

## TERMS OF REFERENCE FOR CONSULTANTS

### A. Scope of Services

1. Consultants in the fields of procurement, financial management, financial analysis, economic analysis, road safety, metro, bridge, environment safeguards (including climate change), social development (involuntary resettlement, indigenous peoples, gender and poverty assessment) will be recruited for Asian Development Bank (ADB) projects, generally in the offices of project implementing units, to support project executing agencies implementing ADB-financed projects. The venues of workshops and training will be arranged separately in consultation with executing and implementing agencies.

#### 1. Bridge Expert(s) (International, intermittent)

2. **Objective and purpose of the assignment.** To assist in reviewing the bridge design and construction methodology in feasibility studies and/or DPRs of transport projects in South Asia and provide appropriate analysis in line with ADB's guidelines. DPRs and/or feasibility studies will be provided to the consultant by the project implementing agency.

3. **Scope of work.** The consultant will be reviewing the engineering design for main bridge structures, confirm technical viability and enhance qualification criteria in the draft bid document.

4. **Detailed tasks.** The specific tasks are, but not limited to, the following:

- (i) collect available data and analysis;
- (ii) review the engineering design including general arrangement drawings for various bridge type options including balanced cantilever, steel girder and extradosed;
- (iii) assess and confirm technical viability of the design including the recommended option to ensure optimized engineering and system selection for economy (including life cycle cost) and construction efficiency, in accordance with international design standards;
- (iv) review the preliminary cost estimate and construction duration;
- (v) review and recommend enhancements for technical qualification criteria in the draft bid document in order to ensure optimized technical capacity and experience requirements; and
- (vi) identify project risks, if any, and suggest appropriate management plan or mitigation measures.

5. The consultant will submit progress reports and working papers in each project assigned and as required.

6. **Required qualifications.** The consultant should preferably have a master's degree in civil engineering or equivalent. The consultant must have at least 20 years or more in bridge engineering and adequate experience of working in similar assignments.

#### 2. Climate Change Expert(s) (International, intermittent)

7. **Objective and purpose of the assignment.** To conduct climate risk assessment of projects based on available project documents [e.g. detailed project report (DPRs), local initial environmental examination (IEE), etc.], literature reviews, international best practices, and climate

change projections, and provide advice on mitigation measures such as, but not limited to, design or location improvements/modification.

8. **Scope of work.** To prepare the climate risk and vulnerability assessment for projects by reviewing project design, site assessment, literature review, computation of mitigation costs, greenhouse gas emissions reduction, analysis of available weather and climate information on the project site, etc.

9. **Detailed tasks and/or expected output.** Specifically, the consultant will perform, but not limited, to the following:

- (i) conduct literature reviews to: a) collect data and information on projected climate changes in the project area, b) understand if there are any ongoing climate resilience initiatives being undertaken in the project area, c) understand current practices and lessons learned on climate change adaptation measures in cities around the world, Asia, India, and project states, and d) understand the typical adaptation measures being taken for similar projects within urban settings;
- (ii) collect primary and secondary climate data (rainfall, temperature, highest flood level as necessary for identifying climate risks in the sites of the projects;
- (iii) based on the findings of the literature review and data collected (as stated in tasks 1 and 2 above) identify the key climate risks in the sites and make general recommendations for adaptation and on ongoing best practices in the world, Asia, and India for similar projects;
- (iv) identify key climate risks in the project site and/or alignment and locations of associated structures;
- (v) review project design documents to understand the project scope;
- (vi) based on the type of climate risks identified in the sites, conduct further in-depth studies as necessary such as: hydrological analysis and modelling; statistical analysis, geographic information system-based analysis and consultation with relevant local authorities such as the meteorology center and communities, etc.;
- (vii) in consultation with the design engineers, identify and incorporate climate adaptation measures or design modifications to mitigate the key climate risks identified. Where feasible, identify innovative measures or best practices being applied successfully in similar projects and/or other countries;
- (viii) ensure that the adaptation measures for projects are consistent with other climate resilience measures, if any, that are being taken in the localities;
- (ix) estimate the incremental costs of adaptation measures or design modifications in relation to the total project costs; project greenhouse gas emission reductions where applicable;
- (x) prepare a report on the climate risk assessment and adaptation measures incorporated in the project design;
- (xi) coordinate and discuss the climate risk and vulnerability assessment findings, assessments, and proposed mitigation measures with executing and/or implementing agencies, design teams, and obtain their concurrence before finalizing the report; and
- (xii) assist in improving the capacity of executing and/or implementing agencies on climate risk assessment and mitigation, as necessary.

10. **Minimum qualification requirements.** The consultant should have a master's degree in climate sciences, meteorology, environmental engineering and related fields or relevant discipline. The consultant should have at least 5 years of experience in preparing climate risk assessments and designing adaptation measures in infrastructure projects, preferably within the South Asia

region. Preference will be for the candidate with experience of working on projects financed by international development agencies such as World Bank, ADB, etc.

### **3. Economic Analysis Expert(s) (International, intermittent)**

11. **Objective and purpose of the assignment.** To assist in reviewing the economic analysis in feasibility studies and/or DPRs of transport projects in South Asia and provide appropriate analysis in line with ADB's guidelines. DPRs and/or feasibility studies will be provided to the consultant by the project implementing agency.

12. **Detailed tasks and/or expected output.** Specifically, the consultant will perform, but not limited, to the following:

- (i) critically review traffic and/or passenger data, demand projections and economic analysis of the projects in the feasibility studies and/or DPRs in line with ADB's guidelines for the economic analysis of the projects;
- (ii) make necessary economic analysis in accordance with ADB's guidelines; and
- (iii) summarize the result of the analysis in a report with background information and data;
- (iv) for regional cooperation and integration (RCI) projects, identify and measure of cross-border spillover effects of regional projects and reflect in the economic analysis. This will be required under ADB's new RCI operational strategy and the scorecarding system for RCI projects. Further, it will also be required to be reflected in the RCI project's design and monitoring framework.

13. **Minimum qualification requirements.** The consultant should have a bachelor's degree in civil engineering or its equivalent and at least 8 years of relevant experience in transport sector covering data collection, data processing, feasibility study, engineering design and economic analysis. Preference will be for the candidate with experience of working on projects financed by international development agencies such as World Bank, ADB, etc.

### **4. Financial Analysis Expert(s) (International, intermittent)**

14. **Objective and purpose of the assignment.** To assist in reviewing the financial analysis in feasibility studies and/or DPRs of transport projects in South Asia and provide appropriate analysis in line with ADB's guidelines. DPRs and/or feasibility studies will be provided to the consultant by the project implementing agency.

15. **Scope of work.** The consultant will conduct financial due diligence in accordance with ADB's requirements. Relevant guidance is available at <http://www.adb.org/projects/operations/financial-management-resources>.

16. **Detailed tasks.** The specific tasks are, but not limited to, the following:

- (i) preparing financial projections and conducting financial analyses of the executing and/or implementing agencies, and incremental recurrent costs, to determine financial sustainability, and reviewing proposed cost-recovery and tariff policies, including affordability;
- (ii) conducting financial evaluations (financial cost-benefit analyses) including sensitivity analyses of project components that have a cost-recovery objective; and
- (iii) where significant risks are identified to project financial sustainability or viability, proposing relevant financial performance indicators to be incorporated in financial covenants.

17. The consultant will submit progress reports and working papers in each project assigned and as required.

18. **Required qualifications.** The consultant shall have a master's degree or equivalent in accounting, business, finance or commerce with a professional accounting designation (e.g., CPA, CA or equivalent) and 15 years of experience in financial management including conducting financial management assessment for ADB or the World Bank-financed project.

## 5. Financial Management Expert(s) (International, intermittent)

19. **Objective and purpose of the assignment.** To provide advice on the improvement measures of financial management systems and/or procedures to the executing and/or implementing agencies of the proposed projects for ADB financing, based on thorough analysis of financial management, financial governance and institutional financial analysis of such agencies as required in accordance with ADB guidelines and methodologies.

20. **Scope of work.** To complete financial management and/or financial analysis report in full compliance with ADB guidelines and methodologies by undertaking the financial management and institutional financial analysis of the executing and/or implementing agencies of the proposed projects for ADB financing.

21. **Detailed tasks and/or expected output.** Specifically, the consultant will perform, but not limited, to the following:

- (i) review the financial management assessment related documents available with the executing and/or implementing agencies and ADB. Collect additional information necessary to elaborate the assessment in full compliance with ADB guidelines and methodologies;
- (ii) prepare the financial management assessment report in compliance with applicable ADB's guidelines (Financial Due Diligence: A Methodology Note and Guidelines on the Financial Management and Analysis of Projects). The report should include complete checklists and recommended action plans;
- (iii) discuss his and/or her observations and recommendations including the checklists and action plans to be included in the financial management assessment report with executing and/or implementing agencies and obtain their consensus before finalizing the report;
- (iv) analyze the financial statements of the executing and/or implementing agencies and recommend action plans to improve the financial performance;
- (v) draft the terms of reference of the consultant who will need to support the institutional capacity development in terms of financial management, financial governance and financial performance with estimation of required inputs and cost for the assignment;
- (vi) advise the project processing teams on specific issues which shall be agreed between executing and/or implementing agencies and ADB for the efficient and effective project implementation; and
- (vii) provide any support requested by the project processing teams in conducting due diligence on financial aspects of the proposed projects.

22. **Minimum qualification requirements.** The consultant should have a master's degree in accounting or relevant discipline; a chartered accountant is an advantage. The consultant should have at least 15 years' experience, including in financial due diligence. The consultant should

also have experience in management accounting, specialize in the development and implementation of project management and accounting system. Preference will be for the candidate with experience of working on projects financed by international development agencies such as World Bank, ADB, etc.

## **6. Metro/Rail Expert(s) (International, intermittent)**

23. **Objective and purpose of the assignment.** To assist in reviewing the metro design and alignment in feasibility studies and/or DPRs of transport projects in South Asia and provide appropriate recommendations in line with ADB's guidelines. DPRs and/or feasibility studies will be provided to the consultant by the project implementing agency.

24. **Scope of work.** The consultant will assist in the preparation and due diligence of various proposed metro and/or rail projects.

25. **Detailed tasks.** The specific tasks are, but not limited to, the following:

- (i) contribute to the discussions on the option analysis and recommend from a technical perspective the optimal option;
- (ii) review and consolidate technical due diligence of the project conducted by the implementing agency, including the overall scope, engineering aspects, cost estimate, and other relevant areas;
- (iii) assist in the preparation of procurement design and bidding documents for the ensuing project;
- (iv) assess and recommend the optimal technology and/or method for the rehabilitation of railway lines, considering among others (a) cost effectiveness, (b) quality, (c) disturbance to traffic, and (d) availability of the technology in India;
- (v) the assessment should consider among others track alignment optimization, and ways to minimize or mitigate disruptions to traffic; and
- (vi) prepare financial projections and conducting financial analyses of the executing and/or implementing agencies, and incremental recurrent costs, to determine financial sustainability, and reviewing proposed cost-recovery and tariff policies, including affordability.

26. The consultant will submit progress reports and working papers in each project assigned and as required.

27. **Required qualifications.** The consultant should preferably have a master's degree in engineering, management, or equivalent. The consultant must have at least 10 years' or more in railway engineering (including track and electrification works) and/or metro rail operations. Experience in metro rail operations will be given higher preference.

## **7. Procurement Expert(s) (International, intermittent)**

28. **Objective and purpose of the assignment.** To assist in reviewing the procurement organization set up and bid evaluations of executing agencies.

29. **Scope of work.** The consultant will support Transport and Communications Division project officers in processing and implementing division's projects, covering all subsectors, e.g., roads, land ports, railways and communications. The Consultant will undertake the tasks with the counterpart staff of governments in their activities of procurement (goods, works, and consulting services) and project implementation.

30. **Detailed tasks.** The specific tasks are, but not limited to, the following:
- (i) assessing procurement capacity of executing agency and proposing capacity enhancement measures as necessary;
  - (ii) assisting executing agency in preparing and finalizing documents for consulting services and civil works with high quality; and
  - (iii) providing on-the-job training and advice of ADB procurement regulations and policies as well as FIDIC documents and FIDIC-based contract management.

31. The consultant will submit progress reports and working papers in each project assigned and as required.

32. **Required qualifications.** The consultant shall have a bachelor's degree in civil engineering or related field, with 20 years of relevant professional experience in the areas of transport infrastructure construction, especially road construction. Working experience in India or South Asia Subregional Economic Cooperation countries is an advantage.

#### 8. Road Safety Expert(s) (International, intermittent)

33. **Objective and purpose of the assignment.** To assist in reviewing the road safety audits in feasibility studies and/or DPRs of transport projects in South Asia and provide appropriate analysis in line with ADB's guidelines. DPRs and/or feasibility studies will be provided to the consultant by the project implementing agency.

34. **Scope of work.** The consultant will be conducting road safety audits of detailed design of assigned project roads.

35. **Detailed tasks.** The specific tasks are, but not limited to, the following:
- (i) conduct pre-audit meetings with the implementing agency and consultant team preparing detailed design to obtain and review project information and drawings;
  - (ii) conduct preliminary office safety review of detailed design and all data available; and conducting mandatory field visits to the project roads. All points of connection to the existing road network should be visited both during daytime and nighttime, together with representatives of local field offices of the implementing agency, and other representatives (e.g., police) as appropriate;
  - (iii) conduct office road safety audit analysis and preparing concise road safety audit reports for each of the project roads with the list of road safety issues identified, highway risk for each issue assessed, photos illustrating each safety issue to be addressed, and specific countermeasures proposed to be incorporated into detailed design;
  - (iv) present road safety audit findings and recommendations to the implementing agency and consultant team preparing detailed design; and
  - (v) check revised detailed design to ensure that measures to address road safety issues as endorsed by the implementing agency are incorporated into detailed design and bidding documents.

36. The consultant will submit progress reports and working papers in each project assigned and as required.

37. **Required qualifications.** A senior level engineer with degree in civil engineering, preferably with master's degree related to traffic management and road safety and/or extensive

road safety and road safety audit training. Required to have extensive experience as a road safety auditor, or similar capacity for detailed design of road projects. Experience in road safety engineering for major highway projects, road safety audits at construction and post-construction stages, collision analysis, developing traffic management and/or circulation schemes and roadside hardware placement plans, road safety monitoring and evaluation will be an advantage.

## **9. Environment Expert(s) (National, intermittent)**

38. **Objective and purpose of the assignment.** To assist in reviewing and assessing the environment impacts of projects based on available project documents (e.g. DPRs, Environment Impact Assessment report (EIA) and Initial Environmental Examination (IEE), etc.) and provide advice on managing such impacts and compliance with local and international environmental safeguards standards, policies, and regulations, including that of ADB.

39. **Scope of work.** To complete and/or help complete IEEs or environmental impact assessments (EIAs) depending on project categorization in full compliance with local and international standards, policies, and guidelines, including ADB guidelines and methodologies by undertaking review of project design, site assessment, and review of available information on specific project site/s and similar projects.

40. **Detailed tasks and/or expected output.** Specifically, the consultant will perform, but not limited, to the following:

- (i) conduct screening of environmental impacts for categorization as well as scoping to determine spatial and temporal scope and key issues to be covered in EIAs/IEEs per Government of India and ADB environmental safeguards requirements;
- (ii) gather baseline information or fill information gaps as necessary on the environmental conditions of the project site including collection of physical (air, noise and vibration, surface and ground water, soil), ecological (flora, fauna, protected areas) and socio-economic (physical cultural resources, heritage sites, etc.) environmental components;
- (iii) based on IEE or EIA, develop environmental management plan (EMP) to include concrete mitigation measures specific to the project, identifying specific roles and timelines, quantitative monitoring plan, training plan, and arrangement and requirements for supervision and reporting;
- (iv) work closely with executing and/or implementing agencies, the feasibility studies and design team to incorporate findings and/or suggestions of EIA and/or IEE and/or EMP measures into the design;
- (v) revise/update the EIAs/IEEs/EMPs based on public consultations, ADB review and recommendations and other comments received;
- (vi) as necessary, recommend improvements to the project and/or facility administration manual, prepare environmental assessment and review framework, as the case may be, with particular attention to the institutional arrangements and, reporting and monitoring requirements;
- (vii) draft the terms of reference of the consultant who will need to support the institutional capacity development in terms of environmental safeguards implementation, with estimation of required inputs and cost for the assignment;
- (viii) advise the project processing teams on specific issues which shall be agreed between executing and/or implementing agencies and ADB for the efficient and effective project implementation;

- (ix) provide any support requested by the project processing teams in conducting due diligence of the proposed projects and capacity building for executing and/or implementing agencies; and
- (x) provide capacity building programs on environment safeguards, as necessary.

41. **Minimum qualification requirements.** The consultant should have a master's degree in environmental science, environmental engineering, environmental management, or relevant discipline. The consultant should have at least 10 years of experience in conducting environmental impact assessment and environmental safeguards implementation, preferably within the South Asia region. Preference will be for the candidate with experience of working on projects financed by international development agencies such as World Bank, ADB, etc.

## 10. Gender Specialist(s) (National, intermittent)

42. **Objective and purpose of the assignment.** To conduct the assessment of gender dimensions of the project, including gender analysis, planning and mainstreaming. International good practices in gender issues are expected to be demonstrated in all projects. Preparation of relevant documents is the basic output of the the consultant.

43. **Scope of work.** The consultant will assist in the preparation and due diligence in conducting gender analysis, gender planning and mainstreaming in transport projects.

44. **Detailed tasks.** The specific tasks are, but not limited to, the following:

- (i) conduct a detailed gender analysis guided by ADB's Gender and Transport Tool Kit;<sup>7</sup>
- (ii) assess and identify potential gender-differentiated impacts of assigned projects. This includes but is not limited to women's mobility needs and patterns, personal safety and employment or income-generation opportunities;
- (iii) collect sex-disaggregated baseline data that could be used to monitor potential project gender benefits and impacts;
- (iv) assess and recommend key gender elements in mitigation measures (e.g. resettlement, HIV and trafficking in women);
- (v) identify government agencies, non-government organizations (NGOs) and community-based organizations and women's groups that can be utilized during project preparatory technical assistance and project implementation, assess their capacity and provide capacity building programs, as necessary;
- (vi) conduct focus-group discussion with women and ensure adequate participation of women in public consultation meetings to ensure that their concerns are understood and taken into account into the project design;
- (vii) based on the gender analysis, propose gender enhancement or mainstreaming measures appropriate to the project to be considered by the ADB team to be part of the gender action plan; and
- (viii) provide cost estimates for these implementation measures.

45. The consultant will submit progress reports and working papers in each project assigned and as required.

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<sup>7</sup> ADB. 2013. Gender Toolkit: Transport. Manila <https://www.adb.org/documents/gender-tool-kit-transport-maximizing-benefits-improved-mobility-all>.

46. **Required qualifications.** The consultant shall have a postgraduate university degree in social sciences or related field and demonstrate experience in conducting gender analysis, gender planning and mainstreaming in infrastructure projects.

#### 11. Social Development Expert(s) (National, intermittent)

47. **Objective and purpose of the assignment.** To conduct the assessment of social development dimensions of the project, including involuntary resettlement, indigenous peoples, gender, socioeconomic surveys, poverty and participation. International good practices in social safeguards are expected to be demonstrated in all projects. Preparation of relevant documents is the basic output of the the consultant.

48. **Scope of work.** To prepare the required social safeguards documents such as resettlement plan and/or framework, indigenous peoples plan and/or framework, poverty and social assessment, gender actions, social engagement plan, and project reports relevant to the processing and implementation of the project.

49. **Detailed tasks and/or expected output.** Assist the executing agency in the following tasks required for project processing:

- (i) take part in project preparatory missions and meet with the national government agencies and consultants to follow up on the progress of social safeguard requirements and prepare the social safeguards sections of the aide memoire;
- (ii) support the preparation of involuntary resettlement and indigenous people safeguard documents required for project processing such as: involuntary resettlement and indigenous peoples impact categorization forms, resettlement plans and frameworks, indigenous people plans and frameworks;
- (iii) provide additional technical analysis for the resettlement plans in specific areas, such as affected sensitive assets, vulnerable affected persons and stakeholders' engagement;
- (iv) review and/or comment and support the preparation of the poverty, social and gender analysis;
- (v) identify social mitigation and enhancement measures required in the project and provide cost estimates in consultation with other project team members or counterpart in government executing agencies;
- (vi) prepare the involuntary resettlement, indigenous peoples, poverty, social and gender Analysis, as well as other social impacts sections of the project preparation documentation (report and recommendations to the President, and project and/or facility administration manual) to comply with the ADB's Safeguard Policy Statement 2009;
- (vii) review/comment and support the preparation of the social due diligence/compliance reports before their disclosure on ADB website; and
- (viii) review/prepare the terms of reference for resettlement plan implementing agency and construction supervision consultant.

50. Monitoring social safeguard compliance/performance of on-going projects:

- (i) participate in missions to review the implementation of loan conditions and/or covenants related to social safeguards (i.e. involuntary resettlement, indigenous peoples impact, compliance with Core Labor Standards and mitigation of other social risks) of the ongoing category A and B projects and prepare social safeguard section of the mission aide memoire;

- (ii) provide and recommend resettlement implementation and monitoring tools to the government executing agencies;
- (iii) where necessary conduct independent external monitoring missions particularly for category A projects; conduct of due diligence activities as required under the project;
- (iv) advise the executing agencies on the preparation of social monitoring reports in accordance with ADB's Safeguard Policy Statement and review and comment on them before their disclosure on ADB's website; and
- (v) provide training to the consultants and staff of government executing agencies and other stakeholders involved in project implementation on conducting inventory of losses surveys, public consultations and information dissemination.

51. **Minimum qualification requirements.** Minimum of a master's degree in anthropology, social science, environmental science or related fields. Minimum of 8 years'-experience in preparing social safeguard documents conducting social impact assessments and/or monitoring social safeguard issues in infrastructure projects including projects financed by ADB, the World Bank or other multilateral development institutions. Experience in South Asian countries is preferred.

**12. Other specialist(s) (International, National, intermittent), as needed**

52. **Scope of work.** The consultants will cover aspects such as innovation, high technology, complex contracting, complex safeguards, etc. They would be recruited on a need basis and detailed at a later point in time as per requirements of the assignment. Specific terms of reference will be developed, as necessary, in close coordination with Sustainable Development and Climate Change Department.

**13. Project management specialist (National, intermittent), as needed**

53. **Scope of work.** Assist in recruiting consultants under the facility; liaise with departments within ADB and appropriate counterpart agencies and consultants for activities relating to the projects; assist in the logistics and other arrangements for consultations, meetings, workshops and conferences; assist in the preparation and dissemination of project data and reports; track consulting services engagement under the TA.