

Terms of reference



GENERAL INFORMATION

Title: Geospatial Data Processing Consultant (Indonesian nationality only)

Project Name: DRR Digital Solutions Project (DIRECT)/DX4Resilience

Reports to: Information Specialist

Duty Station: Jakarta

Expected Places of Travel (if applicable): N/A

Duration of Assignment: 45 days from August 2021 to October 2021

REQUIRED DOCUMENT FROM HIRING UNIT

<input checked="" type="checkbox"/>	TERMS OF REFERENCE
<input checked="" type="checkbox"/>	CONFIRMATION OF CATEGORY OF LOCAL CONSULTANT, please select:
4	1. Junior Consultant
	2. Support Consultant
	3. Support Specialist
	4. Senior Specialist
	5. Expert/ Advisor
	CATEGORY OF INTERNATIONAL CONSULTANT, please select:
	6. Junior Specialist
	7. Specialist
	8. Senior Specialist
<input checked="" type="checkbox"/>	APPROVED e-requisition

REQUIRED DOCUMENTATION FROM CONSULTANT

<input checked="" type="checkbox"/>	P11 / CV with three referees
<input checked="" type="checkbox"/>	Copy of education certificate
<input checked="" type="checkbox"/>	Completed financial proposal
<input checked="" type="checkbox"/>	Completed technical proposal

Need for presence of IC consultant in office:

☐ partial (explain), *During the consultant assignment She/He will be at the office to coordinate and discuss with RR Unit*

☒ intermittent (explain) : regularly in coordination with RR Unit)

☐ full time/office based (needs justification from the Requesting Unit)

Provision of Support Services:

Office space: ☐ Yes ☒ No

Equipment (laptop etc): ☐ Yes ☒ No

Secretarial Services ☐ Yes ☒ No

If yes has been checked, indicate here who will be responsible for providing the support services: -

I. BACKGROUND

The UNDP Bangkok Regional Hub (UNDP BRH) is undertaking the “**Accelerating Disaster Risk Reduction and Enhancing Crisis Response through Digital Solutions/DX4Resilience**” project. The project, which is registered at the Indonesia Country Office as the DIRECT project, aims to strengthen DRR and recovery by improving the digitalization of disaster data through innovative partnerships and solutions to support risk-informed development so that no one is left behind. Implemented in Indonesia, Nepal, Philippines, and Sri Lanka, the project has three outputs: 1) Disaster data digitalized and integrated using cloud-based technologies to support DRR and recovery in project countries; 2) Targeted digital solutions for increased preparedness and response of vulnerable groups developed and applied, and 3) Strengthened capacities of national and subnational governments through partnerships for disaster risk-informed development planning.

In the view of achieving the target of output 2, the project plans to conduct an assessment aiming at mapping and analyzing the access of vulnerable groups to DRR solutions and digital technologies. Considering the variability of risk and vulnerability contexts across the countries, each project country is expected to contextualize the implementation.

In Indonesia, the government through BNPB (*Badan Nasional Penanggulangan Bencana/the National Agency for Disaster Management*) has established regulations and guidelines to conduct risk and vulnerability assessment at three levels – macro (national level), meso (provincial and district level), and micro (community/household level). Risk data and assessments are available for the macro and meso levels, but data collection and assessment at the micro-level continue to be a challenge. The risk data is processed, analyzed, and visualized in the InaRISK Portal while the assessment result is delivered to the public through the smartphone-based application of InaRISK Personal. Also, the InaRISK Personal can host various sub-applications and features intended to meet the specific requirement of programs.

Given the above context, the DX4Resilience at the Indonesia Country Office (CO) intends to pilot a risk and vulnerability assessment at the micro-level using the customized InaRISK Platform. The risk data will be collected by adding two sub-applications of capacity and vulnerability assessment to InaRISK Personal, then analyzed and visualized using the InaRISK Portal. Results of this pilot include a method and digital solution for collecting micro-level risk data at the household level that could be replicated nationwide to fast-track micro-level disaster risk assessment and analysis.

Following multiple consultations aiming at identifying the pilot location, two villages of Sambik Elen in West Nusa Tenggara and Tuva in Central Sulawesi are selected for the implementation in collaboration with the UNDP-Baznas¹ project. Both villages are affected by the 2018 earthquakes and are recovering from the disaster impacts. UNDP Indonesia through Programme for Earthquake and Tsunami Infrastructure Reconstruction Assistance (PETRA) and UNDP-Baznas program collaboration is assisting the recovery of the affected villagers. In both villages, PETRA is undertaking a recovery program focusing on infrastructure reconstruction, economic development, and Disaster Risk Reduction. Likewise, the UNDP-Baznas collaboration is implementing a community resilience strengthening project in the two villages focusing on local economic development and village resilience strengthening (Desa Tangguh Bencana/Destana).

The implementation of the DX4Resilience in the two villages will strengthen the synergy between the projects implemented by UNDP Indonesia with the aim at ensuring a resilient recovery for the disaster-affected populations. The DX4Resilience will bring a new perspective on how digital technology can offer

¹ The National Zakat Agency (BAZNAS) is an official body and the only one formed by the GoI tasked and functioned of collecting and distributing the Islamic donation at the national level.

solutions to accelerate the recovery efforts and the resilience-building program. In particular, through the pilot of micro-level risk assessment, the project may offer an opportunity to showcase the relationship between recovery and risk evolution which will be useful to provide evidence base for a better recovery and resilience building planning. Furthermore, the implementation of the activity in the two villages will allow the project to support the UNDP-Baznas project to collect a digitized dataset on the local economic vulnerability and capacity to plan their economic recovery program.

In this regard, UNDP Indonesia is hiring a Geospatial Data Processing Consultant to lead the implementation of the geospatial-based capacity and vulnerability assessment at a micro-scale.

II. SCOPE OF WORK, ACTIVITIES, AND DELIVERABLES

Scope of Work

The consultant will undertake her/his mission under the overall supervision of the Information Specialist at the UNDP Indonesia Country Office. In carrying out her/his assignment, the consultant will work closely with the National Project Coordinator of the DX4Resilience project, the Output 1 Coordinator/Regional Consultant, the Output 2 Coordinator/Regional Consultant, BNPB's InaRISK team, and BNPB's Directorate of Mapping and Risk Evaluation. S/he will be responsible to ensure that the pilot of the micro-scale risk assessment is implemented accordingly. The activities that he will carry out are spanning from the methodology validation to the integration of the assessment result into inaRISK system.

Responsibilities and Tasks

Specifically, the consultant will be coordinating the implementation of the pilot of the micro-scale risk assessment with the following responsibilities:

- a. Organise the methodology review process from disaster risk experts. It includes finalizing the draft of the assessment methodology and data collection tools, organizing workshops and FGDs, collating inputs and comments for final methodology version, and coordinating the validation process with BNPB.
- b. Collaborate with the Output 1 coordinator and the Information Specialist to develop the data quality assurance module to be attached to the data processing mechanism of the micro-scale risk assessment.
- c. Supervise the deployment of the approved methodology during the sub-applications development of capacity and vulnerability assessment and their integration into inaRISK system.
- d. Conduct a quality control to ensure the required quality of collected data against the quality data assurance is met.
- e. Prepare the collected micro-scale risk data (clean, format and transform) before the integration into inaRISK system.
- f. Perform geospatial analysis and visualization of collected datasets.

Final Product:

The consultant will deliver the following final products, as relevant and agreed to prior to commencement of any task as below details:

Expected deliverables

Deliverables/Outputs	Target Due Dates	Review and approval	No. of days
<p>1st payment will be made upon report submission and approval by UNDP describing the following deliverables:</p> <ul style="list-style-type: none">• The validated assessment methodology of 3 (three) parameters of vulnerability component (socio-culture, livelihood, and environment) by disaster risk experts and BNPB.• Additional tool for data collection of the UNDP-Baznas project is developed.• Draft of the data quality assurance module to be integrated into inaRISK system, in collaboration with the Output 1 Coordinator and Information Specialist.	31 August 2021	Information specialist, National project Coordinator	15 days
<p>2nd payment will be made upon report submission and approval by UNDP describing the following deliverables:</p> <ul style="list-style-type: none">• The deployment of the validated assessment methodology into inaRISK Personal application, in collaboration with the IT Programming consultant.• Clean, prepared and transformed datasets of capacity and vulnerability components at micro-scale.	30 September 2021	Information specialist, National project Coordinator	15 days
<p>3rd payment will be made upon report submission and approval by UNDP describing the following deliverables:</p> <ul style="list-style-type: none">• Integration of capacity and vulnerability dataset into inaRISK system• Geospatial analysis of the newly integrated datasets.• Micro-scale risk data visualization• Micro-scale risk indexing of the villages of intervention.	31 October 2021	Information specialist, National project Coordinator	15 days

III. WORKING ARRANGEMENTS

Institutional Arrangement

The consultant will report to the Information Specialist and work closely with the National Project Coordinator of the DX4Resilience project in the UNDP Country Office. Also, s/he will liaise closely with the regional consultants (Output 1 and Output 2) and collaborate with two directorates of BNPB, namely the Directorate of Disaster Management System and the Directorate of Mapping and Risk Evaluation.

Duration of the Work

45 days from August 2021 to October 2021

Duty Station

Jakarta/BNPB office

Travel Plan

Below is an indicative travel plan for the duration of the assignment. The Consultant will be required to travel to the below indicated destinations and include the relevant costs into the proposal. There may be also unforeseen travel that will come up during the execution of the contract which will be agreed on ad-hoc basis.

No	Destination	Frequency	Duration/days
	N/A	N/A	N/A

Price Proposal and Schedule of Payments

Consultant must send a financial proposal based on lump sum fee. Consultant shall quote an all-inclusive lump sum fee for the contract period. The term "all-inclusive" implies that all costs (professional fees, communications, consumables, etc.) that could be incurred by the IC in completing the assignment are already factored into the fee submitted in the proposal. If applicable, travel or daily allowance cost (if any work is to be done outside the IC's duty station) should be identified separately.

In general, UNDP shall not accept travel costs exceeding those of an economy class ticket. Should the IC wish to travel on a higher class he/she should do so using their own resources.

In the event of unforeseeable travel not anticipated in this TOR, payment of travel costs including tickets, lodging and terminal expenses should be agreed upon, between the respective business unit and the Individual Consultant, prior to travel and will be reimbursed at actual documented cost.

Travel costs shall be reimbursed at actual but not exceeding the quotation from UNDP approved travel agent. The provided living allowance will not be exceeding UNDP DSA rates.

Schedule of Payment

The payment shall be made in the deliverable basis. All deliverables must be approved and based on satisfactory by BRH DRR team.

Deliverables/Outputs	Target Due Dates	Review and approval	No. of days
1 st payment will be made upon report submission and approval by UNDP describing the following deliverables:	31 August 2021		15 days

<ul style="list-style-type: none"> The validated assessment methodology of 3 (three) parameters of vulnerability component (socio-culture, livelihood, and environment) by disaster risk experts and BNPB. Additional tool for data collection of the UNDP-Baznas project is developed. Draft of the data quality assurance module to be integrated into inaRISK system, in collaboration with the Output 1 Coordinator and Information Specialist. 		Information specialist, National project Coordinator	
<p>2nd payment will be made upon report submission and approval by UNDP describing the following deliverables:</p> <ul style="list-style-type: none"> The deployment of the validated assessment methodology into inaRISK Personal application, in collaboration with the IT Programming consultant. Clean, prepared and transformed datasets of capacity and vulnerability components at micro-scale. 	30 September 2021	Information specialist, National project Coordinator	15 days
<p>3rd payment will be made upon report submission and approval by UNDP describing the following deliverables:</p> <ul style="list-style-type: none"> Integration of capacity and vulnerability dataset into inaRISK system Geospatial analysis of the newly integrated datasets. Micro-scale risk data visualization Micro-scale risk indexing of the villages of intervention. 	31 October 2021	Information specialist, National project Coordinator	15 days

IV. REQUIREMENTS FOR EXPERIENCE AND QUALIFICATIONS

Academic Qualifications:

Master Degree in DRR related Sciences, Computer Science, or Information and Communication Technologies.

Experience:

- Minimum 6 years of combined professional experience in Geographic Information system and disaster risk management.
- Experienced in geospatial-based risk and vulnerability assessment.
- Experienced in geospatial-data collection of risk, vulnerability, and capacity.
- Experience in Designing, organizing, and managing research materials.
- Experienced in working on the inaRISK or DIBI system is preferred.

III. Competencies and special skills requirement:

Competencies:

- Fluency in English, spoken and written
- Familiarity with Disaster Information Management System
- Familiarity with geospatial data collection and processing tools
- Familiarity of GIS techniques.
- Data quality assurance.

V. EVALUATION METHOD AND CRITERIA

Individual consultants will be evaluated based on the following methodology:

Cumulative analysis

When using this weighted scoring method, the award of the contract should be made to the individual consultant whose offer has been evaluated and determined as:

a) responsive/compliant/acceptable, and

b) Having received the highest score out of a pre-determined set of weighted technical and financial criteria specific to the solicitation.

* Technical Criteria weight; 70%

* Financial Criteria weight; 30%

Financial score shall be computed as a ratio of the proposal being evaluated and the lowest priced proposal received by UNDP for the assignment.

Only candidates obtaining a minimum of 49 point of the total technical points would be considered for the Financial Evaluation

Criteria	Weight	Maximum Point
<u>Technical (Maximum 100 points)</u>		
<i>Criteria A: qualification requirements as per TOR:</i>	<i>70%</i>	

<ul style="list-style-type: none"> Criteria 1: Master Degree in DRR related Sciences, Computer Science, or Information and Communication Technologies. Criteria 2: Minimum 6 years of combined professional experience in Geographic Information system and disaster risk management. Criteria 3: Experienced in geospatial-based risk and vulnerability assessment. Criteria 4: Experienced in geospatial-data collection of risk, vulnerability, and capacity. Criteria 5: Experience in Designing, organizing, and managing research materials. Criteria 6: Experienced in working on the inaRISK or DIBI system is preferred. 		15	
		15	
		10	
		10	
		10	
		10	
<p><i>Criteria B: Brief Description of Approach to Assignment</i></p> <ul style="list-style-type: none"> Understands the task and applies a methodology appropriate for the task Important aspects of the task addressed clearly and in sufficient detail Logical, realistic planning for efficient project implementation. 	30%	10	
		10	
		10	

Documentation required

Interested individual consultants must submit the following documents/information to demonstrate their qualifications. Please group them into **one (1) single PDF document** as the application only allows to upload maximum one document:

- **Letter of Confirmation of Interest and Availability** using the template provided in Annex II.
- **Personal CV or P11**, indicating all past experience from similar projects, as well as the contact details (email and telephone number) of the Candidate and at least three (3) professional references.
- **Financial proposal**, as per template provided in Annex II.

Incomplete proposals may not be considered.

Annexes

- I - [Individual IC General Terms and Conditions](#)
- II – Offeror's Letter to UNDP Confirming Interest and Availability for the Individual IC, including Financial Proposal Template

For any clarification regarding this assignment please write to sri.hastutiningsih@undp.org