



Government of India  
**NATIONAL DISASTER MANAGEMENT  
AUTHORITY**  
**Policy & Plan Division**  
NDMA Bhawan, A-1, Safdarjung Enclave  
New Delhi -110 029  
Telephone -Fax No. 26701840



F. No.1-87/2019-PP

Dated: 04.06.2020

**Expression of Interest (EoI)**

National Disaster Management Authority, A-1, Safdarjung Enclave, New Delhi invites **Expression of Interest (EoI) from eligible consulting firms** for a study on '*Scoping study on Climate Change*'. The Objectives, Methodology, Scope of Work, Deliverables, Reporting and supervision are mentioned in the Terms of Reference (ToR) given below.

1.2. Interested firms should provide information as requested in the proforma given at annexure 1, demonstrating they have the required qualifications and relevant experience to complete the project. The EoIs that meet all the eligibility criteria will be evaluated and shortlisted for the Request for Proposal (RFP) stage. All the selected firms shortlisted based on EOI shall be informed by post/email to send their bids.

1.3. Under the RFP stage, the two-bid system shall be adopted by a committee constituted at NDMA for evaluating the proposals for the selection of the Consulting Firm. The Quality and Cost Based Selection (QCBS) method will be followed as prescribed in the Manual of Procurement of Consulting and Other Services, 2017 for finalizing the consulting firm.

1.4. Further information can be obtained at the address below during office hours between 1000hrs to 1700hrs.

1.5. **Interested consulting firms must send their EoI in proforma given at Annexure-1, latest by 14:00 hrs on 30.06.2020. Sealed EoI /comments should be delivered by hand or sent by post to the address given below.**

Smt. Alice Kujur  
Deputy Secretary to the Government of India  
Policy & Plan Division  
National Disaster Management Authority  
Room no. 326, NDMA Bhawan, A-1, Safdarjung Enclave  
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Email: dspp@ndma.gov.in  
011-26701733

2. For further details, **Terms of Reference (ToR)** may be referred to as follows:-

### **3. Terms of Reference**

#### **3.1 Background**

Climate change and disaster risk impose multi-dimensional and crosscutting issues across various sectors. In order to understand future climate change, one needs to explore numerous linkages between human activities, greenhouse gas (GHG) emissions, the physio-chemical process of atmosphere, the response loop of the climate system, and impacts on human and natural systems. India is highly vulnerable to climate change given the wide range of variations in its geography, climate, and temperature. With its vast area, large population and unique geo-climatic conditions, the Indian sub-continent is exposed to various natural catastrophes, as 59% of the land is vulnerable to earthquakes, 8.5% to cyclones and 5% is prone to river basin floods. South-west monsoon provides India with 75% of annual rainfall, which affects the water resources, agriculture, power generation, and ecosystems of the country. In recent years, high variation in the onset, withdrawal and amount of rainfall received during the monsoon has been observed.

To achieve over encompassing sustainable development climate change action and disaster risk reduction need to be emphasized into development planning for reducing vulnerabilities, livelihood security, and conservation, etc.

This scoping study, therefore, aims to understand some of the unique challenges posed by climate change. The study will i) help establish a change in the pattern of natural disasters in both frequency, seasonality, intensity and geographical distribution of various disasters influenced by climate change ii) inform the framework required to mainstream disaster risk reduction and climate change adaptation strategies into the national and state-level policies.

#### **3.2 Rationale**

The historical emissions, which will continue to warm the earth's surface, make adaptation to climate change inevitable even if the world takes steps to mitigate climate change by controlling emission growth. In a warmer world, the natural hazards will be more intense and the spatial distribution of the hazards will be highly variable. The available innovative technologies like geo-engineering are still in early stages and not available for the required geographical scale. Hence, adapting climate change indispensable.

For a country like India with vast geography, large population involved in nature-based livelihoods, a developing economy and sensitive climate systems it is imperative to understand the impact of climate change on the natural hazards like a cyclone, floods, etc.

The critical question, of course, remains how we can enhance adaptation across all sectors to achieve targets as committed under Sendai Framework for Disaster Risk Reduction and Paris Agreement on Climate Change. Initially, the information generated at the regional scale of climate change and its impact on the frequency and intensity of natural hazards needs to be available. The trend of natural disasters both spatially and overtime is important for clubbing CCA and DRR strategies to design long term planning for sustainable development.

### **3.3 Objective**

#### **a) Overall objective:**

This scoping study aims to compile and present the impacts of climate change on India with a special focus on the climate system, hazards, and policy framework in the context of extreme events. The study seeks to explore various options for mainstreaming best policy and practice, informed by empirical and scientific assessments, to build strategies to respond to the impact of climate change in the future. Stakeholders for the above-said study will include researchers, scientists, central government, state government, and practitioners.

#### **b) Specific objective:**

The study will address the relationship between changing extremity of hazards and global mean temperature change under different climate change scenarios suggested by IPCC namely, RCP1.9, RCP 2.6, RCP 4.5, RCP 6.0 and RCP 8.5 for next 50 years with a special focus on mechanisms, drivers and feedbacks leading to the extreme event.

More specifically, the study will focus on:

- i. Hazard risk and vulnerability profile of India with reference to different climate change projections
- ii. Variability of mean surface temperature across India and its impact on natural hazards.
- iii. Identify hotspots for GHG concentration with special reference to urban centers in India and its implication on urban heat islands, heat wave and urban floods.
- iv. Change in precipitation pattern and distribution in accordance with the global climate models.
- v. Advance our understanding of regional interactions between land and sea, ocean warming and ocean circulation systems on Indian climate with special reference to monsoon
- vi. Simulate sea level rise across islands and coastal areas of India

- vii. Impact of climate change on surface and groundwater across major river basins in India
- viii. Impact of climate change on cyclones and storm surge
- ix. Impact of climate change on Himalayan glaciers
- x. Changes in incidence of communicable and vector-borne diseases
- xi. Understand the impact of these changes on various primary and secondary sectors and suggest future policy options to integrate these findings of the study into guidelines, action plans and long term policy focusing on understanding limits and enabling conditions to adapt.

### 3.4 Methodology:

#### a) Scope:

The scope of the study is to understand the influence of climate change on natural hazards and its sector-specific impact.

#### b) Study approach and Data:

The approach of the study will be by raising questions through indicator attributes and their relationship with natural and anthropogenic causes. An in-depth and rigorous review of literature and data needs to be carried out on climate change and natural hazards in special reference to India. The review needs to be done with the state, national and world outlook. Secondary data from various databases, reports, departments' maps, etc. as required may be collected and incorporated into the report.

Experts will be identified in each of these attributes and series of consultation will be organized with approval from NDMA. The first round of consultation will be with the experts from the given field of science. The next round will be with both primary and secondary sectors where climate change will have a profound effect. Finally, all the information will be collated into a synthesis report providing policy prescription for preventive action and remediation with a scope of short, medium and long-term interventions. The report will also outline sector-specific suggestions for CCA and DRR mainstreaming strategies into policy and programs. The data collected and interview (transcript) with stakeholders must be shared with NDMA.

#### c) Expected Outcomes

The findings of the report will inform NDMA to design policies, programs and draft guidelines addressing the gaps in reducing the impact of climate change.

- i. The findings of the report will inform NDMA to design policies, programs and draft guidelines addressing the gaps and overlaps.
- ii. Since SFDRR has a time horizon up to (2030 and beyond) the findings of the study will provide a substrate for disaster management planning with short, medium and long-term planning.
- iii. The findings can also aid and inform the process of the National Disaster Management Plan which is revised periodically.

- iv. Find gaps or overlaps, which will facilitate key partnerships, which help, avoid duplication, maximize gains, and reinforce joint working across agreements. Creating a platform for data sharing and research on cross-cutting issues across the agreements.
- v. The study will provide directions to address gaps in science–policy–practice for India.
- vi. Raising awareness with national and sub-national governments of different frameworks is critical and affects collaboration and coherence between all the three international agreements.

d) **Expected Outputs:**

- i. Final report of the study on impacts of climate change on different natural hazards and its trend over the next 50 years
- ii. A working framework to address the impacts of climate change in specific sectors.
- iii. Develop policy briefs to summarize the policy options and put forth recommendations on the best practices to address climate change in India.
- iv. Roadmap on major landmarks in implementation of the working framework with a focus on long, medium and short term planning.
- v. Suggest pan India projects to address climate change.

**3.5 Supervision and Reporting:**

National Disaster Management Authority will constitute an Expert Committee for reviewing the progress made in the project. The Expert Committee and other senior officials of NDMA will review and guide all the Inception, Interim, Draft and Final reports. The Agency should attend the meeting of the Expert Committee, as and when needed regarding the project. The Agency will revise the interim and draft reports based on the comments/ suggestions/ observations of the Committee/NDMA and submit the same to NDMA for acceptance.

**3.6 Deliverables**

The agency is required to submit the following reports as per the timeline proposed by NDMA:

- i. The *inception report and presentation* covering approach, literature and data review along with the proposed methodology for undertaking the study must be submitted within one month after the award of the project.
- ii. The *Interim Report–1 and presentation*, covering findings and analysis of preliminary consultations held with different stakeholders along with the result of secondary data/ literature review carried out. This report should be submitted to NDMA within four months after the award of the project. The report should (ii) Identify and Map different hotspots where the impact of climate change is observed the most. (iii) To identify stakeholders for consultation.
- iii. The *Interim Report–2 and presentation*, should incorporate all the preliminary analyses and findings from stakeholder consultation in the context of India. The report should be submitted within seven months after the award of the project. The report should (i) Refine the findings of the first inception report in light of stakeholder consultation (ii) Preliminary data review and climate models to project impacts of climate change (iii) Preliminary recommendations.
- iv. *The draft of the final report* and must be submitted within nine months after the award of the project. The agency needs to present the findings of the project in front of the Expert Committee. The report should have concrete findings on all the objectives as noted in section 3.3(b).

- v. **Final Report** incorporating the comments and suggestions of NDMA the report must be submitted to NDMA within **one month** from the date NDMA provides comments on the draft report.
- vi. The reports are to be circulated well in advance before all the presentations with the lead-time of a minimum of 10 days.

### **3.7 Expertise and Qualification for Selection of Agency :**

#### **a) Agency**

- i. The Agency preferably have experience of at least 10 years and a minimum of atleast 5 years in conducting similar studies on climate change with the State/ Central Government or private sector. Experience of carrying out study/projects with multiple stakeholders will be an added advantage.
- ii. The Agency with prior experience of conducting climate modeling and climate policy analysis at the national and state level will be given priority.
- iii. The Agency should have a team of experienced professionals from the relevant fields relating to the subject matter of the proposed study. The Agency should engage an adequate team of professionals having expertise on, but not limited to, organizational management, disaster management, social sciences, financial matters, legal issues, etc.

#### **b) The requirement for submission of the Proposal :**

- i. The **Consulting Firm** should have a GST registration.
- ii. The **Consulting Firm** should be registered with the Central/ State Government.
- iii. The **Consulting Firm** has not been debarred/blacklisted by any of the Govt. Institutions.
- iv. The **Consulting Firm should have a minimum annual average turnover of Rs 90 Lakhs for the last three years (i.e from 2016-17 onwards). This may be exempted for academic, research institutions etc.**

3.4 NDMA will have sole Intellectual Property Rights on the study and policy framework so developed.

**Performa for submitting information for Expression of Interest (EOI) for****'Scoping study on Climate Change'.**

1. Name of the Consulting Firm:
2. Address, Phone / Fax, E-mail:
3. Name and contact details of nodal officer for the work:
4. Year of establishment of agency:
5. Registration Details:
6. PAN No./ GST No.:
7. Self-Certification that they have not been debarred/blacklisted by any of the Govt. Institution
8. Year-wise annual turnover details for the last three years (i.e. from 2016-17 onwards) supported by certified copies of balance sheet and profit/loss account, if applicable (refer para 3.7 of EOI)
9. **List of completed and current projects of similar nature and a brief description of the services performed.**

Name of the Client	Title of the Project	Sponsoring authority of the project	Cost of Project	Date of award of Project	Date of completion (In case of completed projects/status of ongoing projects)	Remarks/ Brief description of the services performed

10. A brief write up of 200 words about the Consulting Firm.
11. Documents in support of the above and eligibility criteria mentioned in the Expression of Interest (EoI) may be submitted along with the EoI.
12. Comments on the objectives and scope of the work, if any.

\* Additional sheets may be used to provide the required details.