

TERMS OF REFERENCE FOR CONSULTANTS

I. Objective and Purpose of the Assignment

1. The Asian Development Bank (ADB) is providing technical assistance to the Government of Indonesia (the government) to implement its irrigation improvement program (IIP) from 2017 to 2021 through the Integrated Participatory Development and Management of Irrigation Program (the Program), a results-based loan.¹ The Program will strengthen capacity to address institutional weaknesses, organizational fragmentation, and weak governance to improve operation and maintenance (O&M) and management of irrigation systems. It will also improve water delivery to farmers by rehabilitating infrastructure.

2. The main objective of the services is to support the Directorate General of Water Resources (DGWR) under the Ministry of Public Works and Housing (MPWH), to effectively implement the Program to accelerate the delivery of the National Medium Term Development Plan (*Rencana Pembangunan Jangka Menengah Nasional*, RPJMN) targets.

II. Scope of Work

3. The services will focus on (i) strengthening financial management system and capacity towards results based financing; (ii) upgrading the monitoring and evaluation (M&E) system and procedures to ensure a timely and accurate reporting of the Program key indicators – including disbursement linked indicators (DLIs); and (iii) strengthening capacity to verify achievement of the DLIs and the Program Action Plan (PAP).

4. The following consultants will be engaged on an intermittent basis (over a period of 2 years) using the individual consultant selection (ICS) method in accordance with ADB's Guidelines on the Use of Consultants (2013, as amended from time to time):

Table 1: Consulting Services Inputs

Positions	Person-Months Required
National	
Irrigation Management Specialist	16.00
Irrigation Infrastructure Specialist	10.91
Financial Management Specialist	16.00
Institutional Specialist	10.91
GIS and Mapping Specialist	16.00
Information System Specialist	16.00
Program Coordinator	16.00
International	
Irrigation infrastructure Specialist	3.64
Information System Specialist	6.00

Source: Asian Development Bank.

5. Workshops will be organized at key stages of the Program implementation to update and provide key agencies with advice on improving the delivery of the IIP objectives. Equipment, training, workshops and surveys will be procured or organized by ADB or by the consultants in accordance with ADB's Procurement Policy and Procurement Regulations for ADB Borrowers, 2017.

¹ ADB proposes to provide \$600 million in 2017, including \$100 million from the ASEAN Infrastructure Fund, and \$400 million in 2019. ADB. 2015. *Country Operations Business Plan: Indonesia, 2015-2017*. Manila.

III. Specific Scope of Work

A. Irrigation Management Specialist (National)

Professional Group: C

Job Level: 5

Expertise Group: Agriculture/Rural Development

1. Detailed Tasks

- (i) Provide client liaison, with the implementing agencies, other government agencies and ADB;
- (ii) Formulate and support implementation of a training program to strengthen the independent verification agency capacity to verify DLI achievements;
- (iii) Develop the program quarterly status report template and guidance;
- (iv) Provide technical inputs and coordination among DGWR's relevant units for the development of the irrigation data warehouse;
- (v) Monitor the PAP implementation and provide regular brief to DGWR and ADB with recommendation to address bottlenecks and gaps;
- (vi) Review quarterly program progress report and prepare recommendations to improve delivery;
- (vii) Review the monitoring and evaluation systems updated by the DGWR to measure and monitor the program's results and the achievements of the DLIs. Support the DGWR in further strengthening its monitoring and evaluation and management information systems, including the data collection procedures and verification protocols, as necessary;
- (viii) Support DGWR in planning to integrate activities with agriculture development under the Ministry of Agriculture in the program area and budget allocation including the review of the overall and annual work plans at program level;
- (ix) Prepare a completion report that includes lessons learned, a sustainability plan, and other recommendations that would ensure that the gains achieved from the technical assistance are fully institutionalized;
- (x) Facilitate focus group discussions to review program progress; and
- (xi) Assist in the program review and other program implementation and management activities.

2. Minimum Qualification Requirements

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. He/she will have excellent written and oral communications skills.

Minimum General Experience: 10 Years

Minimum Specific Experience (relevant to assignment): 7 Years

Regional/Country Experience: Required

3. Output/Reporting Requirements

The consultant will prepare the following formal reports, in addition to any necessary working papers or reports required for the preparation of the proposed investment projects:

- (i) Training program for the independent verification agency (IVA) and the MPWH Inspectorate General;
- (ii) Template and guidance for program quarterly report;
- (iii) Monthly administrative reports following ADB template (monthly);
- (iv) Working Group materials and discussion and technical notes as required; and
- (v) Completion report

B. Irrigation Infrastructure Specialist (National)

Professional Group: C

Job Level: 5

Expertise Group: Agriculture/Rural Development

1. Detailed Tasks

- (i) Provide technical advice for the upgrading of technical guidelines under DLI2²
- (ii) Review soundness of revised guidelines (DLI2);
- (iii) Provide inputs on the training program for the independent verification agency on the infrastructure and construction aspects;
- (iv) Assist in preparation of reports on the non DLI indicators;
- (v) Review generic terms of reference for detailed engineering design to ensure adherence to the updated guidelines; and
- (vi) Support preparation of consolidated work plans at program level covering all source of financing.

2. Minimum Qualification Requirements

The consultant should have at least 7 years of experience in designing and supervising irrigation infrastructure 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. He/she will have excellent written and oral communications skills.

Minimum General Experience: 10 Years

Minimum Specific Experience (relevant to assignment): 7 Years

Regional/Country Experience: Required

² Updated guidelines: (i) detailed engineering guidelines to incorporate adaptation for irrigation system management to increasing climate variability and change, climate proofing, water efficiency, mapping, and remote sensing; master planning and feasibility study methodology, construction management and technical specification and cost estimate standards; right of way management; hydro-mechanical works; (ii) participatory irrigation management or *Pengembangan dan Pengelolaan Sistem Irigasi Partisipatif* (PPISP) guidelines for WUAs and farmers empowerment; (iii) guidelines for PROM, (iv) Social, Economic, Technical and Institutional Profile (SETIP) guidelines; and (v) IAMP guidelines;

3. Output/Reporting Requirements

The consultant will 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 notes to support upgrading of engineering guidelines;
- (ii) Quarterly reports on non DLI indicators achievements and PAP actions related to engineering;
- (iii) Monthly administrative reports following ADB template (monthly); and
- (iv) Working Group materials and discussion and technical notes as required.

C. Financial Management Specialist (National)

Professional Group: A

Job Level: 5

Expertise Group: Economics/Financial Analysis

1. Detailed Tasks

- (i) Develop a methodology to consolidate un-audited financial statement for the program covering all irrigation activities under the central government and local governments from all source of financing;
- (ii) Supporting DGWR in the preparation of results-based annual work plans and budgets in line with the targets in the IIP results framework, covering all sources of financing (RKAKL and DIPA);
- (iii) Formulate and facilitate a training program for financial management as per PAP requirements;
- (iv) Provide technical support to DGWR to comply with financial management actions listed in the PAP;
- (v) Support the DGWR to improve the monitoring and evaluation system;
- (vi) Support the executing agency in preparation of program progress reports, including financial management and procurement;
- (vii) Assist the Ministry of Finance to socialize the RBL modality to relevant stakeholders;
- (viii) Analyze and formulate recommendations to improve the national financial system to apply results based financing;
- (ix) Monitor the implementation of the financial management action plan;
- (x) Review financial management reports and audit reports with recommendations for corrective action;
- (xi) Assist the executing agency to monitor and update the expenditure framework;
- (xii) Monitor the outcome of training, identify gaps and advise for additional training/topics to comply with regulations related to financial management; and
- (xiii) Enhance and strengthen the use of the e-monitoring at central and local levels to capture the information on financial and physical reports by using a standard measurement (i.e. ha or km, etc.) to enable the government to monitor the achievement of the program in terms of financial and physical achievement.

4. Minimum Qualification Requirements

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. 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.

Minimum General Experience: 10 Years

Minimum Specific Experience (relevant to assignment): 7 Years

Regional/Country Experience: Required

5. Output/Reporting Requirements

The consultant will prepare the following formal reports, in addition to any necessary working papers or reports required for the preparation of the proposed investment projects:

- (i) A training program on financial management formulated and implemented;
- (ii) A methodology to consolidate un-audited financial statement for the program
- (iii) Recommendations to improve the national financial system to apply results-based financing;
- (iv) Yearly consolidated planning for the program;
- (v) Updated 2017 – 2025 expenditure frameworks;
- (vi) Monthly administrative reports following ADB template (monthly); and
- (vii) Working Group materials and discussion and technical notes as required.

D. Institutional Specialist

Professional Group: D

Job Level: 5

Expertise Group: Project Management/Institutional Development

1. Detailed Tasks

- (i) Provide inputs to the formulation of the training program to strengthen the independent verification agency capacity to verify DLI and PAP achievements with focus on institutional DLIs
- (ii) Provide inputs on the development of the irrigation data warehouse with a focus on institutional information and prepare procedures to compile it
- (iii) Prepare an awareness raising plan to collect information required for the irrigation performance index or *Indek Kinerja Sistem Irigasi* (IKSI), especially for sub national water resources agencies;
- (iv) Support the formulation of a National Competency Certification System for irrigation (planning, financial management and participatory management) and develop training modules and procedures for strengthening of irrigated agriculture field facilitators;
- (v) Assist in preparation of reports on the program institutional indicators; and
- (vi) Assess achievements of institutional DLIs and provide recommendations for improvement of delivery services

2. Minimum Qualification Requirements

The consultant will have a higher degree (M.Sc. or equivalent), must have experience in policy reform for irrigated agriculture in Indonesia and participatory irrigation management. Knowledge of the government planning cycle, current regulatory framework and guidelines related to irrigated agriculture is essential. He/she will have excellent written and oral communications skills.

Minimum General Experience: 10 Years

Minimum Specific Experience (relevant to assignment): 7 Years

Regional/Country Experience: Required

3. Output/Reporting Requirements

The consultant will prepare the following formal reports, in addition to any necessary working papers or reports required for the preparation of the proposed investment projects:

- (i) IVA training program for institutional DLIs;
- (ii) Inputs to the design of the irrigation data warehouse for institutional related information;
- (iii) National Competency Certification System for irrigation (modules and plan);
- (iv) Awareness plan to water resources agencies to improve adherence to regulations and procedures related to the program;
- (v) Monthly administrative reports following ADB template (monthly); and
- (vi) Working Group materials and discussion and technical notes as required.

E. Geographic Information System and Mapping Specialist (National)

Professional Group: D

Job Level: 3

Expertise Group: Information Systems

1. Objective and Purpose of the Assignment

The main objective of the services is to support the Government of Indonesia (the Government), through the Directorate General of Water Resources (DGWR) under the Ministry of Public Works and Housing (MPWH), to advance the program action plan (PAP) for the proposed Integrated Participatory Development and Management of Irrigation Project (the Project). The Project will support the implementation of the Government of Indonesia (The Government) 2005-2025 long-term National Development Plan (RPJPN) and 2015–2019 National Medium Term Development Plan (RPJMN) to (i) increase rice production for food security; (ii) develop higher value cropping to improve rural livelihoods, and (iii) promote more productive irrigation infrastructure and its sustainable management. The Project will take a program approach from 2017 to 2021 and be delivered using the results based lending (RBL) modality.

The immediate objective of the assignment will be:

- (i) To support the development of the data ware house for irrigation. In particular this includes the on-line GIS and development of the supporting GIS datasets as well as their documentation and guidelines; and
- (ii) To support planning by using geographic information systems.

2. Scope of Work

Key activities include assisting executing and implementing agencies in improving their M&E systems, as recommended by the Program M&E Assessment (including institutional arrangements, data collection and analysis, and reporting on the use of the internet-based program performance management system); and related training. The scope of work covers technical and planning support to (i) integrate collected information into a GIS and provide analysis of integration of structural and non-structural activities at sub basin level; (ii) integrate irrigation and agriculture information; (iii) provide planning support to DGWR Team as required; and (iv) provide support to the development of the basic GIS datasets needed for the irrigation asset management information system (IAMS).

3. Detailed Tasks

- (i) Integrate all relevant digital information (infrastructure, spatial planning, agriculture, etc.) into the data warehouse and coordinate with the Geospatial Information Agency (Badan Informasi Geospasial) for alignment of metadata;
- (ii) Prepare thematic maps such as irrigation schemes with potential involuntary resettlement issues (physical relocation, non-land title holders);
- (iii) Facilitate discussions between DWRI, 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 program;
- (iv) Support the preparation and implementation of consultation workshops including budgeting, material and proceedings preparation, and administration;
- (v) Support the data migration GIS datasets into the data ware house;
- (vi) Identify areas that are lacking performances in implementing the program;
- (vii) Support the development of a data ware house that integrates the Directorate of Irrigation and Low Land and the Directorate of Operation and Maintenance databases for monitoring DLI achievements, and its corresponding manual and training program.

4. Minimum Qualification Requirements

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 and preferably understanding of irrigation 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.

Minimum General Experience: 7 Years

Minimum Specific Experience (relevant to assignment): 5 Years

Regional/Country Experience: Required

5. Output/Reporting Requirements

The consultant will prepare the following formal reports, in addition to any necessary working papers or reports required for the preparation of the proposed investment projects:

- (i) Thematic maps;
- (ii) Data sets migrated into the data ware house;
- (iii) Monthly administrative reports following ADB template (monthly); and
- (iv) Working Group materials and discussion and technical notes as required.

F. Information System Specialist (National)

Professional Group: D

Job Level: 4

Expertise Group: Information Systems

1. Immediate Objective of the Assignment

The immediate objective of the assignment is to support the development of the modules attached to the irrigation data ware house (IDWH) which will be developed under the technical assistance. The interface modules will capitalize on the web based irrigation asset management information system (IAMS) software developed under RETA 6498: knowledge and innovation support for ADB's water financing program. The interfaces to be developed will cover the agriculture, planning and any other aspects needed. This will be complemented by the development of the web based interface for tablets to ease field surveys. In addition to the support for the development the user manual and training materials should be prepared.

2. Scope of Work

Key activities include assisting executing and implementing agencies in improving their M&E systems, as recommended by the Program M&E Assessment (including institutional arrangements, data collection and analysis, and reporting on the use of the internet-based program performance management system); and related training. The information system Specialist will support the coding of modules attached to the IDWH. It will include also the development of tablet version for field work. The information system specialist will support the development of the user manual, training materials, methodology and guidelines for the modules to be developed.

3. Detailed Tasks

- (i) Conduct needs assessment for modules needed by various DGWR Directorates for accessing and updating IDWH information;
- (ii) Support the international ICT specialist to develop the architecture of the IDWH;
- (iii) Supervise the development of agriculture, planning and any other interface modules;
- (iv) Prepare training modules and technical references;
- (v) Provide technical support to the DGWR's data center (PUSDATIN) to set up the server to host the IDWH and its interface module;
- (vi) Support the migration of existing data sets into the IDWH;
- (vii) Establish reporting procedures on data quality and level of entry;
- (viii) Support the development of a dashboard and reporting templates to monitor key indicators and statistics of the IIP;
- (ix) Design and supervise coding of the tablet versions of the interface modules; and

- (x) Facilitate coordination with DGRD to align the SIPD with the DOM forms for M&E irrigated agriculture at sub national level, and MOA to ensure that its M&E system is compatible with the DOM system.

4. Minimum Qualification Requirements

The consultant will have a higher degree (M.Sc. or equivalent), must have experience should have at least 6 years' experience with design and implementation of on-line GIS and on-line data systems. Experience in development of asset management system would be an advantage. He/she will have excellent written and oral communications skills.

Minimum General Experience: 10 Years

Minimum Specific Experience (relevant to assignment): 6 Years

Regional/Country Experience: Required

5. Output/Reporting Requirements

The consultant will prepare the following formal reports, in addition to any necessary working papers or reports required for the preparation of the proposed investment projects:

- (i) Report on the design of the IDWH interface modules;
- (ii) Web based interface including tablet versions for agriculture, planning and other modules as needed;
- (iii) Technical references and training, program for the developed modules;
- (iv) Monthly administrative reports following ADB template (monthly); and
- (v) Working Group materials and discussion and technical notes as required.

G. Program Coordinator (National)

Professional Group: A

Job Level: 4

Expertise Group: General Administration

1. Scope of Work

The program coordinator will assist the team of consultants who will support DGWR in implementing the Program. This will include provision of support to prepare workshop, travels, financial management and report preparation.

2. Detailed Tasks

- (i) Consolidate and track comments of various project-related documents such as inception reports, issues papers, work programs, and other reports generated by the consultants;
- (ii) Properly format and proof read all documents (reports, notes, memos, letters, tables, etc.) and ensure their presentation is adequate and accurate;
- (iii) Prepare a tracking matrix to show date comments requested, deadline for comments and status;
- (iv) Prepare and send out agenda items for the meeting organized by DGWR and its consultants;

- (v) Arrange meetings, make appointments and assist in making logistical arrangements for the various meetings; Prepare a tracking mechanism for these meetings and meeting attendance;
- (vi) Prepare minutes of meetings, circulate and obtain confirmation of minutes of the various meetings;
- (vii) Compile, track and follow up on ADB requests for information from the DGWR, involving advice, comments or specific tasks from the DGWR staff and consultants;
- (viii) Liaise with the IAs regarding administrative matters, e.g. setting up appointments, follow-up of comments, documentation requests and meeting logistics;
- (ix) Establish an adequate documentation filing system, including for e-versions of documents;
- (x) Maintain an updated list of emails and other contact information of all involved staff at MPWH at central and local level;
- (xi) Conduct routine web research required on general topics as required;
- (xii) Provide logistics support to the meetings, preparation of comments, and ADB project administration missions and other ADB logistics and administrative requests;
- (xiii) In coordination with the international or national project implementation specialists, draft routine correspondence, as required, on requests for meetings with Government officials or requests for documentation; and
- (xiv) Provide ad-hoc interpretation and translation support to the DGWR and ADB.

6. Minimum Qualification Requirements

- (i) University degree in public administration, economics, or related field and at least one year of working experience relevant to this assignment.
- (ii) At least one year of relevant working experience. Working experience for a project supported by a development partner and knowledge of MPWH systems will be additional merits.
- (iii) The consultant must have very good knowledge of Bahasa Indonesia and English (speaking, reading, and writing) and ability to use computer and relevant document and presentation software at an advanced level.

7. Output/Reporting Requirements

The consultant will provide formatting and presentation related contributions to the following outputs:

- (i) Operations memoranda; and
- (ii) reports.

The consultant will have to properly store all reviewed and used materials, hand over all collected materials in electronic or hard form to ADB upon completion of the assignment, and ensure referencing to the used materials and concepts as per ADB requirements.

H. Irrigation Infrastructure Specialist (International)

Professional Group: B

Job Level: 5

Expertise Group: Agriculture/Rural Development

1. Scope of Work

The services will focus on strengthening capacity to verify achievement of the DLIs and the PAP.

2. Detailed Tasks

- (i) Support the government, particularly DGWR, with technical advice on its review and updating of the technical guidelines under DLI2³ to meet international standards. Review and validate the efficiency and adequacy of the updated guidelines in meeting international standards;
- (ii) Review the sample detailed designs for irrigation rehabilitation in terms of compliance with the updated engineering guidelines. Advise the DGWR on correction measures for identified weaknesses, if any;
- (iii) Provide inputs on the training program for the independent verification agency on the infrastructure and construction aspects;
- (iv) Review generic terms of reference for detailed engineering design to ensure adherence to the updated guidelines;
- (v) Review achievements of other DLIs and provide recommendations for improvement of delivery at program level;
- (vi) Upon request, advise the government on other policy and system issues related to IIP.

3. Minimum Qualification Requirements

The consultant should have at least 10 years of experience in designing and supervising irrigation infrastructure 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. Fluent Bahasa Indonesia would be an advantage. He/she will have excellent written and oral communications skills.

Minimum General Experience: 12 Years

Minimum Specific Experience (relevant to assignment): 10 Years

Regional/Country Experience: Required

³ Updated guidelines: (i) detailed engineering guidelines to incorporate adaptation for irrigation system management to increasing climate variability and change, climate proofing, water efficiency, mapping, and remote sensing; master planning and feasibility study methodology, construction management and technical specification and cost estimate standards; right of way management; hydro-mechanical works; (ii) participatory irrigation management or *Pengembangan dan Pengelolaan Sistem Irigasi Partisipatif* (PPISP) guidelines for WUAs and farmers empowerment; (iii) guidelines for PROM, (iv) Social, Economic, Technical and Institutional Profile (SETIP) guidelines; (v) IAMP guidelines;

4. Output/Reporting Requirements

The consultant will 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 notes to support upgrading of engineering guidelines;
- (ii) Report on quality of achievement of infrastructure works (DLI8);
- (iii) Monthly administrative reports following ADB template (monthly); and
- (iv) Working Group materials and discussion and technical notes as required.

I. Information System Specialist (International)

Professional Group: D

Job Level: 4

Expertise Group: Information Systems

1. Immediate Objective of the Assignment

The immediate objective of the assignment is to support the development of a data ware house for irrigation. This includes the analysis and compilation of existing data base within DGWR and the rationalization of the data set. The data ware house will support the compilation of key information related to the program, including disbursement linked indicators (DLIs). In addition to the support for the development of the data ware house, the user manual and training materials should be prepared. When development is complete, it will be necessary to maintain and update the software system over the coming years. For that it will be necessary to prepare a methodology and guidelines for updating of the irrigation management system.

5. Scope of Work

Key activities include assisting executing and implementing agencies in improving their M&E systems, as recommended by the Program M&E Assessment (including institutional arrangements, data collection and analysis, and reporting on the use of the internet-based program performance management system); and related training. The information system Specialist will support the design and programming of the irrigation data ware house (IDWH) and its interface modules. The information system specialist will support the development of the user manual, training materials, methodology and guidelines for maintenance of the IDWH. The specialist will also review the protocols to update and process data, and prepare a methodology for monitoring achievement of DLI 6 related to the irrigation asset management system (IAMS). The IDWH will support monitoring of achievements of DLIs for the program.

6. Detailed Tasks

- (i) Analyze and rationalize the existing data bases related to irrigation and design the infrastructure for the IDWH taking into account future development of modules such as the RP2I. The IDWH should include all key indicators and be web-based;
- (ii) Supervise the coding of the IDWH and provide guidance to the software development team;
- (iii) Support the DGWR's data center (PUSDATIN) to set up the server to host the IDWH;
- (iv) Upgrade the DOM reporting system;

- (v) Supervise the development of modules (RP2I, planning for rehabilitation, IKSI, etc.);
- (vi) Set up quality assurance procedures for data processing and data entry;
- (vii) Supervise the migration of existing data sets into the IDWH;
- (viii) Establish reporting procedures on data quality and level of entry;
- (ix) Develop a training program to maintain and upgrade the IDWH;
- (x) Prepare the technical reference for the IDWH;
- (xi) Develop a dashboard to monitor implementation of the IIP;
- (xii) Strengthen MPWH and Ministry of Home Affairs (MOHA) reporting to incorporate program-specific indicators, including environmental monitoring compliance and social and gender indicators with gender-disaggregated data and any other statistics related to the program;
- (xiii) Prepare templates for reporting on achievements of DLI6 covering quantity and quality aspects and recommendations for improvement;
- (xiv) Supervise the development of the tablet interfaces as needed; and
- (xv) Facilitate coordination with DGRD to align the SIPD with the DOM forms for M&E irrigated agriculture at sub national level, and MOA to ensure that its M&E system is compatible with the DOM system;

7. Minimum Qualification Requirements

The consultant will have an ICT related higher degree (M.Sc. or equivalent), should have at least 7 years' experience with design and development of large data base. Knowledge of on-line GIS and on-line data systems is essential. Fluent Bahasa Indonesia would be an advantage. He/she will have excellent written and oral communications skills.

Minimum General Experience: 10 Years

Minimum Specific Experience (relevant to assignment): 7 Years

Regional/Country Experience: Required

8. Output/Reporting Requirements

The consultant will prepare the following formal reports, in addition to any necessary working papers or reports required for the preparation of the proposed investment projects:

- (i) Report on the IDWH architecture including training program, user manual and technical reference;
- (ii) Technical report on the server set up;
- (iii) Templates for reporting on achievements of DLI6;
- (iv) Reporting procedures on data quality and level of entry;
- (v) Monthly administrative reports following ADB template (monthly); and
- (vi) Working Group materials and discussion and technical notes as required.