capital costs but increase economic benefits from inclusion of project extension.

<sup>5</sup> Nguyen Trung Thien, Hai Thuong Lan Ong and Nguyen Huy Lung urban roads.

<sup>6</sup> Dien Bien Phu initial subproject and subsequent extension.

10. All of the EIRRs exceed the 12% cost of capital threshold and are generally comparable to appraisal EIRR estimates. Higher capital costs due to the inclusion of project support costs and the longer project implementation periods have been offset to varying extents by cost savings and/or the growth over time of delayed benefits.

11. Table A9.2 sets out the results of sensitivity testing for (i) a 10% increase in assumed O&M and periodic reinvestment cost requirements; and (ii) a 10% reduction in assumed project benefits. The EIRRs for each of the subprojects are relatively insensitive to changes in assumed future O&M requirements, but more sensitive to reductions in assumed future benefits. However, the EIRRs remain above 12% across the range of assumptions tested. The Buon Ma Thuot Hoa Phu Landfill subproject's EIRR would fall just below with a combination of a 10% increase in O&M costs and a 10% reduction in benefits. All other subproject EIRRs would remain above 12% for this combination of assumptions.

## **F. Non-quantified Economic Benefits**

12. The subprojects achieved a range of economic and social benefits that have not been included in the quantified economic benefits. These include road safety improvements, up-skilling of PMU staff and recreational benefits for local residents. To the extent these benefits have been achieved as a consequent of the subprojects, the EIRRs calculated for each of the subprojects are conservative.

## **G. Conclusion on Project Efficiency**

13. The project's use of resources is rated as efficient based on a combination of the measured internal rates of return (EIRR) and having regards to non-quantified benefits.

## **H. Financial Sustainability Analysis**

14. Given that only the Buon Ma Thuot Hoa Phu Landfill subproject will generate revenue and the agencies responsible for operating and maintaining all subprojects have no capital invested in those subprojects<sup>7</sup>, the financial analysis at project completion (as at appraisal) did not attempt to estimate financial internal rates of return for individual subprojects. Instead, for the Buon Ma Thuot Hoa Phu Landfill subproject an analysis of estimated annual revenue and average annual O&M and periodic reinvestment costs has been undertaken, whilst for the other subprojects the financial capacity of the agencies to cover the incremental O&M and periodic reinvestment expenditure was assessed.

15. Buon Ma Thuot Hoa Phu Landfill (BMT-01). Dakurenco (the operating company for this subproject) provided information on the current number of households in city wards (25,969), households in communes (9,417) and monthly tariff rates for household waste collection (D25,000 in city wards and D20,000 in communes)<sup>8</sup>. Using the current collection rate of 68.84% implies annual revenue of D6,919 million.

16. Average annual O&M and periodic reinvestment costs for the subproject using the data used in the economic analysis, but converted to financial prices in 2020 price terms have been

<sup>7</sup> The ADB loan proceeds and government financing are passed down as grants to the agencies operating the subprojects.

<sup>8</sup> Poor and near poor households with local certification are exempted from all waste charges.

estimated at D6,559 million, suggesting an excess of revenue over costs of D359 million (\$15,337). Therefore, the subproject appears to be sustainable in the future assuming monthly tariffs rise in line with inflation. If the current collection rate can be improved from its current level of 68.84%<sup>9</sup>, it will be possible to increase tariffs at less than the inflation rate.

17. **Other Subprojects.** All other subprojects are non-revenue-generating and aimed at improvements in (i) drainage and flood protection, (ii) urban roads, and (iii) the environment improvements in the environs of Bong Son Lake. For these, the sufficiency of operating budgets for the subproject operating agencies has been assessed. If the approved budgetary allocation needs to be increased to provide necessary maintenance and efficient operation, the operating agencies must request PPC approval for additional budget. At completion budgets had not been allocated to roads, drainage and environmental projects for O&M, but for each of the three provinces (Quang Nam (with capital city Tam Ky City), Ha Tinh and Dak Lak (Buon Ma Thuot City)) historical data for the period 2014 to 2019 was provided under main categories of service. Provisional projections to 2023 were also provided.

18. For Quang Nam Province (Tam Ky) the combined annual growth rate for roads and drainage O&M funding averaged 11% per annum for the period 2014 to 2018 and expenditure on both services is projected to continue to grow at approximately the same rate. Since the Tam Ky flood management and drainage subproject will have the effect of reducing expenditure required for drainage and dredging, some funds may be reallocated for maintenance and repair of roads. Further, the expenditure on urban roads is expected to be more effective as both roads and drains will be protected by the dyke. Therefore, the planned annual growth of O&M expenditure of 12% per annum for these categories is expected to be sufficient and therefore the Tam Ky subprojects will be sustainable. Actual expenditure in 2019 shows that sufficient resources for O&M were made available.

Quang Nam (Tam Ky) Services (VND billion)	2014	2015	2016	2017	2018	2023 Plan	Per Annum Growth 2014- 2018	Planned Per Annum Growth 2018- 2023	2019 actual expenditure (VND billion)
Repair and maintenance of roads	2.3	4.4	2.4	1.7	2.9	5.1	6%	12%	4.5
Drainage and dredging	1.6	3.6	3.2	3.3	2.9	5.2	16%	12%	4.2
Operating and maintaining street lighting	1.3	2.3	2.0	2.0	2.0	3.5	12%	12%	2.2
Planting and tending trees	6.5	7.0	7.1	7.4	7.4	13.2	3%	12%	9.4
Solid waste collection & wastewater treatment	9.3	10.5	12.9	14.1	19.4	34.4	20%	12%	23.7
<b>Total</b>	<b>21.0</b>	<b>27.8</b>	<b>27.6</b>	<b>28.5</b>	<b>34.6</b>	<b>61.5</b>	<b>13%</b>	<b>12%</b>	<b>44.0</b>

Source: PPC

19. For Ha Tinh Province the combined annual growth rate for roads and drainage O&M averaged 32% per annum for the period 2014 to 2018 and expenditure on both services is planned to grow at 19% per annum. Since the investment in the main drainage system is substantial, the plan includes increased expenditure for drainage and dredging, whilst the improvements to the drainage system is assumed to allow a reduction in the rate of growth for roading O&M. The combined expenditure on urban roads and drains is expected to continue to grow at about 25%

<sup>9</sup> The City People's Council's collection rate targets are 80% in 2025 and 100% in 2030.

per annum and be sufficient to meet future O&M requirements and therefore the Ha Trinh subprojects are expected to be sustainable and the combined actual expenditure in 2019 is consistent with planned growth in O&M expenditure for these activities.

Ha Tinh Services (VND billion)	2014	2015	2016	2017	2018	2023 Plan	Per Annum Growth 2014-2018	Planned Per Annum Growth 2018-2023	2019 actual expenditure (VND billion)
Repair and maintenance of roads	0.9	0.9	1.8	2.7	3.2	8.0	38%	20%	3.4
Drainage and dredging	1.8	2.0	5.6	2.9	2.9	13.3	12%	36%	5.6
Operating and maintaining street lighting	8.1	8.4	9.0	15.7	16.6	21.6	20%	5%	17.8
Planting and tending trees	3.7	4.0	6.0	9.8	13.4	31.8	38%	19%	16.9
Solid waste collection & wastewater treatment	10.8	45.0	48.0	43.4	41.6	79.6	40%	14%	68.2
<b>Total</b>	<b>25.3</b>	<b>60.3</b>	<b>70.4</b>	<b>74.5</b>	<b>77.7</b>	<b>154.3</b>	<b>32%</b>	<b>15%</b>	<b>111.9</b>

Source: PPC

20. For Dak Lak Province (Buon Ma Thuot City) urban roads subprojects the annual growth rate for O&M expenditure on roads averaged -9% per annum for the period 2014 to 2018. However, the real decline was greater due to the effects of inflation. Expenditure on O&M for roads is projected to continue to grow at 3% per annum, which may be just sufficient to keep up with inflation but insufficient to make up for the low investment in O&M during the period 2014 to 2018. Data for 2019 show an increase of 21.5% over 2018 road O&M expenditure.

Dak Lak Services (VND billion)	2014	2015	2016	2017	2018	2023 Plan	Per Annum Growth 2014-2018	Planned Per Annum Growth 2018-2023	2019 actual expenditure (VND billion)
Repair and maintenance of roads	16.8	14.5	12.7	5.8	11.3	13.0	-9%	3%	15.8
Drainage and dredging	1.8	2.2	2.0	1.6	1.5	1.6	-5%	1%	1.9
Operating and maintaining street lighting	11.9	13.6	11.2	12.2	9.7	11.2	-5%	3%	11.3
Planting and tending trees	27.5	35.4	31.8	32.2	28.6	33.0	1%	3%	31.9
Solid waste collection & wastewater treatment	32.4	33.9	28.4	27.3	26.7	30.9	-5%	3%	28.7
<b>Total</b>	<b>90.4</b>	<b>99.7</b>	<b>86.1</b>	<b>79.2</b>	<b>77.9</b>	<b>89.8</b>	<b>-4%</b>	<b>3%</b>	<b>89.6</b>

Source: PPC except projection for roads by project implementation consultants

21. Summary of Financial Analysis. The review of historical budget allocations and plans for the future suggests that the Ha Tinh and Tam Ky government agencies responsible for the subprojects O&M will have the required fiscal capacity to finance incremental O&M expenditures needed for the sustainability of their respective subprojects. Also, Dakurengo seems likely to be able to generate sufficient funds from waste disposal charges to meet the O&M requirements of the Buon Ma Thuot Hoa Phu Landfill subproject. However, funding for the O&M requirements of the Buon Ma Thuot urban roads subprojects is not assured.

**Table A9.1: Exchange Rates and Rates of Inflation**

Item	2013	2014	2015	2016	2017	2018	2019	2020
Exchange Rate	20,935	21,149	21,676	21,931	22,370	22,665	23,051	23,438
Viet Nam Inflation	100	104.1	104.7	107.6	111.3	115.2	118.4	122.3
International Inflation	100	101.6	92.9	88.3	91.4	95.6	93.4	93.0

Sources: Domestic inflation and exchange rate series from: ADB. 2020. *Asian Development Bank Outlook, What Drives Innovation in Asia?* Manila; and ADB. 2018. *Key Indicators for Asia and the Pacific*. Manila. (2020 exchange rate ADB official rate as of 14 April 2020)

International inflation series from: World Bank. 2018. *Commodity Prices*. New York. (MUV Index- unit value of manufactured exports for fifteen countries)  
[www.worldbank.org/en/research/commodity-markets](http://www.worldbank.org/en/research/commodity-markets).

**Table A9.2: Economic Analysis Sensitivity Testing**

Item	Base Case	O&M +10%	Benefits – 10%
Buon Ma Thuot Hoa Phu Landfill (BMT-01):	12.7%	12.6%	12.0%
Buon Ma Thuot Tran Quy Cap Urban Road (BMT-02):	17.1%	17.0%	16.0%
Buon Ma Thuot Mai Thi Luu Urban Road (BMT-03):	15.7%	15.6%	14.5%
Ha Tinh Flood Management and Drainage (HT-01):	20.6%	20.6%	19.1%
Ha Tinh Bong Son Lake Environmental Improvement (HT-02):	22.1%	22.0%	20.4%
Ha Tinh Urban Roads (HT-03):	16.3%	16.2%	15.1%
Tam Ky Flood Management and Drainage (TK-01):	14.6%	14.5%	13.4%
Tam Ky Urban Roads (TK-02/03):	21.3%	21.3%	20.1%

**Table A9.3: Economic Cashflow and Internal Rate of Return for Buon Ma Thuot Landfill**

Year	Capital Costs (\$'000)	Incremental O&M (\$'000)	Benefits (\$'000)	Net Benefits (\$'000)
2013				0
2014	571			-571
2015	2,005			-2,005
2016	1,783			-1,783
2017	2,072			-2,072
2018	5,073			-5,073
2019	1,157			-1,157
2020	149	154	-	-303
2021		154	-	-154
2022		154	145	-9
2023		538	258	-280
2024		154	373	219
2025		154	508	354
2026		154	666	512
2027		154	1,226	1,072
2028		538	1,872	1,334
2029		154	2,615	2,462
2030		154	3,466	3,313
2031		154	4,438	4,285
2032		640	5,546	4,905
2033		154	6,804	6,650
2034		154	9,362	9,208
2035		154	11,044	10,890
2036		538	12,940	12,402
2037		154	15,074	14,920
2038		154	17,472	17,318
2039	-5,124	154	20,163	25,133
<b>EIRR</b>				<b>12.7%</b>
<b>NPV (million)</b>				<b>\$0.9</b>

**Table A9.4: Economic Cashflow and Internal Rate of Return for Buon Ma Thuot Tran Quy Cap Urban road**

Year	Capital Costs (\$'000)	Incremental O&M (\$'000)	Benefits (\$'000)	Net Benefits (\$'000)
2013				0
2014	388			-388
2015	50			-50
2016	3,594			-3,594
2017	2,295			-2,295
2018	6,809			-6,809
2019	1,377			-1,377
2020	223	177	1,705	1,192
2021		177	1,935	1,628
2022		177	2,197	1,873
2023		619	2,497	1,711
2024		177	2,840	2,473
2025		177	3,218	2,826
2026		177	3,648	3,226
2027		177	4,137	3,683
2028		619	4,693	3,760
2029		177	5,327	4,794
2030		177	6,050	5,468
2031		177	6,874	6,237
2032		737	7,814	6,554
2033		177	8,888	8,116
2034		177	10,114	9,259
2035		177	11,509	10,562
2036		619	13,098	11,601
2037		177	14,905	13,730
2038		177	16,962	15,649
2039	-5,894	177	19,303	23,727
<b>EIRR</b>				<b>17.1%</b>
<b>NPV (million)</b>				<b>\$6.0</b>

**Table A9.5: Economic Cashflow and Internal Rate of Return for Buon Ma Thuot Mai Thi Luu Urban road**

Year	Capital Costs (\$'000)	Incremental O&M (\$'000)	Benefits (\$'000)	Net Benefits (\$'000)
2013				0
2014				0
2015	204			-204
2016	78			-78
2017	1,981			-1,981
2018	1,225			-1,225
2019	1,035			-1,035
2020	334	58	443	50
2021		58	502	444
2022		58	569	511
2023		204	646	442
2024		58	734	676
2025		58	834	776
2026		58	949	891
2027		58	1,081	1,023
2028		204	1,226	1,022
2029		58	1,391	1,333
2030		58	1,579	1,520
2031		58	1,793	1,735
2032		243	2,037	1,794
2033		58	2,316	2,257
2034		58	2,634	2,576
2035		58	2,997	2,939
2036		204	3,412	3,208
2037		58	3,887	3,829
2038		58	2,816	2,757
2039	-1,943	58	3,211	5,096
<b>EIRR</b>				<b>15.7%</b>
<b>NPV (million)</b>				<b>\$1.2</b>

**Table A9.6: Economic Cashflow and Internal Rate of Return for Ha Tinh Flood Management and Drainage**

Year	Capital Costs (\$'000)	Incremental O&M (\$'000)	Benefits (\$'000)	Net Benefits (\$'000)
2013				0
2014				0
2015				0
2016	1,599			-1,599
2017	3,954			-3,954
2018	462			-462
2019	460			-460
2020	373	82	1,730	1,275
2021		82	1,816	1,734
2022		82	1,907	1,825
2023		288	2,002	1,715
2024		82	2,103	2,020
2025		82	2,208	2,125
2026		82	2,318	2,236
2027		82	2,434	2,352
2028		288	2,556	2,268
2029		82	2,683	2,601
2030		82	2,818	2,735
2031		82	2,958	2,876
2032		342	3,106	2,764
2033		82	3,262	3,180
2034		82	3,425	3,343
2035		82	3,596	3,514
2036		288	3,776	3,488
2037		82	3,965	3,882
2038		82	4,163	4,081
2039	-2,739	82	4,371	7,028
<b>EIRR</b>				<b>20.6%</b>
<b>NPV (million)</b>				<b>\$4.4</b>

**Table A9.7: Economic Cashflow and Internal Rate of Return for Ha Tinh Bong Son Lake Environmental Improvement**

Year	Capital Costs (\$'000)	Incremental O&M (\$'000)	Benefits (\$'000)	Net Benefits (\$'000)
2013				0
2014				0
2015				0
2016	686			-686
2017	1,629			-1,629
2018	263			-263
2019	470			-470
2020	582	44	932	307
2021		44	979	935
2022		44	1,027	984
2023		152	1,079	926
2024		44	1,133	1,089
2025		44	1,189	1,146
2026		44	1,249	1,205
2027		44	1,311	1,268
2028		152	1,377	1,224
2029		44	1,446	1,402
2030		44	1,518	1,474
2031		44	1,594	1,550
2032		181	1,674	1,492
2033		44	1,757	1,714
2034		44	1,845	1,802
2035		44	1,937	1,894
2036		152	2,034	1,882
2037		44	2,136	2,092
2038		44	2,243	2,199
2039	-1,452	44	2,355	3,763
<b>EIRR</b>				<b>22.1%</b>
<b>NPV (million)</b>				<b>\$2.3</b>

**Table A9.8: Economic Cashflow and Internal Rate of Return for Ha Tinh Urban Roads**

Year	Capital Costs (\$'000)	Incremental O&M (\$'000)	Benefits (\$'000)	Net Benefits (\$'000)
2013				0
2014				0
2015				0
2016	1,929			-1,929
2017	4,398			-4,398
2018	445			-445
2019	1,055			-1,055
2020	804	104	1,051	144
2021		104	1,185	1,081
2022		104	1,336	1,232
2023		362	1,508	1,145
2024		104	1,703	1,600
2025		104	1,918	1,814
2026		104	2,161	2,057
2027		104	2,436	2,333
2028		362	2,750	2,388
2029		104	3,108	3,004
2030		104	3,516	3,412
2031		104	3,593	3,489
2032		432	3,676	3,245
2033		104	3,767	3,664
2034		104	3,866	3,762
2035		104	3,967	3,864
2036		362	4,071	3,709
2037		104	4,178	4,074
2038		104	4,287	4,184
2039	-3,452	104	4,399	7,747
<b>EIRR</b>				<b>16.3%</b>
<b>NPV (million)</b>				<b>\$2.4</b>

**Table A9.9: Economic Cashflow and Internal Rate of Return for Tam Ky Flood Management and Drainage**

Year	Capital Costs (\$'000)	Incremental O&M (\$'000)	Benefits (\$'000)	Net Benefits (\$'000)
2013				0
2014	158			-158
2015	43			-43
2016	2,240			-2,240
2017	1,719			-1,719
2018	1,685			-1,685
2019	572			-572
2020	100	78	1,067	889
2021		78	1,121	1,042
2022		78	1,177	1,098
2023		274	1,236	962
2024		78	1,297	1,219
2025		78	1,362	1,284
2026		78	1,430	1,352
2027		78	1,502	1,423
2028		274	1,577	1,303
2029		78	1,656	1,577
2030		78	1,738	1,660
2031		78	1,825	1,747
2032		326	1,917	1,591
2033		78	2,012	1,934
2034		78	2,113	2,035
2035		78	2,219	2,140
2036		274	2,330	2,056
2037		78	2,446	2,368
2038		78	2,568	2,490
2039	-2,607	78	2,697	5,226
<b>EIRR</b>				<b>14.6%</b>
<b>NPV (million)</b>				<b>\$1.0</b>

**Table A9.10: Economic Cashflow and Internal Rate of Return for Tam Ky Urban Roads**

Year	Capital Costs (\$'000)	Incremental O&M (\$'000)	Benefits (\$'000)	Net Benefits (\$'000)
2013				0
2014	352			-352
2015	97			-97
2016	1,904			-1,904
2017	4,505			-4,505
2018	5,847			-5,847
2019	4,845			-4,845
2020	3,416	252	2,639	-1,029
2021		252	3,035	2,783
2022		252	3,490	3,238
2023		881	4,014	3,133
2024		252	4,616	4,364
2025		252	5,308	5,056
2026		252	6,104	5,853
2027		252	7,020	6,768
2028		881	8,073	7,192
2029		252	9,284	9,032
2030		252	10,676	10,425
2031		252	12,278	12,026
2032		1,048	14,119	13,071
2033		252	16,237	15,986
2034		252	18,673	18,421
2035		252	21,474	21,222
2036		881	24,695	23,814
2037		252	28,399	28,147
2038		252	32,659	32,407
2039	-8,386	252	37,558	45,692
<b>EIRR</b>				<b>21.3%</b>
<b>NPV (million)</b>				<b>\$16.2</b>