



# **Terms of Reference**

## **Consultancy Services**

**Feasibility Study and Detailed Engineering  
Designs for Selected Rural Roads in Fiji**

**Strengthening Climate Resilience of Rural  
Infrastructure Project**

Asian Infrastructure Investment Bank  
Project Preparation Special Fund Grant No. S1065A

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## A. BACKGROUND

Fiji is highly vulnerable to climate risks, requiring substantial financing to meet its climate adaptation needs. Its rural areas are disproportionately vulnerable to climate change impacts as their infrastructure development and climate proofing have been neglected over the last decades. Approximately 80 percent of the 6,250 km of rural roads of Viti Levu and Vanua Levu (the two main islands of Fiji) and unsealed.

In 2024, the Government of Fiji (GOF) requested the Asian Infrastructure Investment Bank (AIIB) to provide technical assistance (TA) to identify the main vulnerabilities of rural roads and prepare an Investment Program to address them. Two key outputs emerged from that TA:

- A **Diagnostic Study**, which confirmed the high vulnerability of the Fijian rural roads to climate change impacts. In particular, 21, 27 and 9 percent of the rural road network was classified as highly or very highly vulnerable to coastal inundation, fluvial flooding/extreme rain, and landslides, respectively. In addition, it was found that 127 rural communities (with a population of 14,449 people) have no connectivity to the road network were identified; and 340 rural communities (with a population of 40,000 residents) experience poor accessibility to basic services. The impact of climate change will exacerbate these vulnerabilities and by 2055, additional sections of rural roads are expected to be highly or very highly vulnerable to coastal inundation (229 km), fluvial flooding (95 km) and landslides (93 km). It was estimated that the disruption caused by these climate hazards has an average annual cost of USD326 million. Severe natural disasters led to higher losses. Tropical Cyclone Winston of 2016 is an example of such an event, having caused losses of about USD1.0 billion, equivalent to about 17 percent of gross domestic product (GPD).
- An **Investment Program**, which was based on the results from a multicriteria assessment using the findings from the Diagnostic Study as inputs and finetuned after consultations with the local communities and the main stakeholders. Ten existing vulnerable corridors were included in such a Program, with three of them (captured in the table below) identified as short-term priority. The proposed interventions for these three corridors include, among others, road sealing and resurfacing, road widening, embankments raising, drainage enhancements, a few bridge replacements/low-pass improvements, and small road segments and bridges construction.

Corridor Name	District	Estimated Cost (M USD)	Length (km)
Wailoa Road	Central	70	83
Wainikoro Road	Northern	29	97
Nadarivatu Road	Western	21	52

Building on the context above, the Ministry of Finance (MOF) of Fiji requested AIIB to support the preparation and implementation of the **Strengthening Climate Resilience of Rural Infrastructure Project (SCRIP)**. SCRIP will be a multi-phase program (MPP) to enhance climate resilience of rural roads and rural water and sanitation systems in Fiji. The MPP envelope is USD100 million, with two phases of USD50 million each (USD25 million to be allocated to rural roads and USD25 million to rural water and sanitation). SCRIP is expected to have the three main components: (i) civil works to support constructing, rehabilitating and climate-proofing selected rural infrastructure in Viti Levu and Vanua Levu (approximately 90 percent of the loan proceeds will be allocated to this component); (ii) implementation support, project management and preparation of Phase 2; and (iii) institutional strengthening, policy review and enhancement and capacity building.

To support the preparation of SCRIP, AIIB provided a grant from its **Project Preparation Special Fund (PPSF)**. The rural roads activities to funded by the PPSF grant will be executed by a Project Management Unit (PMU), established under the Fiji Roads Authority (FRA) and including members from the Ministry of Public Works and Meteorological Services and Transport (MPWMST).

## B. OBJECTIVES

These consultancy services will be focused on the rural road element of SCRIP. In particular, the main objectives are (i) preparing a **feasibility study (FS)** for the three rural road corridors captured in the table above; and (ii) preparing **detailed engineering designs (DEDs)** for one of these three corridors

based on the findings from the FS and consultations conducted with the local communities, MOF, FRA, MPWMST, AIIB and other relevant stakeholders. The studies prepared under the TA constitutes the pre-FS for SCRIP and should be the starting point for FS preparation.

## C. SCOPE OF CONSULTANCY SERVICES

The scope of services is organized into seven key tasks needed to complete the expected deliverables:

### Task 1: Inception Report

This should include a detailed methodology and work program to meet the objectives, outcomes and milestones of this consulting assignment, based on discussions with the PMU and AIIB. The final draft Inception Report and key discussion points (summarized in an electronic presentation) shall be presented in a meeting with the PMU and AIIB and finalized as per feedback received. The report should, at a minimum, contain the following:

- How critical aspects of these terms of reference (TORs) have been interpreted by the consultant.
- Background, aim, objectives, and expected outcomes of these consultancy services (after consultation with the PMU and AIIB).
- Approach and methodology to be adopted.
- Work plan, detail of proposed activities including detailed timeline (including proposed dates of technical-level meetings to present outputs, and stakeholder workshops), milestones, resources, and support.
- Communication plan that provides clear and agreed lines of communication with the PMU and AIIB.
- Specify team members and their assigned tasks clearly, as well as the expected quality control mechanism for all outputs and deliverables of the consulting assignment.
- Expected constraints and risks, and how the consultant proposes to address and mitigate them.

### Task 2: Preparatory Work for the FS for Wailoa Road, Wainikoro Road and Nadarivatu Road Corridors

This is to collect, review and analyze primary and secondary data/information to support FS preparation and includes the following activities:

- **Secondary Data Collection and Literature Review.** Gathering all relevant documents/data relating to the proposed rural road corridors, including existing road inventories, traffic counts, biodiversity/ecological, climate and E&S baseline data, and social and economic activities in the project area. Reviewing relevant documentation, including the TA reports. Summarizing the key findings in a concise note.
- **Reconnaissance Surveys.** Conducting reconnaissance surveys of the existing alignment including a quick road inventory, condition and geometry survey for the three rural road corridors. The consultant will use available open-source remote sensing imagery.
- **Surveys and Investigations.** Conducting preliminary and detailed surveys required to prepare DEDs for the three corridors, including the following:
  - ✓ **Geological and Geotechnical Surveys.** Conducting a detailed examination of the area for the three corridors to identify soil types, rock formations, groundwater conditions, and any potential geohazard. Collecting soil samples and analyzing them at the laboratory to determine their key properties such as bearing capacity, compaction, moisture content, and suitability for road construction. Preparing a geological mapping showing the distribution of different geological units, faults, and other relevant features. Evaluating slope stability on the selected corridors to identify risks of landslides or erosion and recommending mitigation measures, when relevant. Investigating groundwater levels and flow patterns to assess their impact on road design and construction. Providing guidance on suitable foundation types and construction methods based on survey findings. Identifying sources and suitability of construction materials such as aggregates, soil, and water.
  - ✓ **Topographical Survey.** This should show horizontal and vertical alignment of the proposed rural roads including strip plans at 1:5,000 scale and longitudinal sections and cross-sections at 50-meter intervals. Strip plans must capture existing right-of-way, trees,

topographical features, properties, way- side facilities.

- ✓ **Hydrological Investigation.** Collecting information about the catchment areas, rainfall, rivers/streams/channels/ponds/other water bodies close to project areas, design discharge, linear waterway, scour depth for all cross drainage works and bridges. Examining scouring, erosion, drainages, and flood characteristics along the three road corridors and providing recommendations to mitigate their risks. Ensuring that the survey covers all aspects related to design, environmental and hydrological matters. Simulating water movements to design appropriate drainage infrastructure.
  - ✓ **Traffic Survey.** Collecting primary data through traffic counts to measure the number and type of vehicles using the three selected corridors at different times and locations (minimum two locations per corridor). Analyzing the travel patterns with origin-destination surveys to understand where trips begin and end and the purpose of travel. Assessing vehicle speeds. Identifying the gender transport patterns of different groups, including vulnerable households and identifying potential impacts on women and men, including vulnerable households in relation to their differing transport needs and priorities. Broader forecasting and axle load survey information should be also included.
  - ✓ **Road Safety Survey.** During the reconnaissance surveys, assessing traffic signage, markings, roadside features and hazards and road safety furniture. Collecting and analyzing available statistics and historical data on road accidents and incidents. Conducting interviews with rural communities and road users across the three corridors.
  - ✓ **Biodiversity/Ecological Surveys.** Creating a comprehensive species list for each corridor by identifying the presence of any threatened or endangered species, mapping important (critical, natural, modified) habitats, and providing a baseline for monitoring changes in biodiversity over time. The ecological survey will build upon the data from biophysical (geological, topographic and hydrological) and biodiversity surveys to understand the interactions between organisms and their environment, and how the ecosystem functions as a whole. The integration of these surveys is essential in doing the E&S risk management and impact assessment.
  - ✓ **Gender Equality and Social Inclusion (GESI) Surveys.** Collecting sex-disaggregated and social group-disaggregated data on demographics, livelihoods, income levels, education, health, decision-making roles, mobility patterns and other social indicators along the three selected corridors. Mapping land ownership across the corridors.
- **Preparing the FS Preparatory Work Report.** Preparing a concise report with a summary of the activities described under Task 2 and including the survey reports as annexes.

### Task 3: FS for Wailoa Road, Wainikoro Road and Nadarivatu Road Corridors

This will be based on the findings of Task 2 and will include the following activities:

- **Preparing a Road Condition Assessment.** Based on the road inventory and condition data providing a detailed assessment of the existing road conditions for the three selected rural road corridors, including maps.
- **Preparing Conceptual Designs and Cost Estimates.** Validating the road alignment for the proposed road corridors and the interventions proposed in the pre-FS for the three rural road corridors. Providing recommendations to update the proposed interventions based on the FS findings. Developing preliminary drawings and layouts, including road cross-sections, profiles, and key structures (bridges, culverts, drainage). Preparing initial capital cost estimates and annual operation and maintenance cost based on market unit rates and cost databases of recently completed projects in Fiji and the Pacific, including similar projects funded by multilateral/bilateral agencies. This should include:
- ✓ Making a fair and reasonable estimate of the construction costs, incorporating a unit price analysis of each major item using basic cost elements.
  - ✓ Breaking costs down into foreign and local currency components, excluding taxation costs which are to be shown separately.
  - ✓ Making cost comparisons, both in terms of unit rates and per kilometer, with similar ongoing projects in Fiji and the Pacific region.

- **Conducting E&S Impact and Risk Assessment and Categorization.** Studying the three selected road corridors, alternative alignments, and proposed rehabilitation and construction measures to determine the potential (i) environmental risks and impacts (e.g., community health and safety, and impacts to priority biodiversity values) and (ii) social risks and impacts (e.g., land acquisition, impacts on local communities especially on vulnerable groups, impacts on cultural heritage, social exclusion). The risks and impacts identification process should apply a mitigation hierarchy, focusing on measures to prevent these from occurring in the first place, as opposed to minimization, mitigation, or compensation. Given that this may not be always possible, mitigation measures should be drawn from options that are technically and financially feasible.
- **Conducting Stakeholder Engagement and Consultations.** Holding discussions and consultative meetings with all the relevant stakeholders following the actions below:
  - ✓ Undertaking stakeholder mapping at corridor and national levels and preparing a Stakeholder Engagement Plan (SEP). This should include, among others, MOF, MPWMST, FRA, the Ministry of iTaukei Affairs, the Ministry of Rural, Maritime Development and Disaster Management, the Ministry of Environment and Climate Change, the Ministry of Agriculture and Waterways, local authorities, private sector, civil society organizations (CSOs) and other development partners (DPs). Planned and potential developments in the vicinity of the three corridors should be also reviewed to identify additional stakeholders.
  - ✓ Conducting meaningful public consultations with the identified stakeholders to inform them of the proposed design and get their feedback on the project's potential E&S risks and impacts during construction and operation and the proposed mitigation measures. Consultations must be diverse, with marginalized groups duly represented along the three selected corridors. A minimum of two consultations for the local authorities and communities living along each of the selected corridors in a venue close to the corridor should be conducted (the consultant is expected to facilitate the participation of local communities by covering reasonable costs for transport and meals, as needed).
  - ✓ Maintaining a full record of all the consultation meetings, summarizing key issues identified and preparing concise minutes, including pictures and the list of participants.
- **Preparing E&S Safeguard Instruments.** Based on the results from the above E&S impact and risk assessment and categorization, preparing appropriate E&S instruments, aligned with the AIB Environmental and Social Policy (ESP). This will likely include an Environmental and Social Impact Assessment (ESIA) or other E&S assessment report that includes an Environmental and Social Management Plan (ESMP). ESMP may include: (i) mitigation measures; (ii) E&S monitoring and reporting requirements; (iii) related institutional or organizational arrangements; (iv) provisions for information disclosure and consultation during project preparation and implementation; (v) provisions for the project's grievance redress mechanism (GRM), as well as a description of the Project-affected People's Mechanism (PPM) and how they can be accessed; (vi) community health and safety measures applicable to the project; (vii) capacity-development and training measures, including engagement of any E&S experts required for this purpose (the consultant should assist in the delivery of on-the-job training on the E&S safeguard requirements and procedures); (viii) implementation schedule and cost estimates, including E&S mitigation and monitoring costs, which are integrated into the project's overall schedule and budget; (ix) performance indicators; (x) Land Acquisition and Resettlement Plan (LARP)/Land Acquisition Plan (LAP)/ Resettlement Plan (RP) and an Indigenous Peoples Plan (IPP), if required; and (xi) Labor Management Procedures (LMP). These elements may be presented as one or more separate plans.
- **Preparing Road Safety Assessment.** Based on the road safety survey conducted under Task 2, performing road infrastructure safety risk analysis following the International Road Assessment Program (iRAP) methodology. Identifying patterns leading the accidents and high-risk locations. Proposing measures to address the identified risks, emphasizing improvement of sharp and blind curves, poorly designed junctions, unsuitable alignments, narrow bridges/roads, inadequate road signs, and traffic calming measures in built-up areas.
- **Preparing a GESI Assessment and Strategy.** Assessing the GESI context across the three selected rural road corridors, including social, economic and cultural factors relevant to marginalized groups such as women, girls, persons with disabilities (PWDs), ethnic minorities, and the poor. Identifying barriers and opportunities for vulnerable groups to benefit from enhanced rural roads along the selected corridors. Designing a GESI Strategy to address the identified barriers, including concrete actions, estimated resources needed (financial and

human), responsible party, and monitoring and evaluation mechanisms (e.g., GESI indicator(s) can be included in the Results Monitoring Framework {RMF} of SCRIP).

- **Conducting Climate Risk and Vulnerability Assessment.** Preparing a detailed climate risk and vulnerability assessment for each of the selected corridors based on the TA (including exposure, sensitivity and vulnerability maps for each climate hazard). Validating and proposing revisions, if needed, for the adaptation measures proposed under the TA. Considering the adaptation measures when preparing the preliminary and detailed designs. Assessing the consistency of SCRIP with the relevant policies on climate resilience in Fiji.
- **Exploring the Use of Nature-based Solutions (NBS).** Based on the hydrological investigation and modeling completed in Task 2, comparing the cost and implications of restoring natural drainage patterns instead of rehabilitating/constructing grey drainage infrastructure, when possible. This could include the potential use of existing/rehabilitated wetlands as buffers for excess floodwater across Wainikoro Road. Hybrid (green, grey) approaches should be also considered. The use of bioengineering techniques (e.g., planting deep-rooted vegetation for slope stabilization and reforestation along the corridors to better manage stormwater runoff) should be also studied.
- **Undertaking an Economic Analysis.**
  - ✓ Identifying and quantifying the project's beneficiaries (number of people) disaggregated by gender and conducting a broad assessment of the expected social economic impacts of the proposed interventions.
  - ✓ Identifying and quantifying the benefits to be generated by the project, including, among others, vehicle operating costs savings, travel time savings, accident cost reduction, and greenhouse gas emissions reduction.
  - ✓ Calculate the economic costs of the project, including capital expenditure and operation and maintenance (O&M).
  - ✓ Calculating the average annual daily traffic (AADT) based on the traffic surveys carried out under Task 2 and conducting a 30-year traffic forecast following the 4-step method using EMME or a similar modeling tool.
  - ✓ Conducting a cost benefit analysis using HDM-4 or a similar software to compare the outcomes of the "with-project" and "without-project" scenarios, measuring costs and benefits over a 30-year evaluation horizon. The economic internal rate of return (EIRR) and net present value (NPV) should be calculated, and a sensitivity analysis should be conducted.
- **Conducting a Multi-criteria Assessment (MCA) to Prioritize the Studied Corridors.** The MCA methodology prepared for the pre-FS should be reviewed and finetuned, as needed. Based on the MCA results, the three corridors should be ranked and the interventions to be accommodated under each MPP's phase proposed.
- **Conducting a Workshop.** Preparing and facilitating a 1-day workshop in Fiji, in the presence of relevant stakeholders (a minimum of 30 participants including, among others, GOF's agencies, private companies, and DPs), to present, discuss, and validate the ranked interventions and key findings and recommendations from the studies prepared under Task 3, with the objective to gather feedback.
- **Preparing the FS Report.** Finalizing the FS Report capturing all the previous studies and taking into consideration the feedback gathered during the workshop and consultations (MCA will be adjusted, as needed). The results from the FS, including MCA, must be approved by FRA and AIIB before starting subsequent tasks.

#### Task 4. Phase 1 Appraisal

Preparing a set of documents needed to appraise and implement Phase 1 of the MPP.

- **GESI Assessment and Strategy, Climate Risk and Vulnerability Assessment, E&S Safeguard Instruments, Economic Analysis for Phase 1.** Based on the results of the MCA and the selected interventions to be funded under Phase 1, adjust all these documents to be only focused on Phase 1.

- **Project Implementation Documents.** Based on the FS results, producing the following documents:
  - ✓ Project Delivery Strategy (PDS) that relates to the procurement of works, goods and any further consulting services.
  - ✓ Procurement Plan (PP) highlighting all the procurement activities.
  - ✓ Financial Management Plan (FMP) assuring that the proceeds of the financing of the project will be used for the purposes for which they are granted.
  - ✓ Operation and Maintenance (O&M) Manual informing on operational protocols, maintenance strategies, financial models, E&S instruments and stakeholder responsibilities. A clear articulation of agencies' mandates, their interoperability mechanism, the source and utilization of funds, and maintenance strategies should be included.
  - ✓ Project Implementation Manual (PIM) outlining the essential operational and procedural steps for the effective implementation of the project. This should include the responsibilities of implementing agencies, and procedures for monitoring and evaluation.
- **Results Monitoring Framework (RMF).** Designing a detailed RMF to achieve the project's objective.
  - ✓ Developing a theory of change capturing the project's expected impacts, outcomes and outputs and the links between them.
  - ✓ Proposing indicators to monitor the progress towards the achievement of each suggested impact, outcome and output, along with a strategy for their monitoring and evaluation. A baseline value and final target should be provided for each indicator. A minimum of one indicator should be focused on GESI and another one on climate aspects.
- **Identifying Institutional, Policy and Capacity Gaps.** Reviewing the existing institutional and regulatory framework and assessing the capacity of the key ministries engaged in delivering climate resilient rural infrastructure. Proposing activities for institutional and policy strengthening and capacity building that could be included under SCRIP.
- **Preparing Phase 1 Appraisal Report.** Preparing a report including all documents requested under Task 4 and considering the feedback from GOF and the Bank.

## Task 5. Draft DEDs for One Selected Rural Road Corridor

Preparing a draft DEDs for one rural road corridor selected in Task 4 considering the MCA results and the feedback received from the stakeholders identified. DEDs should be prepared based on the key findings from the previous tasks and following prevailing practices, manuals and codes that have been developed for use in Fiji as well as incorporating best global practices and lessons learned. This task will include the following activities, among others:

- **Conducting Further Field Visits and Surveys.** They should complement those carried out under Task 2 to have sufficient information to prepare DEDs for the selected corridor.
- **Updating and Expanding Road Safety, GESI, Climate Risk and Vulnerability and NBS Assessments.** They should be focused on the selected corridor and more detailed than those prepared for the FS.
- **Preparing Detailed Drawings, Cost Estimates and Bill of Quantities (BOQs).** The following aspects should be considered:
  - ✓ Pavements. Estimating design traffic for a 25-year design life and working out the most cost-effective pavement thickness and composition by making the best use of the existing pavement layers, local, marginal materials, and industrial by-products (as appropriate). Making special provisions for flood-affected sections and built-up village areas.
  - ✓ Horizontal and vertical alignment. Designing the road to have adequate lane width and geometry including horizontal and vertical alignment meeting the prescribed standards. The design standards must emphasize road safety and optimal use of existing roadways and other facilities - minimizing the requirement for land acquisition and will be shown in the layout plan for each intervention.



- ✓ Bridges, culverts and other structures. Designing of all the bridges/culverts/structures based on sound hydrological, foundation, and topographical investigations with emphasizing on making best use of existing structures through suitable improvements, when possible. Wherever required, designing new bridges/culverts/structures to replace existing damaged/deteriorated infrastructure and/or provide connectivity to isolated communities.
- ✓ Drainage. Ensure adequate drainage through suitable provisions for embankments, side-drains, balancing culverts and drainage layers in pavement.
- ✓ Way-side facilities. Covering bus stops, parking places, and small rest areas for road users.
- ✓ Road safety, climate resilience, NBS and GESI. Integrating the above-identified road safety, climate adaptation, NBS and GESI measures into the DEDs. Identifying potential options for green and low-carbon designs (e.g., using recycled and sustainable materials and opportunities to reduce embodied carbon and operational emissions from rural road infrastructure).
- **Conducting Further Consultations and Updating and Expanding the E&S Instruments.** More detailed consultations should be conducted with the local communities living along the selected corridor to present the draft DEDs and gather their feedback. A minimum of two consultations should be conducted following the approach described in Task 3.
- **Updating the Economic Assessment** for the Selected Corridor. Taking into account the draft DEDs, EIRR and NPV should be recalculated, and the sensitivity analysis revised accordingly.
- **Preparing the Draft DEDs Report.** Drafting a Draft DEDs Report capturing all the previous activities.
- **Conducting a Workshop.** Preparing and facilitating a 1-day workshop in Fiji, in the presence of relevant stakeholders (a minimum of 30 participants including, among others, GOF's agencies, private companies, and DPs), to present the draft DEDs for the selected corridor with the objective to gather feedback.

#### Task 6. Final DEDs for One Selected Rural Road Corridor

Finalizing DEDs considering the feedback received during the consultations and workshop. This task will include the following activities, among others:

- **Finalizing the Detailed Drawings, Cost Estimates and BOQs.**
- **Finalizing the E&S Instruments.**
- **Finalizing the Road Safety, GESI, Climate Risk and Vulnerability and NBS Assessments.**
- **Finalizing the Economic Assessment.**
- **Updating and Finalizing PDS, PP, FMP, O&M Manual, PIM, and RMF.**
- **Preparing the Final DEDs Report.** Drafting a Final DEDs Report capturing all the previous activities.

#### Task 7: Procurement Assistance

Assisting the PMU to procure the activities to be funded under Phase 1 of SCRIP. Procurement should be aligned with AIIB's [Procurement Policy](#). This includes the following activities:

- **Preparing a Complete Set of Bidding Documents.** They should cover all the activities to be included under SCRIP's Phase 1. All the above assessments should be taken into consideration when preparing the bidding documents, including E&S safeguards.
- **Supporting the PMU to Conduct Advanced Procurement.** This should be done for the civil works contract and the project management and construction supervision support. The consultant will prepare needed documentation and assist the PMU during the procurement process, including preparing bid evaluation reports.

### C.1 Implementation Period, Deliverables and Payment Schedule

The implementation period is 15 months from the contract's signing day. The deliverables are described in their respective tasks in Section C2. The consultant should provide a minimum of three weeks to FRA and AIIB for the review of the deliverable produced under each task. This must be considered when preparing the detailed implementation schedule.

The timeline and payment schedule are captured below:

Task Number	Deliverable Name	Timeline (months from contract signature)	Payment Schedule (%)
1	Inception Report	1	10
2	FS Preparatory Work Report	3	15
3	FS Report	7	15
4	Phase 1 Appraisal Report	9	15
5	Draft DEDs Report	12	20
6	Final DEDs Report	14	15
7	Bidding Documents for Phase 1	15	10

The expected expenses (e.g., per diem, airfares, accommodation, vehicle rental, workshops) should be captured separately and included in the Financial Proposal. In addition, it should be an allocation to provisional sums to cover survey costs. The consultant shall provide a short technical explanation of the proposed surveys and cost estimate to be approved by PMU and AIIB before using any of the provisional sums.

## C.2 Required Level of Expertise

The consultant is expected to:

- be a firm or a consortium of them with appropriate and sufficient capabilities, resources, and experience to execute the full extent of the scope of services to a very high quality;
- have demonstrated experience in preparing FS for rural roads (minimum 3 similar completed projects in the last 15 years);
- have demonstrated experience in preparing DEDs for rural roads (minimum 3 similar completed projects in the last 15 years);
- have experience in climate-resilient infrastructure;
- have experience with multilateral development bank (MDB)-funded projects (AIIB/World Bank /Asian Development Bank preferred);
- mobilize a good mix of relevant international and national expertise - international consultants are encouraged to team up with local Fijian consulting firms to enhance the team's qualifications and expertise; and
- formulate a dedicated project team with the relevant qualifications, work experience, communication skills, and project management skills.

To prepare all the above-described outputs, it is estimated a consultant input of 110 man-month with 7 key experts and 13 non-key experts as described below. The following requirements are a broad description of the likely expertise needed for this consultancy assignment. The consultant may propose additional experts as may be needed to implement the activities listed in this TORs. The consultant may mobilize supporting experts and administrative staff, including professional graphic designers and editors, as necessary to execute the scope of services. The consultant is encouraged to engage diverse team compositions, including a mixture of genders.

Key Staff		
Nos.	Key Staff	Qualifications Requirement
1	Team Leader/Senior Road Specialist	<ul style="list-style-type: none"> <li>• Advanced university degree (master's degree or equivalent preferred) in a relevant discipline such as Civil Engineering/Transport Planning or related areas.</li> <li>• Minimum 15 years of overall global experience in the transport sector.</li> </ul>

		<ul style="list-style-type: none"> <li>• Experience in the preparation and implementation of rural roads, including FS and DEDs preparation/supervision (in at least 4 rural road projects).</li> <li>• Excellent project management capability, including managing multicultural teams of national and international experts.</li> <li>• Proven team leadership, including ability to lead the team by coaching and mentoring team members to achieve individual inputs.</li> <li>• Proven experience in dealing with governmental entities and DPs (especially related to the transport and water/sanitation development sectors).</li> <li>• Experience with projects funded by DPs, with good knowledge of operational procedures and compliances.</li> <li>• Meaningful global working experience, including in several countries/regions is mandatory.</li> <li>• Experience in Pacific Island Countries (PICs) and/or other Small Island Developing States (SIDS) is desirable.</li> <li>• Excellent communication skills (minimum requirement is English), presentation skills, and an ability to prepare and manage the development of high-quality reports, project documentation, and communications materials.</li> <li>• The ability to behave in a professional, client-focused, and service-oriented manner.</li> </ul>
2	Deputy Team Leader/Senior Climate Specialist	<ul style="list-style-type: none"> <li>• Advanced university degree (master's degree or equivalent preferred) in a relevant discipline such Biology, Chemistry, Geology, Environmental, Civil, Disaster Risk Management or Chemical Engineering or related areas.</li> <li>• Minimum 10 years of global experience conducting climate risk and vulnerability assessment of infrastructure projects to identify material physical climate risks, and assessing the sensitivity, exposure, and overall vulnerability to relevant climate-related hazards.</li> <li>• Relevant experience in mainstreaming climate mitigation and adaptation measures into infrastructure projects (at least 4 projects, with 2 projects focused on rural areas) to address climate change impacts.</li> <li>• Excellent project management capability, including managing multicultural teams of national and international experts.</li> <li>• Experience with projects funded by DPs.</li> <li>• Meaningful global working experience, including in several countries/regions is mandatory.</li> <li>• Experience of working in PICs/SIDS and in Fiji is desirable.</li> <li>• Excellent communication skills (minimum requirement is English).</li> </ul>
3	Climate Resilient Road Design Engineer	<ul style="list-style-type: none"> <li>• Graduate in Civil/Transport Engineering or equivalent.</li> <li>• Minimum 8 years of overall experience, with a minimum of 5 years in the design of rural road projects, including in preparing climate-smart rural road conceptual and detailed designs.</li> <li>• Familiarity with Fiji Road Authority (FRA) standards for climate adaptation in road infrastructure.</li> <li>• Proficiency in using relevant engineering software for hydrological and structural analysis.</li> <li>• Experience of working in rural road projects in Fiji (at least 4 projects) is mandatory.</li> <li>• Experience working in multidisciplinary teams and engaging with local stakeholders.</li> <li>• Excellent communication skills (minimum requirement is English). Knowledge of Fijian language is desirable.</li> </ul>
4	Climate Resilient	<ul style="list-style-type: none"> <li>• Graduate in Civil/Transport Engineering or equivalent.</li> <li>• Minimum 8 years of overall experience, with a minimum of 5 years</li> </ul>

	Road Design Engineer	<p>in the design of rural road projects, including in preparing climate-smart rural road conceptual and detailed designs.</p> <ul style="list-style-type: none"> <li>• Familiarity with international standards for climate adaptation in road infrastructure.</li> <li>• Proficiency in using relevant engineering software for hydrological and structural analysis.</li> <li>• Meaningful global working experience, including in several countries/regions is mandatory.</li> <li>• Experience of working in PICs/SIDS is desirable.</li> <li>• Experience working in multidisciplinary teams and engaging with local stakeholders.</li> <li>• Excellent communication skills (minimum requirement is English).</li> </ul>
5	Hydrologist	<ul style="list-style-type: none"> <li>• Graduate in hydrology, water resources engineering, or a related field.</li> <li>• Minimum 5 years of experience in hydrological modeling, flood risk assessment, and climate change impact analysis, particularly in tropical and island environments.</li> <li>• Ability to assess and design drainage systems, culverts, and flood mitigation measures for rural roads.</li> <li>• Proficiency in using hydrological and hydraulic modeling software (e.g., HEC-HMS, HEC-RAS).</li> <li>• Experience in assessing the rehabilitation of natural drainage patterns and other NBS for drainage along roads is desirable.</li> <li>• Experience working in multidisciplinary teams and engaging with local stakeholders.</li> <li>• Understanding of international best practices for climate adaptation in infrastructure projects.</li> <li>• Familiarity with Fiji's local hydrological conditions, rainfall patterns, and watershed management practices is desirable.</li> <li>• Experience of working in PICs/SIDS is desirable.</li> <li>• Excellent communication skills (minimum requirement is English).</li> </ul>
6	E&S Coordinator	<ul style="list-style-type: none"> <li>• Advanced university degree (master's degree or equivalent preferred) in Environmental Science, Social Sciences, Environmental Engineering, or a related field.</li> <li>• Proven track record in working on projects covering a broad range of environmental, resettlement and social development issues.</li> <li>• Minimum 10 years of global experience in conducting E&amp;S impact and risk assessment and preparing and implementing E&amp;S instruments for infrastructure projects funded by multilateral development banks (MDBs) or DPs (minimum 5 projects).</li> <li>• Familiarity with MDB's ESPs and Environmental and Social Frameworks (ESFs) and international best practices for E&amp;S risk management.</li> <li>• Experience in climate adaptation, biodiversity conservation, GESI and community consultation related to rural infrastructure.</li> <li>• Ability to coordinate multidisciplinary teams and liaise with government agencies, local communities, and development partners.</li> <li>• Experience of working in PICs/SIDS and in Fiji is desirable.</li> <li>• Excellent communication skills (minimum requirement is English).</li> </ul>
7	Biodiversity Specialist	<ul style="list-style-type: none"> <li>• Advanced university degree (master's degree or equivalent preferred) in Environmental Sciences, Biology, Ecology or other relevant field.</li> <li>• Minimum 8 years of experience in working in natural habitats/flora-fauna species/forest conservation projects in the Pacific and/or Southeast Asia, including a minimum of 2 infrastructure projects funded by MDBs/DPs.</li> </ul>

		<ul style="list-style-type: none"> <li>• Proven experience in biodiversity assessment, environmental impact analysis, and mitigation planning, preferably in infrastructure or road projects.</li> <li>• Significant experience in the identification and application of effective priority biodiversity safeguards for relevant interventions with potential adverse risk and impacts to priority biodiversity values.</li> <li>• Familiarity with MDB's ESFs and the best international practices on the aspect of biodiversity consideration in the assessment of environmental risks and impacts of projects.</li> <li>• Experience in mainstreaming NBS into infrastructure projects.</li> <li>• Experience working in multidisciplinary teams and engaging with local stakeholders.</li> <li>• Experience of working in PICs/SIDS and in Fiji is desirable.</li> <li>• Excellent communication skills (minimum requirement is English).</li> </ul>
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To ensure achieving the objective of this assignment, frequent interactions with Fijian key stakeholders and field visits and surveys are needed. Hence, part or all the key staff should be in Fiji during the implementation period.

Non-Key Staff		
Nos.	Non-Key Staff	Qualifications Requirement
1	Transport Economist	<ul style="list-style-type: none"> <li>• Bachelor's degree in Economics, Transport/Civil Engineering, or other relevant field.</li> <li>• Minimum 5 years of experience in conducting economic assessments for transport projects, including in the road sector.</li> <li>• Proficiency in using EMME or a similar modeling tool for traffic forecasting and HDM-4 or a similar software for cost-benefit analysis.</li> <li>• Experience in preparing at least 4 economic assessments for transport projects funded by MDBs/DPs or similar agencies.</li> <li>• Experience working in multidisciplinary teams and engaging with local stakeholders.</li> <li>• Excellent communication skills (minimum requirement is English).</li> </ul>
2	Structural Engineer	<ul style="list-style-type: none"> <li>• Bachelor's degree in Civil/Structural Engineering, or a similar field.</li> <li>• Minimum of 5 years of experience in structural analysis for road design including cross drainage structures.</li> <li>• Significant experience in the preparation of conceptual and detailed designs to strengthen/replace existing structures (minimum 4 projects).</li> <li>• Experience working in multidisciplinary teams and engaging with local stakeholders.</li> <li>• Excellent communication skills (minimum requirement is English).</li> </ul>
3	Materials Engineer	<ul style="list-style-type: none"> <li>• Bachelor's degree in Civil/Road Engineering, or a similar field.</li> <li>• Minimum of 5 years of experience in materials and processes involved for the rural road rehabilitation.</li> <li>• Experience and knowledge of local and international standards for construction and rehabilitation of roads, including rural roads.</li> <li>• Significant experience in the preparation of conceptual and detailed designs for road projects (minimum 4 projects).</li> <li>• Experience working in multidisciplinary teams and engaging with local stakeholders.</li> <li>• Excellent communication skills (minimum requirement is English).</li> </ul>
4	Environmental Safeguards Specialist	<ul style="list-style-type: none"> <li>• Master's degree in Environmental Engineering/Science, Natural Resources or other relevant fields.</li> <li>• Minimum of 8 years of experience in conducting environmental impact and risk assessments (including health and safety) and</li> </ul>

		<p>preparing and implementing environmental instruments for infrastructure projects funded by multilateral development banks (MDBs) or DPs (minimum 4 projects).</p> <ul style="list-style-type: none"> <li>• Familiarity with MDB's ESPs and ESFs and international best practices for E&amp;S risk management.</li> <li>• Experience in climate adaptation, biodiversity conservation, and community consultation related to rural infrastructure.</li> <li>• Experience in delivering on-the-job training on the environmental safeguard requirements and procedures.</li> <li>• Experience of working in PICs/SIDS and in Fiji is desirable.</li> <li>• Experience working in multidisciplinary teams and engaging with local stakeholders.</li> <li>• Excellent communication skills (minimum requirement is English).</li> </ul>
5	Social and GESI Specialist	<ul style="list-style-type: none"> <li>• Master's degree in Sociology, Social Science or other relevant fields.</li> <li>• Minimum of 8 years of experience in conducting social impact and risk assessment (including GESI aspects) and preparing and implementing social instruments for infrastructure projects funded by multilateral development banks (MDBs) or DPs (minimum 4 projects).</li> <li>• Proven track record in working on projects covering a broad range of resettlement and social development issues.</li> <li>• Familiarity with MDB's ESPs and ESFs and international best practices for E&amp;S risk management.</li> <li>• Experience in GESI aspects, GRM management and community consultation (including with ethnic minorities) related to rural infrastructure.</li> <li>• Experience in delivering on-the-job training on the environmental safeguard requirements and procedures.</li> <li>• Experience of working in PICs/SIDS and in Fiji is desirable.</li> <li>• Experience working in multidisciplinary teams and engaging with local stakeholders.</li> <li>• Excellent communication skills (minimum requirement is English).</li> </ul>
6	Climate Specialist	<ul style="list-style-type: none"> <li>• Bachelor's degree in science or engineering discipline (e.g., Biology, Chemistry, Geology, Environmental, Civil, Disaster Risk Management or Chemical Engineering).</li> <li>• Minimum 8 years of global experience conducting climate risk and vulnerability assessment of infrastructure projects.</li> <li>• Relevant experience in mainstreaming climate mitigation and adaptation measures into infrastructure projects (at least 4 projects, with 2 projects focused on rural areas).</li> <li>• Experience with projects funded by DPs.</li> <li>• Experience of working in PICs/SIDS and in Fiji is desirable.</li> <li>• Experience working in multidisciplinary teams and engaging with local stakeholders.</li> <li>• Excellent communication skills (minimum requirement is English).</li> </ul>
7	Road Safety Specialist	<ul style="list-style-type: none"> <li>• Bachelor's degree in a relevant discipline such as Civil/Transport Engineering or related areas.</li> <li>• Minimum 5 years of experience in road safety audit/survey, road infrastructure safety risk analysis, and providing advice to enhance road safety (minimum 4 road projects).</li> <li>• Experience in rural roads and in using iRAP methodology are desired.</li> <li>• Experience working in multidisciplinary teams and engaging with local stakeholders.</li> <li>• Excellent communication skills (minimum requirement is English).</li> </ul>
8	Procurement Specialist	<ul style="list-style-type: none"> <li>• Bachelor's degree in Law, Business Administration, Engineering or other relevant fields.</li> <li>• Minimum of 8 years of experience in preparing procurement documents (e.g., PP, PDS, bidding documents, contracts) and</li> </ul>

		<p>managing/supervising procurement processes for infrastructure projects, including the procurement of goods, civil work and consultants.</p> <ul style="list-style-type: none"> <li>• Experience in projects funded by MDBs/DPs (minimum 4 projects).</li> <li>• Familiarity with MDB's procurement policies and procedures and international best practices.</li> <li>• Experience in delivering on-the-job training on the procurement requirements and procedures.</li> <li>• Experience working in multidisciplinary teams and engaging with local stakeholders.</li> <li>• Excellent communication skills (minimum requirement is English).</li> </ul>
9	Financial Management Specialist	<ul style="list-style-type: none"> <li>• Bachelor's degree in Finance, Accounting, Business Administration or other relevant fields.</li> <li>• Minimum of 5 years of experience in financial management with strong knowledge of financial reporting, budgeting, disbursement, and auditing procedures.</li> <li>• Experience in projects funded by MDBs/DPs (minimum 4 projects).</li> <li>• Familiarity with MDB's financial management policies and procedures and best international practices.</li> <li>• Experience working in multidisciplinary teams and engaging with local stakeholders.</li> <li>• Excellent communication skills (minimum requirement is English).</li> </ul>
10	Quantity/Cost Estimator	<ul style="list-style-type: none"> <li>• Bachelor's degree in Civil Engineering, or a similar field.</li> <li>• Minimum of 5 years of experience in cost estimation for infrastructure projects, preferably for rural roads (minimum 4 projects).</li> <li>• Experience working in multidisciplinary teams and engaging with local stakeholders.</li> <li>• Experience of working in PICs/SIDS and in Fiji is desirable.</li> <li>• Excellent communication skills (minimum requirement is English).</li> </ul>

In addition, the following non-key experts are requested: (11) CAD Operator, (12) ArcGIS Specialist, and (13) Data Analyst.