ADB

Asian Development Bank

Memorandum

Southeast Asia Department

25 November 2014

FOR APPROVAL OF PARA. 17

To: James Nugent 9 Dec '14
Director General, SERD

Through: Eri Honda
Officer-in-Charge, SEUW

From: Sonia Chand Sandhu
Senior Environment Specialist, SEUW

Subject: **MAL (48357-001): S-CDTA for Sustainable Urban Management (Green Cities) Support for Follow-up Activities in Melaka, Malaysia –Approval of Small-scale Capacity Development Technical Assistance (CDTA)**

A. INTRODUCTION

1. The S-CDTA is consistent with Malaysia's Country Operations Business Plan 2013–2014. [1] A technical assistance (TA) consultation mission was conducted on 7 November 2014 to provide sufficient information to proceed with TA processing.[2]

2. The proposed S-CDTA, responds to a specific request from the Melaka Green Technology Corporation (MGTC)[3] to the Asian Development Bank (ADB) to follow-up earlier work under TA 8314-REG: Green Cities–A Sustainable Urban Future in Southeast Asia (Green Cities RETA).[4] Under the Green Cities RETA, efforts were initiated to develop green city action plans and build the capacity of participating cities to meet the challenge of balancing economic growth with urban environmental sustainability and climate resilience across several countries in Southeast Asia. In Malaysia, the activity was started on a pilot basis in Melaka (Malacca), a historic trading center on the Strait of Malacca with a population in 2011 of 830,000, as part of TA 8040-REG: Master Plan on ASEAN Connectivity Implementation.[5] The Green City Action Plan (GCAP) for Melaka was disseminated at the first regional conference on "Enabling GrEEEn Cities" at the ADB Headquarters on 13 to 14 May 2014 as part of the Green Cities RETA.

3. The proposed work reflects both the commitment of the Government of Malaysia and ADB to encourage economic growth that is environmentally sustainable. The Government has expressed this goal particularly in the ongoing 10th Malaysia Plan: "The Government will ensure that Malaysia's environmental assets and ecological resources are managed sustainably, so

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1 ADB. 2013. *Country Operations Business Plan: Malaysia, 2013–2014*. Manila.
2 The TA first appeared in the business opportunities section of ADB's website on 25 November 2014.
3 The MGTC is a state-owned entity tasked to implement projects and activities independently of the Government of Malaysia.
4 ADB. 2012. *Technical Assistance for Green Cities–A Sustainable Urban Future in Southeast Asia*. Manila.
5 ADB. 2011. *Technical Assistance for the Master Plan on ASEAN Connectivity Implementation.* Manila.

that present developmental needs are met without compromising the future."[6] The 11th Malaysia Plan, currently under preparation, continues to place emphasis on sustainable urban growth.

4. For ADB, environmentally sustainable economic growth is a priority under Strategy 2020, with operational significance for this S-CDTA as detailed in the Urban Operational Plan 2012–2020.[7]

5. In Melaka, the TA 8040-REG initiated GCAP with capacity building activities envisioned to strengthen the ability of stakeholders, especially at the local government level to implement and increase competencies in integrated urban development. The initial efforts, based on a needs assessment, identified an investment program comprising priority investment projects for resilience in urban services. These projects emerged from the thematic areas of energy efficiency, natural resource management, green transportation, and cultural heritage and tourism, among others.

6. The GCAP for Melaka was endorsed by the Indonesia-Malaysia-Thailand Growth Triangle (IMT-GT) Summit in Nay Pyi Taw, Myanmar in May 2014 and was adopted by the State of Melaka as the overarching document to operationalize its blueprint to guide integrated urban development and urban planning as a road map for green growth in Malaysia. This work encouraged the Government to plan a series of follow-up activities to be carried out under the S-CDTA, making the request during ADB missions in November 2013 and April 2014. At the IMT-GT second Ministerial Meeting on 13 September 2013, the IMT-GT green cities initiative was selected as a key signature project, with Melaka as the pilot city. The 7th IMT-GT Summit in Brunei, Darussalam on 25 April 2013 further directed the immediate implementation of projects identified in the initial green city report on Melaka, of which the green city benchmarking (GCB) and baseline indexing was prioritized by the economic planning unit for support from ADB. The design and monitoring framework is in Attachment 1.

7. The S-CDTA will be financed by ADB's Technical Assistance Special Fund (TASF-Other Sources) and will be reimbursed by MGTC. As the MGTC is tasked to implement green urban development projects and activities independently of the Government, ADB will work directly with MGTC, and not through the Government in implementing the S-CDTA. It is on this basis that the S-CDTA is classified as nonsovereign.[8]

B. ISSUES

8. The proposed S-CDTA builds on the GrEEEn cities approach[9] initiated under the Green Cities RETA to reflect a conscious effort to address emerging problems resulting from rapid urbanization and the broader challenges of degradation of the environment, over-exploitation of natural resources, increased risks from floods and natural disasters, and reduced quality of

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[6] Government of Malaysia, Economic Planning Unit. 2010. *10th Malaysia Plan 2011–2015*. Chapter 1, p. 26. Available at http://www.epu.gov.my/epu-theme/RMKE10/rmke10_english.html.

[7] ADB. 2008. *Strategy 2020: The Long-Term Strategic Framework of the Asian Development Bank, 2008–2020*. Manila. ADB. 2012. *Urban Operational Plan, 2012–2020*. Manila.

[8] PSOD's concurrence for SERD to continue processing this S-CDTA with the MGTC is in Attachment 4. As the TA will be under SERD, the financing will not be charged to PSOD's TA allocation. In addition, since MGTC will be advancing the cost of the TA, the TA will not be charged against ADB's TA resources. To be consistent with nonsovereign operations practice, we are also undertaking integrity due diligence (IDD) on MGTC, with help from OAI. The IDD Report and OAI's concurrence is in Attachment 5.

[9] S. Chand Sandhu and R. Naik Singru. 2014. Enabling GrEEEn Cities: An Operational Framework for Integrated Urban Development in Southeast Asia. *ADB Southeast Asia Working Paper Series*. No. 9. Manila. Asian Development Bank.

some aspects of life even as incomes rise. Malaysia is experiencing rapid growth of its urban centers: the proportion of the population living in urban areas is expected to climb from the current level of 65% to 85% in 2050.[10] While these areas provide some of the key drivers of national economic growth, urbanization puts pressure on the environment as well as demands that local government officials have the capacity to cope with increasingly complex issues involving the provision of services and the stewardship of the urban environment.[11] These issues range across the many facets of urban life including the need for better planning, reducing urban sprawl and inequities in service provisions, improving energy efficiency, enhancing water and sanitation services, improving solid waste management, addressing the urban *heat island* effect (urban centers are hotter than surrounding areas), and widening and deepening mobility options. In short, the task is to improve the quality of urban life through better policies and actions with improved institutional coordination and strengthened competencies for implementation.

9. Melaka is well recognized as a world heritage city that receives millions of visitors annually. The city is expected to increase in population, adding over 120,000 residents between 2011 and 2020. Manufacturing is strong and was responsible for approximately 45% of Melaka's gross domestic product and nearly 29% of the jobs in 2011. Nearly two-thirds of Melaka is categorized as environmentally-sensitive areas due to ecological reasons such as rich biodiversity. Agriculture is still prominent as a land use and occupies half of the land in Melaka. Portions of Melaka, particularly the historic part, reflect green design characteristics such as walkable neighborhoods and mixed-use developments that reduce the need for auto-use. By transforming the Melaka River from a drainage channel to a popular and award-winning cultural amenity, Melaka has already demonstrated its leadership in successfully implementing an integrated project. This S-CDTA will prepare Melaka as a good practice example with opportunity for replication not only nationally but across the IMT-GT and Greater Mekong Subregion countries.

10. Malaysia and Melaka have a policy framework supporting sustainable urban development, yet key challenges threaten environmental quality and economic competitiveness. Coastal development continues without risk assessment related to impacts of climate change. Traffic congestion is worsening and can threaten Melaka's popularity with tourists. The heritage area needs continued improvements and effective management to ensure that tourism goals, heritage priorities, and interests of residents can be balanced. The GCAP focuses on the above stated issues underscored by water management, energy efficiency and renewable energy, green transportation, zero waste, urban agriculture and forestry, cultural heritage, and tourism. Benchmarking was identified as the first step towards implementation and progress monitoring of the GCAP. The following two key activities are among the first steps to implement the GCAP: (i) prepare a baseline database with indicators and benchmarks to monitor and evaluate the impact of proposed actions; and (ii) undertake capacity building efforts to enhance local knowledge and capabilities in pursuing green actions, and in particular provide the necessary capacity to run the baseline and/or benchmark models that will be handed over to the MGTC and the State of Melaka. The S-CDTA will focus on these two activities.

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[10] Statement by the Honourable Datuk Faizah Mohd Tahir, Head of Delegation and Secretary General, Ministry of Women, Family and Community Development, Malaysia on Item 4: Population Distribution, Urbanisation, Internal Migration and Development at the 41st Session of the Commission on Population and Development, United Nations, New York. 8th April 2008.
Available at http://www.un.org/en/development/desa/population/pdf/commission/2008/country/malaysia.pdf

[11] The 10th Malaysia Plan notes the role of urban agglomerations in the growth process of the country. Economic Planning Unit, Government of Malaysia. *10th Malaysia Plan 2011-2015*. 2010. Chapter 3, p. 70. Available at http://www.epu.gov.my/epu-theme/RMKE10/img/pdf/en/chapt3.pdf.

C. THE PROPOSED TECHNICAL ASSISTANCE

1. Impact and Outcome

11. The expected impact of the S-CDTA will be a sustainable green city of Melaka with improved urban environmental sustainability and climate resilience. Such improvements will be measured by adoption and implementation of the GCAP.

12. The outcome of the S-CDTA will be improved capacity for urban planning and capacity building of MGTC and local government officials in Melaka. The S-CDTA will draw upon the Urban Management Partnership (UMP) program pioneered under the Green City RETA to foster peer-to-peer learning in Melaka. Activities supported under the UMP will include initiating a partnership with leading institutions such as the Institute for Housing and Urban Development Studies,[12] and earmarked to undertake Output 2 below (Para 13b). The design and monitoring framework is in Appendix 1.

2. Methodology and Key Activities

13. The outputs will be:

a. **Output 1:** The PINTAR[13] model developed as a decision-support system with baseline database and economy, environment, and equity (3E) benchmarking approaches, this will analyze the extent to which the green city development currently stay or has progressed as a result of adoption of the GCAP. The PINTAR will be a software tool with key elements as follows: (i) **data and information assessment**, analyzing and clearly describing economic, demographic, social, environmental, fiscal, and governance conditions at spatial scales ranging from the city level to provincial and at the national level; (ii) **development of 3E benchmarking methodologies**–review and assess applicability of available comparable indices, including the applicability of indicators currently being used; (iii) **development of baseline database and 3E livability indicators**, considering the existing baseline, the business-as-usual and alternative low emission and low carbon, future development scenarios, to include advanced protocols for projecting development trends; (iv) **benchmarking Melaka City**; and (v) **provide hands-on training** to model users and city authorities to understand the methodology and application of the tool.

b. **Output 2:** Capacity building and awareness-raising workshops conducted. This includes the provision of training for the managing of baseline and benchmarking models that will be handed over to MGTC and Melaka as outlined under Output 1 above.

c. **Output 3**: Knowledge sharing and awareness-raising workshops to expand the implementation of the GCAP.

[12] The Institute for Housing and Urban Development Studies is an international center of excellence of the School of Economics and the Faculty of Social Sciences of the Erasmus University Rotterdam, The Netherlands. It offers post-graduate education, training, advisory services, and applied research related to urban sustainability. http://www.ihs.nl/about_ihs/introduction/

[13] PINTAR is the Malay word for smart and swift. This reflects the thinking behind the development of the green city model to establish and monitor baselines and benchmarks using smart technology. It emphasizes people, industry, networks, technology, and aggregation of resources. The finalized model will be the property of the MGTC.

3. Cost and Financing

14. The S-CDTA is estimated to cost $153,000, of which ADB will initially finance an estimated amount of $150,000 from its TASF-Other Sources to be reimbursed by MGTC.[14] The MGTC will provide counterpart support in the form of administrative assistance, and other in-kind contributions as warranted. Details of the cost estimates and financing plan are in Appendix 2.

4. Implementation Arrangements

15. The MGTC will be the executing agency. The S-CDTA will be implemented from 1 January 2015 to 31 December 2015. The S-CDTA will require the engagement of two dedicated firms as follows:

a. A consultancy firm will be selected on a competitive bid basis for Output 1, with a lump-sum contractual payment, using the fixed budget selection method. Under Output 1, the firm will determine the nature and typology of the indicators to be collected to (i) supervise the initial data collection and database development, (ii) establish targets and benchmarks in consultation with local government officials, and (iii) plan the continual monitoring through the use of these indicators.

b. Due to the diverse skills set required for Output 2, a firm with proven and globally recognized leader in the areas concerned has been identified and will be engaged through the single source selection (SSS) method. The SSS method is most suitable given the tasks require highly specialized subset of knowledge within knowledge sphere of integrated urban development and environment planning issues. The skills-set requirements are further narrowed because Output 2 is a continuation of the previous work under the GCAP,[15] thus the TA tasks are well-defined and the scope specific. [16] The Institute for Housing and Urban Development Studies, International Institute of Urban Management (IHS) is the consultancy firm earmarked to undertake Output 2. IHS will plan and conduct the expected workshops to provide the capacity building for local government officials.

c. The firms will be hired in accordance with ADB's Guidelines on the Use of Consultants (2013, as amended from time to time). The draft terms of reference for firms are in Appendix 3 and will be refined in further consultation with the MGTC. The review of the outputs will be done by ADB and MGTC, in consultation with relevant departments in each institution. Proceeds of the TA will be disbursed in accordance with the *Technical Assistance Disbursement Handbook* (2010 as amended from time to time).

16. A national project coordinator and technical resource specialist will also be recruited as an individual consultant for 4 person-months to facilitate as the focal point between the firms and the MGTC and other stakeholders at the local government unit. The consultant is expected to have wide experience in urban planning and development, urban renewal and rehabilitation, policy management, and with institutional analysis with good quantitative skills.

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[14] The Arrangement of Cooperation between the Government and ADB, dated 25 October 2011 provides the basis for the reimbursement of technical assistance.

[15] The previous work for the GCAP was financed by ADB under ADB. 2010: *Technical Assistance for Public Private Partnership in BIMP-EAGA and IMT-GT*. Manila and Footnote 5.

[16] Under PAI No.2.02, single source selection is permissible for engagements below $100,000 subject to consultation with OSFMD. Given the tight budget, the firm will be offered lump-sum contracts.

D. RECOMMENDATION

17. Pursuant to the authority delegated to heads of departments and offices to approve small-scale technical assistance, your approval is requested to provide a small-scale CDTA to the Melaka Green Technology Corporation for Sustainable Urban Management (Green Cities) Support for Follow-up Activities in Melaka, Malaysia in an amount not exceeding the equivalent of $150,000. The S-CDTA will be financed by Asian Development Bank's Technical Assistance Special Fund (TASF-Other Sources) and will be reimbursed by MGTC.

18. Such approval will be reported to the Board in the Quarterly Summary Report on Small-Scale and Supplementary Technical Assistance Projects Not Exceeding $225,000.

Attachments: (1) Design and Monitoring Framework
(2) Cost Estimate and Financing Plan
(3) Outline Terms of Reference for Consultants
(4) E-mail from PSOD providing concurrence for SERD
(5) IDD Report and OAI concurrence
(6) TA Registration
(7) Comments Matrix
(8) OGC Clearance

cc: Vice President (Operations 2); Deputy Director General, SERD; Assistant General Counsel, OGC; Assistant Controller, CTLA; Directors, OAI; OSP2, OCO; Senior Advisor to VPO2 (S. Shrestha); N. Jain, SEOD; S. Tukuafu, E. Thomas, U. Hoque, A. Musa, SEOD; L. Adams, S. Kotagiri, S. Schapero, SEUW; C. Liwag, CTLA-TA; K. Yamaoka, OIA; S. Zaidansyah, OGC; V. Lisack, OSP2; Country Team Leader; G. Krishnan, SERC

PRELIMINARY DESIGN AND MONITORING FRAMEWORK

Design Summary	Performance Targets and Indicators with Baselines	Data Sources and Reporting Mechanisms	Assumptions and Risks
Impact Sustainable green city of Melaka with improved urban environmental sustainability and climate resilience	By 2017 Green city action plans adopted and implemented Environmental management and resilience incorporated into urban planning processes	Urban development master plans and policy statements Urban sector budgets (national and local governments) Departments of planning, construction, environment, and health Planning department, local government records, city government records, business council Malaysia Development Plan	**Assumptions** Central government support continues to encourage a sustainable development path for Melaka Favorable business climate prevails in Melaka Complementary subregional cooperation initiatives for transport connectivity in IMT-GT proceed as planned **Risks** Melaka is adversely affected by international economic developments Private sector lacks incentives to develop green solutions
Outcome Improved capacity for urban planning and capacity building of MGTC and local government officials in Melaka	By 2015 PINTAR model adopted as a DSS for enhanced capacity of local government departments to plan, deliver, and manage urban infrastructure and services.	Urban development master plans and policy statements Urban sector budgets (national and local governments) TA reports Departments of planning, construction, environment, and health	**Assumptions** Central, provincial, and city governments and leadership remain fully committed to the project Communities and stakeholders understand how they can participate and benefit **Risk** Political priorities may change
Outputs 1. PINTAR[a] model developed as a DSS with baseline database and 3E benchmarks 2. Capacity building and awareness-raising workshops conducted 3. Knowledge sharing and awareness-raising	By 2015 PINTAR model developed with green city index (indicators) developed comprising environmental quality data and urban profile Program and modules on integrated urban development and environmental planning developed.	Planning department Local government records Departments of environment, health, construction, and/or transport annual reports and studies TA reports	**Assumptions** Private sector has motivation and incentives to invest in green projects Key decision-makers and other key staff attend the workshops and conferences **Risk** Key urban managers are not able to commit fully to the capacity development program due to other

workshops to expand the implementation of the GCAP	All MGTC staff and technical staff from the Melaka City government trained Green city citizen scorecards developed for monitoring in consultation with the communities Policy dialogue and awareness-raising conducted through knowledge sharing in-country and regional workshop conducted to create future regional investment opportunities		assigned tasks

Activities with Milestones

1. PINTAR model developed as a DSS with baseline database and 3E benchmarks

1.1 Conduct consultations towards selection of indicators by Q1 2015
1.2 Assemble PINTAR model with software by Q2 2015
1.3 Review workshop by Q2 2015
1.4 Conduct dissemination workshop by Q3 2015

2. Capacity building and awareness-raising workshops conducted

2.1 Complete TNA by Q1 2015
2.2 Conduct consultation and awareness workshop on by Q1 2015
2.3 Develop modules by Q1 2015
2.4 Complete trainings by Q3 2015

3. Knowledge sharing and awareness-raising workshops conducted

3.1 Conduct high level consultation workshop on policy by Q2 2015
3.2 Conduct stakeholder awareness and consultation workshops on investment opportunities, and tools developed by Q3 2015

Inputs: $150,000
(TASF-Other Sources) to be reimbursed by MGTC

Item	**Amount** ($'000)
Consulting services	120.0
Training, seminars, and conferences	20.0
Miscellaneous administration and support	5.0
Contingencies	5.0

Note: The TA is estimated to cost $153,000, of which contributions from ADB are presented in the table above. The contributions will be reimbursed by MTGC. The MGTC will provide counterpart support in the form of administrative assistance, and other in-kind contributions. The value of MTGC's contribution is estimated to account for 2% of the total TA cost.

3E = economy, environment, and equity; ADB = Asian Development Bank; DSS = decision-support system; GCAP = green city action plan; IMT-GT = Indonesia-Malaysia-Thailand Growth Triangle; MGTC = Melaka Green Technology Corporation PINTAR = people, industry, networks, technology, and aggregation of resources; Q = quarter; TA = technical assistance; TASF = Technical Assistance Special Fund; TNA = training needs assessment.

[a] PINTAR is the malay word for smart and swift. This reflects the thinking behind the development of the green city model to establish and monitor baselines and benchmarks using smart technology. It emphasizes people, industry, networks, technology, and aggregation of resources.

Source: Asian Development Bank.

COST ESTIMATES AND FINANCING PLAN

($'000)

Item	Amount
Asian Development Bank[a]	
1. Consultants	
a. Remuneration and per diem	
i. International consultants[b]	92.0
ii. National consultants	20.0
b. International and local travel	5.0
c. Reports and communications	5.0
2. Training, seminars, and conferences	20.0
3. Miscellaneous administration and support costs	3.0
4. Contingencies	5.0
Total	**150.0**

Note: The technical assistance (TA) is estimated to cost $153,000, of which contributions from the Asian Development Bank are presented in the table above. The contributions will be reimbursed by Melaka Green Technology Corporation (MTGC). The MGTC will provide counterpart support in the form of administrative assistance, and other in-kind contributions. The value of MTGC's contribution is estimated to account for 2% of the total TA cost.

[a] Financed by Asian Development Bank's Technical Assistance Special Fund (TASF-Other Sources) and will be reimbursed by Melaka Green Technology Corporation.

[b] Comprising of an estimated cost of $50,000 to be provided on a lump-sum basis for Output 1 and a further estimated $42,000 for Output 2 being offered to the firm (Institute for Housing and Urban Development Studies, International Institute of Urban Management) selected through single source selection method.

Source: Asian Development Bank estimates.

OUTLINE TERMS OF REFERENCE FOR CONSULTANTS

19. For Output 1, the firm will be recruited through on a competitive basis on a fixed budget selection basis and provided with a lump-sum contract. However for Output 2, the single source selection (SSS) method[17] will be utilized, as the scope of work is well defined requiring specific expertise and timely delivery. These activities are precursor to the broader implementation of Green City Action Plans given the high potential for replication across the Indonesia-Malaysia-Thailand Growth Triangle (IMT-GT) and possible expansion across to other Southeast Asian countries. In this regard, initial institutions[18] have been pre-identified with the required international and national consultants' expertise in integrated urban and regional planning with backgrounds suitable for the assignment of compiling a green city index and planning and conducting workshops. Both institutional firms are of international repute for providing technical advisory services and research expertise for innovative applications in integrated urban and regional planning, environmental engineering, energy efficiency, sustainable transport, water and wastewater service provision, solid waste management, institutional management, urban finance, and social development.

20. **Output 1:** The PINTAR[19] model developed as a decision-support system aimed at establishing baseline database, developing economy, environment, and equity (3E) benchmarking approaches, for analyzing the extent to which the green city development currently stay or has progressed as a result of adoption of the GCAP. The PINTAR will be a software tool with key elements as follows: (i) **data and information assessment**, analyzing and clearly describing economic, demographic, social, environmental, fiscal, and governance conditions at spatial scales ranging from the city level to provincial and at the national level; (ii) **development of 3E benchmarking methodologies**–review and assess applicability of available comparable indices, including the applicability of indicators currently being used; (iii) **development of baseline database and 3E livability indicators**, considering the existing baseline, the business-as-usual and alternative low emission and low carbon, future development scenario(s), to include advanced protocols for projecting development trends; (iv) **benchmarking Melaka City**; and (v) **provide hands-on training** to model users and city authorities to understand the methodology and application of the tool. Table 1 outlines the skill set requirements expected for Output 1.

21. **Key Expertise of Consulting Firm.** The consulting firm should be a well-established, internationally-reputable institution that offers the establishment of local baseline database and benchmarking modelling approaches towards a comprehensive urban profile and 3E benchmarking, reflecting economic, demographic, social, environmental, fiscal, and governance conditions at spatial scales covering people, infrastructure service and delivery, and natural resource consumptions (energy, water, etc.). It should provide specific technical and research expertise in green cities and sustainable development to meet the requirements under Output 1.

[17] Under PAI No.2.02, SSS is permissible for firms for engagements that are below $100,000 in value and subject to prior consultation with OSFMD. Due to the specific limited budget involved, to be provided by the MGTC on a reimbursable basis, lump-sum contracts are to be offered.

[18] In conjunction with the MGTC, the Institute for Housing and Urban Development Studies, has been pre-identified as the possible consultancy firm for Output 2, given its familiarity with the Melaka GCAP project and with it being a global leader in specialized post-graduate and accredited education and capacity development training, advisory services and applied research for integrated urban management and related issues.

[19] PINTAR is the malay word for smart and swift. This reflects the thinking behind the development of the green city model to establish and monitor baselines and benchmarks using smart technology. It emphasizes people, industry, networks, technology, and aggregation of resources.

Table 1: Consultants Expertise for Output 1

Expertise	Minimum Requirements	Inputs (person-months)
International		**3.5**
Urban and Regional Planner	The consultant should have a Master's degree or higher level in urban and regional planning, architecture, urban design, urban management, and associated disciplines. 15 years' experience with a background in applied urban/regional and environmental planning and/or engineering with extensive experience knowledge in application of analytical models for integrated urban development. The expert should have an applied skills on project management; multi-criteria analysis; and design of rapid assessment, especially in carbon footprint analysis, GIS-based application, resource accounting, and approaches and tools for developing indices for urban and environment management. Demonstrated leadership ability is preferred.	1.5
Management and Information System Specialist (MIS)	The consultant should have at least a Bachelor's degree or Master's degree or equivalent in geographical information system (GIS), geography, environmental engineering science, urban and regional planning, computer science, and related disciplines. 7 years of professional experience with data base management, knowledge GIS preferred. The MIS specialist will be responsible for (i) setting up spread sheets and databases for collecting and compiling data, producing tables and graphs to presents results of the analyses; (ii) working closely with the international consultant and the government officials to ensure that the requisite data is collected and is digitized in a suitable format; and (iii) collating existing maps for the Melaka showing urbanization, population, and environment trends.	2.0
Total		**3.5**

22. **Output 2**. The Institute for Housing and Urban Development Studies (IHS) has been earmarked as the consultancy firm to undertake this Output. The consulting firm will undertake policy dialogue through knowledge sharing and capacity and awareness program and modules for enhancing capacity and learning on integrated urban development and environment planning issues, including the provision of training for the managing of baseline and benchmarking models that will be handed over to Melaka Green Technology Corporation (MGTC) and Melaka City outline under Output 1 above. The consulting firm is also expected to plan and conduct a workshop to acquaint local government officials in best practices with respect to urban policy towards establishing an internationally acknowledged green city. Table 2 outlines the skill set requirements expected for Output 2.

23. A national project coordinator and technical resource specialist will be appointed recruited as an individual consultant to work closely with MGTC in coordinating and internalizing the two outputs within MGTC. The consultant will provide necessary support to the consulting

firms and MGTC for organizing and facilitating workshops for stakeholder consultations, technical discussions and dissemination of knowledge and training material.

24. The firms and individual national consultant will be hired in accordance with ADB's Guidelines on the Use of Consultants (2013, as amended from time to time). The draft terms of reference herewith will be refined in further consultation with the MGTC.

25. **Key Expertise of Consulting Firm.** The consulting firm is a well-established internationally reputed institution that offers specialized post-graduate and accredited education and capacity building training, advisory services and applied research in the fields of integrated urban planning and management. The institute should have experience working closely with local governments, international and local non-governmental organizations and the private sector worldwide. It will provide specific technical and research expertise in green cities and sustainable development to meet the requirements under Output 2.

Table 2: Consultants Expertise for Output 2

Expertise	Minimum Requirements	Inputs (person-months)
International		***3.5***
Urban Environmental Specialist	The consultant should have a Master's degree or higher level in civil/environmental engineering, environmental science, and related disciplines. 15 years of professional experience in capacity building and advisory projects focused on integrated urban and environmental planning and management and infrastructure fields including climate change, and sustainable energy	1.5
Urban and Regional Planner	The consultant should have a Master's degree or higher level in urban and regional planning, architecture, urban design, urban management, and associated disciplines.15 years of professional experience in capacity building and advisory projects on integrated urban and environmental planning and sustainable development with a focus on environmental planning and policy, climate change adaptation and mitigation, low carbon development, and sustainable transportation planning. He/She will have expertise in climate modeling, forecasting tools and in developing decision support systems.	2.0
National		***4.0***
National Project Coordinator and Technical Resource Specialist	The consultant should have a Bachelor's degree or higher in architecture, urban planning, statistics, economics, and equivalent experience in application in urban analysis. 7 years of professional experience in urban planning and development, urban renewal and rehabilitation, policy and management, and institutional analysis, with good quantitative skills	4.0
Total		**7.5**