

Terms of Reference (TORs) for NATCAT TEAM

Position title: Manager Technical Team Lead – NATCat Risk Modelling & Data Centre (National).

Duration: Contractual Initially for 3 years' extendable performance based Contract.

Location: Islamabad.

Reports to: Chief Executive Officer NDRMF

A. Purpose of the Role / Scope of Work:

The role of the Manager Technical Team Lead – NATCat Risk Modeling & Data Centre includes designing and supervising all activities, managing day-to-day operations, establishing linkages with national and international data centers, incorporating AI/ML elements, and enhancing the efficiency of the 'Risk Calculator'. The Manager Technical Team Lead will also lead in planning, designing, and implementing strategic plans to ensure the data center capacity meets current and future NatCat Model requirements.

B. Duties / Responsibilities:

- 1) Lead the development and evolution of NATCAT as the leading Climate and Disaster Risk Modelling Application in the country
- 2) Lead the integration of NATCAT with key and relevant national and international data systems with a view to enhance its applicability and usefulness
- 3) Lead the work on integration of new data and IT applications and tools, such as, AI and ML to create different data oriented applications specifically for risk informed policy making
- 4) Take responsibility for evolution of NATCat as a product and service for a range of users. Generate state of the art and out of the box solutions and applications building on the data and system of the NATCat
- 5) Ensure the security of Data Centre operations and implement appropriate controls.
- 6) Develop business cases in coordination with stakeholders for recommended architecture and infrastructure changes.
- 7) Strengthen the NATCat and NDRMF teams for a strong understanding of Hazards, Exposure, Vulnerability, and Risk Assessments/Loss Estimation Modules.
- 8) Lead the planning, development, and enhancement of the GIS Data Centre provision within overall business planning of NDRMF and contributing towards the risk informed development planning
- 9) Drive the planning and ongoing development of the NATCat Risk Modeling, applying Systems Thinking and Lean approaches for further efficiencies.

- 10) Provide technical management of the Data Centre, ensuring agreed service levels are met, and relevant policies and procedures are adhered to.
- 11) Ensure operational procedures and working practices, and NATCat user management align with NDRMF policies/SOPs.
- 12) Manage budgets for staffing, projects, and support contracts, ensuring compliance with council procedures.
- 13) Produce fortnightly/monthly progress reports of NATCat Risk Modeling Data Centre, including awareness and capacity-building activities.
- 14) Maintain the configuration management system, documenting details of all hardware/software changes for accurate records.
- 15) Develop policies, rules, and SOPs related to data accessibility and distribution for different user layers.
- 16) Develop/adopt Geo-Spatial & SDI Standards and Guidelines for data entry, storage, processing, visualization, and product development.
- 17) Ensure compliance with government guidelines and regulations regarding mapping and data center operationalization.

C. Knowledge/Skills/Qualifications/Experience:

- a) Minimum 16 Years of Education in GIS & RS, Geo-informatics, Spatial Data Science, Hazard/NATCat Risk Modeling, GIS Development, and Programming, or related field of study. MS/PhD qualification will be preferred.
- b) Minimum 08 to 10 years' of professional experience with a minimum of 03-05 years' industry experience in managing data centers or large-scale GIS/RS based risk assessment projects.
- c) Expert in GIS/IT/SDI infrastructure, operating systems, configurations, and IT applications.
- d) Prior expertise of similar projects (at least 5 years) in managing GIS / Spatial Data Centers and expert knowledge of Web-GIS, Mobile-GIS, AI, and ML applications.
- e) Expertise in Hazards Modeling (Geophysical and Hydro-meteorological) and strong understanding of related GIS/RS tools and techniques.
- f) Proficient in risk management methods, business impact analysis, countermeasures, and contingency arrangements.
- g) Proficient in Configuration Management for precise control over GIS/IT assets and components.
- h) Proficient in understanding GIS/RS Infrastructure Architecture, frameworks, and principles.

- i) Proficient in cloud/virtualization principles and applications, including security implications.
- j) Familiar with government, corporate, industry, and professional standards, policies, regulations, and codes of conduct.
- k) Demonstrated ability to deliver high-quality outputs under pressure and within tight schedules.
- l) Demonstrated ability to work effectively with Government officials, technical staff, and other stakeholders.
- m) Strong written and oral communication skills, with the ability to make effective presentations to diverse audiences.