

TERMS OF REFERENCE FOR CONSULTANTS

I. Background

1. The Asian Development Bank (ADB) is providing transaction technical assistance (TA) facility to the Republic of Indonesia to support project preparation, project implementation, and capacity building and policy advice to a series of ongoing and ensuing projects on water management and water security in the Republic of Indonesia during 2020–2023. The TA is a subproject under the TA cluster for the Sustainable Infrastructure Assistance Program Phase II (SIAP2).¹

2. The TA facility will help prepare and implement investments that will address water security challenges in Indonesia. The TA facility will (i) build on partnerships to bring innovations including land and water management earth observations services; web-based asset management information systems and use of Light Detection and Ranging to improve operation and maintenance of water resources assets, and nature based solutions; (ii) focus on project readiness by synchronizing project preparation with facilities such as the Accelerating Infrastructure Delivery through Better Engineering Services Project (ESP);² (iii) provide integrated water supply solutions under the “source to tap” framework by facilitating collaboration among sectors;³ (iv) leverage financing by continuing the strategic partnership with the International Fund for Agricultural Development and by identifying potential for private investments through public-private partnership and other modalities for the water supply sector.

3. The TA facility has the following outputs: (i) planning, project design and readiness improved; and (ii) project implementation support, capacity development, and policy advice provided.

II. Consulting Services

4. The consultants will be engaged in accordance with the ADB Procurement Policy (2017, as amended from time to time) and the associated project administration instructions and/or TA staff instructions (as amended from time to time). The recruitment will use two selection methods: (i) quality- and cost-based selection (QCBS, 90:10); and (ii) individual consultant selection (ICS). The TA facility will consider output-based and/or lump sum contracts.

5. The consultant firm and individual experts shall have highly specialized expertise and extensive experience in all areas of water resources management. The consultants shall also have an understanding of the water sector policy in Indonesia and international financing institutions policies and procedures.

¹ ADB. 2018. *Transaction Technical Assistance Cluster to the Republic of Indonesia for Sustainable Infrastructure Assistance Program Phase II*. Manila. The subproject title was changed from “Preparation of the Integrated Participatory Development and Irrigation Management Project” to “Supporting Water Security Investments Facility.” The TA facility subproject will support project preparation and implementation of (i) Enhanced Water Security Investment Project – Phase 1 (for approval in 2021); (ii) Dry Land Development Project (for approval in 2021); (iii) Irrigation Development Project – Phase 1 (for approval in 2022); (iv) Loan 3529/8327-INO: Integrated Participatory Development and Management of Irrigation Program Results-Based Lending (ongoing); (v) Loan 3440-INO: Flood Management in Selected River Basins Sector Project (ongoing); and (vi) Loan 3455-INO: Accelerating Infrastructure Delivery Through Better Engineering Services Project (ongoing).

² ADB. 2016. *Report and Recommendation of the President to the Board of Directors: Proposed Technical Assistance Loan to the Republic of Indonesia for the Accelerating Infrastructure Delivery Through Better Engineering Services Project*. Manila. (Loan 3455-INO).

³ Source to tap refers to an approach integrating water resources management, raw water supply, and water treatment and distribution.

A. Firm package

1. Selection

6. The consultants will be evaluated based on their expressions of interest (EOI). In the EOI, consultants need to demonstrate their capacity to prepare and implement projects in all areas of water resources management, agricultural and value chain development, and disaster risk management, all at the same time.

7. ADB will review the participation and performance of consultants and may replace those which do not participate, or perform poorly, with other consultants during the TA implementation. ADB will take advance actions for consultant selection to expedite the recruitment process.

8. **Selection criteria.** Lead firm and members of the consortium must be from ADB member countries and not sanctioned by ADB. Criteria will comprise (i) management competence (20%); (ii) technical competence (60%); and (iii) geographical competence (20%).

- (i) Management Competence - the EOI should: (a) describe how the firm has managed consulting services to prepare investment projects; (b) describe how the firm has effectively worked with members of consortiums as lead firm; (c) describe policies and procedures that assure quality interaction with clients and quality of outputs and team performance; (d) describe internal control to handle complaints concerning performance of the expert and quality of the output; and (e) describe proposed quality control of the firm's performance over the life of the assignment.
- (ii) Technical Competence - the EOI should summarize the firm's relevant experience, which should be annexed to the EOI. The firm is expected to demonstrate its capacity to prepare multiple investment projects in the water and agriculture sectors, particularly in Indonesia. The firm's experience in water resources management, water supply, irrigated agriculture, and flood and drought risk management will be the focus of the evaluation as they are the themes of the ensuing projects.
- (iii) Geographic Competence - the EOI should summarize the consortium's experience in working together in Indonesia.

2. Terms of Reference for QCBS Package

Position	Person-Months
Firm	
National Consultants	
Hydraulic Engineer	10.0
Hydrologist	8.0
Structure Engineer	6.0
Geotechnical Engineer	3.0
Gender Specialist	3.0
Procurement Specialist	4.0
Institutional Specialist	4.0
Agriculture Specialist	6.0
Agricultural Value Chain Specialist	6.0
Geographic Information System (GIS) Operator	6.0
TOTAL	56.0

9. The terms of reference (TOR) of the key specialists below are indicative.

10. **Hydraulic Engineer (national, 10 person-months).** The consultant is preferred to have a higher degree in water resources, civil engineering or related field with 5 years of relevant work experience. He/She should have relevant experience in preparing irrigated agriculture and water resources investments. Experience in water allocation and hydrodynamic modelling and geographic information system is essential. He/she will assist in evaluation of technical aspects of the proposed investments. The consultant must have strong interpersonal and communication skills, be fluent in written and spoken English, and have proven ability in report writing for professional purposes. The consultant will:

- (i) Support the Directorate General of Water Resources (DGWR), in reviewing the detailed engineering design for development and modernization of irrigation system (extension), raw water supply development and flood risk management prepared under ESP ensuring highest quality standards;
- (ii) Review water allocation model including hydrology and other outputs produced under ESP ensuring that climate resilience aspects are built into the planning and design of new irrigation systems;
- (iii) As needed, operate water allocation model for selected river basins including climate change adaptation impacts, and analyze the feasibility of water allocation plans;
- (iv) For the Dry Land Development Project, design typical piped irrigation system and develop methodology to apply such system in different hydrological and soil conditions
- (v) Assess potential for optimization of (large and small) dams' operations (including multi-purpose, hydropower, irrigation, flood attenuation and domestic water storage dams) and recommend adjustments of allocations for other users and dams operations for more sustainable use of water resources, including identifying interdependencies and linkages water users across sectors particularly energy and domestic supplies;
- (vi) Assist in preparing and analyzing water demand characteristics and projections for each selected subprojects; and
- (vii) Conduct consultations with river basins stakeholders to review and confirm proposed infrastructure investments in selected river basins.

11. **Hydrologist (national, 8 person-months).** The consultant must have a higher degree (M.Sc. or equivalent), in civil engineering or water resources. The consultant must have at least 5 years of relevant experience in preparing hydrological analysis and hydrodynamic modeling for water resources projects (flood risks management, irrigation; raw water supply). Experience in preparing hydrological assessments, and mathematical modelling for flood routing, and operational efficiencies to improve climate change adaptation and socio-environmental aspects is essential. Experience in hydrological review to optimize basin water resources and climate change vulnerability assessment of water projects is also essential. The consultant must have strong interpersonal and communication skills, be fluent in written and spoken English, and have proven ability in report writing for professional purposes. The consultant will:

- (i) Review soundness of hydrological computations for infrastructure subprojects prepared under the ESP;
- (ii) For the Dry Land Development Project, prepare hydrological analysis and advise on water balance for selected subprojects and design piped irrigation system together with the hydraulic engineer;
- (iii) Support the development of rainfall runoff routing, water allocations models,

including climate change adaptation impacts, and recommend adjustments of allocations for other users and dams operations for more sustainable use of water resources, including identifying interdependencies and linkages water users across sectors particularly energy and domestic supplies;

- (iv) For each selected subproject, support the preparation and/or review of technical and institutional assessment for data acquisition and management, and modeling; a hydrometeorological network rationalization plan, capacity development program for river basin modeling and data management including transfer of knowledge and technical support from relevant institutes such as the National Research Center for Water Resources; and
- (v) Facilitate focus group discussions to review project preparation progress.

12. **Structure Engineer (national, 6 person-months).** The consultant must have at least 5 years of experience in designing and supervising water infrastructure works, and a master's degree or equivalent in civil engineering. The consultant must have a robust knowledge base on asset management, operation and maintenance using information systems. Knowledge of the government planning cycle, procurement procedures and financial management mechanisms is essential. The consultant must have strong interpersonal and communication skills, be fluent in written and spoken English, and have proven ability in report writing for professional purposes. The consultant will:

- (i) Support the review of feasibility studies and engineering design for infrastructure subprojects prepared under the ESP;
- (ii) Support the preparation of feasibility studies for infrastructure subprojects that are not designed under ESP including basic design of typical infrastructure;
- (iii) Review the operation and maintenance data collection, information system maintenance and budgeting processes and capacity of river basins organizations for water resources infrastructure assets and formulate project components to address gaps; and
- (iv) Contribute to the formulation of project components, cost estimates, terms of reference.

13. **Geotechnical Engineer (national, 3 person-months).** The consultant should have a university degree or higher in Geosciences or Civil Engineering field with at least 5 years experience specializing in geophysical investigations and assessments, and experience in relation to earthen embankments and slope stability. Previous knowledge of and/or experience of water resources management project investigations/assessments is desirable. The consultant must have strong interpersonal and communication skills, be fluent in written and spoken English, and have proven ability in report writing for professional purposes. The consultant will:

- (i) Review soundness of geological studies for infrastructure subprojects prepared under the ESP;
- (ii) Gather information on geology of project areas by site inspections, review of existing data, mapping and reports, consultation with relevant government officials, for infrastructure proposed under the Dry Land Development Project;
- (iii) Identify potential sources of construction material and suitable locations and means of disposal of soil;
- (iv) Advise the design team and report on risks related to geophysical conditions on project sites, mitigating measures for safe construction and other matters of relevance to engineering design and construction, and provide parameters required for design as required by the Civil/Design Engineer; and

- (v) Prepare a detailed plan to identify and map sites with high landslide risk to be selected in consultation with other team members and government officials.

14. **Gender Specialist (national, 3 person-months).** The consultant must have qualifications in a relevant social discipline and have 5 years of experience in gender and social development, preferably in the water and agriculture sector. The specialist must have demonstrated experience in the preparation and implementation of projects for the ADB, World Bank or other international organization with similar gender and social requirements. The specialist must have strong interpersonal and communication skills, be fluent in written and spoken English, and have proven ability in report writing for professional purposes. The consultant will:

- (i) Prepare a gender sensitive stakeholder analysis and consultation and participation plan;
- (ii) Ensure and coordinate a full range of participatory workshops and meetings, including (a) formal public consultation workshops to present/discuss assessment of development issues, (b) focus group discussion with stakeholders in key parts of the basin impacted by the program including 'gender stakeholders' (women's groups and civil society organizations dealing with gender and/or women beneficiaries); and (c) meetings/interviews with government officials (at national, provincial and district levels), as well as key informants (water utility executives, NGOs, personnel working on related projects in the basin), potential female and male beneficiaries, and those who may be affected by the works;
- (iii) Prepare the following formal reports, in addition to any necessary working papers or reports required for the preparation of the proposed investment projects: (i) gender sensitive stakeholder analysis report and consultation and participation plan; (ii) poverty and social analysis and gender analysis reports including data disaggregated by sex and other relevant factors whenever possible; (iii) gender action plan; (iv) Summary Poverty Reduction and Social Strategy (SPRSS); (v) Contribution to the Environment Assessment Review Framework (EARF), Indigenous People's Planning Framework (IPPF), Indigenous People Plan (IPP), Initial Environmental Examination (IEE), Land Acquisition and Resettlement Framework and Land Acquisition and Resettlement Plan (LARP); (vi) relevant inputs for the project administration manual (PAM); and (vii) gender sensitive information and communication materials, including a checklist to help guide the TA team

15. **Procurement Specialist (national, 4 person-months).** The consultant should have at least 5 years of experience supporting procurement for public investments. Knowledge of the government planning cycle, procurement procedures and financial management mechanisms is essential. The specialist must have strong interpersonal and communication skills, be fluent in written and spoken English, and have proven ability in report writing for professional purposes. The consultant will:

- (i) Prepare the assessment of the operating environment, market analysis, risk management, and options analysis of the ensuing projects;
- (ii) Develop a case study for the strategic procurement planning (SPP) workshop based on real data of the ensuing projects;
- (iii) Summarize procurement strategy based on the result from the SPP workshop and ensure that the proposed project procurement planning follows fit-for-purpose procurement principles;
- (iv) Prepare ensuing projects procurement plans;

- (v) Prepare and facilitate the SPP workshop;
- (vi) Review soundness of bidding documents prepared under ESP and advise DGWR and its consultant in ensuring compliance with ADB standards; and
- (vii) Support DGWR and implementing agencies (IAs) in advance procurement action.

16. **Institutional Specialist (national, 4 person-months).** The consultant will have a higher degree (M.Sc. or equivalent), must have 7 years experience in policy reform for water resources and participatory irrigation management. Knowledge of the government planning cycle, current regulatory framework and guidelines related to irrigated agriculture is essential. The specialist must have strong interpersonal and communication skills, be fluent in written and spoken English, and have proven ability in report writing for professional purposes. The consultant will:

- (i) Review regulatory frameworks for integration among sectors involved in water resources management and provide recommendations for operationalization of in the context of the proposed investments;
- (ii) Review mechanisms for subnational agencies involvement in water resources management and irrigated agriculture, including mandate, fund flow mechanisms and evaluation mechanisms;
- (iii) Formulate implementation mechanisms including involvement of subnational agencies; and
- (iv) Prepare recommendations for improvement of service delivery in the context of the proposed investments.

17. **Agriculture Specialist (national, 6 person-months).** The consultant will have the required degree in agriculture science, horticulture science, agronomy, or a relevant field, and have at least 5 years of practical experience in the field of horticulture development. The specialist must have strong interpersonal and communication skills, be fluent in written and spoken English, and have proven ability in report writing for professional purposes. The consultant will:

- (i) Analyze horticulture sector performance and identify constraints and opportunities;
- (ii) Update/strengthen the horticulture sector strategy;
- (iii) Prepare a program for investment and capacity building; and
- (iv) assess business and marketing of existing and potential project participating business entities and farmer cooperatives.

18. **Agricultural Value Chain Specialist (national, 6 person-months).** The consultant will have the required degree in agricultural economics, agricultural development, or development economics, and at least 5 years of practical experience in the field of agriculture and rural development, especially related to agricultural enterprise development. They will have experience with value chain analysis and strong knowledge of private sector operations in agribusiness. The specialist must have strong interpersonal and communication skills, be fluent in written and spoken English, and have proven ability in report writing for professional purposes. The consultant will:

- (i) Lead the consultations with the relevant government agencies and value chain stakeholders to establish the scope and methodology for development or improvement of value chains of key agricultural subsectors (groups of agricultural commodities);
- (ii) Lead the public-private consultations on strategic market-oriented value chain planning;
- (iii) Lead the value chain analyses for the selected commodities;

- (iv) Lead the analysis of demand and market including e-commerce for products within selected value chains and coordinate the inputs of the other consultants who have a lead or supportive role in this task;
- (v) Lead the assessment of public investments critical for the selected value chains and design project intervention based on the assessment;
- (vi) Lead the assessment of private sector operations related to the value chains and design project interventions with a particular focus on the possible application of high-level technology based on the assessment;
- (vii) Lead the assessment of capacity of value chain stakeholders and design capacity building programs based on the assessment; and
- (viii) Lead the assessment of policies, strategies, and regulations related to the enabling business environment and design project intervention for their changes as needed.

19. **Geographic Information System (GIS) Operator (national, 6 person-months).** The consultant will be an experienced engineer or geographer with qualifications and specialization in water resources management and planning. The consultant should be a university graduate with at least 3 years of experience in integrated water resources management. The consultant will have demonstrated skills to operate geographic information system to generate maps and mapping interface, using online platform. The consultant will have strong interpersonal and communication skills, be fluent in written and spoken English, and have proven ability in report writing for professional purposes. The consultant will:

- (i) Integrate all relevant digital information (infrastructure, spatial planning, agriculture, etc.) into the geographic information system relevant to the proposed investments and coordinate with the Geospatial Information Agency (Badan Informasi Geospasial) for alignment of metadata;
- (ii) Prepare thematic maps including potential involuntary resettlement issues (physical relocation, non-land title holders); and
- (iii) Support the preparation and implementation of consultation workshops including budgeting, material and proceedings preparation, and administration.

20. Non-key specialists will be proposed by QCBS prequalified consultants in their technical proposals and approved by ADB. Proposed composition of non-key specialists will be assessed during ADB's technical proposal review.

B. Terms of Reference for Individual Consultant Selection Packages

Position	Person-Months
Individual	
1. International Consultants	
Water Resources Management Specialist	16.0
Irrigation Infrastructure Development Specialist	8.0
Economist	3.0
Social Safeguards and Gender Specialist	4.0
Environment Safeguards Specialist	4.0
Subtotal - Individual International Consultants	35.0
2 Specialized National Consultants	
Project Readiness Specialist	18.0
Irrigation Development Specialist	12.0
Asset Management Specialist (Water Resources)	12.0
Social Safeguards Specialist 1	12.0
Social Safeguards Specialist 2	12.0
Environment Safeguards Specialist	12.0
Financial Management Specialist	12.0
Subtotal - Individual National Consultants	90.0
3 Unallocated^a	6.0
TOTAL	131.0

21. **Water Resources Management Specialist (international, 16 person-months).** The consultant must have a higher degree (M.Sc. or equivalent), in civil engineering or water resources. The consultant must have at least 10 years of relevant experience in developing infrastructure projects covering flood risks management, raw water supply, irrigated agriculture, large and small dams with strong focus on operational and technical matters. Experience in designing and operational optimization of dams including hydrological assessments, and mathematical modelling for flood routing, institutional and policy aspects of dam management, and operational efficiencies in terms of climate change adaptation and socio-environmental aspects is essential. Experience in hydrological review to optimize basin water resources and climate change vulnerability assessment of water projects is also essential. Knowledge of the government planning cycle, procurement procedures and financial management mechanisms would be an advantage. The specialist must have strong interpersonal and communication skills, be fluent in written and spoken English, and have proven ability in report writing for professional purposes. The consultant will:

- (i) Review feasibility studies and engineering design for infrastructure subprojects prepared under the ESP;
- (ii) Identify best practices (climate adaptation, seismic risk proofing, water efficiency) relevant to the project and formulate activities to be part of the investment;
- (iii) In consultation with proposed IAs, prepare (a) detailed activities, logical frameworks and cost estimates for project components, (b) detailed implementation plans, (c) component profiles, and (d) terms of reference for consulting services and procurement packages;
- (iv) Prepare documents necessary for procurement of consulting and other services for all component projects and support advance procurement for priority component projects;
- (v) For each selected river basins, prepare a technical and institutional assessment for data acquisition and management, and modeling; a hydrometeorological network rationalization plan, capacity development program for river basin modeling; and data management including transfer of knowledge and technical

- support from relevant institutes such as the National Research Center for Water Resources;
- (vi) Support the preparation of the linked documents attached to the Report and Recommendation of the President to the Board of Directors (RRP) for the ensuing projects;
 - (vii) Facilitate focus group discussions to review project preparation progress; and
 - (viii) Prepare the following formal reports, in addition to any necessary working papers or reports required for the preparation of the proposed investment projects: (i) Technical reviews for selected river basins of (a) water allocations, data management, and modeling, (b) feasibility studies prepared under L3455 (ii) Loan documentation including but not limited to (a) detailed activities, logical frameworks and cost estimates for project components, (b) detailed implementation plans, (c) component profiles, and (d) terms of reference for consulting services and procurement package; (iii) PAM, including implementation arrangements, role and responsibilities of each agencies, and procurement plan; (iv) monthly administrative reports following ADB template (monthly); and (v) working group materials and discussion and technical notes as required.

22. Irrigation Infrastructure Development Specialist (international, 8 person-months).

The consultant should have at least 10 years of experience in designing and supervising irrigation works, and a master's degree or equivalent in civil engineering. The specialist will ensure the timely completion and quality of activities and outputs under the close coordination with DGWR and BAPPENAS. Knowledge of the government planning cycle, procurement procedures and financial management mechanisms is essential. Fluency in Bahasa Indonesia would be an advantage. The specialist must have strong interpersonal and communication skills, be fluent in written and spoken English, and have proven ability in report writing for professional purposes. The consultant will:

- (i) Review feasibility studies and engineering design for infrastructure subprojects prepared under the ESP;
- (ii) In consultation with proposed IAs, prepare (a) detailed activities, logical frameworks and cost estimates for project components, (b) detailed implementation plans, (c) component profiles, and (d) terms of reference for consulting services and procurement packages;
- (iii) Propose options for developing and modernizing irrigation systems and review designs prepared under ESP;
- (iv) For the Dry Land Development Project, (a) specify and supervise topographic surveys; (b) carry out detailed engineering designs (DEDs) for R&M of piped irrigation system; (iii) estimate the cost of subprojects, prepare bills of quantity (BOQs), tender drawings and complete all other requirements for forming bid documents; and (iv) assess conveyance efficiency and water productivity and incorporate measures to improve efficiency and water productivity in DEDs of the core subprojects with reference to the feasibility studies to be developed; and
- (v) Lead preparation of feasibility studies for the Dry Land Development Project; and
- (vi) Support the preparation of the linked documents attached to the RRP.

23. Economist (international, 3 person-months). The Economist must have an advanced degree in economics, finance, or in a related discipline. He/she has at least 8 years relevant professional international experience and strong technical background in preparing financial and economic analysis, the design and the management of projects funded by ADB and other international financial institutions. Likewise, he/she must have good water sector experience in ADB's developing member countries. He/she must have experience working with key government

officials, and representatives of key aid agencies in preparing and implementing ADB projects. He/she must have excellent written and oral communications skills. The expert will:

- (i) Contribute to the detailed sector assessment and feasibility studies for the ensuing projects;
- (ii) Review and provide guidance for improvements of the economic and financial analysis for infrastructure subprojects prepared under the ESP;
- (iii) Develop economic and financial spreadsheet models that are in compliance with conventional financial modelling standards;
- (iv) Prepare the economic analyses for the ensuing projects in compliance with ADB's relevant guidelines; and
- (v) Complete any other tasks as may be reasonably requested by ADB or the government.

24. Social Safeguards and Gender Specialist (international, 4 person-months). The specialist must have qualifications for social development, and at least 8 years experience in resettlement and land acquisition programs. The specialist must have demonstrated experience in directly managing or leading the execution of the preparation and implementation of resettlement plans and resettlement frameworks for the ADB, World Bank or other development partner with similar resettlement requirements and a good knowledge of the current Indonesian regulations including the new Land Law 2/2012 and on indigenous people. The expert must have strong interpersonal and communication skills, be fluent in written and spoken English, and have proven ability in report writing for professional purposes. The consultant will:

- (i) Review compliance of the resettlement plans prepared under ESP with ADB Safeguards Policy Statement 2009;
- (ii) Assess the institutional capacity to implement the resettlement plans and develop measures to strengthen the capacity;
- (iii) Coordinate with the executing agency the preparation of annual work plans to ensure that budget will be allocated for LARP implementation and IPP implementation (as required);
- (iv) Provide capacity building to counterpart on the ADB and government land acquisition and resettlement policies and guidelines;
- (v) Check the results of survey and ensure that data adequately recorded;
- (vi) Identify consultations gap and suggest consultation plan and schedule for all social safeguards documents;
- (vii) Oversee the gender action plan preparation and tasks of the Social development/gender specialist;
- (viii) Other tasks as may be required to support resettlement and indigenous people activities under the project; and
- (ix) Prepare the following formal reports, in addition to any necessary working papers or reports required for the preparation of the ensuing projects: (i) Land Acquisition and Resettlement Framework; (ii) PAM sections; (iii) institutional capacity assessment on social safeguards implementation; and (iv) progress reports on resettlement plans prepared under ESP.

25. Environment Safeguards Specialist (international, 4 person-months). The specialist must have a postgraduate degree in environmental science, environmental management or equivalent and at least 10 years of experience in environmental safeguards of water resources development and related projects. This shall include experience in environment impact assessment (EIA). He/she must have experience in the preparation of EIA reports. Familiarity

with the ADB environmental safeguard system is essential. He/she must have excellent written and oral communications skills in the English language. The consultant will:

- (i) Finalize the EARF to be used as reference for preparation of subprojects under ESP and the Dry Land Development Project;
- (ii) Review compliance of initial environment examination studies or environment impact assessments prepared under ESP with ADB Safeguards Policy Statement 2009;
- (iii) Assess the institutional capacity to implement the environmental management plan (EMP) and develop measures to strengthen the capacity;
- (iv) Other tasks as may be required to support environmental safeguard activities under the project; and
- (v) Prepare the following formal reports, in addition to any necessary working papers or reports required for the preparation of the proposed investment projects (i) EARF; (ii) PAM sections; (iii) Institutional capacity assessment on EMP implementation; and (iv) progress reports on IEE/EIA prepared under ESP.

26. Project Readiness Specialist (national, 18 person-months). The consultant must have at least 10 years of experience in designing and supervising water infrastructure works, and a master's degree or equivalent in civil engineering. The consultant must have a robust knowledge base on asset management, operation and maintenance using information systems. Knowledge of the government planning cycle, procurement procedures and financial management mechanisms is essential. The specialist must have strong interpersonal and communication skills, be fluent in written and spoken English, and have proven ability in report writing for professional purposes. The consultant will:

- (i) Support the review of feasibility studies and engineering design for infrastructure subprojects prepared under the ESP;
- (ii) In consultation with proposed IAs, prepare (a) detailed activities, logical frameworks and cost estimates for project components, (b) detailed implementation plans, (c) component profiles, and (d) terms of reference for consulting services and procurement packages;
- (iii) Prepare and update as required the loan readiness documentation in close coordination with the Directorate of Planning and Programming, DGWR, and the Directorate of Multilateral Funding, BAPPENAS;
- (iv) Identify infrastructure investments suitable for private-public partnership and performance-based operation and maintenance (O&M) and prepare related documentation; and
- (v) Contribute to the preparation of the linked documents.

27. Irrigation Development Specialist (national, 12 person-months). The consultant should have at least 7 years of experience in planning and designing irrigation systems, and a master's degree or equivalent in civil engineering, or irrigation planning. The specialist will ensure the timely completion and quality of activities and outputs under the close coordination with DGWR and BAPPENAS. Knowledge of the government planning cycle, procurement procedures and financial management mechanisms is essential. The specialist must have strong interpersonal and communication skills, be fluent in written and spoken English, and have proven ability in report writing for professional purposes. The consultant will:

- (i) Provide client liaison, with the IAs, other government agencies and ADB;

- (ii) Review the program quarterly and guide the National Program Management Unit (NPMU) in implementing key program actions for the integrated Participatory Development and Management of Irrigation Program (IPDMIP);
- (iii) Monitor the program action plan (PAP) implementation and provide regular brief to DGWR and ADB with recommendation to address bottlenecks and gaps for the IPDMIP;
- (iv) Support the DGWR in further strengthening its monitoring and evaluation and management information systems, including the data collection procedures and verification protocols, as necessary;
- (v) Review feasibility studies and engineering design for infrastructure subprojects prepared under the ESP;
- (vi) In consultation with proposed IAs, prepare (a) detailed activities, logical frameworks and cost estimates for project components, (b) detailed implementation plans, (c) component profiles, and (d) terms of reference for consulting services and procurement packages;
- (vii) Propose options for developing and modernizing irrigation systems and review designs prepared under ESP;
- (viii) Support DGWR in planning to integrate activities with agriculture development under the Ministry of Agriculture for the ensuing projects;
- (ix) Facilitate focus group discussions to review program progress; and
- (x) Assist in the program review and other program implementation and management activities.

28. **Asset Management Specialist (Water Resources) (national, 12 person-months).** The consultant will be an experienced engineer or geographer with qualifications and specialization in water resources management and planning. The consultant should be a university graduate with at least 5 years of experience in integrated water resources management. The consultant will have demonstrated skills to operate geographic information system to generate maps and mapping interface, using online platform for water infrastructure assets. The specialist must have strong interpersonal and communication skills, be fluent in written and spoken English, and have proven ability in report writing for professional purposes. The consultant will:

- (i) Review operation and maintenance expenditures for water infrastructure, fiscal capacity of river basin organizations and recommend actions to align O&M budget allocation with needs and prepare an assessment of expenditures for O&M, including review of planned, allocated and utilized O&M budget;
- (ii) Prepare a plan to integrate all relevant digital information (infrastructure, spatial planning, agriculture, etc.) into the asset management information system;
- (iii) Prepare thematic maps with potential involuntary resettlement issues (physical relocation, non-land title holders);
- (iv) Prepare data collection plan for O&M purpose including corresponding budgets, methodology and monitoring mechanisms
- (v) Facilitate discussions between Directorate of Water Resources and Irrigation, DGWR together with the Agency for the Assessment and Application of Technology (BPPT), the National Institute of Aeronautics and Space (LAPAN), and the Geospatial Information Agency (Badan Informasi Geospasial) to explore technical options to improve the delivery of the water program; and
- (vi) Support the preparation and implementation of consultation workshops including budgeting, material and proceedings preparation, and administration.

29. **Social Safeguards Specialist 1 (national, 12 person-months).** The consultant must have qualifications for social development, and at least 5 years experience in resettlement and

land acquisition programs. The specialist must have demonstrated experience in directly managing or leading the execution of the preparation and implementation of resettlement plans and resettlement frameworks for the ADB, World Bank or other development partner with similar resettlement requirements and a good knowledge of the current Indonesian regulations including the new Land Law 2/2012 and other relevant laws and regulations, and on indigenous people. The expert must have strong interpersonal and communication skills, be fluent in written and spoken English, and have proven ability in report writing for professional purposes.

- (i) Review compliance of the resettlement plans, and IPP prepared under ESP with ADB Safeguard Policy Statement (2009) and government legal framework; and revise them as needed;
- (ii) Assess the institutional capacity to implement the resettlement plans and indigenous people plans and develop measures to strengthen the capacity;
- (iii) Coordinate with the executing agency the preparation of annual work plans to ensure that budget will be allocated for LARP and IPP implementation (as required);
- (iv) Provide capacity building to counterpart on the ADB and government land acquisition and resettlement policies and guidelines in coordination with ADB safeguards specialist;
- (v) Provide support for the preparation of the government LARPs;
- (vi) Check the results of survey and ensure that data adequately is recorded;
- (vii) Identify consultations gap and suggest consultation plan and schedule for all social safeguards documents;
- (viii) Facilitate consultations with various stakeholders including interest groups, local governments and affected people;
- (ix) Supervise the social safeguards analysts in supporting IAs in LAR process;
- (x) Support the preparation of bi-annual and annual safeguards monitoring reports;
- (xi) For the IPDMIP, review compliance of disbursement-linked indicator (DLI) 8, monitor PAP implementation, and contribute to the implementation of the capacity development plan;
- (xii) Coordinate closely with ADB Indonesia Resident Mission safeguards specialists; and
- (xiii) Other tasks as may be required to support resettlement and indigenous people activities under the project.

30. **Social Safeguards Specialist 2 (national, 12 person-months).** The consultant must have qualifications for social development, and at least 4 years experience in resettlement and land acquisition programs. He/she must have demonstrated experience in directly managing or leading the execution of the preparation and implementation of resettlement plans and resettlement frameworks for the ADB, World Bank or other development partner with similar resettlement requirements and a good knowledge of the current Indonesian regulations including the new Land Law 2/2012 and on indigenous people. The expert must have strong interpersonal and communication skills, be fluent in written and spoken English, and have proven ability in report writing for professional purposes.

- (i) Support IAs in coordinating and liaising with local government to accelerate LAR processes and delivery of permits;
- (ii) Support IAs in conducting meaningful consultations with affected persons, ensuring gender-balanced participation and preparing corresponding correspondence and records;

- (iii) Support inventory of affected persons, losses (physical, economic and social) and socio-economic surveys, supervise data processing and responsible for data quality control;
- (iv) Ensure the data recorded are correct and it is accessible to all stakeholders;
- (v) Support IAs complying with project LAR requirements (process, documents and administration);
- (vi) Through on-the-job training, improve IAs institutional capacity to implement the resettlement plans and develop measures to strengthen the capacity;
- (vii) Support the IAs in preparing LAR budget and request for funding with the executing agency for LARP implementation and IPP implementation (as required).
- (viii) Brief counterparts on ADB and government land acquisition and resettlement policies and guidelines;
- (ix) Provide support for preparation of the government LARPs and related correspondence and reports;
- (x) Identify consultations gap and suggest consultation plan and schedule for all social safeguards documents;
- (xi) Facilitate consultations with various stakeholders including interest groups, local governments and affected people;
- (xii) For the IPDMIP, review compliance of DLI8, monitor PAP implementation, and contribute to the implementation of the capacity development plan;
- (xiii) Report regularly to the executing agency and ADB; and
- (xiv) Other tasks as may be required to support resettlement and indigenous people activities under the projects.

31. Environment Safeguards Specialist (national, 12 person-months). The specialist must have a postgraduate degree in environmental science, environmental management or equivalent and at least 7 years of experience in environmental safeguards of water resources development and related projects. This shall include experience in environment impact assessment (EIA). He/she must have experience in the preparation of EIA reports and AMDAL studies. Familiarity with the ADB environmental safeguard system is essential. He/she must have excellent written and oral communications skills in the English language. The consultant will:

- (i) Review compliance of initial environment examination studies or environment impact assessments prepared under ESP with ADB Safeguards Policy Statement 2009;
- (ii) Assess the institutional capacity to implement the EMP and develop measures to strengthen the capacity;
- (iii) Other tasks as may be required to support environmental safeguard activities under the project; and
- (iv) Prepare the following formal reports, in addition to any necessary working papers or reports required for the preparation of the proposed investment projects: (i) EARF; (ii) PAM sections; (iii) Institutional capacity assessment on EMP implementation; and (iv) progress reports on IEE/EIA prepared under ESP.

32. Financial Management Specialist (national, 12 person-months). The specialist will have a post-graduate degree in financial management or economics, or equivalent, with at least 7 years of professional experience in supporting financial management preferably within the irrigation, and water resources management sectors. Having a recognized professional accountancy qualification would be an advantage. Experience in ADB or other externally assisted programs will be taken as an advantage. Knowledge of the government planning cycle,

procurement procedures and financial management mechanisms is essential. He/she will have excellent written and oral communications skills. The consultant will:

- (i) For the IPMDIP, (a) review unaudited financial statement and audit reports for the program covering all irrigation activities under the central government and local governments from all source of financing; (b) provide technical support to DGWR to comply with financial management actions listed in the PAP; (c) monitor the implementation of the financial management action plan; (d) Assist the executing agency to monitor and update the expenditure framework;
- (ii) Monitor the outcome of training, identify gaps and advise for additional training/topics to comply with regulations related to financial management;
- (iii) Prepare standardized costing templates to be used for subprojects to be designed under ESP;
- (iv) Review quality and provide guidance for improvement for the cost estimates for subprojects prepared under ESP;
- (v) Prepare the overall project cost estimates as per ADB's requirements and guidelines;
- (vi) Prepare and or review financial sustainability analysis and financial management assessment;
- (vii) Draft the overall work plans for the project components;
- (viii) Prepare the project implementation arrangement, funds flow, procurement, and auditing arrangements that reflect appropriate linkages at central and local level with other ministries and stakeholder participating in the project, and describe using the format in the PAM;
- (ix) Provide other inputs to ensure ADB and the government can finalize all loan documents of the proposed project;
- (x) Provide briefing to IAs on ADB financial management requirement; and
- (xi) Prepare procedure and templates for financial management reports during the loan implementation.

33. **Unallocated (6 person-months).** This to cover any position requirement that will arise during implementation.