

annual report  
2020-21



Coalition for Disaster Resilient Infrastructure





© 2021 Coalition for Disaster Resilient Infrastructure (CDRI)

4th & 5th Floor, Bharatiya Kala Kendra, 1, Copernicus Marg,  
New Delhi, 110001, India

The text in this publication may be reproduced in whole or in part and in any form for educational or nonprofit uses, without special permission, provided acknowledgement of the source is made. CDRI's Secretariat would appreciate receiving a copy of any publication that uses this report as a source. Copies may be sent to the Secretariat at the above address.

No use of this publication may be made for resale or other commercial purpose without prior written consent of the Secretariat.

All images remain the sole property of the source and may not be used for any purpose without written permission from the source.

Notes: Fiscal year (FY) runs from 1 April to 31 March; the financial contributions and expenditures reported are reflected up to 31 March, 2021; all dollar amounts are in U.S. dollars (\$) unless otherwise indicated.

Design: CDRI



annual report  
2020-21

*Fostering Collective Action for  
Disaster Resilient Infrastructure*







# Contents

About CDRI	08
CDRI Governance	10
From the Desk of Director-General	12
CDRI Programmes	14
Sectoral Programmes	17
Thematic Programmes	23
Multi-Sectoral Projects	25
ICDRI 2021	30
Financial Statements	33
CDRI Secretariat	34
Looking Ahead	36



0





# CLIMAT

➤ *“What we need is a global people’s movement to bring about behavioural change...therefore India is here today to present a practical approach and roadmap. In order to make our infrastructure resilient in the face of disasters, India is launching a Coalition for Disaster Resilient Infrastructure. I invite all member states to join this Coalition.”*

— **Hon. Prime Minister of India, Shri Narendra Modi**  
*launching the Coalition for Disaster Resilient Infrastructure  
at the 2019 UN Climate Action Summit*



# About CDRI



Investment in infrastructure is a key driver of sustainable development, economic growth, and prosperity. The world will invest more in infrastructure systems over the next 20 years than has been invested over the past 200 years. These investments will be exposed to natural hazards such as floods, earthquakes, storms and tsunamis. Over the lifecycle of infrastructure systems, the effects of climate change and increasing frequency and intensity of hydro-meteorological hazards will pose an additional challenge. If not planned properly, the infrastructure systems may themselves create disaster risks. A large proportion of direct damages from disasters – sometimes up to two-thirds of the total – are related to infrastructure. The effects of infrastructure system disruptions can ripple across multiple sectors, economies and geographies, creating impacts that are difficult to predict.

A transformation is now required in how infrastructure is planned, designed, constructed, operated and maintained, and in the financial incentives, standards, governance arrangements and capacities that are required to facilitate resilient infrastructure.

The Coalition for Disaster Resilient Infrastructure (CDRI) is a global partnership of national governments, UN agencies and programmes, multilateral development banks and financing mechanisms, the private sector, academic and knowledge institutions that aims to promote the resilience of infrastructure systems to climate and disaster risks, thereby ensuring sustainable development. The genesis of the Coalition is a result of the unequivocal commitment and efforts of the Government of India to promote disaster resilient infrastructure, spearheaded by the National Disaster Management Authority (NDMA).

CDRI supports the achievement of goals and targets enshrined in the Sustainable Development Goals (SDGs), Paris Agreement on Climate Change, Sendai Framework for Disaster Risk Reduction (SFDRR) and the UN Agenda 2030 principles of leaving no one, no place and no ecosystem behind.

# CDRI Members

AS OF 31 MARCH 2021

## Member Countries

	AFGHANISTAN		GERMANY		MONGOLIA
	ARGENTINA		HAITI		NEPAL
	AUSTRALIA		INDIA		NETHERLANDS
	BHUTAN		ITALY		PERU
	CHILE		JAMAICA		SRI LANKA
	DOMINICAN REPUBLIC		JAPAN		TURKEY
	FIJI		MALDIVES		UNITED KINGDOM
	FRANCE		MAURITIUS		UNITED STATES OF AMERICA

## Member Organizations



Asian Development Bank



Coalition for  
Climate Resilient  
Investment

Coalition for Climate  
Resilient Investment



European  
Union



The Private Sector Alliance for  
Disaster Resilient Societies



United Nations  
Development Programme



United Nations Office for  
Disaster Risk Reduction



WORLD BANK GROUP

World Bank Group



# CDRI Governance

The governance arrangement of the Coalition comprises of three principal bodies, namely: the Governing Council, the Executive Committee, and the Secretariat.

## The Governing Council

The Governing Council is the highest policy-making body of the CDRI and comprises of all members of the Coalition. The Governing Council is co-chaired by representatives of two national governments, with India being the permanent co-chair. The other co-chair is nominated by rotation by the members of the Governing Council every two years.

The Governing Council typically meets once a year. During the Financial Year 2020-2021, the CDRI Governing Council meeting was held on 16 March 2021. This was the second meeting of the Governing Council. It was co-chaired by Dr. P. K. Mishra, Principal Secretary to the Prime Minister of India

and the Rt. Hon. Mr. Alok Sharma, MP and the COP26 President.

## The Executive Committee

The Executive Committee is the managerial body of the CDRI that oversees the implementation of the decisions of the Governing Council. There are 10 members in the Executive Committee including the two co-chairs; representatives of different notional constituencies - Asia and Africa, Europe and Oceania, landlocked countries, North and South Americas and, small island countries; nominees of multilateral development banks and UN Agencies; and the Secretariat (ex-officio member).

The Executive Committee typically meets twice a year. During the Financial Year 2020-2021, the first CDRI Executive Committee meeting was held on 29 June 2020.



In February 2021, CDRI Governing Council Co-Chairs Rt. Hon. Mr. Alok Sharma, COP26 President, and Dr. P.K. Mishra, Principal Secretary to Prime Minister of India launched the “Youth for Resilient Infrastructure” essay competition that received 143 applications from 34 countries.



The meeting was co-chaired by Mr. Kamal Kishore, Member, National Disaster Management Authority of India and His Excellency, Mr. Philip Barton, the British High Commission to India. The second meeting of the Executive Committee held on 13 January 2021 was co-chaired by Mr Kamal Kishore, Member, National Disaster Management Authority of India and Mr. Gavin McGillivray, Minister Counsellor Development, British High Commission, New Delhi.

## CDRI Secretariat

Located in New Delhi, the Secretariat of the CDRI is headed by a Director-General. The Secretariat has four divisions: Technical Support and Capacity Development; Research and Knowledge

Management; Advocacy and Partnerships; and Secretariat Operations. Each division is headed by a Director, reporting to the Director-General. CDRI currently has a total workforce of 48, including five technical staff on secondment from the United Nations Development Programme (UNDP), World Bank and Government of Australia. The team works under the overall guidance of the Executive Committee.

The Secretariat is responsible for executing the decisions of the Governing Council and Executive Committee through effective programming and time-bound delivery of programmes as well as overall financial and operational management of the Coalition functions.

## Members of CDRI Executive Committee during 2020-21

Notional Constituency	EC Member Representatives
Co-Chairs:	<b>Mr. Kamal Kishore (India)</b> Member Secretary (In-charge), National Disaster Management Authority, Government of India
	<b>H.E. Mr. Alex Ellis (UK) (Current)</b> British High Commissioner, New Delhi
	<b>H.E. Mr. Philip Barton (UK)</b> British High Commissioner, New Delhi
Asia and Africa:	<b>Mr. Shingo Miyamoto (Japan)</b> Minister (Economic and Development), Embassy of Japan, New Delhi
Europe and Oceania:	<b>Ms. Rebecca Byrant (Australia) (Current)</b> Assistant Secretary, Humanitarian Response Risk and Recovery Branch Department of Foreign Affairs and Trade, Australia
	<b>Mr. Rod Hilton (Australia)</b> Deputy Head of Mission, Australian High Commission, New Delhi
Landlocked Countries:	<b>Mr. Mohammad Qaseem Haidari (Afghanistan)</b> Deputy Minister for Policy, Planning, and Coordination, State Ministry for Disaster Management and Humanitarian Affairs, Afghanistan
North and South America:	<b>Ms. Veena Reddy (USA) (Current)</b> Mission Director, USAID/India, New Delhi
	<b>Ms. Ramona El Hamzaoui (USA)</b> Acting Mission Director, USAID/India, New Delhi
Small Island Countries:	<b>H.E. Mr. Kamlesh Shashi Prakash (Fiji)</b> Fiji High Commissioner in India, New Delhi
	<b>Ms. Vasiti Soko (Fiji)</b> Director – National Disaster Management Office, Fiji
Multilateral Development Banks:	<b>Mr. Junaid Kamal Ahmad (World Bank)</b> Country Director, India
UN Agencies / Other Institutions:	<b>Ms. Mami Mizutori (UNDRR)</b> Special Representative of the UN Secretary-General for Disaster Risk Reduction
Ex-Officio:	<b>Mr. Sandeep Poundrik</b> Director-General, CDRI

# From the Desk of **Director-General**



*CDRI will leverage the knowledge and experience from research facilities, academicians and its partners to support governments in reducing damages incurred due to natural hazards and climate change events, and work on enhancing the resilience of infrastructure and its interconnected systems.*

## **Mr. Sandeep Poundrik**, Director-General, CDRI

**T**he increasing frequency and magnitude of extreme events and their human and economic toll serve as a clarion call for the global community to collectively ensure the resilient growth of infrastructure for a more sustainable future. The ongoing COVID-19 pandemic has further laid bare the fragility of our infrastructure systems. As a global partnership, CDRI brings together the most affected and the most equipped nations and entities to work towards a common cause: resilient infrastructure for a better tomorrow, leaving no one behind.

The seeds of the Coalition were sown by the National Disaster Management Authority (NDMA), India, as part of the Government of India's commitment to advance the cause of disaster resilient infrastructure following the 2016 Asian Ministerial Conference on Disaster Risk Reduction. Subsequently over 2017-19, NDMA led a series of national, regional and global consultations to forge a consensus around the contours of the Coalition. On 23 September 2019, the Coalition was launched by the Hon. Prime Minister of India, Shri Narendra Modi at the 2019 UN Climate Action Summit in New York.

During 2020-21, CDRI has initiated key projects as part of its strategic framework to promote the resilience of critical infrastructure sectors. These include the development of an initiative for promoting resilient, sustainable, and inclusive infrastructure development in Small Island Developing States; rollout of a power sector resilience study to enhance the resilience of power infrastructure in the Indian state of Odisha

by analyzing the impact of Cyclone Fani; initiation of work on the biennial CDRI Flagship Report, a comprehensive report on global infrastructure resilience; and the annual International Conference on Disaster Resilient Infrastructure in March 2021.

The COVID-19 pandemic taught us some valuable lessons on the vulnerability of the health sector. More importantly, the interconnectedness of various infrastructure sectors was presented to the world in rather difficult circumstances. These developments have informed our programming for the future.

The year 2020-21 was a foundational year for CDRI. While the pandemic posed obvious challenges in our operations, we used the year to put in place systems and processes, critical partnerships and strategic programmes for delivering on our mandate. These investments are already beginning to bear fruit, with various projects being rolled out at the national, regional and global levels.

This report provides key highlights and strategic milestones for the Coalition for the Financial Year, 1 April 2020 – 31 March 2021 (FY 2020-21).

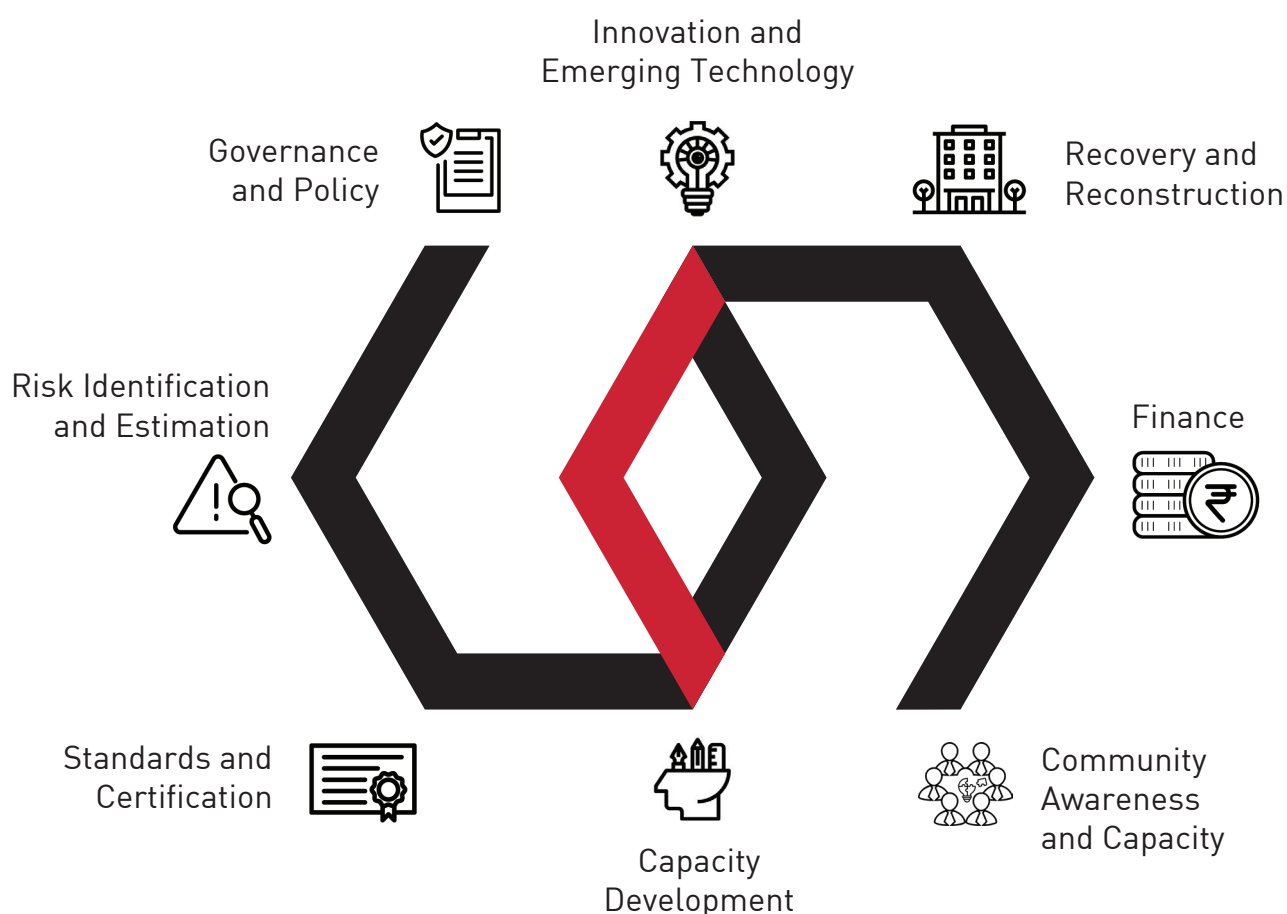
I thank our Co-chairs, members of the Governing Council and the Executive Committee, partner countries, and private organizations for supporting the Coalition in its endeavour towards building resilient infrastructure and their continued trust in CDRI.

Together, we can build a better and more resilient world for our future generations.

# Promoting resilience of infrastructure systems globally

Since its inception, the Coalition has been engaging with various countries at different stages of economic development to offer technical assistance for strengthening the resilience of existing and future infrastructure. CDRI programmes look at the entire lifecycle of infrastructure systems, including assessment, planning, design, construction, operation and maintenance, through a risk lens and foster mechanisms that enable resilience such as financial incentives, standards, governance arrangements and capacities. To support this, CDRI serves as a platform where knowledge is generated and exchanged on different aspects of disaster and climate resilience of infrastructure.

CDRI is working towards enhancing nationally and regionally appropriate codes, specifications and guidelines for planning, design, construction, operation and maintenance of infrastructure systems with a focus on the most vulnerable regions and addressing the needs of the most susceptible to the negative impact of disasters and climate change events.





# CDRI Programmes

In the year 2020-21, CDRI initiated several programmes in line with its Work Plan 2020-22 approved by the Governing Council in March 2020. The pandemic posed serious challenges in implementation, particularly with regard to activities that were envisaged for in-country implementation in CDRI Member Countries. Consequently, reprioritization of activities was done and CDRI was able to keep the momentum despite the pandemic.

The initial focus of 2020-21 was on power, telecommunications and transportation as the priority sectors for CDRI. Accordingly, specific projects to promote the resilience of these sectors were initiated. The emphasis on power, telecom and transportation sectors was well-founded, given the forward and backward linkages of these sectors with key socio-economic processes and large resource investments anticipated in these sectors globally. The interdependence of these critical infrastructure sectors for service continuity has also been a vital consideration for the prioritization of these sectors.

Over the course of 2020-21, CDRI recognized the need to intensify efforts to promote health infrastructure resilience, given the evident challenges experienced globally during the COVID-19 pandemic. Strained urban infrastructure systems combined with specific requests from Member Countries resulted in a focus on urban infrastructure within the CDRI programmatic agenda. Thus, the programmatic focus of CDRI has expanded to cover resilience of the power, telecom, transportation, health and urban infrastructure sectors. These efforts are complemented by multisectoral projects that promote cross-learning for enhancing the efficacy of programmes.

Additionally, the need for focusing attention on Small Island Developing States (SIDS) was highlighted at several sessions at the International Conference on Disaster Resilient Infrastructure (ICDRI) 2021. This has been taken up as an additional priority for the near future by the Coalition.







**S**IDS face several economic, social, and environmental challenges owing to their geophysical and socio-cultural context. In addition, these nations are regularly impacted by hazards such as cyclones, coastal flooding and droughts that further exacerbate the vulnerability of the people of SIDS. SIDS are already bearing the brunt of the emerging impacts of climate change. As a proportion of their Gross Domestic Product, SIDS experience some of the highest disaster losses.

A large portion of these losses are concentrated in infrastructure sectors. Investment in disaster and climate resilient infrastructure can mitigate the impact of hazards and help build resilient communities, and thereby facilitate sustainable development in SIDS. Against this background, in FY 2020-21, CDRI proposed 'Infrastructure for Resilient Island States (IRIS)', a dedicated initiative for SIDS that will promote systematic approaches to resilient, sustainable, and inclusive infrastructure in SIDS. This year, CDRI took important steps towards the development of IRIS. The process was anchored in the spirit of co-creation by all stakeholders and aimed to achieve complementarity with on-going initiatives in the SIDS. During the year, CDRI undertook a baseline study of infrastructure systems in the SIDS and organized four regional consultations – two in the South Pacific and two in the Caribbean – with key stakeholders including SIDS nations, SIDS regional organizations (e.g. Pacific Island Forum, Caribbean Community) and multilateral institutions (e.g. Asian Development Bank, United Nations Development Programme, Caribbean Development Bank), to develop the initial contours of IRIS with a view to its launch at COP26 in November 2021.







**D**isaster and climate resilient infrastructure is increasingly recognized as critical for achieving development that endures climate change and reduces disaster risk. There is a growing body of knowledge generated by various institutions, including multilateral development banks, think tanks and others on the imperative for disaster and climate-resilient infrastructure. Infrastructure quality and resilience are themes that regularly inform other reports such as the World Risk Report. However, a high-level international document that systematically focuses global attention on the challenges of disaster and climate resilient infrastructure is required to garner the

necessary political interest and policy focus on this issue. Towards this end, CDRI will publish a biennial flagship report that will provide a state-of-the-art analysis of infrastructure risk and resilience, assessment of progress in closing the resilience gap and identify policy opportunities for disaster and climate resilience.

During FY 2020-2021, CDRI launched the process of development of the Report. Four global expert level consultations were organized to define the scope of the Flagship Report. CDRI also mobilized key partnerships, e.g., with UNDP and Oxford University, to support the development of the first edition of the report and its launch in 2023.

The Report will include a Global Risk and Resilience Assessment of infrastructure systems of the world. It will include a Disaster and Climate Infrastructure Resilience Index and will be accompanied by an open access, interactive and interoperable online data platform tool that enables risk and resilience metrics to be displayed, consulted and shared. In addition, each edition of the report will have a thematic focus. The thematic focus of the 2023 addition will be 'Role of Nature-Based Solutions (NbS) in Disaster Resilient Infrastructure'. In November 2020, CDRI organized a global consultation on NbS for disaster resilient infrastructure (DRI).





# Sectoral Programmes



In a world that relies increasingly on electricity services, building the resilience of power systems is critical to providing energy security, economic well-being, and quality of life.

CDRI's Power Sector Resilience Programme seeks to enhance the understanding of power sector stakeholders on issues of risk management and strengthen their capacity to cope with future disasters.

## Study on Enhancing the Resilience of Power Sector in Odisha, India

During 2021-22, CDRI launched a three-phase study on enhancing the resilience of the power sector in the state of Odisha in India. The state suffered extensive damage in the aftermath of cyclone Fani in 2019. As per government reports, power sector alone reported damages up to US\$1.2 billion - highest in comparison to other sectors. The impact of cyclone Fani highlighted the need for a thorough assessment of the current state of resilience of power infrastructure systems and possible measures to reduce the impacts of natural hazards on these systems.

The first phase of the study, initiated in August 2020, assesses the disaster preparedness and management of the power sector in Odisha state, along the east coast of India, through – i) Preparedness; ii) Survival; iii) Recovery and restoration; iv) Reconstruction; and v) Social and Community Resilience. The study addressed all the components of the power infrastructure system in consultation with all stakeholders and user groups.



As an intermediate output and in preparation for the cyclone season in the coastal states of India, CDRI issued a national-level advisory that summarized some of the learnings from the study, including preparedness, survival, and early recovery measures after a cyclone. The Advisory was shared with relevant stakeholders and promoted on various social media platforms.

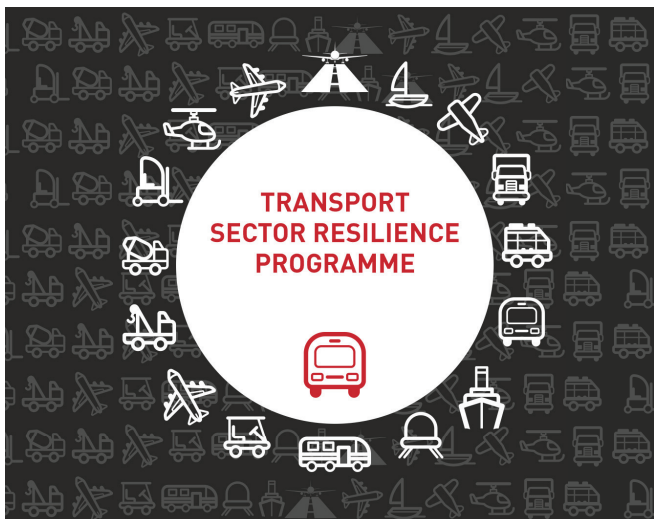
The next phase of the study includes a comprehensive roadmap for the improvement of standards and technology selection based on a multi-hazard risk assessment along with the governance, finance, knowledge management, and capacity development processes.

Findings and outputs from the power sector study in Odisha will be relevant and applicable to regions with similar risk profiles around the world. CDRI will convene dialogues and consultations with Member Countries in cyclone-affected regions (like the Pacific, Indian Ocean and Caribbean) to identify opportunities for applying the learnings.

During 2021-23, CDRI will also be working with the governments of Mauritius and Fiji on 'Power Sector Resilience Study' and a study on 'Cyclone Resilient Distributed Grids', respectively. CDRI will also work with other nations to develop a roadmap for the resilient redevelopment of ageing infrastructure in their regions.







**T**ransport systems comprise of various types of infrastructure – roads, railways, aviation and seaports – each with its own sub-systems, unique physical attributes and governance mechanisms. Transport systems are also interconnected with other infrastructure sectors such as power, telecommunication, water, health and education.

Many transport systems across the globe are ageing and are, thus, more vulnerable to climate and disaster risk. Hazards such as flooding, storm surge and cyclones, wildfire, extreme heat, landslips frequently test the performance of infrastructure assets and their longevity. Equally, high-intensity non-frequent events such as earthquakes and tsunamis threaten long-term investments in transport systems developed by national, state and, local governments as well as private sector. CDRI's work on building the resilience of the transport

sector looks at risk-based infrastructure planning and investment, improvement in standards and governance, leveraging technology and capacity building across different modes of transportation. This includes studies, training initiatives and pilot projects across the transport sector, including working with communities to build and integrate resilience into their governance and transport management processes.

As one of the first projects under the Transport Sector Resilience Programme, CDRI initiated a study in January 2021, to critically understand the nuances of disaster resilience of airports around the world. The study is preceded by two international consultations with airport experts and other relevant stakeholders on 28 May 2020 and 18 August 2020, that helped in finalizing the scope of the study.

These were conducted virtually to accommodate different time zones across the globe and included representation from country governments (UK, USA, Japan, India), international organizations (International Civil Aviation Organization, Airports Council International, International Air Transport Association, UNDP, Global Center on Adaptation) and academic institutions (University College London, Delft University of Technology), among others. Expected to be completed by 2023, the study looks at airports that have been affected adversely and those that have successfully managed the risk of extreme events in recent years. It will help develop a comprehensive understanding of disaster risk to infrastructure across selected airports and the associated financing mechanisms and stakeholders' willingness to invest in DRI.





In a largely networked world, telecommunications are a 'lifeline infrastructure system'. Telecommunications services are equally crucial in the operation of other infrastructures such as airports, management of power grids, and operation of banking services, to name a few. Hence, promoting resilience of this infrastructure system is essential. With the advent of new technologies

such as 5G and high-speed, low latency broadband satellite-based internet, investments in this sector have seen a steep rise. There is a need to promote principles of resilience within this infrastructure sector to manage present and future shocks.

During FY 2020-21, CDRI conducted a literature study and series of expert consultations to identify strategic interventions for promoting resilience principles in the telecom sector. Subsequently, the Coalition undertook the design of projects on Disaster Risk & Resilience Assessments at National and Subnational level for developing roadmaps for Telecommunications sector in India, along with three CDRI Member Countries to be launched during 2021-22. The Disaster Risk and Resilience Assessment Framework piloted at national and subnational level, covering both rapid and slow onset events that may be geophysical, hydrological, climatological and meteorological in nature, will serve as a guiding document for undertaking risk and resilience assessments of telecommunications infrastructure sector across the world.







Upward trends of urbanization across the world continue to stretch infrastructure systems in cities to their limit. In addition, disaster-induced losses also lead to strained infrastructure that has limited access. Failing to build the resilience of urban infrastructure to extreme events is expected to cost up to \$314 billion every

year in disaster losses in the next decade, pushing 77 million into poverty conditions, according to a UNISDR report.

Considering these challenges and opportunities, CDRI in partnership with ARUP developed a concept note for a global study on Urban Infrastructure Resilience in 20 cities. Based on the concept note, a project was designed with the objective of rollout in late 2021. Results from the studies will be shared widely for implementation in CDRI Member Countries, and will guide city authorities on the path of resilient urban infrastructure development with the overall aim of creating liveable cities.

In addition to the global study, responding to a request from the Indian State Government of Odisha, CDRI in partnership with ARUP, designed and developed a study on Urban Disaster Resilience for Cuttack in Odisha, India. The learnings will inform policy decisions by the government of Odisha for building resilient infrastructure systems for the wellbeing of residents of Cuttack.





**P**ost the outbreak of COVID-19, health infrastructure across the world has been subjected to unparalleled stress. Exposed by the pandemic, the vulnerability of health infrastructure systems needs to be addressed holistically, with a resilience lens. This also requires efforts to influence policies and incorporate a systemic approach in design, delivery, governance, operations, and healthcare infrastructure and system maintenance. As the COVID – 19 pandemic

unfolded during the FY, its impact on the CDRI Work Plan (2020-2022), especially on components that included extensive travel between countries such as the national and regional workshops, outreach events, forensic investigations, and others were evident. These were also noted by the CDRI Governing Council in its first meeting. This prompted the Secretariat to develop a wider study to understand the impact of the pandemic on health infrastructure, expected to be completed by June 2021.

Further, during several bilateral meetings, CDRI members also expressed keen interest in working with the Coalition to strengthen the resilience of healthcare infrastructure in their countries. CDRI has thus included health infrastructure as part of its priorities for 2021-23. One of the first projects to be developed in the coming months under the health sector resilience programme is the development of a framework for Risk and Resilience Assessment of Health Infrastructure that will be piloted in select CDRI Member Countries. Once finalized, the framework will help countries undertake a self-assessment for reduced health service disruptions in the face of crises by building redundancies in operations, strengthening governance, and adopting innovative solutions for a swift recovery.





# Thematic Programmes



## Financing Disaster and Climate Resilient Infrastructure

The Coalition's Finance for Resilient Infrastructure Programme supports Member Countries in developing and implementing coherent risk financing strategies for (re)building resilient infrastructure. The Programme has two pillars: enabling financing in pre-disaster mitigation stages for new and resilient infrastructure; and financing post-disaster recovery and reconstruction of critical infrastructure to enhance governments' fiscal resilience. As part of the programme, this year, the Coalition initiated a fiscal risk assessment study for four of its Member Countries selected from South Asia, Pacific/Caribbean and Indian Ocean SIDS. Another study for fiscal risk assessment is

also being developed for four selected states in India. Since most disaster losses are experienced in critical infrastructure sectors like transport, power, and telecommunications, such sectors will be the key focus of the proposed studies.

Another study aimed at appraising the policy guidance documents for projects under India's National Infrastructure Pipeline to align them with disaster resilience principles was initiated by the Coalition this year.

These initiatives are a result of rigorous engagement with key stakeholders including CDRI member organizations, the Coalition for Climate Resilient Investment and InsuResilience Global Partnership.





## Infrastructure Governance

Infrastructure systems are under increasing pressure due to a range of diverse and dynamic hazards. Given the immense global demand for new infrastructure, in the context of changing climatic conditions, there is a need to revisit current approaches to planning, design, building and maintenance of infrastructure systems to make them future-ready. These intentions hinge on agile and responsive mechanisms for the governance of infrastructure.

CDRI supports its Member Countries to understand the benefits of investing in disaster and climate-resilient infrastructure. This requires mechanisms for establishing appropriate resilience targets and reviewing their existing governance arrangements for infrastructure development in the context of national resilience strategies.

In December 2020, CDRI was requested by the Government of Fiji to provide technical assistance for supporting the recovery and rebuilding of infrastructure systems and services in the aftermath of Cyclone Yasa, in line with the priorities set by the Fiji working group for Yasa response. The CDRI programme in Fiji includes : Design of resilient

decentralized and distributed energy systems; National Risk and Resilience Assessment and Roadmap for Telecommunications Sector; Review of building codes integrating disaster and climate resilience; Fiscal Risk Assessment of disaster-induced losses in Infrastructure to support Risk-Informed Fiscal Planning in Fiji; National- level Training Programmes and Workshops on DRI and capacity building workshop for design of Regional Training Centre; and Capacity building workshops for establishing Regional Training Centre for DRI. Given the long-term nature of these interventions and the ongoing travel restrictions due to the pandemic, these projects will be taken up during 2021.

The Coalition has also been working with the United Nations Office for Disaster Risk Reduction (UNDRR), a member organization, to develop a multi-country programme to enhance the resilience of infrastructure through strengthened governance in line with the SFDRR. Expected to be launched in FY 2020-21, the project aims to strengthen regulatory frameworks and policies to build the resilience of infrastructure and target change at the national level in four countries covering SIDS and the Asia & Pacific, the Americas & Caribbean, and the African regions.



# Multi-sectoral Projects



## Learning From Disasters

The Learning from Disasters project aims to draw lessons from specific disasters, focusing on evidence-based recommendations to policymakers and practitioners towards the design of resilient infrastructure in the future. The programme works towards setting up institutional mechanisms for case study investigations of the performance of infrastructure systems in disaster contexts, thus fostering a culture of learning from disasters and their adoption in policy and practice. As part of

this project, CDRI has initiated the development of an initiative on 'Global Case Study of Field Hospitals for COVID-19'. A preliminary literature review for the initiative was completed in 2020. A systematic, in-depth, and comprehensive case study of experiences of COVID field hospitals, including mega field hospitals, is planned during 2021 in at least six countries. This study is expected to provide a holistic understanding of key issues and solutions for designing, deploying, and operating future health care infrastructure in disaster contexts.



# DRI Connect

Strengthening its position as a global knowledge and solutions broker on DRI, in 2021, the Coalition initiated the design and development of 'DRI Connect', a digital engagement, learning and collaboration modality that will bring together its diverse stakeholder base to learn and co-create solutions for DRI.



The DRI Connect platform will enable CDRI to:

- Harness the collective intelligence of the Coalition towards the creation of new knowledge and actionable solutions
- Foster an environment of action-based learning and innovation on DRI

## DRI Knowledge Portal

To cater to the knowledge needs of research, academic and practitioner community, CDRI has initiated the 'DRI Knowledge Portal' as a comprehensive and intelligent digital knowledge repository dedicated to DRI. One of the major milestones of the project during 2020-21 was the landscape analysis that sought to map and assess the offerings of similar platforms developed by other organizations and establish a clear niche for the CDRI Knowledge Portal. Based on this exercise,

a detailed project document for the design and execution of the portal has been developed to be taken up in 2021.

## CDRI Resilient Infrastructure Marketplace

The CDRI Marketplace is targeted at private businesses in order to promote and strengthen market mechanisms for disaster and climate resilient infrastructure systems. To pilot the proof of concept, CDRI set up a Resilient Infrastructure Marketplace as a virtual exhibition at ICDRI 2021. Over 60 exhibitors from across the world showcased their products, solutions and services through videos, presentations and posters on a virtual platform that had nearly 5000 views and over 700 engagements. Based on the success of the pilot as part of the ICDRI 2021, a detailed project document has been developed for implementing the digital Marketplace in 2021-23.

## E-learning and Communities of Practice

As part of CDRI's capacity development and continued learning initiative, DRI stakeholders will be able to access learning modules including self-paced courses, facilitated sessions by experts and hybrid training events. DRI connect will also provide a dynamic learning, knowledge exchange and co-creation space for practitioners to contribute to the global narrative on DRI. These functions will be designed in detail during 2021.



## DRI Dialogues and Webinars

CDRI has been actively working to strengthen its network and build alliances for promoting the cause of DRI. Towards this end, a series of dialogues were conducted during FY 2020-21 with a variety of groups to foster their buy-in on this agenda:

- CDRI collaborated with JBP and ARISE IDEA (FICCI) to organize a series of webinars on “Innovations, New Technologies and AI – Tools for Managing Complex Future Disasters post COVID-19” on 2, 16 and 30 September 2020, where Japanese and Indian companies showcased their innovations and new technologies.
- CDRI Day Webinar: CDRI marked its first anniversary on 23 September 2020 with a webinar on, “The Future of Infrastructure Resilience in the Context of Global Pandemics.” Speakers included Ms. Mami Mizutori, Special Representative of the UN Secretary General and head of UNDRR, Prof. K. Vijay Raghavan, Principal Scientific Adviser to the Government of India, and Mr. Andrew Maskrey, Founder of the Risk Nexus Initiative.
- In collaboration with SEEDS, CDRI organized a dialogue with the leaders of civil society organizations (CSOs) on 2 March 2021, to build a shared understanding of the potential opportunities and challenges of enhancing disaster and climate resilience of infrastructure from the people’s perspective. The heads of about a dozen international and national CSOs participated in the dialogue including UNICEF, SPHERE, HFH, SEEDS, SELCO, CANSA, GNDR, NEAR Network, Hinduja Foundation, and All India Disaster Management Institute.
- A Dialogue was held on 5 March 2021 at India Habitat Centre, New Delhi for “Exploring Academia Collaboration for Disaster Resilient Infrastructure”. About 20 representatives from premier academic and research institutions within the country attended the dialogue. The dialogue highlighted the interest of academic institutions to collaborate with CDRI to build the capacity of various stakeholders for enhancing the practice of DRI through training and inter-disciplinary research.





# Working with the Youth



**C** DRI recognizes the need to invest in youth as a vital stakeholder group for a better future. During FY 2020-21, the Coalition launched initiatives such as Fellowship Programme, Young Professionals Programme and Youth for Resilient Infrastructure to encourage young minds to develop actionable solutions on DRI.

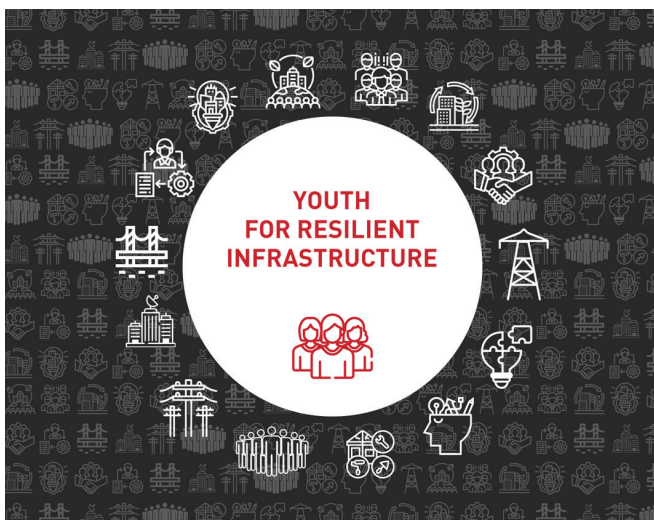
## CDRI Fellowship Programme

The CDRI Fellowship Programme was launched in September 2020 with the objective of promoting research and innovation on building the resilience of infrastructure in the face of disaster risks emanating from both natural and man-made hazards. The Fellowship Programme provides financial support and capacity development opportunities for individuals designing solutions for real-world problems related to DRI. Promising solutions emerging from the programme will be shared widely and taken up for implementation in multiple contexts.

The first cohort of CDRI Fellows was announced in March 2021 with 21 researchers from nine countries engaged in a variety of research projects covering diverse hazard conditions. The Fellows were selected through a three-tiered blind review process that concluded with evaluation by an International Jury to identify the most promising proposals.







## Young Professionals Programme

As part of the CDRI Young Professionals Programme, brilliant minds from some of the best institutions in the world have been selected to participate in an immersive learning programme. This year, three Young Professionals were selected to work as part of the Secretariat in the formulation and implementation of projects and programmes within CDRI, contributing to the emerging narrative on DRI.

**A**s one of the first activities under the project, CDRI Co-Chairs Rt. Hon. Mr. Alok Sharma, COP26 President, and Dr. P.K. Mishra, Principal Secretary to Prime Minister of India launched the 'Youth for Resilient Infrastructure' essay competition in February 2021. The competition received 143 applications from 34 countries.

# International Conference on Disaster Resilient Infrastructure 2021



**T**he International Conference on Disaster Resilient Infrastructure (ICDRI) is the annual international conference organized by the Coalition in partnership with Member Countries, organizations and institutions to strengthen the global discourse on disaster and climate-resilient infrastructure.

## Build-up to ICDRI 2021

CDRI hosted two webinars during November and December 2020. The webinar on 'Nature-Based Solutions: Strengthening Synergies for Resilient Infrastructure' was conducted in partnership with USAID, with technical assistance from the U.S. Forest Service International Programs. The webinar focussed on exploring the potential of nature-based solutions for DRI through case studies and responsive policy actions. The webinar discussed the need to protect and maintain natural habitats during the planning stage of infrastructure development, rejuvenate degraded habitats, and increase awareness of nature-based solutions among communities.

The webinar on 'Build Back Better: Building Resilient Health Infrastructure and Supply Chains' reflected on the impact of COVID-19 on health infrastructure and supply chains and provided recommendations for broader international and national level policy processes. The webinar



*CDRI has set a challenging and urgent agenda for itself... As the pandemic has reminded us, no one is safe till everyone is safe! We have to ensure that we leave no community, no place, no eco-system, and no economy behind. Just as the fight against the pandemic mobilized the energies of the world's seven billion people, our quest for resilience must build on the initiative and imagination of each and every individual on this planet."*

**Shri Narendra Modi**  
Hon. Prime Minister  
of India





Shri Narendra Modi, Hon. Prime Minister of India, The Rt. Hon. Mr. Boris Johnson MP, Hon. Prime Minister of United Kingdom, Mr. Mario Draghi OMRI, Hon. Prime Minister of Italy and Mr. Josaia Voreqe Bainimarama, Hon. Prime Minister of Fiji addressed the ICDRI 2021.

recommended that regulatory frameworks incorporate a systemic approach in the design, installation, operation and maintenance of healthcare infrastructure and its dependencies. It also highlighted the need for strengthening public health systems, including infrastructure and its supply chains, to build the resilience of assets and reduce the disruption of essential services.

### ICDRI 2021

Organized during 17-19 March, ICDRI 2021 was a virtual event bringing together stakeholders from partner countries representing national disaster risk management agencies, key infrastructure sectors, multilateral development banks, UN agencies, academia and research institutions, the private sector, and policy think tanks.

Shri Narendra Modi, Hon. Prime Minister of India, The Rt. Hon Boris Johnson MP, Hon. Prime Minister of United Kingdom, Mr. Mario Draghi OMRI, Hon. Prime Minister of Italy and Mr.

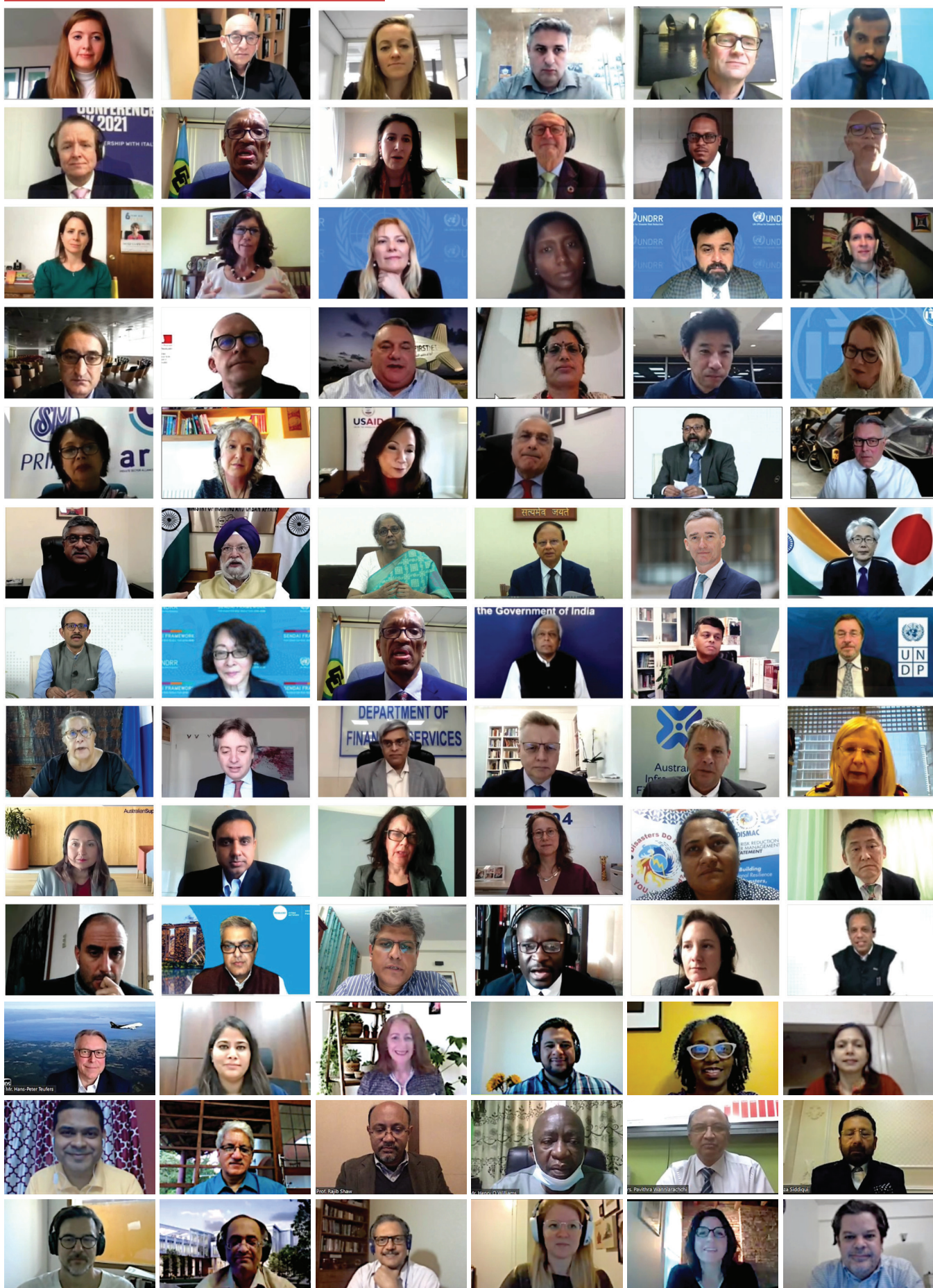
Josaia Voreqe Bainimarama, Hon. Prime Minister of Fiji addressed the conference.

ICDRI 2021 was held in the backdrop of the COVID-19 pandemic. The world was still reeling under the impact of the crisis as health care and other social infrastructure systems struggled to keep pace with unprecedented demand for services. Equally, other infrastructure sectors such as aviation and railways, struggled to stay in business despite reduced demand.

Similar concerns resonated at the ICDRI as participants reflected on the impact of the pandemic on the achievement of the SDGs and SFDRR targets, particularly those directly related to infrastructure development. The ICDRI 2021 was attended by over 1200 participants from over 100 countries representing decision-makers, practitioners, the private sector and academia, to learn from good practices, develop collaboration and galvanize concrete actions for resilient infrastructure.



## Key Speakers @ ICDRI 2021



# Financial Statements

During FY 2020-21, the Coalition has been supported mainly by the Government of India (GoI) and the UK while contributions from the European Union, USA and Australia are expected during 2021.

GoI has sanctioned a grant of INR 480 crores (approx. US\$64.86 million) towards operational and programme activities of CDRI over a period of 5 years during 2019-24. The Ministry of Home Affairs, GoI is the main donor for the Financial Year 2020-21

and the income is recognized in the balance sheet to the extent of the expenses incurred. For the FY 2020-21, CDRI incurred a total expense of approximately US\$ 1 million. A majority of this expenditure was towards the establishment of a fully functional Secretariat with key staff to drive operations and programmes with a futuristic outlook. Additionally, Government of UK has contributed GBP 150,000 towards the development of the Global Flagship Report on DRI.

## STATEMENTS OF RECEIPTS, DISBURSEMENTS AND FUND BALANCE

(01 US\$ = INR 73.24 as on 31 March 2021)

Particulars	Amount	
	(INR)	(US\$)
Opening balance / unutilized grant balance (as on 01 April 2020)	9,53,92,130	1,302,459
<b>Receipts</b>		
Grants received	35,26,72,583	4,815,300
Expenses directly incurred by NDMA-PD A/c	1,82,06,750	248,590
<b>Total Receipts (Opening Balance + Receipts)</b>	<b>46,62,71,463</b>	<b>6,366,350</b>
<b>Utilization</b>		
Fund utilized by CDRI during the year 2020-21	6,43,01,816	877,960
<b>Total Fund Utilization</b>	<b>6,43,01,816</b>	<b>877,960</b>
Closing balance / unutilized grant with CDRI (As on 31 March 2021)	40,19,69,647	5,488,390



# CDRI Secretariat



Sandeep  
Poundrik



Jagan  
Shah



Mona  
Chhabra  
Anand



Tanaji  
Sen



Megha  
Punia



Rajita  
Agarwal



Hem  
Dholakia



Alpana  
Saha



Raj Vikram  
Singh



Arun Jacob  
Mathew



Rajat  
Uchil



Vikrant  
Panwar



Aditya  
Kaudan



Jyoti  
Jarial



Ravi  
Krishnani



Payal  
Bhatnagar



Priya  
Kanchan



Vijay Singh  
Nemiwal



Richard  
Nyberg



Sahil  
Sharma



Pranjal  
Sharadchandra  
Chavanke



Vallary  
Gupta



Rikza  
Imtiyaz



Richa  
Ahuja



Sharon Maria  
Sajan



Pawan Kumar  
Umrao



Soham  
Vaidya



Dibashish  
Kumar  
Biswas



Chitra  
Barwa



Sumit  
Raghav

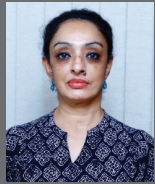


Jyoti Vijayan  
Nair



Gyanesh  
Sharma





Aishwarya  
Pillai



Riya Rahiman



Sameer  
Pethe



Ratnesh  
Kumar



Neha  
Bhatia



Jessica  
Mosahari



Wasi  
Md Alam



Amarnath  
Shukla



SV  
Subrahmanyam



Deepak  
Rawat



Megha  
Mishra



Sriraman  
Varadarajan



Anne  
Gibbs



Avinash  
Venkata



Abhilasha  
Panwar



Santosh  
Kumar Singh



Ammar  
Ashraf



Renu  
Bhardwaj



Rohit  
Rawat



Devendra  
Kumar



Ritu  
Khurana



Priyanka  
Shukla



Nivya PC



Shreya  
Karmakar



Shraddha  
Dagar



Jaya  
Subramanian



Anuj  
Agarwal



Abhishek  
Choudhary



Mahendra  
Meena



Santosh  
Kumar



BiHu  
Sharma



Priyambada  
Seal



# Looking Ahead

**2**020-21 was a foundational year for CDRI. Significant effort has been invested in building the Coalition and developing a strong team at the Secretariat for taking up activities approved by the CDRI Governing Council. The year was marked by actions for building systems, processes and partnerships to take the mission of the organization forward.

The COVID-19 pandemic posed several challenges to the world; it also limited the ability of CDRI as

a global coalition, to travel and conduct activities in the Member Countries. These were difficult circumstances that only strengthened the Coalition's resolve to pursue resilience of infrastructure systems with increased fervour. Activities have been adapted to the "new normal" with increased reliance on digital technologies to pursue the approved workplan of the organization. In the year ahead, CDRI also aims to operationalize its technical support activities within the Member Countries and upscale ongoing initiatives for greater impact.




















Coalition for Disaster Resilient Infrastructure

 4 & 5 Floor, Bharatiya Kala Kendra,  
1, Copernicus Marg, New Delhi 110001, India

 [info@cdri.world](mailto:info@cdri.world)

 [www.cdri.world](http://www.cdri.world)

 [@cdri\\_world](https://twitter.com/cdri_world)

 [@coalition-for-disaster-resilient-infrastructure](https://www.linkedin.com/company/coalition-for-disaster-resilient-infrastructure)