



**Global
Risk
Modelling
Alliance**

Global Risk Modelling Alliance (GRMA): Vision for Capability Development



Impressum

About InsuResilience Solutions Fund (ISF)

The InsuResilience Solutions Fund (ISF) is the host institution of the GRMA, managed by Frankfurt School of Finance & Management. It has been set-up and funded by KfW, the German Development Bank, on behalf of the German Federal Ministry for Economic Cooperation and Development (BMZ). ISF promotes the development of climate risk analytics, innovative and sustainable climate risk insurance products in developing and emerging countries, to improve the resilience of poor and vulnerable households against the impacts of climate change and natural disasters.

About Insurance Development Forum (IDF)

The Insurance Development Forum is a public/private partnership led by the insurance industry and supported by international organisations. It brings together industry experts (insurers, reinsurers, brokers) multilateral and non-governmental organisations, and public sector institutions that share its objectives and goals. The IDF aims to optimise and extend the use of insurance and its related risk management capabilities to build greater resilience and protection for people, communities, businesses, and institutions that are vulnerable to disasters and their associated economic shocks.

About the Global Risk Modelling Alliance (GRMA)

Initiated by the Insurance Development Forum (IDF) and V20 Group and hosted by the InsuResilience Solutions Fund (ISF), the GRMA is a unique public-private partnership offering countries open-source model and data support and capability development in risk analytics. Its purpose is to strengthen climate and disaster risk insight, support strategic decision-making and help unlock risk finance for public good. The GRMA has been selected as a key resource for the Global Shield (GS) Initiative, particularly during initial in-country climate risk assessments and subsequent capacity building.

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ABOUT THIS DOCUMENT

Capability development is a central element of the technical assistance service of the GRMA programme, which focuses on building skills and capacities through knowledge support from our expert GRMA team, to achieve the objectives and principles of the GRMA programme in the area of risk analytics.

This is intended as a guiding document for the GRMA programme, for use by the GRMA team, partner country staff and focal points, and implementing service providers, and may be of interest to development partners or practitioners in this field of work. This document builds on findings presented in the “Capability Development Study for the Global Risk Modelling Alliance” study, published on the GRMA website.

Definitions

Why does GRMA use the term ‘capability development’?

The GRMA focuses on ‘capability development’, including technical skills in the development of data and models for risk analytics, as well as a broader understanding of climate and disaster risk concepts, the interpretation of risk information, and applications of risk information for decision making. Within this conceptualisation, the GRMA further differentiates between individual capacity and departmental or organisational capacity. The former relates to skills, knowledge, attitudes and behaviours (broadly categorised as ‘capacity development’), while the latter includes the management structures, resources and systems that govern teams of individuals (broadly categorised as capacity building).

Why not ‘capacity building’?

The GRMA explicitly differentiates from the more general concept of ‘capacity building’, which may imply additional elements of an individual’s or organisation’s capacity to undertake risk analytics work. Examples include investment in equipment or enhancing of financial capacity (for example premium support for risk financing and insurance), which fall outside the scope of GRMA support. Steering away from this concept also helps manage expectations and focus discussions in partner countries on what the GRMA can realistically offer.

Principles of GRMA capability development

GRMA’s approach to capability development is built on the following principles:

- **Local ownership:** stakeholders agree on identified needs and targets, help design the process of change and assume leadership for them over the course of project development. This ensures the inclusion of local knowledge and information into project design and the development of risk analysis, and trust in the modelling, data and results developed.
- **Multi-stakeholder and multi-level process:** Partnerships between donors and local stakeholders – engaging both civil society and the private sector – are facilitated. Action is required at multiple levels: individual, institutional, and societal.
- **Sustainability of results:** Sustainability of the data and models developed during the GRMA project – especially in their availability, use, maintenance and improvement over time. Change must also be homegrown, long-term, and generated and managed collectively by beneficiaries.
- **Consideration of political and governance factors,** which play an important role, given the influence they have on the functioning of institutions and on the possibility for reform. The GRMA will therefore not adopt a ‘one-size-fits-all’ approach.

Capability development across the GRMA project cycle

Country-specific needs assessment undertaken through bilateral or consultative meetings and stakeholder workshop(s) ensure that capability development activities address the most critical areas in terms of knowledge, skills and resources. In each GRMA country project, capability development activities are integrated into each technical project as a cross-cutting activity. Special attention is put on ensuring that capability development **occurs from the first in-country meetings and workshop, throughout the implementation phase, until project closing**. This facilitates a shared understanding of the work being undertaken, the methods being proposed, and models/data being generated.

The GRMA Project Phases and relevant capability development activities and responsibilities are shown in Table 1.

Project planning phase

GRMA activities in the project planning phase (before the drafting of Terms of Reference (ToRs) for service providers) aim to develop a good understanding of existing capabilities and previous capability development activities, through bilateral meetings and a multi-stakeholder scoping workshop. Technical gaps are identified and elaborated through group exercises and could also use surveys of individuals' capabilities and experience with risk information and analytics. An indicative survey template is provided in Annex 1.

GRMA defines the extent, scope and importantly, the objectives of capability development in the country-specific ToRs contained in the public Call for Proposals (CfP), requesting the service providers to define the content of activities – tied closely to the technical assistance on models and data – in their proposal. The GRMA Good Practice Checklist (Box 1) should be provided in the ToR/CfP to guide service providers on elements to consider in their proposed capability development approaches. Activities should be planned and sequenced in line with the local priorities, capacities and long-term objectives identified in this phase, and with a plan for sustainability and long-term change. Activity format, content and sequencing should also respect participant's workloads and capacities.

Implementation phase

In the implementation phase, technical capability development focuses on technical working groups – i.e., the selected technical level people who are involved in the data, tools, modelling of risk or related areas, who have previous related experience and the enthusiasm to learn more on this topic. Capability development materials should be made available in local language so they can be shared widely.

At the beginning of this phase capability assessment should document the starting position in individual and organisational capacity, to feed into the design of capability development activities and enable the measurement of change. At the end of each activity, as part of GRMA Monitoring and Evaluation (M&E), feedback should be collected from participants about what worked well (including level/relevance of content, pace, delivery and format) and what could be changed, so improvements can be made through the implementation phase. This could be done using questionnaires, which should be in the local language, and be offered digitally and in paper form (i.e., physically at the training event).

Activities should leverage existing open resources including online learning courses – for example, World Bank provides relevant courses on understanding risk, introductions to disaster risk management and disaster risk financing, and gender and disaster risk management, that could complement and augment capability development conducted by GRMA. **The specific content of capability development will differ by project and country, but possible themes are given as examples below (Box 2).** Coordinating capability development with other projects or building on previous activities can reinforce messaging and knowledge. Connecting with courses in climate and disaster risk analytics being taught in local colleges and universities could enable a link with that academic body to add to the course content and provide a home for ongoing capability development beyond the GRMA project.

Broader capability development would include policy makers and technical agencies becoming more confident in creating their own CfP for risk analytics, and applying risk information to national level policies, for climate funding and others, potentially supported by GRMA. Such support may also be garnered through the Global Shield (GS) framework in select GS countries, through webinars for example. It is not intended that GRMA would achieve this in isolation, but in collaboration and going beyond the GRMA project cycle, together with other global organisations. Convening participants from multiple organisations across different sectors can contribute to breaking down silos and promote knowledge sharing across those boundaries and promote stronger relationships in risk analytics.

Consideration could be given to expanding the remit of activities from skills and knowledge specific to risk analytics, to more explicitly understanding and designing an approach tailored to the values, attitudes and behaviours of risk owners around climate and disaster risk and risk management. Furthermore, a session could be included on communication techniques, with the aim of giving technical persons the skills and understanding required to empathise with the decision makers point of view, and thus clearly communicate with them.

The GRMA team may provide support to the service provider or may complement their contracted capability development activities. GRMA team capacities and capabilities include:

- Support on climate modelling principles and processes, integration of climate models into risk assessment
- Support to understand available global and regional datasets, how they can be used in risk assessments.
- Information around open risk modelling, including their capabilities and accessing available open tools.
- Broader application of risk information to use cases that lie outside the scope of the operational projects.
- Experience and content from the Frankfurt School CDRFI courses (including webinars offered via the Global Shield Solutions Platform (GSSP) under the Readiness Component).
- Detailed catastrophe modelling experience including model development, model evaluation/validation, CDRFI options and structuring.

Project closing phase

In the project closing phase, capability development is delivered as service providers present results and approaches at the final workshop(s) and via their final project report. Technical capability development at this stage should focus on consolidation and wrap up; i.e., ensuring that project partners and their organisations have the maximum possible understanding of the risk analytics processes and results, and the ability to use, maintain and enhance those.

In this phase, project outcomes and results are also shared with a broader audience, linking results to a wider range of applications, making next potential steps clear, and highlighting the value of the work (and continuing the work) are vital.

In this phase, comprehensive M&E should review the achievements of the project, considering the entire project cycle, against key criteria of relevance, efficiency, effectiveness, impact and sustainability. At the end of a project, a reflection session should be carried out, ideally with the involved counterparts, to assess what went well, what was challenging and to make recommendations for future GRMA projects.

Capability development surveys administered by the service provider at project close should assess whether trainees have been able to use or apply their new knowledge during the project. Some months after project conclusion, the GRMA team will conduct a follow-up to see if they have been able to apply that knowledge, and whether there are barriers to application. It can also be important to follow up with partner development agencies and communities of practices established in the project to understand how the GRMA project has changed the way things are done and how the models and datasets created have been used in practice.

Table 1 Phases and component of GRMA capability development

Phase	Initiates at	Major components	Objectives	Conducted by	Beneficiaries
Project planning	Country application to GRMA	Multi-stakeholder Scoping Workshop and Technical Workshop in-country.	Convene stakeholders to share activities and discuss gaps and needs in risk information.	GRMA team	Technical level and policy level staff and departments
		Co-development of country application, bilateral meetings, stocktake work, co-development of Terms of Reference, assessment of Call for Proposals, selection of service provider.	Introduce the principles and components of risk and risk analytics. Plan and sequence activities in line with local priorities, capacities and long-term objectives.		
Project Implementation	Signing of contract with service provider	Minimum two workshops (including one inception) in addition to varied capability development measures during implementation of work packages (country/project-specific).	Jointly finalise the project approach developed by service provider.	Service provider	Technical level
			Establish starting position/levels for assessing success of capability development via surveys.		
		Local experts learn through co-development and application of data and models (see modes of learning in Chapter 4 below) Service providers learn from local experts through local context/ information provided into process.			
		Review progress and adherence to principles / TOR regarding capability development, provide guidance to service provider.	Promote sustainability of GRMA outputs for long-term change	GRMA team	Technical and policy level
		Provide capability development support to achieve the requirements of the TOR which service provider cannot fulfil / not identified in TOR (out of scope).	Ensure improvements in capability development delivery are made during the project where needed.		
Project closing	Preparation of service provider's final report	Concluding technical capability development by service provider and local experts sharing results.	Ensure capability development gains and materials support ongoing learning through relevant institutions in the country.	Service provider	Technical level
		Presentation of project outcomes and results with broader audience, M&E, documentation.	Consolidate learning gained throughout the project.		
		Linking results to wider range of applications, make next steps clear, highlight maintenance of dataset Undertaking M&E encompassing entire project cycle (including service provider's activities) along key criteria of relevance, efficiency, effectiveness, impact and sustainability.	Promote sustainability of GRMA outputs for long-term change. Set up process for six-month check in on change achieved.	GRMA team	Policy level

GRMA Good Practice Checklist

GRMA capability development methods should:

At the individual level...

- Be demand driven, tailored to the needs, pre-existing capacity and responsibilities of the participants, with clearly defined objectives for each target group
- Involve local partners and experts, including those from private and civil society sectors
- Use data and use cases that are relevant to that country or region
- Use a common, standardised language for shared understanding across stakeholders, communicating clearly the benefits as well as limitations of models, data and products.
- Integrate techniques such as practical exercises, working through processes, software, tutorials etc. in group or peer work settings
- Develop, use and disseminate materials which are in the local language, appropriate level of content and delivered within a structured programme and signpost to other available resources. It should also account for cultural specificities, involving local facilitators/trainers as appropriate
- Include a focus on 'soft skills' such as effective communication, and address the target group's values, attitudes and behaviours around climate risk management
- Track against a country-specific monitoring plan with relevant indicators/objectives, consistently seeking feedback (at baseline, mid, end and post stages) to iteratively learn and improve
- Ensure post-event collaboration (e.g., networking opportunities, exchange of emails addresses, setting up WhatsApp groups, etc.)
- Be cost efficient, employing virtual modes if appropriate, in addition to in-person training and leverage
- Ensure two-way learning between participants, and between participants and facilitators

At the organisational level...

- Be tailored to the priorities of the partner country, aligned with relevant strategies and activities, filling critical gaps, developed through a process of co-development
- Take into account the ongoing/ planned activities in climate risk analytics of development actors and local colleges and universities, leveraging existing open resources (coordination rather than replication)
- Acquire political support to ensure the nomination of appropriate staff and buy-in of relevant institutions
- Take into account job profiles/work plans, management support, systems and incentives available at host departments to ensure continued application of knowledge
- Ensure key organisations have knowledge of and access to open access tools and data which can be continuously exploited beyond GRMA project scope
- Engage with and form connections to local and international communities of practice
- Consider the inclusion of a Training of Trainers element into the overall CD approach, working with academics where relevant to incorporate tools and models in university curricula.
- Optionally be embedded in or work with a cross-organisational technical panel or governance body which would provide additional support and coordination.

In general...

- Be designed and implemented in a way that maximizes relevance, efficiency, impact and sustainability.

Capability development themes in GRMA projects

Depending on the projects co-defined with the country, capability development may include:

- Introduction to climate and disaster risk management and uses/value of risk analytics
- Introduction to climate and disaster risk financing and insurance (CDRFI) solutions and uses/value of risk analytics in CDRFI
- Deep dive into using risk analytics and information
- Familiarisation with the range of sources of existing global to local risk information
- Familiarisation and use of open risk modelling platforms, such as Oasis and Climada
- Understanding risk model approaches, limitations and data sources
- Modelling of financial/physical impacts of climate risk/adaptation measures
- Use and update of open spatial databases for risk information (e.g., Geonode, CKAN)
- Programming/coding skills (e.g., Python, R)
- Data collection, statistical analysis, analysis of meteorological or climate data
- Early warning/bulletins, knowledge of detection systems
- Land use planning/spatial analysis

Box 2 GRMA Capability development themes

Public and private sector contributions to capability development

Contributions on capability development can come from private sector involvement as service providers, IDF RMSG member companies providing in-kind support to GRMA activities and relevant IDF activities, and the public sector, referring here to Frankfurt School of Finance and Management (Frankfurt School / “FS” and the institutions it hosts).

Frankfurt School contributions may come from relevant structures and programmes, including, for example:

- Sustainable World Academy (SWA)
SWA is the professional and executive education wing of GRMA host institution, FS. SWA has internal competencies in training and development, including expertise in needs/gaps assessment, development of training materials, evaluation and impact assessment of trainings, Training of Trainers (ToT), etc.
- Global Shield Solutions Platform (GSSP)
One of the three financing vehicles of the Global Shield, GSSP offers ready-to-use and customisable case studies and knowledge materials in webinar format responding to country demands under its Readiness Programme. Furthermore, country support packages can include more country specific capability development support on climate and disaster risk financing and insurance.

Coordinating closely with the GRMA programme, IDF member companies’ contributions may come from relevant programmes including, where member companies are already contributing expertise, for example:

- IDF RMSG advocacy programme (2025-2026), which aims to: reinforce the value of climate and disaster risk insight for sovereign policy makers and how to achieve insight; introduce key principles and tools for risk modelling for public sector institutions; promote climate and disaster risk modelling for regulators and support insurance risk modelling for humanitarian programming.
- Insurance regulators / supervisors training on climate and disaster risk analytics, coordinated by the Risk Modelling Steering Group (RMSG) and the Law, Regulation and Resilience Policies working group – in which companies and individuals deliver specific aspects of knowledge.
- Companies and individuals involved in IDF working groups on Resilient Infrastructure and Insurance in Disaster Risk Reduction.
- Companies and individuals involved in the RMSG’s development of open technical tools for capability development and other workstreams.

An important aspect of private sector involvement is that it should involve international and local actors – this includes regulators and (re)insurance companies in the GRMA partner country participating in capability development, delivering content where applicable as well as benefitting from capability development.

Modes or mechanisms of capability development in the GRMA

Possible **modes or mechanisms of capability development are listed in Box 3** but should ultimately be tailored to the project and country context. The project scoping phase in each country should establish what types of previous capability development that has been used and successful there, consider whether the same mode of delivery would work in the GRMA project to build on the content or knowledge gained from previous activities, while gaining an understanding of the major challenges the country faces in terms of data and modelling.

For example, several GRMA countries have reported a lack of data or poor quality of data on climate and disaster risks. Underlying challenges leading to this situation may include the lack of technical capacity to gather, analyse and utilise data, particularly at provincial and district levels. When individuals do have relevant skills, there may be frequent promotions and transfers of those staff. Furthermore, at the organisational level, the capacity to model or use the data may not lie in the most appropriate (part of the) organisation. Mechanisms of capability development should take such challenges into account to ensure knowledge development is both targeted to needs and remains sustainable, through stakeholder engagement and undertaking capacity/needs assessment at the organisational level.

Wherever curricula or training materials/resources are developed for country-specific uses, care will be taken to establish the contents in the form of a transferable template, which can be updated and re-purposed across different countries to ensure efficient use of resources and knowledge transfer across projects.

Modes of delivery may include a mix of the following:

- Train the trainers (ToT), including development of curricula and teaching on how to train others, not only on the subject matter
- Study tour, which may take place in country of internationally including in Frankfurt/London
- Lectures / presentations
- Hands-on exercises and tutorials
- Workshops (technical and high-level/plenary style)
- Coaching / mentoring
- Intensive or semi-intensive trainings
- Peer learning / joint workshops across GRMA countries, which might include FS-offered CDRFI course style training and cross-country project events in which participants present own work and experiences.

Box 3 GRMA modes and mechanisms of delivering capability development

A combination of mechanisms may be applied bearing in mind their sustainability, in terms of the long-term retention and application of the knowledge and capabilities developed. Methods that particularly encourage the integration of the tools and knowledge into institutional workflows, the creation of accessible repositories of resources, and fostering of local ownership will be encouraged.

Monitoring and Evaluation of GRMA Capability Development

The GRMA M&E Framework addresses the scope, process and governance of monitoring and evaluation of the individual country projects supported by the GRMA. The overall project development objective is to enhance risk understanding in partner countries through the increased availability of risk analytics to enable governments to better protect society using all disaster risk management mechanisms available. Please refer to the GRMA Results Matrix.

What to monitor? The GRMA team will undertake a capability development evaluation towards the end of a GRMA country project (and beyond). The evaluation questions should focus on participant's use of the skill and knowledge acquired, how they have applied them, what actions they have taken and how this has or could benefit their organisation.

How to monitor? Capability can be measured through competency testing, self-assessment (questionnaire) or peer assessment. For the purpose of the GRMA, to measure progress in capacity built in terms of access to data and models, quality of data and models, applicability in own policy context, ability of in-country personnel to use the data and models, an individual self-assessment form will be used. The change in capability of an individual trainee due to the training input may include knowledge gained, skills developed, awareness and understanding enhanced, contacts and networks formed, confidence and credence developed. The self-assessment will include these components and is to be completed by individuals who will receive capability development within the GRMA project at the beginning of the implementation phase and at the end. This evaluation is carried out to assess the effectiveness and impact of the project, in particular the development of risk analysis skills, and to gather feedback from relevant stakeholders in order to make the necessary adjustments for improvement.

What to capture? The GRMA will capture key metrics such as the needs and expectations of all stakeholders in relation to the capability development programme, changes in their awareness of risk analytics. To gain an understanding of whether the actual application of knowledge transferred is occurring, it would also be crucial to capture whether there is an increased understanding of wider topics such as the protection gap and mitigating solutions.

When/how often to monitor? The GRMA team will undertake evaluations as a baseline at the start of the implementation phase and then monitor progress in capability development at the end of the project implementation phase during the final validation workshop.

Annex 1: General Capability Development Questionnaire (self-assessment form)

The following set of questions is intended to serve as a **project-level survey of capability development achieved** through a GRMA project. The survey should be made available, in the local language, for completion online (e.g. via Microsoft Forms) and in hard copy.

This survey should be administered at the beginning of the implementation phase of the project, at the first workshop run by the selected service provider, and before any specific capability development activities have been started. While capability development is considered to begin in the project planning phase, it only becomes practical to collect survey information when we know which individuals will be engaged in workshop activities, from implementation onwards. The questionnaire should be repeated at the final workshop to estimate the change in expertise / knowledge.

Demographic information:

- Age
- Gender
- Profession/role
- Organisation
- Years of professional experience

Level of knowledge about:

- Climate and disaster risk analysis principles and value for disaster risk management (DRM) and/or climate and disaster risk financing and insurance (CDRFI)
- Data collection and acquisition, as well as data transformation and cleaning processes
- The steps or components required in climate/disaster risk analysis
- Tools available both globally and locally for estimating climate/disaster risk
- Geographic Information Systems for spatial analysis and mapping
- Using hazard data or hazard assessment / mapping
- Using exposure data or exposure assessment / mapping
- Using scenario impact modelling
- Using historical / observed disaster impact data
- Different available climate and disaster risk transfer and insurance (CDRFI) solutions
- How risk analytics supports design and implementation of DRM and CDRFI solutions
- Understanding of protection gap and awareness of mitigation solutions
- Existing CDRFI products in the country
- Ability to model the financial impacts of climate and disaster

Expectations:

- Key area(s) of understanding you would like to gain through the project

Understanding of learning gained in activity-specific sessions requires more specific questions on the activity content, developed when the activity content is being developed. Questions should be focused on increasing knowledge of specific topics and approaches, or technical capabilities in using certain tools. In addition to changes in technical competencies, activity-level surveys should collect the following demographic information from each participant to create a profile of the participants: age, gender, organisation and role.

In the survey at the end of each activity and in the final phase of the project, analysis of the data should summarise the number and profile of the participants, as well as summarising the levels of knowledge reflected in the beginning and end surveys. Additional reflections providing opportunity for comment should be provided.

Reflections:

- Were your expectations for learning met? Why/why not
- Highest value understanding you gained through the project/activity