Risk Modelling Steering Group

Strategy: 2024 Update

Public-private collaboration in risk analytics to close the protection gap
IDF Risk Modelling Steering Group Strategy – 2024 update

A. Reports of the Midterm Review of the Sendai Framework 2015-2030 (January 2023)
B. Development Impact of Risk Analytics report (October 2020)
C. IDF-Oasis Phase 4 Project Initiation Document (March 2024)
D. RMSG Standards and Best Practices document v2.0 (December 2021)

RMSG in 2024

1. The Risk Modelling Steering Group (RMSG) is an expert working group of the Insurance Development Forum (IDF). It is led by private sector and UN co-chairs, and sub-groups are formed for execution of specific workstreams. Its purpose is to strengthen global understanding and quantification of climate and disaster risk for public good, through sharing of the re/insurance sector’s experience, tools and methodologies.

2. RMSG’s thinking aligns with Priority 1 of the Sendai Framework for Disaster Risk Reduction. It is particularly mindful of the global imbalance in access to risk understanding highlighted in the Sendai Mid-term Review (Reference A), which found that ‘fewer than half of countries reported having fit-for-purpose, accessible and actionable disaster risk information.’

3. RMSG can only achieve its purpose through the commitment of its members. In 2024 it has over 90 members drawn from across the re/insurance industry, vendor modelling organisations, inter-governmental organisations, humanitarian NGOs and the scientific research community. Crucially, it benefits from financial support through the commitments under MoU of nine reinsurance carriers and brokers. Its flagship implementation programmes are:

   a. A rapidly growing programme of technical projects to accelerate the use of open risk modelling approaches. Now in its fourth year, this programme develops tools and shared data standards for use by all sectors.

   b. The Global Risk Modelling Alliance (GRMA), a public-private programme now building risk modelling and decision-support capability in developing economies in Africa, Asia and Central America.

---

1 The IDF was launched at CoP Paris in 2015 by Helen Clark, Administrator of the UN Development Programme, and senior insurance industry figures. Addressing the global protection gap has been central to its thinking, and the IDF has committed to the objectives of the InsuResilience Global Partnership.

2 These companies are AIG Re, Aon, AXA Group, Axis, Convex, Guy Carpenter, Howden Group, Renaissance Re and SCOR
Vision and strategic priorities

4. **Vision:** RMSG members believe that risk and resilience decision-makers in vulnerable countries should base policy and decisions on quality risk insight. They should be able to access the models and datasets best suited to their climate and disaster risk questions, use them on their preferred platform, have trust in the results, share them and develop them further.

5. **Benefits:** The benefits of this work will include:
   
   i. Improved risk ownership, accountability and reporting. Many international agreements require countries to analyse, plan and report their risk, but in many cases the domestic capability is unable to match the need.
   
   ii. Reduced uncertainty in risk strategy formulation and financial decision-making. Sovereign ministries, departments and agencies will see the value of climate and disaster risk analysis, and the connection to the movement of finance.
   
   iii. Growth in emerging markets based on a shared conversation about climate and disaster risk across sectors.
   
   iv. Reduction of duplication and inefficiency in the risk modelling supply chain both in development programmes (which are largely funded by taxpayers) and in the re/insurance industry.

Objectives:

6. To achieve this vision RMSG manages a series of practical workstreams, supporting two strategic objectives:

   a. **Theme 1: Development of open modelling technology and standards:**
      Development of open tools and standards to help sovereign institutions, development and humanitarian partners build their own view of risk. Common use of open-source platforms and widely accepted data standards will remove the barriers of cost and complexity, and increase choice and transparency.

   b. **Theme 2: Development of local capability and model/data content:**
      The enabling technology in Theme 1 only adds value if the capability is there to understand and use a range of risk modelling approaches, and if the relevant models and data are accessible to those who need them. Theme 2 is about making knowledge and resources available to sub-sovereigns and their partner agencies to assist finance-aware strategic risk planning, operational decision-

---

3 For a full justification of the logic behind this vision see Reference A.
making and market development. This implies both capability development and the filling of critical model/data gaps. In alignment with global policy currents, key principles include support for the autonomy of risk owners, and integration of local data and research to build trust and confidence in the models.

7. Execution of RMSG’s strategic themes is organised here under the IDF’s strategic headings of:
   i. Implementation
   ii. Advocacy
   iii. Engagement

Objective 1: Development of open risk modelling tools and data standards

Implementation for Objective 1:

8. Each year of RMSG’s lifetime has seen an increase in investment and technical cooperation for the development of open-source risk modelling infrastructure, open data standards and interoperability between different data formats. Projects are selected and defined by MoU partner companies and public sector stakeholders. Notable investments in recent years have included:

   a. **OasisLMF**: Significant improvements to the OasisLMF platform, including an improved user interface, a more robust code base, increased performance in high-volume data runs and a number of other features. Some of this work has been executed alongside the ‘G10’ group of industry partners who have a stake in the success of OasisLMF.

   b. **Oasis Risk Explorer**: Development of the Oasis Risk Explorer tool. This entry-level tool uses the Hazard x Exposure x Vulnerability construct with an actuarial engine to ensure the ability to estimate loss and model potential parametric payouts. It is a very useful educational tool but also has potential for use in operational planning.

   c. **Open data standards**: Expansion of the Open Exposure Data (OED) standard curated by Oasis, and building a connection with the World Bank Risk Data Library Standard (RDLS).

---

*The rationale and evidence supporting this case, including a Theory of Change, is presented in detail in the Development Impact of Risk Analytics report (Reference B).*
d. **Interoperability**: Development of the Open Data Transformation Framework (ODTF), for interoperability between existing standards. This brings efficiency to the otherwise painful manual process of transforming exposure data from one format to another, initially the Verisk CEDE format and OED.

e. **Model metadata**: Development of the CatRiskTools catastrophe model catalogue. This also relates to the World Bank RDLS.

9. **Objective 1 Implementation outcomes for 2024:**

   In 2024, a suite of 10 further projects is proposed, shown at Table 1. Each project has been nominated by RMSG members and judged by its potential contribution to the impacts shown in the table, and/or to industry efficiency. Rationale, definition, leadership and budget for each of these projects are detailed in Reference C.

<table>
<thead>
<tr>
<th>Impact</th>
<th>Project                                                                ducly</th>
</tr>
</thead>
<tbody>
<tr>
<td>Continuous development of open data standards and interoperability</td>
<td>1. Open Data Transformation Framework interface: Provide access to ODTF to new users (including non-insurance), expand conversion logic for more common data formats to increase usability.</td>
</tr>
<tr>
<td></td>
<td>2. Standardise model documentation: Oasis, insurance community and model builders produce high-quality standard documentation.</td>
</tr>
<tr>
<td>Improve range, knowledge and use of open models on the OasisLMF platform</td>
<td>3. Curate library of open-access risk models: Oasis formal ownership to host, curate and maintain open access models on Oasis.</td>
</tr>
<tr>
<td></td>
<td>4. Design a formal framework for open-source models: Standardise and centralise hosting/access for all open access models in Oasis, with support mechanisms for implementing and running models.</td>
</tr>
<tr>
<td></td>
<td>5. Standard high level vulnerability functions: Build a suite of foundational vulnerability functions in Oasis format.</td>
</tr>
<tr>
<td></td>
<td>6. GXM further development of MVP: Content to be defined during current Minimum Viable Product (MVP) stage.</td>
</tr>
</tbody>
</table>
Expand cross-sector adoption of insurance risk analytics methods and tools

7. Research global atlas of parametric instruments: Review and summarise parametric projects and products, best practice guidance, inform design of parametric solutions (industry and wider).

8. Open, limited Dynamic Finance Assessment tool to support risk pooling: Develop an open ‘simplified Dynamic Financial Analysis tool’ to assist structuring of risk pools, such as START Ready.

9. Enhance stress test scenarios capability in Oasis: Provide off-the-shelf realistic disaster event scenarios in Oasis LMF for use by insurance supervisors, government, development and humanitarian who can benefit from scenario modelling for understanding and communicating event impacts.

10. Improve capability for benefit-cost assessment in Oasis: Extend the limited research/test on the models’ interoperability so far; study industry perspective on existing and missing interoperability. Scope and propose development to integrate benefit-cost assessment capability into Oasis LMF. (also relevant to Enhancing interoperability)

Advocacy for Objective 1:

10. Thanks to the substantial support of MoU contributing companies, the V-20, and the German government, RMSG now has a credible Implementation programme, organised under Objectives 1 & 2 described above. However there is a consensus that we are not doing enough to advocate RMSG’s key messages and principles, and that we are not promoting the working group’s achievements and outputs sufficiently to ensure adoption.

11. RMSG’s 2024 strategy therefore includes a significant ramp up of its outbound communication, as part of the IDF’s overall Advocacy programme. Key elements will include:
   a. Ramp up a campaign to promote the use of open platforms and open data standards for climate and disaster risk modelling, across sovereigns, development partners and humanitarian programming.
   b. PR/Communication of RMSG’s achievements in technical research and development of risk modelling resources.
c. A specific advocacy programme for adoption of open risk modelling in NGOs and NDMAs for Anticipatory Action, Anticipatory Finance and Early Warning.

Engagement for Objective 1:

12. RMSG is not operating in isolation and will work with other initiatives and opportunities to advance its work in development of open risk modelling infrastructure and data standards. In 2024 it will intensify its engagements to support Objective 1 as shown below:

a. Strengthen key current technical partnerships, especially:
   
i. World Bank/GFDRR, for further integration with the Risk Data Library Standard
   
ii. The Institutes / Catastrophe Resilience Council for further progression on Interoperability.
   
iii. Technical teams in RMSG member companies and close partners including Oasis, GEM and model vendors.

b. Support new technical partnerships, especially those that can support the development of the Global Exposure Model. This includes IDF’s developing strategic relationship with various Google business units.

c. Improve technical engagement with Tripartite Agreement partners, especially in countries where the GRMA is also present.


Objective 2: Development of local capability and model/data content

Implementation for Objective 2 – the GRMA

14. The main vehicle to achieve the goals of Objective 2 is the Global Risk Modelling Alliance (GRMA) programme, the result of a partnership between the V-20 Group of Ministers of Finance, the IDF and the German Federal Ministry for Economic Development and Cooperation (BMZ). The GRMA is a capability development programme, designed to address the problems summarised in Figure 1.

15. The GRMA is based on the principle of working side by side with country officials to build practical experience that can be replicated autonomously in the future. It offers the
support of a team of public and private sector experts, as well as funding to help fill critical model and data gaps.

16. A unique and valuable feature of the GRMA is the private sector component. MoU companies are supporting various IDF contributions to the programme, including the GRMA’s digital presence and IDF consultant time spent in partner countries. Additionally the GRMA offers companies the opportunity to engage directly with the public sector in countries. (See ‘Engagement’ section below).

17. Since its launch at the IDF Summit in June 2022, the GRMA has become operational in Pakistan, Ghana, Niger, Nigeria, Madagascar and Costa Rica, with the same number of countries again waiting in the pipeline.

18. The GRMA is key partner programme to the Global Shield Against Climate Risks (GS). In this context it has three modes of operation:
    a. As an independent capability development programme, open to any country qualifying for Overseas Development Assistance (ODA).
    b. As an avatar for the GS, opening doors for wider GS engagement.
    c. As a service provider to GS Financing Vehicles working in countries.

Figure 1: Context of the GRMA

What’s the problem?

Risk analysis is critical to climate and disaster risk strategy:
- Investment in resilient infrastructure
- Contingent risk finance
- Market development

But access to risk analytics is unequal:
- Most model platforms and metrics are expensive
- Proprietary formats prevent sharing
- Uncertainties are hidden
- Local research is not sufficiently used
- Public and private sector views are separated

A solution is required to democratise risk understanding

Figure 2: Components of the GRMA solution
19. In 2024, the GRMA will achieve the following Implementation outcomes:
   a. Advance current programmes as planned in Pakistan, Madagascar, Costa Rica, Ghana (in partnership with Global Shield) and Nigeria.
   b. Extend its programme to Nepal, Senegal (Pikine) and possibly further countries depending on available budget.
   c. Respond to demand from the three GS financing vehicles – noting that Bangladesh has just made an application combining GS and GRMA requests.
   d. Research, define and implement best practice in ‘capability development’ for risk analytics at the local level.
   e. Test, prove and promote the value of GRMA engagements so far.

Implementation for Objective 2 – the Resilient Planet Data Hub

20. A further element of RMSG’s strategic Objective 2 is the ‘Resilient Planet Data Hub’ (RPDH). Consistent with the aim to fill critical and model data gaps, the RPDH provides a portal to globally consistent risk and resilience metrics under current and future climate conditions. IDF is a founding member of this programme, alongside UNDRR and the University of Oxford.

21. A description of the RPDH is given at Box 1.

5 The GRMA programme in the Republic of Niger is currently suspended due to political change
Box 1: The Resilient Planet Data Hub

IDF is a convening partner of the Global Resilience Index Initiative (GRII), along with UNDRR and the University of Oxford. The GRII was announced in the margins of CoP26, under the patronage of Mark Carney (UN Special Envoy for Climate and Finance), Mami Mizutori (Special Representative of the UN Secretary General for Disaster Risk Reduction) and Eric Anderson (President, Aon). RMSG provides the Secretariat function. The purpose of the GRII is to provide open access reference information for climate and natural hazard risk measurement and disclosure, to support the growth of resilient economies and societies. Importantly, covers impacts beyond the built environment - the plan includes metrics for infrastructure damage, social impacts, economic loss and natural capital. The vision is that its metrics will help communities and markets across the planet turn to green and resilient finance solutions to build a more resilient world.

In the margins of the IDF 2023 Summit in Zurich, a GRII collaboration agreement was signed by between the IDF, UNDRR, the University of Oxford and GEM Foundation. The intention is to build a strong set of partnerships on this base, including key financial institutions and further UN bodies. The impacts this collaboration aims to achieve are:

All peoples, economies and progress on SDGs are increasingly resilient to disasters and climate change, with millions of the most at risk lives protected; accelerated nature recovery; and trillions of investments mobilised into adaptation.

There are much greater finance flows to activities that support climate resilient development and nature, and away from activities that are maladaptive and feed inequitable resilience; supporting the growth of resilient societies globally.

In the second half of 2023 the GRII evolved significantly, with new technical content, new website and wider digital presence, and in particular new branding to align with the UN Climate Champions’ Resilient Planet Initiative. Now known as the Resilient Planet Data Hub (RPDH), it was launched at CoP28 as a free-to-use resilience data service developed to fix the information gap in the face of climate and disaster risks under the UN headings of People, Planet and Prosperity.

The RPDH includes access to the Global Resilience Index Risk Viewer, a portal offering multi-hazard, globally consistent risk and resilience data under current and future climate conditions. It also offers detailed case studies to demonstrate real-world application for users in sovereign governments, financial institutions, investors and regulators.
22. During 2024 RMSG will continue to provide Secretariat services for the RPDH initiative, as well as convening and planning support, and technical guidance.

Advocacy for Objective 2:

23. During 2024 RMSG will undertake the following Advocacy activities in support of strategic Objective 2:

- **d. GRMA:** Announcement and continuous promotion of GRMA engagements and success through IDF channels.

- **e. Humanitarian:** Campaign for an IDF-supported risk analytics implementation workstream for humanitarian applications, particularly related to Anticipatory Action and Early Warning. This workstream would ideally come under the GRMA, subject to new donor preferences.

- **f. Resilient Planet Data Hub:** Promotion of the RPDH:
i. Internally with industry partners, for example at the IDF Summit and in RMSG partner updates.

ii. Externally with potential users of the RPDH in the public sector, IFIs, regulators and finance sector.

Engagement for Objective 2:

24. RMSG will undertake the following Engagement activities in support of strategic Objective 2 (local capability development and model/data content):

- **g. GRMA:**
  - i. Further development of the partnership with Global Shield Secretariat and GS Financing Vehicles in partner countries
  - ii. Engage with development partners most relevant to each country context, e.g., regional and country offices of World Bank, Asian Development Bank, UNDP and GIZ.
  - iii. Ramp up engagement of IDF member companies and domestic insurers in GRMA country programmes.

- **h. Resilient Planet Data Hub:**
  - i. With the UN Climate Champions Team and wider partners in the Resilient Planet Initiative, including Google.
  - ii. Engage key partners in the RPDH programme, including re/insurance, UN offices, technical & key finance sector partners

- **i. Other:**
  - i. Support to other IDF working group programmes, notably LRRP, SHS and the DRR Task Force
  - ii. Support to the UK’s Sustainable Markets Initiative (SMI)
  - iii. Ad hoc support to programmes of RMSG members.
  - iv. Continue engagement with the Risk-informed Early Action Partnership at both Board and working group levels.

Resourcing

25. **Income:** Table 2 describes RMSG’s 2024 funding picture:

<table>
<thead>
<tr>
<th>Secured private sector funding</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Company contributions under MoUs with IDF:</td>
<td></td>
</tr>
<tr>
<td>Year 1: (Paid in 2021-22)</td>
<td>$650k</td>
</tr>
<tr>
<td>Year 2: (Paid in 2023)</td>
<td>$700k</td>
</tr>
<tr>
<td>Year 3: (Now invoicing for 2024)</td>
<td>$850k</td>
</tr>
</tbody>
</table>
26. **Expenditure:** Detailed expenditure plans on Objective 1 technical projects are shown in Reference C.

**Conclusion**

RMSG’s programme has developed significantly over the last 2-3 years under both strategic themes. It has created the conditions and tools for growing the use of re/insurance open modelling principles for risk insight, but in parallel it will now emphasise adoption of its principles through advocacy and engagement. This is as relevant for the re/insurance sector as it is for our sovereign, development and humanitarian partners.

None of this would be possible without the contributions of our partners:

- Our many public sector partners, particularly in the InsuResilience Solutions Fund who host and administer the Global Risk Modelling Alliance.

- Member companies of the IDF who support this risk modelling programme through MoUs. None of this would have been possible without them, and we thank them for their belief in the IDF’s risk modelling programme as it has developed over the years. It is hoped that contributing companies will feel that RMSG is delivering on the commitments made in our MoUs, and that we have established a reliable and productive precedent.

We aim to grow this programme much further in the years to come, and we invite more partners to join us in accelerating the use of open risk modelling for public good.