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Date: 27 October 2017

INDIVIDUAL CONSULTANT PROCUREMENT NOTICE

for individual consultants and individual consultants assigned by consulting firms/institutions

Country:	Viet Nam
Description of the assignment:	03 Individual National Experts: -01 Team Leader on Risk Assessment and Mapping/GIS for Water Resources (65 days) (Ref: A.171001-a); -01 Expert on Vulnerability Assessment for Water Resources/CBA (50 days) (Ref: A.171001-b); -01 Economist/Expert on Water Resource Data Collection Planning and Management (50 days) (Ref: A.171001-c);
Project name:	Conduct vulnerability and risk assessment and mapping for water resource infrastructure in Vietnam, with specific detail for Mekong Delta; and support in the identify adaptation options and cost effective approaches to inform the National Adaptation Planning (NAP).
Period of assignment/services (if applicable):	November 2017- April 2018
Tender reference:	A-171001

1. Submissions should be sent by email to: quach.thuy.ha@undp.org no later than: **8 November 2017 (Hanoi time)**.

With subject line: (A.171001-a) Team Leader

OR (A.171001-b) Expert on Vulnerability Assessment for Water Resources

OR (A.171001-c) Economist/Expert on Data Collection

Submission received after that date or submission not in conformity with the requirements specified this document will not be considered.

Note:

- Any individual employed by a company or institution who would like to submit an offer in response to this Procurement Notice must do so in their individual capacity, even if they expect their employers to sign a contract with UNDP.
- Maximum size per email is **7 MB**.

- Any request for clarification must be sent in writing, or by standard electronic communication to the address or e-mail indicated above. Procurement Unit – UNDP Viet Nam will respond in writing or by standard electronic mail and will send written copies of the response, including an explanation of the query without identifying the source of inquiry, to all consultants.
- After submitting proposal, bidder should send notification by email (without attachment) to: procurement.vn@undp.org informing that the bidder has submitted proposal. UNDP will not be responsible for the missing of proposal if the bidder does not send notification email to above address.
- Female consultants are encouraged to bid for this required service. Preference will be given to equally technically qualified female consultants.

2. Please find attached the relevant documents:

- [Terms of Reference \(TOR\)](#)..... (Annex I)
- [Individual Contract & General Conditions](#)..... (Annex II)
- [Reimbursable Loan Agreement](#) (for a consultant assigned by a firm)..... (Annex III)
- [Guidelines for CV preparation](#)..... (Annex IV)
- [Format of financial proposal](#)..... (Annex V)

3. Interested individual consultants must submit the following documents/information **(in English, PDF Format)** to demonstrate their qualifications:

a. Technical component:

- Signed Curriculum vitae
- Copy of 1-3 publications/writing samples on relevant subject.
- Reference contacts of past 4 clients for whom you have rendered preferably the similar service (including name, title, email, telephone number, address...)

b. Financial proposal (with your signature):

- The financial proposal shall specify a total lump sum amount in **Viet Nam Dong** including consultancy fees and all associated costs i.e. airfares, travel cost, meal, accommodation, tax, insurance etc. – see format of financial offer in Annex V.
- Please note that the cost of preparing a proposal and of negotiating a contract, including any related travel, is not reimbursable as a direct cost of the assignment.
- If quoted in other currency, prices shall be converted to the above currency at UN Exchange Rate at the submission deadline.

4. Evaluation:

The consultant will be evaluated and selected separately. The technical component will be evaluated using the following criteria:

Specialist on Risk Assessment and Mapping/GIS for Water Resources (Team Leader)

Qualification	Score
○ PhD in Environmental sciences, Natural Resources management, Geography Science/Geo-Information sciences, or a relevant field;	200
○ Minimum 15 years professional experiences in comprehensive climate risk assessment and GIS mapping, natural resources management, applied policy analysis base on risk assessment;	150
○ Good knowledge and proven experience in climate change, especially vulnerability and impact assessment. Practical experience in VA and risk assessment and in agriculture sector/water resources and close linkage with relevant ministries (MARD, MONRE, MPI);	150
○ Excellent communication skills, ability to write synthesis report and ability to	150

<ul style="list-style-type: none"> communicate with high level stakeholders; Strong coordination and time& project management skills ○ Past work experience liaison with the MARD is a plus; Strong network in the agriculture and rural development sector 	100
<ul style="list-style-type: none"> ○ Strong competency in (verbal and written) English and Vietnamese ○ Ability and ready to work under tight deadlines and pressures, and to handle multi-tasking; ○ Computer literacy especially in the use of applied softwares on GIS and remote sensing, database design, ArcGIS, MapInfo. 	100 150

Economist for Vulnerability Assessment for Water Resources & CBA of selected adaptive measures in the water sector - 50 days

Qualifications:	Score
<ul style="list-style-type: none"> ○ At least MSc qualifications, PhD degree is a plus in economics; 	200
<ul style="list-style-type: none"> ○ Minimum 7 years professional experiences in related fields of water or sustainable development economics related activities; ○ Good knowledge and proven experience in field study, inputs in use for assessing climate change impacts on the water sector 	150 200
<ul style="list-style-type: none"> ○ Excellent communication and teamwork skills, ○ Past work experience liaison with the MARD is a plus; 	150
<ul style="list-style-type: none"> ○ Strong competency in (verbal and written) English; ○ Ready to travel and ability to work with local authorities and farmers; ○ Computer literacy especially in the use of applied computers (Microsoft Office, Excel), Skills of Statistics Toolkit such as SPSS, STATA is a plus . 	150 150

Expert on Water Resource Data Collection Planning and Management – 50 days

Qualifications	Score
<ul style="list-style-type: none"> ○ At least MSc qualifications for Water Resource Management, Engineering; 	200
<ul style="list-style-type: none"> ○ Minimum 7 years professional experiences in related fields of water resources management, sustainable development economics related activities; ○ At least 3 years of solid knowledge and proven experience in field study, inputs in use for assessing VA, risk assessment and mapping on the water sector 	150 150
<ul style="list-style-type: none"> ○ Excellent communication and teamwork skills, ○ Past work experience liaison with the MARD and MONRE, particularly in water resource data and mapping data is a plus; 	200
<ul style="list-style-type: none"> ○ Strong competency in (verbal and written) English; Ready to travel and ability to work with local authorities ○ Computer literacy especially in the use of applied computers (Microsoft Office, Excel). Experience with statistic tools (SPSS, STATA, etc.) and GIS is a plus 	150 150

A two-stage procedure is utilized in evaluating the submissions, with evaluation of the technical components being completed prior to any price proposals being opened and compared. The price proposal will be opened only for submissions that passed the minimum technical score of 70% of the obtainable score of 1000 points in the evaluation of the technical component.

The technical component is evaluated on the basis of its responsiveness to the Term of Reference (TOR).

Maximum 1000 points will be given to the lowest offer and the other financial proposals will receive the points inversely proportional to their financial offers. i.e. $S_f = 1000 \times F_m / F$, in which S_f is the financial score, F_m is the lowest price and F the price of the submission under consideration.

The weight of technical points is 70% and financial points is 30%.

Submission obtaining the highest weighted points (technical points + financial points) will be selected.

Interview with the candidates may be held if deemed necessary.

5. Contract

“Lump-sum” Individual Contract will be applied for freelance consultant (Annex II)

“Lump-sum” RLA will be applied for consultant assigned by firm/institution/organization (Annex III)

Documents required before contract signing:

- Personal History (following UNDP form)
- International consultant whose work involves travel is required to complete the courses on Basic Security in the Field **and** Advanced Security in the Field and submit certificates to UNDP before contract issuance.

Note: In order to access the courses, please go to the following link: <https://training.dss.un.org>
The training course takes around 3-4 hours to complete. The certificate is valid for 3 years.

- Full medical examination and Statement of Fitness to work for consultants from and above 62 years of age and involve travel. (This is not a requirement for RLA contracts).
- Release letter in case the selected consultant is government official.

6. Payment

UNDP shall effect payments to the consultant (by bank transfer to the consultant's bank account provided in the vendor form (Annex V) upon acceptance by UNDP of the deliverables specified the TOR.

For international consultant:

20% of the contract value (fees and travel costs based on the UNDP's standard rates) will be paid after submission of the study analytical framework and methodologies; and 80% of the total contract value will be paid upon provision of all deliverables with satisfactory acceptance from UNDP CO and HIDS.

For national consultants:

100% of the total contract value (fees based on the UNDP's standard rates) will be paid upon provision of all deliverables with satisfactory acceptance from UNDP CO and HIDS.

If two currencies exist, UNDP exchange rate will be applied at the day UNDP instructs the bank to effect the payment.

7. Your proposals are received on the basis that you fully understand and accept these terms and conditions.

TERMS OF REFERENCE

Title:	Conduct vulnerability and risk assessment and mapping for water resource infrastructure in Vietnam, with specific detail for Mekong Delta; and support in the identify adaptation options and cost effective approaches to inform the National Adaptation Planning (NAP).
Programme:	Supporting developing countries to integrate the agricultural sectors into National Adaptation Plans (NAPs)
Project executive agency:	Ministry of Agriculture and Rural Development (MARD)
Implementing partners:	A team of 03 Individual national experts: 01 Team Leader on Risk Assessment and Mapping/GIS for Water Resources (65 days); 01 Expert on Vulnerability Assessment for Water Resources/CBA (50 days); and 01 Economist/Expert on Water Resource Data Collection Planning and Management (50 days)
Name of donor:	The Government of Germany through UNDP and FAO
Duration:	November 2017- April 2018
Location:	Vietnam

1. Background

Vietnam is one of the most vulnerable countries to the effects of climate change. Vietnam's extensive coastline, vast deltas and floodplains, and location on the path of typhoons and the Southeast Asian monsoon expose many parts of the country such as the low-lying Red River and Mekong River Deltas to sea level rise and climate-induced extreme weather events. Over the past 50 years, Vietnam has experienced a 20-cm rise in sea level and a 0.5°C increase in average temperature. The scenario of climate change and sea level rise for 2100 published by Vietnam Government in 2012 has projected an additional 2-3°C mean temperature rise and a 57-73 cm sea level rise^{1,2}. Disasters, the majority of which are climate-related, already cause an annual economic loss equivalent to 1.5% of gross domestic product (GDP)³.

Agriculture sector in Vietnam which relates directly to the lives of more than 75% of the country population is particularly dependent on climate. The sector, comprising of 6 main sub-sectors (crop, livestock production, forestry, fishery and aquaculture, water resources, salt production and rural development) has been affected seriously by climate change and disasters.

Recognizing the big challenges of climate change to economic growth and sustainable development, the Government of Viet Nam has issued a National Target Program to Respond to Climate Change (NTP-RCC) in 2008, and National Strategy on Climate Change in 2012 which focus on increasing adaptive capacity to climate change while developing a low-carbon economy in order to protect and improve quality of life, guarantee climate security and sustainable development. The Ministry of Agriculture and Rural Development (MARD) established a Steering Committee to respond to climate change and to actively implement the NTP-RCC in the agriculture sector. MARD has also issued and implemented an action plan for climate change in agriculture and rural development (Decision No 543/QD-BNN-KHCN on 23 Mar. 2011 for period 2011-2015 and vision 2050, and updated on Decision No 819/QD-BNN-KHCN on 14 Mar 2016 for period 2016-2020 and vision 2050). In addition, MARD has affirmed the commitment to reducing agricultural emissions while enhancing economic growth and reducing poverty by signing Decision 3119/QD-BNNKHCH in December 2011. This Decision confirms Viet Nam's commitment to increase agricultural production by 20% and reduce emissions and poverty by 20% by 2020.

¹ Ministry of Natural Resources and Environment (MONRE), 2011, "Vietnam National Strategy on Climate Change".

² MONRE 2011, "Update to the Climate Change and Sea level Rise Scenarios".

³ GDP figures are for the period 2001-2010. Data from MONRE 2011 National Climate Change Strategy

Climate change adaptation with a focus on agriculture sector is an important component of Viet Nam's Initial Nationally Determined Contribution (INDC) to the Paris Agreement. It is reiterated in the National Plan to Implement the Paris Agreement issued with Government Decision 2053/QĐ-TTg on 28th October 2016. Priority actions in these documents, which reaffirm priorities of the NTP-RCC include: vulnerability and impact assessment to identify and implement adaptation measures in the 6 sub-sectors of agriculture, disaster prevention and control/water resources, implementation of national target programmes such as on new agriculture and rural development, forestry, restructuring the agriculture sector and the development of a National Adaptation Plan (NAP).

Although vulnerability assessments have been undertaken for some geographical areas or agriculture commodities, a comprehensive vulnerability and impact assessment for the sector, underpinned by robust data and methodologies including cost-benefit analysis (CBA) of adaptation options is not yet available. This has limited the identification of promising adaptation measures and translating them into cost-effective project implementation.

Assessment of vulnerabilities and impacts of climate change to the agriculture sector is the most important activity of Viet Nam's implementation of the joint UNDP-FAO Programme on "Supporting developing countries to integrate the agricultural sectors into National Adaptation Plans (NAPs)" with financial support from the Government of Germany. This four-year programme aims to integrate climate change concerns related to agriculture-based livelihoods into national planning and budgeting processes including the National Adaptation Plan (NAP), to be developed by 2019 in Vietnam.

The programme outcomes are:

- Outcome 1. Technical capacity and institutions on NAPs strengthened;
- Outcome 2. Integrated roadmaps for NAPs developed;
- Outcome 3. Evidence-based results for NAPs improved;
- Outcome 4. Advocacy and knowledge-sharing on NAPs promoted.

This study will contribute to Outcome 2 to focus on in-depth analysis of water resource sector, it will be complimented by the following activities, led by UNDP under the programme:

- The stock-taking of adaptation in agriculture sector, encompassing all six sub-sectors and in-depth vulnerability and impact assessment of water resources, with a focus on inland irrigation;
- The pilot of the national guidelines on financing and budgeting for adaptation in some provinces, which, combined with training, will be used in other provinces as a tool to support local planning and implement of adaptation options;
- The consolidation of different programme results into agriculture sector recommendations and contributions to NAP.

This vulnerability and impact assessment, together with related activities under the programme will contribute to strengthening data and information and the development a set of robust tools to support screening and prioritization of cost-effective and financially feasible adaptation options of the water resources as a key element of the agriculture sector.

2. Objectives

General objective:

To identify cost-effective climate change adaption actions for water resource management as a component of the agriculture sector for integration into Vietnam National Adaptation Plan (NAP).

This work mainly focuses on Water resource subjects under the MARD's mandates including irrigation system, embankments/sluice/dike, reservoir and key water supply systems. However, it will also provide an overall framework to integrate all other related water resource subjects under MONRE's management/mandate.

In parallel, on-going similar work package is undertaken first to identify the CCA options for water resource subjects under the MONRE's mandates including river systems and underground water systems, lakes and coastal water-resource protection/reserve zones, with in-depth assessment for the Mekong region.

This work will directly complement additional consultancies underway to look at the crop, livestock production and aquaculture sub-sectors.

Specific objectives:

- To provide an update assessment of vulnerability and risks of climate change on water related infrastructure in agro-ecological zones of Vietnam including mapping;
- To identify climate change adaption measures for improved water resource management including integrated solutions and policies across sub-sectors, sector and geographical areas related to improvements in the water infrastructure assessed above;
- To determine Cost Benefit Analysis (CBA) and impacts of prioritized climate change adaption options for strengthening adaptation action for water infrastructure specifically focusing on the the Mekong Delta ;
- To synthesize results to contribute to a an agriculture sectoral adaptation plan (SAP) as part of the Viet Nam's NAP process;

Final products

- 1) Upgrading and expansion of an existing vulnerability assessment and risk mapping tool for rural infrastructure include data on water related infratruture in the 63 provinces/8 agro-ecological zones of Vietnam with a special focus on the Mekong Region;
- 2) Vulnerability and risk maps publicly available of water resource subjects as both a PDF as an online database version;
- 3) An indicative list of climate change adaptation options for strengthening water infrastructure management including integrated solutions and policies to enhance climate change adaptation and resilience;
- 4) CBA of selected adaptation measures for the water resources in the Mekong Delta to provide indicative information to enhance understanding of the costs of future adaptation;
- 5) Water resource inputs into a wider agriculture sector adaptation plan (SAP) and recommendations for incorporation into NAP and its implementation;
- 6) Recommends solutions integrate/combine adaptive measures from water resources into relevant subsectors (crop, aquaculture and livestock) for developing SAPs
- 7) A policy brief for MARD leaders;

3. Methodology

UNDP/MARD Manual will guide the methodology for the assessment on Conducting Climate Vulnerability and Risk Assessment and Mapping of Infrastructure in the Northern Mountain Regions of Viet Nam (2016)⁴; Most of the standard approach and methodologies, including assessment tools (CBA, field assessment, etc) can be downloaded from the [project website](#).

- MONRE/UNDP Guidelines for Vulnerability and Impact Assessment for sectors/Agriculture, 2011;
- Climate change and sea level rise scenario for Viet Nam, MONRE, 2012 and 2016
- IPCC AR5 Framework for identifying key vulnerabilities, key risks and emergent risks, 2015
- Vulnerability assessment to spatially prioritize risk to climate change in Vietnam, Centre for Tropical Agriculture (CIAT), 2016;
- Assessing climate risks, vulnerability issues and local adaptive practices in some provinces in Northern mountainous area, Vietnam, MARD, FAO, IFAD, 2016.

Elements of the methodology would include:

For vulnerability and risk assessment/ mapping

- Desk-study and use of secondary-data and relevant information for review and assessment;(UNDP – MARD has completed stock take final draft report for NAP in Viet Nam which is a first base of the desk review);
- Collection and integration of additional data on key hazards impacting water reources including at least flood, drought and storms to existing mapping system
- Upgrading and replication of existing vulnerability assessment and risk mapping tool to provincial and district level for all 8 of Viet Nam's ecozones
- Testing and finalization of an online mapping tool to show vulnerability of water related infrastructure building on pilot already conducted for rural infrastructure in 15 NW provinces

⁴ Source:

<http://apmb.gov.vn/xdnld.axd?f=frajgbQAYV4aHrkV1oEiM5lefL8rXRTNDy%2b2gOr7NWsasBBVzr4UjDPVS7957SAnJ%2flmgtu6%2bl7u31swTd3jNQ%3d%3d>

For identification of adaptation measures:

- Desk-study and use of secondary-data and relevant information for review and assessment (UNDP – MARD has completed stock take final draft report for NAP in Viet Nam which is a first base of the desk review);
- Relevant information gathering, consultations and expert review to screen and develop the list of adaptation measures;
- Review of stock-take of adaptation approaches and consultation with development partners, government and other experts on examples of good practice
- Synthesis of key approaches, lessons and good practice

For CBA

Based on Desk-studies and good practice approaches identified above collect and synthesis existing information on the CBA of previous good practice examples and their relevance to estimating the costs of potential adaptation approaches

For a small selection of case studies of good cases examples where no CBA data is available, conduct questionnaires and field survey to collect input data for CBA and impact assessment of selected key adaptation measures;

Provide recommendations for key factors including the definition of adaptation benefit, suggested discount rates and options for CBA and potentially multi-criteria analysis as tools for estimating economic benefits and efficiency of various adaptation options.

- Participatory and expert consultation workshops and meetings to develop the study methodology and work plan, review results, contribute to initial, mid-term and final reports and the SAP;
- Domestic peer review.

For recommendation of solutions, integrate/combine adaptive measures from water resources into relevant subsectors (crop, aquaculture and livestock) for developing SAPs

- Conduct desk review and consultations to bring together results of work-streams above and develop an integrated analysis and key themes and recommendations for consideration in the draft of SAP
- Provide inputs as required into the NAP drafting process related to technical and policy aspects of work above.

Throughout the work above the consultants will be required to work in close consultation and collaboration with the consultant team working on crop, livestock production and aquaculture to ensure coherence and complementarity of approaches

4. Scope of the study and tasks

The study mainly focuses on the following tasks and activities:

4.1. o To provide an update assessment and mapping of vulnerability and risks of climate change on water resources related infrastructure in 8 agro-ecological zones of Vietnam including GIS mapping (the level of data analysis is preferably by district level).

Study (2) questions:

- 1) What information on climate vulnerability and impacts of climate change on water resource management already available and what are the gaps?
- 2) What are the key vulnerabilities and impacts and risks of climate change water resource management in Vietnam?

The main (5) tasks:

- 1) Gather relevant information from published research results, documents and assessments, already conducted and planned by MARD, concerned ministries, NGOs and other partners in water resources;
- 2) Review, consult and develop appropriate methodologies for vulnerability and risk assessments for water resource management in Viet Nam;
- 3) Review and identify the regions/provinces that are most vulnerable to climate change and important for water resource management for determining study sites in the Mekong Delta;
- 4) Develop vulnerability maps at provincial level (preferably district level) for water resource management risk in Vietnam;
- 5) Recommend the integration of the climate change vulnerability and risk assessment with update scenarios of climate change and sea level rise (2016)

Main outputs:

- 1) Activity report 1. Report on inventory data of water resource management and vulnerability assessment of water resources by Oct 2017
- 2) Spatial maps of vulnerability and risks for water resource infrastructure in Viet Nam Dec 2017

4.2. Screen and determine climate change adaptive requirements/options for water resource infrastructures:

Study questions:

- 1) What are the available adaptation options to enhance water resource management in different agro-ecosystems?
- 2) What are potential adaptation measures to be further studied to recommend for climate change adaptation in water resource management in Vietnam?

Main tasks:

- 1) Gather information on available adaptation options for water resource from National Program of Climate Change Response; Action Plan of Climate Change Response in Agriculture, Sectoral Program of GHG reduction, List of Investment Priorities (2016-2020); Periodical Plans of Agricultural Investment, Relevant Sectoral Program (Extension Program, Science and Technology Strategies, Restructure Agricultural Program, Short-and-Long-term program, etc;
- 2) Through participatory consultation and expert work, develop a list of relevant adaptation options for water resource management;
- 3) In consultation with experts, scientists and relevant government departments, screen (using relevant indicators, TNA, PA) and determine the list of promising adaptation options for field study.

Main outputs:

- 1) Review report (Mini-report 2) by Jan 2018 on existing adaptation options and proposed list of the promising adaptive options.

4.3. Data collection and CBA of selected adaptive options for water resources in the Mekong Delta, in coordination with other consultancies underway to look at the crop, livestock production and aquaculture sub-sectors

Study questions:

- 1) What are the key indicators to be collected for CBA of main adaptation options for the water management sub-sector?
- 2) What are the cost and benefit of selected adaptation options for each the water management sub-sector?

Main tasks:

- 1) *Field survey and data collection to be used for CBA of selected adaption options in Mekong Delta*
 - Inputs in use:
 - Estimated additional costs associated with climate change to improve maintenance and potentially strengthen water resource management systems;
 - Estimated marginal increase in investment costs given climate extreme risks and its impacts;
 - Estimated cost impacts of increased water stress on GDP growth;
 - Financial inputs in use: Estimated costs for water environment management and treatment, labour, energy costs, irrigation fee/cost, etc.;
 - Relevant costs (opportunity costs, shadow price, non-market cost, social cost, damage cost, environmental costs, if any);
 - Economic benefits (market price, harvest yields and aquaculture productions protected/increased, , reduced farm-gate prices of production inputs/electricity, etc; net farm incomes, reduced production, incomes from increase job generated; etc);
 - Other benefits (creation, opportunity value, environmental and social value, externalities, employment, if any);
 - Technical feasibilities of relevant climate change adaptation measures (farmer's and local authority perception, ecological feasibility, marketable opportunities, if any;
 - Entrance and data processing.
 - 2) *Cost-Benefit Analysis of selected potential adaptation options for the water resource sector base on the VA and risk mapping results*
 - Estimate financial costs and relevant costs for each adaptation measure;
 - Estimate relevant benefits from each adaptation measure;
 - Cost and Benefit Analysis as time series (with discount rate), such as IRR, CBR, NPV, FV, GO, IO,) of each adaptation measure;
 - Estimate total benefit from each potential adaptation measure;
 - Sensitivities analysis of CBA, NPV, FV,...
- Main outputs:
- The list of indicators and questionnaire by November 2017
 - CBA analysis (by Jan 2018 for selected adaptive measures for water management for each eco-zones, with depth focus tool in the Mekong region);
 - Databases by March 2018

4.4 Define optimal adaptation options and recommendations for inclusion into SAP and NAP

Study questions:

- 1) What are the most promising adaptation options in each sub-sector?
- 2) What are the required integrated solutions to support the optimal adaptation options in the three sub-sectors and adaptation in agriculture at large?
- 3) What should be the agriculture component of the NAP and how to be incorporate Agriculture SAP that into NAP?

Main tasks:

- 1) Combine technical feasibility assessment and CBA to recommend optimal adaptation options for water resources;
- 2) Determine total economic impacts from different optimal adaptation measures for water resource sector;
- 3) Develop the list of optimal adaption measures and actions for National Adaptation Plan (NAP) from the three sub-sectors;
- 4) Identify integrated solutions (organizational, science and technology, international cooperation, finance..)
- 5) Prepare Policy Brief
- 6) Prepare recommendations and develop a roadmap for integration of agriculture and rural development into of NAP.

Main outputs:

- 1) List of the optimal adaptation options for enhanced water management
- 2) List of integrated solutions
- 3) Water management inputs into Agriculture Sector Adaptation Plan
- 4) Policy brief for MARD leadership
- 5) Recommendations for incorporation into NAP.

All outputs above will be submitted by April 2018

4.5. Participatory process and technical quality assurance/workshops

The following activities are envisaged in the process to ensure participation and quality assurance:

- 1) Consultation meetings with concerned Government departments, academia and technical agencies on methodologies for the study
- 2) Presentation of the Inception report
- 3) Consultation on data, information, draft mini and synthesis reports for expert inputs and peer review;
- 4) Consultation for drafting and finalizing the Policy Brief based on the study results and in line with Government policies;
- 5) Consultation on drafting SAP and recommendations for incorporation of agriculture and rural development in NAP.

5 Duration

7 months, Nov 2017- Apr 2018

6 Reporting

The consultant team will report to UNDP and MARD's Project Management Unit and the VA team leader of the crop, livestock and aquaculture sub-sectors under the project,.

7 Roles and Responsibilities of Experts, and Qualifications

A consultancy team will conduct this TOR with different individual experts. The consultancy team includes:

- 01 Expert Risk Assessment and Mapping/GIS for Water Resources (Team Leader) - 65 days;
- 01 Expert Vulnerability Assessment for Water Resources/CBA – 50 days
- 01 Expert on Water Resource Data Collection Planning and Management – 50 days

7.1. Specialist on Risk Assessment and Mapping/GIS for Water Resources (*Team Leader*) – 65 days

The Team leader will be responsible for the overall technical direction and management of the assessment for timely completion of all activities and deliverables. He/she will be responsible for the quality of all products and the management of the study team.

The Team leader will be specifically responsible for the following activities:

1. Based on the Term of Reference (ToR) and with support from the consultancy team and relevant staffs from MARD and UNDP-FAO, detailed work plan and the inception report;
2. Lead, and consult with other team member (VA/CBA) to review and select appropriate methodologies, tools and criteria for vulnerability and risk assessment and CBA in Viet Nam;
3. Lead, with support from the team member (Data Coordinator) to Collect/Review the existing documents, data resources related to Water Resource infrastructure, hazard maps, climate change vulnerability and risk assessment in water resource management in Viet Nam (via MARD/Provinces);
4. Work with the team to determine methodologies, contribute to work plan and inception report, and undertake VA and risk assessment for water resources at provincial level (preferable district level)
5. Support other team experts and coordinate with related Government agencies and other agencies for the development of vulnerability maps at provincial/district level for water resources;
6. Support the VA/CBA expert to develop vulnerability maps at provincial level for water management;
7. Lead in provide the full final VA and Risk Mapping of Water Resources in Viet Nam for 7 agro-ecological zones at the provincial level (preferably at the district level)
8. Work together with other team experts and lead to determine and finalize the list of optimal adaptation options for the water resource sector in the Mekong Delta region;
9. Develop the list of key adaption measures/options for water resources in different regions, develop criteria, screen and propose selected adaptation measures for field work in the Mekong Delta
10. Provide recommendation to select optimal adaptation measures for water resources, prepare recommendations from the water resources sub-sector for SAP and National Adaptation Plan;
11. Work together with other team experts and lead the identification of integrated solutions, and consolidate water resources inputs as part of the Agriculture SAP and recommendations for integration into NAP;
12. Consolidate and prepare activity report 1, 2 and 3;
13. Prepare and finalize the synthesis report of all outputs from 1-5;
14. Prepare and finalize the Policy brief – output 6;
15. Lead the team's presentations/inputs in consultation meetings and take part in discussions/meeting/webinars related to the assessment if requested from Programme.

Qualification	Score
○ PhD in Environmental sciences, Natural Resources management, Geography Science/Geo-Information sciences, or a relevant field;	200
○ Minimum 15 years professional experiences in comprehensive climate risk assessment and GIS mapping, natural resources management, applied policy analysis base on risk assessment;	150
○ Good knowledge and proven experience in climate change, especially vulnerability and impact assessment. Practical experience in VA and risk assessment and in agriculture sector/water resources and close linkage with relevant ministries (MARD, MONRE, MPI);	150
○ Excellent communication skills, ability to write synthesis report and ability to communicate with high level stakeholders; Strong coordination and time& project management skills	150
○ Past work experience liaison with the MARD is a plus; Strong network in the agriculture and rural development sector	100
○ Strong competency in (verbal and written) English and Vietnamese	100
○ Ability and ready to work under tight deadlines and pressures, and to handle multi-tasking;	
○ Computer literacy especially in the use of applied softwares on GIS and remote sensing, database design, ArcGIS, MapInfo.	150

7.3. Economist for Vulnerability Assessment for Water Resources & CBA of selected adaptive measures in the water sector - 50 days

The expert will be responsible for activities and outputs related to VA, CBA and development of the list of optimal adaptation options for the water sub-sector. He/she will work under overall management of the Team Leader and in close collaboration with other team members to:

1. Review the existing documents related to climate change vulnerability assessment on water and work closely with the Team Leader to enhance their content as required;
2. Screening of vulnerability adaption options and selection of options for field work;

3. Undertake the vulnerability assessment for collected data on water resources based on the proposed assessment approach
4. Supervise the design and implementation of data collection and field surveys to conduct CBA for selected water measures;
5. Provide recommendation to select optimal adaptation measures for water resources, prepare recommendations from the sub-sector for SAP and National Adaptation Plan;
6. Undertake CBA of selected water resources adaptation measures ;
7. Prepare CBA -related parts of activity reports 1, 2 and 3 based on above activities and primarily responsible for report for output 4 on CBA for water resources options in the Mekong Delta
8. Support the Team Leader to finalize Inception report, activity report 1,2 and 3 and the final synthesis report, list of optimal adaptation options, integrated solutions, SAP, policy briefs for the water sector.

Qualifications:	Score
○ At least MSc qualifications, PhD degree is a plus in economics;	200
○ Minimum 7 years professional experiences in related fields of water or sustainable development economics related activities;	150
○ Good knowledge and proven experience in field study, inputs in use for assessing climate change impacts on the water sector	200
○ Excellent communication and teamwork skills,	150
○ Past work experience liaison with the MARD is a plus;	
○ Strong competency in (verbal and written) English;	150
○ Ready to travel and ability to work with local authorities and farmers;	
○ Computer literacy especially in the use of applied computers (Microsoft Office, Excel), Skills of Statistics Toolkit such as SPSS, STATA is a plus .	150

7.4. Expert on Water Resource Data Collection Planning and Management – 50 days

The expert will be responsible for coordinating the data collection and synthesis for all related activities under outputs 1-4. He/she will work under overall management of the Team Leader and in close collaboration with other team members to:

1. Review the existing documents related to climate change vulnerability assessment on water and work closely with the Team Leader to enhance their content as required;
2. Collect and synthesize an inventory of water resources for all 07 agro-ecological zones at the provincial level or preferably at the district level.
3. Support the team in screening of vulnerability adaption options and selection of options for field work;
4. Support the design and implementation of data collection and field surveys to conduct VA, risk assessment and CBA for selected water measures;
5. Provide recommendation to select optimal adaptation measures for water resource sectors, prepare recommendations from the sub-sector for SAP and National Adaptation Plan;
6. Prepare analysis for data-related parts of activity reports 1, 2, 3 and 4 based on above activities
7. Support the Team Leader to finalize Inception report, activity report 1,2 and 3 and the final synthesis report, list of optimal adaptation options, integrated solutions, SAP, policy briefs for the water sector.

Qualifications	Score
○ At least MSc qualifications for Water Resource Management, Engineering;	200
○ Minimum 7 years professional experiences in related fields of water resources management, sustainable development economics related activities;	150
○ At least 3 years of solid knowledge and proven experience in field study, inputs in use for assessing VA, risk assessment and mapping on the water sector	150
○ Excellent communication and teamwork skills,	200
○ Past work experience liaison with the MARD and MONRE, particularly in water resource data and mapping data is a plus;	
○ Strong competency in (verbal and written) English; Ready to travel and ability to	150

work with local authorities ○ Computer literacy especially in the use of applied computers (Microsoft Office, Excel). Experience with statistic tools (SPSS, STATA, etc.) and GIS is a plus	150
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8. Deliverable and Payment terms

Outputs/Deliverables	Payment terms
1. Draft inception report	10% upon agreement by MARD and UNDP
2. Upgrading and expansion of an existing vulnerability assessment and risk mapping tool for rural infrastructure include data on water related infrastructure in the 63 provinces/8 agro-ecological zones of Vietnam with a special focus on the Mekong Region; 3. Vulnerability and risk maps publicly available of water resource subjects as both a PDF as an online database version;	30% upon agreement by MARD and UNDP
4. An indicative list of climate change adaptation options for strengthening water infrastructure management including integrated solutions and policies to enhance climate change adaptation and resilience; 5. CBA of selected adaptation measures for the water resources in the Mekong Delta to provide indicative information to enhance understanding of the costs of future adaptation; 6. Water resource inputs into a wider agriculture sector adaptation plan (SAP) and recommendations for incorporation into NAP and its implementation;	30% upon agreement by MARD and UNDP
7. Final consolidated report, including - all data collected (as per annex and workshop reports/minutes) - Recommends solutions integrate/combine adaptive measures from water resources into relevant subsectors (crop, aquaculture and livestock) for developing SAPs - A policy brief for MARD leaders;	30% upon agreement/acceptance by MARD and UNDP

Annex IV

GUIDELINES FOR PREPARING CV

WE REQUEST THAT YOU USE THE FOLLOWING CHECKLIST WHEN PREPARING YOUR CV:

Limit the CV to 3 or 4 pages

NAME (First, Middle Initial, Family Name)

Address:

City, Region/State, Province, Postal Code

Country:

Telephone, Facsimile and other numbers

Internet Address:

Sex, Date of Birth, Nationality, Other Citizenship, Marital Status

Company associated with (if applicable, include company name, contact person and phone number)

SUMMARY OF EXPERTISE

Field(s) of expertise (be as specific as possible)

Particular development competencies-thematic (e.g. Women in Development, NGOs, Privatization, Sustainable Development) or technical (e.g. project design/evaluation)

Credentials/education/training, relevant to the expertise

LANGUAGES

Mother Tongue:

Indicate written and verbal proficiency of your English:

SUMMARY OF RELEVANT WORK EXPERIENCE

Provide an overview of work history in reverse chronological order. Provide dates, your function/title, the area of work and the major accomplishments include honorarium/salary. References (name and contact email address) must be provided for each assignment undertaken by the consultant that UNDP may contact.

UN SYSTEM EXPERIENCE

If applicable, provide details of work done for the UN System including WB. Provide names and email address of UN staff who were your main contacts. Include honorarium/salary.

UNIVERSITY DEGREES

List the degree(s) and major area of study. Indicate the date (in reverse chronological order) and the name of the institution where the degree was obtained.

PUBLICATIONS

Provide total number of Publications and list the titles of 5 major publications (if any)

MISCELLANEOUS

Indicate the minimum and maximum time you would be available for consultancies and any other factors, including impediments or restrictions that should be taken into account in connection with your work with this assignment.

Please ensure the following statement is included in the resume and that it is signed and dated:

I CERTIFY THAT ALL INFORMATION STATED IN THIS RESUME IS TRUE AND COMPLETE TO THE BEST OF MY KNOWLEDGE. I AUTHORIZE UNDP/UNOPS OR ITS AGENT TO VERIFY THE INFORMATION PROVIDED IN THIS RESUME.

(Signature)

Annex V

FINANCIAL OFFER

Having examined the Solicitation Documents, I, the undersigned, offer to provide all the services in the TOR for the sum of VND

This is a lump sum offer covering all associated costs for the required service (fee, meal, accommodation, travel, taxes etc).

Cost breakdown:

No.	Description	Quantity	Unit rate (VND)	Total
1	Consultancy fee			
2	Out of pocket expenses			
2.1	Travel			
2.2	Per diem			
2.3	Full medical examination and Statement of Fitness to work for consultants from and above 62 years of age and involve travel – (required before issuing contract). *			
2.5	Others (pls. specify).....			
	TOTAL			

** Individual Consultants/Contractors who are over 62 years of age with assignments that require travel and are required, at their own cost, to undergo a full medical examination including x-rays and obtaining medical clearance from **an UN-approved doctor** prior to taking up their assignment.*

I undertake, if my proposal is accepted, to commence and complete delivery of all services specified in the contract within the time frame stipulated.

I agree to abide by this proposal for a period of 120 days from the submission deadline of the proposals.

Dated this day /month

of year

Signature