

Terms of Reference (TOR)
International Environmental Consultant

**Reconstruction of National Highway N-5 under Pakistan's Resilient Recovery, Rehabilitation
and Reconstruction Framework Project**

September 27, 2024

1. Introduction

The National Highway Authority (NHA) of Pakistan is preparing the "Reconstruction of National Highway N-5 under Pakistan's Resilient Recovery, Rehabilitation and Reconstruction Framework Project" (Project) to be financed by the Asian Infrastructure Investment Bank (AIIB or the Bank) and potentially other co-financiers. To support the Project preparation, the NHA has engaged an engineering and design (E&D) consultant, National Engineering Services Pakistan (Pvt.) Limited (NESPAK), to prepare technical designs and Environmental and Social (E&S) instruments, in compliance with Pakistan's national and local legislations and AIIB's Environmental and Social Framework (ESF).

With the support of the Project Preparation Special Fund (PPSF) provided by AIIB, the NHA intends to engage an International Environmental Consultant and an International Social Development Consultant to enhance the E&S capabilities of the Project Implementation Unit (PIU) of the NHA, guide and supervise the PIU and the NESPAK team in carrying out E&S assessments and studies, review and improve E&S instruments prepared by NESPAK to ensure full compliance with AIIB's ESF, and frequently communicate with AIIB about the progress and quality of the E&S assessments. This TOR is for the International Environmental Consultant (Consultant). A separate TOR is prepared for the International Social Development Consultant.

2. Project Description

The 1,800-kilometer long North-South National Highway-5 (N-5) is the lifeline of Pakistan's economy. It connects the port city of Karachi in the south to the provincial capital of Peshawar in the northwest and extends all the way to the Afghanistan border. It serves most of the country's large urban centers and economic areas. The N-5 carries about 55 percent of the inter-city traffic and 65 percent of the freight and commercial traffic in Pakistan.

Despite its significance and economic importance, the N-5 faces infrastructure deficiencies and other constraints, which reduce the efficiency that a modern road network provides. At the same time, N-5 is extremely vulnerable to climate and climate-related threats as manifested during the 2022 floods. About 100 kilometers of crucial links of the N-5 were severely damaged in these floods, affecting cross-country traffic. In some sections of the N-5, the average daily traffic exceeds 60,000 vehicles, far exceeding the design capacity of the road. The higher-than-design traffic not only deteriorates the pavement quality, but also poses safety risks. As a result, most sections of the road have been assessed below 3 stars (with a 5-star maximum rating of the International Road Assessment Program), posing safety risks to vehicles and occupants.

The Project spans eight (8) sections of the N-5 highway, covering a total of 487 kilometers, as outlined in Table 1. It will be implemented in two phases, also detailed in Table 1. The final selection of sections



for Phase 1 will be determined during Project preparation, and adjustments may be made to refine the start and end points of each section. Phase 1 construction is expected to begin in January 2026 and be completed by June 2030. Phase 2 construction is scheduled to start in April 2026, with completion anticipated by December 2030. The total estimated cost of the Project is approximately USD 800 million.

Table 1: Sections of the N-5 Highway Included in the Project

| No. | Section | Road (Centerline) Length (km) | Preliminary Phasing |
|-------|--------------------------|-------------------------------|---------------------|
| 1 | Okara – Manga | 83 | 2 |
| 2 | Lahore – Gujranwala | 68 | 1 |
| 3 | Kharian – Dina | 41 | 1 |
| 4 | Dina – Rawat | 72 | 2 |
| 5 | Rawalpindi – Hassanabdal | 48 | 1 |
| 6 | Nowshera – Peshawar | 40 | 2 |
| 7 | Hyderabad – Hala | 65 | 1 |
| 8 | Ranipur – Rohri | 70 | 2 |
| Total | | 487 | |

The Project includes the following components, which could be further refined during the Project preparation:

- 1) **Reconstruction of Eight (8) Sections of the N-5 Highway.** This component involves several upgrades, including expanding the existing 4-lane dual carriageway to a 6-lane dual carriageway where necessary, constructing a 7.3-meter-wide service road (or as per the available right of way) in urban areas, and upgrading the road corridor with climate-resilient infrastructure through the addition of cross-drainage structures and other measures. It also includes widening and improving existing bridge structures, rehabilitating deteriorated road sections, and enhancing highway safety through geometric improvements, installation of road safety devices, pedestrian crossings, and dedicated U-turns, etc.
- 2) **Intelligent Transportation System (ITS).** This component involves the development of an ITS system designed to be compatible with the existing ITS used by motorways and scalable to accommodate new roads. The system will focus on enhancing safety and efficiency in transportation operations. It includes the installation of necessary hardware and software, system testing, training of NHS staff and stakeholders on the efficient use of the ITS system, and ongoing hardware and software upgrades.
- 3) **Project Management Support and Institutional Capacity Development.** This component will provide support to the PIU of NHA through the hiring of consultants to strengthen the technical capacity for project management, procurement, monitoring, financial management (FM), and environmental and social activities, along with conducting institutional capacity building activities to enhance climate risk response, transportation operations and management capabilities.
- 4) **Supervision Consultants.** This component will finance the Supervision Consultant(s) (SC) required for this Project.

3. Environmental and Social Instruments Required

Based on the above Project information, a combined approach (a framework approach and site-specific assessments) is recommended for the Project's E&S risk assessments and management.

Comprehensive E&S risk and impact assessment studies will be carried out and these studies are included in the scope of work of NESPAK. Several E&S instruments will be prepared as an outcome of these studies, including, but not limited to:

- (i) Site-specific Environmental and Social Impact Assessment (ESIA) / Environmental and Social Management Plan (ESMP) for the selected sections in both phase 1& 2;
- (ii) Resettlement Action Plan (RAP) / Land Acquisition and Resettlement Plan (LARP);
- (iii) Environmental and Social Management Planning Framework (ESMPF);
- (iv) Resettlement Policy Framework (RPF);
- (v) Labor Management Plan (LMP);
- (vi) Stakeholder Engagement Plan (SEP); and
- (vii) Gender Action Plan (GAP).

4. Objective of the Assignment

The objective of the assignment is to enhance the environmental aspect of the E&S capabilities of the Project Implementation Unit (PIU) of the NHA, guide and supervise the PIU and the NESPAK team in carrying out the environmental aspect of E&S assessments and studies, review and improve the environmental aspect of E&S instruments prepared by NESPAK to ensure full compliance with AIIB's ESF, national and local laws, and frequently communicate with AIIB about the progress and quality of the environmental aspect of E&S assessments.

The Consultant is expected to work closely with the International Social Development Consultant (hired separately) in the enhancement of the E&S assessments. The Consultant is also expected to work closely with the Air Quality Consultant and the Noise Consultant (hired separately) in improving and monitoring air quality and noise.

5. Scope of Services

To achieve the above objective, the Consultant will carry out the tasks including, but not limited to the following:

- 1) Capacity Assessment and Building:
 - Capacity Assessment: Conduct a thorough capacity assessment of the E&S teams of NHA and NESPAK, and develop a capacity development plan.
 - Institutional Capacity Building: Work with the AIIB E&S team to recommend capacity-building measures for NHA and NESPAK. These should help the organization manage and mainstream environmental aspects across all phases of the project—from conceptualization through to operation.
 - On-site Training: Spend substantial time in Pakistan to provide hands-on training and guidance to the E&S teams of NHA and NESPAK during the Project's preparation and implementation.
 - Training Sessions: Organize and conduct training sessions for the PIU and NESPAK on E&S themes, best practices, emerging trends, and tools.
 - Training Materials: Develop customized training materials and resources for these sessions.
 - Develop a Capacity Building Summary Report after all capacity building activities have been completed.
- 2) E&S Enhancements:

- Review available data, baseline studies, and results of scoping sessions and also take into account the legal and administrative framework and national policies in the country and detailed E&S policies/standards of AIBB on natural habitats, environmental assessment, physical and cultural resources, and public disclosure of information.
 - Provide regular guidance on environmental aspects to the NESPAK E&S team on carrying out field studies and assessments in compliance with the national/provincial regulatory as well as AIBB ESP requirements.
 - Carry out field visits on the project area as required and if relevant, prepare brief report(s) highlighting major findings.
 - Assist and guide the PIU and NESPAK E&S teams in addressing all potential environmental, direct and indirect impacts of the project during pre-construction, construction and operation phases in the project area of influence. Participate in the key tasks of the E&S studies particularly E&S screening and scoping, developing the secondary and primary data collection plans, and impact assessment.
 - If necessary, advise and support the NESPAK E&S team on how to collect missing information/data required for a proper assessment of expected impacts, mitigation or compensation measures required under the AIBB's ESP in order to ensure that relevant environmental concerns are addressed at all levels of planning, design, construction and operation of the project. This will include recommendations for necessary actions to analyze alternatives optimizing economic aspects of the project.
 - Provide an independent opinion on approach and adequacy of the assessments to integrate appropriate mitigation measures with related costs in to the detailed design, specifications and project contract documents.
 - Review the consultation and disclosure procedures and provide guidance to the NESPAK E&S team in stakeholder identification and consultations.
 - Assist and guide the NESPAK E&S team in recommending institutional and capacity building measures for NHA to identify, manage, and eventually mainstream environmental aspects of the project activities through the entire project cycle – conceptualization, preparation, implementation and operation.
 - Review various interim reports such as draft ESIA, at different stages of the assignment as requested by NHA and provide independent professional views on the quality and adequacy of the reports and underlying analysis.
 - Working with the International Social Development Consultant, prepare outlines and structures for the ESIA, ESMPF, and LMP to be followed by the NESPAK E&S team.
 - Discuss and prepare final E&S reports, including ESIA, ESMPF, and LMP jointly with the International Social Development Consultant. Address comments received from NHA and AIBB to finalize these instruments.
 - Maintain communication, when necessary, with the AIBB E&S specialists to ensure mutual understanding in terms of quality and expectations.
 - Maintain coordination with the International Social Development Consultant throughout the assignment.
- 3) Air Quality and Noise Monitoring and Modeling
- Provide necessary support to the Air Quality and Noise Consultant(s) (hired separately) in planning and executing air quality improvement and monitoring as well as noise level

monitoring and improvement related activities along the N5 corridor. (Air Quality: Assessing air quality status, pollutant measurement & forecasting, and recommendations & monitoring. Noise level: noise assessment, and mitigation measures & monitoring related recommendations). Must give input on Environmental Modeling & Air quality and to suggest indigenous economical viable solutions.

6. Deliverables

The Consultant's deliverables include the following:

- A Work Plan, including schedule of deliverables
- Drafts and final documents of ESIA, ESMPF, and LMP.
- Capacity Building Plan, capacity building activities (e.g., training sessions, workshops), capacity building materials (e.g., presentations, reports, guidelines), and Capacity Building Summary Report after the completion of all capacity building activities.

| | |
|--|-----|
| | 10% |
| | 40% |
| | 50% |

All documents shall be prepared in English.

7. Reporting and Duration of Assignment

The Consultant will report to the Director Afforestation of NHA and will consult the AIIB Project Team in all official matters before finalizing any report. All reports will be prepared in English. The initial contract will cover a total of sixty (60) working days, either continuous or intermittent, with the possibility of extension if deemed necessary during implementation.

8. Required Qualifications

The Consultant should hold a Master's degree in environmental studies, environmental management, or a related field. They must have at least ten (10) years of relevant experience in environmental impact assessment and mitigation, environmental modeling including a minimum of five (5) years of international experience in transport sector investment projects, particularly road or highway projects in developing countries. Experience with similar assignments, especially Category A projects (those have significant adverse environmental and social impacts that are irreversible, cumulative, diverse or unprecedented, per AIIB ESF) is highly preferred.


The ideal candidate will also have experience working on projects financed by Multilateral Development Banks (MDBs) and be familiar with the AIIB's operational procedures for investment lending, especially its Environmental and Social (E&S) policies.

9. Working Conditions

The Consultant may work remotely per the approval of the Director Afforestation of NHA. When working onsite in Islamabad, the work environment of office space, desk, and transport from office to residence will be provided by NHA. When carrying out field work, NHA should provide local guidance and assistance, but the Consultant should be responsible for his/her own security and safety.

10. Contract and Payments

The Contract shall be time-based, with payments to be made the end of service upon submission of timesheet and approval by the Director Afforestation of NHA. Travel expenses, accommodation, transportation, and per-diems shall be reimbursed as per actual as specified in the contract.

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