

CONFIDENTIAL

Consultant for (National Expert) for developing and piloting Micro-Scale Disaster Risk Assessment (KRB Mikro)	Project number/ cost centre: G-011289-001
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I. General information

1. Brief information on the project

The Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH is an international cooperation enterprise for sustainable development with worldwide operations. Its corporate objective is to improve people's living conditions on a sustainable basis.

In the context of bilateral cooperation between the Governments of Germany and Indonesia, GIZ has received a new commission from the Federal Ministry for Economic Cooperation and Development (BMZ) on Adaptive Social Protection (ASP)/Integrated Solutions in Disaster Risk Management and Social Protection.

The ASP aims to provide integrated solutions to improve the crisis response capacity and long-term adaptation of poor population groups to climate change by linking social protection instruments with disaster management and climate adaptation approaches. Improving the protection of poor people and those at risk of poverty against climate-related shocks contributes to reducing the poverty rate (programme objective indicator 1). Incentive systems and financing mechanisms for forest protection and environmental services are being tested with the development of support approaches for adapting livelihoods to climate change in the project provinces (programme objective indicator 2).

The TC module aligns with the BMZ core thematic strategy "Health, Social Protection and Population Policy". It contributes to the implementation of the "Social protection" field of action, which is committed to establishing universal, inclusive and adaptive social protection systems in partner countries in order to strengthen the population's resilience to individual life risks and collective crises and, in future, also to the consequences of climate change.

The project's political partner is the National Authority for Disaster Management (BNPB). The project implementation is decentralised in 2 (two) regions, West Nusa Tenggara (NTB) and South Kalimantan (Banjarmasin). To achieve the module objectives, the Ministry of Finance (MoF), various directorates of the Ministry of Development and Planning (BAPPENAS), the Ministry of Village (MoV), the Ministry of Home Affairs (MoHA), and the Ministry of Housing and Public Works (MoPUPR) engage as the implementing partners.

2. Context

Indonesia faces significant disaster risks due to its geographical, geological, hydrological, and climatic characteristics. Located at the convergence of three major tectonic plates, the country is highly exposed to earthquakes, tsunamis, and volcanic eruptions. In addition, the impacts of climate change are increasing the frequency and intensity of hydrometeorological hazards such as floods, landslides, and droughts.

To address these risks, Law No. 24/2007 on Disaster Management establishes a disaster management framework consisting of three phases: pre-disaster, emergency response, and post-disaster. During the pre-disaster phase, disaster risk reduction efforts focus on risk-informed planning through activities such as hazard identification, vulnerability assessment, impact analysis, and the formulation of risk reduction strategies. These activities are guided by the General Guidelines for Disaster Risk Assessment, as stipulated in Head of BNPB Regulation (PERKA BNPB) No. 2/2012, which serve as the reference for ministries, agencies, and local governments in developing Disaster Risk Assessments (Kajian Risiko Bencana/KRB).

In recent years, strengthening disaster risk governance has also emphasised the importance of integrated disaster data management systems to support evidence-based policy and program design. In this context, BNPB is developing the One Disaster Data framework to standardise disaster-related data collection, management, and interoperability across sectors and levels of government. One key objective of this framework is to ensure that disaster risk information can effectively support policy formulation and risk-informed programme design, including for Adaptive Social Protection (ASP) interventions.

In 2025, the Directorate of Disaster Risk Mapping and Evaluation (PERB) under BNPB initiated developing updated vulnerability maps as part of the revision of the **national-scale KRB**, which is due to expire in 2026. While national and regional disaster risk assessments provide important strategic insights, vulnerability analysis is often aggregated at administrative levels, limiting the ability to identify risk patterns at the community and household levels. This aggregation also

constrains the use of disaster risk data for operational programmes such as risk-informed social protection responses and risk-informed development planning.

Strengthening disaster risk reduction and implementing the One Disaster Data framework, therefore, requires more granular, standardised risk-related datasets, particularly those that capture hazard exposure, household vulnerability, and community capacity at the local level. Such information is critical for identifying populations at risk, understanding the spatial distribution of vulnerabilities, and supporting data-driven decision-making for disaster risk reduction and social protection programmes.

To address this gap, the program aims to develop and pilot a Micro-Scale Disaster Risk Assessment framework (KRB Mikro) that enables more detailed analysis of hazard exposure, vulnerability, and capacity at the village and household levels. The development and implementation of KRB Mikro are expected to generate structured datasets and analytical outputs that serve as key inputs to the One Disaster Data system, while also supporting localised disaster risk planning and resilience-building initiatives.

The programme combines methodological development, field-based data collection, and risk analysis to generate localised risk information and standardised data structures that contribute to the implementation of the One Disaster Data framework.

The programme is structured through several interconnected components, including:

1. Development or updating of hazard-specific technical guidelines at the meso level to identify priority locations for micro-scale analysis.
2. Agreement on a standardised methodology for micro-scale disaster risk assessment.
3. Development of survey instruments and technical arrangements for household-level data collection.
4. Preparation of KRB Mikro in selected pilot locations.
5. Development of technical guidelines for KRB Mikro to support replication and capacity building.
6. Preparation of One Disaster Data implementation guidelines covering standards for data inputs, outputs, metadata, and interoperability; and
7. Development of knowledge products and dissemination materials to support broader adoption and knowledge sharing.

Given the technical scope and interdisciplinary nature of these activities, the program requires the engagement of several **technical consultants with complementary expertise** who will work in parallel yet coordinated workstreams.

Within the broader program framework, this Terms of Reference (TOR) focuses on recruiting a Technical Consultant to prepare the **Micro-Scale Disaster Risk Assessment (KRB Mikro)** in selected pilot locations. The assignment aims to operationalise the agreed-upon methodology for micro-scale risk assessment by developing detailed village-level risk analyses. This includes integrating hazard information with household-level vulnerability and community capacity data to produce spatially explicit disaster risk outputs. The results of this assignment are expected to strengthen localised disaster risk information and demonstrate the practical application of micro-scale risk assessment to support **risk-informed planning and Adaptive Social Protection (ASP)** interventions, in line with **ISASP Pillar 3 on Data and Information**.

In carrying out this assignment, the consultant will support BNPB in conducting the **technical preparation and analysis required for developing KRB Mikro** in selected pilot locations. This includes compiling and integrating available hazard datasets, processing survey-based vulnerability and capacity data at the household level and conducting spatial analysis to generate micro-scale disaster risk outputs. The consultant will produce key deliverables, including hazard, vulnerability, capacity, and risk maps at the **micro scale**, supported by analytical documentation and spatial datasets. The final outputs will consist of a **Micro-Scale Disaster Risk Assessment document**, a set of **maps and spatial data albums**, tabulated datasets derived from household-level surveys, and a comprehensive technical report describing the methodology, analytical process, and findings from the pilot locations.

The output generated through the preparation of **KRB Mikro** will serve as an important evidence base for the subsequent development of national technical and operational frameworks. Specifically, the analytical results, methodological lessons, and data structures derived from the pilot implementation will provide key inputs for: (i) the development of **Technical Guidelines (Juknis) for Micro-Scale Disaster Risk Assessment**, which will standardize the methodology, analytical workflow, and data requirements for replication; (ii) the preparation of **Implementation Guidelines (Juklak) for the One Disaster Data framework**, particularly in defining standardized disaster risk data inputs, outputs, metadata structures, and data interoperability; and (iii) the development of **training modules and the implementation of capacity-building programmes (BIMTEK) on KRB Mikro** for national and subnational stakeholders. Through these contributions, the assignment will support BNPB in strengthening the institutionalization and scalability of micro-scale disaster risk assessment in Indonesia.

Objective of the Assignment: The consultant will support the Directorate of Disaster Risk Mapping and Evaluation (PERB) of BNPB in developing and piloting Micro-Scale Disaster Risk Assessment (KRB Mikro) in selected locations by applying the agreed methodology to produce detailed village-level hazard, vulnerability, capacity, and risk analyses.

3. GIZ shall hire the contractor for the anticipated contract term, from **May to October 2026**

The services described in Section 4 shall be provided until October 2026.

4. The contractor shall provide the following work/service:

The assignment aims to support the Directorate of Disaster Risk Mapping and Evaluation (PERB) of BNPB in the preparation and pilot implementation of **Micro-Scale Disaster Risk Assessment (KRB Mikro)** in selected locations. The work will focus on applying the agreed methodology to produce detailed village-level disaster risk analysis by integrating hazard information with household-level vulnerability and community capacity data. The results will generate spatial and analytical outputs that strengthen localised disaster risk information and support evidence-based planning, including **Adaptive Social Protection (ASP)** initiatives. The National Expert (individual consultant) serving as the **Technical Expert for Micro-Scale Disaster Risk Assessment (KRB Mikro)** will have the following responsibilities:

1. Preparation and Data Compilation

- a. Review and apply the agreed methodology for Micro-Scale Disaster Risk Assessment (KRB Mikro).
- b. Compile and integrate relevant datasets, including hazard maps, spatial data, socio-economic information, and household-level vulnerability and capacity data collected through surveys or secondary sources.
- c. Conduct data cleaning, validation, and preparation to ensure consistency and compatibility for spatial and analytical processing.

2. Development of Hazard and Capacity Maps

- a. Conduct spatial analysis to refine and interpret hazard information at the micro scale
- b. Analyse community and household-level capacity indicators based on available data sources.
- c. Produce Hazard and Capacity Maps for the selected pilot locations at micro spatial resolution.

3. Development of Vulnerability and Risk Maps

- a. Analyse household-level vulnerability data and relevant socio-economic indicators.
- b. Integrate hazard, vulnerability, and capacity components to generate micro-scale disaster risk analysis.
- c. Produce Vulnerability Maps and Risk Maps representing the spatial distribution of disaster risks in the selected locations.

4. Preparation of Micro-Scale Disaster Risk Assessment (KRB Mikro) Outputs

- a. Prepare the Final KRB Mikro Document, describing the methodology, analytical process, key findings, and policy-relevant insights.
- b. Develop supporting outputs, including:
 - Map Atlas (Album Peta) containing hazard, vulnerability, capacity, and risk maps.
 - Spatial Data Album including GIS layers used in the analysis.
 - Tabulation Matrix and Analytical Dataset derived from the assessment.
- c. Ensure that all spatial and tabular datasets are structured and documented in accordance with BNPB data management standards.

5. Final Reporting

- a. Prepare a Final Report documenting the overall process, methodology application, analytical results, and key lessons learned from the pilot implementation of KRB Mikro.
- b. Provide recommendations for improving and standardizing the methodology and data structures to support the development of Technical Guidelines (Juknis) for KRB Mikro, Implementation Guidelines (Juklak) for One Disaster Data, and training modules for KRB Mikro capacity-building programmes. These recommendations should be structured as explicit, actionable inputs to each of the three downstream workstreams, addressing: (i) methodological refinements and data standard implications for the **KRB Mikro Juknis** (TOR 2); (ii) data structure, metadata, and interoperability lessons for the **One Disaster Data Implementation Guideline** (TOR 6); and (iii) the fitness of the KRB Mikro outputs — particularly the household-level vulnerability and capacity datasets — to inform **DRR-centred adaptive social protection programme design**, including any gaps or limitations identified in the pilot that would need to be addressed for ASP applications.

The National Expert (individual consultant) is responsible for providing necessary equipment and supplies (consumables) and covering the related operational and administrative expenses.

The National Expert will manage costs and expenditures, as well as the accounting and billing processes, in compliance with GIZ requirements.

Milestones/partial works	Date/location/responsibility	Criteria for acceptance
Milestone 1: Preparation and Data Compilation. Review and application of the KRB Mikro methodology, compilation and integration of hazard, spatial, socio-economic, and household-level vulnerability and capacity datasets. Includes data cleaning, validation, and preparation for spatial and analytical processing.	May 2026 Jakarta/Consultant	<ol style="list-style-type: none"> 1. Draft of household-level social vulnerability assessments questionnaire consists of socio-economic, livelihood, and demographic vulnerability data at the household level. 2. Cleaned, validated, and integrated datasets ready for spatial and analytical processing. Methodology application confirmed.
Milestone 2: Draft Micro-Scale Disaster Risk Analysis is available. Conduct spatial analysis to produce micro-scale Hazard, Capacity, Vulnerability, and Risk Maps for selected pilot locations by integrating hazard, vulnerability, and capacity components.	01.06.2026 - 15.08.2026 Jakarta/Consultant	<ol style="list-style-type: none"> 1. Draft micro-scale Hazard, Capacity, Vulnerability, and Risk Maps produced for pilot locations, with supporting spatial datasets. 2. Proof list attendance of the consultation meeting/FGD with respected villages representatives.

<p>Milestone 3:</p> <p>The final draft of the KRB Micro Outputs and Reporting is available. Preparation of the final KRB micro-outputs, including the KRB Mikro document, Map Atlas, Spatial Data Album (GIS layers), tabulated analytical datasets, and Final Report documenting methodology, analytical results, and lessons learned with recommendations for Juknis/Juklak and training modules.</p>	<p>15.08.2026 - 06.10.2026</p> <p>Jakarta/Consultant</p>	<p>Micro-scale Vulnerability and Risk Maps represent the spatial distribution of disaster risks for selected villages.</p>
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Calculate your financial bid exactly in line with the quantitative requirements of the input's specification above. There is no contractual right to use up the full days/travel or workshops or budgets. The number of days/travel/workshops and the budgets will be contractually agreed as **maximum amounts**. The pricing regulations are contained in the price schedule.

Since the contract to be concluded is a contract for works, you should offer your services at a fixed lump sum price, which provides **an itemised breakdown of all the relevant costs (fees, travel costs, etc.). The specification of inputs should provide guidance in this respect.** The assessment of the financial bid is based on the lump sum price tendered, which must be realistic for the services to be rendered. In the contract itself, the budgets will be contractually agreed as **maximum amounts**.

II. Tender requirements

1. Qualifications of proposed staff

The tenderer is required to propose personnel for the positions specified here and described with respect to the areas of responsibility and qualifications on the basis of relevant CVs.

The qualifications below represent the requirements to achieve the maximum number of points in the technical assessment.

1.1 Expert 1:

1.1.1 General qualifications

Education	Advanced degree, Master's in fields pertinent to disaster management, geography, geography education, soil science, or a related discipline from a recognised and reputable institution
Professional experience	<ul style="list-style-type: none"> At least 5 years of professional experience in the disaster sector, particularly in the development of Disaster Risk Assessments (Kajian Risiko Bencana/KRB) or comparable areas in several provinces, including South Kalimantan and West Nusa Tenggara. Experience developing household-level social vulnerability assessments, including analysis of socio-economic, livelihood, and demographic vulnerability indicators at community or village scale.

	<ul style="list-style-type: none"> • At least one year of working experience with GIZ on disaster risk assessment (KRB) development and/or related field. • Experience developing micro-scale KRB • A minimum certification as a GIS Specialist from BNSP is preferred. • Membership in the Indonesian Association of Disaster Experts (IABI) is preferred. • Proficiency in GIS applications for conducting spatial analysis, particularly with raster data. • Competence in handling multiple tasks and projects concurrently. • Excellent interpersonal and communication skills, both verbal and written, with the ability to facilitate structured discussions with relevant leaders of working units. • Proficient in formal report writing skills in both English and Bahasa Indonesia.
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1.1.2 Experience in the region/knowledge of the country

- Minimum 5 years of professional experience working in Indonesia, particularly in disaster risk assessment or disaster risk management.
- Experience collaborating with BNPB and various Ministries/ Agencies/ Local Governments is preferred.

1.1.3 Language skills:

Business fluency in B2

2. Quantitative requirements

Fee days	Number of experts	Number of days per expert	Comments
Preparation and Data Compilation.	1	20 days	Refers to milestones
Draft Micro-Scale Disaster Risk Analysis.	1	50 days	Refers to milestones
Finale draft of KRB Micro Outputs and Reporting.	1	50 days	Refers to milestones

Workshops and events, initial and further training

The contractor will conduct the following workshops / study trips / initial and further training courses:

- 3 (three) consultative meetings with GIZ ISASP, BNPB and the Disaster Risk Reduction Forum NTB (FPRB NTB).
- 4 (four) workshops/FGDs at the village level.
- 1 (one) FGD with national partners Jakarta.

- Final presentation meeting through offline/online to Director of PERB BNPB to confirm the acceptance of results/products.

3. Conceptual

The tender should indicate how the services outlined in Section I.4 (Tasks) is to be provided. Reference should be made to the following criteria:

- 3.1.1 Concept and methodology proposed for achieving outputs.
- 3.1.2 Brief Gap Analysis on Micro-scale Disaster Risk Data, including understanding of the current status of micro-scale disaster risk data in Indonesia
- 3.1.3 Potential Recommendation/Example of Micro-scale Vulnerability and Risk Map that represents spatial disaster risk distribution in micro-output

III. Requirements on the format of the tender

The structure of the tender must correspond to the structure of the ToR. In particular, the detailed structure of the concept (Section 3) should be organised in accordance with the positively weighted criteria in the assessment grid (not with zero).

The complete tender (concept) must not exceed 5 pages (excluding CV). If one of the maximum page lengths is exceeded, the content appearing after the cut-off point will not be included in the assessment. External content (e.g. links to websites) will also not be considered.

The CVs shall not exceed 4 pages each. They must clearly show the position and job the proposed person held in the reference project, and how long they held it. The CV can also be submitted in English (language).

As the contract to be concluded is a works contract (based on output), please offer a fixed lump-sum price that covers all relevant costs. The specifications for pricing are defined in the price schedule