Draft Final Report

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Viet Nam: Secondary Cities Development Program (Green Cities)

Asian Development Bank

TA 8671 VIE: Secondary Cities Development Program (Green Cities)

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Volume 1: Main Report

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Abbreviations

AACT	-	Average Annual Construction Turnover
ACCRN	-	Asian Climate Change Resilience Network
ACD	-	Anti-Corruption Dialogue
ACM	-	Academy for Construction Management
ADB	-	Asian Development Bank
ADF	-	Asian Development Fund
AH	-	Affected Household
APs	-	affected peoples
ASEC	-	ASEAN Development and Management Consulting Ltd.
BCC	-	Behaviour Change Continuum
CBA	-	cost–benefit analysis
CBDRM	-	Community-Based Disaster Risk Management
CBOs	-	Community Based Organization
CCA	-	Climate Change Adaptation
CDA	-	Capacity Development Assistance
CDIA	-	Cities Development Initiative for Asia
CDPA	-	Capacity Development Program Assistance
CEDAW	-	Convention on the Elimination of All Forms of Discrimination Against Women
CEFACOM	-	Centre for Research Family Health and Community
CEMA	-	Committee for Ethnic Minorities Affairs
CFAA	-	Country Financial Accountability Assessment
CFSC	-	Committee for Flood and Storm Control
CHLFD	-	Centre of Land Fund Development
CIIPP	-	City Infrastructure Investment Programming and Prioritisation
CLFD/RC	-	Center for Land Fund Development/Resettlement Committee
CMG	-	Community Monitoring Group
CORFU	-	Collaborative Research on Flood
CP	-	Communist Party
CPC	-	City Peoples' Committees
CPS	-	Country Partnership Strategy
CQS	-	Consultant Qualification Selection
CSIRO	-	Commonwealth Scientific and Industrial Research Organization
CSO	-	civil society organizations
CSP	-	Contractor Selection Programs
CSRD	-	Centre for Social Research and Development
DALY	-	disability-adjusted life-year
DANIDA	-	Danish Development Agency
DARD	-	Department of Agriculture and Rural Development
DEDS	-	Detailed engineering design and supervision
DEM	-	Digital Elevation Model
DFR	-	Draft Final Report
DIC	-	Department of Information and Communications
DIT	-	Department of Industry and Trade
DLI	-	disbursement lending indicators
DMF	-	Design and Monitoring Framework
DMS	-	Detailed Measurement Survey
DOC	-	Department of Construction

DOCST	-	Department of Culture Sports and Tourism
DOET	-	Department of Education and Training
DOF	-	Department of Finance
DONRE	-	Department of Natural Resources and Environment
DP	-	Displaced Person
DPF	-	Department of Planning and Finance
DPF	-	Division of Planning and Finance
DPI	-	Department of Planning and Investment
DPSIR	-	Drivers Pressure State Impact Responses
DRRM	-	disaster risk reduction management
DSS	-	Decision Support Systems
EA	-	Executing Agency
EC	-	European Commission
EGM	-	effective gender mainstreaming
EIA	-	environmental impact assessment
EIAR	-	environmental impact assessment report
EIC	-	education and communication
EIRR	-	Real Economic Internal Rate of Return
EMA	-	External Monitoring Agency
EMP	-	environmental management plan
ENSO	-	El Nino Southern Oscillation
EPP	-	Environmental Protection Plan
EWS	-	Early Warning Systems
FA	-	Farmers Association
FF	-	Fatherland Front
FGDs	-	focus group discussion
FIRR	-	financial internal rate of return
FMA	-	Financial Management Assessment
FMAQ	-	Financial Management Questionnaire
FP7	-	7th Framework Programme
GAP	-	Gender Action Plan
GCAP	-	GrEEEn City Action Plan
GCF	-	Green Cities Fund
GCFC	-	Green City Financing
GCFM	-	Green Cities Financing Mechanism
GCP	-	Green City Policy
GCPA	-	Green City Policy Assistance
GDI	-	Gender Development Index
GDP	-	gross domestic product
GEM	-	Gender Empowerment Measure
GGGI	-	Global Green Growth Institute
GHG	-	green-house gas
GI	-	green infrastructure
GIS	-	geographical information system
GoV	-	Government of Viet Nam
GRM	-	grievances redress mechanism
GSO	-	General Statistics Office
HCMC	-	Ho Chi Minh City
HEPCO	-	Hue Urban Environment and Public Works State Company
HH	-	households

IA	-	Implementation Agency
IDC	-	Interest during construction
IDF	-	Intensity-Duration-Frequency
IEC	-	information and education and communication
IEE	-	Initial Environment Examination
IFAD	-	International Fund for Agricultural Development
IFMP	-	Integrated Flood Management Plan
INGOs	-	international NGOs
IP	-	Indigenous people
IPAP	-	Indigenous Peoples Action Plan
IPP	-	Indigenous Peoples Plan
IR	-	Inventory Resettlement
ISO	-	International Standard Organization
ITCZ	-	Inter-Tropical Convergence Zone
IVA	-	Independent Verification Agency
JICA	-	Japan International Cooperating Agency
KAP	-	Knowledge, Attitude, Practice
KOICA	-	Korea International Cooperation Agency
LA	-	Line Agency
LAR	-	Land Acquisition and Resettlement
LARP	-	Land Acquisition and Resettlement Plan
LDIF	-	Local Development Investment Funds
LEED	-	Leadership in Energy and Environmental Design
LEP	-	Law on Environmental Protection
LID	-	low impact development
LIDC	-	Low Impact Development Center
LU	-	Labor Union
LURC	-	Land Use Rights Certificate
M&E	-	Monitoring and Evaluation
MARD	-	Ministry of Agriculture and Rural Development
MIC	-	Ministry of Information and Culture
MISA	-	Management Information System and Accounting
MOC	-	Ministry of Construction
MOF	-	Ministry of Finance
MOHA	-	Ministry of Home Affairs
MONRE	-	Ministry of Natural Resources and the Environment
MOT	-	Ministry of Transport
MOU	-	Memorandum of Understanding
MP	-	Master Plan
MPI	-	Ministry of Planning and Investment
MRM	-	Management Review Meeting
NAPGG	-	National Action Plan on Green Growth
NCHMF	-	National Centre for Hydro-Meteorological Forecasting
NGGS	-	National Green Growth Strategy
NGOs	-	non-government organizations
NPUD	-	National Program Urban Development
NPUUC	-	National Program on the Upgrading of Urban Centers
NSCC	-	National Strategy on Climate Change
O&M	-	operation and maintenance
OCR	-	Ordinary Capital Resources

ODA	-	Official Development Assistance
OMP	-	Orientation Master Plan
OPEC	-	Organization of Petroleum Exporting Countries
PAP	-	Project Action Plan
PAPI	-	Public Administration Performance Index
PDUC	-	National Program on Urban Development
PEP	-	Planning for Environmental Protection
PFA	-	Planning and Finance Agency
PIA	-	Project Implementation Assistance
PIM	-	Program Implementation
PMIS	-	project management and implementation support
PMU	-	Project Management Unit
PO	-	Project Owner
PPC	-	Provincial People's Committee
PPP	-	public-private partnership
PPs	-	Procurement Plan
PPTA	-	Project Preparatory Technical Assistance
PPTI	-	Provincial Political Training Institute
PRC	-	People's Republic of China
PSA	-	Program Support Assistance
PSC	-	Project Steering Committee
PSP	-	Private Sector Participation
PSSA	-	Program Safeguard System Assessment
PUSTA	-	Provincial Science and Technology Association
PWDs	-	persons with disabilities
RBL	-	Results-based Lending
RBNUDP-NM	-	Results-Based National Urban Development Program in the Northern Mountains Region
RC	-	Resettlement Committees
RC	-	Resettlement Committees
RCP	-	Representative Concentration Pathways
REA	-	rapid environmental assessment
RP	-	Resettlement Plan
RS	-	Resettlements Site
SAA	-	State Audit Agency
SAV	-	State Audit of Viet Nam
SBV	-	State Bank of Vietnam
SCDP	-	Secondary Cities Development Program
SCS	-	Stakeholder Communication Strategy
SEA	-	Strategic Environmental Assessment
SEARAV	-	Southeast Asia Research Association of Vietnam
SECO	-	Swiss Economic Cooperation Office
SEDP	-	Socioeconomic Development Plans
SEOS	-	Socioeconomic Development Strategy
SIA	-	Social Impact Assessment
SME	-	Small and Medium size Enterprises
SPB	-	Social Policy Bank
SPS	-	Safeguard Policy Statement
SRR	-	Southern Ring Road
SUI	-	Sustainable Urban Infrastructure

SWM	-	solid waste management
TA	-	Technical Assistance
TIA	-	Technical Infrastructure Agency
UCCRTF	-	Urban Climate Change Resilience Trust Fund
UDA	-	Urban Development Agency
UMD	-	Urban Management Divisions
UNFCCC	-	United Nation Framework Convention on Climate Change
UNFPA	-	United Nations Population Fund
UPDA	-	Planning and Development Association
URENCO	-	Urban Environment Company
USEPA	-	United States Environmental Protection Agency's
USGBC	-	United States Green Building Council
UXO	-	unexploded ordinance
VA	-	Veterans Association
VAT	-	value added tax
VCCI	-	Vietnam Chamber of Commerce and Industry
VDB	-	Viet Nam Development Bank
VII	-	Vietnam Institute of Irrigation
VIV	-	Vietnam Television
VNGOs	-	Vietnamese NGOs
VOCs	-	volatile organic compounds
VOV	-	Voice of Vietnam
VRM	-	Vietnam Resident Mission
VTV	-	Vietnamese Television
VUDA	-	Vietnam Urban Development Agency
VUFO	-	Vietnam Union of Friendship Organizations
VUSTA	-	Vietnam Union of Science and Technology Associations
VWSA	-	Vietnam Water Supply and Sewerage Association
WACC	-	weighted average cost of capital
WB	-	World Bank
WSC	-	Water and Sanitation Committee
WSUD	-	Water Sensitive Urban Design
WU	-	Women's Union
WWTP	-	Wastewater Treatment Plant

Note

In this report, where not indicated, "US$" refers to US dollars

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Executive Summary

This Draft Final Report (DFR) is the third major output prepared under the contract between the Asian Development Bank (ADB) and ICF Consulting Limited (ICF) to assist the Government of Viet Nam (GoV) in the preparation of the Secondary Cities Development Program (SCDP) (Green Cities)—the Program. The first was the Inception Report submitted on 31 March 2015; the second was the Interim Report submitted on June 10, 2015. Other major deliverables are the final report which will be produced after the receipt of written comments from the government and the ADB, likely to be in December 2015. In addition, a Green City Action Plan (GCAP) for Ha Giang City has been finalised and translated and is included with this DFR. Both volumes were submitted to the city and province on August 30, 2015 and comments have been received and addressed in the final version. The final English version of the GCAP is formally submitted with this Draft Final Report.

This draft final report is the third output of the PPTA. The final report will follow the receipt of comments from the government and the ADB, and is likely to be in December 2015.

Green cities, the National Urban Development Framework and the Secondary Cities Development Program

Cities throughout the world are making the transition towards a green economy and have demonstrated strong links between economic and environmental goals. More competitive, more sustainable, more resilient, and more equitable cities are common calls. And the green agenda tops the lists of concerns for many. Nevertheless, the problems of Viet Nam's secondary cities—environmental degradation, increasing vulnerability to climate change and natural disasters, ever more urban sprawl and traffic congestion, declining public health and social services, and limited economic growth prospects and employment opportunities—see them as far from green. But times are changing and the core problem of uncompetitive, non-inclusive cities lacking green infrastructure is being tackled head on. City visions now target green growth, smart applications, low impact development, preservation of the natural environment, cultural and historical heritage, and low carbon development. These positive measures are seen to improve competitiveness, build resilience and enable more inclusive urban areas. Enthusiasm abounds at national and local levels for a green future. More trees, clean waterways, less traffic, orderly development, recycled waste, clear skies, and a healthy environment are desired by all. The biggest winners in this revolution are the secondary cities within rapidly urbanising provinces.

Worldwide trends are towards the transition to a green economy

Government has responded through its urban development framework—a series of pronouncements to these demands, decrees and decisions that outline programs which together constitute the framework. At the core is the Orientation Master Plan to 2025 with its long-term vision to 2050. This established national urbanization policy, involves limiting the growth of Hanoi and Ho Chi Minh City (HCMC) and supporting secondary cities. There is the 10-year Socioeconomic Development Strategy (SEDS), 2010-2020, which guides national development, including a target to "*sustainably develop urban areas.*" While the Viet Nam Sustainable Development Strategy for 2011-2020, and the National Green Growth Strategy, 2011-2020 both support urban policy in relation to green cities. More specifically, the National Program on Urban Development (NPUD), 2012-2020 targets an efficient, sustainable and equitable process of urban development though improving access to basic services, and the integrated upgrading of low-income urban areas. The latter was the subject of an early decree on the National Program

Viet Nam has responded through its national urban development framework—pronouncements, decrees and decisions

on the Upgrading of Urban Centers (NPUUC), 2009-2020, and became a component of NPUD.

NPUD has financial resource requirements of US$72 billion, of which a green secondary cities component would be US$25 billion

The NPUD, which has a total resource envelope estimated by the Consultants to be some US$72 billion over its implementation period has been supported by the World Bank through its Northern Mountains Region PforR loan. But it has not specifically addressed the needed mechanisms or provided resources for the implementation of more environmentally-positive and resilient urban development, particularly in secondary cities. The investment needs for such a program are estimated to be US$25 billion over the 2012-2020 period. With a view to strengthening of these aspects of the urbanisation process in Viet Nam, the GoV requested technical assistance form the ADB in the preparation of pilot action plans for secondary cities focusing on sustainable and inclusive urban economic growth. The results of this TA form the basis for the design of the current program.

Secondary city program, green development and grEEEn city action planning

Green development governs the Program

The SCDP—GrEEEn cities—supports an optimistic view of the future, and provides the opportunity for introducing cross-cutting policy programmes to deliver green solutions with economic benefits. Policy programs are devised that should achieve green goals and economic objectives together, and lead to positive results. Strategic spatial planning and infrastructure development are key tools for cities to use in achieving green objectives. But the latter requires money, a lot of it, and a mechanism is needed to ensure resources are available for cities to promote green growth, and bring about environmental benefits and economic and social gains. SCDP aims to adopt a GrEEEn city planning and financing approach to urban development in three cities—Ha Giang in a province of the same name, Hue in Thua Thien Hue province, and Vinh Yen in Vinh Phuc province. The cities are in the north eastern, north central and Red River delta regions, respectively.

GrEEEn city planning adopts the 3Es approach—economy, equity and environment

GrEEEn city planning is the strategic process of analyzing a city's development needs and identifying integrated development solutions that support the 3Es—economy, equity and environment to enable more competitive, inclusive and sustainable cities. Building resilience is a key objective, and participation is essential to the process. Designing such solutions requires innovative technologies and green urban design principles, which can be adapted to a specific local context. GrEEEn city action plans (GCAPs) have been prepared for the three cities—those for Hue and Vinh Yen under a previous TA, and that for Ha Giang under this PPTA.

SCDP is a slice of the national program—less than 1%; but finances almost 13% of the total GCAP investment programs of the three cities.

SCDP-GrEEEn cities is a component of NPUD as it relates to secondary cities. Its funding is only a small portion of the total program—less than 1% of the US$25 billion. The SCDP Program-builds on national programs and the enthusiasm for green development. It will finance key subprojects identified in the investment programs set out in the GCAPs. For Ha Giang, the Program will finance subprojects to the value of US$45.7 million or 25.2% of the US$181.6 million investment program; for Hue, it will finance US$97.77 million or 13.3% of the $736.9 million program; and in Vinh Yen, it will finance US$87.9 million or 8.6% of its US$1,024.1 million investment program. In total the Program will finance some US$250.4 million or 12.9% of the US$1,942.6 million total GCAP investment programs of the three cities.

Changing the way

As the Vietnamese economy becomes more open and competitive, the

demands for effective consultation and participation increase. But satisfying this can be difficult. It means that everyone should work together, and seek similar goals. And this includes partnerships within governments—national, provincial and city or district, between citizens and governments, and the public and private sectors. Public pressure often leads the way, and when accompanied by innovations in the private sector, it can catalyse the green agenda. This drives a green transition, but requires patience and tolerance, especially when people are asked to pay for improvements, when the private sector is bought in as a partner, and when citizens are given a real voice in decision making. New green technologies and innovations will need to be accepted by the public, and the need to change the way that development is normally done will require support. This has been incorporated in the Program.

development is done is a key feature of the Program

Improved solid waste practices will be required, where people minimise and recycle waste; new ways of designing embankments must be accepted to incorporate green features with less steep slopes; new roads need to be designed for other users, besides private car owners and appropriately sized; streets must be reclaimed by pedestrians from vehicles and motor cycles; and the planning and building laws must be respected and enforced. It will not be easy but business as usual is not enough, there should be new ways, those whose path leads to a brighter and greener future. This is what the Program plans to do in the short term in Ha Giang, Hue and Vinh Yen, and in the longer term in many more enlightened secondary cities.

Green urban design and infrastructure, low impact development are innovations in the Program

Program implementation modality

The Program will be implemented through the RBL modality. The adoption of this modality responds to the long term nature of both the national and city programs—strengthening planning, delivery and financing systems. ADB adds value by being able to utilise the RBL modality, the most effective instrument to support the GoV in the implementation of the NPUD in the medium term. It aligns the provision of finance for strategic urban infrastructure services in targeted cities with green growth objectives, and provides incentives for better planning and timely delivery of the infrastructure investments. At the same time, it helps in building their technical, managerial and financial capacity.

A results-based lending modality has been adopted

The operation will add significant value to the government program by:

..and it will add value to the government urban program

- Enabling the GoV to integrate green growth objectives into its urban development investments as part of a programmatic, national approach within the NPUD.
- Implementing a results-based approach to urban environmental infrastructure service delivery, based on agreed indicators linked to disbursements, which will create incentives for: (i) improved subproject planning and execution; (ii) institutional strengthening; and (iii) improved sustainability of subprojects and overall local investment programs.
- Strengthening country planning and financing systems for fostering innovative and sustainable urban development focused on encouraging private sector, and community investment in higher value added, environmentally positive and resilient growth.
- Strengthening project development, appraisal and procurement systems for urban infrastructure subprojects, including social and environmental systems, fiduciary control, monitoring, evaluation and management that will result in improved value for money in urban infrastructure

investments.

- Reducing the transaction costs of development assistance by adopting country systems.

The design of the Program integrates lessons learned from results based operations in Viet Nam under World Bank implementation, and other ADB urban operations in the country.

Program impact, outcome, outputs and results

Increased environmental quality, climate resilience, economic competitiveness and inclusiveness in secondary cities

The design and monitoring framework (DMF) for the Program shows the impact to be enhanced environmental quality, climate resilience, economic competitiveness and inclusiveness, including tourism, in the Program cities. The expected outcome is improved green infrastructure, low impact development of urban areas, and improved urban management systems in three secondary cities—Ha Giang, Hue and Vinh Yen. To achieve these, the Program will have the following outputs:

- *Environmental infrastructure improved* that includes drainage, embankments and dredging for better flood protection; water supply, sanitation, and wastewater management; solid waste facilities; and new and upgraded roads, all selected from the GCAPs and leading to improved environmental conditions.
- *Low-carbon development and economic competitiveness promoted*, covering improved access to a new university area, greenways and linear parks promoting tourism, greening of a major new development area, and construction of an exhibition/logistics center for business promotion.
- *Inclusive and resilient development for communities* with households oriented on the 3Rs—reduce, reuse and recycle—and trained on disaster risk management, technical and vocational skills, and sustainable environmental practices; and tertiary connections to sewers.
- *City, provincial and national decision support, implementation, and financing systems for grEEEn city development improved* including systems and training for monitoring, reporting and verification of results-focused urban development, and to utilise these to implement the NPUD and the programs of the GCAPs, and the provision of sustainable financing for green investments.

Four results areas have been identified

Four results areas have been defined:

- Results area 1—*Program implementation assistance*: targeted outcomes are strengthened capacity of City Peoples' Committees (CPCs) to implement urban infrastructure subprojects and higher quality urban infrastructure
- *Results area 2—investments*: targeted outcome increased availability, resilience and sustainability of urban infrastructure investments by CPCs.
- *Results area 3—national green policy, support and oversight:* targeted outcome is the nationwide implementation of green growth aspects of NPUD and the GCAP investment programs
- *Results area 4—green city financing mechanism:* targeted outcome is the implementation of the Green City fund with the Viet Nam Development Bank (VDB) and the provinces.

Disbursement linked indicators that support the four results areas

The DMF provided the basis for the development of preliminary disbursement linked indicators (DLIs). The Program and the DLIs are structured around four primary activities that support the above results areas: (i) performance-based transfers for local infrastructure investments in participating cities; (ii)

institutional strengthening for implementation of GrEEEn City investments; (iii) support for national green city policy development and oversight; and (iv) the establishment of a green city financing mechanism. The four major Program DLIs reflect each component. Those associated with the four Results Areas are summarised below:

DLI	Type[1]	Disbursement Basis[2]
1. Improved design, procurement and supervision of Green City subprojects Sub-DLIs – one for each city describing the program	Scalable	Design and supervision contract documentation
2. Construction of planned Green City infrastructure to required quality standards Sub-DLIs – one for each city describing the investments	Scalable	Physical construction
3. National Green City Policy Development	Staged	Adoption of agreed policy TA recommendations
4. Establishment of Green City Financing Mechanism	Staged	Achieved stages of establishment

Notes:
1. Scalable = paid according to progress; staged = achievement of defined benchmark
2. Quantified results verified by independent agency

Expenditure framework and financing plan

The total Program cost is estimated to be US$250.44 million. The cost of the subprojects submitted by the three cities—Ha Giang, Hue, and Vinh Yen—as their participation in the Program, is US$222.89 million, inclusive of physical and price contingencies, taxes and duties, and interest charges. Total base cost of the subprojects is some US$132.84 million, representing 53.0% of total estimated Program costs. This is broken down into: drainage, dredging and embankment, US$56.85 million; construction of roads, bridges and parks, US$52.37 million; solid waste management, $0.88 million; water supply system, US$0.86 million; wastewater management, US$19.45 million; and exhibition linkage center, US$2.44 million

Total cost of Program estimated to be US$250million—5,509 billion VND

Expenditure Item		Total Cost Estimates		
		VND million	US$ million	% of Total
Base Costs [a]				
Infrastructure Investments				
1	Drainage, Dredging and Embankment			
1.1	Drainage	281,592	12.80	5.1%
1.2	Dredging and Embankment	969,122	44.05	17.6%
Subtotal (Drainage, Dredging & Embankment)		**1,250,714**	**56.85**	**22.7%**
2	Parks, Roads and Bridges			
2.1	Parks	510,320	23.20	9.3%
2.2	Roads	553,645	25.17	10.0%
2.3	Bridges	88,084	4.00	1.6%
Subtotal (Parks, Roads & Bridges)		**1,152,049**	**52.37**	**20.9%**
3	Water Supply	18,820	0.86	0.3%
4	Solid Waste Management	19,404	0.88	0.4%
5	Wastewater Management	427,813	19.45	7.8%
6	Exhibition Linkage Center	53,591	2.44	1.0%
Total (Infrastructure Investments)		**2,922,391**	**132.84**	**53.0%**

Infrastructure investments account for 53% of the Program of which drainage, dredging and embankments are 43%, parks roads and bridges, 39% and others 18%

Land acquisition and resettlement is some 5.7% of Program cost

Technical assistance and capacity development accounts

Technical Assistance and Capacity Development				
1	Green City Policy Support	17,171	0.78	0.3%
2	Independent Verification Assistance	77,853	3.54	1.4%
3	Program Support Assistance	58,032	2.64	1.1%
4	Capacity Building Assistance	45,287	2.06	0.8%
5	Green City Finance Mechanism	39,952	1.82	0.7%
6	Green City Fund Implementation	155,606	7.07	2.8%
Total (TA and CB)		**393,900**	**17.90**	**7.1%**
Detailed Engineering Design and Supervision		204,567	9.30	3.7%
Land Acquisition and Resettlement		313,620	14.26	5.7%
Contingencies [b]				
1	Physical	371,177	16.87	6.7%
2	Price	707,242	32.15	12.8%
Subtotal (Contingencies)		**1,078,419**	**49.02**	**19.6%**
Taxes		410,465	18.66	7.5%
Financing Charges [c]		186,094	8.46	3.4%
TOTAL		**5,509,456**	**250.43**	**100.0%**

Source: PPTA Consultants' estimates based on data from each city.

[a] In August 2015 prices. Includes value-added tax and import duties. The taxes and duties are estimated at $18.66 million. The government will finance these taxes and duties through tax exemptions. Government participation will likewise include land acquisition and resettlement (LAR) costs amounting to $14.26 million.

[b] Physical contingency is computed at 10% of base costs, DEDS, LAR, technical assistance and capacity development. Price contingency is based on foreign inflation rates of 0.3% in 2015, 1.5% in 2016, 1.4% in 2017 and 1.5% from 2018 and onwards; and local inflation rates of 2.5% in 2015, 4.0% in 2016, 5.0% in 2017 and onwards.

[c] Includes capitalized interest and contractual spread. Financing charges during implementation on the ADB loans has been computed (i) at 2.0% per annum from ADB's Special Funds resources (Asian Development Fund) with a 25 year term inclusive of a 7-year grace period; and (ii) ADB's ordinary capital resources (OCR) at the 7-year (corresponding to implementation period) USD fixed swap rate of the London inter borrowing rate plus an effective contractual spread of 0.5% and commitment fee of 0.15% for undisbursed amount.

for 7.1% of the total Program

Resource envelope

Funding for the Program involves an Asain Development Fund (ADF) loan of US$120.0 million and Ordinary Capital Resources (OCR) financing of about US$75.0 million, Urban Climate Change Resilience Trust Fund (UCCRTF) grant-financing of US$19.1 million, and GoV funding of US$36.3 million.

Source	Amount		Share of Total (%)
	VND million	US$ million	
Asian Development Bank			
ADF Loan	2,640,010	120.00	47.9%
OCR Loan	1,650,727	75.03	30.0%
Sub-total	4,290,741	195.03	77.9%
Asian Development Bank			
UCCRTF Grant	420,064	19.09	7.6%
Government Counterpart	798,651	36.30	14.5%
Total	**5,509,456**	**250.43**	**100.0%**

ADF = Asian Development Fund; OCR = Ordinary Capital Resources; UCCRTF = Urban Climate Change Resilience Trust Fund.

To finance all proposed subprojects, and interest during construction, ADB would need to provide US$120 million under ADF, and US$75 million under OCR.

UCCRTF grant would be about US$19 million

GoV would finance US$36 million

DLIs and disbursements

Total disbursements under DLIs 1 and 2 equal US$186.59 million[1]—US$11.97 million under DLI 1, and US$174.62 million under DLI 2. Under DLI 3, some US$9.91 millions is estimated, while that for DLI 4 covers US$9.18 million. Details of proposed advances are shown below based upon first year estimated expenditures.

Most disbursements are under DLI2 which accounts for 85% of the total; DLI 1 for 6%, DLI 3 for 5% and DLI 4 for 4%

DLI	City	Disbursement Allocated (US$ million)	Share of Total ADB Financing	Advance (US$ million)	Advance as % of Disbursement Allocated
DLI 1 - Improved design, procurement and supervision					
	Ha Giang	2.55	1.2%	1.04	40.7%
	Hue	4.75	2.3%	1.92	40.5%
	Vinh Yen	4.66	2.3%	1.87	40.1%
Sub-total (DLI 1)		11.97	5.8%	4.83	40.4%
DLI 2 - Construction of planned green city infrastructure					
	Ha Giang	37.20	18.1%	8.17	22.0%
	Hue	69.25	33.7%	14.94	21.6%
	Vinh Yen	68.16	33.1%	9.65	14.2%
Sub-total (DLI 2)		174.61	84.9%	32.76	18.8%
DLI 3 - National green city policy development					
Program		9.91	4.8%		0.0%
DLI 4 - Establishment of green city financing mechanism					
Program		9.18	4.5%		0.0%
Total		205.67	100.0%	37.60	18.3%

Note: Financing charges on ADB loans = US$8.46 million; total loans including financing charges = US$195.03 million

Likely loan disbursements, assuming full compliance, are show below. The advance for DLI 1 would be US$4.83 million or 40.4% of the total in 2016; that for DLI 2 would be US$32.76 million in 2017, representing 18.8%. Programmed disbursements have been assumed near the end of the year immediately before the projected expenditure for the next.

Advance for DLI 1 is about US$5 million or 40% of total; for DLI 2 it is some US$33 million or 19% of disbursements

Disbursement Schedule							
US$ Million	2016	2017	2018	2019	2020	2021	Total
DLI 1 [a/]	4.83	7.14	-	-	-	-	11.97
DLI 2 [b/]	-	32.76	60.83	53.86	21.13	6.03	174.61
Total	4.83	39.90	60.83	53.86	21.13	6.03	186.58
Annual Percentage							
DLI 1	40.4%	59.6%	0.0%	0.0%	0.0%	0.0%	100.0%
DLI 2	0.0%	18.8%	34.8%	30.8%	12.1%	3.5%	100.0%
Total	2.6%	21.4%	32.6%	28.9%	11.3%	3.2%	100.0%
Cumulative Percentage							
DLI 1	40.4%	100.0%	100.0%	100.0%	100.0%	100.0%	

[1] Net of financing charges of US$8.47 million—total ADB loans equal US$195.04

DLI 2	0.0%	18.8%	53.6%	84.4%	96.5%	100.0%	
Total	2.6%	24.0%	56.6%	85.4%	96.8%	100.0%	

Notes:

[a/] DLI 1, base cost of design and supervision is US$9.30 million, plus physical contingencies of US$0.93 million and price contingencies of US$1.74 million equals US$11.97 million. With taxes added of US$1.20 million, the total cost is US$13.17 million.

[b/] DLI 2, base cost of investments is US$132.85 million, plus physical contingencies of US$13.32 million and price contingencies of US$28.45 million equals US$174.62 million. With taxes added of US$17.46 million, the total investment cost is US$192.08 million.

[c/] Total ADB investments under loan are US$11.97 plus US$174.61, which equals US$186.57. With financing charges of US$8.47, total ADB loan amounts equal US$195.05 amount to re

The Program

Some 31 subprojects are proposed under the investment component—10 in Ha Giang, 15 in Hue and 6 in Vinh Yen. Total base cost of infrastructure investments in Ha Ginag is estimated to be US$29.09 million, in Hue, some US$52.33 million, and US$51.42 million in Vinh Yen, totalling US$132.84 million for the Program. Specific subprojects within each city are listed below along with their base cost estimates for works.

31 subprojects are to be financed, with the base cost of infrastructure investments in Ha Giang at US$29 million, with Hue at US$52 million and Vinh Yen at US$51 million.

City and subprojects		Infrastructure Investments—Base Costs	
		VND million	US$ million
Ha Giang			
1	Drainage for Tran Phu and Nguyen Trai Wards	37,653	1.71
2	Drainage for Minh Khai Ward	40,893	1.86
3	Drainage for T1,T2,T3,T4 in Quang Trung Ward	7,546	0.34
4	West Embankment of Lo River	51,863	2.36
5	Embankment and Roads on each side of Mien River	241,579	10.98
6	Southern Embankment of Me Stream	24,571	1.12
7	Improvement of Existing Landfill	19,404	0.88
8	Upgrading of National Road No.2	41,796	1.90
9	Southern Ring Road Improvement	86,585	3.94
10	Bridge from National Road No.2 to Southern Ring Road	88,084	4.00
	Subtotal—Hag Giang Base Costs	**639,974**	**29.09**
Hue City			
1	Dredging and Embankment of Ke Van River	48,750	2.22
2	Dredging and Embankment of Lakes in Citadel	62,694	2.85
3	Dredging and Embankment of Lap River, Kim Long Ward	34,061	1.55
4	Eco-Channel of the An Duong Development Area	122,732	5.58
5	Dredging and Embankment of An Hoa River	74,800	3.40
6	Improvement of the Citadel Canal/Moat	70,395	3.20
7	Rehabilitation/Embankments of Dong Ba, An Cu, Nhu Y Rivers	28,443	1.29
8	Drainage and pavements in Four Inner City Wards of Citadel	195,500	8.89
9	Water Supply System to Phu Son Solid Waste Management Facility and Villages	18,820	0.86
10	Park, Paths, Drainage, and Lighting in An Van Duong Development Area	142,828	6.49
11	Park and Square in the Administrative Area, An Van Duong	116,111	5.28
12	Section of Central Road in An Van Duong Development Area including Bridge	64,937	2.95
13	Bui Thi Xuan Road	70,348	3.20
14	Huyen Tran Cong Chua Road	42,648	1.94

15	Vy da Bridge and Access Roads	58,090	2.64
	Subtotal—Hue Base Costs	**1,151,157**	**52.33**
Vinh Yen			
1	Dredging and Landscape Protection of Dam Vac Lake	209,234	9.51
2	Collection and Wastewater Treatment in West Vinh Yen	308,017	14.00
3	Tertiary Wastewater Sewers	119,796	5.45
4	Green Park Development near Dam Vac Lake	186,444	8.47
5	Infrastructure for University Area	254,178	11.55
6	Exhibition/Linkage Center for Business Support	53,591	2.44
	Subtotal—Vinh Yen Base Costs	**1,131,260**	**51.42**
Total Program Infrastructure Investments—Base Cost			**132.84**

Total Program cost for Ha Giang is some US$45.74 million, for Hue it is US$97.77 million, and Vinh Yen, US$87.94 million.

Cost Item	Ha Giang	Hue	Vinh Yen	Total
Base costs:				
Land acquisition/resettlement	1.48	9.86	2.91	14.26
Subproject investments				
Drainage and embankments	18.37	28.97	9.51	56.85
Water supply		0.86		0.86
Wastewater management			19.45	19.45
Solid waste management	0.88			0.88
Green parks		11.77	8.48	20.25
Roads and bridges	9.84	10.73	11.55	32.12
Exhibition/logistics center			2.44	2.44
Sub-total (Base Costs)	**30.57**	**62.19**	**54.34**	**147.11**
Design and supervision	2.04	3.66	3.60	9.30
Contingencies	8.63	20.51	18.41	47.83
Taxes	4.26	7.40	7.28	18.66
Total Infrastructure Costs	**45.49**	**93.77**	**83.63**	**226.48**
Financing charges				**8.46**
Total Investment Costs				**231.35**
Technical assistance/capacity development				**19.09**
Total Program Cost				**250.44**

Program investments cover six sectors

Infrastructure investments under the Program fall into five groups as shown below. Some 50.4 kms of drainage and embankments, 30 kms of water main, 94.8 kms of wastewater pipes, and 43.5 kms of roads, including bridges are included. The total surface area of improvements and new works covers some 475.5 hectares

Sector	Ha Giang		Hue	
	Length (m)	Surface Area (m2)	Length (m)	Surface Area (m2)
Drainage, dredging and embankments	14,460	163,558	24,365	971,283
Water supply			30,000	15,000
Solid waste management		30,000		
Wastewater management				
Parks, roads and bridges	6,367	137,087	31,671	654,949
Exhibition linkage center				
Total	20,827	330,645	86,036	1,641,232
	Vinh Yen		Total	
Drainage, dredging and embankments	11,562	1,715,620	50,387	2,850,461
Water supply			30,000	15,000
Solid waste management			0	30,000

Wastewater management	94,750	473,750	94,750	473,750
Parks, roads and bridges	5,498	578,650	43,536	1,370,686
Exhibition linkage center		15,000	0	15,000
Total	**111,810**	**2,783,020**	**218,673**	**4,754,897**

Engineering design and construction supervision is about US$13 million

To support implementation, Program Implementation Assistance (PIA) consultants will be procured by each PMU. The services will be provided by domestic consulting firms. The PIA consultants will be responsible for supporting respective PMUs in detailed engineering design, procurement, and implementation and supervision of the subprojects; providing specialist technical and sector specific support; and in quality assurance and reporting. The cost of US$13.17 million will be funded under the loan US$11.97 million and the taxation element—US$1.20 million—under government counterpart funds.

National green city policy development—technical assistance and capacity development

The capacity development priorities focus at two levels—national systems and support to the cities. While focusing on local development, it is important not to forget that the basic systems still require strengthening in Viet Nam's cities. The capacity building program focuses on establishing both the direction and systems for sustainable development, and allows for the need to build even basic capacities in participating cities as well as the capacities to foster increased sustainability.

Six non-investment components are proposed,

Total cost, including US$ 6 million seed money for the fund, is estimated to be US$19 million,

Five grant-funded TA packages will support the PMUs and build national systems in the following areas:

- *Policy support*—focus on building the city, provincial and national systems to plan and implement sustainable urban development.
- *Independent verification*—design and build the systems for monitoring, reporting and verification of results-focused urban development, and undertake the verification function for the RBL.
- *PMU support*—develop systems for the implementation of results-focused urban development, and strengthen PMUs to enable them to utilise such systems to implement the NPUD and the city GCAP programs.
- *Capacity development support*—provide the training for PMUs, and other provincial and city agencies required to implement the NPUD and the RBL.
- *Green cities financing mechanism support*—support the development of the Green City Financing Mechanism at Viet Nam Development Bank (VDB) and in the participating provinces.
- *Green Cities Fund implementation*—TA and investment package to support the preparation of community-based investments as pilot subprojects for future financing activities, and provide approximately US$2 million per city to finance them.

Package	Person months			Total Cost (US$ millions)
	Inter-national	National	Total	
Policy Support	17	25	42	0.86
Independent Verification	19	231	250	3.89
PMU Support	32	249	281	2.90
Capacity Development Support	24	175	199	2.26
Green Cities Financing Mechanism Support	34	98	132	2.00
Green Cities Fund Mechanism	4	136	140	7.18[a/]
Total	130	914	1,044	19.09

[a/] Includes US$6.0 million seed money to the provinces.

Establishment of green city financing mechanism at national level to support provincial funds

The establishment of a Viet Nam Green Cities Fund is proposed that would provide catalytic financing to facilitate investment in green economy initiatives that support poverty reduction and job creation. The Fund would be focused on financing subprojects that are based on green principles. It would support subprojects that lead to efficient, compact cities, promote low carbon development and the efficient use of available natural resources, and bolster resilience. The Fund would act as a *challenge fund*—financing viable subprojects proposed by provinces. It would serve as the base for strengthening local development investment funds (LDIFs) and other provincial agencies acting as channelling mechanisms.

Program implementing arrangements

PPCs will be the executing agencies for the Program. PMUs within each province/city are the implementing agencies.

The provincial authority—represented by the Provincial People's Committee (PPC)—is the Executing Agency (EA). The PPC is responsible for the assignment of the City People's Committee (CPC) as the owner of the subprojects, for the review and approval of the city annual plan, the city annual budget, subprojects' feasibility studies and the procurement plan. The Department of Construction (DOC) is responsible for the verification of detailed designs. The PPC has the role of approving the master plan and annual budget of the CPC. It must approve implementation of investments, and receive and consolidate financial reports. The PPCs of the relevant provinces have taken a leading role in preparation for implementation of the Program, in Hue and Vinh Yen by creating a PMU led by a senior member of the PPC administration, and at the city level in Ha Giang. Close engagement of the CPCs with the PMUs in the preparation phase will be key to a smooth handover of responsibilities to the cities and their implementation PMUs.

As the owner of subprojects, the CPC of each participating city is responsible for managing, planning, integrating and executing the Program. The CPC coordinates the city-wide annual plan and budget—through the DOF, oversees delivery of results—delegated to the PMUs in agencies responsible for the sector in question, and makes any needed adjustments to city Program delivery. The CPC will be the key player in ensuring that outputs and outcomes are met, the DLIs for the city achieved, and disbursements requested. The CPC will provide access to all required information, allowing the independent verification agency (IVA) to rapidly assess results. The CPC will receive technical assistance support from DOC.

MOC-VUDA will provide policy support to the Program and be responsible for activities contributing to results area 3

The MOC, as the designated coordinator of the NPUD, and with the responsibility of fostering green city investments, and MONRE, which also has a green cities mandate under the Green Growth agenda, will be the principle contact agencies for the Program at the central level. Within MOC, Viet Nam Urban Development Agency (VUDA) will provide policy support to the implementation of the Program. VUDA will develop guidelines on guiding the participating cities on planning and implementing infrastructure investments under the NPUD. VUDA will host the IVA under the Program to verify results. Thus the MOC is also directly responsible for activities contributing to results area 3 of the Program—national policy, support and oversight.

The MONRE is responsible for guiding the participating cities on planning for resilience and developing related investments. Thus the MONRE is also directly responsible for activities contributing to Result 3 of the Program—national policy, support and oversight

The Green Cities Financing Mechanism (GCFM) will comprise the Green Cities Fund and supporting staff and consultant team. They would be housed within the ODA unit of the Vietnam Development Bank (VDB), and the governing board of the Fund would comprise representation from the MPI, MOF, ADB and other funding partners. The consultant technical team will support the development of the required systems and instruments within VDB, and develop capacities in the provinces. The Fund will initially support the PPCs and CPCs of Vinh Phuc, Thua Thien Hue and Ha Giang, in the funding of investments in environmental improvement and resilience

The Green City Fund will be in the VDB

The IVA's role is to provide independent confirmation of the results reported by the cities. The IVA will be an independent consultant with a firmly established track record and reputation as an independent standards verification agency. IVA's role will include carrying out the annual Program audit and annual verification of results, which will consist of financial and technical audits, and will verify achievement measured by each of the DLIs. The IVA will report the results of the Verification Audits to MOF and the ADB.

Independent verification agent will be an independent consultant

To address the perceived policy, institutional and capacity weaknesses, a Program Action Plan has been prepared. This is outlined below.

Program Action Plan

Actions according to results areas

Major Gaps and Issues	Actions	Responsible Agencies	Time Frame for Implementation
Results Area 1 – Program Implementation Assistance			
Gaps in coordination of planning, design and quality of delivery of green Infrastructure	Design—Action to bolster effective follow-through of Green elements in design Quality and transparency—Action to strengthen auditing capacity; Action to strengthen monitoring, verification and reporting systems. Impact—Action to ensure safeguards are applied effectively and consistently.	Lead PMU (LPMU)/ PMUs	From 2016
Results Area 2 – Investments			
Potential for slow green infrastructure investment implementation	Quality priority subprojects—Action to strengthen asset management systems to identify priority subprojects. Improved procurement— Action to bolster procurement processes, making them more competitive, transparent and efficient.	LPMU/ PMUs	From 2016
Results Area 3—National green policy, support and oversight			
Weaknesses in the GoV's Green City Policy development and implementation capacities	Policy and institutional strengthening—Action to build policy capacity. Improved Planning—Action to build systems and capacity for GCAPs. Improved Project Development—Action to establish and disseminate best practice in Green City development. Improved implementation—Action to strengthen M&E	MOC, MONRE LPMU/ MOC MOC/ MONRE LPMU/ MOC	From 2016

	systems and results verification systems.		
Results Area 4 – Green City Financing Mechanism (GCFM)			
Gaps in capacity of provinces to raise, channel, disburse and administer Green City financing	Foster efficient financing of green city investments encouraging the participation of the private sector—Action to establish a central green cities challenge fund with appropriate financing instruments and flexibility to leverage private sector participation. Improve provincial capacity to originate and administer financing of green cities investments—Action to establish appropriate mechanisms at provincial level to bid for, channel, disburse and administer finance.	VDB, LPMU, DPIs	From 2016

Integrated risk assessment and mitigation measures

Integrated risk assessment and mitigation measures. Risks are medium to high

Program assessments and the institutional analysis and capacity assessment enables the identification of major risks. Based on the assessments, the major Program risks and mitigating measures are summarized below:

Risks	Assessment	Mitigation
Results. Administratively novel sector results, such as establishment of green city funding mechanisms, could result in delay. DLI timings out of sync with GoV procurement mechanisms could also result in delays.	Medium	The Program includes a number of strategies to enhance government and stakeholder ownership for the planned reforms, such as training of concerned staff. The Program policy coordination agency in the MOC has been chosen because of its demonstrated ability to monitor and support city agencies in obtaining results related to infrastructure subprojects. The Program DLIs have also been formulated to be 'scalable' and 'staged' to encourage performance, and incremental performance improvement, but to avoid penalising cities for small slippages in the program.
Expenditure and Financing. Inadequate budget allocations and delayed funds releases and execution.	Medium	DLIs provide incentives for cities to allocate adequate budgets for timely execution and support from the subproject implementation consultants and from the MOC Bureau with the responsibility for verifying achievement will address capacity constraints if necessary. Commitment from PPC on the timely allocation of the counterpart fund to the City. Public Investment law has ensured budget planning for investment over the medium term—three to five years.
Fiduciary. Inadequate capacity in procuring entities; collusion and bid rigging often result in a single responsive bid, and award prices 0-2% below the cost estimate; oversight agencies fail to uncover abuses; weak compliance monitoring; weak capacity for internal audit.	High	Procurement actions include: (i) Program implementation to be assigned to agencies having sufficient staff with experience of procurement of similar packages; (ii) numerical targets are specified for minimum number of eligible bids, and minimum average discount below the cost estimate; (iii) capacity building to be provided to oversight agencies on monitoring of procurement and contract management and "red flags" triggering mandatory investigation and /or audit. Financial management actions include: (i) implementation of actions for detailed capacity building measures for provincial accounting staff, PMU accountants, internal and external auditors, as well as enhanced controls over fixed assets; (ii) annual fiduciary reviews; and

		(iii) support in the verification of both technical and financial results.

Subproject prioritization and selection

Decision support systems were used to screen subproject proposals in the participating cities

Decision support systems (DSS) were studied in relation to flood control, drainage and climate risk screening in each city. Based on a diagnostic assessment, climate change, hydrology, hydraulics, floods and damages, structural and other measures needed and flood management were analysed. Relevant measures implemented, those planned but not implemented, and those proposed under plans for the cities—including the GCAPs—were assessed. Improvements and, where necessary, alternative measures were proposed.

The overall strategy was designed to achieve a balance between structural and non-structural measures. Good international practices were taken into account and special attention was paid to how green infrastructure (GI) and low impact development (LID) techniques could be successfully incorporated into the existing and planned urban environment—focusing on improving the hydrological performance of urbanized catchments, and for reducing water-related risks.

..and they created the foundation to properly design and build flood protection infrastructure—making them more resilient

A DSS is a tool that supports and helps to optimise decision-making. In flood management, this ranges from relatively simple tools, such as geographical information system (GIS)-based—or not—thematic maps such as risk maps, network schemes, to more complex tools, including hydrological and/or hydraulic models of a basin, of a river stretch, of a drainage system, or even more sophisticated ones, like basin-based early warning or operational systems. DSS enables the allocation of resources and helps identify infrastructure deficits in the city. From this, long-range plans can be measured to address the deficit. Furthermore, DSS can be used to improve communication with the public on infrastructure spending. These are some of the key benefits resulting from building an asset management culture. The outputs from the analysis laid the foundation to properly design and build flood protection infrastructure and other urban assets—making them more resilient.

Urban design principles were also used to screen subprojects and revise designs to make them more green and low impact

When assessing and modifying subprojects, key urban design principles which would contribute to sustainable urban development, liveability, sense of place and ‘green’ city planning were taken into account. These were: (i) the promotion of higher densities, mixed uses and a variety of facilities; (ii) a focus on inner urban areas and urban renewal; (iii) incorporation of the natural environment into design; (iv) integration of utility planning into urban design; (v) use the natural environment as part of green infrastructure; (vi) adopting energy efficient technology into building design; (vii) encouraging pedestrian activity, public transport use and cycling; (viii) designing for a hierarchy of functions and activities; (ix) promoting a sense of place and liveability; and (x) reducing management and maintenance costs.

Green infrastructure and low impact development are key subproject features

The Program focuses on key areas of green infrastructure and flood mitigation. Green infrastructure principles will support the integration of green facilities and of low impact development technologies, into the planning and design of the proposed investments into the cities. These should be incorporated into the feasibility studies, detailed engineering designs and the subproject costs. Concepts of green infrastructure (GI), and what is meant by a green project, and low impact development (LID) should be incorporated to improve infrastructure designs, and must be incorporated into design briefs

for subproject feasibility studies.

Subproject long lists of the cities were reduced to short lists

Subproject lists were subject to change, especially in Hue

Subprojects were initially identified by the cities to support infrastructure investments provided in each province's socio-economic development plan. This was supported by those identified in each city's construction/master plan, and their GCAP. Assessments of subprojects was undertaken by the consultants, based on initial lists made available in April/May 2015. These covered technical aspects, social safeguards, environmental aspects, poverty, gender, and social features, and financial and economic analyses. The Program cities provided a final list of prioritized subprojects, which reflected the GCAP but incorporated changes on account of some having already secured financing. Some new ones were also added.

Since the GrEEEn Cities approach guided the Program cities, some changes were discussed and agreed with the EAs to: (i) strengthen the Program's impact, outcome, and outputs; (ii) adjust intended subprojects vis-à-vis financial resources available in this Program; and (iii) align the planned investments with the institutional, economic, safeguards, and financial and procurement capacities of the EAs. The PPTA team conducted site visits and held consultations in the three cities to verify previous assessments, discuss investments, and identify options to refine subprojects through GrEEEn guidelines, and recommendations for infrastructure planning and urban design.

Final list of subprojects agreed after participatory workshops in the three cities

A further subproject evaluation was undertaken, using criteria developed by the consultants, where each one was rated according to the perceived accomplishment—scoring—against nine criteria. Scores were totalled for each subproject enabling a ranking from the highest to lowest. A subproject would be included or excluded according to its position on the ranking, and the available resources. This was undertaken with the concerned city and provincial officials, the private sector and civil society during workshops held in each city. Further consultations between PPTA consultants, Program cities, and their local consultants enabled the incorporation of green recommendations into the subproject designs.

Subproject assessment

Proposals for improving the drainage of the Citadel in Hue provides the opportunity to prepare a comprehensive urban renewal/upgrading plan for the entire area

The technical appraisal of subprojects showed that many lacked green infrastructure, low impact development and urban design features. This was evident in the drainage and embankment improvement subprojects, where less concrete and more natural materials are recommended. Slopes should not be vertical as proposed, but more gentle and the schemes should be integrated with road improvements, and the development of green links with footpaths, cycle ways, appropriate street furniture, landscaping and vegetation. This applied to all three cities. The extensive drainage subproject in the Citadel area of Hue provides the opportunity for a more comprehensive urban renewal/upgrading program of the whole area. An urban renewal/upgrading strategy for the Citadel should be prepared, and the scope of improvements under the Program prioritised on the basis of such a plan.

In Ha Giang, greener solutions are recommended for the designs

Ha Giang subprojects include three drainage, three embankment rehabilitation, two roads for rehabilitation, one bridge and solid waste landfill improvements. *Drainage* subprojects were proposed to improve city drainage for wards of Tran Phu and Nguyen Trai; for areas T1, T2, T3 and T4 in Quang Trung Ward; and Minh Khai ward. A network of 14 streams flow from the surrounding mountains to Lo River and Mien River within the city. They constitute a green link between the surrounding mountains and the Lo and the Mien Rivers. The streams are combined sewers collecting storm water

and wastewater. The Program subproject involves cleaning and rehabilitating the primary storm drainage system. *Embankment/rehabilitation* covers the western embankment of Lo River—from Goc Gao- new Me Bridge; embankment and roads for two sides of the Mien River—from Suoi Tien-Bridge 3/2; southern embankment of Me Stream—part from old Me bridge to Chang spillway; and the embankment of Nam Thau Stream—from Quyet Thang to Mien River. For most subprojects, greener solutions were suggested for embankments. The embankment improvements should be integrated with the improved road subprojects, bridge, and the proposed green belt to protect the quality of the Lo River and connect green hubs. *Roads and transport* subprojects include the upgrading of National Road No.2, and the new ring road which is a by-pass around the south eastern side of the city centre from the River Lo Bridge, and National Highway No. 2, to the southern edge of the city centre; a bridge over River Lo is also proposed. *Solid waste management* involves the expansion of the landfill site located in a scenic area on the south eastern edge of the city. The review of the subproject indicates that it needs to be revised to ensure environmental sustainability.

Subprojects in Vinh Yen are generally green

The subprojects of Vinh Yen included Dam Vac Lake and park improvements, sanitation improvement, road developments, institutional strengthening, and an exhibition/logistics center. The Dam Vac lake improvements involve dredging, construction of an embankment and a development of a park adjacent to lake. The sanitation component includes three subprojects—the completion of secondary and tertiary wastewater collection networks in four wards currently connected to a new wastewater treatment plant, which is not yet in operation; and construction of a wastewater collection network in three wards with connections to a new wastewater treatment plant to be built under the subproject. The transit subprojects involve one new access road to the university village.

Subprojects in Hue, especially in the An Van Duong new development area, need more green designs

Hue subprojects included six dredging and embankment improvement subprojects—Ke Van river, Lap River, An Hoa River, Dong Ba River, An Cuu river and Nhu Y River. Subprojects also include dredging and embankments for six lakes in the Citadel, and dredging and improvement of its moat. Other subprojects include a drainage component in four wards of the Citadel, three road subprojects—Bui Thi Xuan Road, Huyền Trân Công Chúa road and one road connecting two planned urban areas in An Van Duong, and one bridge—Vy Da Bridge and its approaches. Another is water supply for a solid waste management facility and nearby villages. Also there are greening subprojects—eco channel in the new development area; a park and public square in the administration area, and greening, pavement, drainage, and lighting in eco axis's of the An Van Duong development area. These subprojects need improvement to conform to the objectives of the Program. Four subprojects cannot be recommended as proposed and improvements need to be made during the feasibility study stage—park and square in the administration area, An Van Duong; rehabilitation/embankment of Dong Ba River; rehabilitation/embankment of An Cuu River; and the section of the central road in An Van Duong Development Area.

Social safeguards assessment revolve around land acquisition and resettlement and potential

Drainage, dredging, rehabilitation of embankment, sanitation, water supply and landfill subprojects have generally limited impacts on land acquisition and resettlement in all three cities. These subprojects will bring benefits to citizens through a reduction of flooding, improved environment and better access to services.

encroachment after development

Compensation at replacement costs and support assistance will generally be sufficient to mitigate negative social impacts. Even with limited land acquisition, income may be affected in some subprojects—agriculture on lakes and canals—and implementation of livelihood restoration measures, through discussion with affected households, will be necessary. Proposed road subprojects in each city, dredging and landscape protection of Dam Vac Lake and the green park development near Dam Vac Lake in Vinh Yen, and eco-channel in Hue have significant impacts on resettlement, and may, in some cases, create social disruption of existing communities. Recommendations to downsize—reduce RoW—for some subprojects have been proposed to lessen the social impacts. In addition to compensation at replacement costs and support assistance, livelihood restoration measures will be necessary for most of these subprojects requiring agriculture land acquisition. Resettlement sites close to affected areas—to maintain source of livelihoods—with adequate infrastructure, are also a condition for sustainable resettlement.

IPs are not an issue in Hue or Vinh Yen, but the Program may require a different approach in Ha Giang where there are significantt numbers.

Some subprojects in Ha Giang City may affect indigenous peoples (IPs). However, in Ha Giang City, the IP groups are urbanized and integrated into the urban mainstream. IP communities also will not be specifically targeted under the Program and no differential impacts are expected. Vulnerable population—boat people—have also been identified in an embankment rehabilitation subproject in Hue—Nhu Y River—and will require adapted mitigation measures through meaningful community discussions. Drainage, sanitation and embankment subprojects provide an opportunity to involve citizens in the implementation and monitoring of subprojects by developing community groups involved in maintaining the cleanliness of the drainage/canal system. This will make each city more inclusive. In line with the city GCAPs, a Water and Sanitation Committee in Ha Giang City, Dam Vac Lake Protection Committee in Vinh Yen City and Sanitation, Drainage and Protection Committee in Hue City have been recommended to ensure community participation and responsive management of subprojects.

Subprojects are not environmentally critical

The subprojects under the Program are not among the ADB prohibited investment activities. Based on the rapid environmental assessment (REA), none are environmentally critical. Except for Hue's drainage and pavement rehabilitation works, all subprojects are outside "environmentally sensitive" areas. Hue's drainage and pavement rehabilitation works, will rehabilitate existing discharge points along the banks of the Royal River, zoned as a "world heritage property". For the rest of the subprojects, the most sensitive sites are the rivers and lakes that: (i) will be dredged and/or whose banks will be stabilized with embankments; (ii) will be crossed by bridge and road works; or (iii) are along road works.

The extent of adverse impacts is expected to be local, confined within the subprojects' immediate and/or main areas of influence, sources of aggregates, waste disposal sites, and the routes to and from these sites. With mitigation measures in place and ensuring that the bulk of works are completed—or at least almost complete—prior to the onset of the rainy season, the potential adverse impacts during construction would be highly/more site-specific. The few adverse impacts of high significance during construction will be temporary and short-term—most likely to occur during the peak construction period. These will not be sufficient to threaten or weaken the surrounding resources. The conscientious implementation of the EMP will mitigate the impacts and lower their residual significance to at least "moderate" levels. Mitigation measures would not be difficult to design and

institute. Direct impacts during operation will mainly come from the sanitary landfill and wastewater treatment plant operations. Their operations are expected to be guided by respective operations manuals. If complemented with a continued capacity building program on operations and maintenance, the direct impacts are not expected to have long-term, persistent, permanent/irreversible adverse impacts

Poverty gender and social development—126,000 household beneficiries

Living conditions and quality of life of the urban residents, especially the poor households, will be improved by providing access to urban services and infrastructure. Local enterprises or businesses—especially those in tourism and education—will consequently generate additional jobs, and increase household incomes. The estimated number of beneficiaries for all subprojects is 125,600 households—Ha Giang, 14,600 households; 87,000 in Hue; and 24,000 in Vinh Yen. The total number of those adversely affected, mostly because of resettlement is some 2,240 households—529 affected households in Ha Giang, 769 in Hue, and 942 in Vinh Yen.

The proposed social mitigation and gender actions plans were prepared for each city to address the potential negative social impacts and risks. The critical activities under these mitigation plans include: (i) establishment of a Community Monitoring Group (CMG) per commune, (ii) integration of specific design features which ensure accessibility and affordability of services; (iii) conduct of training for the PMU, DOLISA, DONRE, CMG, women's unions, fatherland front, youth unions, commune people's committees, and other partner organizations, with a target of at least 30% women participants; (iv) designation of Social, Gender, and Communications Focal Person at PMU; (v) assignment of at least 20% to 30% women as PMU staff; (vi) engagement of a national gender specialist; and (vii) integration of gender assessment and finalization of gender action plans in the subsequent feasibility studies or subproject proposals.

A financially sustainable program where all three provinces can afford to borrow and raise revenues that are more than sufficient to service the debt and cover O&M costs

ADF and OCR funds will fund the subprojects' civil works, detailed design and construction supervision, including applicable price and physical contingencies and financing charges. All land acquisition and resettlement expenditures and taxes will form part of the GoV contribution. A portion of the ADF loan will be passed on as on-grant—90% for Ha GIang, 70% for Hue and 50% for Vinh Yen—and the remaining amount will be on-lent. All OCR proceeds will be on-lent to the provinces. Financial internal rates of return (FIRRs) were not computed since the subprojects were all considered as non-revenue generating. Financial sustainability was determined by assessing the fiscal capacity of the provincial governments to provide adequate funds to cover at the least, operations and maintenance costs and debt service of the on-lent funds from the Central Government. As per assessment, the loan amounts proposed for each Province are within their borrowing capacities. Additional funds for technical assistance and capacity development will be provided as grant but will be included as lump-sum amount for the whole Program

Program technical assessments

Seven program assessment were undertaken to identify gaps between how GoV undertakes them and current ADB procedures

Program technical assessments were undertaken, and covered program soundness, results and links with disbursements, expenditures and financing, and country systems and institutions. Important elements of these analyses will enable the Program to achieve its development results. Assessments were undertaken of the urban planning system, how government undertakes its technical assessments of subprojects, program poverty reduction, gender and social impacts, and program financial and economic analyses.

Top down, rigid

Specific recommendations to improve urban planning are: (i) introduce

master planning that is weakly enforced

Need for more strategic, participatory and local demand related planning. Staff capacities need to be improved

strategic planning and diagnostic assessments into the traditional master planning process; (ii) ensure there is more demand-related and decentralised planning; (iii) strengthen coordination across line ministries—more spatial and sectoral integration; (iv) incorporate climate change adaptation and disaster risk reduction and management measures into city master plans and national legislation; (v) make urban planning more participatory; (vi) improve capacity of staff to ensure better strategic and more integrated planning and diagnostic analysis, and enable better enforcement of land and building controls; and (vii) develop an operational policy framework and plan for secondary cities.

Poverty reduction, gender and social impacts

The Program is in line with the implementation of the GoV's NPUD, and SEDS, 2011–2020, Law on Gender Equality (2006), and Decision No. 2351 Approving National Strategy for Gender Equality for 2011 to 2020. Some congruencies were noted between the ADB Safeguard Policy Statement principles and GoV policies on consultation. These are: (i) consultation begins early in the subproject preparation stage, and is undertaken throughout preparation, in line with Decree No. 79; (ii) consultation enables the incorporation of relevant views of affected people and other stakeholders in decision making, in line with Decree No. 79; and (iii) a similar grievance mechanism is set up to report and settle any complaints. However, there is little or no participation of women in developing and implementing urban infrastructure subprojects, apart from involvement in information campaigns related to clean environment, sanitation and hygiene. There is little or no gender analysis in the subproject feasibility studies, and limited or no specific gender design features, targets or indicators. Gender action plans, generally, are not included in the design of infrastructure subprojects.

The key city government departments and mass organizations who will have a role in the social, gender, and community consultation activities of the Program, are adequately staffed. However, these offices require capacity building and training on subproject management tools; monitoring and evaluation methods; related policies and procedures on safeguards; procurement, and financial management; and conduct of household socioeconomic surveys, resettlement surveys or detailed measurement surveys, willingness-to-pay surveys.

Methodology and guidelines for financial and economic analysis are lacking

An introduction to financial analysis based on the draft guidelines prepared in 2013 was approved by the GoV and ADB in June 2015. The document is available in the MOF and ADB websites. Given the environment, economic, and equity perspectives of the Program subprojects, the note will need to include a methodology for assessing financial feasibility from a more spatially, economically and socially integrated framework. Optimizing revenues while minimizing public investments will entail an approach that promotes viable public-private partnerships. Clear guidelines on how to determine the borrowing capacity and debt limits of the provinces are also needed in assessing the financial sustainability of the Program.

PMUs and local consultants working on subproject preparation have weak capacity in economic analysis. Decision 48/2008 provides only general guidelines for economic and financial analyses but not the methodology. None of the circulars released contains detailed implementing guidelines on preparing economically feasible subprojects. Draft guidelines for the economic analysis of ADB-financed infrastructure projects in Viet Nam, prepared in 2013 with technical assistance from ADB requested by GoV, are still under review. They do not include a framework for the analysis of flood control and drainage improvements, a number of which have been proposed for inclusion in the Program. The co-benefits approach, which has also emerged as a means to mitigate climate change and promote inclusive green growth while addressing priority local development concerns, is not covered

by the draft guidelines.

Program Systems Assessments

Program system assessments covered monitoring and evaluation, fiduciary systems, social and environmental safeguards, institutional aspects and capacity, and stakeholders' participation and communications.

Safeguards Systems Assessments

Compensation is major gap in the social safeguards provision of GoV

In the context of the new Land Law 2013 and implementing decrees, GoV policies are now more consistent with ADB's Safeguard Policy Statement principles. Strengths of the existing system regarding resettlement include consultation, implementation of grievance redress mechanism, disclosure of documents, assistance for relocation, and resettlement site development. However, some gaps have been identified in the GoV legal framework regarding Involuntary Resettlement (IR) and Indigenous Peoples (IP). Critical gaps identified include: (i) compensation rates at replacement costs for land and non-land assets; (ii) implementation of income restoration measures; and (iii) mechanisms to ensure proper monitoring and reporting. Actions to fill these gaps have been proposed under the Program PSSA. Measures to maximize benefits on IP communities also need to be included in the Resettlement Plans to be prepared. Agencies in charge of resettlement—Resettlement Committees (RC), Center for Land Fund Development (CHLFD)—are generally adequately staffed. They have large experience in resettlement but few or none—except in Hue City—with ADB/WB safeguard policies. The staff of these agencies also lack of social development skills. Capacity building for RC/CLFD and PMU on ADB's Safeguard Policy Statement (IR/IP), and on social issues related to IR and IP is to be provided.

Environmental safeguards gaps relate to project screening, environmental impact assessment, environmental management plan, consultations and grievance redress mechanisms, and implementing and monitoring of environmental plans

The gaps and weaknesses of the environmental safeguard systems were found to be: *In project screening:* GoV screening does not consider the sensitivity of the environment and resources at, and surrounding, the subproject site/s to the type, scale, design and processes involved during construction and operation. This poses risks of having Category A projects in the Program, when a RBL program excludes Category A projects. Project screening is not continued throughout the project cycle. *Environmental impact assessment:* assessment of indirect, induced and cumulative impacts may not be covered, or if so, is generally weak; and assessment may not necessarily extend far enough as relevant from the subproject sites and their adjacent areas. GoV, through Circular 27/2015/T-BTNMT which took effect in mid-July 2015, has now required the assessment of subprojects' impacts on climate change; but does not require the assessment of climate-induced impacts on them. *Environmental management plan (EMP):* GoV system does not require the EMP to include performance indicators. *Consultations and grievance redress mechanism*: GoV has no stipulation on ensuring women's participation, continued consultations throughout subproject implementation, and establishing a mechanism to address grievances on a project's environmental performance. *EMP implementation and monitoring of its effectiveness:* it is only the results of effects monitoring that are reported to DONRE. There is no stipulation regarding reporting on the effectiveness of/performance in EMP implementation. There is no requirement for the public disclosure of monitoring reports.

Stakeholder Participation and Communications

The level of participation of civil society groups and the private sector is still relatively low in local government subprojects. As such, the effort started earlier to unify the registration of NGOs/associations and rationalize their

Strategy

participation in government development programs through the drafting of the Law on Association must be pursued further. For the private sector, the playing field is biased more towards those with better access to government information and with political connections. The process involved in bidding must be made more transparent. Creation of a "watchdog" group on government project bidding can help address this tricky issue.

The civil society groups and the private sector are beginning to gain awareness, and acquire information and knowledge about GCAP/Program and its subprojects. The communications strategy addresses this by maximizing the use of the Viet Nam media system; the highly developed information technology (IT) system and Internet connections in the three cities; and the communication efforts being undertaken by other stakeholders related to GCAP. Current skills of stakeholders working in communications need to be improved so that they are anchored more on sound communication principles and not merely on experience. The communication work should also be benchmarked for proper monitoring of progress. To make this work, an adequate budget must be approved, and the will to assign a person to coordinate communications must be present at province and city levels.

Fiduciary systems assessment

Fiduciary systems assessment covered financial management at national, provincial and city levels, procurement, and anti-corruption

The financial management assessment established the need for technical assistance to ensure the: (i) revision of the Manual for Financial Policies and Procedures for the PMUs to include the RBL policies and procedures; (ii) adequacy of the financial management capacity of the participating agencies in the implementation of the Program; (iii) augmentation of local expertise in procurement and financial management; (iv) training in RBL procedures in disbursements, and DLI verification mechanism, project management, accounting and financial reporting systems, including audit process; (iv) adoption of inspection as an internal audit tool; (v) training on foreign exchange risk management; (vi) upgrading or shift to electronic accounting software by the PMUs; and (vii) recruitment of qualified staff during program implementation as needed. More frequent and detailed reports circulated to more officials is expected to heighten opportunities to address leaks, fraud and corruption. The task of inspection, as embodied in the General Inspectorate Office within the PMUs, will fill in the lack of an internal audit function and will strengthen the internal controls.

Financial management skills at provincial and city levels are adequate, but the lack of knowledge on RBL requires technical assistance

Technical assistance will also help delineate the roles and responsibilities of the PMUs and provincial agencies, such as DOF, DPI, and the State Treasury in the implementation of the Program. This will, among others, facilitate the coordination of tasks to be jointly or solely undertaken by the agencies concerned in subproject implementation, and fund disbursement. There is a need to clearly define the planned procurement of services for operation and maintenance of completed assets. Such a policy will generally be embodied in a PPC decision, and will be guided by the DOC.

Implementation of procurement rules is a weakness

The assessment of country procurement system performance is that while Viet Nam has a well-developed and mature legal framework, implementation is the key weakness. The common practice of award of contracts to a pre-selected bidder, in cooperation the procuring agency and selected bidders is a key weakness.

Need to address risk

The findings suggest that capacity to reduce the incidence of corruption, and

capacity to manage prosecution has not increased. The Government Inspectorate assured the PPTA team that capacity to monitor, analyse and report on the anti-corruption effort has improved, and that this is evidenced by the quality of reports tabled with the Peoples Committees and the National Assembly each year.

of corrupt transactions

The Results-based Lending (RBL) program does need to address the risk of corrupt transactions. The publicizing of all bid documents on the internet would be a useful risk reduction measure and a mechanism to encourage citizens to report any discrepancies. Similar steps should be taken with the award of all contracts. The wider distribution of more timely detailed financial reports would provide management and the Peoples Committees with earlier opportunities to detect and query any irregular or unusual transactions.

Institutional and capacity assessment

A comprehensive institutional assessment and a stakeholder analysis were carried out for institutions and groups relating to the Program. Key findings are that four gaps are driving the lack of performance in Viet Nam's cities—the institutional gap, the projects gap, the planning gap, and the services gap. Key to bridging these gaps are: (i) incentives for effective management of urban services and for mobilizing needed revenue; (ii) capacity to plan infrastructure in support of environmentally positive, resilient, inclusive and competitive cities; (iii) capacity to develop subprojects and link them to finance; and (iv) capacity to implement subprojects efficiently.

National action plan needed to bridge the institutional, projects, planning and services gaps

Extensive capacity development is needed, especially within the provinces and cities

National action also is needed. In particular, to reduce the overlapping roles of levels of government and of agencies would be efficient from a macroeconomic viewpoint, as would a move to devolve more direct responsibility for service provision, backed by an appropriate funding base, to cities.

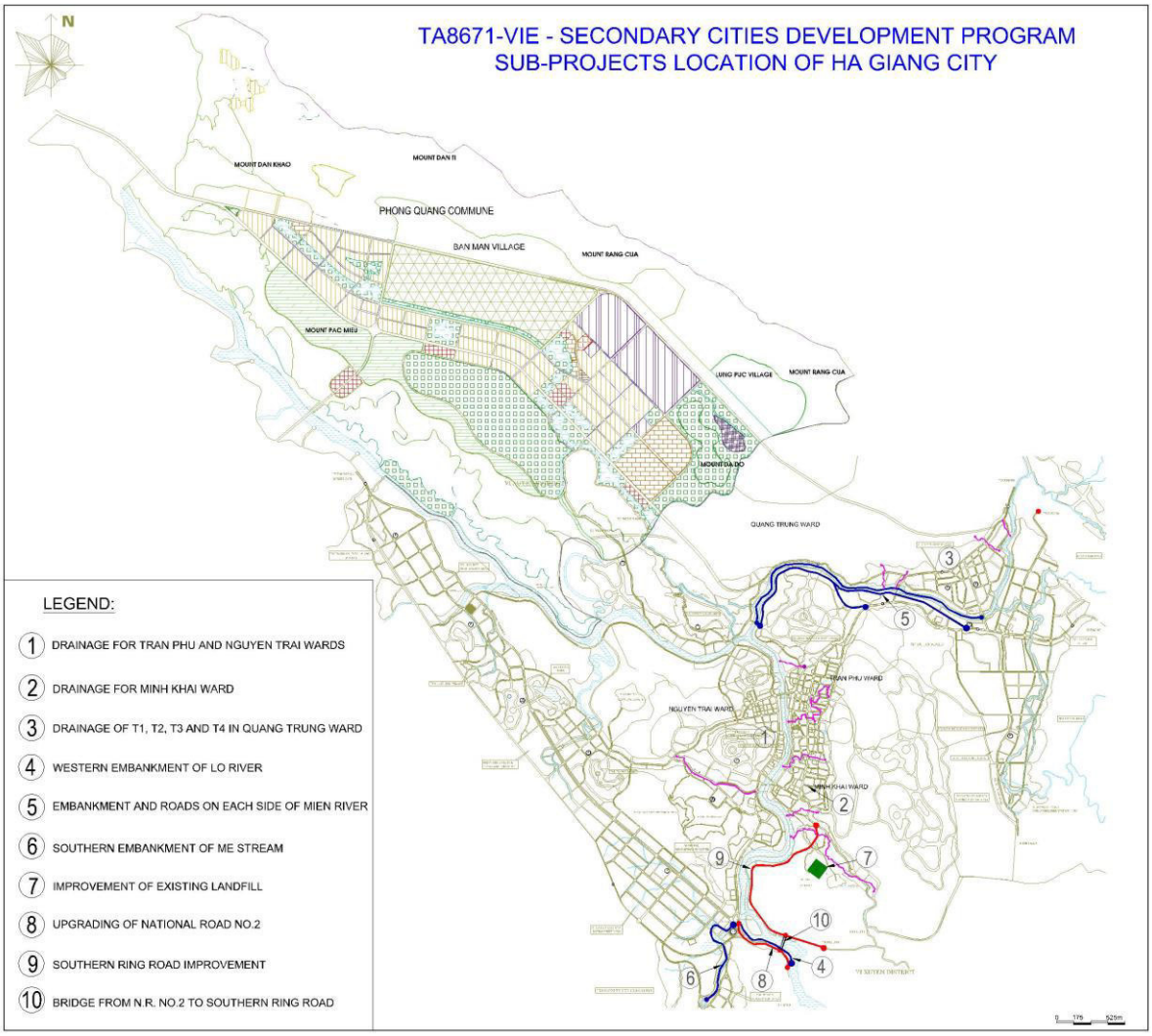
Immediate tasks for government

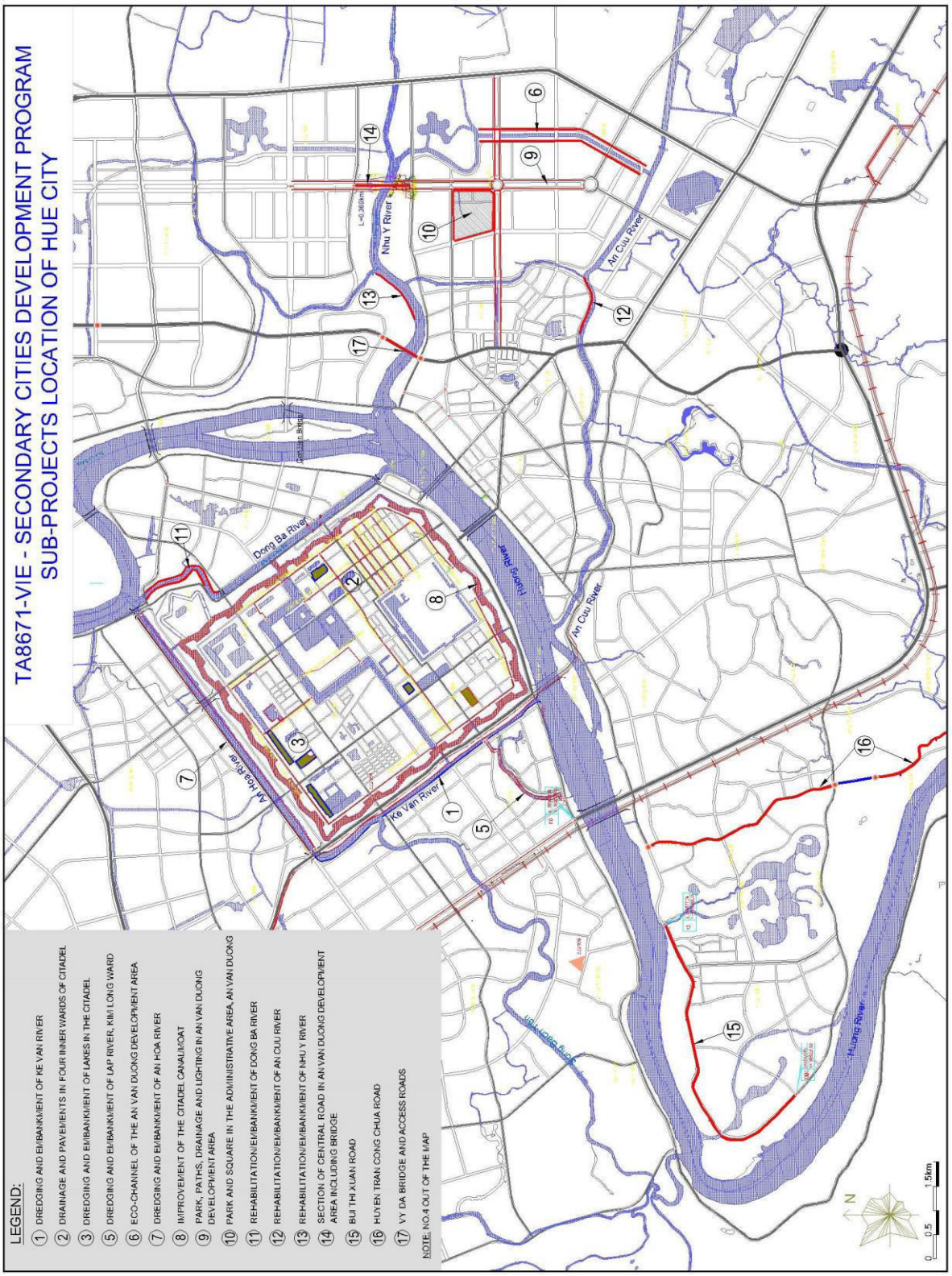
Next steps involve:

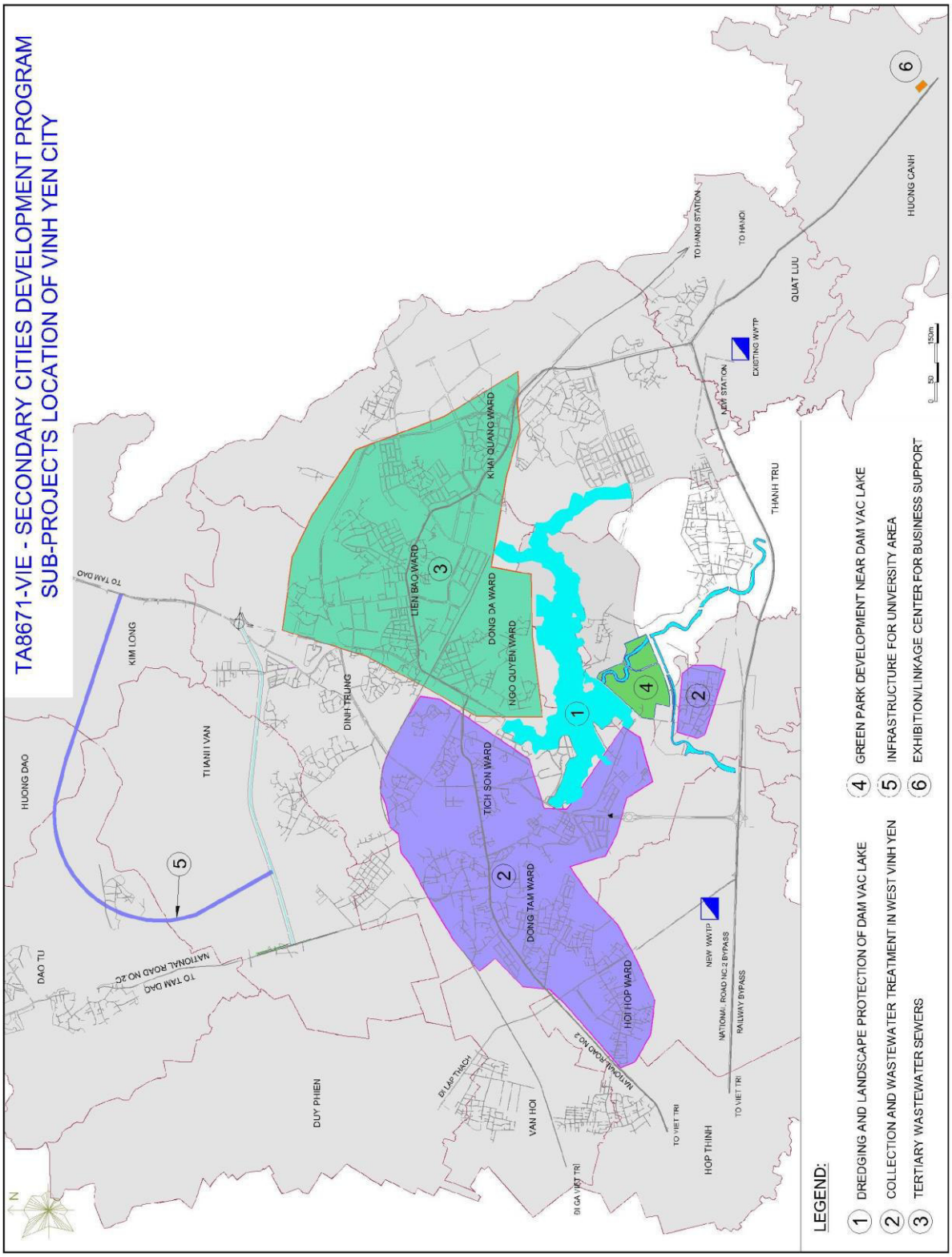
Submission of the PO is a priority requirement of each city

Subprojects need to be more green, have better urban design and should be more demand led

- Preparation of the Project Outline (PO) as required by GoV to be submitted once the key parameters of the Program have been agreed—especially the subprojects, costs and Program financing, including capacity development.
- Refinements on the design of subprojects to incorporate green infrastructure, urban design and low impact development features, and a more rigorous analysis of the road projects to reduce resettlement requirements. This features need to be incorporated into the feasibility studies and detailed designs.
- Approval of the GCAPs for Ha Giang, Hue and Vinh Yen by the respective PPCs.


TA8671-VIE - SECONDARY CITIES DEVELOPMENT PROGRAM
SUB-PROJECTS LOCATION OF HA GIANG CITY
N
MOUNT DAN KHAO
MOUNT DAN II
PHONG QUANG COMMUNE
BAN MAN VILLAGE
MOUNT BANG CUA
MOUNT PAC MIEU
LUNG PUC VILLAGE
MOUNT BANG CUA
QUANG TRUNG WARD
TRAN PHU WARD
NGUYEN TRAI WARD
MINH KHAI WARD
LEGEND:
1 DRAINAGE FOR TRAN PHU AND NGUYEN TRAI WARDS
2 DRAINAGE FOR MINH KHAI WARD
3 DRAINAGE OF T1, T2, T3 AND T4 IN QUANG TRUNG WARD
4 WESTERN EMBANKMENT OF LO RIVER
5 EMBANKMENT AND ROADS ON EACH SIDE OF MIEN RIVER
6 SOUTHERN EMBANKMENT OF ME STREAM
7 IMPROVEMENT OF EXISTING LANDFILL
8 UPGRADING OF NATIONAL ROAD NO.2
9 SOUTHERN RING ROAD IMPROVEMENT
10 BRIDGE FROM N.R. NO.2 TO SOUTHERN RING ROAD


TA8671-VIE - SECONDARY CITIES DEVELOPMENT PROGRAM
SUB-PROJECTS LOCATION OF HUE CITY
LEGEND:
① DREDGING AND EMBANKMENT OF KE VAN RIVER
② DRAINAGE AND PAVEMENTS IN FOUR INNER WARDS OF CITADEL
③ DREDGING AND EMBANKMENT OF LAKES IN THE CITADEL
⑤ DREDGING AND EMBANKMENT OF LAP RIVER, KIM LONG WARD
⑥ ECO-CHANNEL OF THE AN VAN DUONG DEVELOPMENT AREA
⑦ DREDGING AND EMBANKMENT OF AN HOA RIVER
⑧ IMPROVEMENT OF THE CITADEL CANAL/MOAT
⑨ PARK, PATHS, DRAINAGE AND LIGHTING IN AN VAN DUONG DEVELOPMENT AREA
⑩ PARK AND SQUARE IN THE ADMINISTRATIVE AREA, AN VAN DUONG
⑪ REHABILITATION/EMBANKMENT OF DONG BA RIVER
⑫ REHABILITATION/EMBANKMENT OF AN CUU RIVER
⑬ REHABILITATION/EMBANKMENT OF NHU Y RIVER
⑭ SECTION OF CENTRAL ROAD IN AN VAN DUONG DEVELOPMENT AREA INCLUDING BRIDGE
⑮ BUI THI XUAN ROAD
⑯ HUYEN TRAN CONG CHUA ROAD
⑰ VY DA BRIDGE AND ACCESS ROADS
NOTE: NO.4 OUT OF THE MAP
Dong Ba River
An Hoa River
Ke Van River
Huong River
An Cuu River
Nhu Y River
An Cuu River
Huong River
N
0
0.5
1.5km


TA8671-VIE - SECONDARY CITIES DEVELOPMENT PROGRAM
SUB-PROJECTS LOCATION OF VINH YEN CITY
LEGEND:
1 DREDGING AND LANDSCAPE PROTECTION OF DAM VAC LAKE
2 COLLECTION AND WASTEWATER TREATMENT IN WEST VINH YEN
3 TERTIARY WASTEWATER SEWERS
4 GREEN PARK DEVELOPMENT NEAR DAM VAC LAKE
5 INFRASTRUCTURE FOR UNIVERSITY AREA
6 EXHIBITION/LINKAGE CENTER FOR BUSINESS SUPPORT
LIEN BAO WARD
KHAI QUANG WARD
DONG DA WARD
NGO QUYEN WARD
TICH SON WARD
DONG TAM WARD
HOI HOP WARD
THANH TRU
QUAT LUU
HUONG CANH
TO HANOI
TO HANOI STATION
EXISTING WWTP
NEW WWTP
NEW STATION
NATIONAL ROAD NO.2 BYPASS
RAILWAY BYPASS
TO VIET TRI
HOP THINH
VAN HOI
DUY PHIEN
DAO TU
TIANH VAN
KIM LONG
HUONG DAO
DINH TRUNG
TO TAM DAO
NATIONAL ROAD NO.2C
BI GA VIET TRI
DI LAP THACH
N

1 Introduction

This Draft Final Report (DFR) is the third major output prepared under the contract between the Asian Development Bank (ADB) and ICF Consulting Limited (ICF) to assist the Government of Viet Nam in the preparation of the Secondary Cities Development Program (Green Cities) or SCDP[2], henceforth called the Program. The first output was the Inception Report, which was submitted on 31 March 2015; the second was the Interim Report, which was submitted on 10 June, 2015. Other major deliverables are the Final Report which will be produced after the receipt of written comments from the governments and the ADB, likely to be in December 2015. In addition a Green City Action Plan (GCAP) for the city of Ha Giang has been prepared and translated and is included as volume four of the DFR. Both volumes were submitted to the city and province at the end of August 2015 and the comments received have been addressed in the final version.

1.1 The Report

This report has four volumes—the main text; supporting appendices; subproject summaries and assessments—a volume titled Subproject Data Sheets; and the Ha Giang Green City Action Plan. The main text is as precise as possible in order to convey to the reader the key points, and issues that have arisen during the project preparatory technical assistance (PPTA). The appendices present the details, and include copies of some presentations made. The Subproject Data Sheet volume has been updated from that in the Interim Report, and now contains only those subprojects included for financing under the Program—those not included have been deleted. For readers who wish to refer to the original long-lists of subprojects for each city, they are directed to Volume III of the Interim Report.

The main text has thirteen chapters, including this introduction. The chapters are grouped into three—program context, program assessments, and details on the program as follows:

- ***Chapter One—Introduction***, which sets the context for the report and the technical assistance assignment.

Program Context

- ***Chapter Two—Strategic context of the program***, which covers an urban sector assessment, issues and opportunities. This includes a diagnostic assessment and a problem tree for secondary cities, and summarises the national urban development framework and its complementary and constituent programs and policies. The chapter discusses how to transform Viet Nam's secondary cities into economically competitive, climate resilient and inclusive urban centers. It ends with summaries of the master plans and Green City Action Plans (GCAP) for the three participating cities under the Program—Ha Giang, Hue, and Vinh Yen. The investment programs outlined in the GCAPs represent the programs that ADB will finance a slice of.
- ***Chapter Three—Technical program design principles*** that includes a summary of the decision support systems work, including assessments of flood control, drainage and climate risk screening principles within the three participating cities; urban design features adopted in the Program; and green infrastructure principles.
- ***Chapter Four—Subproject screening, assessment, selection and prioritization***. This discusses the methodologies used to select and prioritise subprojects, and summaries of the assessments of each subproject—technical, social safeguards, environmental safeguards and assessment, poverty, gender and social, financial, and economic aspects.

[2] Consulting services contract between Asian Development Bank and ICF Consulting Services Limited, United Kingdom, in association with ASEAN Development and Management Consulting Ltd (ASEC), Viet Nam Exp. International Services Inc. (Exp.), Canada, and INCLAM, S.A., Spain. 17 February 2015.

Program Assessments

- ***Chapter Five—Program technical assessments***, which covers urban planning; the assessment of the technical feasibility studies of subprojects as undertaken by national consultants hired by the cities/provinces; program poverty reduction and social impacts; and program economic and financial analyses.
- ***Chapter Six—Program systems assessments.*** This describes the assessments relating to policies, institutions and subsectors under the scope of the RBL program. The first is that of the monitoring and evaluation systems in place in the provinces/cities; fiduciary systems assessments follow, which examines financial management, anticorruption, and procurement at principally at local levels; program safeguards systems, including environment, involuntary resettlement, and indigenous people; institutional analysis and capacity assessment, which discusses the strengths and weaknesses of the organisations involved in Program implementation, and includes the results of a survey of capacity development needs undertaken by the consultants; and the stakeholders' analysis, and communications assessment.

The Program

- ***Chapter Seven—Program rationale***. This discusses the Program in relation to ADB's country partnership with Viet Nam and development coordination. It justifies the adoption of the results-based lending (RBL) modality, and describes ADB's value added by intervening in the sector. It also updates the design and monitoring framework proposed in the Interim Report,
- ***Chapter Eight—Program scope,*** which starts with a discussion of the investment programs that form the basis of the RBL in each province/city. It then describes and quantifies the proposed green infrastructure investments within each city, provides a summary of the proposed technical assistance and capacity development programs, and discusses the proposed green city financing mechanism.
- ***Chapter Nine—Expenditure framework and financing plan***, covers the investment plan and subprojects by city the financing plan for the Program a financial assessment of the provinces and cities and the estimation of provincial borrowing capacities, and outlines the flow of funds.
- ***Chapter Ten—Program results and links with disbursements*** discusses results, results areas, and describes the proposed disbursement linked indicators (DLI), so essential in a results based lending (RBL) loan program.
- ***Chapter Eleven—Program action plan, and technical assistance capacity development***. This describes the capacity development program within the context of the Program action plan, which outlines key actions that should be taken largely by the provincial and city governments to accomplish the four results areas of the Program. It also describes the proposed technical assistance packages and summarises the terms of reference for the engineering design and constructions supervision contracts, and national policy support and oversight assistance.
- ***Chapter Twelve—Implementation arrangements***, describes the overall institutional arrangements for the implementation of the Program, discusses the executing and implementing agencies and staffing required in the PMUs, and outlines the proposed Program stakeholders' participation and communications strategy.
- ***Chapter Thirteen—Integrated risk assessment and mitigating measures***, describes the major risks facing the Program and the recommended measures to mitigate them. It includes the overall assessment or risks and illustrates how the benefits and impacts are expected to outweigh the costs.

1.2 The Technical Assistance Contract

1.2.1 Background

The Technical Assistance contract between the Asian Development Bank and ICF Consulting Services Limited, United Kingdom—in association with ASEAN Development and Management Consulting Ltd (ASEC), Viet Nam; Exp. International Services Inc. (Exp.), Canada; and INCLAM, S.A., Spain—was

signed on 17 February 2015. The consultants mobilized in Viet Nam on February 25, with the departure of the Team Leader from his home base in the Philippines. The national consultants' team was mobilised the next day and all specialists have been involved on an intermittent basis since then.

The consultants set up their main office in Hue, and purchased equipment and facilities for their use. There is wifi internet, a conference table and chairs. Other office space is available for meetings and spill over from the main office should this be needed. All offices are air conditioned. Additional desks and chairs were purchased by the consultants, along with the equipment requested by the PMU. The consultants pay the PMO some VND 4 million per month for utilities. Air conditioned office space has also been provided by the other two cities, including desks and chairs and wifi internet access.

For the first four months of the PPTA, problems arose, because of the delay encountered by the provincial government of Hue in securing working visas for the international consultants. During this time most entered on tourist visas, and were unable to upgrade them to working ones. This limited the length of stay of most experts to 21 or 30 days in one visit. Multiple entry visas have now been secured for those international experts requiring them after a private agency was engaged to secure the necessary approvals. The impact of these initial restrictions had implications on the international air fare budget.

1.2.2 Contract Variations

Four Contract Variation Requests have been approved. Contract Variation Number 1 was approved on 7 April 2015 and involved:

- An increase in the budget for 1183: Land Transportation and Vehicle Hire by US$15,000 to US$25,000.
- The replacement of the International Climate Change and Technology Expert, Mr. Miguel Cea Nogal by Mr. Luis Torres under the same terms and conditions.
- The replacement of National Municipal/Civil Engineer, Mr. Dinh Van Hiep by Mr. Pham Anh Tuan and Mr. Vu Anh Tuan as Municipal/Civil Engineer II and III under the same terms and conditions of the original position.

Contract Variation Number 2 was approved on 21 April 2015 and involved the engagement of an International Municipal/Civil/Environment Engineer II, Ms. Julie Beauséjour, to provide support to Mr. Pierre Beauchamp to enable the technical evaluation of subprojects to be completed in time for the Interim Report, and to amend those to incorporate green infrastructure provisions.

Contract Variation Number 3 was approved on 22 July 2015, and included the engagement of Ms. Agnes Palacio for two months to assume some of the tasks of the International Public Financial Management Expert replacing Mr Richard Walsh, and increasing the time of Ms Felicidad De Leon, the other International Public Financial Management Expert by one month.

Contract Variation Number 4 was approved on 01 September 2015, and was necessary because of the many changes in the scope of work relating to subproject assessments—mainly the addition of new subprojects, and the need to incorporate urban design, green infrastructure and low impact development features in their design. It involved the following revisions to the allocated inputs of TA team members:

- An increase in the field and home inputs of Pierre Beauchamp, International Municipal/Civil/Environment Engineer by 0.75 person-month and 0.25 person-month, respectively.
- An increase in the field input of Julie Beauséjour, International Municipal/Civil/Environment Engineer II by 0.50 person-month.
- A decrease in the field input of Pierre Arnoux, International Social Safeguard Expert (IP and IR) by 1.00 person-month.

There was no increase in the overall contract cost as a result of the above Contract Variations.

1.3 Tasks Undertaken and Expected Due Dates

The PPTA team held extensive consultations with key local government stakeholders—City People's Committees (CPC) of Hue, Ha Giang and Vinh Yen, Provincial People's Committees (PPC) of Thua

Thien Hue, Ha Giang, and Vinh Phuc, and their agencies, departments and consultants; national government agencies—Ministry of Planning and Investment (MPI), Ministry of Finance (MOF), Ministry of Natural Resources and the Environment (MONRE), the State Bank of Viet Nam (SBV), agencies of the Ministry of Construction (MOC); and the World Bank (WB), and the Swiss Economic Cooperation Office (SECO). The team has based itself in Hue City, and members have made frequent field visits to the other two cities. Subproject site visits have been many and detailed discussions have taken place with key agencies, departments and divisions of the PPCs and CPCs. Specific workshops have been conducted including those on disbursement linked indicators, economic and financial analyses, subproject selection, safeguards and social aspects. Focus group discussion, too, have been conducted relating to social assessments, stakeholders' analyses and communications strategies. However, meetings with central government officials proved more difficult and time consuming. A list of persons met by the consultants according to agency is attached as **Appendix 1**.

An Asian Development Bank (ADB) Mission was fielded from 9 to 18 March 2015 in Hue—March 9-10, Vinh Yen—March 11, Ha Giang—March 12-13 and Ha Noi—March 16-17—to undertake the inception mission and site visits for the Program. The mission focused on Program preparation for investments based on the RBL modality for the three participating cities. Discussions were held with key officials of MPI, MOF and MONRE of the Government of Viet Nam (GoV); the executing agencies (EA)/PPCs, and implementing agencies (IAs)/CPCs, project management units (PMUs), and directors from the participating cities. The mission also met the Viet Nam Resident Mission (VRM) country team on TA administration and its processing schedule; and the PPTA team. Site visits were conducted to selected priority investments in each of the three cities. A wrap-up meeting was held on 16 March 2015 in Ha Noi. The draft Memorandum of Understanding (MOU) prepared during the mission.

The consultants presented the Inception Report to each city and provincial representatives—Hue on April 16, Vinh Yen on April 21, and Ha Giang on April 22. And this led to the signing of the ADB MOU by Phung Quang Hung, Chairman Vinh Phuc PPC, Vinh Phuc Province; Nguyen Van Cao, Chairman Thua Thien Hue PPC, Thua Thien Hue Province; and Dam Van Bong, Chairman Ha Giang PPC, Ha Giang Province. No substantial comments were made on the Inception Report, except regarding subprojects to be included, which have changed a number of times.

The Interim Report was submitted in English on 10 June 2015, and the main volume in Vietnamese two weeks later. Key findings of the report were presented at a workshop, which was organized by the PPTA team and hosted by Vinh Phuc province and the city of Vinh Yen. It was held on 14 July 2015. The three EAs attended—Provincial Peoples' Committees of Ha Giang, Thua Thien Hue, and Vinh Phuc, along with the implementing agencies (IAs)—Department of Planning and Investment (DPI), Thua Thien Hue, City People's Committee Ha Giang, and ODA Project Management Unit, Vinh Phuc province. Representatives from central government agencies also attended—MPI, MOF, Office of Government, SBV and State Audit Agency (SAA). An Interim Mission of the ADB was fielded from 14 to 16 July to review progress on the PPTA and to participate in the Interim Report workshop A MOU was prepared which recorded mission findings and agreements with the government. It was signed on the following dates—Thua Thien Hue Province on 31 August 2015; Vinh Phuc Province on 21 August 2015; and Ha Giang Province on 16 September 2015.

The timetable agreed early on has now been adjusted slightly. This Draft Final Report has been delayed slightly until mid-October because of the late arrival of documents and figures relating to the proposed subprojects and provincial financial data. Changes to the list of prioritised subprojects were made by the cities, and the implications necessitated revised cost estimates being proposed, thus delaying their assessment. The DFR workshop prepared for 24 September has been postponed until 20 November so that the Main Volume of the DFR could be translated into Vietnamese and read before attendance. This, however, should not affect the milestones and expected due dates for the Program. **Table 1-1** shows the Program processing timelines. The Management Review Meeting (MRM) is likely in mid-December, 2015. Board consideration is likely in April 2016.

Figure 1-1. Milestones and Expected Due Dates

Milestones	Actual/Expected Date
Draft Final Report Submission—English	16 October 2015
Draft Final Report—Vietnamese	6 November 2015
Draft Final Report Workshop	20 November 2015
Loan Fact-Finding – VRM Readiness Filters	23-30 November 2015
GOV Approval – Program Action Plan, DLIs	30 November 2015
Public Disclosure of Documents—Program Safeguards Systems Assessment (PSSA)	9 December 2015
Management Review Meeting (MRM)	14 December 2015
Final Report submission—English	15 December, 2015
Final Report submission—Vietnamese	15 January 2016
Loan Negotiations	February 2016
Board Consideration	April 2016

PROGRAM CONTEXT

PROGRAM ASSESSMENT

THE PROGRAM

2 Strategic Context

This chapter summarises our assessment of the urban sector, by examining the strategic context of urban growth and presenting a problem analysis of the urban sector. It outlines the secondary cities development program within the context of the national urban development framework and its many plans, directives and decrees. It also summarises the master plans, and green city actions plans (GCAPs) for the three secondary cities under the program—Ha Giang, Hue and Vinh Yen. The investment programs contained in the GCAPs set the wider context for the RBL program.

2.1 Urban Sector Assessment, Issues and Opportunities

2.1.1 Background

Viet Nam is one of the fastest growing countries in the Asia region. Over the past thirty years, it has experienced an accelerated pace of economic expansion, successfully integrating itself into the global market. Its gross domestic product (GDP) per capita has more than tripled in 10 years, from US$560 in 2004 to US$1,900 in 2014. Viet Nam's Socio-Economic Development Strategy, 2011–2020 emphasizes the need to sustain the rate of its economic growth but urges that this be combined with social equality and environmental protection. It promotes moving the economy from a heavy reliance on cheap labor and intensive capital investment to higher efficiency, productivity, and competitiveness—in regional centers and cities that serve as local engines of development.

The key strategic thrusts of **Viet Nam's Socio-Economic Development Strategy 2011-2020** include:

- to create comprehensive connection in infrastructure to form the North-South economic axle, East-West economic axles, and trans-Asia economic corridors;
- to form clusters and groups of industrial products and services to connect central urban areas along economic corridors;
- to establish big centers for economic cooperation and development at border gates on economic corridors; and
- to encourage a more balanced and sustainable regional development while promoting selected areas with competitive advantages in their region

A rapidly growing urban sector has been pivotal to Viet Nam's economic progress. Since the 1990s, there has been a continued shift from agriculture to industry and services, which in 2014 accounted for 81.9%[3] of total economic output. Urbanization in Viet Nam has largely been fuelled by massive rural-to-urban migration, evident from the 3.4% annual urban population growth rate over the 1999-2009 inter-census period, compared to the 0.4% annual growth rate recorded for the rural population. The Government understands the strategic role of urbanization in achieving its development aspirations as articulated in the *Framework Master Plan for Urban Development in Viet Nam to 2025 and Vision to 2050,* which has been updated through the *Adjustment of the Master Plan for Urban Development in Viet Nam to 2025 and Vision 2050.* The plan focuses on achieving balanced and strategic growth, through a national urban system consisting of urban centers of various grades and types distributed throughout the country. Specifically, the plan envisages the development of secondary and tertiary cities as development hubs within larger urban areas and provinces.

As the rural-to-urban transition escalates and spurs economic growth, secondary cities in Viet Nam are struggling to cope with increased demand for infrastructure and services from their growing population. Those with high development potential find themselves constrained by inadequate infrastructure, and weak services. Many are confronted by the challenge to adapt to, and mitigate against, climate change which has made natural disasters, especially typhoons, floods, and droughts more severe in recent years. As households become more vulnerable to disasters, the threat of more people living in poverty increases.

[3] Vinh Phuc Statistical Yearbook, 2014. Statistical Publishing House. 2015

2.1.2 Secondary Cities—Problem Analysis

Secondary cities in Viet Nam suffer from environmental degradation, declining public health and social services, and have limited economic growth prospects and employment opportunities. They are increasingly vulnerable to climate change and natural disasters, and there is growing urban sprawl and traffic congestion. This is because many cities are uncompetitive, non-inclusive and lack grEEEn infrastructure—the core problem.

The causes of the core problem are:

- ***Weak environmental management and unpreparedness for the impact of climate change*** because of the lack of climate resilient infrastructure, weak capacity for environmental management, poor traffic management, limited storm water drainage capacity and flood protection infrastructure, and inadequate solid waste and wastewater management.
- ***Inability to respond to low carbon economic opportunities, including tourism*** that results from poor economic infrastructure, limited financial resources for investment, insufficient cost recovery, aging assets and underperforming infrastructure, inadequate vocational training and business promotion services, lack of incentives for public-private partnerships (PPPs), and weak capacity for local economic development planning and implementation.
- ***Interventions that do not benefit the poor and other vulnerable groups*** because of inadequate community preparedness for climate change, inaccessible social services, lack of skills training for a low carbon economy, and the weak participation of the vulnerable groups in decision making and monitoring.
- ***Limited capacity in the core competencies of urban management and grEEEn cities development*** as a result of the lack of strategic planning, inadequate linkages between master plans, investment programming and financing, weak asset management, insufficient project identification and structuring, and weak linkages between green city development and urban planning.

A summary problem tree for greening secondary cities is shown as **Figure 2-1**.

2.2 National Urban Development Framework and its Related Programs

2.2.1 Secondary Cities Development Program

The proposed Secondary Cities Development Program (SCDP) is being prepared to enable the development of sustainable and resource efficient urban growth models for secondary cities in Viet Nam. ADB is to finance a slice of city investment programs—the Program—focusing on investments in three cities—Hue in Thua Thien Hue province, Ha Giang in Ha Giang province, and Vinh Yen within Vinh Phuc province, located in the North Central Coastal Region, North Eastern Region, and the Red River Delta Region of Viet Nam, respectively.

SCDP will encourage the implementation of the National Program on Urban Development (NPUD) 2011–2020, which is in conformity with Viet Nam's Socio-Economic Development Plan, 2011–2015 and Socio-Economic Development Strategy, 2011–2020. This framework and vision targets developing provincial capitals as models in different geographic regions to boost the local economy and balance regional development. The Program will emphasize urban development and the efficient use of natural resources. And it will help government respond effectively to climate change and natural disasters. National enabling sector policies, include the Viet Nam National Green Growth Strategy, the National Urban Upgrading Strategy to 2020, the National Climate Change Strategy and Action Plan; and key sector orientation plans. At the local level each city's master plan and GrEEEN City action plan (GCAP) will guide the Program (**Figure 2-2)**.

The Program supports the ADB's Viet Nam Country Partnership Strategy, 2012–2015, its urban operational plan, 2012–2020, results framework, and sector objective of urban environment improvement. It builds on and optimizes earlier development assistance for secondary cities projects, and will be in alignment with ADB's policies. The Program will finance investment for competitive resilient

growth by improving resource efficiency and disaster risk reduction management (DRRM) through integrated urban and environmental planning. The aim is to encourage balanced growth, build resilience and encourage environmental sustainability.

Figure 2-1. Problem Tree for GrEEEning Secondary Cities in Viet Nam

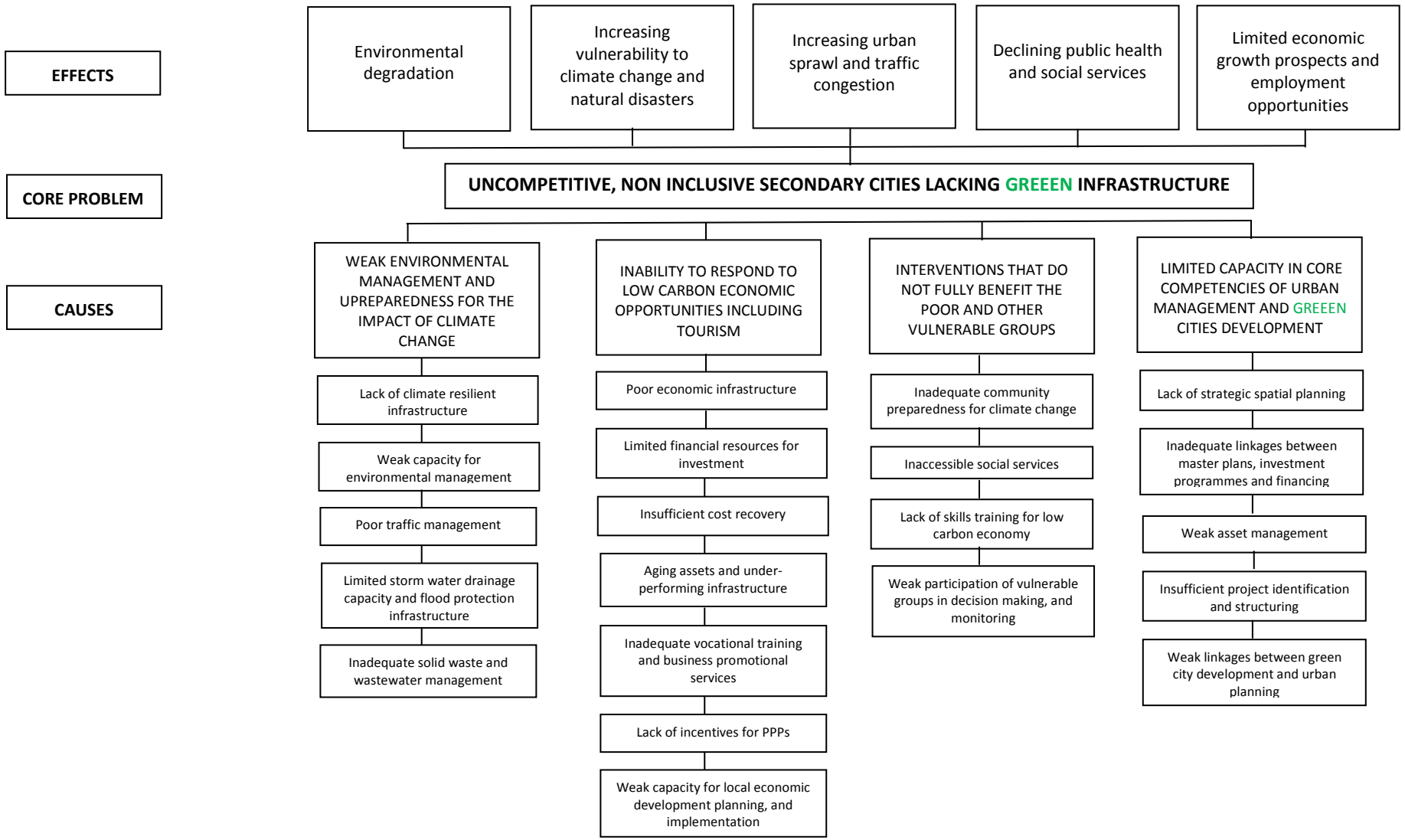


Figure 2-2.SCDP and the Planning Process

Source: PPTA Consultants from ADB

2.2.2 National Urban Development Framework

Viet Nam does not have a specific document or policy that defines its national urban development program. Instead it has a series of pronouncements, decrees, and decisions that outline programs, which together constitute what, we can call, an urban development framework. These documents provide the basis for the urban development, green cities program. And they provide a key input into the investment programs outlined in the recently approved green city action plans (GCAPs) for Ha Giang, Hue and Vinh Yen cities. A slice of these city investment programs will be financed by ADB under the Program.

At the apex of government's framework is **the Orientation Master Plan (OMP)[4]. The** OMP for Urban Development to Year 2020 was developed in 1998 and established the national urbanization policy. The policy involves limiting the growth of Hanoi and HCMC and creating satellite cities around them, encouraging urban fringe growth, increasing population density in secondary cities and districts, developing new urban areas in the more remote provinces, and planning rural development to ensure the preservation of agricultural land. The plan essentially is a series of statements, than follow top-down planning practices and ideas from the national government. Perhaps most strikingly is the lack of strategic thinking and a framework for cities to implement the plan[5].

Likewise there is the national 10-year Socio-economic Development Strategy (SEDS), 2010-2020. The 10-year SEDS is operationalised through actions outlined in *Five-year Socio-economic Development Plans (SEDP)*. The ten-year SEDS and five-year SEDPs each provide a framework and directions for ministries and sectors to develop their own action plans and annual plans. The objective of the current 10-year SEDS is *"to accelerate national industrialization and modernization along socialist lines, and to build the foundation for the country to become an industrialized nation by 2020."* In relation to urban development, it states *"to sustainably develop urban areas, build new rural areas and properly allocate population and labor in each region,"* and more specifically, *"to gradually develop Viet Nam's urban system toward urban network model with synchronous, modern technical and social infrastructure; good urban living quality and environment; advanced urban architecture with national identity; preservation and*

[4] Government of Vietnam. Prime Minister Decision Number 445/QD-TTg. Approval of the Adjustment Master Plan Orientation for Urban System Development to 2025 with a Vision to 2050. April 2012.

[5] World Bank. 2004. Section 1: Urban Planning *found in* Urbanization Issues Paper, July 2004.

promotion of traditional cultural values in accordance with each development state of the country. Implement sustainable and stable urban development on the basis of proper urban space organization; sensibly use natural resources and land, and save energy; protect the environment and balance ecology."

Another guiding national policy document is the Viet Nam Sustainable Development Strategy for 2011-2020. Its approach is similar to that of the 10-year SEDS, and targets the implementation of sustainable and stable urban development on a spatial basis, proper use of natural resources and land, energy conservation, and environment protection and supporting natural ecosystems. The Viet Nam National Green Growth Strategy (NGGS) [6] supports urban policy in relation to green cities. It aims to: "*promote the process of restructuring and improving economic institutions towards more efficient use of natural resources, improved competitiveness of the economy which will be achieved through increased investments in technological innovation, natural capital and economic instruments. This will contribute to respond to climate change, reducing poverty and ensuring sustainable economic development".* The NGGS is linked to the national climate change strategy to encourage the development of a low carbon economy. Green growth is based on science and modern technologies, and a compulsory reduction of green-house gas (GHG) emissions nation-wide. Green growth has been adopted as a development strategy to address the problems that stem from increased incomes—environmental externalities, including those from solid waste, wastewater and air pollution. Since most of the GHGs are produced through urban activities, on the fringe or within urban areas, cities will play an increasing role in the implementation of the program. Key targets of the NGGS are set out in **Box 1**.

Box 1: Prioritized Tasks in the NGGS:

These include: (i) a reduction in GHG emissions of 8-10% by 2020 from 2010 levels, and by 20-30% by 2030. The goal is to reduce GHG emissions by 1.5-2% per year to 2050. (ii) Implementing a "clean industrialization" strategy where green technology will contribute 42-45% of GDP, 80% of commercial manufacturing facilities meet environmental standards by 2020 and have a 50% use of clean technologies. (iii) Greening urban development with targets of:

- Wastewater collection and treatment systems that meet regulatory standards in 60% of grade III cities; and in 40% of grade IV and V cities.
- 100% environmental improvement of severely polluted areas.
- Modal split of 35-45% for public transportation in large and medium cities.
- 50% of large and medium cities attain green urban standards.

Source: National Action Plan on Green Growth in Viet Nam, 204-202

Proposals under NGGS are to develop and implement sector master plans in cities, particularly in areas vulnerable to climate change, and to introduce a rating system for energy efficiency and green urban infrastructure to increase energy conservation and GHG emissions reduction. Urban transport is seen as a key element of sustainable urbanization—improved urban transport systems, fuel-efficient vehicles and the use of public transportation—and limiting the number of private motorized vehicles in large and medium cities, through economic instruments and technical standards. Encouragement is also given to expanding public open, green space and water sources.

Two programs have been approved to implement the urban development framework. First is the National Program on Urban Development, 2012-2020 (NPUD)[7] approved in 2012. The NPUD targets an efficient, sustainable and equitable process of urban development by improving levels of access to basic urban services—water supply, sewerage and drainage, solid waste management, public lighting, roads and public transport, and environmental services and public space; expanding the provision of serviced land for high-density housing and economic activities; and integrated urban upgrading of low income urban areas. **Table 2-1** summaries the objectives and targets of NPUD.

[6] Government of Vietnam. Prime Minister Decision Number 1393/QD-TTg. Approval of the National Green Growth Strategy for 2011-2020 with a Vision to 2050. September 2012. This has been supported by Prime Minister Decision Number 403/QD-TTg. Approval of the National Action plan on Green Growth in Viet Nam for 2014-2020 which sets out four major themes—setting up institutions and formulating green growth action plans at local levels, reducing GHG emissions and promoting clean and renewable sources of energy, greening urban areas and life styles, and 66 specific activities within these groups.

[7] Government of Vietnam. Prime Minister Decision Number 1659/QD-TTg. Approval of the National Program on Urban Development, 2012-2020. November 2012.

Table 2-1. Key Targets under the National Program on Urban Development, 2015 and 2020

Indicators	2015 Objectives and Targets						2020 Objectives and Targets					
	Grade of Cities						Grade of Cities					
	Sp	I	II	III	IV	V	Sp	I	II	III	IV	V
Urbanization percentage	38%						45%					
Number of cities	2	195				640	2	312				620
House floor area	26m2/person						29m2/person					
Permanent houses	65%						75%					
Road space	15-20%			15% and over			20-25%			20%		
Public transport	15-20%		6-10%		1-3%		20-30%		10-15%		2-5%	
Clean water	90%				70%	50%	90%					70%
Consumption	120 liters/person/day				100	80	120 lpd					90
Drainage coverage (%)	70-80%						80-90%					
Sewage collected and treated	40-50%						60%					
New production facilities with clean technology/ pollution reduction devices	100%						100%					
Facilities causing serious pollution handled	85%						95%					
Non-revenue water	No target						<18%					<25
Solid waste collected/disposed:												
Domestic	85%						90%					
Hazardous and medical	80%						100%					
Roads/alleys lighted:												
Main roads	95%			85%			100%			90%		
Residential areas	95%			80%			100%			85%		
Green land (m2/person)	8-10		7		5		15	10		7		3-4
Public green land (m2/p)	6	3-5					7	4-6				

Source: Figures extracted from National Program on Urban Development, 2012-2020. 2012.

Note: Sp = special grade of city.

The NPUD also recognizes the importance of developing effective planning, financing, implementation and monitoring systems, particularly at local level, to ensure the efficient execution and sustainability of required investments in urban infrastructure. It specifically notes the importance of strengthening urban management through improving mechanisms for investment planning and construction management, encouraging new mechanisms to finance infrastructure, building capacity of local officials, and increasing public awareness of local government roles and responsibilities.

The upgrading of low income urban areas is the subject of the second and complementary program—National Program on the Upgrading of Urban Centers, 2009-2020[8], approved in 2009. The program focusses on the renovation and upgrading of low income housing and poorly serviced, densely populated areas within grade IV and above urban centers[9]. Components of the program include: upgrading infrastructure within low income urban areas—including water supply, water drainage, collection, transportation and disposal of solid waste, roads and public lighting, in low income residential quarters, urban areas, and those in the vicinity of expanded urban centers; and the development of resettlement areas for those living in unsafe zones in renovated areas. Specific objectives for 2020 are to ensure that within low-income, poorly serviced areas:

[8] Government of Vietnam. Prime Minister Decision Number 758/QD-TTg. Approval of the National Program on the Upgrading of Urban Centres, 2009-2020. June 2009.

[9] Appendix 13, describes the classification of urban centers by grade.

- 100% of residents have access to clean water and water closets connected to septic tanks.
- 100% of solid waste is collected and disposed in landfill sites.
- Housing conditions are improved, and all families living in houses built in areas which are unsafe and unsuitable are relocated.
- 45% of wastewater is collected and treated.
- Rainwater and wastewater drainage systems are improved or installed.
- Appropriate road density standards, and street lighting are installed.
- There is a financial system that enables the provision of loans for house improvements and renovation that are tailored to the needs of low-income earners.
- Capacity of those involved in the planning and upgrading, and management of urban centers, is enhanced, including raising community awareness and encouraging participation.

The target is upgrade all low-income areas within cities and towns by 2020. Priority to 2016 is to improve areas of grade II or higher centres and some of grade III. The remaining grade III centres and those of grade IV would be upgraded from 2011-2020. The total cost of the program is estimated to be VND 175 trillion—approximately US$8 billion. However, the consultants have neither been provided with the breakdown, nor the assumptions and basis of the estimated cost. Funding is proposed from the state budget, official development assistance (ODA) and other domestically and internationally raised sources of capital. ODA assistance has been tapped for upgrading projects from 2009-2015, but after 2015, ODA loans will be reduced and substituted with other sources of capital.

2.2.3 Nation Program on Urban Development and the Secondary Cities Development Program (Green Cities)

In the absence of official figures on the cost of the NPUD, the consultants have estimated the investment requirements, that are based on the GDP in 2011, projected in nominal terms to 2020—real growth of 7% per annum and inflation at 3% per annum.[10] The estimates were based on a standard World Bank assumption that 5% of the GDP is the required infrastructure investment level for a developing country. To the 5%, another 1% has been added to account for infrastructure backlog, and a further 0.5% to cover the cost of additional infrastructure needed for green cities and building resilience, totalling 6.5%. This was then applied to the GDP generated in urban areas only—a conservative assumption. Hence 6.5% of urban GDP was used to determine the investment requirements for the NPUD—the main national program that supports green cities development.

The World Bank's Vietnam Urbanization Review[11] report estimates the breakdown of GDP generated by cities in Viet Nam by grade—30.5% for special class, 6.9% for grade I, 5.2% for grade II, 5.7% for grade III and 3.0% for grade IV. Secondary cities cover those in grade I, II and III, and these account for 17.8% of national GDP. Keeping the city category percentages of the GDP the same as those in the World Bank report, over the period of NUDP—2011 to 2020, and applying the 6.5% index provides an estimate of the spending requirements for NUDP. The result is that the total NPUD over the period 2011 to 2020 would be US$72.0 billion, which includes investments in the two special grade cities of Ho Chi Minh and Ha Noi. The estimated cost of the National Program on Upgrading Urban Centers, 2009-2020, is about US$8 billion, which is one component of the NUDP.

Breaking out the secondary cities, defined as grade I to III centers, the total infrastructure investment for them is estimated to be US$25.0 billion. The Program has the opportunity to increase the sustainability and resilience of this infrastructure investment spend directly, and to catalyse greener growth by influencing private sector investment patterns using strategic investment interventions in support of more sustainable and resilient development. In practise, ADB will finance only a small portion of this program through investments in the three cities—US$195 million or about 0.8%.

[10] Using these assumptions, the estimated 2014 GDP was US$180billion against the actual figure of US$187billion.

[11] Table 1.3. Vietnam Urbanization Review. Technical Assistance Report. November 2011.

2.3 Transforming Viet Nam's Secondary Cities into Economically Competitive, Climate Resilient and Inclusive Urban Centers

The proposed Secondary Cities Development Program (Green Cities) will enable the development of sustainable and resource efficient urban growth models for secondary cities in Viet Nam, catalyzing the implementation of the National Program on Urban Development 2011–2020 which supports Viet Nam's Socio-Economic Development Strategy, 2011–2020. The Program demonstrates different urban green growth models in three cities—Ha Giang in Ha Giang Province, Hue in Thua Thien Hue Province, and Vinh Yen in Vinh Phuc Province.

2.3.1 Background—GrEEEn City Planning

Under ADB's GrEEEn Cities Initiative, a previous Regional Technical Assistance (TA 8314), this Project Preparatory Technical Assistance (TA 8671), and the SCDP (47274-001) assist secondary cities to "do things differently" by integrating urban development with environmental planning for improved livability and resilience. The corresponding GrEEEn Cities approach aims at resource-efficient cities that achieve urban development objectives under the 3Es of economic competitiveness, environment, and equity.

GrEEEn City planning is the strategic process of analyzing a city's development needs and identifying development solutions that can realize co-benefits between the 3Es, various sectors, different places, and stakeholders. Designing such integrated solutions requires innovative technologies, which are applicable and adjustable to specific local contexts. It fosters partnerships and collaboration. An assessment of a city's development needs, its strengths and weaknesses, is undertaken with representatives from concerned stakeholder groups. The formulation of a city's vision is based on a consensus-driven process. The scoping and evaluation, and the design, implementation, and monitoring of innovative grEEEn solutions depend on the collaboration between public sector, private companies, civil society organizations, and citizens.

The GrEEEn Cities approach acknowledges the typical shortcomings of resources for urban development. Hence, the approach aims at integrated actions, which mobilize financial, human, and other resources from different agencies and stakeholder groups. Intended subprojects are enhanced by paying attention not just to their direct benefits and possible repercussions in a single sector and place, but also by amplifying their potential benefits and mitigating potential repercussions for other sectors and places. Planning, designing, and implementing subprojects for resource-efficient urban development implies a full life-cycle perspective on them—efficiency gains through more intelligent solutions reduce costs and make resources available for other high priority projects.

The PPTA team, through continuous engagement with government staff at national, provincial, and city levels, have encouraged a better understanding of integrated urban development and environmental planning in Viet Nam. The physical investments proposed under the Program, have been designed according to guidelines on GrEEEn infrastructure planning—**Appendix 2—**and GrEEEn urban design principles—**Appendix 3**. These contain brief, practice-oriented recommendations, and describe how the cities can enhance urban development subprojects, to pave the way for resource-efficient, climate-resilient, economically competitive, and inclusive growth.

The three Program cities have prepared GrEEEn City Action Plans (GCAP), which were formulated within the context of existing plans—socio-economic development plans, land-use master plans, and sector development plans. Each GCAP identifies feasible hard and soft actions to achieve resource-efficient urban development. Supporting the identified initiatives and actions within each city's GCAP, the Program will finance priority investment subprojects. However, the cities are aware that other partners—from public and private sectors—and additional funding sources need to be identified to realize all investments included in the GCAPs.

The consultants have also reviewed the master plans of the three cities and the proposed subprojects have been selected according to their contribution to their accomplishment. The master plans are summarised as **Appendix 4.**

2.3.2 Ha Giang (Ha Giang Province)—Capitalizing on Rich Natural Resources, Ecotourism, and its Proximity to China

Ha Giang is the capital city of the province of the same name, which is located in the northeast region of Viet Nam. The province has a common international border with the Yunnan province of southern People's Republic of China (PRC), and is known as Viet Nam's final frontier. It has many high rocky-mountains, limestone formations and granite peaks—including the Cam and Mo Neo. Two major rivers cross Ha Giang—the Lô and Mien Rivers. The province is home to a number of ethnic groups, hence, its heritage is characterized by artisan crafts and age old traditions.

Image 1. An Aerial View of Ha Giang Province

Travel in the province can be difficult because of its highly mountainous terrain. Much of the area is too mountainous for agriculture, leaving large areas of land covered by forests. The central valleys, however, are suited to cultivation. The main produce is plums, peaches, and persimmons, which are exported to neighboring PRC. Ha Giang is also well known for its tea cultivation and processing for both local and international markets. Its famous black tea is exported to Russia, Germany, PRC, and India.

Despite the abundance of its agricultural produce and forest products, Hà Giang continues to be one of the poor provinces of Viet Nam. The majority of its economic activities revolve around agriculture and forestry. But, there have been attempts in recent years to develop tourism and manufacturing industries. Infrastructure in Hà Giang has seen improvement, but remains poor; roads, schools, and health services in particular are underdeveloped compared to many other parts of Viet Nam. Ha Giang, the provincial capital, serves as its political, economic and social center. Nevertheless, it is some 300 kms from Hanoi, and is accessible only by road.

Ha Giang's socioeconomic development plan identifies tourism as its key economic sector. For the past four years, with the support of the central government, local and foreign investors, and its residents, the province has built infrastructure, including roads, hotels, transport, power, water supply, and drainage. However, solid waste management and wastewater treatment are needed to sustain Ha Giang's tourism and other development thrusts.

Ha Giang City Master Plan

The amendment of Ha Giang construction master plan to 2020 was undertaken and approved in 2002. The plan was further updated to 2025 in 2007 because of changes in the town's administrative boundaries, and to meet development demands of upgrading the city to a grade III urban center in 2009. Ha Giang was further upgraded to a city in 2010.

The master plan projects that Ha Giang's population will be 45,435 in the 2007 and will reach 90,000 in 2025, including 75,000 living in the inner town—an average annual growth rate of 2.6% for whole town and 3.8% for inner town area. Total land area in 2007 was 13,427 ha, including 2,799 ha within the inner town, and 10,628 ha in the suburbs. The plan sees Ha Giang becoming a high-quality tourism service city, with good infrastructure and urban design, and a focal point

The most renowned tourist attractions of Ha Giang are its rugged mountains of limestone and granite peaks. The most famous is **Dong Van Stone Forest**, which has been recognized by UNESCO as one of 77 geological parks in the world. Lung Cu hamlet lying inside Dong Van Rock Plateau is another tourist destination. It marks the most northerly tip of Viet Nam with the Lung Cu Flag Tower on Dragon Mountain. Ha Giang is also has many natural caves with stalactites and stalacmites, including Phuong Thien Cave, Chui Cave, Fairy Cave and Swallow Cave.

for tourism and services. Spatial developemt is seen to exploit, preserve and improve the natural landscape through systems of green development and waterbodies. Vegetation connected to natural forests will be encouraged to support the city as a model city-forest—multi-functional urban areas intertwined with green development.

HA GIANG CITY ASPIRES TO BECOME THE STRATEGIC ADMINISTRIATVE, ECONOMIC AND SOIC-CULTURAL HUB OF THE PROVINCE AND A NATIONAL ECON-TOURISM DESTINATION

Ha Giang GrEEEn City Action Plan

The major tourist attraction of Ha Giang Province's is the UNESCO-recognized Dong Van Karst Plateau Global Geopark, for which the city is planning to function as a visitor base. Ha Giang city has a rich cultural and natural heritage and is located in a river valley bordered by Cam Mountain and Mo Neo Mountain. The city's vision is to become the strategic administrative, economic, and socio-cultural hub of the province and an eco-tourism destination in Viet Nam—GCAP for Ha Giang, which was prepared under this PPTA. To achieve this vision, the GCAP identifies the following major initiatives and actions:

- Initiative 1: Enable interconnected development of growth areas
  - Action 1: Develop peri-urban transport network in the city's south ***E***
  - Action 2: Enable mixed-use peri-urban development in the city's northwest ***E E E***
  - Action 3: Strengthen transport network connectivity in the city's northeast ***E***
- Initiative 2: Promote inclusive eco-tourism
  - Action 1: Enhance eco-tourism promotion and build capacity ***E E***
  - Action 2: Develop and upgrade tourism-related infrastructure ***E E***
  - Action 3: Promote low-impact development for commercial opportunities ***E E***
  - Action 4: Enhance green features and promote clean farming ***E E E***
- Initiative 3: Build and improve resilient infrastructure
  - Action 1: Improve flood control and drainage ***E***
  - Action 2: Improve water supply and wastewater systems ***E E***
  - Action 3: Improve solid waste management and environmental awareness ***E E E***

E = Economic Benefits // ***E = Environmental Benefits*** // ***E = Equity Benefits***

Image 2. Hue Citadel polluted ponds

Ha Giang City Investment Program

The medium-term investment program of Ha Giang based on its GCAP is estimated to be $181.56 million (**Figure 2-3**).[12]

Figure 2-3. Ha Giang Summary Green City Action Plan and Investment Program

Action	Y1	Y2	Y3	Y4	Y5	Cost (USD)	Anticipated Benefits
Initiative 1. Enable interconnected development of growth areas							
Sub-initiative 1.1 Developing peri-urban transport network n the city's south							
Upgrading and expansion of National Road No. 2 from Km 286+300 to new Me Bridge						$3,073,267	
Construction of Southern Ring Road						$13,244,986	
Construction of Lo River Bridge from National Road No. 2 to Southern Ring Road						$5,780,355	
Integrated development strategy for city extension area Phuong Thanh						$72,186	
Sub-initiative 1.2 Enable mixed-use peri-urban development in the city's northwest							
Develop a logistics center in Phuong Do Commune along National Road No. 2						$2,887,422	
Upgrading and expansion of Xuan Thuy Road						$18,920,066	
Integrated development strategy for city extension area Phong Quang						$72,186	
Sub-initiative 1.3 Strengthen transport network connectivity in the city's northeast							
Upgrading of road from Quyet Thang to Son Ha						$4,695,190	
Upgrading of La Van Cau Road						$1,848,158	
Construction of Phung Hung Road from Tien Stream to Bridge 3/2						$4,813,187	
Integrated development strategy for city extension area in eastern Phuong Quang Trung						$72,186	
Initiative 2. Promote inclusive eco-tourism							
Sub-initiative 2.1 Enhance eco-tourism promotion and build capacity							
Develop an eco-tourism strategy						$216,557	
Develop and pilot a community-based eco-tourism model						$288,742	
Create a public-private tourism agency with a tourist information center						$505,299	
Develop tourism marketing tools						$288,742	
Establish a tourism training program for advanced education						$721,855	
Sub-initiative 2.2 Develop and upgrade tourism-related infrastructure							
Install tourist guidance infrastructure						$144,371	
Upgrade inner-city roads and street designs						$10,209,675	
Upgrade existing public pools for residents and tourists						$72,186	
Upgrade basic infrastructure in cultural villages						$1,443,711	
Develop basic eco-tourism infrastructure for Mo Neo Mountain and its five valleys						$4,619,874	
Sub-initiative 2.3 Promote low-impact development for commercial opportunities							
Upgrading of inner-city main square area and						$28,874,215	

[12] To arrive at this estimate, the following were added to the GCAP base cost estimates: detailed engineering and design and supervision (DEDS), at 7%; physical contingencies at 10%, and price contingencies at rates ranging from 0.3% to 1.5 on foreign currency costs and 2.5% to 5% on local currency costs. Taxes were calculated at 10% of the total base costs estimates, DEDS, and physical and price contingencies.

Action	Y1	Y2	Y3	Y4	Y5	Cost (USD)	Anticipated Benefits
redevelopment of CPC building							
Create a marketing center for ethnic minority products						$1,443,711	
Installation of energy-efficient street lighting						$7,218,554	
Introduce environmental-friendly public transport						$7,218,554	
Sub-initiative 2.4 Enhance green features and promote clean farming							
Develop and upgrade linear parks along riverbanks						$2,165,566	
Expand tree planting and street greening						$2,2887,422	
Scale-up support program for clean vegetable farming						$7,218,554	
Initiative 3. Build and improve resilient infrastructure							
Sub-initiative 3.1 Improve flood-control and drainage							
Establish a system for improved flood management						$360,928	
Upgrading western embankment of Lo River from Goc Gao to new Me Bridge						$3,403,417	
Upgrading southern embankment of Me Stream from old Me Bridge to Chang spillway						$1,656,199	
Upgrading embankment on both sides of Mien River from Tien Stream confluence to Bridge 3/2						$11,893,111	
Upgrading embankment of Nam Thau Stream from Quyet Thang to Mien River						$3,461,887	
Upgrading drainage in Tran Phu Ward and Nguyen Trai Ward						$2,553,006	
Upgrading drainage in Minh Khai Ward						$2,683,582	
Upgrading drainage in Quang Trung Ward						$512,452	
Sub-initiative 3.2 Improve water supply and wastewater systems							
Expand and upgrade water supply system						$9,283,913	
Installation of wastewater collection and treatment system						$9,814,761	
Implement a community scorecard for water services						$28,874	
Sub-initiatve 3.3 Improve solid waste management and environmental awareness							
Upgrading existing landfill site						$1,284,378	
Introduce solid waste separation, recycling, and composting						$2,887,422	
Roll out environmental awareness program						$721,855	
TOTAL						**$181,563,360**	

Economic benefit
Environmental benefit
Equity benefit

Source: PPTA Consultants

2.3.3 Hue (Thua Thien Hue Province)—Ascending from its Royal Past into a Regional Hub of the North Central Coast

Hue was established as the capital of a unified Viet Nam in 1802, and was not only the political but also the cultural and religious center of the Nguyen dynasty until 1945. Hue still retains a virtually intact layout of a feudal city. It became the first World Heritage site in Viet Nam to be acknowledged by UNESCO, with its fortresses, palaces, pavilions, temples, sacrificial sites, pagodas, assembly houses and mausoleums. The seat of the Nguyen emperors was the Imperial City, which occupies a large, walled area on the north side of the Perfume River. Inside the Citadel is the forbidden-city, where in the past, only the emperors, concubines, and those close enough to them were granted access; the punishment for trespassing was death. Today, little of the forbidden-city remains, although reconstruction efforts are in progress to preserve it as a historical tourist attraction.

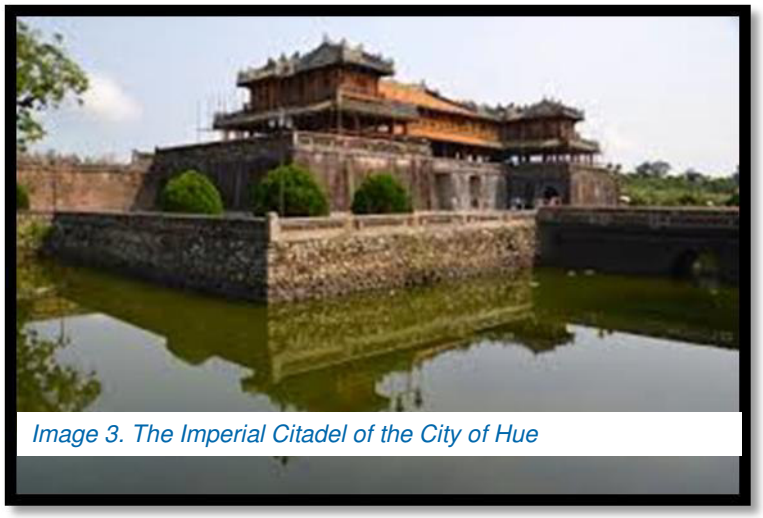


Image 3. The Imperial Citadel of the City of Hue

Hue has transformed into a prominent city in Viet Nam and has a population of over 300,000. With its rapid urbanization and economic growth, it aspires to become a grade I city—similar to that of Da Nang, Can Tho, and Hai Phong. The city is accessible by rail, sea, land, and air, which supports its tourism industry. Small and medium-sized enterprises (SMEs) are the principal drivers of the economy, accounting for 58% of gross domestic product (GDP) in 2012, followed by services, and agriculture/fishery. The city had an economic growth rate of 7.9% in 2013. The GDP of Hue is expected to double from 2016 to 2025 with the continued expansion of its industrial and services sectors, boosted by a vibrant tourism industry.

Hue City Master Plan

Hue City's Construction Master Plan was prepared in 1993 and modified in 1999 with its vision to 2020. Hue was recognized as grade I urban center under the control of Thua Thien Hue province in 2005 but it aspires to become a centrally-run municipality. This was the rationale for the modification of Hue city's Construction Master Plan to 2030 and vision to 2050—funded by Korea International Cooperation Agency (KOICA) in 2012. This revised master plan was approved by the Prime Minister under Decision No. 649/QD-TTg, dated May 6, 2014.

The city master plan envisions an industrialized and modern Hue, at par with Da Nang by 2020. A reduced poverty incidence is a key target. The city is aware that to achieve its objectives, there must be increased investments in infrastructure, a strong education system to meet the city's expanding human resource requirements, and adaptation to climate change. And there is an appreciation of the need to minimize and mitigate the risks and impact of natural disasters. Decree No. 4183/UBND was passed on 30 July 2014 by the PPC, approving priority subprojects on drainage, flood control, and environment under the proposed Program. The main environmental infrastructure investments identified were the dredging of the stagnant waters in the Huong River, lakes and ponds surrounding the Citadel, and sectional embankment improvments of rivers and lakes. Expansion and improvements of existing city roads to allow greater

HUE CITY ASPIRES TO BECOME A HIGHLY SUSTAINABLE, WORLD CLASS TOURIST DESTINATION

mobility, construction of a new road from north to south, bypassing the city center, and the improvement of the existing transport system are key interventions proposed.

Hue City GrEEEn Action Plan

Hue city and the province of Thua Thien Hue, with technical assistance from ADB, formulated a GrEEEn Cities Action Plan (GCAP).[13] To prepare the GCAP, a visioning and stakeholders workshop was held in Hue on 22 November 2013. The vision for the future, focuses on the rehabilitation of the Citadel, but also see the development of other parts of the city. This involves expanding the built-up area through new mixed-use developments for growth of the service sector.

Hue's Imperial City is a UNESCO World Heritage Site and its Citadel area is the city's major tourist attraction. Supporting this, the city's vision is to become "a highly sustainable, word-class tourist destination" (Source: GCAP Hue). To achieve this, the GCAP includes three major initiatives and supporting actions:

- Initiative 1: Improve the urban environment
  - Action 1: Develop wastewater collection and treatment system ***E E***
  - Action 2: Rehabilitate ponds and canals ***E E E***
  - Action 3: Improve the Citadel drainage system ***E***
  - Action 4: Develop a landfill in Huong Binh ***E E***
  - Action 5: Develop energy-efficient street lighting ***E***
  - Action 6: Improve the city-wide water quality monitoring ***E E***
  - Action 7: Promote Low Impact Development ***E E***
- Initiative 2: Enhance the tourism experience
  - Action 1: Expand the range of tourist activities ***E E***
  - Action 2: Plan the redevelopment of strategic areas in Citadel ***E E***
  - Action 3: Develop new crafts market in Thuy Xuan ***E***
  - Action 4: Expand "Hue by Night" offering ***E E***
  - Action 5: Develop more non-motorized transport in the Citadel ***E E E***
- Initiative 3: Develop sustainable transportation in newly expanded Hue City
  - Action 1: Develop peripheral parking facilities ***E E E***
  - Action 2: Build new roads to Green Districts ***E E***
  - Action 3: Promote bicycle use in the city center ***E E***
  - Action 4: Develop new tram line ***E E***

E = Economic Benefits // ***E = Environmental Benefits*** // ***E = Equity Benefits***

[13] TA 8314-REG. ADB. 2012. Technical Assistance for Green Cities–A Sustainable Urban Future in Southeast Asia. Manila.

Image 4. Ha Giang proposed bridge and landfill construction to service city

Hue City Investment Program

Based on its GCAP, the investment program of Hue City was estimated to be US$736.88 (**Figure 2-4**).[14]

Figure 2-4. Hue Summary Green City Action Plan and Investment Program

Action	Y1	Y2	Y3	Y4	Y5	Cost (USD)	Anticipated Benefits
Initiative 1. Improve the urban environment							
Develop wastewater collection and treatment system						$413,934,310	
Rehabilitate ponds and canals						$31,963,139	
Improve the Citadel drainage system						$13,677,920	
Develop a landfill in Huong Binh						$14,397,810	
Develop energy-efficiency street lighting						$3,599,453	
Improve city-wide water quality monitoring						$1,439,781	
Promote Low Impact Development						$287,956	
Initiative 2. Enhance the tourism experience							
Expand the range tourist activities						$431,934	
Plan the redevelopment of strategic areas in Citadel						$1,439,781	
Develop new crafts market in Thuy Xuan						$7,198,905	
Expand “Hue by night” offering						$4,319,343	
Develop more non-motorized transport in the Citadel						14,398,810	
Initiative 3. Develop sustainable transportation in newly expanded Hue City							
Develop peripheral parking facilities						$5,903,102	
Build new roads to Green Districts						$100,784,672	
Promote bicycle use in the city center						$4,319,343	
Develop new tram line						$100,784,672	
TOTAL						**$736,879,933**	

Economic benefit
Environmental benefit
Equity benefit

Source: Hue GCAP with investment costs adjusted by PPTA Consultants

[14] To estimate Hue's investment program, the following were added to the city's GCAP base cost estimates: detailed engineering and design and supervision (DEDS), at 7%; physical contingencies at 10%, and price contingencies at rates ranging from 0.3% to 1.5 on foreign currency costs and 2.5% to 5% on local currency costs. Taxes were calculated at 10%.

Vinh Yen (Vinh Phuc Province)—Maximizing the Gains of Proximity to Hanoi and Promoting Sustainable Eco-Businesses

Vinh Yen is the capital of Vinh Phuc Province in the Red River Delta Region and serves as an industrial hub near Hanoi. It is located in the northern part of Vinh Phuc and is the nerve-center of economics, politics, culture and technology. The city is located along National Highway No.2 and the Hanoi–Lao Cai railway and is adjacent to the Noi Bai international airport. The road and railway link the province to the northern midlands and the mountainous provinces. Its access to National Highway No.5—from Hai Phong port—and Center Line No. 18—from Cai Lan deep water port—has enabled the city to plan an inland container depot for locators in its industrial and economic zones.

Vinh Yen has a strategic location as an outlying suburb of Hanoi. This provides opportunities to respond to the demand for housing, healthcare, rest and recreation, and other socio-economic services that spill over from the capital. The province also is an integral part of Viet Nam's northern industrial development belt. The development of related international and national transport corridors has linked Vinh Yen closer to the economic and industrial centers and major cities in the economic corridors of Kunming–Lao Cai Hanoi - Hai Phong NH2 Viet Tri - Ha Giang - China, Road 18 Corridor; and IV belt-line road of Hanoi in the future. Vinh Yen's economy has grown impressively, at an annual average rate of 20%, over the period 2009-2012.

Ecotourism related-businesses and logistics, which abound in the nearby industrial parks, and nearby trans-shipment points, dominate the city's economic activities. Economic growth, while strong from 2009-2012, appears to be slowing with growing competition from elsewhere. Competing cities are offering industrial locations with shorter processing time for permits, licenses, and other requirements needed to open and operate business enterprises. Consequently, Vinh Yen city and Vinh Phuc province are now positioning to become a center for green manufacturing. This involves developing the local auto parts industry and intensifying logistics and shipping services for goods produced in Viet Nam's northern region. Vinh Yen is also focusing on the redevelopment of the Dam Vac Lake shores to provide better access for the public, and encourage establishments to cater for local and foreign tourists. Vinh Phuc province is promoting low-polluting industries, such as tourism, education, and banking and finance to support its environmental protection and preservation policies.

Vinh Yen Master Plan

Vinh Yen was recognized as grade III town in 2004. It was upgraded to a provincial city within Vinh Phuc province in 2006, and upgraded again to a grade I provincial city in 2014. The first construction master plan of Vinh Yen town was prepared in 1997 and amended to 2020 in 2004 as a result of its boundary expansion as a grade III urban center and its new infrastructure. Under the plan to 2020, the population is forecasted to reach 150,000 by 2020 and the total land area and development land will be 6,774 hectares (ha) and 2,487 ha, respectively.

The latest Vinh Phuc Urban Master Plan of the province up to 2030 and vision to 2050 was prepared in 2011 under JICA financing. The vision to 2050 for Vinh Phuc's urban areas is for them to become a sustainable metropolitan area. The plan is to develop a core urban center of Vinh Yen city city as a provincial capital, Phuc Yen town and district capitals of Yen Lac, Lap Thach, Vinh Tuong, Tam Duong and Tam Dao, so that the metropolitan area becomes a grade I urban center—provincial-run city. But one which preserves the natural environment, creates a favourable living environment, and ensures sustainable rural-urban development. The proposed Vinh Phuc metropolitan area is about 319 km2, representing some 23% of the land of the province.

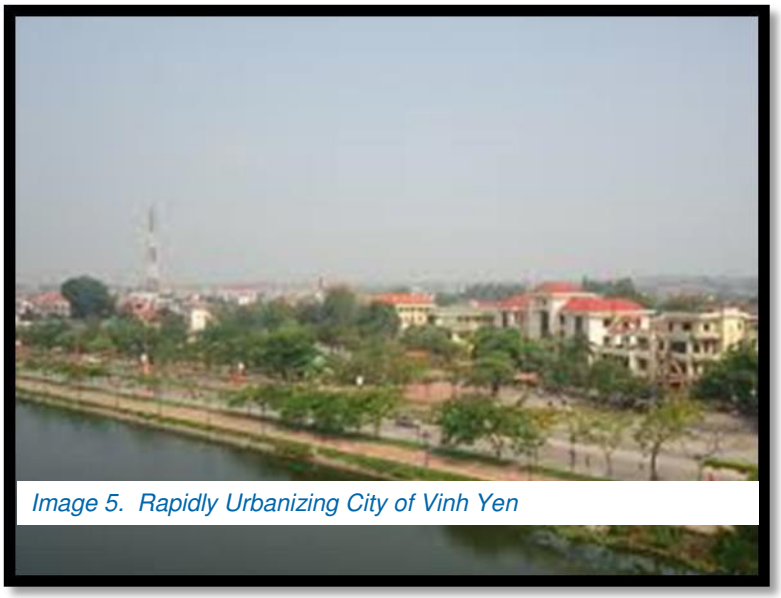


Image 5. Rapidly Urbanizing City of Vinh Yen

Vinh Yen City GrEEEn City Action Plan

Vinh Yen city and Vinh Phuc province were assisted by ADB in preparing their GCAP. A visioning workshop was held on 21 November 2013 and attended by key stakeholders and policymakers, at the provincial and city levels, as part of the preparation for the GCAP.

Vinh Yen city's vision capitalizes on its proximity to Hanoi and showcases its significant natural assets. The city will focus on *green products* as a means to expand high-value manufacturing. It will develop a logistics hub to promote export growth, and will bring together foreign manufacturers and local suppliers to encourage the sale of locally made products to foreign-owned manufacturers. In the services sector, the city and the province will encourage the development of low-polluting industries, such as tourism, education, and banking and finance. This will enable the city to preserve and enhance its environmental assets to capture a larger share of the regional ecotourism market. The city will implement subprojects to preserve and enhance tourism around Dam Vac Lake and along its shoreline—a critical environmental asset. Vinh Yen City's vision is to become "an eco-business satellite city in metropolitan Ha Noi" (Source: GCAP Vinh Yen). To achieve this, the GCAP for Vinh Yen has four major initiatives and supporting actions:

VINH YEN CITY ASPIRES TO BECOME AN ECO-BUSINESS SATELLITE CITY IN METROPOLITAN HANOI.

- Initiative 1: Promote eco-business in manufacturing and services
  - Action 1: Prepare inland container deport business plan ***E***
  - Action 2: Promote local car parts to foreign manufacturers ***E***
  - Action 3: Build showroom to showcase local products ***E***
  - Action 4: Prepare plan to attract clean manufacturing ***E E***
- Initiative 2: Improve the urban environment, including Dam Vac Lake
  - Action 1: Prepare Dam Vac Lake catchment plan ***E***
  - Action 2: Expand water supply distribution network ***E***
  - Action 3: Expand wastewater collection and treatment ***E E***
  - Action 4: Support household sanitation revolving fund ***E E***
  - Action 5: Expand storm water collection and disposal ***E E***
  - Action 6: Introduce and promote low-impact development standards ***E E***
  - Action 7: Dredge Dam Vac Lake ***E E***
  - Action 8: Tree planting and landscaping ***E E***
  - Action 9: Improve domestic solid waste disposal ***E E E***
  - Action 10: Build industrial solid waste incinerator ***E E***
  - Action 11: Build medical waste incinerator ***E E***
  - Action 12: Enhance air and water quality monitoring ***E E***

Action 13: Implement a community scorecard ***E E***

- Initiative 3: Promote regional eco-tourism focused on Dam Vac Lake and Tan Dao Park

  Action 1: Feasibility/marketing study for Dam Vac Lake ***E***

  Action 2: Prepare a Dam Vac Lake local area plan ***E E E***

  Action 3: Make improvements to the lakeshore ***E E***

  Action 4: Prepare sustainable transport plan ***E E***

- Initiative 4: Become a regional leader in higher education and health care services

  Action 1: Develop arterial roads in University City ***E E***

  Action 2: Develop new general hospital ***E E***

E = Economic Benefits // ***E = Environmental Benefits*** // ***E = Equity Benefits***

Image 6. Vinh Yen – Prioritize development of Dam Vac Lake

Vinh Yen City Investment Program

The total investment program for the city of Vinh Yen was estimated based on the latest updated version of its GCAP.[15] Comprising two phases over a span of 15 years, the city's GCAP will require a total investment of about US$1,024.15 (**Figure 2-5**)[16]

[15] For this computation, the PPTA Consultants used an updated version of the GCAP as of September 2015. This latest version incorporates the comments received from the various provincial departments of Vinh Phuc.

[16] To estimate Vinh Yen's investment program, the following were added to the city's latest CAP base cost estimates: detailed engineering and design and supervision (DEDS), at 7%; physical contingencies at 10%, and price contingencies at rates ranging from 0.3% to 1.5 on foreign currency costs and 2.5% to 5% on local currency costs for Phase One. For Phase Two, price contingencies were estimated at 20%. Taxes were calculated at 10% of the base cost estimates.

Figure 2-5. Vinh Yen Summary Green City Action Plan and Investment Program

Action	Phase 1 (Year)					Phase Two (Year)										Cost (USD)	Anticipated Benefits
	1	2	3	4	5	1	2	3	4	5	6	7	8	9	10		
Initiative 1. Promote eco-business in manufacturing and services																	
Prepare Inland Container Depot business plan																$744,453	
Promote local car parts to foreign manufacturers																$74,445	
Build showroom to showcase local products																$4,319,343	
Prepare plan to attract clean manufacturing																$446,672	
Initiative 2. Improve the urban environment, including Dam van Lake																	
Prepare Dam Vac Lake catchment plan																$287,956	
Expand water supply distribution network																$2,879,562	
Expand wastewater collection and treatment																$94,339,593	
Support household sanitation revolving fund																$4,391,332	
Expand storm water collection and disposal																$14,889,050	
Introduce and promote LID standards																$215,967	
Dredge Dam Vac Lake																$17,997,262	
Tree planting and landscaping																$23,527,736	
Improve domestic solid waste disposal																$44,548,136	
Build industrial solid waste incinerator																$223,335,750	
Build medical waste incinerator																$148,890,500	
Enhance air and water quality monitoring																$4,685,898	
Implement a community scorecard																$146,434	
Initiative 3. Promote eco-tourism focused on Dam Van Lake and Tan Dao Park																	
Feasibility/marketing study for Dam Vac Lake																$372,226	
Prepare a Dam Vac lake local area plan																$297,181	
Make improvements to the lake shore																$29,532,480	
Prepare sustainable transport plan																$595,562	
Initiative 4. Become a regional leader in higher education and health care services																	

Action	Phase 1 (Year)					Phase Two (Year)										Cost (USD)	Anticipated Benefits
	1	2	3	4	5	1	2	3	4	5	6	7	8	9	10		
Develop arterial roads in University City																$73,462,769	
Construct new obstetric and pediatric hospital																$114,267,876	
Develop new general hospital																$219,897,066	
Total																**$1,024,145,848**	

Economic benefit

Environmental benefit

Equity benefit

Phase One

Phase Two

Source: Vinh Yen GCAP with investment costs adjusted by PPTA Consultants