



Completion Report

PUBLIC

Project Number: 36188-023
Loan Numbers: 2650 and 8249
July 2022

Nepal: Secondary Towns Integrated Urban Environmental Improvement Project

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Asian Development Bank

CURRENCY EQUIVALENTS

	Currency unit	–	Nepalese rupee/s (NRe/NRs)		
			<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; text-align: center;">At Appraisal 11 May 2010</td> <td style="width: 50%; text-align: center;">At Project Completion 31 December 2019</td> </tr> </table>	At Appraisal 11 May 2010	At Project Completion 31 December 2019
At Appraisal 11 May 2010	At Project Completion 31 December 2019				
NRe1.00	=		\$0.014		
\$1.00	=		NRs71.76		
			NRs114.18		

ABBREVIATIONS

ADB	–	Asian Development Bank
APFS	–	audited project financial statements
AVS	–	auto village subproject
CDP	–	community development program
DMF	–	design and monitoring framework
DSC	–	design and supervision consultants
DUDBC	–	Department of Urban Development and Building Construction
EIRR	–	economic internal rate of return
GESI	–	gender equality and social inclusion
ISWM	–	integrated solid waste management
IUDP	–	Integrated Urban Development Project
km	–	kilometer
KVWSP	–	Kavre Valley Water Supply Subproject
m	–	meter
NGO	–	nongovernment organization
NWSC	–	Nepal Water Supply Corporation
OFID	–	OPEC Fund for International Development
O&M	–	operation and maintenance
PCO	–	project coordination office
PIU	–	project implementation unit
PPP	–	public private partnership
PMSC	–	project management support consultant
PSC	–	Project Steering Committee
3RS	–	reduce, reuse, and recycle
SDR	–	special drawing rights
SLS	–	sanitary landfill site
SOE	–	statement of expenditures
SOUF	–	statement of utilization of funds
SPS	–	safeguard policy statement
SSCI	–	small-scale community infrastructure
SWM	–	solid waste management
TA	–	technical assistance
TDF	–	Town Development Fund
UPVC	–	Unplasticized Polyvinyl Chloride
WSS	–	water supply systems
WWTP	–	wastewater treatment plant

NOTES

- (i) The fiscal year (FY) of the Government of Nepal and its agencies ends on 15 July. “FY” before a calendar year denotes the year in which the fiscal year ends, e.g., FY2021 ends on 15 July 2021.
- (ii) In this report, “\$” refers to United States dollars unless otherwise stated.

Vice-President	Shixin Chen, Operations 1
Director General	Kenichi Yokoyama, South Asia Regional Department (SARD)
Country Director	Arnaud Cauchois, Nepal Resident Mission (NRM), SARD
Team Leader	Sunila Ghimire, Project Analyst, NRM, SARD
Team Member	Roman Bhattarai, Associate Project Analyst, NRM, SARD
	Deewas Khadka, Associate Financial Management Officer, NRM, SARD
	Manbar Singh Khadka, Economics Officer, NRM, SARD
	Deepak B. Singh, Senior Environment Officer, NRM, SARD
	Suman Subba, Senior Social Development Officer (Gender), NRM, SARD
	Laxmi P. Subedi, Senior Social Development Officer (Safeguards), NRM, SARD

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BASIC DATA (I)

A. Loan Identification

1.	Country	Nepal
2.	Loan number and financing source	2650 (concessional ordinary capital resources)
3.	Project title	Secondary Towns Integrated Urban Environmental Improvement Project
4.	Borrower	Government of Nepal
5.	Executing agency	Ministry of Urban Development through its Department of Urban Development and Building Construction
6.	Amount of loan	SDR40.93 million (\$60.00 million equivalent)
7.	Financing modality	Project loan

B. Loan Data

1.	Appraisal (Staff Review Meeting)	
	– Date started	11 May 2010
	– Date completed	11 May 2010
2.	Loan negotiations	
	– Date started	20 May 2010
	– Date completed	21 May 2010
3.	Date of Board approval	6 July 2010
4.	Date of loan agreement	26 October 2010
5.	Date of loan effectiveness	
	– In loan agreement	24 January 2011
	– Actual	18 January 2011
6.	Project completion date	
	– Appraisal	31 December 2015
	– Actual	31 December 2019
7.	Loan closing date	
	– In loan agreement	30 June 2016
	– Actual	31 December 2019
	– Number of extensions	3
8.	Financial closing date	
	– Actual	6 July 2021
9.	Terms of loan	
	– Interest rate	1% per annum during the grace period, and 1.5% per annum thereafter.
	– Maturity (number of years)	32 years (including grace period)
	– Grace period (number of years)	8 years
10.	Terms of relending (if any)	
	– Interest rate	2–3% per annum
	– Maturity (number of years)	20–23 years
	– Grace period (number of years)	8 years
	– Second-step borrower	Town Development Fund

SDR = special drawing rights

11. Disbursements

a. Dates

Initial Disbursement 16 December 2011	Final Disbursement 23 June 2021	Time Interval 114.61 months
Effective Date 18 January 2011	Actual Closing Date 6 July 2021	Time Interval 125.65 months

b. Amount (SDR million)

Category	Original Allocation (1)	Increased During Implementation (2)	Canceled During Implementation (3)	Last Revised Allocation (4=1+2-3)	Amount Disbursed (5)	Undisbursed Balance (6 = 4-5)
1. Civil Works and Equipment						
1a. Drainage and sewerage systems, and roads and lanes improvement	18.22	2.21	0.00	20.42	20.42	0.00
1b. Solid waste management improvement and community development program	4.50	0.00	1.27	3.23	3.23	0.00
1c. Water supply system expansion	5.39	0.00	1.16	4.22	4.22	0.00
1d. Other urban infrastructure facilities improvement	1.11	0.00	1.11	0.00	0.00	0.00
2. Consultants	5.28	0.00	1.35	3.94	3.94	0.00
3. Project administration and implementation	0.72	0.17	0.00	0.89	0.89	0.00
4. Unallocated	3.93	0.00	3.93	0.00	0.00	0.00
5. Interest charges	1.78	0.00	0.40	1.38	1.38	0.00
Total	40.93	2.38	9.23	34.08	34.08	0.00

SDR = special drawing rights

Note: Totals may not sum precisely due to rounding.

^a The Asian Development Bank's unutilized loan of SDR2.17 million was cancelled on 29 June 2020 to support the coronavirus disease (COVID-19) response, and SDR4.68 million was cancelled on 6 June 2021 at loan closure. The total cancelled amount (SDR9.23) minus the increased allocation (SDR2.38 million) results in a total cancellation of SDR6.85 million.

Source: Asian Development Bank estimates.

c. Amount (\$ million)

Category	Original Allocation (1)	Increased During Implementation (2)	Canceled During Implementation (3)	Last Revised Allocation (4=1+2-3)	Amount Disbursed (5)	Undisbursed Balance (6 = 4-5)
1. Civil Works and Equipment						
1a. Drainage and sewerage systems, and roads and lanes improvement	26.70	2.34	0.00	29.04	29.04	0.00
1b. Solid waste management improvement and community development program	6.59	0.00	2.00	4.59	4.59	0.00
1c. Water supply system expansion	7.90	0.00	1.77	6.13	6.13	0.00
1d. Other urban infrastructure facilities improvement	1.63	0.00	1.63	0.00	0.00	0.00
2. Consultants	7.75	0.00	1.96	5.79	5.79	0.00
3. Project administration and implementation	1.06	0.26	0.00	1.32	1.32	0.00

4. Unallocated	5.77	0.00	5.77	0.00	0.00	0.00
5. Interest charges	2.61	0.00	0.68	1.93	1.93	0.00
Total	60.00	2.60	13.81	48.80	48.80	0.00

Notes: Totals may not sum precisely due to rounding.

^b The total cancelled amount of \$13.81 million minus the increased allocation of \$2.60 million results in a total cancellation of \$11.21 million. The savings from the OPEC Fund for International Development (\$0.05 million) loan were cancelled at loan closure on 15 June 2021.

Source: Asian Development Bank estimates.

BASIC DATA (II)

A. Loan Identification

1.	Country	Nepal
2.	Loan number and financing source	8249 (OFID)
3.	Project title	Secondary Towns Integrated Urban Environmental Improvement Project
4.	Borrower	Government of Nepal
5.	Executing agency	Ministry of Urban Development through its Department of Urban Development and Building Construction
6.	Amount of loan	\$17.00 million
7.	Financing modality	Project Loan

OFID = OPEC Fund for International Development.

B. Loan Data

1.	Appraisal (Staff Review Meeting)	
	– Date started	11 May 2010
	– Date completed	11 May 2010
2.	Loan negotiations	
	– Date started	20 May 2010
	– Date completed	21 May 2010
3.	Date of Board approval	18 June 2010
4.	Date of loan agreement	26 November 2010
5.	Date of loan effectiveness	
	– In loan agreement	18 January 2011
	– Actual	25 January 2011
6.	Project completion date	
	– Appraisal	15 December 2015
	– Actual	31 December 2019
7.	Loan closing date	
	– In loan agreement	15 June 2016
	– Actual	31 December 2019
	– Number of extensions	3
8.	Financial closing date	15 June 2021
	– Actual	
9.	Terms of loan	
	– Interest rate	1% per annum on the principal amount of the loan withdrawn and outstanding.
	– Maturity (number of years)	15 years (including grace period)
	– Grace period (number of years)	5 years
10.	Terms of relending (if any)	
	– Interest rate	2%–3% per annum
	– Maturity (number of years)	20–23 years
	– Grace period (number of years)	8 years
	– Second-step borrower	Town Development Fund

C. Project Data

1.	Project cost (\$ million)		
	Cost	Appraisal Estimate	Actual
	Foreign exchange cost	99.95	91.55
	Local currency cost	6.38	6.03
	Total	106.33	97.57

Note: Local currency cost includes cost for land acquisition, and resettlement; and recurrent cost excluding Value Added Tax (based on project cost estimate file prepared at project processing).

2. Financing plan (\$ million)

Cost	Appraisal Estimate	Actual
Implementation cost		
Borrower and/or Government of Nepal financed	16.58	19.89
Government of Nepal Taxes	12.75	11.92
Asian Development Bank financed	57.39	46.87
OPEC Fund for International Development financed	17.00	16.96
Total implementation cost	103.72	95.64
Interest during construction costs		
Borrower financed	0.00	0.00
Asian Development Bank financed	2.61	1.93
Other external financing	0.00	0.00
Total interest during construction cost	2.61	1.93

Notes: Totals may not sum precisely due to rounding.

Source: Asian Development Bank estimates.

3. Cost breakdown by project component (\$ million)

Component	Appraisal Estimate	Actual
A. Investment Cost		
1. Civil Works and Equipment	79.15	83.36
2. Land acquisition and resettlement	4.26	2.78
3. Consultants	9.02	6.19
Subtotal (A)	92.42	92.34
B. Recurrent Costs	2.40	3.30
Subtotal (B)	2.40	3.30
C. Contingencies		
1. Physical	7.57	0.00
2. Price	1.33	0.00
Subtotal (C)	8.90	0.00
C. Financial Charges		
1. Interest and service charges during implementation	2.61	1.93
Subtotal (D)	2.61	1.93
Grand Total	106.33	97.57

Notes: Totals may not sum precisely due to rounding.

Source: Asian Development Bank estimates

4. Project schedule

Item	Appraisal Estimate	Actual
Output 1		
Preparatory work		
1.0.1 Land acquisition	1 Apr 2010–15 Feb 2011	9 Jun 2011–21 Oct 2013
1.0.2 Recruitment of design and supervision consultants	1 May 2010–28 Feb 2011	7 Dec 2011–20 Oct 2012
1.0.3 Recruitment of local NGOs	1 May 2010–28 Feb 2011	29 Aug 2011–22 Dec 2011
Output 1.1 Drainage and sewerage systems developed		
1.1.1 Detailed design and bid preparation	15 Feb 2011–31 Dec 2011	1 May 2013–17 Jul 2013
1.1.2 Bidding and Contract Award for Civil Works	1 Jan 2012–30 Sep 2012	18 Jul 2013–24 Mar 2014
1.1.3 Sub-loan Agreement between TDF and municipalities	1 Oct 2012–31 Mar 2015	24 Nov 2013–5 Mar 2014
1.1.4 Construction	15 Mar 2015–31 Dec 2015	17 Aug 2013–7 Jun 2019
1.1.5 Support for Initial Operation of the System		25 May 2019–20 Jun 2019
Output 1.2 Urban roads and lanes improved		
1.2.1 Detailed design and bid preparation	15 Feb 2011–31 Dec 2011	1 May 2013–17 Jul 2013
1.2.2 Bidding and Contract Award for Civil Works	1 Jan 2012–30 Sep 2012	18 Jul 2013–24 Mar 2014
1.2.3 Sub-loan Agreement between TDF and municipalities	30 Sep 2012	24 Nov 2013–5 Mar 2014
1.2.4 Construction	1 Oct 2012–31 Mar 2015	17 Aug 2014–7 Jun 2019

Item	Appraisal Estimate	Actual
Output 1.3 Solid waste management systems improved		
1.3.1 Detailed design and bid preparation	15 Feb 2011–31 Dec 2011	1 Jul 2013–10 Apr 2014 (Butwal SWM subproject terminated)
1.3.2 Bidding and Contract Award for Civil Works	1 Jan 2012–30 Sep 2012	23 April 2014–12 Jan 2016
1.3.3 Sub-loan Agreement between TDF and municipalities	30 Sep 2012	2 Nov 2014–27 Dec 2015
1.3.4 Construction and procurement of equipment	1 Oct 2012–31 Mar 2014	1 Apr 2016–31 Oct 2019
1.3.5 Support for Initial Operation of Landfill	1 Apr 2014–31 Dec 2014	1 Aug 2020–31 Jul 2021
Output 1.4 Water supply systems expanded Kavre water supply subproject		
1.4.1 Detailed design and bid preparation (under Loan1966-NEP)	1 Apr 2010–30 Sep 2010	22 Nov 2011–22 Jun 2012
1.4.2 Bidding and Contract Award for Civil Works	1 Oct 2010–30 Jun 2011	27 Jul 2012–19 Dec 2012
1.4.3 Sub-loan Agreement between TDF and municipalities	30 Jun 2011	12 Nov 2012, and 25 Nov 2019 (for additional loan)
1.4.4 Construction	1 Jul 2011–30 Jun 2013	12 Jun 2013-till date (Implementation ongoing)
1.4.5 Establishment of KWSMB	30 Apr 2011	30 Apr 12
1.4.6 Operationalization of KWSMB	30 Jun 2012	7 Nov 2012
1.4.7 Support for Initial Operation	1 Jul 2013–31 Dec 2014	From 1 Dec 2020 onward (ongoing)
Butwal water supply subproject		
1.4.8 Feasibility study	15 Feb 2011–30 Jun 2011	15 Jan 2012–28 Sep 2012
1.4.9 Detailed design and bid preparation	1 Jul 2011–31 Dec 2011	8 Oct 2012–30 Nov 2013
1.4.10 Bidding and Contract Award for Civil Works	1 Jan 2012–30 Jun 2012	1 Dec 2013–14 Nov 2014
1.4.11 Sub-loan Agreement between TDF and municipalities	30 Jun 2012	17-Nov-14
1.4.12 Construction	1 Jul 2012–30 Jun 2014	16 Nov 2014–20 Jun 2019
1.4.13 Support for Initial Operation	1 Jul 2014–31 Dec 2014	21Jun 2019 (Contract terminated)
Output 1.5 Other urban infrastructure facilities improved		
1.5.1 Detailed design and bid preparation	15 Feb 2011–30 Sep 2011	1 Dec 2013–30 Oct 2014
1.5.2 Bidding and Contract Award for Civil Works	01 Oct 2011–31 Mar 2012	4 Nov 2014–19 Nov 2018
1.5.3 PPP arrangement concluded	30 Sep 2011	8 May 2017
1.5.4 Sub-loan agreement between TDF and municipalities	31 Mar 2012	Agreement was not reached.
1.5.5 Construction	01 Apr 2012–30 Sep 2013	The Butwal Auto-Village subproject was dropped.
Output 1.6 Community Development Program		
1.6.1 Health and hygiene education programs	15 Feb 2011–15 Apr 2015	15 Sep 2011–30 Dec 2016
1.6.2 Promotion of 3R activities	01 Aug 2011–15 Apr 2015	15 Sep 2011–30 Dec 2016
1.6.3 Skills training for the poor	01 Aug 2011–15 Apr 2015	15 Sep 2011–30 Dec 2016
1.6.4 Small-scale community facilities		
Output 2		
2.1 Formation of PCO and PIU and appointment of project director and project managers	01 May 2010	22 May 2010
2.2 Formation of PSC and MPMC	01 Jul 2010	23 Sep 2010 (PSC) & 7 Oct 2010- 5 Mar 2011 (MPMC)
2.3 PCO and PIU fully staffed	01 Jul 2010	22 May 2010–12 Jul 2010
2.4 Recruitment of project management support consultant	01 Jun 2010-15 Feb 2011	6 Jul 2010-31 Mar 2011

Item	Appraisal Estimate	Actual
2.5 Development of project performance management system	01 Jan 2011–31 Mar 2011	Sept 2011
2.6 Project Management and Operation	1 Feb 2011–31 Dec 2015	22 May 10–31 Dec 2019
2.7 Recruitment of institutional development consultant for Kavre	01 May 2010–15 Mar 2011	6 Jul 2010–18 Apr 2011
2.8 Support for establishing and operationalizing KWSMB	01 Jan 2011–31 Mar 2014	30 Apr 2012–7 Nov 2012
2.9 Institutional strengthening of municipalities (Technical Assistance -7355)	01 May 2010–15 Nov 2011	10 June 2010–27 Nov 2011

3R = reduce, reuse, and recycle; KWSMB = Kavre Water Supply Management Board; MPMC = Municipal Project Management Committee; NEP = Nepal; NGO = nongovernment organization; PCO = project coordination office; PIU = project implementation unit; PPP = public-private partnership; PSC = Project Steering Committee; SWM = solid waste management; TDF = Town Development Fund.

5. Project performance report ratings

Implementation Period	Ratings	
	Development Objectives	Implementation Progress
From 1 Jul 2010 to 31 Mar 2011	Satisfactory	Satisfactory
Single Project Rating		
From 1 Apr 2011 to 30 Jun 2011	On Track	
From 1 Jul 2011 to 30 Sep 2011	Potential Problem	
From 1 Oct 2011 to 31 Mar 2013	On Track	
From 1 Apr 2013 to 30 Sep 2013	Potential Problem	
From 1 Oct 2013 to 31 Dec 2013	On Track	
From 1 Jan 2014 to 31 Dec 2015	Potential Problem	
From 1 Jan 2016 to 31 Dec 2017	On Track	
From 1 Jan 2018 to 30 Sep 2018	Potential Problem	
From 1 Oct 2018 to 31 Mar 2020	On Track	
From 1 Apr 2020 to 31 Mar 2021	For Attention	
From 1 Apr 2021 to 30 June 2021	On Track	

D. Data on Asian Development Bank Missions

Name of Mission	Date	No. of Persons	No. of Person-Days	Specialization of Members
Fact finding mission	15–26 Mar 2010	7	68	a, b, c, d, e, s, t
Loan negotiation mission	20–21 May 2010	4	16	a, b, d, f
Inception mission	13–21 Feb 2011	2	14	a, d
Loan review mission 1	31 Oct–10 Nov 2011	3	22	d, h, i
Loan review mission 2	22 Jun–6 Jul 2012	3	20	d, i, j
Safeguard review mission	3–7 Dec 2012	3	15	h, w, x
Loan review mission 3	17–26 Dec 2012	2	12	d, i
Loan review mission 4	30 Jul–20 Aug 2013	4	24	d, g, i, k
Loan review mission 5	20 Dec 2013–6 Jan 2014	3	30	d, i, j
Loan review mission 6	21 Apr–12 May 2014	5	32	d, h, j, i, l, m, u
Loan review mission 7	2–23 Dec 2014	5	30	d, i, j, n, o
Loan review mission 8	24 Jan–4 Feb 2016	5	34	d, h, i, p, q
Loan review mission 9	22 May–8 Jun 2017	6	49	d, h, i, k, p, v
Loan review mission 10	12 Jan–2 Feb 2018	3	30	h, i, p
Loan review mission 11	15 Nov–10 Dec 2018	2	33	d, i, r
Loan review mission 12	23 Aug–3 Oct 2019	3	31	d, i
Project completion review mission	2 Sept–13 Sept 2021	8	9	h, i, j, l, n, v, y, z

Note: a = urban development specialist, b = senior counsel, OGC, c = urban development specialist (safeguard), d = senior/project officer, e = social development specialist (consultant), f = financial control specialist, g = procurement specialist/officer, h = senior social development officer (safeguards), i = associate/ project analyst, j = senior social development officer (gender), k = associate financial control officer, l = senior environment officer, m = financial management specialist (consultant), n = head, portfolio management unit, o = senior public management officer, p = senior project officer (infrastructure), q = senior external relations assistant, r = civil engineer, s = urban economist, t = project management specialist (consultant), u = Office of the Special Project Facilitator, v = GESI consultant, w = social development specialist (RSES), x = social development officer (RSES), y = associate financial management officer, and z = project evaluation specialist (consultant).

I. PROJECT DESCRIPTION

1. Nepal was one of the most rapidly urbanizing countries of the world at the time of project appraisal, as reflected by the proportion of the population living in urban areas, which increased from 8.8% in 1990 to 16.4% in 2009.¹ Although urban areas have higher productivity and substantially lower poverty, the level of infrastructure development and service delivery was not satisfactory.² Inadequate drinking water, sanitation, and waste disposal facilities result in problems that include water pollution and waterlogging from poor drainage; these have negatively impacted urban environments and pose challenges and health risks. Urbanization has been a priority of the Government of Nepal, but investment in urban infrastructure to improve living conditions of urban residents has not kept pace, particularly in towns outside the Kathmandu Valley (footnote 2).

2. The Secondary Towns Integrated Urban Environmental Improvement Project was designed to improve the quality of life in three key regional centers (Biratnagar, Birgunj and Butwal municipalities)³ of Nepal and to implement the government's commitments to devolution and inclusive development. The project also included a regional water supply subproject (WSP) in the Kavre Valley (KVVSP).⁴ At the request of the government, the Asian Development Bank (ADB) approved a loan of SDR40.93 million on 6 July 2010, and a cofinanced loan of \$17.00 million from the OPEC Fund for International Development (OFID) on 18 June 2010. The expected project outcome was effective, efficient, and reliable delivery of improved and affordable municipal services; and the outputs were reliable, affordable, and effective municipal infrastructure developed, and capacity of the municipalities and central government for project management and operation strengthened.

II. DESIGN AND IMPLEMENTATION

A. Project Design and Formulation

3. The project design was aligned with government policies and priorities seeking to improve urban infrastructure and services and thereby improve the living standards of urban residents. The project was formulated based on the National Urban Policy, 2007,⁵ and aligned with the country's three-year interim plan (FY2008–FY2010)⁶, and the 12th Periodic Plan (FY2011–FY2013),⁷ which underscored development of municipalities by strengthening local bodies to implement urban development plans and mobilize local resources. The project continues to be aligned with the government's National Urban Development Strategy 2017 that supports livable cities through integrated urban development.⁸

4. The project design at appraisal was aligned with ADB's country partnership strategy for Nepal, 2010–2012, which highlights urban services as one of its core sector priorities, and with

¹ The World Bank. 2009. *World Development Indicators*. Washington DC.

² ADB. 2010. *Report and Recommendation of the President to the Board of Directors: Proposed Loan and Administration of Loan to Nepal for the Secondary Towns Integrated Urban Environmental Improvement Project*. Manila.

³ Biratnagar, Birgunj, and Butwal municipalities are used as Biratnagar, Birgunj, Butwal, interchangeably, respectively throughout the PCR.

⁴ Kavre Valley; and Panauti, Banepa and Dhulikhel municipalities are used as Kavre, Panauti, Banepa, and Dhulikhel, interchangeably, respectively throughout the PCR.

⁵ Ministry of Urban Development (MOUD). 2007. *National Urban Policy*. Kathmandu.

⁶ National Planning Commission. *11th Periodic Plan (FY2008–FY2010)*. Kathmandu.

⁷ National Planning Commission. *12th Periodic Plan (FY2011–FY2013)*. Kathmandu.

⁸ MOUD. 2017. *National Urban Development Strategy*. Kathmandu.

ADB's Strategy 2020 on urban infrastructure development.⁹ The project design was relevant at completion and remained aligned with ADB's country partnership strategy for Nepal, 2020–2024 on improving devolved services by supporting the development of cities and municipalities,¹⁰ and with ADB Strategy 2030 operational priority on creating livable cities.¹¹

5. The project design was based on the recommendations of ADB project preparatory technical assistance (TA) approved in December 2008 (Appendix 13).¹² The TA analyzed the technical, institutional, social, environmental, financial, and economic aspects of the project, and recommended project components, including institutional and implementation frameworks. The project design incorporated stakeholders' consultation inputs and lessons from similar ADB interventions—i.e., focus on a few physically integrated components to simplify administration and coordination, and provide capacity development support prior to project implementation (footnote 2).¹³ The project included KVWSP following the design prepared by the ADB-funded Urban and Environmental Improvement Project (footnote 13 [i]) and complements urban development interventions of other development partners such as the Japan International Cooperation Agency, United Nations Development Programme, and the World Bank.¹⁴

6. The project lending modality was deemed appropriate considering the scope and location of the subprojects. The project introduced a community development program (CDP) and included a gender equality and social inclusion (GESI) action plan, which ensured inclusion of poor and vulnerable people who otherwise may not receive direct benefits from the major infrastructure components (footnote 2). The project included innovative interventions with the construction of an integrated solid waste management (ISWM) system, use of the public–private partnership (PPP) modality for the auto village subproject (AVS), and introduction of a sewer treatment system.

7. The project had a few design challenges that were not addressed during implementation. For the target of serving 3,000 households with new water supply connections and 4,500 with improved ones, financing was not included in the approved project, so could never be achieved. The target of serving 25,000 households with sewer connections was ambitious, as only about 13,680 households would get sewer connections based on the final engineering designs. In the final sewer and drainage contracts establishing individual household connections was not included, although their financing was part of the project design. Therefore, the project could not fully realize the tangible benefits to households as envisaged. Both the ISWM and WSP contracts in Butwal were terminated and the AVS contract was cancelled due to low ownership of the beneficiaries and the municipality, as a result of insufficient stakeholder consultations. The project did not conduct a midterm review and did not adjust its targets based on implementation progress.

⁹ ADB. 2010. *Country Partnership Strategy: Nepal, 2010–2012*. Manila; and ADB. 2013. *Country Partnership Strategy: Nepal, 2013–2017*. Manila.

¹⁰ ADB. 2019. *Country Strategy and Program: Nepal, 2020–2024*. Manila.

¹¹ ADB. 2018. *Strategy 2030: Achieving a Prosperous, Inclusive, Resilient, and Sustainable Asia and the Pacific*. Manila.

¹² ADB. 2008. *Technical Assistance to Nepal for Preparing the Secondary Towns Integrated Urban Environmental Improvement Project*. Manila (TA 7182-NEP).

¹³ Similar ADB projects were (i) ADB. [Nepal: Urban and Environmental Improvement Project](#). Manila; (ii) ADB. 2001. [Completion Report: Kathmandu Urban Development Project in Nepal](#). Manila; (iii) ADB. [Nepal: Small Towns Water Supply and Sanitation Sector Project](#), Manila; and (iv) ADB. [Nepal: Second Tourism Infrastructure Development Project](#). Manila.

¹⁴ Other development partner projects were the Kathmandu Valley Urban Road Development—Improvement of the Kathmandu Bhaktapur Road (2008–2011) supported by the Japan International Cooperation Agency; the Public–Private Partnership for Urban Environment (2002–2012) supported by the United Nations Development Programme; Urban Governance and Development Program: Emerging Towns Project (2011–2016) supported by the World Bank; and the Regional Waste Management Project (2010–2014) supported by Finland.

B. Project Outputs

8. The project had 2 outputs and 18 targets; at completion, the project exceeded 4 targets (22.2%), achieved 4 (22.2%), partially achieved 5 (27.8%), and did not achieve 5 (27.8%). Appendix 1 lists the achievements. No changes were made to the original design and monitoring framework (DMF). The details of project outputs are in Appendixes 1 and 2.

9. **Output 1: Reliable, affordable, and effective municipal infrastructure developed.**

There were 6 components and 14 targets under output 1, of which 4 were exceeded, 4 achieved, 2 partially achieved, and 4 not achieved. The first target of component 1.1 was achieved with construction of 82.62 kilometers (km) of stormwater (major) and 53.39 km of roadside drains. The second target was exceeded with construction of 52.22 km of sewer lines, a wastewater treatment plant (WWTP) in Biratnagar, and a WWTP and two community septic tanks in Birgunj. The actual total WWTP capacity was 31,106 cubic meters per day (m³/day) compared to the target of 25,000 m³/day. The third target (25,000 new households served with sanitation connections) was not achieved—in Biratnagar 1,581 households received sewer connections and 82 households were served via onsite sanitation facilities, while in Birgunj no households have yet been connected except for a few test connections. For the sewer and drainage subprojects in Biratnagar and Birgunj, the project envisioned financing household connections to the sewer, but financing of the connections was not implemented (paras. 7 and 45). Component 1.2 target was exceeded, with upgrading of 49.67 km of roads and/or lanes in Biratnagar (including CDP) and 23.25 km of roads in Birgunj (Appendix 2, Tables A2.1 and A2.2).¹⁵ Output 1.3 target (sanitary landfill site [SLS] with a capacity of 20 tons/day developed in Butwal and Birgunj) was partially achieved with construction and operation of an ISWM system with a SLS in Birgunj. The ISWM system in Butwal was not constructed because of protests from local communities regarding the chosen location. The mobilized contractor had to be terminated as the community blocked access to the site.

10. Component 1.4 aimed to expand water supply coverage in Kavre and Butwal. At project completion, construction of KVVSP was ongoing, with physical progress of 90.0%; delays resulted from time needed to (i) make decisions regarding reinstatement of pipelines damaged by third parties, and (ii) have the contractor follow contractually agreed pipe testing procedures. The Butwal WSP contract was terminated after 27.4% of physical progress as local communities objected the use of Unplasticized Polyvinyl Chloride (UPVC) pipes and the municipality did not agree to replace the UPVC pipes. The target on serving 3,000 households with new water supply connections and 4,500 with improved ones was not achieved, while the target on installing or upgrading 110 km of water supply pipes was exceeded by laying 299.32 km of pipelines in Kavre. For component 1.5, the improvement of infrastructure facilities at AVS in Butwal was not achieved. The subproject was cancelled as the implementation agency refused to follow ADB procurement guidelines. The main private party (local automobile enterprises) did not support the initiative fearing they would lose their current land lease as they also used that land for other purposes.

11. Component 1.6 covered the CDP. The first target was achieved, with 88.0% of surveyed respondents stating improved hand-washing practices after project implementation (Appendix 11, Table A11.4). The second target was achieved with construction of 627 private latrines. The third target was partially achieved with construction of seven gender-segregated public toilets and installation of one mobile toilet (Appendix 2, Table A2.2). The fourth target was not achieved, as organic waste composting was not taken up by beneficiaries in Birgunj and Butwal. The fifth target was exceeded: women accounted for 44.3% of representatives in executive and/or users' committees for CDP implementation. The sixth target—prioritizing women and vulnerable groups

¹⁵ The asphalt roads design followed the Nepal Road Standard with due consideration to the existing urban settings.

in awareness raising and skills development activities—was achieved: of the 1,686 training beneficiaries, 65.6% were women, 88.1% were from disadvantaged groups. Further, 5,350 people (76.2% women, and 89.6% from poor and vulnerable groups) participated in awareness-raising activities on health and hygiene, and solid waste management (SWM) reduce, reuse, and recycle (3R) programs (Appendix 2, Tables A2.3 and A2.4).

12. Output 2: Capacity of municipalities and the central government strengthened to manage and operate the project. Among the 4 targets, 3 were partially achieved, and 1 was not achieved. The first target to increase internal revenue by 30.0% in three municipalities in real terms) was partially achieved: real internal revenue increased by 38.0% in Biratnagar, and by 7.0% in Butwal, but decreased by 27.0% in Birgunj. The second target was partially achieved. Though more than 80.0% of respondents expressed their satisfaction with service delivery, they were unsatisfied with sewer connections (Appendix 11, Tables A11.5- A11.7). The third target was partially achieved, with improved performance measures of all the three municipalities,¹⁶ but improved minimum conditions met only for Birgunj. The fourth target was not achieved as municipalities did not collect data to monitor the access ratio of urban services and poverty ratio.

C. Project Costs and Financing

13. The estimated project cost was \$106.33 million to be financed by a \$60.00 million ADB loan, \$17.00 million OFID loan, and \$29.33 million from the government. The actual project cost was \$97.57 million, of which \$48.80 million was financed by ADB, \$16.96 million by OFID, and \$31.81 million by the government. Actual ADB financing was lower by \$11.20 million due to unutilized loan for ISWM, water supply, consultants, interest charges, and unallocated categories of the loan; termination and cancellation of three civil works contracts at Butwal; and depreciation of the Nepalese rupee. The first partial cancellation of SDR2.17 million was effected from ADB loan savings to support the COVID-19 response.¹⁷ The second partial cancellation of SDR4.68 million from the ADB loan, and \$0.05 million from OFID loan was done at loan closure, from undisbursed savings (footnote 18). Project cost at appraisal and actual is in Appendix 3, and project cost by financier is in Appendix 4.

D. Disbursements

14. An imprest account of \$5.00 million was established for the ADB loan. The ADB and OFID loans were disbursed based on *ADB's Loan Disbursement Handbook* (2015, as amended from time to time). The project used the statement of expenditure (SOE) procedure for disbursement. The imprest account and the SOE procedure provided timely resources for the project execution. The project coordination office (PCO) liquidated the imprest account before the loan closure. Disbursement performance was unsatisfactory due to implementation delays resulting from termination and cancellation of civil works contracts in Butwal; occasional delays in counterpart budget release; delay in disbursement by the Town Development Fund (TDF), the financial intermediary; and slow contractor performance. Hence, the disbursement projections were revised three times. Appendix 5 provides the projected and actual disbursements.

¹⁶ Ministry of Local Development. 2011. *An Analysis Report of Minimum Conditions and Performance Measures of Local Bodies in Nepal. Assessment year 2007/08 to 2010/11, Local Bodies Fiscal Commission Secretariat.* Kathmandu; and Ministry of Local Development. 2016. *An Analysis Report of Minimum Conditions and Performance Measures of Local Bodies in Nepal. Assessment Year 2014/2015, Local Bodies Fiscal Commission Secretariat.* Kathmandu.

¹⁷ SDR2.17 million of the ADB loan was cancelled on 29 June 2020, with SDR4.68 cancelled on 6 June 2021 at loan closure. Similarly, \$0.045 million of the OFID loan was cancelled on 15 June 2021 at loan closure.

E. Project Schedule

15. The ADB loan became effective on 18 January 2011, and the OFID loan on 25 January 2011. The original loan closing date for the ADB loan was 30 June 2016 and for the OFID loan 15 June 2016. The project required three extensions,¹⁸ for a total of 42 months, with a revised loan closing date of 31 December 2019: (i) the first was to complete the sewer and drainage contracts in Biratnagar and Birgunj,¹⁹ ISWM contract in Birgunj, and WSP contracts in Butwal and Kavre; (ii) the second was to complete remaining works of these contracts; during this extension, the sewer and drainage contract in Biratnagar was completed; (iii) the third was to complete the sewer and drainage and the ISWM contracts in Birgunj, the WSP contract in Butwal and KVVSP; during this extension, both contracts in Birgunj were completed, the transmission line of the KVVSP was substantially completed, while the WSP contract in Butwal was terminated (para. 7).

16. The project faced startup and implementation delays. Engineering designs were hastily completed leading to several design errors. Numerous variations and time extensions were required later during implementation to address these errors. The delays also occurred due to (i) prolonged recruitment of the design and/or construction supervision consultant (DSC and/or CSC) and their slow progress and poor performance, including inadequate due diligence in finalizing the engineering designs; (ii) frequent replacement of the DSC's experts and unavailability of international experts when needed; (iii) design modification of the Birgunj sewer system; (iv) increase in coverage area of KVVSP; (v) delay in asset and liability valuation of NWSC due to initial lack of cooperation by the NWSC; (vi) contract termination and non-extension of contracts for the nongovernmental organizations (NGOs) in Butwal and Birgunj;²⁰ (vii) the 2015 earthquake; (viii) shortage in fuel and construction materials due to a trade embargo; and (ix) several demands and objections to the project sites and/or project activities from the local communities, which in the absence of an elected local government were not handled quickly.²¹

17. The project was physically completed on 31 December 2019. The winding up period was extended from 30 April 2020 to 30 June 2020. The OFID loan was financially closed on 15 June 2021 and the ADB loan on 6 July 2021. The delay in financial closure of the loans was a result of the project implementation units (PIUs) and the PCO not submitting supporting documents regarding the withdrawal applications and SOE on time.

F. Implementation Arrangements

18. At project appraisal, the executing agency was the Ministry of Physical Planning and Works, which split into the Ministry of Water Supply and Sanitation and the Ministry of Urban Development in 2012. After the split, the latter became the executing agency,²² working through a PCO established at the Department of Urban Development and Building Construction (DUDBC). The PCO led overall management of the project. The project management support consultant (PMSC) supported the PCO in design review, procurement, progress monitoring and reporting. A project steering committee (PSC), formed at the central level on 23 September 2010, provided policy guidance to the PCO and enhanced coordination among the stakeholders.

¹⁸ The three extensions were approved on (i) 14 December 2015, (ii) 8 December 2017, and (iii) 27 December 2018.

¹⁹ For brevity, the sewer, drainage, WWTP, and urban road and lanes improvement contract and/or subproject are referred to as "sewer and drainage".

²⁰ The NGO contract for Birgunj was terminated on 29 December 2015, and the NGO contract for Butwal was not extended beyond the original contract completion date of 31 December 2015 because of performance issues.

²¹ The new constitution of Nepal 2015 introduced a three-tier governance system with federal, provincial, and local governments. The local government came into existence after the elections in December 2017.

²² The terms executing agency and DUDBC; implementing agency, municipality, and PIU are used interchangeably.

19. A PIU, headed by a project manager, was established in each municipality for project implementation. A separate PIU representing Banepa, Dhulikhel, and Panauti was established for KVVSP. Each municipality formed a municipal project management committee consisting of stakeholder representatives to support stakeholder coordination. The DSCs provided technical and supervision support to the PIUs, while the CSC supported Kavre PIU. An institutional development consultant supported asset and liability valuation of NWSC, establishment of the KVVMB, preparation of its regulations including personnel and financial administration regulations, and preparation of the initial three-year business plan and water tariff structure. NGOs were recruited to support the PIUs in implementing the CDP. The project was implemented as envisaged during appraisal, and the implementation arrangements were deemed adequate.

G. Technical Assistance

20. An ADB capacity development TA was implemented to enhance the capacity of Biratnagar, Birgunj, and Butwal municipalities prior to project implementation. The TA helped strengthen the capacity of the municipalities, particularly in revenue enhancement and technical aspects of urban service delivery. The TA was assessed *successful*.²³

H. Consultant Recruitment and Procurement

21. **Consultants.** Six consulting firms and three NGOs were recruited to support the project. The consultants were selected as per *Guidelines on the Use of Consultants* (2007, as amended from time to time), following quality- and cost-based selection. The project used 1,932 person-months of inputs (48 international and 1,884 national) against the planned 2,416 person-months of inputs (86 international and 2,330 national). The reduced use of consultant inputs was due to the termination of the Birgunj NGO and termination and/or cancellation of all civil works contracts in Butwal. Consultants did support the PCO and the PIUs in project implementation, but the overall performance of the consultants was assessed *less than satisfactory* (para.16).

22. The NGOs supported Biratnagar, Birgunj and Butwal PIUs in CDP implementation. The NGOs supported the selection of poverty clusters, conduct of social mobilization, awareness raising, skills training, and implementation of small-scale community infrastructure (SSCI). Biratnagar NGO's performance was rated *highly satisfactory* as it successfully implemented all activities. Birgunj NGO's contract was terminated due to its failure to mobilize experts, and Butwal NGO's contract was not extended beyond the original completion date (footnote 21) owing to its poor performance. NGO performance for Birgunj and Butwal was thus rated *less than satisfactory*. After discontinuation of NGOs services in Birgunj and Butwal, the municipalities' social development sections implemented the CDP.

23. **Contractors and suppliers.** All goods and works were procured following *ADB's Procurement Guidelines* (2007, as amended from time to time). There were no issues with the suppliers. The original procurement plan envisaged prequalification of bidders for procurement of sewer and drainage contracts, which was changed to the single stage-two envelope bidding procedure through a minor change in implementation arrangements to reduce procurement duration and minimize risk of possible collusion. The project procured all civil works following international competitive bidding method using the single stage-two envelope bidding procedure.

²³ ADB. 2011. *Technical Assistance Completion Report: Institutional Strengthening of Municipalities in Nepal*. Manila (TA 7355-NEP). The TA was approved in September 2009 and not attached to the loan. Output 2 indicators under this project were included to monitor and provide follow-up support to the TA interventions.

The CDP contracts were implemented through community participation in procurement. Procurement and implementation delays caused project's contract awards and the disbursement performance to lag behind the original schedule (paras. 14 and 16). Appendix 6 provides projected and actual contract awards.

24. The Butwal AVS contract was not awarded, while the Butwal ISWM and Butwal WSP were terminated due to local protests. The contractors did not complete the works within the original completion date. Resource mobilization by the contractors in KVVSP and Birgunj ISWM system remained inadequate throughout implementation. The contracts were implemented by the local authorized representative of a foreign contractor with no resource mobilization from the foreign contractors. This delayed completion of the ISWM and resulted in non-completion of the KVVSP within the extended project completion date. Performance of the contractors for KVVSP and Birgunj ISWM was *less than satisfactory*; performance of the contractors for sewer and drainage in Birgunj and Biratnagar, Butwal WSP, and Butwal ISWM was *satisfactory*.

I. Gender Equity

25. The project was categorized *effective gender mainstreaming*. Rapid population growth and proportionately less government assistance resulted in poor municipal infrastructure and services across the project municipalities, with a higher concentration in smaller areas that were disproportionately inhabited by people from disadvantaged groups. The poor environmental conditions led to unhealthy living habits and health problems, which mostly affected women, the poor and vulnerable. The CDP was designed to bring tangible benefits to these groups.²⁴ The GESI action plan included 16 activities and 7 quantitative targets.²⁵ The plan mainstreamed GESI in all subprojects through the CDP. It aimed to increase access to improved basic services and ensure participation of targeted groups in decision making for management and use of these services. Adequate human resources for effective implementation were ensured by engaging social development specialists in the PMSC, DSCs, local NGOs,²⁶ and the municipalities' social development section, who supported the implementation of GESI activities under the guidance of the PIUs and the PCO (Appendix 7).

J. Safeguards

26. **Environmental Safeguard.** The environmental safeguard performance of the project was rated *less than satisfactory*. The project was classified category B for environment following ADB's Safeguard Policy Statement 2009, and this classification was maintained. For each municipality and Kavre, an initial environmental examination with environmental management plan (EMP) was prepared and disclosed. An environmental assessment and review framework was prepared for the WSP in Butwal and public toilets under the CDP. All five major environment-related covenants were complied with, but the quality was low. All workers were insured. The standards of the labor camps for the sewer and drainage contracts were satisfactory. Water supply, toilets, cooking gas, and first aid boxes were provided in the camps. About 2,350 trees were planted in Biratnagar (1,850 planned); 1,700 in Birgunj (3,200 planned); and 0 in Kavre (6,000 planned).²⁷ No air, water and noise tests were conducted except a single wastewater quality test in Birgunj. The

²⁴ CDP included 3R promotion programs, health and hygiene education, skills training programs, and construction of SSCI prioritized by the community.

²⁵ This included the DMF's gender-related targets.

²⁶ NGO performance in Birgunj and Butwal was not satisfactory, which affected the implementation of the GESI action plan.

²⁷ One reason fewer trees were planted was that the subproject was implemented in urban areas, which required fewer trees to be cut for site clearance, and thus fewer trees to be planted in compensation.

noncompliance occurred because (i) the cost of the work was not included in the bill of quantities, (ii) environmental experts provided intermittent inputs, (iii) the response of the PIUs was passive, and (iv) follow-up by the DUDBC was inadequate. The PCO with support from the PMSC's environment expert facilitated compliance with safeguard requirements, but monitoring quality remained low. Nevertheless, the contractors followed the EMP's requirements and DSCs' engineers monitored compliance on a regular basis.

27. **Social safeguards.** The project was classified category B for involuntary resettlement and indigenous peoples safeguards at appraisal and completion. Based on ADB's Safeguard Policy Statement, a combined resettlement and indigenous peoples planning framework, two combined resettlement and indigenous peoples plans, and a resettlement plan were prepared; the framework was followed to screen, assess impacts, design mitigation measures, and monitor progress. After detailed design, the combined plans were updated and the resettlement plan for KVVSP was updated to a combined resettlement and indigenous peoples plan. A due diligence report was prepared for the Butwal subprojects, but assessment on actual ownership and use of land at the AVS was inadequate. The project impacted 131 households with 720 persons (10% indigenous peoples, with impacts limited to land acquisition) and paid \$2.53 million compensation for the 26.14 hectares of acquired land. Affected indigenous people were consulted throughout the project. Compensation was paid to all impacted persons except four households in Birgunj as they were not in contact and recorded as absentee. The DUDBC has assured it will provide compensation once the absentees contact the municipality. The project's impacts were managed through compensation payments for the affected assets and skills training for income restoration. The affected households living standards were maintained or improved vs. the pre-project level.

28. ADB's Office of the Special Project Facilitator received a complaint pertaining to KVVSP on 18 February 2014. It was primarily related to reduced downstream water availability due to diversion of water for KVVSP; the complaint was declared ineligible on 10 March 2014 with a few recommendations. The recommendations were implemented, and the complainant's issues addressed. A grievance redress mechanism was established with a safeguards desk at the PCO and in each PIUs to address project-related grievances; no grievances were outstanding at completion. Appendix 8 details social safeguards performance.

K. Monitoring and Reporting

29. Of the project's 48 major loan covenants 36 were complied with and 12 were partially complied with. Status of compliance with the covenants was monitored during missions (Appendix 9). The project performance monitoring system was established in September 2011 and a project website created and used to disclose project information. Quarterly progress reports were submitted regularly. The PCO submitted 11 (61%) social and 10 (55.6%) environmental semiannual safeguards monitoring reports, generally on time, which were disclosed on ADB's website. The quality of the monitoring reports was initially poor but later improved. Although the project performance monitoring system collected disaggregated data to measure project achievements, some DMF indicators were not adequately monitored, and no data were collected on the output target access ratio of urban services and the poverty ratio. The PMSC contract closed 10 months before project completion, meaning no support was available for the final monitoring requirements, and the end line survey was not conducted.²⁸

²⁸ The Secondary Towns Integrated Urban Environmental Improvement Project's PMSC responsibility was handed over to the PSC for ADB. [Nepal: Regional Urban Development Project](#). However, there was inadequate support for monitoring and reporting from this arrangement.

30. Financial management posed a serious challenge for the project, with frequent transfers of PCO accounting staff, and appointment of accounting staff in the PIUs and PCO with no prior experience. As a result, withdrawal applications were submitted late and often of poor quality, the SOE review took 28 months, and financial closure took 18 months. Submission of the PCO's audited project financial statements (APFSs) was slightly delayed for FY2017 (0.5 months) and FY2018 (1.6 months); and the final APFS for FY2020 was delayed by more than 6 months owing to the required change in funding source to the government for the amount withheld based on the SOE review. The audit opinions on the PCO's APFS were unqualified except for FY2013, FY2015, and FY2016. The TDF was required to prepare a Statement of Utilization of Funds (SOUF) in lieu of APFSs but was not aware of this, which delayed submission (by 16.7 to 76.7 months) for most (75% of) SOUFs; all SOUFs from FY2013 to FY2018 were obtained only in FY2018. Although TDF's SOUFs were unqualified, audited entity financial statements for FY2017 and FY2018 were qualified. The audit issues on opening a separate bank account, the need for better financial due diligence of the loans, and balance confirmation remained recurring. The covenant on the debt service coverage ratio was complied with, and the corresponding audit opinion was obtained only from FY2018 onwards. The PCO's final APFS cumulative disbursement reconciled fully with ADB's Loan Financial Information System for both the ADB and OFID loans.

III. EVALUATION OF PERFORMANCE

A. Relevance

31. The project was assessed as *relevant* at appraisal and completion. It was aligned with policies, strategies, and development priorities of the government and ADB. The project components were designed in line with the vision of the National Urban Policy 2007 (footnote 5) that aims to promote a balanced national urban structure and a well-developed urban environment. The project helped address Nepal's fundamental long-term development needs by developing improved urban infrastructure in the municipalities outside Kathmandu Valley. The project was also relevant in creating synergy among the government and development partners through similar investments for urban development (footnote 14). The project design was sound, and the interventions were expected to contribute to the country's development priorities such as creating a healthy urban environment through the construction of the sewers system in Biratnagar, promoting a cleaner city through the construction of the ISWM system in Birgunj and reduction of improper dumping of solid waste. In addition, the project design aimed to help the municipalities (i) reduce traffic congestion and dust pollution through improvement of roads and lanes; (ii) maintain a clean and safe environment by replacing open drains with covered sewers, which would reduce odor and fly problems and serve as new pedestrian lanes; and (iii) reduce waterlogging problems by constructing stormwater drainage. The project also contributed to achieving Sustainable Development Goal 11: making cities and human settlements inclusive, safe, resilient, and sustainable. The GESI action plan strengthened the project's relevance by responding to the project municipalities' social and poverty issues. The project design included innovative features such as the ISWM facility, sewer treatment system, and CDP. The sewer treatment system in Biratnagar was developed as a successful model, attracting replication by sector stakeholders and other municipalities. The ISWM facility in Birgunj has been operating successfully converting organic wastes to compost manure. The ISWM and storm water drainage systems have reduced waterlogging problems, improved the health of citizens, and helped create clean and vibrant cities. The CDP component of the project has set an exemplary modality for holistic implementation of a major infrastructure project by addressing the needs of citizens living in both the core and periphery of a municipality. Thus, the project interventions on sewer, sanitation, roads, and CDP positively impacted the lives of municipal residents and had demonstrative and transformative effects (Appendix 7, and paras 34, 39, 40, and 41).

32. The lending modality of the project was appropriate (para. 6). While the DMF was logical and sound, the project had design weaknesses: some indicators had no specific targets and were difficult to assess, and financing for one output was not included (para. 7). Outputs and outcomes were not adjusted based on implementation issues, and no midterm review was conducted. Despite these challenges, the project objective of improving the delivery of municipal services was relevant to address the need for developing liveable and vibrant cities.

B. Effectiveness

33. The project was assessed as *less than effective* in achieving the intended outcomes and outputs. Of the four outcome targets, one was achieved, two were partially achieved, and one was not achieved. The first outcome target envisaged preventing major waterlogging in the core municipal areas of Biratnagar and Birgunj. The project achieved the target with more than 80.0% of the respondents stating that the duration of waterlogging was reduced after project implementation (Appendix 11, Tables A11.1–A11.3). The second target (collect 90.0% of municipal waste in Birgunj and Butwal; and dispose all non-recyclable waste in the SLS) was partially achieved. More than 90.0% of municipal waste is being collected, and non-recyclable waste is being dumped in the SLS Birgunj, but no ISWM system was built in Butwal. The third outcome target (collect wastewater from the service area of Biratnagar and Birgunj and treat 75% of it) was partially achieved: the WWTP in Biratnagar is functioning but the WWTP Birgunj is not yet operating. The fourth outcome target (provide improved water services to 85% of Kavre's population) was not achieved because construction under the KVVSP is ongoing, with households not yet connected. Of the 18 output targets, 4 were exceeded, 4 were achieved, 5 were partially achieved, and 5 were not achieved (paras 8–12).

34. Implementation of the GESI action plan resulted in practical and strategic gender benefits for women. The practical gender benefits are in the areas of access to SSCI and representation in project activities and users' committees. A total of 6,419 community residents (47.0% women and 78.0% from disadvantaged groups)²⁹ participated in information dissemination programs. Skills training was provided to 1,686 participants (65.5% women and 88.0% from disadvantaged groups). The sanitation support program, including the construction of SSCI, benefited 13,006 people, of whom 42.0% were women and 91.5% from disadvantaged groups. The strategic gender benefits relate to women's economic empowerment, gender equality in decision-making, and leadership. Increased income from skills acquired through training led to women's greater participation in decision-making in their families and communities as manifested by their increased representation in leadership of the tole lane organizations; women comprised 44.3% of the organizations' 78 executive committees, with at least one key position led by a woman. Overall, the GESI action plan implementation was rated *not successful* with 14 of 16 activities (87.5%) completed and 5 of 7 targets (71%) achieved (Appendix 7). Implementation of social safeguards was *satisfactory*. The process adopted for screening, advance preparation of safeguard planning documents, and compensatory measures contributed effectively to achieving project outputs and outcome. Compensatory planting for trees lost due to project implementation was exceeded in some municipalities whereas no plantation was done in KVVSP.

C. Efficiency

35. The project was rated *less than efficient* in achieving its outcome and outputs. The economic analysis was conducted for those subprojects whose benefits have been realized by

²⁹ Disadvantaged groups include Dalits, Janajati, Muslims, OBC, Madhesis, and other excluded groups.

the loan closing and was based on the assumptions made at appraisal. The estimated economic internal rate of return (EIRR) is 6.4% for the sewer and drainage system in Biratnagar, and 2.3% for the sewer and drainage system including the ISWM in Birgunj (Appendix 10, Table A10.2). The reevaluated EIRRs are lower than the appraisal estimates of 16.0% in Biratnagar, and 14.1% in Birgunj, and below the 12% economic threshold. The decline of the reevaluated EIRRs results from the reduced number of sewer connections and/or fewer beneficiaries compared to appraisal,³⁰ and significant cost overrun at completion in Birgunj.³¹ For Butwal, despite the initial costs incurred, no economic benefit was realized as the subprojects were not awarded and/or terminated. Construction of KVVSP is ongoing, and its EIRR was not calculated. The project experienced a time overrun of about 4 years. Cost overruns for some subprojects were financed by reallocating funds from cancelled subprojects.

D. Sustainability

36. The project is *likely sustainable*. The project-built urban infrastructure is fully owned, operated, and maintained by the municipalities. During FY2018–2020, the municipalities were able to spend the allocated budget for maintenance as required. The law allows a municipality to allocate 20.0% of its revenue for operation and maintenance (O&M) activities. The estimated O&M cost of urban infrastructure including the loan repayment is NRs58 million in Biratnagar and NRs104 million in Birgunj, which are less than 20.0% of total revenues that can be spent. The Road Board Nepal provides 70.0% of the maintenance funds based on the registered road length and city population, while the municipality contributes 30.0%. During FY2018–2020, the Road Board Nepal has allocated an average NRs15–20 million budget annually to each municipality. The municipalities collect integrated property taxes, including maintenance taxes for infrastructure. Assessment of O&M requirements and budget availability indicates that the O&M needs of the project-developed urban infrastructure will be fully met (Appendix 10, Tables A10.6 and A10.7).

37. Biratnagar has established a separate unit for infrastructure O&M, while Birgunj assigned responsibility to its existing Solid Waste and Sanitation Department. The units are adequately resourced and function well. Birgunj has initiated a bidding process to select a private operator for O&M of the ISWM system. Both municipalities have made legal provisions to collect monthly tariffs for sewer services, approved a tariff structure, and made provisions for mandatory household connections to the sewer in July 2020.³² Biratnagar initiated monthly sewer tariff collections. Although Birgunj's sewer system was constructed and successfully tested, no formal connections have been made. To expedite household connections to the sewer, the municipality has developed a connection plan and is conducting municipal-level awareness activities to motivate households to connect to the sewer. The government has reported that household connections will be initiated in FY 2022/23. Regarding KVVSP, following ADB loan closure, the assets and liability will be transferred from the Nepal Water Supply Corporation (NWSC) to the Kavre Valley Water Management Board (KVVMB), which will also gain overall management responsibility of the Kavre water supply. The remaining works of KVVSP will then be completed.

³⁰ At appraisal the estimated number of beneficiaries in Biratnagar was 370,000 by 2034 and in Birgunj 254,000 by 2033, vs. about 271,000 in Biratnagar and 195,000 in Birgunj at completion. At appraisal it was estimated 25,000 households would get sanitation connections by 2015, but in 2020 actual households with sanitation connections numbered 1,663.

³¹ The subproject cost in Birgunj was estimated at \$27.47 million at appraisal vs. \$37.1 million at completion.

³² Biratnagar has set a sewer connection charge and monthly tariff rate of NRs100 to NRs12,000 per month based on the area of buildings. Birgunj has set a sewer connection charge and monthly tariff ranging from NRs100 for buildings of up to 1,000 square feet to NRs800 for buildings of more than 4,000 sq. ft.

38. Following the country's transition to a federal system (footnote 21), municipalities are governed by elected representatives who are highly accountable and committed to taking measures to sustain the project outputs and outcomes. Development partners such as ADB, Deutsche Gesellschaft für Internationale Zusammenarbeit, Netherlands Development Organization, and the World Bank have been supporting for development and maintenance of urban infrastructure in the municipalities. The DUDBC is implementing urban development project on its own in several municipalities. The DUDBC and the project municipalities have improved their overall project management capacity over the course of project implementation, which enabled them to deliver the project outputs. This is also demonstrated by improved implementation of the Regional Urban Development Project, including in Biratnagar and Birgunj (footnote 28).

E. Development Impact

39. The project's development impact was *satisfactory*. The urban infrastructure and human skills developed by the project have contributed to an improved quality of life and higher, socially inclusive growth in key regional centers in Nepal. The completed project interventions, like closed sewers, storm water drains, roads, toilets, and small-scale water supply schemes, contributed to achievement of the DMF's impact indicators. During 2006–2016 (i) the prevalence of diarrhea (a proxy indicator for hygiene and waterborne-related diseases) decreased by 49.0% in Biratnagar, 33.0% in Butwal and 90.0% in Birgunj; and (ii) manufacturing value added increased significantly, by over 30.0%, in all project municipalities, indicating increasing industrialization and economic growth. The project also contributed to ADB Strategy 2030 operational priority indicators on poverty, gender equality, climate resilience, environmental sustainability, livable cities, and governance (Appendix 12).

40. Improvement of urban roads and lanes has reduced air pollution, traffic congestion and travel time. Decreased travel time enables savings of NRs0.41 per person per km (Appendix 10, Table A10.2). The trees planted by the project along the improved roads have helped improve the environment of the project cities. The ISWM in Birgunj has reduced haphazard dumping of solid waste. Construction of urban infrastructure has improved living standards of people, and increased economic activities, and land values in the municipalities more than five-fold following project completion. The sewer system of Biratnagar, using low-cost bio decomposition process, has become a model facility for sector stakeholders to learn from and possibly replicate.

41. The project directly benefitted at least 0.65 million people. The project provided awareness-raising and skills training for women and vulnerable groups, especially from poor urban communities. The training supported 30.0% of the trainees to be self-employed and 70.0% to have better jobs. The monthly income of the trainees has increased from NRs7,917 to NRs17,916. These interventions have also contributed to improved health and hygiene status and reduced poverty and set an inclusive urban development approach (Appendixes 7 and 8).

F. Performance of the Borrower and the Executing Agency

42. Performance of the borrower and the DUDBC was *less than satisfactory*. The borrower facilitated the project by providing counterpart funds, supporting the reallocation of the loan proceeds, and providing extensions according to the project needs. However, the borrower's performance in complying with loan covenants on environmental safeguards and financial management was *less than satisfactory* due to inadequate compliance with environmental safeguard requirements, delayed submission of some APFSs, qualified audit opinions, and an extended timeline for SOE review and financial closure of the loans.

43. The DUDBC and the municipalities demonstrated ownership, provided resources for the project, and were responsive in addressing concerns. The PCO coordinated with the Ministry of Finance on budgetary issues. However, the DUDBC changed the project director nine times during the 9.5-year implementation period. This affected smooth implementation of the project. The frequent turnover of the PCO's account officers affected the project's overall financial management. Performance of the Biratnagar and the Birgunj PIUs was *satisfactory* as they completed all activities within the extended project period. However, performance of the Kavre and the Butwal PIUs was *less than satisfactory* mainly due to weak contract management and non-completion of the subprojects within the revised project duration. Overall, there was considerable time overrun in the project, and cost overrun in the subprojects.

G. Performance of the Cofinancier

44. Performance of the cofinancier was *satisfactory*. OFID provided an actual amount of \$16.96 million to support the project. There were no issues encountered on the administration of the cofinancing. OFID extended the loan closing date to align with ADB's loan extensions. OFID's timely responses addressed implementation issues, avoided financial constraints, and helped achieve the project deliverables.

H. Performance of Asian Development Bank

45. Performance of ADB was *less than satisfactory*. ADB monitored overall project implementation and coordinated with stakeholders. It fielded 13 review missions³³ and guided the DUDBC and the PIUs on monitoring and reporting. ADB facilitated timely clearance of project documents, and provided financial, procurement, GESI and safeguard training to the DUDBC and the municipalities. However, there were gaps in ADB's project design and implementation (para. 7). ADB approved the design for the sewer and drainage contracts and KVVSP without including the cost for the target household connections, and corrective actions were not taken during implementation. Termination of all Butwal subprojects and severely delayed implementation of KVVSP suggest inadequate due diligence in selecting the subprojects. There were lapses in financial management like inadequate follow-up with the municipalities and DUDBC on financial management issues including APFS clarification letters, non-participation of a financial management consultant in review missions, and delayed involvement of a financial management officer during implementation (onboarded towards the end of FY2019). ADB's project officer changed five times, which did not contribute to continuity of oversight. ADB did not conduct a midterm review and did not adjust project targets in a timely manner despite major implementation challenges. This contributed to the less than successful performance of the project.

I. Overall Assessment

46. Overall, the project is rated *less than successful*. The project is rated *relevant* as it was aligned with government and ADB strategies, policy, and priorities; *less than effective* as it achieved less than 80.0% of the outcome and output targets; *less than efficient* as completed subprojects generated an EIRR less than 12.0%; and *likely sustainable* as the completed and in operation subprojects are expected to sustain the benefits due to the high priority given by the government, sufficient budget allocation, and capacity of agencies to maintain the infrastructure.

³³ A review mission was not fielded in 2015, due to the massive earthquake in Nepal and strikes in the Terai region.

Overall Ratings

Criteria	Rating
Relevance	Relevant
Effectiveness	Less than effective
Efficiency	Less than efficient
Sustainability	Likely sustainable
Overall Assessment	Less than successful
Development impact	Satisfactory
Performance of the Borrower and the executing agency	Less than Satisfactory
Performance of the Cofinancier	Satisfactory
Performance of ADB	Less than Satisfactory

Source = Asian Development Bank.

IV. ISSUES, LESSONS, AND RECOMMENDATIONS

A. Issues and Lessons

47. **Consultations.** Adequate stakeholder consultations should be conducted at all project stages. The Butwal ISWM system was not constructed because of protests by local-residents who stated they were not consulted during design and site selection. Despite several efforts, a consensus could not be reached. The issue was exacerbated by the absence of locally elected government officials in the municipalities who could have facilitated agreement among stakeholders. In addition, adequate time and resources should be allocated for ensuring project readiness (i.e., for site finalization and initiation of the land acquisition process for the projects).

48. **Land ownership and use.** Projects require an in-depth assessment of ownership and use of land. Procurement initiation for Butwal AVS was severely delayed by land ownership issues. The automobile enterprises were located on land leased from the municipality that was intended only for establishment of automobile enterprises, but the entrepreneurs used the land for business and residential purposes. The beneficiaries were skeptical that their existing land uses could continue if they entered into a PPP agreement, and thus protested the AVS.

49. **Project design changes.** An adequate assessment is needed when changing a project design. The project design envisioned financing household connections to the sewer, but the cost was not included in the final engineering design, resulting in fewer household connections than targeted at appraisal. Changes to the project design during implementation require careful assessment of the effect on the project targets.

50. **Local representatives for foreign contractors.** Bidding documents should incorporate specific provisions requiring permanent local representative from foreign contractors to avoid delays. The performance of the contractors for Birgunj ISWM and for KVVSP was unsatisfactory (para. 24), in part because there was no local representative. The bidding documents should have included provisions requiring (i) the contractor's representative to be a full-time employee of the bidder (in the case of a joint venture, the lead partner); (ii) the contractor's representative to be at the work site for the duration of the contract; and (iii) termination of the contract in case the contractor fails to comply with these requirements.

51. **Continuity.** Continuity of services of experienced project staff is essential. The PCO project director and account officer positions experienced high turnover, which affected overall performance, including of project financial management, as evidenced by the outstanding recurring audit issues and multiple delayed submissions. Although it may be impossible to fully anticipate and avoid frequent staff turnover, the executing agency should establish a mechanism

for proper handover and transition to ensure institutional memory is preserved. This also applies to ADB staff.

52. Proper turnover of responsibilities and adequate ADB oversight and monitoring should be ensured, both when a change in project officer occurs and throughout project implementation, to help ensure smooth transitions due to staff changes, and effective project administration. This includes ensuring DMF targets are realistic and measurable, midterm reviews are timely, and project scope is adjusted based on on-the-ground implementation progress.

53. **Nongovernment organization selection.** Vulnerable groups benefit from careful selection of NGOs. Implementation of GESI activities was closely linked to NGO performance quality. NGOs are important for community mobilization and to address the needs of poor and vulnerable groups, including women; the NGO in Biratnagar demonstrates what can be achieved by a well-performing NGO.

B. Recommendations

54. **Solid waste management.** An innovative approach should be considered for the design and implementation of SWM facilities. To gain communities' confidence in the design and operational features of the facilities, it is recommended that ADB and DUDBC conduct extensive community consultations and awareness-raising activities for future SWM projects. A reputable NGO can be engaged throughout the project cycle. Complementing these activities with project elements that address the infrastructure and livelihood needs of nearby communities will increase public acceptance of the facilities.

55. **Holistic approach.** Project designs should adopt a holistic approach. The Butwal WSS was assessed as socially feasible, but an unforeseen lack of public acceptance of UPVC pipes resulted in its termination (para. 10). Therefore, while designing projects, it is recommended that ADB give due consideration to communities' social knowledge, beliefs, and level of acceptance.

56. **Comparative evaluation study.** ADB may conduct an independent study comparing the project with the Integrated Urban Development Project to cull lessons and best practices.³⁴ Although both projects had comparable scope and implementation arrangements, the Integrated Urban Development Project performed much better and was rated *successful*.

57. **Close engagement of ADB financial management staff.** ADB financial management staff should be actively engaged to provide support to the ADB project team and the executing and implementing agencies for improved financial management through participation in project missions, capacity building of these agencies on ADB's financial policies and procedures, and timely follow-up on financial management issues.

58. **Project performance evaluation report.** The project performance evaluation report may be prepared in 2024 or later so that long-term benefits and impact of the project can be better assessed.

³⁴ ADB. [Nepal: Integrated Urban Development Project](#).

DESIGN AND MONITORING FRAMEWORK

Design Summary	Performance Indicators and Targets	Project Achievements
Impact		
Improved quality of life and higher and more socially inclusive economic growth in key regional centers in Nepal	<p>By 2018, prevalence of diarrheal diseases reduced by 15% in Biratnagar, 20% in Birgunj, and 5% in Butwal from the 2004 level.</p> <p>By 2018, manufacturing value-added increased in real terms by 30% in Biratnagar and Birgunj and 10% in Butwal in 2018 from the 2006 level.</p>	<p>Achieved: During 2006 to 2016, the prevalence of diarrheal disease was reduced by 49% in Biratnagar, 33% in Butwal and 90% in Birgunj ^a.</p> <p>Achieved: During 2006 to 2018, the manufacturing value-added increased in real terms by 228% in Biratnagar, 32% in Birgunj and 680% in Butwal.^b</p>
Outcome		
Improved and affordable municipal services delivered effectively, efficiently, and reliably by accountable project municipalities	<p>Municipalities will have by the end of 2017:</p> <p>No major waterlogging in the core municipal area in Biratnagar and Birgunj</p> <p>90% of municipal waste collected, and all non-recyclable waste disposed of in the landfill in Birgunj and Butwal</p> <p>75% of wastewater in the service area collected and treated to meet environmental standards in Biratnagar and Birgunj</p> <p>85% of municipal population has access to improved water services in Kavre by the end of 2017</p>	<p>Achieved: There was no major waterlogging in the core municipal area in Biratnagar and Birgunj. More than 80% of the surveyed respondents stated that duration of waterlogging declined after project implementation. The average time of waterlogging was reduced from 6 hours to less than 1 hour in 2020 (Appendix 11, Tables A11.1-A11.3).</p> <p>Partially Achieved: The ISWM facility was constructed and is in operation in Birgunj. More than 90% of municipal waste is being collected and non-recyclable waste is being disposed of in the landfill site. No ISWM facility was constructed in Butwal.</p> <p>Partially Achieved: Construction of the sewer, drainage, and WWTP were completed in Biratnagar, and facilities are being operated, with at least 75% of wastewater in the service area collected and treated to meet environmental standards.</p> <p>Construction of the sewer, drainage and WWTP were completed in Birgunj, but collection and treatment of wastewater has not been achieved because of the absence of household connections to the sewer system.</p> <p>Not achieved: Although water from the source is collected in the reservoir, a pressure test of the transmission and distribution networks has not yet been</p>

Design Summary	Performance Indicators and Targets	Project Achievements
		completed. No houses are connected to the water supply system to date.
Outputs		
1. Reliable, affordable, and effective municipal infrastructure developed		
1.1 Drainage and sewerage systems improved (Biratnagar, Birgunj)	<p>Municipalities will have by the end of 2015:</p> <p>Storm-water drainage facilities built in Biratnagar and Birgunj, and cover their core municipal areas</p> <p>Wastewater treatment plants (WWTP) with a total capacity of 25,000 m³/day and sewerage network built in Biratnagar and Birgunj, and cover their core municipal areas</p> <p>25,000 new households served with sanitation connections (sewer connections and on-site sanitation)</p>	<p>Achieved: Constructed 82.62 km of storm water (major) drains and 53.39 km of roadside drains; and 52.22 km of sewer lines.</p> <p>Biratnagar: 36.68 km major drains, 53.39 km roadside drains, and 43.26 km sewer lines completed.</p> <p>Birgunj: 45.94 km storm water (major) drains, and 8.96 km sewer lines completed.</p> <p>Exceeded: The target was exceeded, with construction of WWTPs with a total capacity of 31,106 m³/day.</p> <p>Biratnagar: WWTP constructed with capacity of 18,490 m³/day. Birgunj: WWTP constructed with capacity of 10,000 m³/day, and two community septic tanks constructed with capacity of 1,070 m³ and 1,546 m³.</p> <p>Not Achieved: Biratnagar: 1,581 households have been connected to the sewer networks and 82 households have received onsite sanitation facilities through desludging of their private septic tanks, as of 2020.</p> <p>Birgunj: No households have yet been connected to the sewer lines. However, the municipality has developed a connection plan with a tariff structure. To expedite household connections to the sewer, the municipality has set a provision for mandatory connection to the sewer and is conducting municipal-level awareness activities to disseminate the plan and the provision to motivate households to connect to the sewer.^c</p>
1.2 Urban roads and lanes improved (Biratnagar, Birgunj)	Restoration or upgrading of 44 km of roads and lanes where drainage improvement takes place	Exceeded: Upgraded 49.67 km of roads and/or lanes in Biratnagar (including CDP), and 23.25 km of roads in Birgunj.

Design Summary	Performance Indicators and Targets	Project Achievements
		<p>Biratnagar: Improved 3.5 km of roads and/or lanes to black topped roads, and 46.17 km of roads and/or lanes to gravel roads.</p> <p>Birgunj: Improved 10.45 km of roads to black topped roads; and reinstated 12.80 km of black topped roads.</p>
1.3 Solid waste management systems improved (Birgunj, Butwal)	Sanitary landfill with a capacity of 20 tons/day and a service life of 20-25 years developed in Butwal and Birgunj	<p>Partially Achieved: Birgunj SLS with a capacity of 23.5 tons/day, service life of 15 to 20 years, and resource recovery facilities constructed.</p> <p>SLS not constructed in Butwal.^d</p>
1.4 Water supply systems expanded (Kavre, Butwal)	<p>3,000 households newly served and 4,500 households receiving improved water supply services in Kavre</p> <p>110 km of water supply pipes installed or upgraded</p>	<p>Not Achieved. The water supply system in Kavre is under construction. The water supply contract in Butwal was terminated.^e</p> <p>Exceeded: 299.32 km (including 3.2 km through CDP) of pipeline laid, and 108.85 km pipeline tested for leakage in Kavre.</p>
1.5 Other urban Infrastructure facilities improved (Butwal)	Necessary infrastructure (roads, drainage, etc.) in auto village in Butwal improved	Not Achieved: The subproject was cancelled due to social and procurement issues. ^f
1.6 Community development programs undertaken, including health and hygiene education, 3R (reduce, reuse, and recycle) promotion, skills training, and investment in small-scale community facilities	<p>Hand-washing practice improved</p> <p>Number of good-quality private latrines increased</p> <p>Gender-segregated public, community, and school toilets built in Biratnagar, Birgunj, and Butwal</p>	<p>Achieved: Hand washing practices have been significantly improved. About 88% of the surveyed respondents stated that their hand washing practices improved after the project implementation (Appendix 11, Table A11.4).</p> <p>Achieved: 627 good-quality private latrines constructed in poor clusters of Biratnagar (524), and Birgunj (103).</p> <p>Partially Achieved: Constructed 7 gender-segregated public toilets and installed 1 public mobile toilet.</p> <p>Biratnagar: Constructed 6 gender-segregated public toilets and installed 1 public mobile toilet. Among these, 5 toilets are disabled-people friendly.</p>

Design Summary	Performance Indicators and Targets	Project Achievements
	<p>Communities and households practicing organic waste composting in Birgunj and Butwal</p> <p>At least 33% representation of women in committees established for community development programs</p> <p>Women and vulnerable groups given priority in awareness-raising and skills training programs</p>	<p>Birgunj: Public, community, and school toilets were not constructed as there was no demand at the local level.</p> <p>Butwal: Constructed 1 gender-segregated public toilet.</p> <p>Not Achieved: CDP implemented at Butwal and Birgunj that incorporated 3R activities with focus on organic waste composting at household level. However, communities and households in Birgunj and Butwal did not put this into practice.</p> <p>Exceeded: 44.3% women represented in 78 executive and/or user's committees formed and/or revived for implementation of the CDP, with a woman in at least one key position in each committee.</p> <p>Achieved: Women and vulnerable groups were given priority in awareness-raising and skills training programs. Of the total of 1,686 people (Biratnagar: 262; Birgunj: 1,035; and Butwal: 389) who received the skills development training on various trades, 1,106 (66%) were women, and 1,485 (88%) were from disadvantaged groups. Awareness-raising programs on health and hygiene and 3Rs provided to 5,350 people (Biratnagar: 2,767; Birgunj: 1,471; and Butwal: 1,112). Among them 4,075 (76%) were women, and 4,793 (90%) from poor and vulnerable groups.</p>
2. Strengthened capacity of municipalities and the central government to manage and operate the project.		
2.1. Financial, technical, and institutional capacity of municipalities strengthened	<p>Municipalities will have by 2015:</p> <p>Internal revenue of three municipalities increased by 30% in real terms from the 2009 level</p> <p>Citizens' satisfaction with service delivery (drainage, sewerage, solid waste management, and water supply) improved</p>	<p>Partially Achieved: According to information obtained from the Ministry of Local Development, during 2009 to 2015 internal revenue:</p> <ul style="list-style-type: none"> (i) increased from NRs148,936K to NRs206,087K in Biratnagar (38%); (ii) decreased from NRs199,279 to NRs145,566 in Birgunj (27%); and (iii) increased from NRs130,118 to NRs139,762 in Butwal (7%). <p>Partially Achieved: More than 80.0% of respondents expressed their satisfaction with service delivery, except for</p>

Design Summary	Performance Indicators and Targets	Project Achievements
	<p>Score of three municipalities for minimum conditions and performance measures improved</p> <p>Access ratio of urban services and poverty ratio regularly monitored, with data disaggregated by sex, caste, and ethnicity</p>	<p>sewer (Appendix 11, Tables A11.5-A11.7).^g</p> <p>The water supply system in Kavre is not yet in operation, and thus citizens' satisfaction could not be assessed.</p> <p>Partially Achieved: The performance measures improved during 2009 to 2015 for all municipalities, i.e., Biratnagar (42 in 2009 to 74 in 2015); Birgunj (46 in 2009 to 51 in 2015); Butwal (54 in 2009 to 90 in 2015).^h</p> <p>During 2009–2015 minimum conditions improved in Birgunj but remained unchanged for Biratnagar and Butwal.ⁱ</p> <p>Not achieved: No data was collected by municipalities on the access ratio of urban services and the poverty ratio. However, the project developed PPMS included GESI indicators and data information disaggregated by sex, caste and ethnicity that was monitored regularly.</p>

ADB = Asian Development Bank; CDP = community development program; GESI = gender equality and social inclusion; ISWM = integrated solid waste management system; km = kilometer; m³/day = cubic meters per day; PPMS = project performance monitoring system; WWTP = wastewater treatment plant; 3R = reduce, reuse, and recycle; SLS = sanitary landfill site.

Source: Asian Development Bank.

- ^a Ministry of Health and Population. 2006/2016. *Nepal Demographic Health Survey (NDHS) 2006/2016*. Kathmandu. The NDHS was conducted in 2006 and not in 2004, and similarly conducted in 2016 and not in 2018. As in the ADB. 2010. *Report and Recommendation of the President to the Board of Directors: Proposed Loan and Administration of Loan to Nepal for the Secondary Towns Integrated Urban Environmental Improvement Project*. Manila, the prevalence of diarrheal disease in Biratnagar, Birgunj and Butwal is proxied by the prevalence of diarrheal disease in Morang, Parsa, and Rupandehi, respectively.
- ^b Manufacturing value added data (at district level) in 2006 was obtained from the Central Bureau of Statistics. 2007. *Census of Manufacturing Establishments*. Kathmandu. *Census of Manufacturing Establishments*. Kathmandu. Central Bureau of Statistics. 2018. *The National Economic Census 2018*. Kathmandu. The National Economic Census 2018 reports the annual profit of the entities with paid employees at the district level.
- ^c The project design mentions financing of household connections to the sewer to be covered by the project, which was not included in the final contracts.
- ^d Employer issued a notice of termination for the Butwal ISWM on 21 June 2019. As of October 2022, dispute resolution is still ongoing.
- ^e For household connections in Kavre, no financial resource allocation was included in the Cost and Financing section of the Project Administration Manual.
- ^f ADB decided to cancel and/or not to finance the auto village subproject through its letter to the Urban Development and Building Construction dated 17 Oct 2017.
- ^g The project coordination office did not conduct an endline survey to measure the achievements of some DMF indicators. The consultant economist conducted a survey in Biratnagar and Birgunj municipalities to measure the project results.
- ^h Ministry of Local Development. 2015. *Local Bodies Fiscal Commission Urban Development through Local Efforts Program*. Kathmandu. Detailed revenue and expenditure breakdown with budget and key financial indicators of 58 municipalities, jointly prepared by the Municipal Management Division.

- ⁱ Ministry of Local Development. 2011. *An Analysis Report of Minimum Conditions and Performance Measures of Local Bodies in Nepal, An overview, Assessment year 2007/08 to 2010/11*. Local Bodies Fiscal Commission Secretariat. Kathmandu; and Ministry of Local Development. 2016. *An Analysis Report of Minimum Conditions and Performance Measures of Local Bodies in Nepal. Assessment Year 2014/2015*, Local Bodies Fiscal Commission Secretariat. Kathmandu.

DETAILED OUTPUT ACHIEVEMENTS PER MUNICIPALITY

Table A2.1: Infrastructure Constructed and/or Upgraded under the Project

Infrastructure	Biratnagar	Birgunj	Kavre	Total
Sanitary landfill site construction	-	1.00	-	1.00
Stormwater drainage networks				
New major drainage constructed through civil works contract (km)	36.68	45.94	-	82.62
New roadside drainage constructed through civil works contract (km)	36.05		-	36.05
Sewer networks				
Wastewater treatment plant (number)	1.00	1.00	-	2.00
Community septic tank	-	2.00	-	2.00
New sewer lines constructed through civil works contract (km)	43.26	8.96	-	52.22
Urban road and lanes				
New road/lanes improved to black topped road with footpath through civil works contract (km)	3.50	10.45	-	13.95
Road and lanes improved to gravel road through civil works contract (km)	36.67		-	36.67
Existing road/lanes reinstated to black topped roads through civil works contract	-	12.80	-	12.80
Water supply networks				
Transmission network (km)	-	-	46.44 (87.0%) ^b	46.44 (87.0%) ^b
Distribution network (km)	-	-	249.68 (88.3%) ^b	249.68 (88.3%) ^b
Regional water treatment plant (number)	-	-	1.00	1.00 ^a
Water treatment plant (number)	-	-	5.00	5.00 ^a
Reservoir tank (number)	-	-	14.00	14.00 ^a
Recreation Park (number)	-	1.00	-	1.00
Health post building (number)	-	1.00	-	1.00

km = kilometer.

Though the project is physically completed on 31 December 2019, the progress reported under "Water supply networks" refers to the progress achieved in KVVSP until 31 July 2021. The government is supporting implementation of the KVVSP after completion of ADB project.

^a Substantially completed.

^b Achievement against total planned quantity.

Source: Government Project Completion Report.

Table A2.2: Status of Infrastructure Built by the Project through Community Development Program

Infrastructure	Biratnagar	Birgunj	Butwal	Kavre	Total
Storm Water Drainage Networks					
New roadside drainage construction (km)	17.34	-	2.16	0.12	19.62
Urban Road and Lanes					
Road/lanes improved to gravel road (km)	9.50	-	-	0.42	9.92
RCC road construction (km)	-	-	-	0.15	0.15
Road widening (km)	-	-	-	1.44	1.44
Gabion works for road protection (cum)	-	-	-	1,953.00	1,953.00
Water Supply					
Reservoir tank (number)	-	-	-	1.00 (40 cum)	1.00 (40 cum)
Water supply transmission pipeline (km)	-	-	-	2.00	2.00
Water supply distribution pipeline (km)	-	-	-	1.20	1.20
Handpump/ tube well (number)	10.00	45.00	-	-	55.00
Handpump platform construction (number)	77.00	-	-	-	77.00
Irrigation canal					
Rehabilitation of canal (km)	-	-	-	0.30	0.30
Public/Private Toilets					
Public toilet (number)	6.00	-	1.00	-	7.00
Rehabilitation and sanitization of a public space around a public toilet (number)	1.00	-	-	-	1.00
Mobile public toilet (number)	1.00	-	-	-	1.00
Construction of private toilet (number)	524.00	103.00	-	-	627.00
Boundary wall (km)			1.68		1.68
Retaining wall (m)			86.00		86.00

cum = cubic meter, km = kilometer, m = meter, RCC = reinforced cement concrete.

Source: Government Project Completion Report.

Table A2.3: Beneficiaries of Market-Oriented Skills Development Training Provided by the Project under CDP

Description	Biratnagar					Birgunj					Butwal					Total				
	M	F	T	O	DVG	M	F	T	O	DVG	M	F	T	O	DVG	M	F	T	O	DVG
Total beneficiaries of skills development training ^a	89	173	262	65	197	443	592	1,035	136	899	48	341	389	0	389	580	1,106	1,686	201	1,485
Percentage																34%	66%	100%	12%	88%

CDP = community development program, DVG = disadvantaged and vulnerable group, F = female, M = male, O = others, T = total.

^a Types of the training conducted in Biratnagar: plumbing, house wiring, boutique training (dress design), PICO (sewing edge of sarees/shawl/ladies' dress), driving, mobile repair, television repair. Types of the training conducted in Birgunj: beauty parlor, junior computer hardware technicians, security guard training, mobile repair training, heavy equipment (excavator operating training), boutique training, light vehicle driving training. Types of the training conducted in Butwal: cutting and sewing, boutique training, basic computer, beautician, auto mobile training, driving, snacks making, pickle making, doll making, off season vegetable farming.

Source: Government Project Completion Report.

Table A2.4: Capacity Building and Awareness Raising Training Provided by the Project

Event type	Biratnagar					Birgunj					Butwal					Total				
	M	F	T	O	DVG	M	F	T	O	DVG	M	F	T	O	DVG	M	F	T	O	DVG
Workshop to members of UC to disseminate information of proper use of toilet and tube well						17	5	22	3	19						17	5	22	3	19
Orientation program for FCHVs for disseminating health and hygiene awareness/ education to the community people	0	135	135	67	68											0	135	135	67	68
Orientation program for municipality ward secretaries and municipal staff	25	3	28	15	13											25	3	28	15	13
Orientation program for members of TLO coordination committees	27	18	45	27	18											27	18	45	27	18
Health and hygiene education program	38	38	76	3	73											38	38	76	3	73
Formation and orientation for child club to implement SLTS program	126	205	331	18	313											126	205	331	18	313
Health, hygiene, and sanitation committee formed in TLOs for promoting proper health, hygiene, and sanitation practices	199	553	752	130	622	11	4	15	5	10	18	31	49	1	48	228	588	816	136	680
Awareness program on better sanitation	0	700	700	85	615											0	700	700	85	615
SWM activities on 3R concept including awareness campaign on proper dumping of waste and no open defecation (at cluster level)	0	700	700	85	615	519	428	947	76	871	145	570	715	26	689	664	1,698	2,362	187	2,175
SWM activities on 3R concept including awareness campaign on proper dumping of waste and no open defecation (at ward level)						64	423	487	16	471	86	262	348	0	348	150	685	835	16	819
Total	415	2,352	2,767	430	2,337	611	860	1,471	100	1,371	249	863	1,112	27	1,085	1,275	4,075	5,350	557	4,793
Percentage (%)	15	85	100	16	85	42	59	100	7	93	22	78	100	2	98	24	76	100	10	90

3R = reduce, reuse, and recycle; DVG = disadvantaged and vulnerable group; F = female; FCHVs = female community health volunteers; M = male; O = others; SLTS = school-led total sanitation; SWM = solid waste management; T = total; TLO = tole-lane organization; UC = users' committee.

Source: Government Project Completion Report.

PROJECT COST AT APPRAISAL AND ACTUAL
(\$ million)

Item	Appraisal Estimate			Actual		
	Foreign Exchange	Local Currency ^a	Total Cost	Foreign Exchange	Local Currency	Total Cost
A. Investment Costs						
1. Civil Works						
a. Drainage and sewerage systems and road and lanes improvement	47.47	-	47.47	55.93	-	55.93
b. Solid waste management systems improvement and community development	4.85	-	4.85	5.91	-	5.91
c. Water supply systems expansion	10.53	-	10.53	9.11	-	9.11
d. Other urban infrastructure facilities improvement	2.51	-	2.51	-	-	-
e. Community development	2.60	-	2.60	1.45	-	1.45
2. Land acquisition and resettlement	-	4.26	4.26	-	2.78	2.78
3. Consultants						
a. Community development	0.58	-	0.58	-	0.11	0.11
b. Project management and capacity building	7.16	-	7.16	5.29	-	5.29
4. Taxes	12.47	-	12.47	11.75	-	11.75
Subtotal (A)	88.17	4.26	92.43	89.45	2.89	92.34
B. Recurrent Costs						
1. Project administration and implementation	-	2.12	2.12	-	3.14	3.14
2. Taxes	0.28	-	0.28	0.17	-	0.17
Subtotal (B)	0.28	2.12	2.40	0.17	3.14	3.31
C. Contingencies						
1. Physical	7.57	-	7.57	-	-	-
2. Price	1.33	-	1.33	-	-	-
Subtotal (C)	8.90	-	8.90	-	-	-
D. Financial Charges						
1. Interest and service charges during implementation	2.61	-	2.61	1.93	-	1.93
Subtotal (D)	2.61	-	2.61	1.93	-	1.93
Total (A+B+C+D)	99.95	6.38	106.33	91.55	6.03	97.57

Note: Numbers may not sum precisely because of rounding.

^a Local currency includes cost for land acquisition, resettlement, and recurrent cost excluding taxes (based on project cost estimate file at processing).

Source: Asian Development Bank estimates.

PROJECT COST BY FINANCIER

Table A4.1: Project Cost at Appraisal by Financier
(\$ million)

Item	ADB		OFID		GON ^a		GON Taxes		Total Cost
	Amount	% of Cost Category	Amount	% of Cost Category	Amount	% of Cost Category	Amount	% of Cost Category	Amount
A. Investment Costs									
1. Civil Works									
a. Drainage and sewerage systems and road and lanes improvement	26.70	48%	15.30	28%	5.46	10%	7.83	14%	55.30
b. Solid waste management systems improvement and community development	6.59	76%	0.00	0%	0.86	10%	1.23	14%	8.67
c. Water supply systems expansion	7.90	64%	0.00	0%	2.63	21%	1.73	14%	12.26
d. Other urban infrastructure facilities improvement	1.63	56%	0.00	0%	0.88	30%	0.41	14%	2.92
2. Land acquisition and resettlement	0.00	0%	0.00	0%	4.26	100%	0.00	0%	4.26
3. Consultants									
a. Community development	0.58	86%	0.00	0%	0.00	0%	0.10	14%	0.68
b. Project management and capacity building	7.16	86%	0.00	0%	0.00	0%	1.17	14%	8.34
Subtotal (A)	50.56	55%	15.30	17%	14.09	15%	12.47	13%	92.42
B. Recurrent Costs									
1. Salaries	0.65	44%	0.00	0%	0.65	44%	0.17	12%	1.47
2. Vehicles and office equipment	0.41	44%	0.00	0%	0.41	44%	0.11	12%	0.93
Subtotal (B)	1.06	44%	0.00	0%	1.06	44%	0.28	12%	2.40
C. Contingencies									
1. Physical	4.89	65%	1.70	22%	0.98	13%	0.00	0%	7.57
2. Price	0.88	66%	0.00	0%	0.45	34%	0.00	0%	1.33
Subtotal (C)	5.77	65%	1.70	19%	1.43	16%	0.00	0.00	8.90
A. Financial Charges									
1. Interest and service charges during implementation	2.61	100%	0.00	0%	0.00	0%	0.00	0%	2.61
Subtotal (D)	2.61	100%	0.00	0%	0.00	0%	0.00	0%	2.61
Grand Total (A+B+C+D)	60.00		17.00		16.58		12.75		106.33
Percentage (%)		56%		16%		16%	12%		100%

Note: Numbers may not sum precisely because of rounding.

ADB = Asian Development Bank, GON = Government of Nepal, OFID = OPEC Fund for International Development.

Source: Asian Development Bank estimates.

Table A4.2: Project Cost at Completion by Financier
(\$ million)

Item	ADB		OFID		GON ^a		GON Taxes		Total Cost
	Amount	% of Cost Category	Amount	% of Cost Category	Amount	% of Cost Category	Amount	% of Cost Category	Amount
A. Investment Costs									
1. Civil Works									
a. 4.59	29.04	44%	16.96	26%	10.51	16%	9.16	14%	65.67
b. 6.13	4.59	67%	-	-	1.38	20%	0.87	13%	6.83
c. 0.00	6.13	56%	-	-	3.36	31%	1.38	13%	10.87
d. 0.00	0.00	-	-	-	-	-	-	-	-
2. Land acquisition and resettlement	0.00	-	-	-	2.38	85%	0.40	15%	2.78
3. Consultants	5.79	93%	-	-	0.34	6%	0.06	1%	6.19
Subtotal (A)	45.55	49%	16.96	18%	17.97	19%	11.86	13%	92.34
B. Recurrent Costs	1.32	40%	-	-	1.92	58%	0.06	2%	3.30
Subtotal (B)	1.32	40%	-	-	1.92	58%	0.06	2%	3.30
C. Contingencies	0.00	0%	-	-	-	-	-	-	-
Subtotal (C)	0.00	0%	-	-	-	-	-	-	-
D. Financial Charges	1.93	100%	-	-	-	-	-	-	1.93
(Interest and service charges during implementation)									
Subtotal (D)	1.93	100%	-	-	-	-	-	-	1.93
Grand Total (A+B+C+D)	48.80		16.96		19.90		11.92		97.57
Percentage (%)		50%		17%		21%		12%	100%

ADB = Asian Development Bank, GON = Government of Nepal, OFID = OPEC Fund for International Development.

Note: Numbers may not sum precisely because of rounding.

Source: Asian Development Bank estimates.

DISBURSEMENT OF LOAN PROCEEDS

Table A5: Annual and Cumulative Disbursement of Loan (ADB and OFID) Proceeds

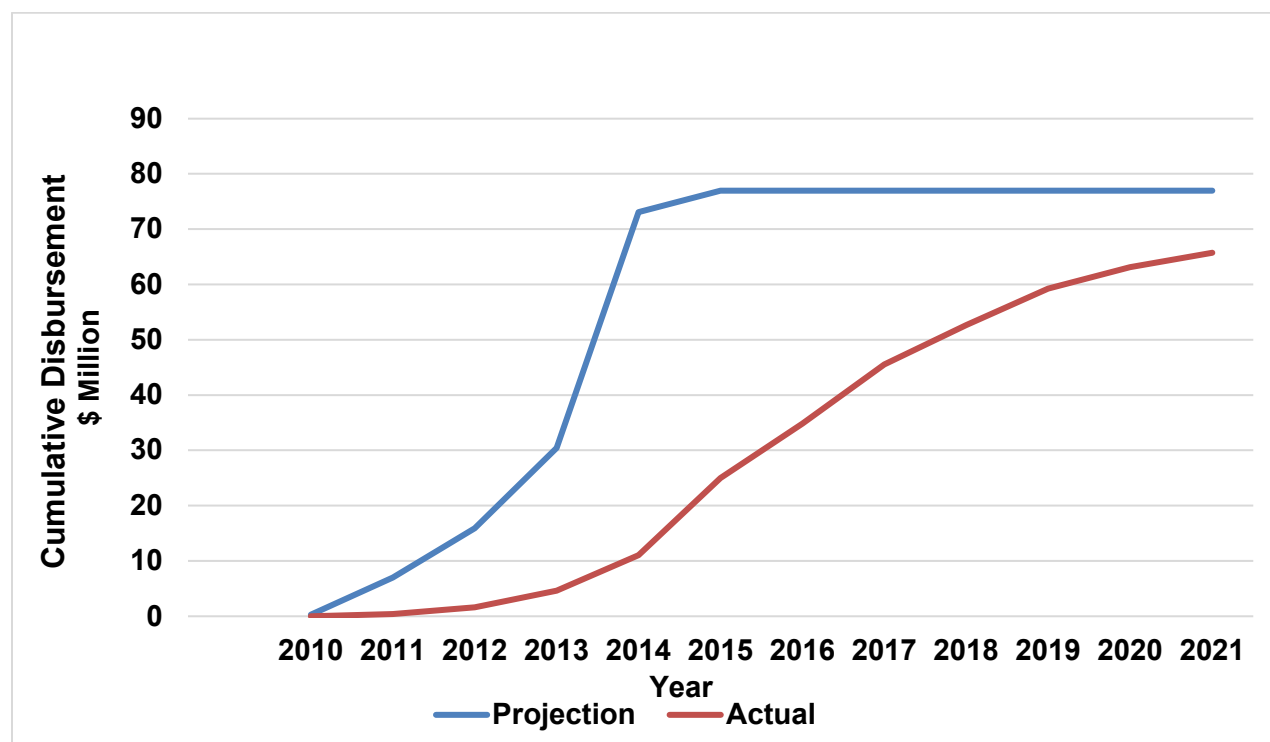
Year	Annual Disbursement		Cumulative Disbursement	
	Amount (\$ million)	% of Total	Amount (\$ million)	% of Total
2010	-	0%	0.00	0%
2011	0.38	1%	0.38	1%
2012	1.21	2%	1.59	2%
2013	3.02	5%	4.61	7%
2014	6.41	10%	11.02	17%
2015	13.97	21%	24.98	38%
2016	9.85	15%	34.83	53%
2017	10.67	16%	45.50	69%
2018	7.14	11%	52.64	80%
2019	6.60	10%	59.24	90%
2020	3.86	6%	63.10	96%
2021	2.65	4%	65.75	100%
Total	65.76	100%	65.76	100%

ADB = Asian Development Bank, OFID = OPEC Fund for International Development.

Note: Numbers may not sum precisely because of rounding.

Source: Asian Development Bank.

Figure A5: Projection and Cumulative Disbursement of Loan (ADB and OFID) Proceeds (\$ million)



ADB = Asian Development Bank; OFID = OPEC Fund for International Development.

Source: Asian Development Bank.

CONTRACT AWARDS OF LOAN PROCEEDS

Table A6: Annual and Cumulative Contract Awards of Loan (ADB and OFID) Proceeds

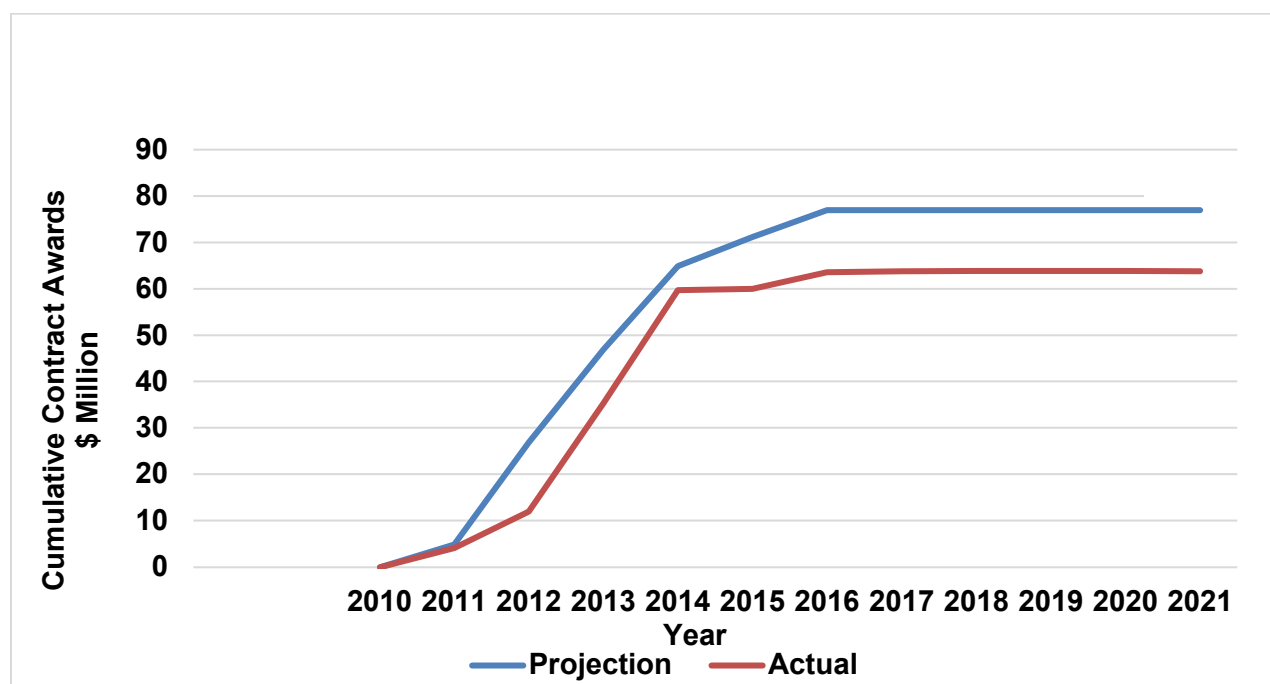
Year	Annual Contract Awards		Cumulative Contract Awards	
	Amount (\$ million)	% of Total	Amount (\$ million)	% of Total
2010	0.00	0%	0.00	0%
2011	4.07	6%	4.07	6%
2012	7.85	12%	11.93	19%
2013	23.35	37%	35.28	55%
2014	24.40	38%	59.67	94%
2015	0.28	0%	59.96	94%
2016	3.62	6%	63.58	100%
2017	0.22	0%	63.79	100%
2018	0.03	0%	63.82	100%
2019	0.00	0%	63.82	100%
2020	0.00	0%	63.82	100%
2021	0.00	0%	63.82	100%
Total	63.82	100%	63.82	100%

ADB = Asian Development Bank, OFID = OPEC Fund for International Development.

Note: Numbers may not sum precisely because of rounding.

Source: Asian Development Bank.

Figure A6: Projected and Actual Cumulative Contract Awards of Loan (ADB and OFID) Proceeds (\$ million)



ADB = Asian Development Bank; OFID = OPEC Fund for International Development.

Source: Asian Development Bank.

GENDER EQUALITY AND SOCIAL INCLUSION ACTION PLAN IMPLEMENTATION AND ACHIEVEMENTS

A. Introduction

1. The Secondary Towns Integrated Urban Environmental Improvement Project (STIUEIP) aimed to improve the quality of life and achieve higher and more socially inclusive economic growth in key regional centers of Nepal through effective, efficient, and reliable delivery of improved and affordable municipal services by accountable project municipalities. The project was conceived in the context of the already deteriorating urban environmental conditions, including inaccessible and poor-quality drinking water and sanitation facilities, uncollected or improperly dumped waste, water pollution from untreated domestic and industrial wastewater, and waterlogging. The Nepal Living Standard Survey 2003/04 suggested that only 30.4% of households in urban areas outside the Kathmandu Valley had access to sewerage systems (compared with 98.1% in the valley), and only 24.1% had access to garbage collection and disposal systems (compared with 83.0% in the valley).¹ Rapid population growth and proportionately less assistance from the government resulted in poor municipal infrastructures and services in these towns. These deficiencies were concentrated in areas that were disproportionately inhabited by people from disadvantaged groups. Deteriorated environmental conditions led to unhealthy living and health problems, which mostly affected the poor and the vulnerable.

2. The project focused on implementing integrated urban environmental improvements that included sewerage and drainage systems, solid waste management (SWM) facilities, and urban roads and lanes in three municipalities, Biratnagar, Birgunj, and Butwal.² It included pro-poor participatory community development program (CDP)—comprising health and hygiene education, advocacy to reduce, reuse, and recycle (3R) solid waste, skills development—and the construction of small-scale infrastructures. Also, capacity strengthening of the municipalities and the central government to manage and run the project was an envisaged output.

3. The project design considered the subprojects prioritized by municipalities in their periodic plan.³ The improvements in drainage and sewerage infrastructure and SWM systems were expected to produce significant public health benefits for the community in general, including the poor. CDPs were designed to be implemented in peripheral areas of municipalities, where the proportion of the poor was higher and generally lacked all basic infrastructures. Small-scale facilities, such as communal water taps and toilets, were for the poor to better access water supply and sanitation. The promotion of 3R programs was expected to benefit the poor and women. The programs were designed with community participation and women and vulnerable groups adequately represented. The project was expected to bring tangible benefits to women through better access to municipal services and more meaningful participation. Hence, it was categorized *effective gender mainstreaming* (EGM).

4. The project objectives were in line with one of the priorities of the government's National Urban Policy—improving the quality of urban life by building a clean, safe, and well-developed

¹ ADB. 2010. *Report and Recommendation of the President to the Board of Directors: Proposed Loan and Administration of Loan for the Secondary Towns Integrated Urban Environmental Improvement Project*. Manila.

² A water supply development subproject was also designed for Kavre valley comprising—Banepa, Dhulikhel, and Panauti municipalities. However, the GESI action plan did not include the Kavre subproject.

³ It included sewer and drainage systems for Biratnagar and Birgunj, solid waste management system in Birgunj and Butwal, water supply subproject in Kavre and Butwal, other urban infrastructures (Auto village subproject) in Butwal and CDPs in all the three project towns except Kavre.

urban environment—and the Three-Year Interim Plan, FY2008–FY2010, which promotes government investments in urban infrastructure and other services and the empowerment and strengthening of local institutions to build a clean, safe, and prosperous urban environment. The project was part of ADB’s country partnership strategy for Nepal, 2010-2012.

B. Gender Equality and Social Inclusion Issues

5. During the project preparatory phase, women and excluded groups set the priority needs to be addressed by the project. In Birgunj, all groups gave highest priority to drainage and sanitation. In Biratnagar, employment was the utmost priority of women, Dalits, slum residents, and squatters; water supply was their second priority. The priorities were the same in Butwal, except for slum residents, who considered river training as their first priority. The key gender issues identified during project preparation were:

- Women were excluded from municipal decision-making processes despite guarantees in the Local Self-Governance Act for women’s and vulnerable groups’ representation.
- Women were primarily responsible for the collection, use, and management of household water supply and for family health and sanitation. However, they often had no voice and no choice in decisions about the kinds of services they need or receive.
- Women were not involved in project planning and implementation.
- The provision of water supply and sanitation services stood more as technical solutions and lacked gender-inclusive approach that considers the relation between men and women and the influence of this relation on access to resources and participation in decision-making of women across social groups.

C. Gender Equality and Social Inclusion Features

6. To address the identified GESI issues, the GESI action plan and the project design and monitoring framework (DMF) incorporated activities with specific targets to ensure women, poor, and disadvantaged groups benefit from the project outputs. These included:

- Information dissemination on project activities conducted in all project wards and toles involving poor and disadvantaged, women’s groups, women’s organizations, and other interest groups.
- Community mobilizers in NGOs selected from the local areas, with 50% from disadvantaged groups⁴ and women.
- Executive committees for tole lane organizations (TLOs) and user committees comprised at least 33% women with at least one woman in key position, and proportionate representation of Dalits, marginalized indigenous peoples, Muslims, and other vulnerable groups.
- Women and vulnerable groups included in training, decision-making, operation and maintenance (O&M) of community facilities, and monitoring.
- Separate toilets for girls/women and boys/men in schools, communities, and public places.
- Poor, disadvantaged households, and project-affected households given priority to participate in market-oriented skills training with at least 50% women, vulnerable groups, and the poor.
- Poor households benefit from small community water and/or sanitation schemes.

⁴ Dalits, marginalized indigenous groups, Muslims, and other minority groups.

- 3R training programs conducted with participants at least 50% women, vulnerable groups, and the poor.
- Equal employment opportunity given to poor women and men in construction works, and equal wages distributed to women and men for work of equal value. The contractors will be encouraged to employ local labor, including women and the poor.
- Gender and social development officers placed in the Project Coordination Office (PCO) and Project Implementation Units (PIUs) involved in project planning, implementation, and monitoring. Their capacity enhanced with training from the project management support consultant (PMSC) and design and supervision consultants (DSCs).

D. Implementation, Monitoring, and Reporting Arrangements

7. The PCO was established in the Department of Urban Development and Building Construction (DUDBC) under MOUD. PIUs were established in Biratnagar, Birgunj, and Butwal municipalities. PMSC, engaged by the PCO, assisted in monitoring the CDP and GESI action plan implementation. DSCs, engaged by each PIU, supported the implementation of the CDP, community mobilization, and GESI action plan. Local non-governmental organizations (NGOs) were engaged by each PIU to support the implementation of the CDP and GESI action plan.⁵ The NGOs worked in close collaboration with the DSCs under the overall supervision of PIUs, as well as the PCO when required. NGOs worked with the social development officer and/or unit of the project municipalities in overall planning and monitoring of community mobilization activities and ensured gender sensitivity and social inclusiveness of project activities. Social development specialists in PMSC and DSC of each PIU supported the implementation of the GESI activities. The status of the implementation of the GESI action plan was discussed at each ADB review mission and integrated into quarterly progress reports.

E. Gender Equality and Social Inclusion Achievements

8. A total of 14 out of 16 (87.5%) activities of GESI Action Plan were completed, and 5 of the 7 (71%) combined quantitative gender-related targets of the GESI Action Plan and DMF were achieved. Hence, the overall implementation of the GESI Action Plan is rated *not successful*. The following is a summary of the practical and strategic gender benefits of these achievements.

Practical Gender Benefits

9. Small-scale infrastructures developed prioritizing the needs of women, poor, disadvantaged, and vulnerable groups: The small-scale infrastructures included public and private toilets, small water supply works, such as hand pumps and tube wells, and drainages, benefiting 13,006 people, of whom 5,479 (42%) were women, and 11,902 (92%) were from disadvantaged groups (Dalits, Janajatis, Other backward castes [OBC], and Muslims).

10. Gender equality in human development: The project ensured the representation of poor and disadvantaged, women's groups and organizations, and other interest groups from all project wards and towns in project information dissemination and capacity development activities.

⁵ The contract of the NGO in Birgunj was terminated due to inefficiency and failure of the NGO to inject inputs of experts in May 2015. The PIU in Birgunj continued CDP activities with the support of the Municipal Social Development Section after NGO termination.

- Information dissemination programs were carried out in 167 poverty clusters with the participation of 6,419 community people, of whom 3,005 (47%) were women, and 5,020 (78%) were from disadvantaged groups.⁶
- Five orientation programs were organized for Female Community Health Volunteers (FCHVs) with 135 participants, of whom 68 (50.37%) were from disadvantaged groups.
- 78 users' committees were formed under 88 TLOs with 835 members, of whom 370 (44.3%) were women and 754 (90%) from disadvantaged groups.
- In users' committees, 135 women held at least one key position in each committee.⁷
- Included in training, decision making, and O&M of community facilities and monitoring were 1,686 people, of whom 1,106 (65.6%) were women, and 1,485 (88%) were from disadvantaged groups.
- Women from poverty clusters comprised 65.6% of the participants of market-oriented skills training courses that were based on Council for Technical Education and Vocational Training (CTEVT) curriculum and certification. Disadvantaged groups (Dalits, Janajatis, Muslims, OBC, Madhesis, and other excluded groups) comprised 88% of the participants.
- SWM activities and 3R training programs were carried out at both cluster and ward levels with 3,197 participants, of whom 2,383 (74.5%) were women and 2,994 from disadvantaged groups.
- Five-day GESI Training of Trainers (TOT) was organized for 78 stakeholders, including 29 (37%) women and 43 (55%) disadvantaged groups in all three municipalities.

Strategic Gender Benefits

11. Women's economic empowerment: Of the 10 social mobilizers (SMs) in the NGO team, 40% were women and 70% from disadvantaged groups (Dalits 2 and 5 Janajatis). Equal employment opportunities were provided to poor women and men in construction works. Of the 2,707 local people engaged in small infrastructure construction works in Butwal, 787 (29%) were women and 2,035 from disadvantaged groups. Market-oriented skills training supported women to improve their livelihood and increase income. The stories of Chamkila Khatun and Mina Devi from Birgunj, who undertook 3 months tailoring training provided by the project, are examples of this achievement. Once a housewife, 27-year-old Mina Devi now earns NRs10,000–NRs13,000 monthly from her tailoring skills, "I used to stay home doing household chores and depend on my husband's earning. After taking this training, I have started earning, and this is a big support for household expenses. My husband and my family now respect me. I have my own savings, and I feel empowered." Similarly, 48-year-old Chamkila Khatun believed her new skill has changed her life. She shared, "I earn NRs12,000–NRs15,000 monthly sewing clothes in my locality. I have been saving my earning since I started the work, and this has been a big help during the time of Covid-19 lockdown. My husband, who worked on a daily wage, lost his job, but I could still earn and support my family. I feel empowered to have learned skills and be able to earn."⁸

⁶ The total number of participants from disadvantaged groups comprised 2,588 Dalits, 1,496 Janajatis, 819 OBCs, and 117 Muslims.

⁷ There were 22 Chairpersons, 19 Vice Chairpersons, 24 Secretaries, 8 Joint Secretaries, and 62 Treasurers.

⁸ Interview conducted by former social mobilizer with Ms. Mina Devi (27 years old, married) and Ms. Chamkila Khatun (48 years old, married), beneficiaries of market-oriented skills training activities from Ward 2, Birgunj metropolitan city in August 2021.

12. Gender equality in decision making and leadership: Formed under 88 TLOs were 78 executive committees with 835 members, including 370 (44.3%) women members. In these executive committees, there were 22 women as chairpersons, 19 as vice-chairpersons, 24 as secretaries, 8 as joint secretaries, and 62 as treasurers. Of the total members of the committees, 754 (90%) were from disadvantaged groups. They were involved in the training and engaged in decision making, O&M of community facilities, and monitoring. Women's leadership qualities and decision-making were found to have improved through the opportunities skills training provided by the project. A striking story of Om Kumari Rai exemplifies how skills she acquired helped her with the livelihood option in her hometown and decide not to continue her work as a labor migrant, "I was working in the Middle East to earn for my family. When I visited my hometown, I came to know from friends about skills training provided by the project. I received training on beauty parlor course for two months and passed level I CTEVT certification. This built my self-confidence to set up my own beauty parlor and made me decide not to go abroad. This was a big decision. However, I was confident that I would succeed. Today, I earn about NRs22,000–NRs25,000 per month from my parlor. I also work as an assistant trainer earning NRs15,000 for each training batch. I am very happy that I live in my own place with my family and do not have to migrate for earning."⁹

F. Challenges

13. Though most of the activities and targets of the GESI action plan—as agreed between ADB and the executing agency—were successfully completed and achieved, there were challenges encountered. The overall delay in project implementation and termination of subprojects in Butwal affected the GESI action plan implementation. In Birgunj, the mobilized NGO was inefficient in implementing CDP due to lack of experts, which led to the termination of their contract. Likewise, the termination of all major civil works subprojects led to only CDP activities implementation in Butwal. These issues affected the smooth implementation of CDP. Data keeping was another challenge after the termination of the NGO's contract. Another challenge was the socio-cultural norms, which restricted women's mobility. In Birgunj, women from some communities faced difficulty in participating in project-organized activities, such as skills training that took longer days. Despite these challenges, the project took different measures to implement the GESI action plan activities successfully. PIUs in Birgunj and Butwal continued CDP activities, including some of the skills training activities with the support of the Municipal Social Development Section. The project also encouraged the active engagement of local social mobilizers in awareness programs to increase the participation of women, poor, and disadvantaged groups in CDP activities. The municipalities have developed connection plans with a tariff structure and made a provision to continue household connections to the sewer with programs on municipal level awareness on this initiative.

⁹ Interview (virtual) with Ms. Om Kumari Rai (40 years old, unmarried), beneficiary of market-oriented skills training activities from squatter area of Ward 17, Biratnagar metropolitan city in August 2021.

Table A7: Gender Equality and Social Inclusion Achievements Matrix

Activities	Achievements	Assessment
Output 1: Reliable, affordable, and effective municipal infrastructure developed		
<p>Activity 1. Identify target communities in the community development program based on the urban maps.</p> <ul style="list-style-type: none"> – Select a number of communities where interventions to mainly support sanitation improvement will be provided, from the GIS based urban maps to be prepared under ADB's CDTA (TA 7355-NEP) that will have socioeconomic data disaggregated by gender, caste, and ethnicity. 	<ul style="list-style-type: none"> – 174 TLOs were identified as eligible for project intervention in 3 municipalities: 130 TLOs in Biratnagar, 28 TLOs in Birgunj, and 16 TLOs in Butwal. Of them, 20 TLOs in Biratnagar, 13 TLOs in Birgunj, and 5 TLOs in Butwal completed the Sanitation Support Program. – 90 TLOs in Biratnagar and 13 TLOs in Birgunj completed at least one skills development training or any other community development activities, 11 TLOs in Butwal reorganized, and 5 TLOs started interventions on Sanitation Support Program as per need and demand. 	Completed
<p>Activity 2. Conduct community mobilization with support from NGOs.</p> <ul style="list-style-type: none"> – Information dissemination on project activities conducted in all project wards and toles involving poor and disadvantaged, women groups, women's organizations, and other interest groups. <p>Target 1. Community mobilizers in NGOs are selected from the local area and 50% are from disadvantaged groups (Dalits, marginalized indigenous groups, Muslims, other minorities) and women.</p>	<ul style="list-style-type: none"> – Information dissemination on project activities carried out in 167 poverty clusters (174 TLOs). <ul style="list-style-type: none"> ○ Total Participants: 6,419 ○ Women: 3,005 (46.81%); Men: 3,414 (53.19%) ○ Dalits: 2,588 (40.32%); Women 1,283, Men 1,305 ○ Janajatis: 1,496 (23.31%); Women 699, Men 797 ○ OBC: 819 (12.76%); Women 377, Men 442 ○ Muslim: 117 (1.82%); Women 10, Men 107 ○ Others: 1,399 (21.8%); Women 636, Men 763 – Five project orientations conducted for Female Community Health Volunteers (FCHVs) with 135 participants (Women-135 [100%]; Dalits-4 [3%], Janajati-31 [23%], OBC-17 [12.6%], Muslim-16 [11.8%]). – One project orientation for municipality ward secretaries and municipal staffs conducted in Biratnagar with 28 participants (Men-25, Women-3; Janajati-6 [21%]; OBC-7 [25%]). – One program orientation for members of TLO Child Club conducted in Biratnagar with 45 participants (Men-27, Women-18; Dalits-3 [6.7%], Janajati-11 [24%], OBC-1 [13%]). – Selected for the NGOs team from the local area were 10 SMs, of whom four (40%) were women and 7 (70%) SMs were from disadvantaged groups (2 Dalits and 5 Janajatis). 	<p>Completed</p> <p>Target 1 achieved</p>

Activities	Achievements	Assessment
<p>Activity 3. Ensure social inclusion in decision-making and operations of small-scale infrastructure.</p> <p>Target 2: Executive committees for community-based organizations (such as TLOs and user committees) represented by at least 33% women with at least one in key position, and proportionately represented by Dalits, marginalized indigenous peoples, Muslims, and other vulnerable groups.</p> <ul style="list-style-type: none"> – Operational guidelines are gender-sensitive and inclusive. – Include women and vulnerable groups in training, decision-making, O&M of community facilities, and monitoring. 	<ul style="list-style-type: none"> – 78 executive committees of users under 88 TLOs were formed with: <ul style="list-style-type: none"> ○ Total members: 835 ○ Women: 370 (44.31%); Men: 465 (55.69%) ○ Dalits:197 (23.59%); Women 101, Men 96 ○ Janajati: 285 (34.13%); Women 119, Men 166 ○ OBC: 180 (21.82%); Women 80; Men 100 ○ Muslim; 92 (11.02%); Women 41, Men 51 – 44.3% women in 78 executive committees with a woman in at least one key position in each committee: 22 Chairpersons, 19 Vice-chairpersons, 24 Secretaries, 8 Joint Secretaries, and 62 Treasurers; 754 (90%) members of the committees were from disadvantaged groups; they were involved in decision making, O&M of community facilities, and monitoring – Women and vulnerable groups were included in skills training: <ul style="list-style-type: none"> ○ Total training participants: 1,686 ○ Women: 1,106 (65.6%); Men: 580 (34.4%) ○ Dalits: 261 (5.48%); Women 192, Men 69 ○ Janajatis: 404 (24%); Women 307, Men 97 ○ Muslims: 335 (19.9%); Women 238, Men 97 ○ OBC: 432 (25.62%); Women 267, Men 165 ○ Others:201(11.8%); Women 102; Men 99 ○ Madhesis and other excluded: 53 (3.14%), Men 53 – The Gender Equality and Social Inclusion Operational Guidelines, 2013 of the Government of Nepal Ministry of Urban Development were followed in social mapping and in giving priority to women, vulnerable groups, Dalit and Janajati for training. 	<p>Completed</p> <p>Target 2 achieved</p>
<p>Aligned with DMF Output 1.6: Community development program undertaken, including health and hygiene education 3R (reduce, reuse, and recycle) promotion, skills training, and investment in small-scale community facilities</p> <p>(Indicator 5: At least 33% representation of women in committees established for community development programs).</p>		
<p>Activity 4. Provide technical and financial support for community health and sanitation plan preparation and implementation.</p>	<ul style="list-style-type: none"> – Health and sanitation plan prepared at the municipality level by the DSC and implemented in all three project towns through technical and financial support, benefiting 13,006 people who engaged in community awareness activities for better sanitation through sanitation support program. Of the total, 7,527 (57.9%) were men and 5,479 (42.1%) were women; and 2,149 	<p>Completed</p>

Activities	Achievements	Assessment
<ul style="list-style-type: none"> Health and sanitation plan prepared by selected communities and implemented. <p>Target 3. 75% of households without private latrines in target communities sensitized for better sanitation.</p>	<p>(16.5%) were Dalits; 5,123 (39%) Janajatis; 3,077 (23.7%) OBC; 1,553 (11.9%) Muslims and 1,104 (8.54%) were from other groups.</p> <ul style="list-style-type: none"> Total households without private latrines in target communities were 30,427 in three towns.^a However, the baseline decreased during the project implementation because of the government led nation-wide sanitation campaign through collective effort of stakeholders. In 2016, there were only 3,273 households without private toilets. By 2019, all 30,427 HHs built private toilets, and to complement these efforts, the project built 627 private toilets.^b The combined efforts led to the declaration as ODF of Butwal in 2016, and of Birgunj and Biratnagar in 2019. Altogether, 15,149 people {8,076 (53.3%) men and 7,043(46.5%)} were sensitized for better sanitation through various awareness programs of whom 2,416 (15.9%) were Dalits, 5,805 (38.3%) were Janajatis, 3,276 (21.6% OBCs), 1,601(10.6%) were Muslims and 1,424 (9.4%) from other groups. 	Target 3 achieved
<p>Activity 5. Small-scale infrastructure to be supported is gender sensitive.</p> <ul style="list-style-type: none"> Separate toilets for girls/women and boys/men are built in schools, communities, and public places. <p>Aligned with DMF Output 1.6, Indicator 3: Public community and school toilets (sex-segregated) constructed in Biratnagar, Birgunj, and Butwal.</p>	<ul style="list-style-type: none"> Small scale infrastructures such as hand pumps, drainage, walls, and community tube wells were built, upgraded, and repaired.^c 7 public toilets and 1 mobile public toilet were constructed in Biratnagar Metropolitan City and Butwal Sub-Metropolitan City considering the hygiene and sanitation needs of children, women, and persons with disabilities in public places. In Birgunj, public, community, and school toilets were not constructed as there was no demand at the local level. 	Not completed
<p>Activity 6. Provide market-oriented skills training to poor and disadvantaged.</p> <ul style="list-style-type: none"> Poor, disadvantaged households, project affected households are given priority to participate in market-oriented skills training activities. <p>Target 4: At least 50% of beneficiaries of skills training are women, vulnerable groups, and the poor.</p> <p>Aligned with DMF Output 1.6 Indicator 6: Women and vulnerable groups given priority in awareness-raising and skills training programs.</p>	<ul style="list-style-type: none"> Market-oriented skills training courses were provided to poor and disadvantaged households. The participants were selected from the poverty clusters, and more than 50% of the participants were women, poor and from vulnerable groups. The training activities were based on CTEVT curriculum and certification. <ul style="list-style-type: none"> Total trained: 1,686^d Women: 1,106 (65.6%), Men: 580 (34.4%) Vulnerable groups: 1,485 (88%): Dalits: 261 (25%); Janajatis: 404 (24%); Muslims: 335 (20%); OBC: 432 (25.6%); Madhesis & other excluded: 53 (3%). 	Completed Target 4 achieved

Activities	Achievements	Assessment
<p>Activity 7. Develop gender-friendly sanitation and solid-waste management activities.</p> <ul style="list-style-type: none"> Poor households benefit from small community water and/or sanitation schemes. <p>Target 5. At least 50% of participants in 3R training programs are women, vulnerable groups, and the poor.</p>	<p>Small community water and/or sanitation schemes were targeted to benefit poor households.</p> <ul style="list-style-type: none"> In Biratnagar, 10 hand pumps installed and 77 hand pump platforms built. Also, 524 family toilets constructed in 20 poverty clusters and 6 public toilets that are child, women and disabled friendly constructed In Birgunj, 45 community tube wells installed, and 103 family toilets built covering 9 poverty clusters, benefiting 337 households: 92 Dalits, 34 Janajatis, 211 Muslims. In Butwal, 900 compost bins and 1,379 waste bins were distributed. SWM activities and 3R training programs carried out in all three municipalities at both cluster and ward levels, which included awareness campaigns on reducing household waste at the source, reusing waste, dumping household waste at designated place, organic waste composting and demotivating open defecation and peeing in open places. <ul style="list-style-type: none"> Total participants: 3,197 Women: 2,383 (74.5%), Men: 814 (25.5%) Vulnerable and poor groups: 2,994 (93.65%): Dalits: 1,078 (33.7%); Janajatis: 795 (25%); OBC: 800 (25%); Muslims: 321(10%) 	<p>Completed</p> <p>Target 5 achieved</p>
<p>Activity 8. Promote equal employment opportunity for women and men and equal wages for work of equal value.</p> <ul style="list-style-type: none"> Equal employment opportunity given to poor women and men in construction works; and equal wages distributed to women and men for work of equal value. The contractors will be encouraged for employment of local labor including women and the poor. 	<ul style="list-style-type: none"> The contractors were given strict instruction by the DSC regarding equal wage rate for skilled and unskilled men and women labor as well as not to involve child labor (child below the statutory minimum age specified under applicable national or local laws of Nepal) in the construction sites, which is illegal.^e The contractors working in all the project towns were aware of the GESI provisions of their contracts and were found compliant. Monitoring was done at construction sites to verify if contractors were following provisions, and they were urged to increase access of women and poor to labor works. 	<p>Completed</p>
<p>Target 6 (DMF indicator 1.1.3). 25,000 new households served with sanitation connections (sewer connections and on-site sanitation)</p>	<ul style="list-style-type: none"> Biratnagar: 1,581 households have been connected to the sewer networks and 82 households have received onsite sanitation facilities through desludging of their private septic tanks, as of 2020. Birgunj: No households have yet been connected to the sewer lines. However, the municipality has developed a connection plan with a tariff structure. To expedite household connections to the sewer, the municipality has set a provision for mandatory connection to the sewer and is conducting municipal-level awareness activities to disseminate the plan and the provision to motivate households to connect to the sewer. 	<p>Target 6 Not achieved</p>

Activities	Achievements	Assessment
Target 7 (DMF indicator 1.4.1). 3,000 households newly served and 4,500 households receiving improved water supply services in Kavre	<ul style="list-style-type: none"> The water supply system in Kavre is under construction. The water supply contract in Butwal was terminated. 	Target 7 Not achieved
Output 2: Capacity of municipalities and the central Government strengthened for project management and operation		
Activity 9. Designate Social Development Officer in PCO and PIUs. <ul style="list-style-type: none"> Gender and social development officers placed in PCO and PIUs and involved in project planning, implementation, and monitoring. Their capacity enhanced with training from PMSC and DSCs. 	<ul style="list-style-type: none"> Gender and social development officers were placed in PCO and PIUs and were involved in project planning, implementation, and monitoring. Capacity enhancement was done by PMSC and DSC as and when required in Biratnagar, Birgunj, and Butwal. 	Completed
Activity 10. Develop PPMS that includes sex, caste and ethnicity disaggregated data and information. <ul style="list-style-type: none"> Inclusion of sex, caste, and ethnicity disaggregated data and social indicators in progress monitoring and reporting. 	<ul style="list-style-type: none"> The developed PPMS included GESI indicators and data, and information disaggregated by sex, caste, and ethnicity. The project presented these data in its monthly progress report of CDP. Sex, caste, and ethnicity-disaggregated data and data on social indicators were regularly updated in GESI action plan report and project reports. 	Completed
Activity 11 (DMF Output 2.1 Indicator 4): Access ratio of urban services and poverty ratio regularly monitored, with disaggregated data by sex, caste, and ethnicity.	<ul style="list-style-type: none"> Municipalities did not collect data to monitor the access ratio of urban services and poverty. However, project developed PPMS included GESI indicators and data information disaggregated by sex, caste, ethnicity what was monitored regularly. 	Not completed
Activity 12. Develop gender equality and social inclusion implementation plan for each project municipality. <ul style="list-style-type: none"> GESI implementation plan prepared and implemented by each municipality, with adequate budget allocation, and periodically reviewed. 	<ul style="list-style-type: none"> GESI implementation plan developed and submitted by DSC and implemented in each municipality with adequate budget allocation. Regular monitoring and progress reporting were done by PIU in Biratnagar, Birgunj, and Butwal. GESI action plan report was updated quarterly. 	Completed
Activity 13. Ensure social inclusion in the municipal project management. <ul style="list-style-type: none"> Municipal project management committee representation from women and disadvantaged groups. 	<ul style="list-style-type: none"> Municipal project management committee had a total of 59 members—19 in Biratnagar, 21 in Birgunj, and 19 in Butwal—of whom 10 (17%) were women and 22 (37%) were from disadvantaged groups. 	Completed

Activities	Achievements	Assessment
<p>Activity 14. Provide technical support to Social Development Unit of the municipalities.</p> <ul style="list-style-type: none"> Social Development Unit of the municipalities better involved in coordination, planning, and monitoring of gender and social inclusion activities. 	<ul style="list-style-type: none"> Social Development Units were established in the PIUs and were responsible for coordinating, planning, and monitoring the GESI activities. The units provided support and guidance for the implementation of all project activities and reported periodically to the municipal office. Social Development officer was engaged throughout the project cycle in all project areas. 	Completed
<p>Activity 15. Provide GESI orientation to DUDBC and municipalities.</p> <ul style="list-style-type: none"> GESI orientation provided to DUDBC officials, PCO, municipalities and PIUs. 	<ul style="list-style-type: none"> Five-day GESI TOT was organized by DSC for the project stakeholders in all three municipalities. <ul style="list-style-type: none"> Total participants: 78; Women: 29 (37%), Men: 49 (63%) Dalit: 1 (1.28%) Janajati: 15 (19.23%) OBC: 26 (33.33%) Muslim: 1 (1.28%) Others: 35 (44.88%) 	Completed
<p>Activity 16. Conduct social audits.</p> <ul style="list-style-type: none"> Annual social audits conducted involving all people supported by the Project ensuring participation of Dalits, marginalized indigenous peoples, women, and other vulnerable groups including their representative organizations. Benefits to poor, women, disadvantaged, and vulnerable ensured through project activities and report submitted to PCO through PIU. 	<ul style="list-style-type: none"> Social audits of small-scale infrastructure works were completed with participation of Dalits, marginalized indigenous people, women, and vulnerable groups. It was a prerequisite for contractors' payment. The audits showed that the small infrastructure construction works benefitted 2,707 labors, of whom 787 (29%) were women, 582 (22%) Dalits, 1,453 (54%) Janajatis, and 672 (23%) were from other groups in Butwal. Inception, monthly, quarterly, and annual reports were submitted to PCO. <ul style="list-style-type: none"> In Biratnagar, social audits of small-scale infrastructures and public toilets were conducted in the presence of PIU, NGO, ward secretary, and other stakeholders. In Birgunj, social audits of constructed toilets were completed with 71 participants, of whom 24 (34%) were women and 66 (93%) from disadvantaged groups. In Butwal, social audit of small-scale infrastructure was conducted annually with participation of the members of Sub Metropolitan Board, including the Mayor and Chief Administrative Officer, ward chief, private organizations, media personnel, local stakeholders, and local people. 	Completed
Overall Assessment: Not successful^f		

3R = reduce, reuse, and recycle; ADB = Asian Development Bank; CDP = community development program; CDTA = capacity development technical assistance; CTEVT = Council for Technical Education and Vocational Training; DMF = design and monitoring framework; DSC = design and supervision consultant; DUDBC = Department of Urban Development and Building Construction; FCHV = female community health volunteer; GESI = gender equality and social inclusion; GIS = geographic information system; MPMC = municipal project management committee; NEP = Nepal; NGO = nongovernment organization; OBC = other backward caste; ODF = open defecation free; O&M = operation and maintenance; PCO = project coordination office; PIU = project implementation unit; PMSC = project

management support consultant; PPMS = project performance management system; SM = social mobilizer; SWM = solid waste management; TA = technical assistance; TLO = tole lane organization; TOT = training of trainers.

^a Biratnagar – 12,324 households, Birgunj – 8,196 households and Butwal – 9,907 households.

^b 524 family toilets constructed in Biratnagar; 103 family toilets constructed at 9 poverty clusters for needy households in Birgunj; and in Butwal municipality all households had toilets by 2016.

^c These small infrastructures include 87 hand pumps, 45 community tube wells, 9.50 km roads/lanes, 19.50 km roadside drainage, and 1,679.44 m boundary wall.

^d In Biratnagar, 262 trainees (Women 173 [66%]) were trained in driving, plumbing, electrician, boutique and Pico, beautician, computer hardware, mobile and television repair. In Birgunj, 1,035 trainees (Women 592 [60%]) were trained as beauty parlor manager, junior computer hardware technician, security guard, boutique designer, and mobile phone repair technician. In Butwal, total 389 (Women 351 [88%]) were trained in sewing and cutting, boutique, basic computer, beautician, auto mobile driving, pickle making, doll making and off-season vegetable farming.

^e Specific instructions included orientations for contractors on GESI requirements by DSC and continuous supervision and monitoring of their work. As guided by contractual documents, DSC could mandate contractors to comply with contract provisions including GESI in case of failure to adhere and to recommend for time bound corrective actions.

^f 14/16 (87.5%) activities completed, and 5/5 (100%) targets included in the (original) GESI/AP achieved. By adding two additional DMF targets in the calculation during the PCR stage (see Target 6 and 7 in the GESI Action Plan Achievements Matrix)—as instructed by the SDTC-GEN Team—the number of successful targets was reduced from 5/5 to 5/7, thus leading to an overall rating of the implementation of the GESI/AP as *not successful*.

Source: Asian Development Bank.

G. Conclusion and Lessons

14. The project was designed to align with the government's National Urban Policy and considered features of subprojects prioritized by municipalities. The GESI objectives, with specific targets in the DMF and GESI action plan, focused on CDP in peripheral areas of municipalities to bring tangible benefits to women, poor, and disadvantaged and vulnerable groups through better access to municipal services and more meaningful participation in project-related activities. The project held information dissemination activities, formed TLOs in poverty clusters, provided skills training, and built GESI-sensitive small infrastructures. All of these led to the successful completion and achievement of the activities and targets of the GESI action plan as agreed between ADB and the executing agency. It contributed to women's economic empowerment and gender equality in human development, leadership, and decision making. However, future similar projects need to focus on the constraints highlighted in the challenges section (para. 13). Careful selection of NGOs and incorporation of activities to reduce discriminatory practices and socio-cultural norms against women's and disadvantaged groups' empowerment should be considered in future project designs. While the overall project is assessed less than effective, the relevance of the GESI action plan to addressing social and poverty issues in the project municipalities remains unquestionable.

ACHIEVEMENTS AND PERFORMANCE ASSESSMENT OF SOCIAL SAFEGUARDS

1. **Safeguard Categorization and Planning Documents.** The project was classified as category “B” for both involuntary resettlement and indigenous peoples safeguards at approval stage and remained the same at completion. At appraisal, the project prepared a Combined Resettlement and Indigenous Peoples Planning Framework (CRIPPF) in accordance with the Safeguards Policy Statement 2009¹ to guide the preparation of resettlement and indigenous planning documents for subprojects implemented under the project. In addition, resettlement planning documents were prepared for Biratnagar, Birgunj and Kavre subprojects, which were updated after detailed design. A due diligence report was prepared for Butwal water supply subproject confirming no land acquisition and other impacts. The CRIPPF was followed to screen, assess impacts, design mitigation measures, and monitor implementation.

2. **Institutional Arrangement, Capacity Building and Project Management.** The Department of Urban Development and Building Construction (DUDBC) under the Ministry of Urban Development (MOUD) was the Executing Agency, and responsible for project execution and overall supervision. A dedicated Project Coordination Office (PCO) was established under DUDBC for overall project management. A safeguard desk was established in PCO comprising of a technical person, a safeguard focal, and a safeguard specialist of the Project Management Support Consultant (PMSC). The PMSC provided 48.93 person months input of a safeguard specialist against the planned 30-person months, and two DSCs (Biratnagar and Birgunj) including one CSC for Kavre provided 61.2 person months input compared to planned 59.65 person months. Higher-than-expected person months were required due to implementation delays and to address the issues raised by stakeholders during implementation. The PMSC provided overall guidance and handholding support to PCO and the project implementation units (PIUs) in assessing, planning, implementing, monitoring, and reporting of social safeguards activities. A safeguards desk was established in all PIUs. The PIUs’ safeguards desks were supported by social safeguards experts mobilized through the DSC. These institutional arrangements were instrumental in ensuring project safeguards compliance and in filling up safeguard capacity gaps among the PIUs. Various capacity building activities, such as focused training, orientations, and on-site briefings were provided by ADB and PCO. Feedbacks provided during review missions and ADB’s review of planning and monitoring documents helped improve overall safeguards performance of the project.

3. **Land Acquisition and Mitigations Measures.** The project civil works scope included sewer and drainage, wastewater treatment plant (WWTP), and urban roads and lanes improvement in Biratnagar and Birgunj municipalities; integrated solid waste management (ISWM) system in Birgunj and Butwal; and water supply improvement works in Kavre and Butwal. However, only WWTP of Biratnagar and Birgunj and water supply subproject of Kavre involved land acquisition. In total, the project acquired 26.57 ha of land (173 plots) from 131 affected households comprising 720 affected persons. The land was acquired following provisions of the Land Acquisition Act 1977 and decided by the compensation determination committee (CDC) by adopting the replacement cost principle. The project paid resettlement compensation amounting to \$2.53 million (equivalent) to the affected persons (APs) against the total estimate of \$2.49 million (Table A8.1). All compensation and/or entitlements were provided on time, except for 4 households in Birgunj due to absentee issue, and the compensation amount yet to be paid is in the PIU account. The PIU had issued notices even at the wards level to trace and/or contact the absentees. However, they have not come into contact of the PIU yet. The PCO/DUDBC has assured to provide compensation once absentees come in contact with the PIU/ municipality.

¹ ADB. 2009. *Safeguard Policy Statement*. Manila.

4. **Impact on Indigenous Peoples.** A total of 70 indigenous people were affected due to land acquisitions. Affected indigenous people (IPs) were consulted throughout the project cycle. Based on skills and interest of IPs, life skills trainings were provided to 404 IPs (24% of the total trainees receiving skills development training provided by the project). At appraisal Kavre water supply subproject had prepared a resettlement plan only. Some impact on IPs were identified in this subproject and the resettlement plan was updated to a combined resettlement and indigenous people plan.

Table A8: Affected Area and Compensation

SN	Municipality	Figures as per approved CRIPP					Figures at completion		
		Land (ha)		Compensation (\$ million)	No. of HH	No. of APs	Land (ha)	Compensation (\$ million)	No. of HH
		Original	Updated						
1	Biratnagar	11.00	10.43	0.78	21.00	104.00	10.00	0.81	21.00
2	Birgunj	16.72	17.14	1.65	94.00	521.00	16.14	1.71	94.00
3	Kavre	0.05	0.05	0.06	16.00	95.00	0.00	0.02	16.00
	Total	27.77	27.62	2.49	131.00	720.00	26.14	2.54	131.00

APs = Affected People, CRIPP = Combined Resettlement and Indigenous Peoples Plan, ha = hectare, HH = household, SN = serial number.

Source: Draft and updated CRIPP, and Government Project Completion Report.

5. **Livelihood Restoration.** A total of 521 affected persons (58 men and 463 women) were benefitted from life skills training implemented under the project as part of the livelihood restoration strategy. These measures created employment and income generation opportunities. These opportunities helped the affected persons in restoring their livelihood at least at the pre-project level or improving in better ways. Due to the acquired skills, many of them are self-employed in their own small businesses and/or income generation activities or employed by others. The following example illustrates how the skills training helped improve livelihood strategy of the affected households.

Three years ago, Ms. Mini Devi Mahato (28 years old) from Birgunj Municipality-2 participated in a three-month sewing and cutting training conducted by the project, when her elder daughter was one year old. She started her sewing business with a sewing machine when her daughter was two years old. Now, she is running a business at her own home, and managing her household activities, including caring her two daughters (4 and 2 years old) and husband. From the start of the business, her average monthly income was NRs3,500. This business has become a stable source of income for her family. During the interview, Mini Devi said, "My stable income helps me to manage our family and to realize my dream of educating our daughters". She further added, before training, "I was just a housewife without dignity, thanks to STIUEIP, it provided me a chance to have a dignified living".

6. **Happiness is inside.** Ms. Chamkila Khatoon (48 years old), resides in her own house with six family members in a slum area of Birgunj – 2. Her husband is a daily laborer, who earns less than Chamkila. One son is married and works in India; the other two sons work at an automobile workshop; and a daughter is unemployed. In 2017, she took a three-month sewing and cutting training provided by the project. Immediately after the training, she started her own sewing and cutting business, with an investment of NRs9,000 by purchasing one sewing machine. Currently, her days begin at 5 AM and her average monthly income is about NRs11,000. From the total earnings, she started to deposit NRs200 in a local cooperative. She has a stable income for her livelihood. She said “I was just working as a housewife before and depending on family’s mercy. “I was hopeless due to unemployment, but the STIUEIP gave me a chance. Now my goal is to expand my entrepreneurship by purchasing two more sewing machines”, Chamkila declared. She added that with additional investments, she could meet the requirements/demands of the local market. Now my overall living status has been improved, thanks to the project which not only provided me the training, but also guided and empowered me to start a small business with a small investment.” Through the livelihood lens, she is using acquired skills for productive activities to increase her family income, food security, and overall improvement in living standard and status of her family and lowered vulnerability.



7. **Consultations and Disclosure.** Consultation and information disclosure were carried out continuously from design to implementation. The project ensured meaningful participation of affected persons, beneficiaries, and concerned stakeholders of each municipality while formulating and implementing CRIPP and other project activities. A total of 193 consultation meetings were organized in which 5,402 persons participated. The APs were clearly informed on project scope, design, possible impacts, and mitigation measures including entitlements in case of impacts, and grievance redress mechanism (GRM). Different documents such as draft and updated CRIPP, CRIPPF, safeguard monitoring reports, due diligence report were disclosed on ADB’s website, and a copy of these documents was kept at each project municipality and project office for public access. In addition, the APs were informed about these in community meetings. Relevant information was also provided throughout the project cycle by means of posters, pamphlets, verbal communication, mass media etc.

8. **Grievance Redress Mechanism.** Three phases of grievance redress committees (GRCs) were in place: first at the level of the executive officer of the project municipality, second at the level of municipal board of the municipality, and third at the PCO level. Most of the grievances were informal and resolved at the first phase of GRC, in consultation with APs. A grievance related to Kavre water supply subproject was escalated up to the accountability mechanism at ADB. ADB’s Office of the Special Project Facilitator (OSPF) received a complaint related to KVVSP on 18 February 2014. The complaint was related to (i) less water availability in downstream area of intake due to diversion of water for KVVSP, (ii) inadequate consultations and information sharing with the project affected people, and (iii) lack of transparency in decision making and fund allocations under CDP. The OSPF declared the complaint ineligible on 10 March 2014 with a few recommended actions to (i) measure quantity of waterflow to downstream area of the KVVSP’s intake, (ii) organize public/community meetings, (iii) make project documents publicly accessible i.e., a copy of subproject related all documents should be available at the Village Development Committee office. The OSPF recommended actions were implemented and issues raised in complaint were addressed by the PCO and PIU in close coordination with ADB, NRM.

9. In addition, a few issues were published in public media (some newspapers) and social media prior to the knowledge of the project's GRM, e.g., the issue related to Biratnagar sewer, drainage, WWTP, and urban road and lane improvement subproject (the Sewer and drainage subproject). The issue was raised through public media due to parallel works of road improvement conducted by different funding sources but within the same area of the ADB project. Being in same area, ADB's name was also in the paper but later clarified by the project. Due to prompt action of the executing agency and the implementing agency in close coordination with ADB, such issue did not become a complaint. Though the issue was not related to ADB's project scope, such trend could be a risk to ADB's reputation. Hence, it is learnt that timely formation of GRCs, and GRCs' prompt attention to the concerned persons are very important to build trust among APs and other stakeholders. This would provide opportunities for the APs and the project to work at the ground level to resolve the grievances and project related issues of public concern. Moreover, clarity among the APs on the scope of the project, including design aspects of the infrastructures under the project, should also be covered in the consultation process, as deemed necessary, to avoid escalation of such issues/grievances in the future. There are no outstanding grievances in the project.

10. **Social Monitoring and Reporting.** The project submitted 11/18 (61%) semiannual social monitoring reports (SMRs), and all submitted reports were disclosed on ADB website. There was a gap in submitting the SMRs till July 2013 due to capacity gap among project municipalities and delayed mobilization of the social safeguard expert at the PCO. The issue was addressed at a later stage, with enhanced capacity of the executing agency. The quality of the SMRs improved in comparison to initial reports through continuous guidance and support from ADB and recruitment of the required safeguards staff and consultants by the executing agency.

11. **Borrower's and Executing Agency's/Implementing Agency's performance.** The performance of the borrower and the executing agency and implementing agency was satisfactory in the implementation of safeguard plans, meeting safeguards requirements and covenants, and managing budget to implement safeguards activities despite initial delays. The executing/implementation agencies took ownership of safeguards documents, and increased understanding of safeguards requirements and adherence with the safeguard covenants through timely submission of SMRs in the later part of the project. However, their capacity to implement and report safeguard measures needs further reinforcement.

12. **Issues and Lessons learned.** Lack of timely and meaningful consultations about scope of project and possible impact on the APs could result in ambiguity among APs and other stakeholders. It could also cause reputational risk due to the possible aggravation of unnecessary issues at the local level and the beyond the project GRM. The issue of possible impact on water availability for the downstream water users due to the diversion of water at upstream for KVVSP directly went to ADB's accountability mechanism, and issue of house demolition and dust pollution in Biratnagar went to media, allegedly caused by the project. However, some of the public raised issues related to dust pollution and houses demolition in Biratnagar were out of the project scope. Experience showed that extensive due diligence is required during project design on similar type of parallel construction works at same locations by multiple agencies in order to bring clarity on the scope of ADB project among the community and media.

13. **Recommendation.** Adequate information dissemination process about the project coverage and scope should be followed, with involvement of the key stakeholders. Proper project design should be done and reported following all the project requirements.

STATUS OF COMPLIANCE WITH LOAN COVENANTS

Covenants	Reference in Loan Agreement	Status of Compliance
<p>Section 2.09. (a) Each of TDF and the Municipalities shall (i) maintain separate accounts for the Project and for its overall operations; (ii) have such accounts and related financial statements (balance sheet, statement of income and expenses, and related statements) audited annually, in accordance with appropriate auditing standards consistently applied, by independent auditors whose qualifications, experience and terms of reference are acceptable to ADB; and (iii) furnish to ADB, promptly after their preparation but in any event not later than 9 months after the close of the fiscal year to which they relate, certified copies of such audited accounts and financial statements and the report of the auditors relating thereto (including the auditors' opinion on the use of the Loan proceeds and compliance with the financial covenants of the Loan Agreement as well as on the use of the procedures for imprest account/ statement of expenditures), all in the English language. Each of TDF and the Municipalities shall furnish to ADB such further information concerning such accounts and financial statements and the audit thereof as ADB shall from time-to-time reasonably request.</p>	<p>Section 2.09 (a), Article II, Project Agreement between ADB, TDF and the municipalities;</p>	<p>Partially complied.</p> <p>TDF maintained separate account for the project and its overall operation which were audited and submitted to ADB. However, the municipality records for the project received through PCO and TDF compilation. Similarly, the municipalities do not maintain accrual-based reports like balance sheet and income statement, hence this is a design issue during project processing.</p>
<p>Each of TDF and the Municipalities shall enable ADB, upon ADB's request, to discuss its financial statements and its financial affairs from time to time with the auditors, appointed by it pursuant to Section 2.09(a) hereinabove, and shall authorize and require any representative of such auditors to participate in any such discussions requested by ADB, provided that any such discussion shall be conducted only in the presence of an authorized officer of TDF or any relevant Municipality, as the case may be, unless the relevant such entity shall otherwise agree.</p>	<p>Section 2.09 (b), Article II, Project Agreement between ADB, TDF and the municipalities</p>	<p>Complied with.</p> <p>Discussions on the financial statements of the TDF including financial affairs of the TDF and the municipalities, related to the Project were done with the relevant authorities as and when needed.</p>
<p>The Borrower shall and shall cause TDF to (i) maintain, or cause to be maintained, separate accounts for the Project; (ii) have such accounts and related financial statements audited annually, in accordance with appropriate auditing standards consistently applied, by independent auditors whose qualifications, experience and terms of reference are acceptable to ADB; (iii) furnish to ADB, as soon as available but in any event not later than 9 months after the end of</p>	<p>Section 4.02 (a), Article IV</p>	<p>Partially complied, with delayed APFS in some years.</p> <p>"Partially complied. All annual consolidated audited project financial statements (APFS) were received for FYE 2012 to 2020 from PCO; and for FYE 2013 to 2020 from TDF. Out of 17 APFS received, 8 were on time, 9 were</p>

Covenants	Reference in Loan Agreement	Status of Compliance
<p>each related fiscal year, certified copies of such audited accounts and financial statements and the report of the auditors relating thereto (including the auditors' opinion on the use of the Loan proceeds and compliance with the financial covenants of this Loan Agreement as well as on the use of the procedures for imprest account and statement of expenditures), all in the English language; and (iv) furnish to ADB such other information concerning such accounts and financial statements and the audit thereof as ADB shall from time to time reasonably request.</p>		<p>delayed by 0.50 to 76.70 months and the auditors issued 14 unqualified or clean opinion and 3 qualified opinions. Most of the delays were from TDF which were compiled later. The delay was due to unclarity on the reporting requirements. The latest APFS of the TDF (FY2020) included specific opinions on the use of load proceeds for the purpose intended. However, the audit opinion on the compliance with financial covenant on debt service coverage rate were only obtained for FY 2018 to FY 2020. Management letter issues reported on TDF's final APFS included no maintenance of separate bank account for the project fund, no continuous and timely monitoring of repayment capacity of the Butwal, Biratnagar and Birgunj municipalities, no confirmation for outstanding balances with the municipalities, and non-implementation of previous year's audit observations. On PCO's final APFS (FY 2020), issues reported included slow physical progress and outstanding final reimbursement from ADB to the government treasury.</p>
<p>The Borrower shall enable ADB, upon ADB's request, to discuss the Borrower's and TDF's financial statements for the Project and the financial affairs of each of them related to the Project from time to time with the auditors appointed by the Borrower pursuant to Section 4.02(a) hereinabove, and shall authorize and require any representative of such auditors to participate in any such discussions requested by ADB, provided that any such discussion shall be conducted only in the presence of an authorized officer of the Borrower or of TDF as applicable unless the Borrower or TDF, respectively, shall otherwise agree.</p>	<p>Section 4.02 (b), Article IV</p>	<p>Complied with.</p> <p>Discussions on the financial statements of the Project and the financial affairs of the Borrower and TDF, related to the Project were done with the relevant authorities as and when needed.</p>
<p>In addition to the reports and information set forth in section 6.05 of the Loan Regulations, the Borrower shall and shall cause TDF to furnish, or</p>	<p>Section 4.03., Article IV</p>	<p>Complied with.</p>

Covenants	Reference in Loan Agreement	Status of Compliance
cause to be furnished, to ADB all such reports and information as ADB shall reasonably request concerning the municipalities, the Subprojects and the Subloans.		The TDF provided the required information as and when requested by ADB.
The Borrower shall enable, and shall cause TDF to enable, ADB's representatives to inspect the Project, the Goods and Works, and the Municipalities, Subprojects and Subloans financed out of the Loan and Subsidiary Loan and any relevant records and documents.	Section 4.04., Article IV	Complied with. The Borrower and TDF allowed ADB's representatives to inspect the Project, the Goods and Works, and the Municipalities, Subprojects and Subloans financed out of the Loan and Subsidiary Loan and any relevant records and documents. The inspection was done occasionally during review missions.
The Borrower shall take all actions which shall be necessary on its part to enable each of TDF and the Municipalities to perform its obligations under this Loan Agreement, the Project Agreements, the Subsidiary Loan Agreement, the Subproject Agreements, and the Onlending Agreements, and shall not take or permit any action which would interfere with the performance of such obligations.	Section 4.05., Article IV	Complied with. TDF and the Municipalities performed their obligations as per the Loan Agreement, the Project Agreements, the Subsidiary Loan Agreement, the Subproject Agreements, and the Onlending Agreements.
The Borrower shall exercise its rights under the Subsidiary Loan Agreement and shall cause TDF to exercise its rights under the Subproject Agreements and Onlending Agreements in such a manner as to protect the interests of the Borrower and ADB and to accomplish the purposes of the Loan.	Section 4.06. (a), Article IV	Complied with. The Borrower exercised its rights under the Subsidiary Loan Agreement and caused TDF to exercise its rights under the Subproject Agreements and Onlending Agreements to protect the interests of the Borrower and ADB and to accomplish the Loans' purposes.
No rights or obligations under the Subsidiary Loan Agreement or the Onlending Agreements shall be assigned, amended, or waived without the prior concurrence of ADB.	Section 4.06. (b), Article IV	Complied with. The right or obligations under the Subsidiary Loan Agreement or the Onlending Agreements remained unamended and un-waived throughout the project.
Imprest Account and Statement of Expenditures: a) Except as ADB may otherwise agree, the Borrower shall establish immediately after the Effective Date, two (2) imprest accounts	Schedule 3, para.6	Partially complied. Imprest/advance account for ADB loan was established on 16 December 2011, after loan

Covenants	Reference in Loan Agreement	Status of Compliance
<p>(i) for the ADB Loan; and (ii) for the OFID Loan each at Nepal Rastra Bank for the Project for MPPW. The imprest accounts shall be established, managed, replenished, and liquidated in accordance with the Loan Disbursement Handbook, and detailed arrangements agreed upon between the Borrower and ADB. The currency of the imprest accounts shall be the Dollar. The maximum ceiling for the respective imprest account shall not exceed the lower of (i) the estimated expenditure to be financed from the respective imprest account for the first 6 months of Project implementation; or (ii) the equivalent of 10% of the respective Loan amount.</p> <p>b) The statement of expenditures procedure may be used for reimbursement of eligible expenditures and to liquidate advances provided into the imprest accounts, in accordance with the Loan Disbursement Handbook and detailed arrangements agreed upon between the Borrower and ADB. Any individual payment to be reimbursed or liquidated under the statement of expenditures procedure shall not exceed the equivalent of \$100,000.</p>		<p>effectiveness on 18 January 2011. Imprest account was not established for the OFID loan. Imprest account was established managed, replenished, and liquidated in accordance with ADB's Loan Disbursement Handbook.</p> <p>Complied with.</p> <p>SOE procedure was used for reimbursement of eligible expenditure for ADB and OFID loans and to liquidate advances provided into the Imprest/ Advance Account within the approved ceiling.</p>
<p>Conditions for Withdrawals from Loan Account</p> <p>Notwithstanding any other provision of this Loan Agreement, no withdrawals shall be made from the Loan Account until the Project director of the PCO and Project managers of the PIUs acceptable to ADB shall have been engaged and the PCO and PIUs established and made operational in a manner satisfactory to ADB.</p>	Schedule 3, para.8	<p>Complied with.</p> <p>Withdrawals from the loan account was made after the Project director for PCO and the Project managers for PIUs were engaged. The PCO and PIUs were duly established and operated in a manner satisfactory to ADB.</p>
<p>Notwithstanding any other provision of this Loan Agreement, no withdrawals shall be made from the Loan Account in respect of Works and Goods with respect to Part 1 of the Project until:</p> <p>(a) the Subsidiary Loan Agreement, in form and substance satisfactory to ADB, shall have been duly executed and delivered between MOF and TDF and shall have become fully effective and legally binding on the parties thereto in accordance with its terms; and</p>	Schedule 3, para. 9	<p>Complied with.</p> <p>Withdrawals were made from the Loan Account after the:</p> <p>a) Subsidiary Loan Agreement between MOF and TDF was done in a satisfactory manner to ADB, and was made effective and legally binding on the parties thereto in accordance with its terms; and</p>

Covenants	Reference in Loan Agreement	Status of Compliance
(b) the standard form of Onlending Agreement shall have been finalized by TDF in form and substance satisfactory to ADB.		b) standard form of Onlending Agreement was finalized by TDF in coordination with ADB.
<p>Conditions for Announcement of Bid for Civil Works Contracts</p> <p>Notwithstanding any other provision of this Loan Agreement, no announcement or advertisement of an invitation to bid for civil works contracts in relation to any Subproject shall be made until:</p> <p>(a) the Subproject Agreement relating to such Subproject shall have been executed and delivered on behalf of TDF, PCO and the relevant Municipality in form and substance satisfactory to ADB, specifying the proposed amount of contribution from each party, and the proposed level of tariffs, taxes and/or other charges to be collected by the relevant Municipalities, and shall have become fully effective and legally binding on the parties thereto in accordance with their terms; for the other municipal infrastructure improvement Subproject in Butwal envisioned under Part 1(d), the Subproject Agreement shall include the public-private partnership (PPP) arrangement for subproject implementation and operation; and</p> <p>(b) in relation to the Kavre Subproject, (i) the Subproject Agreement relating to such Subproject shall have been executed and delivered on behalf of TDF, PCO and the Kavre Group, specifying (1) the proposed amount of contribution from each party, and the proposed level of tariffs, taxes and/or other charges to be collected by the relevant Municipalities, and (2) specifying the sharing of costs, risks and liability to TDF under the Onlending Agreement as among the Kavre Group; and (ii) the Kavre Group shall have established institutional arrangements satisfactory to ADB, whether in the form of a consortium or similar alternative arrangement, that allows it to undertake borrowing from TDF under the relevant Onlending Agreement, to hold and manage the assets and liabilities of the Kavre Subproject and to transfer such assets and liabilities to the KWSMB.</p>	Schedule 4, para.8	<p>Complied with.</p> <p>Publication for invitation for bids (IFB) for Works contracts was done after the Subproject Agreement between the TDF, PCO and the respective municipality was signed and executed in form and substance satisfactory to ADB and became fully effective and legally binding.</p> <p>For Auto-Village subproject in Butwal, the Subproject agreement included the public-private partnership (PPP) arrangement between Butwal municipality and Auto Village Company (a special purpose vehicle) established for implementation and operation of the subproject; and</p> <p>(b) for Kavre Subproject the IFB was published after signing and executing the subproject agreement between TDF, PCO and Kavre PIU (Banepa, Panauti and Dhulikhel municipalities) complying with the provisions of this loan covenant, in a manner satisfactory to ADB.</p>
<p>Conditions for Award of Contract</p> <p>The Borrower shall ensure that MPPW does</p>	Schedule 4, para. 9	Complied with.

Covenants	Reference in Loan Agreement	Status of Compliance
<p>not award any Works contracts financed under the Loan for a particular Subproject until:</p> <p>(a) the Onlending Agreement relating to the relevant Subproject shall have been executed and delivered on behalf of TDF and the relevant Municipality in form and substance satisfactory to ADB; and</p> <p>(b) in relation to the Kavre subproject, KWSMB has been established pursuant to arrangements in form and substance satisfactory to ADB.</p>		<p>(a) PCO awarded works contracts for subprojects after the Onlending agreement relating to the subproject was duly signed and executed between TDF and the concerned municipality in a manner satisfactory to ADB.</p> <p>(b) Contract for Kavre subproject was awarded on 19 December 2012 after establishment of KWSMB through the cabinet decision on 30 April 2012, in form and substance satisfactory to ADB.</p>
<p>Execution of Works Contracts</p> <p>The Borrower shall ensure that, subsequent to award of a Works contract under the Project, no land shall be handed over to the contractor unless the applicable provisions of the relevant Resettlement Plan and the environmental management and monitoring plans under the relevant IEE have been complied with.</p>	<p>Schedule 4, para.10</p>	<p>Complied with.</p> <p>Sites were handed over to the contractor only after compliance with the applicable provisions of the relevant resettlement plan and the environmental management and monitoring plans under the relevant IEE.</p>
<p>Selection of Consulting Services</p> <p>Except as ADB may otherwise agree, the Recipient shall apply quality-and-cost-based selection for selecting and engaging Consulting Services from firms. Individual consultants shall be selected in accordance with Consulting Guidelines.</p>	<p>Schedule 4, para.11</p>	<p>Complied with.</p> <p>The project recruited firms and individual consultants following provisions of the PAM, procurement plan and procedures acceptable to ADB.</p>
<p>Industrial or Intellectual Property Rights</p> <p>(a) The Borrower shall ensure that all Goods and Works procured (including without limitation, all computer hardware, software and systems, whether separately procured or incorporated within other goods and services procured) do not violate or infringe any industrial property or intellectual property right or claim of any third party.</p> <p>(b) The Borrower shall ensure that all contracts for the procurement of Goods and Works contain appropriate representations, warranties and, if</p>	<p>Schedule 4, para.12</p>	<p>Complied with.</p> <p>Goods and works were procured following ADB's standard bidding documents and contract documents. Hence, they adhered to non-violation or infringement of any industrial property or intellectual property right or claim of the third party.</p> <p>ADB's standard bidding documents and contract documents were followed</p>

Covenants	Reference in Loan Agreement	Status of Compliance
appropriate, indemnities from the contractor or supplier with respect to the matters referred to in subparagraph (a) of this paragraph.		for procuring all contract packages under the project. Therefore, all works, and goods contracts included appropriate representations, warranties and, where appropriate, indemnities from the contractors or suppliers.
The Borrower, MPPW and TDF shall ensure that all ADB-financed contracts with consultants contain appropriate representations, warranties and, if appropriate, indemnities from the consultants to ensure that the consulting services provided do not violate or infringe any industrial property or intellectual property right or claim of any third party.	Schedule 4, para.13	Complied with. ADB's standard document was used for the recruitment of consulting firms and individual consultants, and for awarding the contracts, complying with these provisions.
ADB's Review of Procurement Decisions Contracts procured under international competitive bidding procedures and contracts for Consulting Services shall be subject to prior review by ADB, unless otherwise agreed between the Borrower and ADB and set forth in the Procurement Plan.	Schedule 4, para.14	Complied with. All six major civil works contracts and all nine consulting services contracts procured under the project followed ADB's prior review and approval process.
Implementation Arrangements The Borrower shall ensure, and shall cause TDF to ensure that the Project is implemented in accordance with the detailed arrangements set forth in the PAM. Any subsequent change to the PAM shall become effective only after approval of such change by the Borrower and ADB. In the event of any discrepancy between the PAM and this Loan Agreement, the provisions of this Loan Agreement shall prevail.	Schedule 5, para.1	Complied with. Project was implemented in accordance with the provisions of the PAM.
The Borrower including through MPPW and MLD shall undertake best efforts to ensure that the same qualified persons will continue to be assigned for a reasonable period of time of at least 2 years to the positions of executive officers of the Municipalities concerned and key positions in the PCO and PIUs including, without limitation, the Project director of the PCO and Project managers of the PIUs.	Schedule 5, para.2	Partially complied. Municipal level key positions like executive officer of the municipality and PIU manager generally continued with the project for a reasonable time. However, the Project director and account officer of the PCO got frequently replaced, with nine PDs during implementation.
Environment	Schedule 5, para.3	Complied with.

Covenants	Reference in Loan Agreement	Status of Compliance
<p>MPPW will ensure that each Subproject is in compliance with the <i>Safeguard Policy Statement</i> (2009), relevant national environmental laws and regulations, the relevant IEE and the EARF for the Project. MPPW shall ensure that all mitigation and monitoring mechanisms set out in the IEEs will be complied with throughout Project implementation, in accordance with the detailed arrangements set forth in the PAM. MPPW will ensure environmental requirements are incorporated in all bidding documents and civil works contracts, and that environmental monitoring results are incorporated into quarterly progress reports. During the detailed design stage in relation to each Subproject, the Borrower shall ensure that all IEEs/EMPs are updated based on detailed designs.</p>		<p>The project duly followed SPS 2009, relevant national environmental laws and regulations; the relevant IEE, EMP, and EARF provisions set for the project.</p> <p>The project generally complied with the mitigation and monitoring mechanisms set out in the respective IEEs as per the PAM's provisions.</p> <p>Relevant environmental requirements including EMPs were incorporated in the bidding documents and respective civil works contracts. Findings on the environmental monitoring of the subprojects were reflected in the semi-annual environmental monitoring reports.</p> <p>Although other IEEs did not require change or updating, a new IEE was prepared for the changed location of the sanitary landfill site in Butwal.</p>
<p>Resettlement and Indigenous Peoples</p> <p>The Borrower will ensure that sufficient funds to cover the costs of land acquisition and involuntary resettlement are made available in a timely manner. All land and rights-of-way required will be made available in a timely manner, and compensation at replacement value and other entitlements will be paid to affected people prior to commencement of civil works in sections that are ready to be constructed. The Borrower through the PCO will ensure that PIUs update the Resettlement Plans during the detailed design stage, if required, and implement them. Any involuntary resettlement and land or asset acquisition will be carried out in compliance with ADB's <i>Safeguard Policy Statement</i> (2009), the relevant Resettlement Plan and Resettlement Framework, and relevant national laws and regulations.</p>	<p>Schedule 5, para.4</p>	<p>Complied with.</p> <p>The Borrower and the municipalities provided sufficient funds to cover the cost of land acquisition and involuntary resettlements required for the project.</p> <p>The land and rights-of-way required for the subprojects were made available in a generally timely manner, although with some delays in a few locations of the Kavre water supply subproject.</p> <p>Compensation at replacement value and other entitlements as per resettlement and indigenous peoples plan (RIPPs)/ resettlement plans (RPs) were paid to affected households in a timely manner.</p>

Covenants	Reference in Loan Agreement	Status of Compliance
		<p>The RPs were updated based on detailed design of the subprojects.</p> <p>The involuntary resettlement and land or asset acquisition were carried out in compliance with ADB SPS-2009, the relevant RP and Resettlement Framework (RF), and relevant national laws and regulations.</p>
<p>In relation to any particular Subproject, the cost related to land acquisition and resettlement/ rehabilitation will be borne by the relevant Municipality and the Borrower. The Borrower shall ensure that affected persons (APs) are compensated prior to land acquisition and commencement of civil works and that the Resettlement Plans are implemented in accordance with the arrangements set forth in the PAM.</p>	<p>Schedule 5, para.5</p>	<p>Complied with.</p> <p>Cost for implementation of the RPs was borne by the Borrower and the relevant municipality. The APs were compensated prior to land acquisition and commencement of civil works in accordance with the RPs. The RPs were prepared and implemented following the arrangements in the PAM.</p>
<p>Health; Labor Standards</p> <p>The Borrower will ensure that civil works contracts and bidding documents under the Project include specific provisions requiring contractors to comply with all a) applicable labor laws and core labor standards on (i) prohibition of child labor as defined in national legislation for construction and maintenance activities, on (ii) equal pay for equal work of equal value regardless of gender, ethnicity or caste, and on (iii) elimination of forced labor; and (b) the requirement to disseminate information on sexually transmitted diseases (STDs) including HIV/AIDS to employees and local communities surrounding the project sites.</p>	<p>Schedule 5, para.6</p>	<p>Complied with.</p> <p>All civil works contracts and bidding documents under the Project included specific provisions requiring the contractors to comply with (a) all applicable labor laws and core labor standards; and (b) the requirement of information dissemination on STDs, including HIV/AIDS to employees and local communities surrounding the project sites.</p>
<p>Gender and Development</p> <p>MPPW will ensure that gender equality and social inclusion (GESI) matters are duly considered and incorporated in project planning and implementation in accordance with the GESI Action Plan.</p>	<p>Schedule 5, para.7</p>	<p>Complied with.</p> <p>The project was categorized as effective gender mainstreaming (EGM). GESI action plan was prepared for the project to address issues on gender equality and social inclusion.</p>

Covenants	Reference in Loan Agreement	Status of Compliance
		The GESI action plan was implemented successfully with completion of 15 out of the 16 planned activities (93.8%) and achievement of 80% (4 out of 5 targets) of the GESI indicators in the GESI action plan and DMF.
<p>Counterpart Support</p> <p>Without prejudice to paragraph 9 below, the Borrower shall make available, promptly as and when needed, all counterpart funds required for timely and effective implementation of the Project, as well as the facilities, services, land, and other resources as shall be necessary or required, in addition to the proceeds of the Loan, for the carrying out of the Project and for the operation and maintenance of the Project facilities, including any funds required to make land available for the Project, to mitigate unforeseen environmental and social impacts, and to meet additional costs arising from design changes, price escalation in construction costs and/or unforeseen circumstances. The Borrower shall make the resources thus required available on an annual basis for each fiscal year.</p>	Schedule 5, para.8	<p>Partially complied.</p> <p>Occasional delay was observed from the Borrower in releasing the counterpart funds required for the project.</p>
<p>In the unlikely event that cofinancing from OFID is not provided within 6 months following the Effective Date, the Borrower shall take all necessary and appropriate steps to make available all counterpart funds required for timely and effective completion of the Project whether through either budget allocations or other arrangements acceptable to ADB, in the absence of which the Borrower and ADB shall agree to scale down the scope of the Project and if applicable to adjust the relevant financing arrangements.</p>	Schedule 5, para.9	<p>Complied with.</p> <p>Cofinancing from the OFID loan was approved on 18 June 2010.</p>
<p>The Borrower shall furnish to ADB, promptly at its request, evidence satisfactory to ADB that such funds, facilities, services, land, and other resources are available for purposes related to the Project.</p>	Schedule 5, para.10	<p>Complied with.</p> <p>The Borrower provided evidence on the availability of the required funds, facilities, services, land, and other resources for purposes related to the Project as and when requested by ADB.</p>
Governance and Anticorruption; Transparency	Schedule 5, para.11	Complied with.

Covenants	Reference in Loan Agreement	Status of Compliance
<p>The Borrower shall comply with, and shall ensure that MPPW, TDF and the Municipalities shall (a) comply with ADB's <i>Anticorruption Policy</i> (1998, as amended to date), and cooperate fully with any investigation by ADB and extend all necessary assistance, including providing access to all relevant books and records for the satisfactory completion of such investigation; and (b) ensure that all contracts financed by ADB in connection with the Project include provisions specifying the right of ADB to audit and examine the records and accounts of all contractors, suppliers, consultants, and other persons as they relate to the Project.</p>		<p>(a) the Borrower, MPPW, TDF and the Municipalities complied with ADB's Anticorruption Policy and cooperated and assisted fully for the satisfactory completion of such investigations; and</p> <p>(b) all contracts procured under the project followed standard bidding documents and contract documents, hence included provisions specifying the right of ADB to audit and examine the records and accounts of all contractors, suppliers, consultants, and other persons related to the Project.</p>
<p>Within 2 months after the Effective Date, DUDBC will establish and maintain a project website to disclose information about project activities, including costs, safeguards, and procurement, and shall include information on the list of participating bidders, name of the winning bidder, basic details on bidding procedures adopted, amount of contract awarded, and the list of goods and services procured. The Borrower shall ensure, through MPPW, that all relevant information and documents, including on procurement procedures and contract awards, which are required to be made public under ADB's <i>Public Communication Policy</i> are made readily available in the local language to any member of the public from the Project offices and the Project website.</p>	<p>Schedule 5, para.12</p>	<p>Complied with delay.</p> <p>Executing agency/DUDBC established a separate web portal (stiuiep.dudbc.gov.np) under DUDBC's website, in English language, to disclose the key project related information.</p> <p>The relevant project related information was shared by PIUs to the public as and when required.</p>
<p>Grievance Redress Mechanism.</p> <p>Within 6 months of the Effective Date, the PCO shall prepare a grievance redress mechanism, acceptable to ADB, and ensure that there is appointed an officer, with the requisite capacity, in each PIU to receive, resolve or act upon, both independently and expeditiously, complaints, grievances or reports from stakeholders on misuse of funds and other irregularities relating to the Project or the specific Subprojects in the Municipalities, including but not limited to grievances due to resettlement. Each PIU shall</p>	<p>Schedule 5, para.13</p>	<p>Complied with delay.</p> <p>PCO prepared GRM acceptable to ADB and appointed an officer as a focal point for managing the grievances related to the project. Following the GRM, it established separate GRC in Biratnagar, Birgunj, Butwal and municipalities and Kavre. Similarly, a central level Safeguard Desk was established at PCO to resolve the cases/grievances which could not</p>

Covenants	Reference in Loan Agreement	Status of Compliance
inform stakeholders of their right to submit complaints or grievances relating to the Project.		get resolved at the municipal level GRC.
The Commission for the Investigation of Abuse of Authority (CIAA), Nepal, may investigate any irregularities in the Project. This includes financial irregularities, as well as corruption of government officials and officers and employees of autonomous bodies.	Schedule 5, para.14	Complied with. CIAA has authority to investigate the project related matters. The project supported and cooperated with CIAA's investigation.
Project-specific measures to enhance governance and prevent corruption, designed with the stages of project implementation and the disbursement chain in mind, include (a) the requirement for PCO and PIUs to follow government rules and procedures for all expense and revenue items including cash and the proper and accurate maintenance of financial records; and (b) establishing a project website at PCO to provide transparency on project details including procurement.	Schedule 5, para.15	Complied with. a) The PCO and PIUs followed government rules and procedures for project expense and revenues following cash basis of accounting and for maintaining the financial records accordingly. b) PCO established a separate web portal under the web site of DUDBC for disclosing required project related information including procurement.
<p>Cost-Sharing</p> <p>MPPW will ensure that the Municipalities and TDF shall agree on the proportion of cost-sharing for each Subproject, as set forth in detail in the PAM, and the responsibilities of the municipalities to secure budget allocations to ensure the repayment of the relevant subloan, operations and maintenance (O&M) expenditures, replacement and future expansion, through tariff collection for water supply, and increase in revenue generation, whether through changes in tax arrangements or the use of charges and/or other measures.</p>	Schedule 5, para.16	<p>Partially complied.</p> <p>Municipalities and TDF agreed on the proportion of cost sharing for each subproject in the Onlending agreement between TDF and the respective municipalities, following PAM's provisions.</p> <p>Municipalities are securing budget allocations to ensure repayment of the relevant subloan. O&M expenditures will be covered by the concerned municipalities through tariff and increase in revenue generation. Biratnagar and Birgunj municipalities have made legal provisions to collect connection charges and monthly tariff for using the sewerage system. In the case of KVVSP, the KVVMB has proposed a monthly tariff rate for water consumption</p>

Covenants	Reference in Loan Agreement	Status of Compliance
		and submitted it to the Water Supply Tariff Fixation Committee, Ministry of Water Supply (MWS) for approval. However, the board is yet to set connection charge for the water supply system.
<p>General Criteria for Subprojects Identified after Effective Date</p> <p>Subprojects to be prepared after Board approval, including the Subprojects envisioned under Part 1(c) for a water supply Subproject in Butwal and the Subprojects envisioned under Part 1(e) for small scale community facilities, shall satisfy the following criteria:</p> <ul style="list-style-type: none"> a) the Subproject has been identified and designed by the relevant PIU in a participatory manner during the feasibility and detailed design stages; b) institutional and financial arrangements for construction and operation and maintenance (O&M) have been agreed upon (i) among the PIUs and the relevant communities, in relation to Subprojects under Part 1(e), and (ii) among the PIU, WUSC, NWSC and TDF in relation to the Butwal water supply Subproject under Part 1 (c); c) the Subproject complies with all requirements of relevant national laws and regulations and ADB's <i>Safeguard Policy Statement (2009)</i>, the EARF and the Resettlement Framework; and d) an agreement on the cost sharing arrangement for the specific Subproject, as set forth in the PAM, has been reached among the parties concerned. 	Schedule 5, para.17	<p>Partially complied.</p> <p>Water supply project at Butwal was terminated due to local issues after achieving 27.44% of physical progress.</p> <ul style="list-style-type: none"> a) The small-scale community infrastructures (SSCI) were identified, designed, and implemented by PIUs with participation of local communities and other stakeholders. b) The users' committees formed/revived for implementation of the SSCI took lead for implementation of the facilities and are also responsible for O&M of the facilities. c) Implemented SSCI complied with relevant national laws and regulations and ADB's SPS 2009, the EARF and Resettlement Framework; and d) The contract between the PIUs' and Users' Committees included cost sharing arrangement for each Subproject, as per PAM provisions.
Criteria for Water Supply Subproject in Butwal. In addition to satisfying the general criteria set out in paragraph 17 above, the Subproject for construction of a water supply system in Butwal	Schedule 5, para.18	<p>Partially complied.</p> <p>Contract for the Butwal WSP was awarded following the requirements and provision of the</p>

Covenants	Reference in Loan Agreement	Status of Compliance
<p>under Part 1(c) of the Project shall satisfy the following further criteria:</p> <ul style="list-style-type: none"> (a) institutional and financial arrangements for construction and O&M, including the capacity of the proposed implementing agency for the Subproject, have been fully assessed during the feasibility and detailed design stages; (b) an ability-to-pay survey carried out by the PIU for Butwal Municipality has confirmed that the tariff is affordable for most users; (c) the Subproject has an economic internal rate of return (EIRR) of 12% or higher; (d) the design of the Subproject ensures the least-cost of capital and of O&M expenditures in achieving its objectives; and (e) if or to the extent the required quantity of raw water needs to be supplied from surface water sources, any and all necessary approvals shall have been obtained in accordance with relevant laws and regulations of Nepal. 		<p>PAM. However, the contract was terminated after achieving 27.44% of physical progress due to unforeseen local issues. The engineering design provisioned UPVC pipes for distribution networks of the WSS. However, there was lack of social acceptance on using UPVC pipes for the WSS as UPVC pipes were used at local level only for household connections to the sewer lines. ADB and PCO advised the PIU/ municipality to move ahead with the subproject by replacing the UPVC pipes by HDPE pipes as demanded by the locals. However, the municipality/PIU did not agree to vary the contract due to the cost implications at later stage of the contract implementation.</p>
<p>Criteria for Community Facilities Subproject</p> <p>In addition to satisfying the general criteria set out in paragraph 17 above, the Subproject for construction of community facilities under Part 1(e) of the Project shall satisfy the following further criteria:</p> <ul style="list-style-type: none"> (a) the communities concerned place high priority on the Subproject and are committed to supporting the O&M of the facilities; and (b) the design of the facilities responds to the requirements of women, children and the disabled. 	<p>Schedule 5, para.19</p>	<p>Complied with.</p> <ul style="list-style-type: none"> a) The SSCI were selected and implemented as per priority of communities to improve their overall environmental sanitation situation. For SSCI, specific to a household, e.g., private toilets, hand pumps, the benefited household is responsible for its O&M, while the Users' Committees are responsible for O&M of the community and public SSCI like public toilets and gravel roads etc. b) The SSCI, e.g., public toilets were constructed, making these friendly to women, children, and people with disability.
<p>Prior to any Subproject implementation, the PCO will submit to ADB for review and concurrence</p> <ul style="list-style-type: none"> (a) a summary sheet setting out the main features of the proposed Subproject and 	<p>Schedule 5, para.20</p>	<p>Complied with.</p> <p>Prior to publication of IFB of the subprojects, PCO submitted the</p>

Covenants	Reference in Loan Agreement	Status of Compliance
<p>satisfaction of the selection criteria above; (b) a Resettlement Plan for the proposed Subproject if such Subproject triggers relevant safeguard requirements under ADB's <i>Safeguard Policy Statement</i> (2009); (c) an IEE for the proposed Subproject, if such Subproject is classified as category B under ADB's <i>Safeguard Policy Statement</i> (2009); and (d) other documents related to the Subproject including feasibility studies and/or detailed design reports, as may be requested by ADB.</p> <p>For the water supply Subproject in Butwal under Part 1(c), the PCO will additionally submit to ADB for review and concurrence the feasibility study report including the assessment and proposal for institutional and financial arrangements.</p>		<p>following documents for ADB's review and concurrence (a) a subproject report with a summary sheet containing the main features of the proposed Subproject; (b) safeguard impact assessment and planning document for each subproject; (c) sanitation (public toilets) covered by the IEE and EARF; and (d) the set of bidding documents together with cost estimates, technical specification, and feasibility study and/or detailed design report.</p>
<p>KWSMB The Borrower shall ensure that the KWSMB shall be established before the contract award for civil works relating to the Kavre subproject. At least 1 year prior to the scheduled completion of the construction work for the Kavre subproject, (a) the Borrower shall (i) approve and execute an asset and liability transfer agreement, satisfactory to ADB, (ii) issue regulations setting out the role and responsibilities of KWSMB and the manner in which it will carry out its operations, and (iii) approve rules prepared by KWSMB concerning appointment, qualifications, duties and other terms and conditions relating to staff at KWSMB; and (b) the Borrower shall ensure that KWSMB shall (i) prepare the proposed rules in subparagraph (a) (iii), and (ii) approve and adopt a business plan for the initial 3 years of KWSMB operations including a staff development and transfer plan, which plan shall take into account participation of private sector operators, including WUAs.</p>	<p>Schedule 5, para.21</p>	<p>Partially complied.</p> <p>Contract for KVIWSP was awarded on 19 December 2012 after establishment of KWSMB with cabinet decision on 30 April 2012.</p> <p>The assets and liability report of NWSC Banepa and Panauti municipalities, and water User's committees at Dhulikhel and Panauti municipalities have been prepared but yet to be officially transferred to the KWSMB. Regulations for the KWSMB, including staff administration regulations; and financial administration regulations have been prepared. The staff administration regulations include appointment, development, transfer, and separation plan. Above reports are under review of the Ministry of Water Supply. After its clearance these will be reviewed by Ministry of Law, Justice, and Parliamentary Affairs and submitted to the Cabinet of Ministers for approval.</p> <p>a) A three-year business plan for KWSMB has been prepared but, yet to be reviewed and implemented.</p>

Covenants	Reference in Loan Agreement	Status of Compliance
		A five- member committee's decision of 2 June 2021, consisting of joint secretary, under-secretary (Account Section, MWS) and senior divisional engineer, MWS, and a representative each from NWSC, and Kavre has decided to expedite approval of the above report and/or regulations and the transfer process.
<p>Private Sector Participation in Drainage and Sewerage and Solid Waste Management Subprojects</p> <p>The Borrower shall ensure that, during the detailed design stage, Biratnagar, Birgunj and Butwal Municipalities will adequately assess the possibility of appropriate modality for private sector participation in O&M of the drainage and sewerage system and/or the solid waste management system, as relevant to the Municipality, from the viewpoint of effective and efficient system operation, and reflect the findings in the bidding documents as appropriate.</p>	Schedule 5, para.22	<p>Partially complied.</p> <p>Assessment was done for possible engagement of private sector for O&M of the drainage and sewer system in Biratnagar and Birgunj and ISWM system in Butwal and Birgunj. Based on the assessment and in consultation with PCO and PIUs, it was decided to include one year O&M period in the civil works contract by the contractor themselves after completion of civil works. This provision was made to enhance capacity of the responsible unit of the municipality on O&M of the developed infrastructure through hands on training by working with the contractors.</p>
<p>The Borrower shall ensure that, no later than 12 months prior to the scheduled completion of the construction work for the relevant subproject, each of the Biratnagar, Birgunj and Butwal Municipalities will select or newly establish a unit responsible for the drainage and sewerage system and the solid waste management system (including landfill).</p> <p>The Borrower shall further ensure that each of Biratnagar, Birgunj and Butwal Municipalities shall assign an adequate number of staff, and ensure their training, to a level and degree commensurate with the roles and functions of each Municipality in O&M.</p>	Schedule 5, para.23	<p>Partially complied.</p> <p>In Biratnagar municipality, a new unit– Wastewater Treatment and Sewerage Management Unit was established with required resources including human resources mobilized by the contractor during its one-year O&M period for the operation and maintenance of the constructed infrastructures.</p> <p>In Birgunj the existing unit of the municipality was upgraded to Department of Sanitation and Solid Waste Management with provision of required resources</p>

Covenants	Reference in Loan Agreement	Status of Compliance
		<p>for O&M of the constructed infrastructure. The O&M period of the ISWM contractor has been recently completed so the municipality is in the process of contracting a private sector for O&M maintenance of ISWM system. Similarly, it has been planning to contract out the O&M responsibility of sewerage, drainage and WWTP system to the private sector.</p> <p>Staff from the responsible unit of the municipalities were provided on-the-job training by the sewerage and drainage contractor during its one-year O&M period.</p> <p>In the case of Butwal, all three subprojects were either dropped from ADB financing, or terminated.</p>
<p>Financial Sustainability</p> <p>The Borrower and MPPW shall ensure that TDF will be responsible for the financial sustainability of the Subprojects. The Borrower shall ensure that TDF (a) examines the Subproject costs in respect of the changes made at the detailed design stage in connection with the repayment capacity of Municipalities in coordination with the PCO; (b) reviews the Subproject proposal submitted by the relevant PIU with respect to financial and economic viability; and (c) provides Subloans to Municipalities on the pre-condition that TDF considers the Subproject and the planned collection of repayments to be financially feasible.</p>	<p>Schedule 5, para.24</p>	<p>Complied with.</p> <p>TDF examined the subprojects and provided subloans to the municipalities complying with this covenant.</p>
<p>The Borrower shall ensure that the TDF will maintain its own financial sustainability by (a) making adequate provisions for nonperforming assets; (b) maintaining a debt service coverage ratio of at least 1.1 times; and (c) instituting and observing such other due diligence and good banking practices as required for a prudent financial institution.</p>	<p>Schedule 5, para.25</p>	<p>Partially complied.</p> <p>a) Complied with. TDF has recently prepared its reports based on Nepal financial reporting standard (NFRS), loan loss provisions have been booked and assets were tested for impairment and measured at their fair value.</p>

Covenants	Reference in Loan Agreement	Status of Compliance														
		<p>b) Complied with. The financial covenant of maintaining a debt service coverage of at least 1.1 times has been maintained throughout the project period. However, the audit opinion on the same were only obtained for FY 2018-FY 2020. The DSCR for FY 2011 to 2017 was calculated using the AEFS and shows the following results.</p> <table border="1" data-bbox="1081 680 1430 905"> <tbody> <tr> <td>FY 2017</td> <td>4.29</td> </tr> <tr> <td>FY 2016</td> <td>1.69</td> </tr> <tr> <td>FY 2015</td> <td>2.27</td> </tr> <tr> <td>FY 2014</td> <td>2.05</td> </tr> <tr> <td>FY 2013</td> <td>4.70</td> </tr> <tr> <td>FY 2012</td> <td>2.37</td> </tr> <tr> <td>FY 2011</td> <td>1.58</td> </tr> </tbody> </table> <p>c) Partially complied with. Some of the main issues on the audited entity financial statements (AEFS) related to insufficient due diligence on the loan repayment capacity of the borrower, and long outstanding balance confirmation with the Financial Comptroller General Office (FCGO).</p> <p>Consequently, TDF has very proactively prepared a Loan recovery policy along with Tariff fixation and collection guideline for municipalities. These initiatives are directly linked with the sustainability of TDF. Since these are very recent developments (after loan closure), the effective implementation of these could not be verified. The final AEFS for FY2020 was submitted within the submission deadline.</p>	FY 2017	4.29	FY 2016	1.69	FY 2015	2.27	FY 2014	2.05	FY 2013	4.70	FY 2012	2.37	FY 2011	1.58
FY 2017	4.29															
FY 2016	1.69															
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FY 2013	4.70															
FY 2012	2.37															
FY 2011	1.58															
Without prejudice to the foregoing, the Borrower will undertake to TDF in the Subsidiary Loan Agreement to cover defaults by the Municipalities under the Onlending Agreements through funds	Schedule 5, para.26	Complied with. The Subsidiary Loan agreement between the Borrower and TDF														

Covenants	Reference in Loan Agreement	Status of Compliance
otherwise designated for the Municipalities by the Borrower, and the Municipalities will agree to such deduction in the Onlending Agreements.		included the provision to cover defaults by the municipalities under the Onlending Agreements through funds otherwise designated for the municipalities by the Borrower.
<p>Operation and maintenance of the Project facilities</p> <p>The Borrower shall ensure that sufficient funds are provided in an efficient and timely manner to meet any shortfall between the cost and revenues for the operation and maintenance of the Project facilities.</p>	Schedule 5, para.27	<p>Complied with.</p> <p>The Borrower has ensured to provide shortfall budget required for O&M of the facilities developed under the project.</p> <p>After closure of ADB financing, the government has been providing necessary funds for implementation of the KVVSP and committed to provide support until the completion of the project.</p>
<p>Development Coordination</p> <p>The Borrower shall ensure that there will be complementarity and no overlap of activities between the Subprojects and projects funded by other development partners.</p>	Schedule 5, para.28	<p>Complied with.</p> <p>There was no overlapping of the activities between the subprojects and the projects funded by other development partners.</p>
<p>Project Monitoring and Reporting</p> <p>Within 3 months after the Effective Date, the Borrower shall ensure that DUDBC establishes a project performance management system satisfactory to ADB. The Borrower and DUDBC will ensure, within 9 months after the Effective Date, that baseline data corresponding to indicators and targets set out in the design and monitoring framework, disaggregated by sex, caste, and ethnicity, where appropriate, will be augmented through a benchmark survey as a part of the Consulting Services.</p>	Schedule 5, para.29	<p>Partially complied.</p> <p>The ADB loan became effective on 18 Jan 2011. The PPMS was established with slight delay in September 2011. Baseline data corresponding to DMF indicators and targets disaggregated by sex, caste, and ethnicity, were augmented through benchmark survey by the DSCs.</p>
<p>The Borrower, DUDBC, and each of the Municipalities shall coordinate among themselves as appropriate and shall ensure that the quarterly and other reports to be prepared by the Municipalities and TDF under the Project Agreements, including without limitation Project completion reports, are consolidated with the reports to be prepared by DUDBC under the PAM.</p>	Schedule 5, para.30	<p>Partially complied.</p> <p>Consolidated quarterly report and other reports e.g., semiannual safeguards monitoring reports of the project submitted by the PCO/DUDBC. However, during the initial phase of project implementation PCO did not submit the semi-annual safeguards reports as it was not</p>

Covenants	Reference in Loan Agreement	Status of Compliance
		aware of the ADB's requirement. Later after orientation by the ADB, the PCO submitted 10 out of 18 (55.6%) semiannual environmental monitoring reports and 11 out of 18 (61.1%) semiannual social monitoring reports. The submitted reports were generally on time.

ADB = Asian Development Bank, AEFS = audited entity financial statement, AP = affected person, CIAA = Commission for the Investigation of Abuse of Authority, DMF = design and monitoring framework, DSC = design and supervision consultant, DUDBC = Department of Urban Development and Building Construction, EARF = environmental assessment and review framework, EGM = effective gender mainstreaming, EIRR = economic internal rate of return, EMP = environmental management plan, FCGO = Financial Comptroller General Officer, FY = fiscal year, GESI = gender equality and social inclusion, GRC = grievance redress committee, GRM = grievance redress mechanism, IEE = initial environmental examination, IFB = invitation for bid, ISWM = integrated solid waste management, KVIWSP = Kavre Valley Integrated Water Supply Project, KWSMB = Kavre Water Supply Management Board, KVVWSP = Kavre Valley Water Supply Project, MLD = Ministry of Local Development, MOF = Ministry of Finance, MPPW = Ministry of Physical Planning and Works, MWS = Ministry of Water Supply, NFRS = Nepal financial reporting standard, NWSC = Nepal Water Supply Corporation, O&M = operation and maintenance, OFID = OPEC Fund for International Development, PAM = project administration manual, PCO = project coordination office, PD = project director, PIU = project implementation unit, PPMS = project performance management system, PPP = public-private partnership, RF = resettlement framework, RIPP = resettlement and indigenous peoples plan, RP = resettlement plan, SOE = statement of expenditure, SOUF = statement of utilization of funds, SPS = safeguard policy statement, SSCF = small-scale community facilities, STD = sexually transmitted disease, TDF = Town Development Fund, WUA = Water User's Association, WUSC = water users' and sanitation committee, WWTP = wastewater treatment plan.

ECONOMIC AND FINANCIAL REEVALUATION

1. **Overview.** The Secondary Towns Integrated Urban Environmental Improvement Project (the project) aims to (i) prevent waterlogging and introduce a wastewater collection and treatment system in core areas of Biratnagar and Birgunj municipalities, (ii) achieve 90% municipal waste collection and disposal in Birgunj and Butwal municipalities, and (iii) supply improved drinking water through the regional system to 85% of the municipal population in the Kavre. This appendix describes the methodology to assess the economic and financial reevaluation of proposed subprojects evaluated at appraisal. It reevaluates the economic internal rate of return (EIRR) at project completion and discusses the likely causes in differences in EIRR at project appraisal and at completion. The analysis at project completion is based on actual data provided by the project implementing municipalities, the project coordination office (PCO) under the Department of Urban Development and Building Construction (DUDBC), and the Town Development Fund (TDF), a financial intermediary under the project. The methodology applied for the reevaluation is based on the Asian Development Bank (ADB) guidelines for financial and economic analysis of projects.¹

A. Economic Reevaluation

2. **Scope of the Economic Analysis.** Economic analysis was carried out at appraisal by combining sewer, drainage, wastewater treatment plant (WWTP), roads and lanes, and solid waste management subprojects for Birgunj municipality, and combining sewer, drainage, WWTP, roads and lanes subproject at Biratnagar municipality. Economic analysis of Butwal solid waste management (SWM) and regional water supply subproject in Kavre could not be conducted due to absence of economic benefit at the loan closure. Economic analysis at completion was carried out based on benefits assumed at appraisal, and actual costs incurred, and benefit realized during implementation.

3. **Economic Costs:** Economic costs are estimated using domestic price numeraire at 2020 constant prices. The subprojects' actual financial costs incurred from 2011 to 2020 are converted to 2020 prices by adjusting for domestic inflation² to establish urban infrastructure in selected towns. Cost of sewer, drainage, wastewater treatment plant and roads could not be separated due to combination of all the costs in a single package. The costs comprised of civil works, consulting services, and incremental recurrent costs. All financial costs were converted to economic costs after excluding taxes and duties. Actual financial investment costs and operation and maintenance (O&M) costs are converted to economic costs using the shadow exchange rate factor (SERF) for tradable goods at 1.22, standard wage rate factor (SWRF) for unskilled labor at 0.7, and skilled labor and non-tradable goods at 1.0. SERF is computed based on average of international trade data of last five years.³ Annual O&M cost of sewer treatment plant, drainage and SWM cost is estimated from year FY 2020/21 based on the engineering estimates of the municipalities. Table A10.1 provides a summary of conversion of actual financial cost in 2020 prices to economic costs. The O&M cost is divided into fixed and variable costs. Economic cost of land for SWM is estimated at NRs5.93 million per year based on the economic value of land estimated at appraisal.

¹ ADB. 2017. *Guidelines for the Economic Analysis of Projects*. Manila; and ADB. 2005. *Financial Management and Analysis of Projects*. Manila.

² Actual investment before 2020 are converted to 2020 prices by adjusting for domestic inflation rate from the economic survey published by the Ministry of Finance, Government of Nepal.

³ SERF was updated based on ADB guidelines and international trade data for the last five years (FY 2014/15 to 2018/19). For FY 2020/21, there was no historic data of actual cost incurred for O&M of completed infrastructure since FY 2020/21 was the first year of operation of the completed subprojects (e.g., WWTP, LFS and Sewer and drainage).

Table A10.1: Conversion to Financial to Economic Costs

Costs	Conversion Factor	Biratnagar sewer-drainage system				Birgunj sewer-drainage system, and municipal waste management system			
		Investment (NRs million)		Annual O&M (NRs million)		Investment (NRs million)		Annual O&M (NRs million)	
		FC	EC	FC	EC	FC	EC	FC	EC
Foreign costs	SERF (1.22)	769.78	939.13		6.10	1,254.04	1,529.92	12.20	14.88
Unskilled labor	SWRF (0.7)	625.04	437.53	5.00	12.25	1,027.60	719.32	42.70	29.89
Skilled Labor and non-tradable goods	Constant (1.00)	1,369.97	1,369.97	2.50	2.50	2,117.98	2,117.98	6.10	6.10
Total		2,764.79	2,746.63	25.00	20.85	4,399.61	4,367.22	61.00	50.87

EC = economic costs, FC = financial costs, NRs = Nepalese Rupee, O&M = operation and maintenance, SERF = shadow exchange rate factor, SWRF = shadow wage rate factor.

Source: ADB PCR mission estimates, 2021.

4. The EIRR and net present value (NPV) were estimated using the following assumptions: (i) a discount rate of 12.0% for the NPV calculation, and (ii) an evaluation period of 20 years from subproject completion.

5. **Sewer and Municipal Waste Management Subprojects.** Under this subproject, sewer, drainage, ,WWTP, and roads infrastructure are established in Biratnagar; and sewer, drainage, , WWTP, integrated solid waste management (ISWM) and roads infrastructure are established in Birgunj. All the infrastructure established in Birgunj and Biratnagar are in operation. The ISWM subproject in Butwal was cancelled due to continuous protests from the community near the landfill site.⁴ The economic analysis at completion was carried out only for completed subprojects. The same parameters for benefits and their corresponding assumptions that were used at appraisal were used at completion, except for updated costs and benefits in 2020 constant prices (Table A10.2). The appraisal estimated economic benefits as decrease in disability-adjusted life year (DALY)⁵, which is assumed to be 0.85% of per capita gross national income (GNI) in Biratnagar and 1.21% of GNI in Birgunj.⁶ Incidence of communicable food/water borne diseases were recorded at 8.11% in Biratnagar and 14.44% in Birgunj among registered cases in the Out-Patient Department (OPD) in FY 2017/18. After the project completion in 2019/20, such cases were recorded at 5.35% in Biratnagar and 7.35% in Birgunj. Diarrhea, typhoid, intestinal worms, acute gastro enteritis and amoebic dysentery were the most common incidences under food/water borne diseases.⁷ This shows that there is about 34% reduction on incidence of communicable food/water borne diseases in Biratnagar and about 49% in Birgunj. Reduction in incidence of communicable food/water borne diseases not only contribute to decrease in DALY but also to health care expenditure savings. Health care expenditure saving was estimated at 12% in Biratnagar and 17% in Birgunj. In addition, compost value was considered additional economic

⁴ MOUD. 2019. *Project Completion Report: Secondary Towns Integrated Urban Environment Improvement Project*. Kathmandu.

⁵ DALYs for a disease or health condition are the sum of the years of life lost to due to premature mortality (YLLs) and the years lived with a disability (YLDs) due to prevalent cases of the disease or health condition in a population. <https://www.who.int/data/gho/indicator-metadata-registry/imr-details/158>

⁶ ADB. 2010. *Report and Recommendation of the President to the Board of Directors: Proposed Loan, Grant, and Administration of Secondary Towns Integrated Urban Environmental Improvement Project*. Manila.

⁷ Government of Nepal. 2019 and 2021. *Annual Report from Department of Health Services*. Kathmandu

benefit from ISWM subprojects. All population living in catchment areas of the sewer, drainage and ISWM services are considered as beneficiaries.⁸ The number of beneficiaries is estimated based on the population growth rate of the city⁹ and assumed increase in the demand for such services.

Table A10.2: Economic Benefit of Sewer and Municipal Waste Management

Benefit	Assumption at appraisal	Assumption at completion
Decrease in DALY	<ul style="list-style-type: none"> - DALYs was valued at \$815 per capita gross national income. - Savings: 1.21% of DALY in Birgunj, 0.85% in Biratnagar and 0.21% in Butwal. 	<ul style="list-style-type: none"> - DALYs valued at NRs127,401 per capita gross national income. - Savings: 1.21% of DALY in Birgunj and 0.85% in Biratnagar.
Health care expenditure saving	<ul style="list-style-type: none"> - Savings: 17% (\$7.3) in Birgunj, 12% (\$5.2) in Biratnagar and 3% (\$1.3) in Butwal. 	<ul style="list-style-type: none"> - Per capita annual health care expenditure: Birgunj NRs2,195 and Biratnagar NRs2,997¹⁰. - Savings: 17% in Birgunj and 12% in Biratnagar
Production of compost	<ul style="list-style-type: none"> - Value of compost NRs400 per cubic meter 	<ul style="list-style-type: none"> - 1,000 kg per day in Birgunj - Value of compost NRs5 per kg

DALY = disability-adjusted life year; kg = kilogram, NRs = Nepalese Rupee
Source: ADB PCR mission estimates, 2021.

6. The EIRRs of the subproject at completion for Biratnagar is estimated at 6.35% (Annex A10.2) and Birgunj is estimated at 2.29% (Annex A10.3). Combined EIRR of both subprojects is estimated to be 4.21% (Annex A10.4). The subproject EIRR are below than the appraisal estimates as well as the economic opportunity cost of capital (EOCC) (Table A10.3). Reasons behind the lower EIRRs compared to appraisal are the (i) project time overrun of around 4 years, (ii) low number of sewer connection and total beneficiaries at project completion compared to appraisal,¹¹ and (ii) huge cost overrun at completion in Birgunj.¹² Therefore, overall project is rated *inefficient*. At the subproject level, Biratnagar subproject is rated *less than efficient* and Birgunj subproject is rated *inefficient*. No economic benefit was realized at completion in Butwal. Therefore, EIRR cannot be estimated, and the efficiency rating is not applicable.

⁸ Based on the information provided by the municipality, population benefited by the (i) drainage improvement is estimated at 58,960 in Birgunj and 110,683 in Biratnagar in 2019; (ii) Sewer service is estimated at 55 in Birgunj and 3,538 in Biratnagar in 2019; and (iii) SWM service in Birgunj is estimated at 144,921.

⁹ Central Bureau of Statistic. *National Population and Housing Census 2001 and 2011. National Report*. Kathmandu. Population growth rate of the cities computed growth rate of the period 2001 to 2011.

¹⁰ Based on Household Budget Survey 2016 by Nepal Rastra Bank. Values for 2020 is adjusted based on domestic inflation rate.

¹¹ Total project beneficiaries were estimated at 370,000 in Biratnagar and 254,000 in Birgunj at appraisal by 2034. At completion, it is estimated at about 271,000 in Biratnagar and 195,000 in Birgunj. A total of 25,000 households were estimated to have sewer connection by 2015 at appraisal, but due to the reduction in coverage area, only 16,543 estimated to be connected with the system by 2038. Actual connection in 2020 was only 1,343 households.

¹² Subproject cost in Birgunj at appraisal was estimated at \$27.47 million but at completion it is estimated at about \$37.11 million.

Table A10.3: Economic Internal Rates of Return of Sewer and Municipal Waste Management Subproject at Appraisal and Completion

Subproject	Appraisal (2010) % ^a	Completion (Dec 2020) %	Level of Efficiency ^b
Biratnagar sewer-drainage system ¹³	16.0	6.35	Less than efficient
Birgunj sewer-drainage system, and municipal waste management system ¹⁴	14.1	2.29	Inefficient
Butwal municipal waste management	13.9	Dropped	Not applicable
Combined Biratnagar and Birgunj subprojects	Not available	4.21	Inefficient

^a Source: ADB. 2010. *Report and Recommendation of the President to the Board of Directors: Proposed Loan and Administration of Loan to Nepal for the Secondary Towns Integrated Urban Environmental Improvement Project*. Manila.

^b An economic internal rate of return (EIRR) $\geq 18\%$ is rated *highly efficient*; an EIRR $\geq 12\%$ *efficient*; an EIRR $< 12\%$ *less than efficient*; and an EIRR $\leq 6\%$ is inefficient (based on ADB. 2016. *Guidelines for the Evaluation of Public Sector Operations*. Manila).

7. **Regional Water Supply Subprojects in the Kavre.** The project aimed to serve drinking water to 3,000 new households drinking and improved drinking water for 4,500 households with existing water supply access in Kavre, through one contract for Kavre municipality and one for Butwal municipality. No financing for the household connections was included in the project. The contract for Butwal was terminated, for Kavre still ongoing. The service standard for the water supply was set as 80 litres per capita per day (lpcd) for fully plumbed connections, 65 lpcd for yard connections, and 40 lpcd for stand posts, satisfying national drinking water quality standards, with 24-hour supply. But at financial closure, the construction of the water supply subproject was not completed neither did any water connections with the households as per the service standard exist. At the time of financial closure on 31 December 2019, major components of the civil works in Kavre were completed with overall physical progress of 90%, but there is no water supply service till the project completion review period. After financial closure, the government established a project office and work continued to complete the subproject with its own funds. Therefore, in the absence of economic benefit to the society at project completion, economic analysis could not be conducted. It was reported that implementation of the contract suffered from delays in the reinstatement of the pipelines damaged by the third party and dispute between the consultant and the contractor in water supply pipeline testing procedures. As a result, beneficiaries' household connection to the water supply system also delayed. The government is determined to complete the water supply system and provide technical and financial support to complete the works. Since there is no economic benefit realized at completion, EIRR could not be calculated, and the efficiency rating is *not applicable*.

8. **Sensitivity analysis.** The sensitivity analysis was conducted to examine the robustness of the estimated EIRRs for future increase in operation and maintenance (O&M) cost of the infrastructure and decrease in expected benefits to the society (Table A10.4 and Table A10.5). The economic benefits include DALY, health care expenditure saving and value of compost where applicable. Three scenarios are considered in the sensitivity analysis: O&M cost increase by 10%, benefit decrease by 10% and both cases. The switching value for Birgunj subproject shows that a 132% increase in benefits is required to realize economic benefit equal to the EOCC. Likewise, in Biratnagar an 80% increase in benefit is required to maintain economic benefit equal to the EOCC. Sensitivity indicator shows that a reduction in benefits is more sensitive than an increase in O&M costs.

¹³ This includes sewer system including wastewater treatment plant, storm water drainage system and roads.

¹⁴ This includes sewer system including wastewater treatment plant, storm water drainage, solid waste management system and roads.

Table A10.4: Sensitivity Analysis of the Economic Returns of Birgunj Sewer-Drainage and ISWM Systems

Case	ENPV (NRs million)	EIRR (%)	Switching Value %	Sensitivity Indicator
Base case	(1,425.73)	2.29%	-	-
Adverse variations				
Operation and maintenance cost increased by 10%	(1,441.60)	2.12%	899	0.1
Benefits reduced by 10%, costs unchanged	(1,533.60)	1.17%	(132)	(0.8)
Operating cost increased by 10%, benefits decreased by 10%	(1,549.46)	0.99%	-	-

EIRR = economic internal rate of return, ENPV = economic net present value, ISWM = integrated solid waste management, NRs = Nepalese Rupee.

Note: Figures in parenthesis indicate a negative number.

Source: ADB PCR mission estimates, 2021

Table A10.5: Sensitivity Analysis of the Economic Returns of Biratnagar Sewer-Drainage System

Case	ENPV (NRs million)	EIRR (%)	Switching Value %	Sensitivity Indicator
Base case	(776.02)	6.35%	-	-
Adverse variations				
Operation and maintenance cost increased by 10%	(784.03)	6.27 %	969	0.1
Benefits reduced by 10%, costs unchanged	(872.73)	5.37%	(80)	(1.2)
Operating cost increased by 10%, benefits decreased by 10%	(880.73)	5.28%	-	-

EIRR = economic internal rate of return, ENPV = economic net present value, NRs = Nepalese Rupee.

Note: Figures in parenthesis indicate a negative number.

Source: ADB PCR mission estimates, 2021

B. Financial Reevaluation

9. **Scope of the Financial Analysis.** During project preparation, all subprojects were categorized as non-revenue generating projects, except water supply improvement subprojects. Debt services and O&M cost of non-revenue generating subprojects were assumed to be covered by the local taxes and municipality budget, while sewer connection charges are expected to be met by the consumers served. Therefore, financial assessment of municipalities is carried out to assess sustainability of non-revenue generating subprojects.

10. **Financial Analysis of Sewer and Municipal Waste Management Subprojects.** All the municipalities contributed their part of financing to complete the implemented subprojects. Municipal financial analysis shows that both Biratnagar and Birgunj are capable of operating and maintaining the urban infrastructure created by the project (Table A10.6 and Table A10.7).

11. The Biratnagar and Birgunj Metropolitan City need to utilize about 1.48% to 3.02% of the funds respectively, under the municipal discretion to pay back the TDF subloan. Both municipalities have managed staffs to maintain and operate the sewer, drainage, wastewater treatment plant, and urban roads and lanes constructed and/or improved under the project. Birgunj is planning to contract out ISWM system to the private sector for its O&M. Although, both municipalities do not allocate fixed budget in advance to maintain and operate the public

infrastructure services, the historical data shows that about 10% of the public infrastructure budget is allocated for operation, maintenance, and improvement of existing public infrastructure. Operation and maintenance needs of the infrastructure established by the project are estimated within the range of 12.82% to 85.97% of the estimated annual O&M expenditure of the municipalities. It shows that the cost of operation and maintenance needs and repayment of the subloan are considered within the affordability limit of the municipalities for sustainable operation of the subprojects. In addition, Biratnagar and Birgunj municipalities have set connection and tariff rate to collect monthly tariff for sewer connection service.¹⁵ Biratnagar has already started to collect monthly sewer tariff and Birgunj has shown its commitment to start levying sewer charge from the fiscal year 2020/21.

12. Financial Analysis of Water Supply Subprojects. The financial cost–benefit reevaluation of Kavre Valley Water Supply Subproject (KVWSP) could not be done at completion as still no household connection exists with the water supply distribution system, and therefore revenue collection system has not been established. Three separate water supply operators are managing existing water supply services.¹⁶ Water from the subproject is not interconnected with the old system and water supply services to the expanded area have not been started. The Kavre Water Supply Management Board (KWSMB) is active but there is no financial transaction to operate the subprojects' water supply system. The existing water supply operators are in the process of handing over the management to the KWSMB. The KWSMB's secretariat has proposed new tariff rate for integrated water supply system and yet to be approved by the KWSMB.¹⁷ So, the KWSMB has not set new water supply connection charge. The government and the municipalities are highly committed to complete the system and provide integrated water supply management service in the near future by bringing all existing water supply operators under the KWSMB.

Table A10.6: Municipal Financial Assessment for Sustainability of Project Infrastructure – Birgunj Metropolitan City
(NRs million)

Item	2018/19 (Actual)	2019/20 (Actual)	2020/21 (Budget)
Revenues under Municipal Discretion			
Own source revenues	444.12	479.24	587.40
Revenues from revenue sharing	199.95	189.21	393.09
Equalization grant from GON and Province	439.50	452.97	440.42
Total	1,083.57	1,121.42	1,420.91
Expenditure on Public Works (Excluding STIUEIP)	494.35	385.46	717.24
Estimated Expenditure for O&M of Public Infrastructure (10%)	49.43	38.54	71.72
O&M Costs and Loan Repayment for Project Infrastructure			Estimated

¹⁵ Biratnagar has set the rate of sewer connection charge and monthly tariff from NRs100 to NRs12,000 per month based on the area of buildings, e.g., monthly tariff for house – up to 1,000 sq ft NRs100, more than 4,000 sq ft NRs7,000, for hotel up to 1,000 sq ft NRs600, more than 12,000 sq ft NRs12,000. Birgunj has set the rate of sewer connection charge and monthly tariff from NRs100 for building up to 1,000 sq. ft, to NRs800 for building more than 4,000 sq. ft. Both municipalities have set the tariff rate in their fiscal act by respective municipal assembly.

Municipal decisions on the rates are assumed within citizens' affordability and willingness to pay.
¹⁶ Nepal Water Supply Corporation Panauti and Banepa Branch, Dhulikhel Water Supply Users Committee, and Psthali Water Supply Users Committee

¹⁷ Proposed new water tariff rate is minimum of NRs380 per month per connection for up to 10 cubic meters of consumption, and NRs55 per cubic meter for additional consumption.

O&M cost for sewer, drainage, SWM and roads	61.66
Subloan repayment to TDF	42.94
Percentage of Revenue under Municipal Discretion for Loan Repayment	3.02%
Percentage Project O&M Requirement to Total Estimated O&M	85.97%

GON = Government of Nepal, O&M = operation and maintenance, SWM = solid waste management, STIUEIP = Secondary Towns Integrated Urban Environmental Improvement Project, TDF = Town Development Fund.
Sources: Birgunj Metropolitan City. 2018/19/20/21. Revenue and expenditure statement from budget book. Birgunj.

Table A10.7: Municipal Financial Assessment for Sustainability of Project Infrastructure – Biratnagar Metropolitan City
(NRs million)

Items	2018/19 (Actual)	2019/20 (Actual)	2020/21 (Budget)
Revenues under Municipal Discretion			
Own source revenues	358.74	494.46	977.43
Revenues from revenue sharing	379.34	374.35	881.91
Equalization grant from GON and Province	342.40	382.70	380.77
Total	1,080.48	1,251.51	2,240.11
Expenditure on Public Works (Excluding STIUEIP)	735.64	1,209.39	1,949.63
Estimated Expenditure for O&M of Public Infrastructure (10%)	73.564	120.939	194.96
O&M Costs and Loan Repayment for Project Infrastructure			Estimated
O&M cost for sewer, drainage, and roads			25.00
Sub-loan repayment to TDF			33.24
Percentage of Revenue under Municipal Discretion for Loan Repayment			1.48%
Percentage Project O&M Requirement to Total Estimated O&M			12.82%

GON = Government of Nepal, O&M = operation and maintenance, STIUEIP = Secondary Towns Integrated Urban Environmental Improvement Project, TDF = Town Development Fund.

Sources: Ministry of Federal Affairs and General Administration. 2019/2020. *Revenue and expenditure statement of 2018/19 and 2019/20 and Budget Book of 2020/21 of Biratnagar Municipality*. Biratnagar.

Annex A10.8: Conversion of Financial to Economic Costs
(NRs million)

Subprojects	Financial Costs	Economic Costs (Conversion Factor)			Economic Costs
		Foreign Goods (1.22)	Unskilled Labor (0.7)	Non-tradable (1.0)	
Investment Costs					
Sewer and Drainage Network - Biratnagar	2,764.79	939.13	437.53	1,369.97	2,746.63
Sewer and Drainage Network, and SWM - Birgunj	4,399.61	1,529.92	719.32	2,117.98	4,367.22
O&M Costs					
Sewer and Drainage Network - Biratnagar	25.00	6.10	12.25	2.50	20.85
Sewer and Drainage Network, and SWM - Birgunj	61.00	14.88	29.89	6.10	50.87

NRs = Nepalese Rupees, O&M = Operation and Maintenance, SWM = Solid Waste Management.

Sources: Asian Development Bank and consultant estimates.

Annex A10.9: EIRR estimates of Biratnagar Sewer and Drainage Network
(NRs million)

Year	Construction Cost	O&M Cost	Total Costs	Health Expenditure Saving	Health Benefits	Total Benefit	Net Benefit
2012	57.76	0.00	57.76	0.00	0.00	0.00	(57.76)
2013	56.57	0.00	56.57	0.00	0.00	0.00	(56.57)
2014	470.83	0.00	470.83	0.00	0.00	0.00	(470.83)
2015	881.54	0.00	881.54	0.00	0.00	0.00	(881.54)
2016	679.68	0.00	679.68	0.00	0.00	0.00	(679.68)
2017	314.28	0.00	314.28	0.00	0.00	0.00	(314.28)
2018	221.16	0.00	221.16	0.00	0.00	0.00	(221.16)
2019	61.04	0.00	61.04	47.17	142.04	189.21	128.18
2020	3.77	21.74	25.51	51.19	154.14	205.32	179.81
2021	0.00	22.46	22.46	54.47	164.01	218.48	196.02
2022	0.00	23.46	23.46	58.99	177.63	236.62	213.16
2023	0.00	24.88	24.88	65.40	196.95	262.35	237.47
2024	0.00	26.94	26.94	74.71	224.96	299.67	272.73
2025	0.00	27.64	27.64	77.90	234.58	312.48	284.84
2026	0.00	28.65	28.65	82.47	248.34	330.81	302.16
2027	0.00	29.03	29.03	84.19	253.54	337.73	308.70
2028	0.00	29.42	29.42	85.96	258.84	344.79	315.37
2029	0.00	29.82	29.82	87.75	264.25	352.01	322.19
2030	0.00	30.22	30.22	89.59	269.78	359.37	329.14
2031	0.00	30.64	30.64	91.46	275.42	366.88	336.25
2032	0.00	31.06	31.06	93.38	281.18	374.56	343.50
2033	0.00	31.49	31.49	95.33	287.06	382.39	350.90
2034	0.00	31.93	31.93	97.32	293.07	390.39	358.46
2035	0.00	32.38	32.38	99.36	299.20	398.56	366.17
2036	0.00	32.84	32.84	101.44	305.46	406.89	374.05
2037	0.00	33.31	33.31	103.56	311.84	415.40	382.09
2038	0.00	33.79	33.79	105.72	318.37	424.09	390.30
						NPV	(776.02)
						EIRR	6.35%

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

Annex A10.10: EIRR estimates of Birgunj Sewer and Drainage Network, and SWM
(NRs million)

Year	Construction Cost	O&M Cost	Cost of Land	Total Costs	Health Expenditure Saving	Health Benefits	Value of Compost	Total Benefit	Net Benefit
2012	38.94	0.00	0.00	38.94	0.00	0.00	0.00	0.00	(38.94)
2013	48.10	0.00	0.00	48.10	0.00	0.00	0.00	0.00	(48.10)
2014	361.77	0.00	0.00	361.77	0.00	0.00	0.00	0.00	(361.77)
2015	1087.27	0.00	0.00	1087.27	0.00	0.00	0.00	0.00	(1087.27)
2016	364.62	0.00	0.00	364.62	0.00	0.00	0.00	0.00	(364.62)
2017	852.48	0.00	0.00	852.48	0.00	0.00	0.00	0.00	(852.48)
2018	555.93	0.00	0.00	555.93	0.00	0.00	0.00	0.00	(555.93)
2019	745.54	0.00	5.93	751.47	54.07	223.40	1.83	279.30	(472.17)
2020	312.57	42.42	5.93	360.92	55.23	228.19	1.86	285.28	(75.64)
2021	0.00	44.42	5.93	50.35	56.41	233.08	1.90	291.39	241.05
2022	0.00	46.50	5.93	52.43	57.62	238.07	1.94	297.64	245.21
2023	0.00	50.39	5.93	56.32	58.85	243.17	1.99	304.01	247.70
2024	0.00	54.43	5.93	60.36	60.11	248.38	2.03	310.53	250.17
2025	0.00	55.05	5.93	60.98	61.40	253.71	2.07	317.18	256.21
2026	0.00	56.90	5.93	62.83	62.72	259.14	2.12	323.98	261.15
2027	0.00	57.57	5.93	63.50	64.06	264.70	2.16	330.92	267.42
2028	0.00	58.26	5.93	64.19	65.43	270.37	2.21	338.01	273.82
2029	0.00	58.97	5.93	64.90	66.84	276.16	2.26	345.25	280.36
2030	0.00	59.68	5.93	65.61	68.27	282.08	2.30	352.65	287.04
2031	0.00	60.42	5.93	66.35	69.73	288.12	2.35	360.21	293.86
2032	0.00	61.17	5.93	67.10	71.23	294.29	2.40	367.92	300.83
2033	0.00	61.93	5.93	67.86	72.75	300.60	2.46	375.81	307.94
2034	0.00	62.72	5.93	68.65	74.31	307.04	2.51	383.86	315.21
2035	0.00	63.51	5.93	69.44	75.90	313.62	2.56	392.08	322.64
2036	0.00	64.33	5.93	70.26	77.53	320.34	2.62	400.48	330.22
2037	0.00	65.16	5.93	71.09	79.19	327.20	2.67	409.07	337.97
2038	0.00	66.01	5.93	71.94	80.89	334.21	2.73	417.83	345.89
								NPV	(1,425.73)
								EIRR	2.29%

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

Annex A10.11 Combined EIRR estimates of Biratnagar and Birgunj Subprojects
(NRs million)

Year	Birgunj – Total Costs	Biratnagar – Total Costs	Total Combined Costs	Birgunj – Total Benefit	Biratnagar – Total Benefit	Total Combined – Benefit	Net Combined Benefit
2012	38.94	57.76	96.70	0.00	0.00	0.00	(96.70)
2013	48.10	56.57	104.67	0.00	0.00	0.00	(104.67)
2014	361.77	470.83	832.60	0.00	0.00	0.00	(832.60)
2015	1087.27	881.54	1968.81	0.00	0.00	0.00	(1968.81)
2016	364.62	679.68	1044.30	0.00	0.00	0.00	(1044.30)
2017	852.48	314.28	1166.76	0.00	0.00	0.00	(1166.76)
2018	555.93	221.16	777.09	0.00	0.00	0.00	(777.09)
2019	751.47	61.04	812.51	279.30	189.21	468.51	(343.99)
2020	360.92	25.51	386.43	285.28	205.32	490.60	104.18
2021	50.35	22.46	72.81	291.39	218.48	509.87	437.07
2022	52.43	23.46	75.89	297.64	236.62	534.26	458.37
2023	56.32	24.88	81.19	304.01	262.35	566.37	485.17
2024	60.36	26.94	87.29	310.53	299.67	610.20	522.91
2025	60.98	27.64	88.62	317.18	312.48	629.66	541.04
2026	62.83	28.65	91.48	323.98	330.81	654.79	563.31
2027	63.50	29.03	92.54	330.92	337.73	668.65	576.11
2028	64.19	29.42	93.61	338.01	344.79	682.80	589.19
2029	64.90	29.82	94.72	345.25	352.01	697.26	602.54
2030	65.61	30.22	95.84	352.65	359.37	712.02	616.18
2031	66.35	30.64	96.99	360.21	366.88	727.09	630.10
2032	67.10	31.06	98.16	367.92	374.56	742.48	644.32
2033	67.86	31.49	99.36	375.81	382.39	758.20	658.84
2034	68.65	31.93	100.58	383.86	390.39	774.25	673.67
2035	69.44	32.38	101.83	392.08	398.56	790.64	688.81
2036	70.26	32.84	103.10	400.48	406.89	807.38	704.27
2037	71.09	33.31	104.41	409.07	415.40	824.47	720.06
2038	71.94	33.79	105.74	417.83	424.09	841.92	736.19
						NPV	(2,202)
						EIRR	4.21%

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

SURVEY ANALYSIS

1. A face-to-face survey was implemented in Biratnagar and Birgunj municipalities to collect the information required to measure some of the design and monitoring framework (DMF) indicators and assess the overall municipality services (related to the project outputs and outcomes) provided to the city dwellers. A questionnaire was designed to collect the information (Annexes 1-4). Local enumerators were hired in each city, and the training and instructions were given before deploying them to the field. The survey covered 30 households, 30 business agents and 30 representative members benefited from community development program (CDP) in each city. The survey was conducted in December 2020. In total, 180 respondents were surveyed. The business agents and households representing all the wards from the core city areas were surveyed.

2. The survey collected information to assess one of the outcome indicators related to the reduction in waterlogging. The question was asked only to the households and business agents from the core municipal areas. Similarly, the question related to the output indicator on citizens' satisfaction with service delivery (sewer, drainage, solid waste management, and water supply) was directed to the households and business agents from core municipal areas. However, the question related to output indicator on improved hand-washing practice was asked only to the beneficiaries from the poor community clusters located outside the core city areas. This is because such awareness training was conducted in the poor community clusters located outside the core city areas.

3. Table A11.1 presents the respondents' perception towards the waterlogging problem in the city before project implementation. On the average, about 82% of the respondents stated that they faced waterlogging problem. About 80% of respondents from the household survey and 85% of the business agents stated that they faced waterlogging problem. Unlike Biratnagar, all the respondents from the Birgunj experienced the waterlogging problem.

Table A11.1: Status of Waterlogging Problem Before Project Implementation

Municipality	Households		Business Agents		Total	
	Faced waterlogging problem	Didn't face waterlogging problem	Faced waterlogging problem	Didn't face waterlogging problem	Faced waterlogging problem	Didn't face waterlogging problem
Biratnagar	18	12	21	9	39	21
%	60	40	70	30	65	35
Birgunj	29	0	30	0	59	0
%	100	0	100	0	100	0
Total	47	12	51	9	98	21
%	80	20	85	15	82	18

Source: ADB PCR mission sample survey, 2020.

4. Table A11.2 presents the status of waterlogging problems as stated by the respondents after project implementation. About 82% of the respondents stated that there has been a reduction in waterlogging duration after project completion. While 85% of the business agents stated the reduction in waterlogging duration, 80% of the households felt that the waterlogging duration has decreased due to the project intervention. All the respondents from Birgunj felt the reduction in waterlogging duration after project completion. Overall, the construction of storm water drainage has led to the significant reduction in waterlogging duration. As shown in Table A11.3, the average

waterlogging duration was reduced from about 6 hours before project implementation to less than an hour after project completion. Similarly, the maximum waterlogging duration decreased from about 48 hours to less than 5 hours. In both the surveyed municipalities, the waterlogging duration has significantly dropped.

Table A11.2: Status of Waterlogging Problem After Project Completion

Municipality	Households		Business Agents		Total	
	Reduction in waterlogging duration	No reduction in waterlogging duration	Reduction in waterlogging duration	No reduction in waterlogging duration	Reduction in waterlogging duration	No reduction in waterlogging duration
Biratnagar	18	12	21	9	39	21
%	60	40	70	30	65	35
Birgunj	29	0	30	0	59	0
%	100	0	100	0	100	0
Total	47	12	51	9	98	21
%	80	20	85	15	82	18

Sources: ADB PCR mission sample survey, 2020.

Table A11.3: Change in Waterlogging Duration Before and After Project Implementation

Level	Municipality	Waterlogging duration (hours) before project implementation		Waterlogging duration (hours) after project completion	
		mean	max	mean	max
Household	Biratnagar	4.77	48	0.07	2
	Birgunj	7.93	24	2.21	5
Business	Biratnagar	5.83	48	0.10	2
	Birgunj	4.93	12	1.30	3
Total	All	5.83	48	0.90	5

Source: ADB PCR mission sample survey, 2020.

5. Table A11.4 presents the status of hand washing practices after project implementation. About 88% of the respondents stated that their hand washing practices improved after the project implementation. All the respondents from Birgunj revealed that their hand washing practices improved.

Table A11.4: Status of Hand Washing Practices After Project Implementation

Municipality	Hand washing practices improved	Hand washing practices didn't improve		Total
Biratnagar	6	5		11
%	55	45		100
Birgunj	30	0		30
%	100	0		100
Total	36	5		41
%	88	12		100

Source: ADB PCR mission sample survey, 2020.

6. The survey also evaluates the municipality services and the level of citizens' satisfaction towards the consumed services. Table A11.5 presents the status of respondents' satisfaction towards the drainage system. About 83% of the respondents are satisfied with the services from the drainage system, with highest percentage (95%) of the respondents from business agents.

Table A11.5: Respondents' Satisfaction: Drainage System After Project Completion

Municipality	Household		Business		Community		Total	
	Satisfied ^a	No change	Satisfied ^a	No change	Satisfied ^a	No change	Satisfied ^a	No change
Biratnagar	25	5	27	3	6	15	58	23
%	83	17	90	10	29	71	72	28
Birgunj	28	0	30	0	24	6	82	6
%	100	0	100	0	80	20	93	7
Total	53	5	57	3	30	21	140	29
%	91	9	95	5	59	41	83	17

^a Respondents evaluating the services as—fully satisfied, significant improvement, improved, and minor improvement are categorized as satisfied respondents.

Source: ADB PCR mission sample survey, 2020.

7. Table A11.6 illustrates the status of respondents' satisfaction towards the sewer system. The sewer system is operating only in Biratnagar. Although the sewer system is already completed and is functional in Birgunj, due to the lack of household connections, the system is yet to be operationalized. Only 16% of the respondents are satisfied with the sewer connection services while 19% of the respondents are satisfied with the sewer operation and management. Majority of the respondents have their own safety tank constructed and may not be willing to pay for the sewer services. Therefore, they are not satisfied with the sewer connection services and sewer operation and management.

Table A11.6: Respondents' Satisfaction: Sewer System in Biratnagar After Project Completion

	Sewer connection services		Sewer operation and management	
	Satisfied ^a	No change	Satisfied ^a	No change
Business	5	25	8	22
%	17	83	27	73
Community	2	19	1	20
%	10	90	5	95
Household	6	24	6	24
%	20	80	20	80
Total	13	68	15	66
%	16	84	19	81

^a Respondents evaluating the services as—fully satisfied, significant improvement, improved, and minor improvement are categorized as satisfied respondents.

Source: ADB PCR mission sample survey, 2020.

8. Table A11.7 presents the status of respondents' satisfaction towards road services. About 98% of the respondents are satisfied with the road services. This suggests the high importance given by the residents towards the road construction.

Table A11.7: Respondents' Satisfaction: Road Services After Project Completion

Municipality	Satisfied^a	No change
Biratnagar	29	0
%	100	0
Birgunj	86	2
%	98	2
Total	115	2
%	98	2

^a Respondents evaluating the services as—fully satisfied, significant improvement, improved, and minor improvement are categorized as satisfied respondents.

Source: ADB PCR mission sample survey, 2020.

9. Table A11.8 presents the number and percentage of respondents who are aware of the ADB support for the Secondary Towns Integrated Urban Environmental Improvement Project (STIUEIP) implemented by the municipality. About 70% of the respondents have heard about ADB's support for the STIUEIP. Majority of the respondents from Birgunj are aware of the project activities being supported by ADB. A relatively higher proportion of the beneficiaries from the CDP is aware of the ADB support in STIUEIP in comparison to respondents from household and business agent surveys.

10. Table A11.9 illustrates the house structure of the respondents. About 58% of the respondents have reinforced cement concrete (RCC) building; 23% of the respondents have house made from mud wall; while 23% of the respondents have house made from brick wall. Since the poor and vulnerable households were targeted in the CDP, highest proportion of respondents (43%) from the community survey stated that their house is made from mud wall.

Table A11.8: Familiarity about ADB Support in STIUEIP by Municipality

Municipality	Household		Business		Community		Total	
	Know ADB support	Don't know ADB support	Know ADB support	Don't know ADB support	Know ADB support	Don't know ADB support	Know ADB support	Don't know ADB support
	STIUEIP	STIUEIP	STIUEIP	STIUEIP	STIUEIP	STIUEIP	STIUEIP	STIUEIP
Biratnagar	13	17	11	19	8	13	32	49
%	43	57	37	63	38	62	40	60
Birgunj	28	0	28	2	30	0	86	2
%	100	0	93	7	100	0	98	2
Total	41	17	39	21	38	13	118	51
%	71	29	65	35	75	25	70	30

STIUEIP = Secondary Towns Integrated Urban Environmental Improvement Project.

Source: ADB PCR mission sample survey, 2020.

Table A11.9: House Structure of Respondents

Municipality	Household			Community			Total		
	Mud wall	Brick wall	RCC build	Mud wall	Brick wall	RCC build	Mud wall	Brick wall	RCC build
Biratnagar	2	7	21	7	8	8	9	15	29
%	7	23	70	30	35	35	17	28	55
Birgunj	0	0	28	16	7	7	16	7	35
%	0	0	100	53	23	23	28	12	60
Total	2	7	49	23	15	15	25	22	64
%	3	12	84	43	28	28	23	20	58

RCC = reinforced cement concrete.

Source: ADB PCR mission sample survey, 2020.

Annex 1: SURVEY QUESTIONNAIRE
Biratnagar Metropolitan City
Secondary Towns Integrated Urban Environmental Improvement Project
(STIUEIP)

Business Establishment Survey Questionnaire

(Ask to different types of industries, business establishments and traders in city core area)

1. Information about surveyor:

1.1. Name:

1.2. Information collection date:

2. Information about respondent:

2.1. Name of business establishment:

2.2. Address:

2.3. Telephone no:

2.4. Name of respondent (optional):

2.5. Position of respondent:

2.6. Introduction of business establishment:

15.

A	Type of business establishment (Based on registration – if not registered in government will be others)	(Tick one) 1. Micro 2. Small 3. Medium 4. Large 5. Others:
B	Legal status	1. Public 2. Private 3. Corporation 4. Cooperatives 5. Others: ...
C	Main area of business	1. Agriculture and forest sector: farming / livestock / poultry / fish farming / forest / others: 2. Manufacturing industries: production, packaging, and refining / mines / energy / construction materials 3. Service: wholesale and retail / transportation / communication / storage / tourism / hotel and restaurant / bank and financial institutions / insurance / real-state and rental / professional services / education / health / social sector 4. Others:

3. Information about the Project activities:

A	Do you know about the ADB support STIUEIP project implemented by the municipality?	1. Yes 2. No
B	If know, what type of activities implemented by the municipality through the project?	1. Sewer 2. Drainage 3. Roads 4. Wastewater treatment plant 5. Community development activities
C	Have you benefited from the project activities?	1. Directly benefited 2. Indirectly benefited 3. Not benefited

4. Waterlogging and drainage related:

A	Had you faced waterlogging problems before the project?	1. Yes 2. No
B	If yes, how many times in a year?	... times
C	Generally, how many hours one waterlogging situation used to last for? hours
D	What kind of problems or loss you had faced due to waterlogging? please indicate maximum three.	1. 2. 3.
E	Is there any reduction in waterlogging situation after the project?	1. Yes 2. No
F	If reduced, How many times in a year waterlogging situation occurred? How many hours one waterlogging situation lasts? times days

5. Municipal service delivery capacity improvement

How do you evaluate the municipal services in following areas after completion of the project?
Please tick appropriate.

Services	Fully satisfied	Significant improvement	Improved	Minor improvement	Not any change
Drainage system					
Sewer connection services					
Sewer system operation and management					
Solid waste management					
Roads					

6. Please provide your additional experience and suggestions related with the project implementation process and existing service.

- A. Strength and good experience
- 1.
 - 2.
 - 3.
- B. Areas for improvement

Annex 2: Biratnagar Metropolitan City
Secondary Towns Integrated Urban Environmental Improvement Project
(STIUEIP)
Household Survey Questionnaire

1. Information about surveyor:

- 1.1. Name:
 1.2. Information collection date:

2. Information about respondent:

- 2.1. Full name:
 2.2. Name of house owner:
 2.3. Address of house: Ward: Tole:.....
 2.4. Structure of house: A. Temporary, B. Brick wall with Zink or Tile roof C. RCC building D. Others:
 2.5. Distance (in km) to reach from home to municipality office

3. Information about the Project activities:

A	Do you know about the ADB support STIUEIP project implemented by the municipality?	1. Yes 2. No
B	If know, what type of activities implemented by the municipality through the project?	1. Sewer 2. Drainage 3. Roads 4. Wastewater treatment plant 5. Community development activities
C	Have you benefited from the project activities?	1. Directly benefited 2. Indirectly benefited 3. Not benefited

4. Waterlogging and drainage related: (Ask to the house owner of city core area)

A	Had you faced waterlogging problems before the project?	1. Yes 2. No
B	If yes, how many times in a year?	... times
C	Generally, how many hours one waterlogging situation used to last for? hours
D	What kind of problems or loss you had faced due to waterlogging? please indicate maximum three.	1. 2. 3.
E	Is there any reduction in waterlogging situation after the project?	3. Yes 4. No
F	If reduced, How many times in a year waterlogging situation occurred? How many hours one waterlogging situation lasts? times days

5. **Hand washing practice related:** [Ask only to the community members (equal number of females, children, and males) where trainings and awareness programs were conducted by the project)

A	Have you participated in the training or awareness program conducted by the project?	1. Yes 2. No
B	If not participated, have you heard about training and awareness program implemented by the project?	1. Yes 2. No
C	After the project, have you found any improvement in hand washing practice after the Project?	1. Yes 2. No
D	Why hand washing is important: Tick one (answer is first).	1. To avoid the transmission of harmful germs 2. To get safer from Corona risk 3. To remain clean 4. To get rid of harmful bacteria and viruses 5. Other
E	Why soap is necessary in hand washing? Tick one	1. To remove greasy/oily materials along with dirt 2. To get rid of harmful bacteria, viruses, and germs 3. Others
F	What are the minimal critical times of hand of washing? (Answers are first 4) tick correct one.	1. Before preparing food. 2. Before eating. 3. After defecation. 4. After changing diapers. 5. Others;
G	What are the direct benefits of hand washing? Tick the correct one.	1. To get rid of viruses/ Corona virus 2. To reduce the risk of diarrheal disease 3. To reduce the risk of new-born death 4. To reduce the risk of pneumonia incidence 5. To reduce other infectious disease 6. To increase the nutritional status 7. Other
H	If hand washing practice has been improved, what could be the major three reasons behind it?	1. 2. 3.

6. **Municipal service delivery capacity improvement:** (Ask both type of household members)

How do you evaluate the municipal services in following areas after completion of the project?
Please tick appropriate.

Services	Fully Satisfied	Significant improvement	Improved	Minor improvement	Not any change
Drainage system					
Sewer connection services					

Services	Fully Satisfied	Significant improvement	Improved	Minor improvement	Not any change
Sewer system operation and management					
Solid waste management					

7. Please provide your additional experience and suggestions related with the project implementation process and existing service.

A. Strength and good experience

- 1.
- 2.
- 3.

B. Areas for improvement

- 1.
- 2.
- 3.

Annex 3: Birgunj Metropolitan City
Secondary Towns Integrated Urban Environmental Improvement Project
(STIUEIP)

Business Establishment Survey Questionnaire

(Ask to different types of industries, business establishments and traders in city core area)

1. Information about surveyor:

1.1. Name:

1.2. Information collection date:

2. Information about respondent:

1.1. Name of business establishment:

1.2. Address:

1.3. Telephone no:

1.4. Name of respondent (optional):

1.5. Position of respondent:

1.6. Introduction of business establishment:

A	Type of business establishment (Based on registration – if not registered in government will be others)	(Tick one) 1. Micro 2. Small 3. Medium 4. Large 5. Others:
B	Legal status	1. Public 2. Private 3. Corporation 4. Cooperatives 5. Others: ...
C	Main area of business	1. Agriculture and forest sector: farming / livestock / poultry / fish farming / forest / others: 2. Manufacturing industries: production, packaging, and refining / mines / energy / construction materials 3. Service: wholesale and retail / transportation / communication / storage / tourism / hotel and restaurant / bank and financial institutions / insurance / real-state and rental / professional services / education / health / social sector 4. Others:

3. Information about the Project activities:

A	Do you know about the ADB support STIUEIP project implemented by the municipality?	1. Yes 2. No
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B	If know, what type of activities implemented by the municipality through the project?	<ol style="list-style-type: none"> 1. Sewer 2. Roads 3. Drainage 4. Wastewater treatment plant 5. Solid waste management 6. Community development activities
C	Have you benefited from the project activities?	<ol style="list-style-type: none"> 1. Directly benefited 2. Indirectly benefited 3. Not benefited

4. Waterlogging and drainage related:

A	Had you faced waterlogging problems before the project?	<ol style="list-style-type: none"> 1. Yes 2. No
B	If yes, how many times in a year? times
C	Generally, how many hours one waterlogging situation used to last for? hours
D	What kind of problems or loss you had faced due to waterlogging? please indicate maximum three.	<ol style="list-style-type: none"> 1. 2. 3.
E	Is there any reduction in waterlogging situation after the project?	<ol style="list-style-type: none"> 5. Yes 6. No
F	If reduced, How many times in a year waterlogging situation occurred? How many hours one waterlogging situation lasts?	 times days

5. Municipal service delivery capacity improvement

How do you evaluate the municipal services in following areas after completion of the project?
Please tick appropriate.

Services	Fully satisfied	Significant improvement	Improved	Minor improvement	No any change
Drainage system					
Sewer connection services					
Sewer system operation and management					
Roads					
Solid waste management					

6. Please provide your additional experience and suggestions related with the project implementation process and existing service.

A. Strength and good experience

- 1.
- 2.

B. Areas for improvement

- 1.
- 2.
- 3.

Annex 4: Birgunj Metropolitan City
Secondary Towns Integrated Urban Environmental Improvement Project
(STIUEIP)
Household Survey Questionnaire

1. Information about surveyor:

- 1.1. Name:
 1.2. Information collection date:

2. Information about respondent:

- 2.1. Full name:
 2.2. Name of house owner:
 2.3. Address of house: Ward: Tole:.....
 2.4. Structure of house: A. Temporary, B. Brick wall with Zink or Tile roof C. RCC building D. Others:
 2.5. Distance (in km) to reach from home to municipality office

3. Information about the Project activities:

A	Do you know about the ADB support STIUEIP project implemented by the municipality?	1. Yes 2. No
B	If know, what type of activities implemented by the municipality through the project?	1. Sewer 2. Roads 3. Drainage 4. Wastewater treatment plant 5. Solid waste management 6. Community development activities
C	Have you benefited from the project activities?	1. Directly benefited 2. Indirectly benefited 3. Not benefited

4. Waterlogging and drainage related: (Ask to the house owner of city core area)

A	Had you faced waterlogging problems before the project?	1. Yes 2. No
B	If yes, how many times in a year?	... times
C	Generally, how many hours one waterlogging situation used to last for? hours
D	What kind of problems or loss you had faced due to waterlogging? please indicate maximum three.	1. 2. 3.
E	Is there any reduction in waterlogging situation after the project?	1. Yes 2. No
F	If reduced, How many times in a year waterlogging situation occurred? How many hours one waterlogging situation lasts? times days

5. **Hand washing practice related:** [Ask only to the community members (equal number of females, children, and males) where trainings and awareness programs were conducted by the project]

A	Have you participated in the training or awareness program conducted by the project?	1. Yes 2. No
B	If not participated, have you heard about training and awareness program implemented by the project?	1. Yes 2. No
C	After the project, have you found any improvement in hand washing practice after the Project?	1. Yes 2. No
D	Why hand washing is important: Tick one (answer is first)	1. To avoid the transmission of harmful germs 2. To get safer from Corona risk 3. To remain clean 4. To get rid of harmful bacteria and viruses 5. Other
E	Why soap is necessary in hand washing? Tick one	1. To remove greasy/oily materials along with dirt 2. To get rid of harmful bacteria, viruses, and germs 3. Others
F	What are the minimal critical times of hand of washing? (Answer are first 4) tick the correct one.	1. Before preparing food: 2. Before eating: 3. After defecation: 4. After changing diapers: 5. Other:
G	What are the direct benefits of hand washing? Tick the correct one.	1. To reduce the risk of diarrheal disease 2. To reduce the risk of new-born death 3. To reduce the risk of pneumonia incidence 4. To reduce other infectious disease 5. To increase the nutritional status 6. Other
H	If hand washing practice is improved, what could be the major three reasons behind it?	1. 2. 3.

6. **Municipal service delivery capacity improvement:** (Ask both type of household members)

How do you evaluate the municipal services in following areas after completion of the project?
Please tick appropriate.

Services	Fully satisfied	Significant improvement	Improved	Minor improvement	No any change
Water drainage system					
Sewer connection services					

Sewer system operation and management					
Solid waste management					

7. Please provide your additional experience and suggestions related with the project implementation process and existing service.

A. Strength and good experience

- 1.
- 2.
- 3.

B. Areas for improvement

- 1.
- 2.
- 3.

PROJECT CONTRIBUTION TO ADB STRATEGY 2030 OPERATIONAL PRIORITIES

OP No.	OP Indicator	Achievement	Methods/Remarks
OP 1.3	Poor and vulnerable people with improved standards of living (number)	13,006 people	13,006 vulnerable people living standards improved, of whom 5,479 (42%) were women and 11,902 (91.5%) were from disadvantaged groups. Vulnerable and disadvantaged people from 163 poverty clusters get increased opportunity for basic urban services and infrastructure.
OP 2.3	Women represented in decision-making structures and processes (number)	1,476 women	78 users' committees with 835 members were formed for implementation of CDP, of which 370 (44.3%) were women. Women held at least one key position in each committee. 1,686 community people from 163 poverty clusters participated in in market-oriented skills development training, of which 1,106 (65.6%) were women.
OP 2.1.1	Women enrolled in TVET and other job training (number)	1,106 women	1,686 persons participated in market-oriented skills development training, of which 1,106 (65.6%) were women.
OP 2.1.4	Women and girls benefitting from new or improved infrastructure (number)	5,479 women	13,006 vulnerable people living standards improved, of whom 5,479 (42%) were women.
OP 2.4	Women and girls with increased time savings (number)	1,174 women and/or girls	Women from 439 households in poor communities get improved water, which reduced water fetching time.
OP 2.4.1	Time-saving or gender responsive infrastructure assets and/or services established or improved (number)	132 infrastructures	Installed 10 hand pumps and 45 tube wells; and improved 77 hand pump platforms
OP 3.3	Pollution control enhancing infrastructure assets implemented (number)	5	Project constructed 2 WWTP and 2 community septic tanks; 1 ISWM system; and planted trees along the improved roadsides.

OP No.	OP Indicator	Achievement	Methods/Remarks
OP 4.1	People benefiting from improved services in urban areas (number)	654,826 people	
OP 4.1.2	Urban infrastructure assets established or improved (number)	<p>2 wastewater treatment plants constructed</p> <p>2 community septic tanks constructed.</p> <p>1 sanitary landfill facility constructed.</p> <p>7 roads constructed and or upgraded.</p> <p>2 new major drainage networks constructed.</p> <p>2 roadside drainage networks constructed</p> <p>2 sewer networks constructed</p> <p>7 public toilets constructed</p> <p>1 mobile toilet provisioned</p>	<p>13.95 km of blacktopped roads constructed, and 12.80 km blacktopped roads reinstated. 48.18 km of urban road and lanes improved/upgraded.</p> <p>82.62 km major drains constructed.</p> <p>55.67 km roadside drains constructed.</p> <p>51.22 km of sewers constructed.</p> <p>All public toilets are gender friendly and among these 5 are disabled people friendly.</p>
OP 4.2	Entities with improved urban planning and financial sustainability (number)	4	Biratnagar, Birgunj and Butwal municipalities and DUDBC.
OP 4.2.2	Measures to improve financial sustainability supported in implementation (number)	1	Comprehensive financial management improvement plan supported through the ADB CDTA helped to increase own source revenue, support for strengthening urban planning through preparation of building and planning by laws.
OP 4.3	Zones with improved urban environment, climate resilience, and disaster risk management (number)	2 - Biratnagar and Birgunj municipalities	Improved SWM in Birgunj municipality; reduced contamination of water bodies in Biratnagar municipality; greenhouse gases and carbon emission reduced through improved transport efficiency; increased greenery in city through roadside trees plantation

OP No.	OP Indicator	Achievement	Methods/Remarks
			in Biratnagar and Birgunj municipalities and construction of a park in Birgunj municipality.
OP 6.1	Entities with improved management functions and financial sustainability	3 – Biratnagar and Birgunj municipalities and DUDBC	Implementation of large contracts procured through international bidding procedure requiring modern technology and skilled human resources contributed to enhanced institutional capacity of the Biratnagar and Birgunj municipalities and DUDBC. The disclosure requirement of the project enhanced governance.

ADB = Asian Development Bank, CDP = community development program, CDTA = capacity development technical assistance, DUDBC = Department of Urban Development and Building Construction, ISWM = integrated solid waste management, km = kilometer, OP = operational priority, SWM = solid waste management, WWTP = wastewater treatment plant.

Source: Asian Development Bank.

Cost Table for the Project Preparatory Technical Assistance to the Project

Table A13: Cost Table for TA 7182-NEP: Preparing the Secondary Towns Integrated Urban Environmental Improvement Project

SN	Category	Latest Allocation	Contracts	Disbursement	Uncommitted Amount
1	Consultants	654,000.00	766,532.00	766,532.00	-112,532.00
2	Equipment	15,000.00	13,788.00	13,788.00	1,212.00
3	Training and Seminars	25,000.00	14,332.00	14,332.00	10,668.00
4	Studies	60,000.00	33,985.00	33,985.00	26,015.00
5	Contract Negotiation	5,000.00	2,436.00	2,436.00	2,564.00
6	Miscellaneous TA Administration	10,000.00			10,000.00
7	Contingency/ Pilot Testing	77,000.00			77,000.00
	Total	846,000.00	831,072.00	831,072.00	14,928.00