Global Risk Modelling Alliance Programme (GRMA)

Selection criteria for providers of data and risk model solutions

Definition: Throughout this document the term 'Providers' refers to any organization, public, private or academic interested in providing risk-related data and models as well as capability development relevant to the Call for Proposal generated by the Global Risk Modelling Alliance and InsuResilience Solutions Fund. Providers originating in the relevant partner country are encouraged to apply, either directly or through international partners in consortia.

Background to GRMA

With the frequency and intensity of climate related disasters expected to increase over the next decades countries need to prepare, mitigate, and manage risks more actively to limit the impact of climate change on their population and economic development. Being over-proportionately affected by climate and disaster risks this is especially true for poor and vulnerable countries, which are least prepared and often lack the necessary information and risk understanding as a prerequisite for climate and disaster risk management, encompassing risk prevention, preparedness, reduction and transfer, and the development of comprehensive climate and disaster adaptation and risk management strategies. This lack of risk understanding is reflected in the **limited access to and ability to use risk analytics,** and a **lack of knowledge exchange**.

In order to foster climate risk understanding as a prerequisite for comprehensive climate and disaster risk management of countries most affected by climate change, additional support for climate risk modelling and analytics is offered by the **Global Risk Modelling Alliance Programme (GRMA),** hosted by the InsuResilience Solutions Fund (ISF). The GRMA supports access to risk analytics resources and the development of local expertise on climate and disaster risk modelling in poor and vulnerable countries. Taking a public-private-partnership approach (PPP), the GRMA leverages expertise and know-how of the private sector as well as public sector research and academia in climate and disaster risk modelling and analytics.

The GRMA provides financial and technical assistance to support detailed climate and disaster risk analysis, fostering climate risk understanding (outcome) as a prerequisite for comprehensive climate and disaster risk management.

The financial and technical support provided under the GRMA serves to:

- Enhance **local capacities** and capabilities of climate risks analytics in poor and vulnerable countries (Output 1)
- Provide access to existing and new **data needed to develop/validate climate risk models, including exposure and vulnerability data,** adapted to the local needs and context. (Output 2)
- Increase the availability of quality assured data and models to poor and vulnerable countries **as a public good based on global standards** and linking existing as well as incorporating **new local models and data allowing** intertemporal and cross-geographical validation. The GRMA advocates **open-access and open-source principles**. (Output 3)

Selection process

The decision on the selection of providers for the requested modelling and data support to the respective country under the GRMA will be based on the assessment of proposals submitted by providers in response to a Call for Proposals or Request for Offers by the GRMA team.

The assessment of the proposals shall be based on the Minimum Criteria, i.e. necessary preconditions to be fulfilled for enhancing local capabilities for climate and disaster risk analysis shown in Table 1 below. Further assessment of the proposals fulfilling the Minimum Criteria will be based on the Selection Criteria which consist of:

- Criteria for hazard models (Table 2A) and Technical Expertise (Table 2C)
- Financial criteria outlined in Table 3.

Table 1: Minimum criteria (necessary preconditions to be fulfilled by providers of data and risk models under the GRMA climate risk studies)

Criterion	fulfilled
• The providers of data and risk models have prior experience and capacities in model development and implementation for the hazard(s) and region(s) included in the Call for Proposals, preferably including local knowledge and expertise. This should be demonstrated by at least three project references. • The lead provider has a minimum average annual turnover equivalent to funding volume for the past three financial years. In case of a joint	

Criterion	fulfilled
venture (JV), the aggregated average annual turnover of all JV members will be considered. In case the providers of data and risk models represent exclusively local partners a lower minimum annual turnover might be acceptable.	

Table 2: Selection criteria (Model & Data quality and technical expertise)

Category	Model Criteria	Fulfilled
A. Data and Hazard model		
a)	Local expertise and information: • Are local sources of hazard, exposure, vulnerability and loss data clearly identified? How can gaps be filled? • Are research and data from local organizations / experts on hazard, vulnerability and exposure considered in the risk analysis or any other relevant part of the provided services?	
b)	Quality of risk and loss data: • Have the providers considered the availability and accessibility of historical hazard data in their proposal? Does the proposal address whether the model can be validated and adjusted using historical loss data? • Have the providers demonstrated awareness of the importance of temporal and spatial resolution in ensuring the dataset can adequately characterize hazard and loss when validated against historic data? • Have the providers acknowledged the role of disaggregated demographic data (e.g., gender, age) in risk assessments and identified any relevant gaps or considerations in its availability? • Is there sufficient justification that the proposed vulnerability data (new or existing) are relevant to use for the risk(s) and region(s) of application? • Are challenges and difficulties regarding data and data availability for a successful risk assessment highlighted or identified? And ways to address them proposed? • Does the data contain sufficient variables, dimensions, and spatial resolution to effectively characterize the hazard for risk analysis and enable comparison with historical data (e.g., does flood hazard data include depth and extent at a resolution that supports quality risk guidance)?	

- Is the temporal resolution of hazard data appropriate for the specific risk question, and does the analysis account for changes in frequency or severity attributed to climate change?
- Is there sufficient validation of risk estimates against previous risk assessments and historical losses proposed?

c) Data standards and documentation:
- What data standards will be applied to the input and output data?
- Does the metadata comply with GRMA-requested use of the templates Risk Data Library (RDL) Standard from GFDRR to ensure datasets are machine- and human-readable, discoverable, and understandable?
- How is the quality of user documentation of overall risk assessment framework and individual elements? Each item to be assessed as 'Missing', 'Limited' or 'Comprehensive':
  a. Scientific description of the methodology.
  b. Report on validation.
  c. User guide, including regular updates.
  d. Operations Concept.
  e. Data assessment results.
- Is uncertainty adequately characterized through probabilistic and/or event set-based models, and are confidence levels clearly communicated?
- Are challenges regarding the requested hazard, exposure, and vulnerabilities in the requested region/country adequately cited and addressed?

d) Compatibility and interoperability of risk model and data:
- How compatible is the hazard model with other risk model frameworks or applications? Is the model part of a wider framework?
- Is the risk model software ready for practical use in the client country's environment? Has the hazard model or a previous version been used in the country before (with examples)?
- Exposure data to be appropriate in geographic scale and taxonomy for the risk question concerned. Exposure data is to be made available in the Open Exposure Data (OED) format, or if not, a case is to be made by the provider for use of a similarly open exposure data standard.
- Risk models are to be formatted for use and continuous development (by the project country) on the open-source formats.

a. For financial risk transfer applications, industry accepted platforms such as the Oasis Loss Modelling Framework are preferred.
b. This does not exclude use of other platforms where relevant, such as GEM OQ, CLIMADA, CAPRA, DAFNI, CatSIM, RiskScape and others. The intention is that users can choose their primary interface and would be able to take advantages of model variety, community, financial capability and practical tools for local integration such as model development kits.

e) Transparency and sustainability of intellectual property (IP):

- Provision of clear distinction between background and foreground IP. Information on the usability of foreground IP without background IP needs to be provided.
    a. Background IP describes IP generated outside the GRMA project (underlying data, code and methodologies generated outside the project being considered)
    b. Foreground IP describes data, code or methodologies generated within the project for the specific geographical area and risk questions being asked. Foreground IP generated through GRMA should be ultimately transferred and owned by local public partner/government.
- Are proposals sufficiently made to ensure data, code, and methodologies generated by the provider can be transferred to the relevant entity(ies) in country?
- Could the risk assessment methods be transferred to other regions in the country/wider geographic area?

Category	**Provider experience and expertise**
B. Quality of submission	
• Are the concept and aims clearly defined? Do they reflect completeness, causality, and comprehensibility in the context of the Call for Proposals? • Are the work plan and timelines achievable and set realistic and achievable goals? • Do the provider's comments on the Terms of Reference (ToR) show reasonable interpretation and critical analysis of the ToR including	

challenges around the suitability, coherence and feasibility of individual aspects and the concept as a whole, with viable alternative approaches? • Does the workplan and presentation of the workplan clearly define the objectives, ambition, and leads towards smooth cooperation and clear roles and responsibilities across all partners?	
C. Existing expertise and technical capacities	
Do the proposal, expert CVs and project references demonstrate: • Technical expertise and experience working on relevant exposure(s), hazard(s), and climate and disaster risk? • Previous experience working in the relevant region or country? • Previous experience in climate and disaster risk assessment and modelling, including probabilistic and scenario analysis? • Knowledge on quantification of climate and disaster risks for fiscal budget management, including financial stress testing? • Knowledge on quantification of climate and disaster risks for operational resilience investments or risk financing and insurance? •	
D. Providers of data and risk models/Partners	
• Do the providers of data and risk models/partners add relevant expertise efficiently and effectively? Considerations include: a. No overlaps in proposed work b. Complementarity of expertise c. Level of innovation and new research d. Familiarity of local partners with the public sector use case • Have the partners previously worked in project consortia? • Do the providers of data and risk models understand the context of co-development of the project with local authorities, and do they support a 'learning by doing' approach? • Do the providers of data and risk models propose a solution which matches the potential capability of the public sector use case? Model/data solutions are unlikely to be selected if: a. They are overly complex for the data context b. They imply unreasonable expectations of user skill levels. • Does the consortium include relevant local partners?	
E. Experience in capability development	
• Experience in providing climate risk analysis training and related concepts to related stakeholders.	

• Experience in training on fundamentals of risk modelling, specific tools, online guidelines, and seminars? • Experience in setting up sustainable data repositories for users to access data and resources collected and produced? • Do the providers of data and risk models propose innovative knowledge transfer methods and ways to ensure that the learning outcomes are sustainable? • How do providers envision that data on and knowledge of hazard, exposure and vulnerabilities might be utilized by partners during and beyond the project? While specific country needs may evolve, bidders are encouraged to reflect on potential use cases and ways data/knowledge could support decision-making • Do the providers of data and risk models present clear strategies for ensuring that beneficiaries will understand and be able to use the provided services?	

Table 3: Selection criteria on financial assessment

Category	Financial Criteria	
	• Adequacy of cost estimates (compliance with usual market costs / rates) • Cost effectiveness with respect to envisioned outcomes, considering the context of project location, beneficiaries and complexity.	