NABARD

Rulebook

National Climate Stack Innovation Challenge

MARCH 2026

Gates Foundation Dalberg

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Agriculture sector is at risk from escalating climate hazards that are reducing yields, straining natural resources, undermining farmer livelihoods, and slowing climate-smart investments

India is among the most climate-vulnerable countries, with hazards rising in frequency and intensity

- **7th** in Global Climate Risk Index of countries most affected by climate change
- **8x** rise in the frequency of flood events nationally over the past 50 years
- **85%** of days across the year recorded at least one extreme weather event in 2022
- **36%** rainfall deficit in peak monsoon of August 2023, India's driest since 1901

India's farmers are experiencing climate pressures in declining yields, income instability, & reduced productivity

- Climate-driven weather variability is projected reduce crop yields by ~9% between 2010 2040, disrupting agricultural productivity
- More frequent and severe climate extremes (droughts, floods) threaten farm livelihoods, risking a 20–25% income decline
- Land degradation & declining soil productivity driven by poor soil management, population pressure are compounding challenges
- Repeated climate shocks keep farmers in recovery mode, limiting investment in long-term resilience-building measures

India requires near-term climate hazard forecasting that overcomes fragmented data, siloed models, and ground-truth gaps in its digital ecosystem

Gaps in India's existing disaster response financial systems…

- **Reactive, delayed response:** Disaster relief and farmer support triggered after losses, with delayed payouts
- **Overstretched public funds:** SDRF/NDRF disburse large amounts but are not forecast linked
- **Insurance gaps persist:** PMFBY has reached scale yet weak hazard triggers limit timely protection

…require bridging friction factors in India's digital ecosystem…

- **Data fragmentation:** Climate risk data is scattered across actors and poorly interoperable
- **Siloed models:** Proprietary models within institutions restrict access and innovative use cases
- **Trust and ground-truth gaps:** Limited ground data and weak governance hinder data sharing

…to unlock credible near-term climate hazard forecasting

- **Anticipate local impacts:** Enable planning for agriculture, water, and infrastructure risks
- **Bridge planning horizons:** Connect seasonal forecasts with long-term climate scenarios
- **Enable targeted action:** Support crop-specific farmer advisories and improve risk pricing

NABARD aims to convert the need for credible climate hazard forecasting into a national opportunity by advancing DiCRA as a Digital Public Infrastructure through this Challenge

DiCRA is already a collaborative digital platform with open, high-resolution climate intelligence for rural India…

- **AI analytics** to assess farm climate vulnerability
- **Open geospatial datasets** across 50M+ hectares
- **Collaborative platform** for data and insights
- **High-resolution intelligence** on 20+ parameters

…but can transform into an operational backbone for climate resilience with…

Robust predictive models with

- Near term 10–15-year localized hazard forecasting
- Operational dashboards and sectoral use cases translating projections into actionable insights

…and backed by

- **Interoperable data standards**
- **Structured API integrations**
- **Transparent modelling frameworks**
- **Governance protocols for data access**
- **Sustained institutional adoption**

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The National Climate Stack Innovation Challenge was launched at the Bharat Climate Forum 2026 with one key objective…

Develop a viable framework for a National Climate Stack for Rural India which includes

1. Credible **near-term climate hazard forecasting models** (10–15 years) that generate granular projections using DiCRA and other public datasets.

2. **Decision-ready dashboards** and sectoral use cases that translate these projections into actionable insights for agriculture, finance, and public policy.

…and a chance to win monetary awards and opportunities for NABARD partnership to build DICRA 2.0

₹30,00,000
total cash prize for top 3 winners

NABARD partnership
to build DiCRA 2.0

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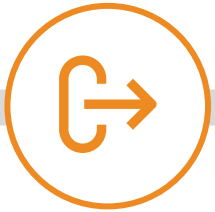
The Challenge will run from 6th March to 12th July, with submission of proof of concept, model development with a TAG, and a final technical validation culminating in a pitch to the jury

A. PORTAL OPENS	B. INITIAL SCREENING	C. PROTOTYPE DEVELOPMENT	D. FINAL SELECTION	E. FELICITATION CEREMONY
6th Mar – 30th Mar	Mar to mid-Apr	Mid-Apr to May	June	12th July
				
Online launch inviting submissions to the Challenge	**Open call to organizations** working in climate modelling space	Shortlisted organizations **develop a model prototype**	Selected organizations **present their prototype to the jury**	Top teams **recognised and awarded** on NABARD Foundation Day
Application portal with background, challenge information and submission details	**Application form** including concept, potential approach, and team experience	**Use case submission** (PowerPoint) including outputs/wireframe	**Live demo** of the use case/presentation to the Jury	**Final recognition and awards** presented to the top three solutions

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Applications will progress through a rigorous three-stage process from screening to the final selection

Initial Screening

Requirements

- Applications must be submitted through the **official online portal**.
- All sections of the submission form are compulsory and must be **completed in full**.

Key dates

- Portal opens: **6th March**
- Last date: **30th March**

Next steps

- **~20 applicants** will be shortlisted to proceed to the Model Development stage.

Model Development

- Submitted concepts must be developed into **wireframes**.
- Technical Advisory Group members will provide **mentoring sessions** to applicants.

- Mentoring session: **Mid April – May**
- Model submission: **Week of 25 May**

- **~10 applicants** will be shortlisted to proceed to the Final Selection stage.

Final Selection

- Shortlisted applicants must create a **live demo** of their use case.
- The live demonstration must be presented in the form of a **virtual pitch** before the jury panel.

- Final presentation: **TBD**
- Award ceremony: **12 July, NABARD Foundation Day**

- **3 winners** will be selected following the jury evaluation.

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The Challenge is open to teams from eligible organisations across the private sector, research, academia, and public sector – individually or as a consortium

Teams of 3–5 members may represent a single organisation, a consortium of organisations within the same category, or a cross-category consortium spanning two or more categories

Private Sector

- Startups (climate-tech, agri-tech, fintech, analytics etc)
- Corporations and technology firms
- Data analytics and geospatial firms
- Impact investment funds and advisory firms
- Climate risk modelling and consulting firms

Research Institutions

- National research laboratories (e.g., IMD, SAC, NRSC, NARL)
- ICAR institutes and affiliated research centres
- International research organisations (e.g., ICRISAT, CGIAR centres)
- Climate, meteorology, or earth system research institutes
- Policy research think tanks with modelling capabilities

Academic Institutions

- IITs, IISc, IISERs, and institutions with expertise in relevant fields
- Central and State Universities
- Agricultural Universities and State Agricultural Universities
- Engineering and technology institutes with technical capabilities
- IIMs/other management schools with research focus

Teams must be affiliated with an organisation within the following categories to enable effective long-term scaling and implementation in partnership with NABARD.

The Challenge expects multidisciplinary teams with complementary capabilities across data modelling, climate expertise, and business or policy application

1. Data Modeller / Technical Lead

- **Expertise in climate, geospatial, or risk modelling** using statistical, machine learning, hybrid approaches.
- Experience **working with large-scale datasets**, including remote sensing, time-series, or geospatial data.
- Ability to document methods clearly, communicate uncertainty, and support reproducibility and validation.

2. Climate or Agriculture Domain Expert

- **Deep understanding** of climate processes, agricultural systems, or **agro-climatic risks** relevant to India.
- Ability to **interpret model outputs in the context of crops, water, soil, and farming practices.**
- Experience translating climate or agronomic insights into actionable guidance or research outputs.

3. Business or Policy Expert

- Understanding of how **climate risk influences decision-making in finance, insurance, agriculture, or public policy**.
- Ability to **frame use-cases that align with real-world decisions**, incentives, and institutional constraints.
- Experience engaging with stakeholders such as financial institutions, government agencies, or farmer-facing organisations.

Note: These profiles are representative examples; teams may include other relevant capabilities

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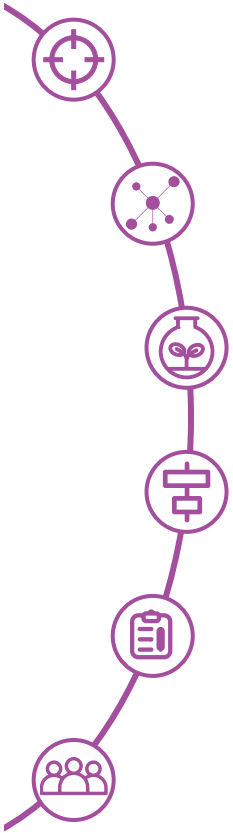
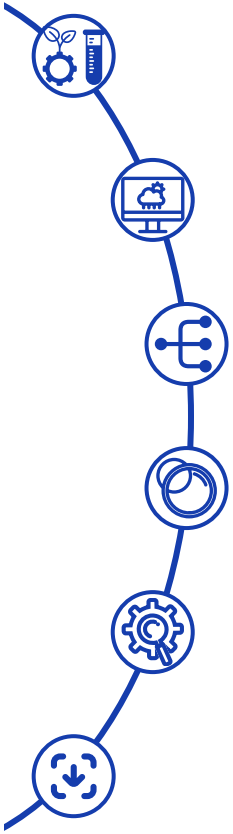
The initial screening will assess submissions across use case, data approach, scalability, alignment with NABARD, team capability, and institutional strength



Use Case Definition	• Clearly identifies the primary end user and decision context • Demonstrates how outputs inform real financial or policy decisions • Shows potential for measurable decision improvement in agriculture or rural systems
Modelling & Data Approach	• Presents a coherent modelling framework using DiCRA datasets as the core backbone • Clearly outlines validation approach and treatment of uncertainty • Demonstrates integration readiness (standards, APIs, interoperability)
Scalability	• Adaptable across geographies, agro-climatic zones, or hazard scenarios • Technically feasible for replication beyond the initial pilot • Shows potential for integration within broader DiCRA architecture
NABARD Long-Term Outcomes	• Strong alignment with NABARD's mandate across agriculture, rural credit, infrastructure • Demonstrates value for credit risk assessment, insurance pricing, or investment planning • Articulates long-term resilience gains for farmers and rural communities
Team Capability & Experience	• Demonstrates relevant expertise in climate modelling, agriculture, or risk analytics • Shows prior experience through publications, products, or technical artefacts • Presents a realistic plan to deliver models/demos within the Challenge timeline
Institutional Strength & Capacity	• Has formal affiliation with a recognised institution with relevant expertise • Demonstrates organisational backing to execute the proposed work • Shows capacity and intent to pilot or implement the solution beyond the Challenge

Developed models will be evaluated on technical excellence, forecast credibility, system integration, clarity, decision impact, and readiness for real-world deployment



Scientific Rigor & Technical Robustness	• Demonstrates strong methodological soundness and defensible modelling choices • Transparently quantifies uncertainty ranges and key model limitations • Shows rigorous empirical validation against historical or benchmark datasets
Forecast Skill & Granularity	• Produces credible and statistically robust 10–15-year projections • Demonstrates skill at relevant geographic resolution (district/village scale) • Shows performance robustness across hazard scenarios and stress conditions
Effective Use of DiCRA	• Meaningfully leverages DiCRA datasets as the primary modelling backbone • Demonstrates seamless technical integration (standards, APIs, interoperability) • Strengthens DiCRA's value as a scalable digital public infrastructure
Clarity & Transparency	• Clearly documents modelling assumptions, methodology, and data pipelines • Provides reproducible outputs and auditable technical logic • Communicates results in an accessible format for non-technical stakeholders
Decision Impact & Practical Utility	• Demonstrates a concrete real-world decision application using model outputs • Shows measurable improvement over existing baseline approaches • Provides a clear pathway for institutional deployment or adoption
Implementation Readiness	• Technically and financially scalable across geographies and sectors • Operationally feasible within the broader NABARD ecosystem • Presents a credible roadmap for pilot, deployment, or integration

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Participants need to develop climate intelligence solutions by linking one or more climate hazards with one or more priority rural development sectors.

Hazards

- Heat Waves
- Extreme Precipitation
- Floods
- Cyclones
- Drought
- Landslides

Innovation Challenge focus sectors

- Climate-resilient Agriculture
- Climate Information Systems
- Climate-resilient Infrastructure
- Decentralised Renewable Energy
- Coastal Vulnerability
- Livestock Management and Adoption
- Water Management and Conservation
- Sustainable Livelihoods
- Afforestation and Reforestation
- Waste Management

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Participants need to demonstrate how DiCRA can power a National Climate Stack—from data and forecasting to interoperable applications

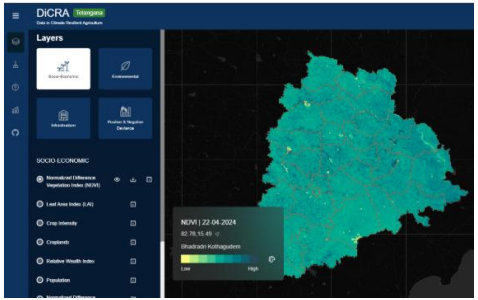
ILLUSTRATIVE EXAMPLES

Step 1: Build on DiCRA's Data Foundation with other public datasets

se DiCRA's harmonised climate, weather, and geospatial datasets as the core backbone for modelling and analysis.

Additional open or proprietary datasets may be layered to strengthen models.

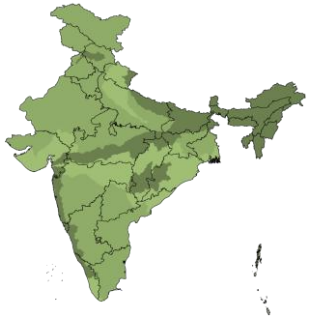
DiCRA Dataset



Step 2: Generate Near-Term Climate Forecasts (10–15 Years)

Apply robust models to produce credible, location-specific projections of climate hazards over the next decade.

Flood prediction 2030

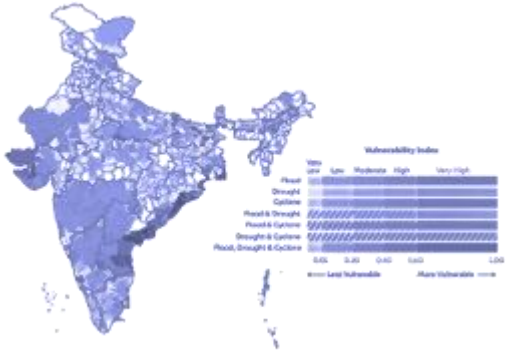


Probability: Low Moderate High

Step 3: Translate Forecasts into Climate Stack Use-Cases

Demonstrate one or more use cases built on these projections, showcasing API-based integration, interoperable standards, and scalable architecture using the DiCRA ecosystem.

Wheat Yield Index



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FAQs

1. What is the objective of the National Climate Stack Innovation Challenge?
The Challenge aims to advance credible **near-term (10–15 year) climate hazard forecasting** for India and translate climate data into **decision-ready intelligence** for agriculture, finance, and public policy.

2. Who can apply to the Challenge?
The Challenge is open to **research institutions, universities, startups, private-sector innovators, public sector innovators, and other multi-disciplinary teams** with expertise in climate science, data, agriculture, finance, or related domains.

3. What types of climate hazards are in scope?
Applicants may focus on **heat waves, extreme precipitation, floods, cyclones, drought** and **landslides** relevant to India's agricultural and rural systems.

4. Is use of DiCRA datasets mandatory?
Yes. All shortlisted solutions are expected to use **DiCRA datasets as the core data backbone**. Applicants may layer additional datasets where relevant, but DiCRA should remain central to the modelling approach.

5. Do applicants need to have an existing product or model?
An existing product, prototype, or prior publication is **not mandatory**, but applicants are encouraged to share links to any **existing models, demos, code repositories, or publications**, if available.

6. What is the timeline and time commitment for selected teams?
The Challenge will run from **March to June 2026**. Shortlisted teams should be available for a **6–8 week guided model development sprint**, including engagement with the Technical Advisory Committee.

7. What happens after the Challenge?
Top solutions will receive **cash awards** and may be considered for **post-Challenge pilots, integration with DiCRA, or adoption through NABARD and partner programmes**, subject to feasibility and relevance.

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The Challenge combines financial prizes with institutional partnerships and DiCRA integration to accelerate real-world deployment

Prize Money

₹ 15 Lakhs
for **first** place

₹ 10 Lakhs
for **second** place

₹ 5 Lakhs
for **third** place

Pilot Support

NABARD partnership opportunities (DiCRA 2.0)

Select organization(s) will be provided opportunities for institutional scale by integrating hazard forecasting models and use cases with DiCRA

APPLY NOW
www.climatestackinnovationchallenge.com

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