

PROJECT PREPARATORY TECHNICAL ASSISTANCE

A. Justification

1. The project preparatory technical assistance (PPTA) is required to:
 - (i) Undertake sector preparatory work, define the scope of the ensuing investment project, and undertake (a) technical feasibility assessment, (b) safeguards due diligence, and (c) financial and economic viability assessment;
 - (ii) Conduct sector analysis and assist the Ministry of Works and Human Settlement (MOWHS) prepare a sector development plan for urban infrastructure development in the country;
 - (iii) Assist the MOWHS and thromdes prepare pre-feasibility studies for improved water supply, sanitation, stormwater and flood protection and urban roads infrastructure in 9 priority towns and detailed feasibility studies for 3 of the priority towns (Batch 1);
 - (iv) Prepare valley plans and/ or IUWM plans and WSUDs at the thromde level for 3 sample towns. Assist the priority thromdes mainstream water safety plans (WSPs) prepared by WHO in the assessment, design, operation and maintenance of existing and/ or proposed drinking water supply systems;
 - (v) Assess service delivery capacity in thromdes under the project. Conduct analysis of existing institutional structures, governance and legal frameworks to assess and propose suitable institutional structure to improve urban service delivery, asset management and urban water planning including associated capacity development program. Prepare 5-year corporate/ utility plan for proposed institutional structure.
 - (vi) Assist the MOWHS in undertaking advance contracting actions for the proposed project to (a) appoint the project management and supervision consultants (PMSC); and (b) prepare and manage the bid to procure design-build contractor(s) for the proposed water supply, sanitation, storm water and urban road infrastructure.

B. Major Outputs and Activities

2. The major outputs and activities are summarized in Table A4.1.

Table A4.1: Summary of Major Outputs and Activities

Major Activities	ECD	Major Outputs	ECD
PPTA consultant mobilization	Jun 2014	Inception Report	Jun 2014
Data collection	Jul 2014	Technical surveys and investigations	Aug 2014 Aug 2014
Preparation of IUWM/valley thromde master plans for 3 Batch 1 towns	Aug 2014	Sector development plan	Sep 2014
Preparation of safeguards frameworks (environment, IR and IP)	Sep 2014		
Preparation of prefeasibility studies for 9 towns	Oct 2014		
Institutional assessment	Oct 2014	PPTA Interim report	Dec 2014
Technical feasibility studies for urban infrastructure in 3 Batch 1 towns and costing	Dec 2014		
Preparation of Safeguards planning documents	Jan 2015		

Major Activities	ECD	Major Outputs	ECD
Preparation of Institutional capacity development program	Jan 2015		
Economic and financial analyses	Feb 2015	PPTA Draft Final report	Feb 2015
Preparation of financial assessment	Feb 2015		
Preparation of sample corporate/ utility plan	Mar 2015	PPTA Final report	Mar 2015
Issuance of PMSC EOIs	Nov 2014		
Shortlisting and RFP for PMSC	Jan 2015	Submission 1	Feb 2015
Evaluation of PMSC technical proposal	Mar 2015	Submission 2	Apr 2015
Evaluation of PMSC financial proposal	May 2015	Submission 3	Jun 2015
Negotiation of PMSC contract	Jul 2015	Submission 4	Aug 2015
Awarding of PMSC contract	Aug 2015	PMSC contracts awarded	Sep 2015
Preparation of bidding documents for design-build contract(s)	Feb 2015	Design-build bidding document(s)	Mar 2015

ECD = expected completion date, EOI = expressions of interest, IP = indigenous people, IR = involuntary resettlement, IUWM = integrated urban water management, PMSC = project management and supervision consultants, PPTA = project preparatory technical assistance, RFP = request for proposal.

Source: Asian Development Bank estimates.

C. Cost Estimate and Proposed Financing Arrangement

3. The PPTA is estimated to cost \$800,000 equivalent, of which \$500,000 will be financed by ADB's Technical Assistance Special Fund (TASF-V) and \$300,000 by ADB's TASF-Others, on a grant basis. The government will provide counterpart support in the form of counterpart staff, office accommodation, office supplies, communication facilities for consultants and other in-kind contributions. The detailed cost estimate is presented in Table A4.2.

Table A4.2: Cost Estimates and Financing Plan
(\$'000)

Item	Total Cost
Asian Development Bank^a	
1. Consultants	
a. Remuneration and per diem	
i. International consultants (15.5 person-months)	328.5
ii. National consultants (44 person-months)	212.0
b. International and local travel	38.0
c. Reports and communications	4.5
2. Workshops, training, seminars, and conferences ^b	
a. Consultation Workshops	10.0
3. Surveys	65.0
4. Representative at Negotiations	8.0
5. Contingencies	134.0
Subtotal (A)	800.0

^a Financed by the Asian Development Bank's Technical Assistance Special Fund (TASF-V and TASF-Others). The government will provide counterpart support in the form of counterpart staff, office accommodation, office supplies, communication facilities for consultants and other in-kind contributions whose value is estimated to account for [1] % of the total cost.

^b Workshops, training, seminars, and conferences

Purpose	Venue
Inception Consultation	Thimphu
Interim Review Consultation	Thimphu
Final Review Consultation	Thimphu
Town based consultations in 3 priority towns (x6)	Priority towns

Source: Asian Development Bank estimates

D. Consulting Services

4. A firm will be engaged to undertake the necessary studies for this TA. The firm will provide 3 international experts for a total of 12.5 person-months, and an estimated 44 person-months of national expertise (9 consultants). The consulting firm will be engaged following the quality- and cost- based selection method, with a quality-cost ratio of 90:10 (due to the high complexity of the assignment and the impact of the expected outputs), using full technical proposal procedures. One additional international safeguards consultant will be engaged individually to supplement expertise (up to 3 person-months have been estimated). Procurement of all consultancy services used under the PPTA will be carried out in accordance with ADB's Guidelines on the Use of Consultants (2013, as amended from time to time). Table A4.3 summarizes the consulting services requirements of the TA.

Table A4.3: Summary of Consulting Services Requirement

<i>Expertise</i>	Person-Months
International	
1. Urban Infrastructure Specialist/Team Leader	7.0
2. Hydrology Specialist	2.0
3. Water Utility and Institutional Development Specialist	3.5
4. Safeguards Specialist (individual)	3.0
National	
1. Water Engineer and Deputy Team Leader	7.0
2. Drainage and Flood Management Engineering Specialist	4.0
3. Sanitation Specialist	4.0
4. Urban Roads Specialist	2.5
5. Social Development and Poverty Specialist	3.0
6. Environmental Specialist	3.0
7. Project Economist	3.0
8. Financial Management Specialist	3.0
9. Procurement Specialist	3.0
10. Unallocated	10.0
Total	58.0

Source: Asian Development Bank estimates.

5. The outline terms of reference for the PPTA consultants are described in paras. 6 to 20. Detailed terms of reference are provided in Supplementary Appendix B.

1. Outline terms of reference for international consultants (firm)

6. **Urban Infrastructure Specialist and Team Leader** (7 person-months). The team leader will be an urban infrastructure engineer with minimum 15 years of experience in designing, constructing and operating, preferably small-scaled, water supply and sanitation, drainage and urban roads projects in developing countries. She/he will possess a Master's or equivalent in civil engineering. She/he will oversee the preparation and delivery of all outputs under this TA, ensuring high quality of all components.

7. **Hydrology (surface and groundwater) Specialist** (2 person-months). The hydrology specialist will possess a Master's or equivalent degree in hydrology and water resources. She/he will have a minimum of 10 years experience in hydrological modelling (particularly rainfall-runoff modelling, river sub-basin systems modelling and groundwater modelling). She/he

will conduct technical assessments and surveys to assist with long term planning for water infrastructure development and management.

8. **Water Utility and Institutional Development Specialist** (3.5 person-months). The institutional development specialist will possess a Masters or equivalent degree in project and institutional management, institutional and financial management or related fields and will have a minimum of 15 years of experience in water supply utility management. She/he will conduct necessary analysis and propose a suitable structure for sustainable urban service delivery.

9. **Safeguards Specialist** (3 person-months, individual). The safeguards specialist will possess a Master's or equivalent in environment or social science with minimum 8 years experience in conducting safeguards assessments for infrastructure projects. S/he will assess and prepare the necessary safeguards documents in accordance to ADB's procedures.

2. Outline terms of reference for national consultants

10. **Water Engineer and Deputy Team Leader** (7 person-months). The water and sanitation engineer will possess a degree in civil engineering with a minimum of 10 years experience in the water supply and sanitation sector. Following IWRM principles and guided by WHO-MOWHS water safety plans, she/ he will assist the Infrastructure Specialist in all aspects of planning and design of water infrastructure.

11. **Drainage and Flood Management Engineering Specialist** (4 person-months). The drainage and stormwater engineer will possess a Master's degree or equivalent in civil or environmental engineering with a minimum of 10 years work experience undertaking stormwater investigation, analysis, planning, flood management and design of water sensitive urban infrastructure. Following water sensitive urban design principles, she/ he will assist the Infrastructure Specialist in all aspects relating to the planning and design of stormwater and flood management infrastructure.

12. **Sanitation Specialist** (4 person-months). The sanitation specialist will possess a Master's degree or equivalent in civil or environmental engineering with a minimum of 10 years work experience undertaking investigation, analysis, planning, management and design of small to medium sanitation infrastructure. Following IWRM principles, she/he will assist the Infrastructure Specialist in all aspects relating to planning and design of sanitation infrastructure.

13. **Urban Roads Specialist** (2.5 person-months). The roads specialist will possess a Master's degree or equivalent in civil or environmental engineering with a minimum of 10 years work experience undertaking urban road investigation, analysis, planning, management and design. Following environmental sustainable design principles, she/he will assist the Infrastructure Specialist in all aspects relating to the planning and design of urban roads.

14. **Social Development and Poverty Specialist** (3 person-months). The Social Development Specialist will possess a degree in sociology and/ or community development and have a minimum of 3 years experience in conducting social impact assessments for small to medium sized infrastructure projects. By means of a socioeconomic survey and other tools, and in accordance with ADB's Guidelines for Incorporation of Social Dimensions in ADB Operations, the consultant will assess the project's social impact by undertaking various tasks.

15. **Environmental Specialist** (3 person-months). The Environmental Specialist will possess a degree in environmental management or science and have a minimum of 5 years experience in conducting environmental impact assessments for small to medium sized infrastructure projects. She/he will conduct an environmental assessment of the Project in accordance with ADB's policies and guidelines.

16. **Project Economist** (3 person-months). The Project Economist will undertake economic viability of the analysis of the proposed project. She/he will possess a Master's or equivalent in economics and have a minimum of 10 years experience conducting economic viability assessments.

17. **Financial Management Specialist** (3 person-months). The Financial Specialist will have a degree in accounting and/or financial management and/or a Master in Business Administration and a minimum of 10 years experience conducting institutional financial assessments. She/he will conduct project financial analyses and project financial management assessments in accordance with ADB's requirements.

18. **Procurement Specialist** (3 person-months). The Procurement Specialist will be an engineer with knowledge of ADB Consulting and Procurement Guidelines with a minimum of 5 years experience on recruitment of consultants and procurement of civil works packages. She/he will assist in preparing procurement documents and bid process management.

E. Implementation Arrangements

19. The PPTA will be implemented over 10 months starting in June 2014. The MOWHS will be the TA's executing agency and will appoint a TA Director. It will provide in-kind contributions in the form of counterpart staff, office accommodation, office supplies, logistical support for training and workshops including venue and inviting participants and communication facilities for consultants. The consultants under the PPTA will work directly with the existing project management unit under the ongoing ADB-funded urban projects. The engineering and planning divisions in the *thromdes* will serve as a focal point for the proposed project towns to be covered under the ensuing project.

20. The proposed PPTA processing and implementation schedule is listed in Table A4.4. All disbursements under the TA will be done in accordance with the ADB's *Technical Assistance Disbursement Handbook* (May 2010, as amended).

Table A4.4: Technical Assistance Processing and Implementation Schedule

Major Milestones	Expected Completion Date
Project Reconnaissance/Consultation Mission	Oct 2013
Project concept paper clearance	Dec 2013
Mobilization of consultants	Jun 2014
PPTA inception review	Jul 2014
Draft final report submission	Feb 2015
Final report submission	Mar 2015
Physical completion	Apr 2015
Financial closure	Jul 2015

Source: Asian Development Bank estimates