



NATIONAL PROCUREMENT COMMISSION

OFFICE OF THE CHIEF EXECUTIVE OFFICER



Request for Expressions of Interest (REOI)

(Consulting Services – Selection of Firms)

Date of publication: 22nd May 2026

Tender Number:	NPC2026-25
Country:	Papua New Guinea
Project:	Preparation of Papua New Guinea: Agriculture Commercialization and Diversification Project Phase 2 (PACD2).
Grant No:	S1088A
Contract/Assignment Title:	Consulting Services for Feasibility Study (FS) and Detailed Engineering Design (DED) of Productive Infrastructure.
REOI Reference No:	NPC2026-25
Agency /Client	Department of Agriculture and Livestock (DAL), Government of Papua New Guinea.

1. The Government of Papua New Guinea has applied for financing from the Asian Infrastructure Investment Bank (AIIB or the Bank) toward the cost of the Agriculture Commercialization and Diversification Project Phase 2 and intends to apply part of the Project Preparation Special Fund grant proceeds for the consulting services to prepare the Component 2 of the PACD2 and the FS and DED for the first 7 subprojects for which this REOI is issued. DAL is the Implementing Agency for the PPSF grant and the ensuing PACD2.
2. The consulting services (“the Services”) include the identification, screening, and prioritization of priority infrastructure investments and the preparation of technically, economically, environmentally, and socially sound FS and DED packages, in accordance with the Terms of Reference. The indicative level of effort is estimated at approximately 45 persons months of international experts and 50 persons months of national experts. The expected duration of the assignment is twelve (12) months. The expected start date: 30 June 2026.
3. The detailed Terms of Reference (TOR) for the assignment (can be obtained from the email provided below) or on NPC website at: www.npc.gov.pg.
4. The DAL now invites eligible consulting firms (“Consultants”) to indicate their interest in providing the Services. Interested Consultants should provide information demonstrating that they have the required qualifications and relevant experience to perform the Services. The shortlisting criteria are:
 - Firm’s relevant project experience in feasibility studies and detailed engineering design (FS & DED) in the agriculture, maritime, logistics, and related sectors (70%), including:
 - Successful completion of at least two (2) similar assignments within the last eight (8) years; and
 - A minimum contract value of not less than USD 1,000,000 for each assignment, or an equivalent value duly adjusted to reflect inflation for assignments completed or ongoing during the preceding eight (8) years.
 - Firm’s overall experience in externally financed projects demonstrated by at least ten (10) years of experience in designing and preparing similar projects financed by international organizations or agencies, such as the AIIB, World Bank, ADB, or other international financial institutions (IFIs) (20%),
 - Regional experience (10%), with demonstrated experience working in the Pacific region, South Asia, and/or South East Asia.

Key Experts will not be evaluated at the shortlisting stage.

5. The attention of interested Consultants is drawn to Section II of the Bank’s Procurement Instructions for Recipients (PIR), setting forth the Bank’s policy on conflict of interest.
6. Consultants may associate with other firms to enhance their qualifications, but should indicate clearly whether the association is in the form of a joint venture and/or a sub-consultancy. In the case of a joint venture, all the partners in the joint venture shall be jointly and severally liable for the entire contract, if selected.
7. A Consultant will be selected in accordance with the [Quality Cost Based Selection (QCBS, 80:20)] method set out in the PIR.
8. Further information can be obtained at the address below during office hours [between 9:00 am – 11:00 am and 1:30pm – 4:06 pm every working day].
9. Expressions of interest must be delivered in a written form to the address below (in person, or by e-mail) by 16:00 (PNG local time) on 08th June 2026

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CHIEF EXECUTIVE OFFICER



Date: 18th May 2026

Terms of Reference (TOR)

Consulting Services for Feasibility Study and Detailed Engineering Design (FSDED) of Productive Infrastructure under the Papua New Guinea Agriculture Commercialization and Diversification Project – Phase 2 (PACD2)

1. Background and Context

The Government of Papua New Guinea (GoPNG), through the Department of Agriculture and Livestock (DAL), is preparing the USD 200 million Agriculture Commercialization and Diversification Project – Phase 2 (PACD2) as the second phase of the successfully implemented World Bank (WB) financed Agriculture Commercialization and Diversification Project, which closes on 30 June 2026.

PACD2 is being prepared as a multi-financier project, with the World Bank acting as the lead financier (USD 100 million). The Asian Infrastructure Investment Bank (AIIB) has been requested by the GoPNG to co-finance USD 100 million, and it is anticipated that the International Fund for Agricultural Development (IFAD) may also join as a third co-financier, with potential financing of up to USD 20 million, subject to ongoing preparation and confirmation.

The Project Development Objective (PDO) of PACD2 is: *“to increase productivity, commercialization, and job creation in targeted agriculture value chains in Papua New Guinea.”*

PACD2 is expected to comprise the following indicative components (subject to refinement during preparation):

1. Component 1 (USD ~65 million, WB): Strengthening value chain partnerships and boosting smallholder productivity;
2. Component 2 (USD ~115 million, WB USD 15 million and AIIB USD 100 million): Climate resilient transport, logistics, postharvest, and other productive infrastructure, supported by digital systems/solutions;
3. Component 3 (USD ~5 million): Strengthening institutions, regulations, and inclusive sector governance; and
4. Component 4 (USD ~15 million): Project management and implementation support.

During project preparation, the scope of IFAD co-financing, including potential support to Components 1 and/or 2, will be further defined.

PACD2 will support job creation, income growth, and market competitiveness across four core value chains—coffee, cocoa, coconut, and horticulture, balancing export oriented and domestic supply—as well as selected emerging value chains, including rice, spices, honey, small livestock, and galip nut. Value chain selection has been guided by the following criteria:

- (i) high job creation potential;
- (ii) strong poverty and income impacts;
- (iii) high potential for value addition; and

(iv) significant contribution to export earnings and/or food security.

On 17 September 2025, GoPNG formally requested AIIB to co-finance USD 100 million under Component 2 – Productive Infrastructure. While the World Bank remains the lead financier for PACD2, the project implementation will follow World Bank policies and procedures, including those related to procurement, financial management, and environmental and social safeguards.

To support preparation of Component 2, AIIB has approved the use of Project Preparation Special Fund (PPSF) USD 1.8 million grant resources. PPSF financing will support feasibility studies, environmental and social assessments, economic and financial analysis, detailed engineering designs, and implementation readiness activities. These outputs will be used to finalize Component 2 due diligence in accordance with GoPNG and AIIB requirements for sovereign-backed financing, while also contributing to the overall project appraisal under World Bank requirements.

Component 2 – Productive Infrastructure supports agricultural commercialization by financing public infrastructure that strengthens agricultural value chains, enabling farm products to reach domestic and export markets efficiently, reliably, and with reduced postharvest losses, thereby increasing farmgate prices and ensuring that infrastructure investments translate into measurable commercialization outcomes. Infrastructure investments will be identified and prioritized based on value chain needs, focusing on real bottlenecks related to access, storage, logistics, certification, and export readiness.

Component 2 is expected to comprise the following sub-components:

- Sub-Component 2.1: Agricultural Feeder Roads, financing feeder and farm access roads;
- Sub-Component 2.2: Access to Markets and Climate Resilient Logistics Infrastructure, financing aggregation, storage, and processing facilities, irrigation systems; maritime and coastal infrastructure (including jetties and loading points); and quality and certification infrastructure (including laboratories and research facilities), in close coordination with other development partners to avoid duplication; and
- Sub-Component 2.3: Farm Mechanization and Digital Infrastructure, strengthening mechanization service systems and expanding foundational digital infrastructure, including national value chain registries, digital extension services, and digital platforms for traceability, quality certification, biosecurity, and export licensing.

2. Objectives of the Assignment

The overall objective of this assignment is to support GoPNG and DAL in preparing technically sound, climate resilient, environmentally and socially sustainable, economically justified, and implementation ready productive infrastructure subprojects under the PACD2 Component 2. All infrastructure should be designed to be climate-resilient, incorporating green solutions such as bio-engineering measures to the extent feasible.

The assignment will be grounded in value chain assessments, taking into account production potential, existing and planned linkages to priority transport and logistics corridors, and the availability of viable and scalable public investment opportunities.

Specifically, the Consultant (Firm) shall:

1. Review the relevant reports and studies on the value chains in PNG (as provided below). The other relevant reports will be shared with the consultant firm after the contract award.
2. Prepare feasibility studies for priority productive infrastructure subprojects aligned with PACD2 value chain assessments and the National Agriculture Sector Plan (NASP) 2024–2033;
3. Conduct all required due diligence, covering technical, environmental, social, climate, fiduciary, institutional, economic, and financial aspects;
4. Update institutional capacity (including O&M of constructed/rehabilitated infrastructure assets) and financial management assessments of project Implementing Agency/DAL and commodity boards, PMUs;
5. Prepare detailed engineering designs (DED) for initial up to seven (7) prioritized subprojects; incorporating the lessons learned of PACD into the design, and
6. Prepare environmental and social assessments alongside detailed design in accordance with the PACDII Environmental and Social Commitment Plan (ESCP), Environmental and Social Management Framework (ESMF), Resettlement Framework, Labour Management Procedures, Stakeholder Engagement Plan and GoPNG, WB and AIIB E&S requirements¹;
7. Prepare all relevant procurement documents for goods, works and consulting services as required in accordance with the applicable WB Procurement Regulations and support DAL to liaise with the relevant central and local government authorities to advance procurement actions during the pre-effectiveness and early project startup stages.

The list of relevant reports for the consultant’s review:

1. Indicative Prioritization Results for Economic Corridors in East Sepik and East New Britain. Castalia Strategic advisors. 2016
2. Report. Working Paper No. 5 Market Infrastructure Assessment. PNG Department of Agriculture and Livestock. URS Australia Pty Ltd. 2009.
3. PAPUA NEW GUINEA. SMALL LIVESTOCK VALUE-CHAIN STUDY. PNG Department of Agriculture and Livestock. VARSHA MEHTA & KEITH GALGAL. 2019
4. PAPUA NEW GUINEA VALUE CHAIN ANALYSIS. COCONUT | SPICES. Dan Vadnjal and Ted Sitapai. 2019
5. Markham/Ramu Agricultural Growth Corridor. A possible path of transformational agricultural development. 2021
6. Country Economic Memorandum. Pathways to faster and more inclusive growth. 2024.
7. Papua New Guinea Economic Update Macroeconomic Stability and Growth: Unlocking the Potential of Agriculture. 2025.

¹ PACD2 E&S instruments are currently being prepared. Drafts are expected to be available 1 July 2026; final documents 1 October 2026.

8. WB-financed PNG AGRICULTURE COMMERCIALIZATION AND DIVERSIFICATION PROJECT – project documents.
9. IFAD-financed Markets for Village Farmers Project- project document
10. The value chain assessment (the draft will be shared later upon the consultant’s mobilization).

3. Key Tasks and Responsibilities

The Consultant shall carry out the following tasks.

Task 1: Review of Project Context, Value Chains, and Existing Investments

1. Review all relevant project documentation and analytical work, including but not limited to: the draft World Bank Project Appraisal Document (PAD) for PACD2; PACD2 concept notes; NASP 2024–2033, MTDP4; national and sector strategies; relevant World Bank, FAO, and other development partner studies conducted in PNG; IFAD/ADB financed ongoing and planned projects (particularly in horticulture); and other relevant analytical and ongoing or planned investments in similar value chain infrastructure. Where available at the time of mobilization, review the WB/IC FAO Rapid Value Chain Assessment (RVCA).
2. Based on available studies and agroecological conditions, identify existing production zones and areas by value chain, including: (i) areas with potential for productivity increases within existing production zones; and (ii) areas with potential for production expansion in new or underutilized zones. Where the RVCA is available, use its findings, together with the provinces and districts prioritized for PACD2, to estimate potential productivity and production increases for the selected value chains.

Task 2: Value Chain Flow Analysis and Infrastructure Bottlenecks

1. Analyze the flows of agricultural produce from production zones to aggregation points and onward to domestic and export markets. Identify key stakeholders along the value chains (including farmers, aggregators, traders, processors, exporters, provincial and district authorities, and relevant state agencies), and assess the main bottlenecks and constraints related to connectivity, logistics, market access, and services.
2. Identify existing and potential linkages to priority transport and logistics corridors, taking into account ongoing and planned road network rehabilitation and expansion by GoPNG and development partners (including IFI and donor financed projects). Identify the closest and most efficient road, maritime, and logistics connections for each production zone.
3. Identify measures to streamline commodity flows along the value chains, including: (i) required public infrastructure investments; (ii) areas where private investment could feasibly address bottlenecks especially for post-harvest infrastructure investments; and (iii) areas where public financing is required, with potential for private sector participation in operations and maintenance (O&M) arrangements.

4. Prepare a base map at a scale of 1:50.000 showing agricultural production areas and existing infrastructure, including roads, markets, irrigation schemes, and other relevant facilities. The mapping shall also document the current condition of roads, bridges, and related infrastructure, and identify improvement needs required to meet projected demand.

Task 3: Long Listing of Candidate Infrastructure Subprojects

1. Develop a long list of candidate public infrastructure and public-private infrastructure subprojects aligned with value chain needs, including, as relevant:
 - rural connectivity:
 - feeder and farm access roads,
 - district roads,
 - jetties and associated maritime transport infrastructure;
 - agri-food processing and logistic facilities, food safety systems, digital infrastructure:
 - cold chain, aggregation, and storage facilities;
 - small-scale irrigation and water management systems;
 - agricultural processing facilities (e.g. abattoirs/ certified slaughter slabs, coconut and cocoa drying, cocoa fermentaries, coffee hulling);
 - agricultural laboratories (quality and certification, plant health and disease control, soil and nutritional analysis, food safety and chemical residue testing, small provincial functional labs);
 - research centers, nurseries, and seeds/ seedling facilities,
 - digital Infrastructure.
2. For each candidate subproject, compile indicative data on: beneficiary groups (direct and indirect); commodities served; projected prices per commodity, existing and potential production volumes by commodity; expected increases in volumes, revenues, and employment along the value chains; and indicative capital and operating costs.

Task 4: Screening and Feasibility Level Assessment of Long Listed Subprojects

1. Conduct initial screening of the long-listed subprojects, including:
 - technical feasibility screening;
 - climate change screening (including exposure of assets and communities to climate and disaster risks (broken down by climate hazards and exposure levels), implications of proposed adaptation or mitigation measures for capital costs (including an assessment of solar power feasibility as an alternative and/or backup energy source), and activities that expect contribute to GHG emissions reductions);

- environmental and social screening, excluding subprojects likely to fall under high-risk (Category A) environmental and social classifications;
- preliminary estimation of capital and operating expenditures.

Task 5: Economic Analysis, Prioritization, and Short-Listing

1. Conduct basic preliminary subproject-specific cost benefit analyses (CBA), focusing on the simplified benefits from the potential increase in production and job creation for target beneficiaries, as well as an overall multicriteria analysis (MCA) for screened subprojects to identify a refined and prioritized shortlist of first set of infrastructure investments feasible for financing under PACD2/AgriConnect. The Consultant shall document the methodology and apply transparent prioritization criteria, including:
 - economic viability including job creation potential;
 - poverty, income, food security, and inclusion impacts;
 - climate resilience and adaptation benefits;
 - environmental and social risk profile;
 - technical feasibility and implementation readiness.
2. Update estimates of these preliminary simplified economic benefits calculations (including number of beneficiaries) and costs for the refined shortlist and develop a pipeline of viable infrastructure subprojects. Where the total estimated capital costs exceed the Component 2 allocation, propose phasing between: (i) subprojects to be financed under PACD2 Component 2; and (ii) subprojects to be considered for future financing.
3. Undertake structured consultations with DAL, the PCU, relevant commodity boards (CIC, CB, KIK, FPDA), PACD PCU/PMUs (where applicable), PPSF PCU (if established), the Agricultural Sector Coordination Committee, and relevant provincial, district, and line agencies (including Departments of Transport and Department of Works and Highways). Coordinate closely with the WB team (WB project team and WB-engaged experts (IC FAO or consultants)) to ensure alignment and complementarity between Components 1 and 2, including geographic focus and sequencing of interventions. Update economic benefit estimates where necessary to reflect synergies across components.
4. Prepare spatial mapping of shortlisted subprojects, including districts and provinces covered, production zones and catchment areas served, existing and potential commodity volumes, and linkages to the road network, transport nodes, and logistics hubs.

Task 6: Feasibility Study Outputs

1. Prepare feasibility studies for all prioritized subprojects (subprojects to be financed under PACD2 Component 2) at a level appropriate to the feasibility stage, generating the technical, economic and financial, environmental, social, climate, fiduciary, and institutional inputs required for appraisal:
 - (i) technical options analysis and concept designs;

- (ii) feasibility level engineering surveys and investigations (desk-based and reconnaissance);
- (iii) preliminary layouts and technical standards;
- (iv) order-of-magnitude cost estimates and implementation schedules;
- (v) subproject level and portfolio level economic and financial analysis;
 - (a) Cost estimates, including construction and annual Operating & Maintenance (O&M) in comparable unit price and per kilometer term;
 - (b) Detailed cost-benefit analysis, with rich data input for the complete benefits calculations, including sensitivity analysis;
 - (c) Detailed financial analysis including sensitivity analysis
- (vi) Feasibility stage environmental and social assessment;
- (vii) climate risk and vulnerability assessment and preliminary GHG estimation.

2. Environmental and Social Assessment

- (i) Environmental and social risk screening and categorization;
- (ii) Support DAL for the in-country disclosure of the E&S Instruments (site-specific ESAs and ESMPs). In accordance with AIIB ESF, The ESMPF and relevant instruments must be disclosed within 30 calendar days prior to consideration of the Bank's financing for approval.

3. Feasibility Stage E&S assessment

The purpose of environmental and social (E&S) inputs at feasibility stage is to inform investment selection and design, not to undertake full assessments.

The Consultant shall undertake the following E&S tasks as part of the feasibility study:

(i) Policy and Regulatory Context

Review relevant PNG environmental and social legislation, permitting requirements (including CEPA processes), and applicable World Bank ESF standards. Identify key gaps between national systems and ESF requirements relevant to the infrastructure typologies under consideration.

(ii) Preliminary Environmental and Social Screening

Undertake structured E&S screening for each candidate investment or typology to identify key risks and sensitivities. Screening shall consider, at a minimum:

- a. Environmental issues such as forests, waterways, coastal or marine areas, climate and disaster risks, and material sourcing (borrow pits, quarries, spoil disposal);
- b. Social issues such as customary land ownership, land disputes, vulnerable groups, labor influx, community health and safety, and contextual SEA/SH risks.

(iii) Each option shall be assigned an indicative E&S risk level, with justification.

✓ Land Access and Resettlement Risk Scoping

Given PNG's customary land context, identify whether proposed options are likely to involve land acquisition, restrictions on land use, or voluntary land donation. Flag high-risk land situations (e.g. disputed ownership, unclear clan boundaries) and assess implications for feasibility, timelines, and costs. No census or asset surveys are required at this stage.

- ✓ Environmental Constraints and Design Implications
Identify environmental constraints that may affect technical feasibility, including sensitive habitats, climate risks, or permitting challenges, and clearly articulate their implications for alignment, siting, design standards, construction methods, and indicative costs.
 - ✓ Social Risks, Benefits, and Acceptability
Identify key social risks and opportunities, including potential conflict, benefit distribution, and community acceptance. Undertake high-level stakeholder scoping sufficient to assess social feasibility and flag requirements for more detailed engagement at later stages.
 - ✓ Comparative E&S Assessment of Options
Where alternatives are considered, provide a comparative assessment highlighting relative E&S risks, land complexity, environmental sensitivity, and social acceptability, and identify preferred or non-viable options from an E&S perspective.
 - ✓ Scoping of Detailed Design–Stage E&S Instruments
For shortlisted subprojects, define the E&S instruments required at detailed design and implementation (e.g. ESIA/ESMP, RAP/ARAP, biodiversity or SEA/SH plans), including indicative scope and sequencing.
4. Climate Change Assessment
- (i) Climate Risk and Vulnerability Assessment (CRVA);
 - (ii) Greenhouse Gas (GHG) emissions estimation;
 - (iii) Climate co-benefits calculation in line with MDB methodologies.
5. Procurement Assessment
- (i) In consultation and with the support from DAL conduct Project Procurement Risk Assessment (PPRA),
 - (ii) In consultation and with the support from DAL prepare a Project Procurement Strategy for Development (PPSD) and Procurement Plan for civil works, goods, and consultancy services packages covering Components 1, 2, 3, and 4 in line with WB procurement policies;
6. Financial Management:
- (i) Update the Project Implementation Manual (PIM) related to the Financial Management section for PACD2.
7. Institutional and Capacity Assessment
- (i) Assess institutional capacity of DAL/PCU and commodity boards (CIC, CB, KIK, FPDA);
 - (ii) Define roles and responsibilities for:
 - Land access and community engagement;

- Operations and Maintenance (O&M);
 - Environmental and social risk management implementation and monitoring;
- (iii) Recommend institutional strengthening and capacity-building measures.
8. Develop a Results Monitoring Framework (RMF) with clear indicators for the PACD2
- (i) The Consultant shall develop a Results Monitoring Framework (RMF) for the PACD2 with PDO, component, and subproject level indicators, including indicators attributable to Component 2 infrastructure investments, consistent with WB results frameworks.
 - (ii) Relevant data to construct indicators with a clear baseline and target will be collected, to perform a holistic assessment of the project intended impacts on beneficiaries to suitably scale results.
9. Results Monitoring Framework
- (i) Design a detailed framework, encompassing socio-economic and environmental considerations supporting effective project monitoring.

Task 7: Detailed Engineering Design

1. Based on the feasibility study and prioritization results, recommend up to seven (7) priority subprojects for preparation of detailed engineering designs (DED) under this assignment, clearly documenting the justification for selection.
2. Conduct relevant surveys, investigations.
3. Prepare complete DED packages, including detailed surveys, final drawings, specifications, technical specifications, BoQs, updated cost estimates, construction methods, implementation schedules, and O&M considerations and support DAL with necessary Government approval of DED documents.
4. Support DAL in conducting public consultations of site-specific E&S instruments, with Free, Prior and Informed Consultation (FPIC) as required.
5. Detailed design stage Environmental and Social Assessment and Resettlement Planning:
 - (i) At the detailed design stage, the Consultant shall undertake site-specific environmental and social assessment and resettlement planning to ensure that each selected subproject is fully compliant, approved, and ready for construction under Papua New Guinea regulatory requirements and the World Bank Environmental and Social Framework (ESF). The Consultant shall translate feasibility-stage findings into implementable design, mitigation, and management measures, ensure that all land access and resettlement impacts are identified and resolved, and integrate E&S requirements into final designs, cost estimates, and procurement documents.
 - (ii) For each selected subproject, the Consultant shall undertake the following E&S tasks:
 - Environmental and Social Assessment (ESIA and/or ESMP)

The Consultant shall prepare the appropriate site-specific environmental and social assessment instrument, consistent with the World Bank Environmental and Social Standard 1 (ESS1) and Papua New Guinea regulatory requirements as outlined in the PACDII ESMF and associated instruments. Depending on the nature, scale, and risk level of the subproject—as identified during feasibility—this shall comprise either: An Environmental and Social Impact Assessment (ESIA) with an associated Environmental and Social Management Plan (ESMP); or A stand-alone ESMP, where impacts are well understood, limited, and readily mitigated.

The assessment shall be based on the final engineering design and shall include, as applicable:

- ✓ description of project activities and construction methods;
- ✓ targeted environmental and social baseline information;
- ✓ assessment of direct, indirect, and cumulative impacts across the project life cycle;
- ✓ analysis of alternatives and application of the mitigation hierarchy;
- ✓ assessment of climate and disaster risks relevant to the PNG context.

The ESIA/ESMP shall also translate assessment findings into clear, costed, and implementable mitigation and monitoring measures, including institutional responsibilities and reporting requirements. Where required, this shall incorporate relevant sub-plans (e.g. traffic management, biodiversity management, labor and OHS measures, SEA/SH Action Plan).

- Land Access, Resettlement, and Livelihood Restoration Planning

Where subprojects involve land acquisition, restrictions on land use, or economic displacement, the Consultant shall prepare a Resettlement Plan (RP) in accordance with ESS5 and PNG legal requirements as outlined in the PACDII LARF. This shall include census and socio-economic surveys, asset inventories and valuation, eligibility and compensation measures, livelihood restoration assistance, consultations with customary landowners, and grievance redress arrangements.

- Stakeholder Engagement and Disclosure

The Consultant shall undertake site-specific stakeholder engagement consistent with ESS10 and the PACDII's Stakeholder Engagement Plan, including consultation on draft ESIA/ESMP and RAP/ARAP documents, disclosure of instruments, and incorporation of feedback into final designs and mitigation measures.

- Integration with Design, Procurement, and Approvals

The Consultant shall ensure that all approved E&S instruments are reflected in final engineering designs; procurement documents (i.e. bills of quantities and cost estimates and technical specifications); and that all required environmental approvals and clearances are obtained prior to construction

Key outputs at detailed design stage shall include:

- ✓ Approved ESIA and/or ESMP;
- ✓ RAP/ARAP (where applicable);
- ✓ Disclosure and consultation records;
- ✓ E&S inputs fully embedded in procurement and contract documentation.

The Consultant shall prepare detailed engineering designs for feeder roads, jetties, and agro-processing and post-harvest facilities (including drying, abattoir, cold-chain, storage, laboratories, and nurseries) in accordance with applicable Papua New Guinea national standards and good international practice. Feeder road designs shall comply with the PNG Department of Works and Highways (DoW) Road Design Manual (April 2017, or relevant updated version), DoW standard drawings, and related specifications for rural roads, bridges, culverts, and drainage. Buildings and facilities shall comply with the PNG Building Act and Building Regulations, and relevant planning, health, safety, and fire requirements. Where national standards are not available, appropriate international standards (e.g. Austroads, ISO, AS/NZS, or equivalent) may be applied, adapted to PNG conditions.

The DEDs shall be supported by appropriate surveys and investigations (including topographical, geotechnical, hydrological, traffic, bathymetric, and site condition assessments, as applicable) and shall be optimized to ensure value for money, constructability, durability, and ease of operation and maintenance in rural and remote PNG contexts.

For each subproject, the Consultant shall prepare detailed drawings, technical specifications, bills of quantities, and cost estimates of a standard sufficient for competitive tendering and construction.

Task 8: Procurement Support and Implementation Readiness

The Consultant shall:

- Prepare all procurement packages using applicable WB Standard Procurement Documents for each of the seven (7) prioritized productive infrastructure subproject embedding DED results;
- Prepare TORs and cost estimates for construction supervision and other consultancy and/or non-consulting services, goods;
- Provide guidance on integrating and managing E&S requirements in the procurement documents;
- Support and provide on-the-job training for PCU to undertake advance procurement actions and early project implementation.

4.Consultant's deliverables and payment schedule:

1. Inception Report and long list of subprojects;
2. Feasibility study for shortlisted subprojects (to be financed under Component 2);
3. Environmental and Social framework instruments, and site-specific ESIA/RAP/ESMPs;
4. Climate risk, GHG, and climate finance assessments;
5. Detailed engineering designs for up to 7 first shortlisted subprojects;
6. Procurement documents: PPRA, PPSD, PP, draft bidding documents; TORs and cost estimates etc (refer to Task 8);

7. FM documents (updated PIM);
8. Institutional capacity assessment and PIM updates;
9. RMF.

All reports shall be concise, analytical, and clearly structured, with supporting technical details, calculations, drawings, and datasets provided in annexes. Where applicable, standard WB/AIIB formats and templates shall be used. The Consultant shall submit regular progress updates, interim deliverables, and final reports in accordance with the reporting schedule defined in the approved work plan, and shall maintain continuous coordination with relevant government authorities, and WB/AIIB throughout the assignment.

The Consultant shall provide draft sections or preliminary materials to AIIB to facilitate early review and feedback. The Consultant shall work closely with AIIB's expert team during quality review processes and shall duly consider and incorporate reasonable comments and recommendations received. The consultant shall conduct relevant in-person and/or online consultations, workshops with the relevant stakeholders for presenting the inception report and feasibility report (draft and final).

No.	Key Deliverables (KDs)	Deadlines	Payment schedule (% of Contract Price)
1	KD-1: Inception Report and longlist of subprojects including detailed work plan, methodology, sequencing and coordination arrangements for technical, E&S, procurement and FM due diligence	1.5 months from the commencement of the work (approved by the GoPNG through DAL and AIIB)	10%
2	KD-2: Draft Feasibility Report for shortlisted subprojects (including E&S at feasibility stage; draft PPRA, PPSD, PP, FM/disbursement arrangements, CRVA, etc)	3.0 months from the commencement of the work	10%
3	KD-3: Final Feasibility Report (including preliminary engineering design)	3.5 months from the commencement of the work (approved by the GoPNG through DAL and AIIB)	30%
4	KD-6: Draft DEDs for first up to 7 shortlisted subprojects	7.0 months from the commencement of the work	10%
5	KD-7: Final DEDs for first shortlisted subprojects (tentative list: jetty, irrigation system, the cold-chain/storage facility, coconut/cocoa drying	8.0 months from the commencement of the work	30%

	facility, 2 quality labs, 1 nursery/research facility)		
6	KD-8: Complete bidding documents (including Bill of Quantities, Drawings and Specifications) for CW and/or goods contracts, TORs and cost estimate for construction supervision consulting services contract.	9 months from the commencement of the work (approved by the GoPNG through DAL and AIIB/WB)	10%

Progress reports must be submitted at the end of each month of the assignment. All reports to AIIB shall be produced in English. Reports shall be provided in both printed and electronic form. The consulting firm shall provide to DAL 3 copies of each report in English. The consulting firm shall provide to AIIB with electronic versions of the reports and associated deliverables/analysis.

5. Expertise required

The Consultant team will be led by an international firm with preferably 10 years' experience in designing and preparing similar externally financed projects in the agriculture, maritime, logistics and related sectors, preferably with WB, ADB, AIIB and in the Pacific and South East and South Asia regions, and completed at least two similar assignments each with a contract value of not less than \$1,000,000 within the last eight (8) years.

For joint ventures or consortium, the experience and qualifications of all member firms may be aggregated to meet the minimum qualification requirements, provided that each member satisfies the eligibility requirements. The lead firm shall be clearly identified and shall be jointly and severally liable with the other members for the execution of the contract. The lead firm shall be responsible for coordination and overall contract management.

For indicative purposes only, this package of consulting services is estimated at 46 person-months of international consultants and 50 person-months of national consultants. The participating firms will in their proposal determine the number and the nature of experts they will require to achieve assignment tasks and deliverables, in accordance with their proposed approach and methodology. However, DAL requires a minimum number of key experts, including a Team Leader, as tabulated in Table 1 below. The number of non-key experts is also listed below in Table 1 for indicative purpose only. A partial lump-sum contract will be awarded to the winning firm with provisional sums for surveys/investigations (\$65,000, this estimate does not include hydrological, geotechnical, and bathymetric surveys, which were assumed to be covered under the inputs of non-key experts), and (iii) stakeholder consultations (\$35,000). The contingency under the contract is provided in the amount of \$40,000.

The proposing entities should also include in their technical proposal, in the personnel work plan, and in their financial proposal all other "non-key experts" required in accordance with their proposed approach and methodology. The proposing entity must also determine and indicate the number of person-months for which each key or non-key expert will be required. The consultant should

maximize the use of national experts as non-key experts. For indicative purposes only, the non-key experts might include: maritime transport specialist, hydrology/drainage engineer, geotechnical engineer, hydrographic surveyor, environment specialist, social development specialist, procurement specialist and others. The Consultant will work closely with the PCU under DAL consisting of key consultants (tentatively PCU will consist of PCU Coordinator, FM, Procurement Specialist, 2 Value-chain Coordinators, 2 Engineers). The firms should not duplicate the national consultant positions already appearing in the PCU. PCU will be responsible for the preparation of the design for the feeder roads and obtaining clearance from the Department of Works. Administrative and support roles (e.g. firm's own financial and contract management) should not be included as non-key experts, and such costs should instead be factored into the overall bid price.

Table 1. Required key experts (person-months):

	Experts	International / National	Feeder roads	Jetty/ maritime transport	Irrigation	Agricultural processing and logistics/storage facilities	Labs, nurseries/ research	Total
			FS+DE D(1)	FS+DED (1)	FS+DED (1)	FS+DED (2)	FS+DED (2)	FS+DED (7)
	Key experts:							
1	Team Leader / Agricultural Economist	International	2.2	1.5	1.2	2.3	2	9
2	Agricultural Value chain specialist	National	2.5	1.2	0.8	1.6	2	8.1
3	Road Engineer (including feeder/district roads, airstrips)	National	3.8	0	0	0	0	3
4	Port & Coastal Engineer	International	0	5.5	0	0	0	5.5
5	Water & Irrigation Engineer	International	0	0	3	0.2	0.4	3.6
6	Agro-Industrial (Process, Mechanical, Electrical, Plumbing) Specialist	International	0	0	0.2	3.2	1.6	5
7	Environmental Specialist	International	0.6	0.8	0.6	0.6	1	3.6
8	Social Development Specialist/Gender	International	0.4	0.7	0.4	0.4	0.7	2.6
9	Climate Change Specialist	International	0.4	0.2	0.2	0.2	0.4	1.4
10	Procurement Specialist	International	0.4	0.5	0.5	0.5	0.5	2.4
	Total key experts		10.3	10.4	6.9	9	8.6	45.2
		International	4.8	9.2	6.1	7.4	6.6	34.1
		National	5.5	1.2	0.8	1.6	2	11.1
	Indicative additional non-key experts		5.7	11.6	6.1	11	16.4	50.8
		International	1.2	3.7	1.7	2.2	3.1	11.9
		National	4.5	7.9	4.4	8.8	13.3	38.9
	Indicative total key and non-key experts		16.0	22.0	13.0	20.0	25.0	96.0

6. Outline Terms of Reference by Position

The expected detailed tasks of the key experts are presented below. It should be stressed, however, that these reflect the broad area of activities and are not exhaustive. In its proposal, the firm is expected to present how the scope of activities detailed tasks presented above have been mapped to their proposed key and non-key experts. In addition to the technical inputs specified below, each expert will support the team leader in (i) identifying relevant developments in government strategy, policy, and legislation; (ii) identifying best-practice techniques and lessons learned from previous and ongoing studies and projects of the relevant sectors as well as options to improve the project design; (iii) identifying capacity building requirements specific to his/her field of expertise; and (iv) preparing relevant sections in the reports.

	Tasks/Responsibilities/ Deliverables	Minimum qualification criteria
Key experts		
Team Leader / Agricultural Economist (International)	<ul style="list-style-type: none"> • Provide overall leadership, coordination, and quality assurance for the FS and DED preparation under Component 2. • Lead the economic and financial analysis for all prioritized subprojects, including preliminary screening CBAs and detailed CBAs for shortlisted subprojects. • Ensure coherence between value-chain analysis, technical designs, safeguards, climate assessment, procurement, and FM inputs. • Lead engagement with DAL/PCU, commodity boards, provincial authorities, and AIIB/WB teams. • Ensure all outputs meet AIIB and World Bank appraisal, disclosure, and procurement readiness requirements. • Role is to conduct both the preliminary simplified cost-benefit analysis to support the screening of long-listed subprojects as well as the prioritized subproject and portfolio-level detailed cost-benefit and financial analyses. • Key deliverables: all reports, including economic and financial analysis sections of FS reports; Updated CBAs and financial analyses for subprojects proceeding to DED; inputs to prioritization, 	<ul style="list-style-type: none"> • Master's degree or higher in Economics, Agricultural Economics, or Development Economics. • At least 10 years of experience in economic analysis of rural/agricultural infrastructure projects. • At least 10 years of experience in detailed design preparation of agricultural, road, irrigation infrastructure facilities. Proven relevant experience in at least two MDB-financed projects (AIIB/WB/ADB/IFAD), preferably in the Pacific or similar contexts.

	phasing, and Component 2 appraisal documentation.	
Agricultural Value chain specialist (National)	<ul style="list-style-type: none"> • Lead valuechain diagnostics for targeted commodities (coffee, cocoa, coconut, horticulture, and selected emerging value chains). • Lead Value Chain (VC) assessment and provide pathway to VC competitiveness including infrastructure overlays using Go PNG maps/surveys and resolving constraints of VC actors. • • Analyze production zones, volumes, market demand, logistics flows, and infrastructure bottlenecks. • Provide quantitative inputs (prices, volumes, beneficiaries) to support subproject justification and economic analysis. • Support prioritization of infrastructure investments under Component 2. Support TL in preparation of all required reports. • Key deliverables: Value-chain flow analysis and diagnostics, commodity-specific demand–supply and logistics assessments, inputs to all required reports. 	<ul style="list-style-type: none"> • Degree in agriculture, agribusiness, agricultural economics, or related discipline. • At least 7 years of professional experience in PNG agricultural value chains.
Road Engineer (including feeder/district roads, airstrips) (National)	<ul style="list-style-type: none"> • Prepare FS-level technical assessments for feeder and farm-access roads. • Conduct reconnaissance surveys and review existing road conditions and standards. • Define preliminary alignments, cross-sections, climate-resilient design standards, and cost estimates. • Coordinate with DAL/PCU and Department of Works; no DED preparation required. • Support TL in preparation of all required reports. • Key deliverables: FS-level technical options and cost estimates for feeder roads. Climate resilience and maintenance considerations for rural roads. Relevant inputs to the required reports. 	<ul style="list-style-type: none"> • Degree in Civil Engineering or equivalent. • At least 7 years of experience in rural road feasibility studies and detailed design. • Proven experience in preparation of detailed engineering designs for feeder roads, including surveys and investigations (soils and materials, traffic, topographical), design of geometrics, pavements, drainage, traffic safety, bridges and culverts, and preparation of cost estimates, specifications, drawings, and bidding documents. • The expert must have completed at least 10 feeder road DEDs. •

<p>Port & Coastal Engineer (International)</p>	<ul style="list-style-type: none"> • Lead FS and DED preparation for the selected jetty subproject. • Assess coastal processes, bathymetry, sedimentation, and climate risks. • Prepare layout designs, structural concepts, and climate-resilient solutions for maritime infrastructure. • Oversee preparation of drawings, specifications, BoQs, and cost estimates. Support TL in preparation of all required reports. • KD: FS technical assessment for candidate jetty sites. Complete DED package for one selected jetty. Provide the relevant inputs to all required reports. 	<ul style="list-style-type: none"> • Degree in Civil, Marine, or Coastal Engineering. • At least 10 years of experience in small-scale maritime/coastal infrastructure projects. • At least 10 years experience in preparation of detailed engineering designs of jetties, wharfs, ports. • Proven relevant experience in at least two MDB-financed projects (AIIB/WB/ADB), preferably in Asia and the Pacific.
<p>Water & Irrigation Engineer (International)</p>	<ul style="list-style-type: none"> • Prepare FS assessments for irrigation options linked to priority value chains. • Lead DED preparation for one selected irrigation system, including intakes, conveyance, pumping, and on-farm distribution. • Integrate climate resilience, O&M considerations, and water availability analysis. Support TL in preparation of all required reports. • Key Deliverables: FS technical and economic assessment of irrigation options. Complete DED package for one irrigation scheme. Provide relevant inputs to the required reports. 	<ul style="list-style-type: none"> • Degree in Water Resources or Irrigation Engineering. • At least 10 years of experience in smallholder irrigation systems. • Proven relevant experience in at least two MDB-financed projects (AIIB/WB/ADB), preferably in Asia and the Pacific. • At least 7 years of experience in preparation of detailed engineering designs of irrigation infrastructure, water supply systems.
<p>Agro-Industrial (Process, Mechanical, Electrical, Plumbing) Specialist (International)</p>	<ul style="list-style-type: none"> • Lead FS and DED for agro-processing and logistics facilities (cold chain, coconut drying, laboratories, nursery buildings, solar panels). • Define process flows, equipment requirements, utilities, and MEP systems (mechanical, electrical, plumbing). • Ensure constructability, operability, and cost efficiency of designs. • Support TL in preparation of all required reports. • Key Deliverables: FS-level options analysis for processing and logistics facilities. Complete DED packages for selected agro-processing, lab, 	<ul style="list-style-type: none"> • Degree in Mechanical, Process, or Industrial Engineering. • At least 10 years of experience in agro-processing or industrial facility design. • Proven relevant experience in at least two MDB-financed projects (AIIB/WB/ADB), preferably in Asia and the Pacific. • At least 7 years of experience in preparation of detailed engineering designs of agri-food facilities, storage/cold-chain infrastructure, irrigation infrastructure,

	and nursery facilities. Provide relevant inputs to the required reports.	
Environmental Specialist (International)	<ul style="list-style-type: none"> • Lead environmental screening, scoping, and risk categorization of subprojects in accordance with ESMF; confirm exclusion of highrisk (Category A) subprojects • Prepare/quality assure environmental inputs to feasibility studies (baseline, impact assessment, alternatives, mitigation hierarchy, cumulative impacts as applicable). • Lead r sitespecific ESIA/ESMPs for subprojects selected for DED, consistent with World Bank and AIIB ESF requirements. • Identify and integrate environmental mitigation measures into concept designs/DEDs • Support preparation of contractor environmental and social, health and safety specifications for bidding documents, including ESMP requirements, monitoring, reporting, and incident notification. Identify applicable national environmental permits and approvals and support process of obtaining them Provide targeted training and guidance to the PCU on environmental risk management and ESF compliance during project implementation. 	<ul style="list-style-type: none"> • Advance degree (Master's or higher) in environmental science/engineering, ecology, natural resources management, or related field. • Minimum 10 years of relevant experience in environmental assessment and management of infrastructure projects (roads, maritime/coastal works, airport transport facilities, irrigation, logistics facilities), including preparation of ES framework documents and/or ESIA/ESMPs. • Demonstrated experience with MDB ES standards (World Bank/ADB/AIIB ESF), including risk screening and categorization. • Proven track record delivering at least 2 assignments for MDB financed projects of similar scope and complexity (preferably in remote, fragile, and/or island contexts). • Strong report writing skills in English and ability to guide multidisciplinary teams and mentor national specialists.
Social Development Specialist/Gender (International)	<ul style="list-style-type: none"> • Lead the assessment and management of social risks and impacts for infrastructure subprojects during feasibility and detailed design stages, ensuring that screening, categorization, and preparation of site-specific instruments (ESIA/ESMP and RPs) in accordance with the Project's environmental and social framework, with particular attention to community health and safety,, labour risks, land acquisition and 	<ul style="list-style-type: none"> • Advanced degree in social sciences, anthropology, sociology, development studies, or a related field. • Minimum 8–10 years of relevant experience in social safeguards and social risk assessment for MDB- or donor-funded infrastructure projects, including land acquisition, Indigenous Peoples, and gender. • Proven experience in stakeholder consultation and preparation of social instruments in rural or remote

	<p>resettlement, Indigenous Peoples, gender, and vulnerable groups.</p> <ul style="list-style-type: none"> • Support preparation of contractor environmental and social, health and safety specifications for bidding documents, including ESMP requirements, monitoring, reporting, and incident notification. 	<p>contexts; prior experience in Papua New Guinea or similar contexts is highly desirable.</p>
Climate Change Specialist (International)	<ul style="list-style-type: none"> • Lead the preparation of detailed climate risk and vulnerability assessments (CRAs) of the relevant sub-projects that have high climate risk exposure, including recommended adaptation measures to manage these risks. The climate risk assessments (CRA) should also consider the embedded climate risk reduction measures included in the project design features. • Lead the calculation of the expected GHG emissions calculation for the sub-projects, which should include both gross and relative emissions, and should follow internationally recognized principles and methodologies for such calculation. Specifically, consultant should identify the most plausible baseline scenario and the key GHG emission sources for both baseline and project scenarios and describe the assessment boundary, key assumptions and parameters applied in the calculations. 	<ul style="list-style-type: none"> • Advanced degree (Master's or equivalent) in Engineering (Civil, Environmental), Environmental sciences, Economics or related field is required. • A minimum of 10 years of comprehensive professional experience in climate and/or engineering including 5 years of direct experience in GHG accounting for infrastructure projects. • Experience in applying climate science to climate risk assessment and adaptation planning, preferably in agriculture sector. Experience in designing mitigation measures for climate vulnerable locations. • Familiarity with operations of development finance institutions including multilateral development bank; • Knowledgeable of the sources of climate data (including observations and climate model-derived projections) and techniques of characterizing and communicating associated uncertainties. • Well versed of common methodological frameworks for climate risk assessments within the context of infrastructure investment projects, and good practices for their application.
Procurement Specialist (International)	<ul style="list-style-type: none"> • In consultation and with the support from DAL prepare Project Procurement Delivery Strategy and Procurement Plan based on WB templates; • In coordination with consultant's technical team provide inputs into shortlisting of priority subprojects 	<ul style="list-style-type: none"> • Bachelor's degree or an advanced degree in procurement, engineering, business administration, law, economics, or a related discipline • Minimum 10 years of professional experience in procurement and contract management for large-scale public infrastructure projects

	<p>and identification of packages suitable for advance contracting</p> <ul style="list-style-type: none"> • Prepare master bidding documents for works and goods packages and TORs, cost estimates, RFP for construction supervision consulting services • Provide on-the job training for PCU to undertake advance procurement actions and contract management best practices 	<ul style="list-style-type: none"> • Proven experience in procurement of works, goods, and consulting services under MDB-financed projects, including preparation of procurement strategies (packaging and sequencing), procurement plans, bidding documents • Familiarity with WB/AIIB procurement requirements • Sufficient knowledge of PNG National Procurement Act and approval procedures
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7. DURATION, FACILITIES TO BE PROVIDED BY THE CLIENT:

The FSDEDC will be recruited on an international open competitive basis using Quality and Cost Based Selection (QCBS) (80:10), Full Technical Proposal in accordance with AIIB Procurement Policy (26 June 2024) and Directive on Procurement Instructions for Recipients (26 July 2024). The FSDEDC will be engaged under a lump-sum contract, with an anticipated assignment duration of twelve (12) months from contract signing. The primary location of consultancy services will be Port Moresby, Papua New Guinea with site visits to regions as required. The expected start date is 30 June 2026, the assignment of experts is intermittent in nature. The terms will be revised based on consultations between the parties involved in the assignment per changes and/or additional requirements identified during implementation.

The GoPNG through DAL will actively support the consultant and will make available all the relevant data required for the assignment. GoPNG via the IA/PCU will provide the consultants with: (i) adequate office accommodation in Port Moresby with basic facilities; (ii) assistance in coordinating with relevant government agencies and facilitating access to necessary information and data.

Approach to Missions and Field Visits. The Consultant shall apply a risk-based and decision-focused approach to missions and field visits, minimizing international travel and relying primarily on desk-based analysis, the use of national key and non-key experts in Papua New Guinea, and remote coordination with the PCU and DAL and commodity boards. During the inception phase, limited physical presence in PNG may be required only for the TL and DTL for initial engagement and alignment with DAL/PCU, while all other experts shall participate remotely and support data collection and coordination through national experts. Field visits to sites shall be selective and justified, with no visits during long-list identification, limited feasibility-stage visits only for representative or high-risk sites to support short-listing, and full site visits required only at detailed design stage for surveys, site-specific E&S assessment, land access and resettlement activities, and construction readiness.