

ICDRI 2021

International Conference on Disaster Resilient Infrastructure

17-19 MARCH 2021

CDRI
Coalition for Disaster Resilient Infrastructure

CONFERENCE BULLETIN | 18 MARCH 2021

The ICDRI 2021 is the third in the series of annual conferences of the Coalition for Disaster Resilient Infrastructure (CDRI). The Conference has a clear focus on various systems, sectors and themes which need to be made resilient for a sustainable future. The policy, technical and regional forums led by global experts along with a space for networking opportunities constitute the structure of the conference. The Policy Forums highlight the overarching risk governance perspectives critical for building resilient infrastructure. The Technical Forums dive deep into the key thematic areas that have been identified over time as broad

portfolios of actions for the CDRI. The Regional Forums share the lessons, gaps and opportunities from climate and disaster risk prone regions to contribute to the overall infrastructure resilience agenda.

Building on the context set by the discussions of Day 1 of the ICDRI 2021, (available at: <https://www.youtube.com/watch?v=HBN2jla2MEQ>), the proceedings of Day 2 focused on ideas for addressing the issues of the most vulnerable nations and exploring new ideas especially in relation to new and emerging technologies for resilient infrastructure. ●●●

SPECIAL ANNOUNCEMENT

The winners of the CDRI Essay Competition for 2021 were announced. Details available at:

<https://icdri.cdri.world/DRIEssay-2021.html>

SESSION 1

Small Island Developing States (SIDS) - Pacific Island Countries

Keynote Speaker: Dame Meg Taylor, Secretary-General, Pacific Island Forum

Moderator: Ms. Noelle O'Brien, Principal Climate Change Specialist, ADB

Speakers: Ms. Vasiti Soko, Fiji National Disaster Management Office; Mr. Mimura Satoru, Advisor, Global Environment Department, JICA, Japan; Ms. Barbara Riksen, Team Leader, International Cooperation, EU Delegation to Pacific; Mr. Robert Jauncey, Chief Investment Officer, Australian Infrastructure Financing Facility for the Pacific (AIFFP)



[Top row, left to right] Meg Taylor, Noelle O'Brien, Vasiti Soko

[Bottom row, left to right] Barbara Riksen, Robert Jauncey, Mimura Satoru

Highlights

Given the need for infrastructure investment in Small Island Developing States (SIDS) - Pacific and Caribbean Island Countries and their high propensity to disaster and climate risks, the session laid out the critical challenges and opportunities for adopting resilient pathways for infrastructure development in SIDS.

It discussed the risks and infrastructure priorities of SIDS and the delivery mechanisms that can help integrate disaster and climate resilience for infrastructure development. The session

discussed the long-term benefits of investing in infrastructure and adoption of a resilient pathway for infrastructure development in the region.

It highlighted the need for building codes and standards, nature-based solutions, innovations, partnerships and private sector investments, disaster preparedness, and response and recovery to enhance resilience to disasters and climate change. Sessions 1 and 5 were regional forums that were dedicated to SIDS. While the regions are different, the challenges, vulnerabilities and solutions have a close connect. ●●●

SESSION 5

Small Island Developing States (SIDS) - Caribbean Island Countries

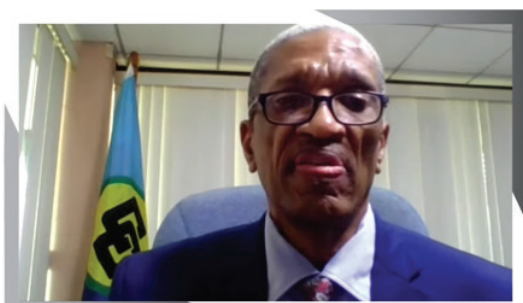
Keynote Speaker: Dr. Douglas Slater, Assistant Secretary-General, Human and Social Development, Caribbean Community (CARICOM)

Moderator: Mr. Ronald Jackson, Head, Disaster Risk Reduction & Recovery Team, UNDP, Geneva, Switzerland

Speakers: Mr. Deryck Omar, CEO, CARICOM Regional Organisation for Standards and Quality; Mr. Isaac Anthony, CEO, Caribbean Catastrophe Risk Insurance Facility Segregated Portfolio Company (CCRIF-SPC); Ms. Andria Grosvenor, Deputy Executive Director (ai) at CDEMA Coordinating Unit; Mr. Daniel Best, Director Projects, Caribbean Development Bank

Key Takeaways

- » There is a need for investment in human resources, long-term high-quality infrastructure, resilient designs and building materials that require limited maintenance.
- » There is a need to mobilise adequate financing for critical infrastructure, build partnerships and collaborations for enhanced information sharing across regions, update regulatory frameworks and legislations as per the changing climatic conditions and looming risks and invest in capacity building and human resource development through adequate skill building to facilitate mainstreaming of disaster risk management and climate resilience into infrastructure development and investments.
- » A need for concessional financing along with an assistance to qualify for development financing to compete against the ongoing impacts of nature is also felt.
- » A new approach is the need of the moment, to bring in private investments for building codes, standards, and for designing risk insurance mechanisms. Also, there is a need for effective implementation of national infrastructure standards and codes, particularly national building codes to reduce the vulnerability that perpetuates disasters and climate risks.
- » On the governance front there is a need for enhancements in administrative capacities to formulate policies and capacity development for integrating disaster and climate resilience into infrastructure development.
- » Dependency on external support for funds and resources to be minimized by transforming the development models.
- » Innovation, use of scientific data and appropriate technologies can help find sustainable solutions to the challenges currently faced by SIDS. Governments can reach out to civil societies and private sector for integrated innovative solutions to disaster resilient infrastructure.
- » The island countries should prioritize risk-informed development planning to prepare infrastructure systems and facilities to withstand unforeseen stresses. There is a need to consider climate smart response and recovery measures and enhance access to emerging technologies to effectively address these stresses.
- » The need to scale up community-based approaches requires an urgent attention in the island countries.
- » There is a need for infrastructure planning and investments that can pay back in strong multipliers and encourage sustainable and genuine partnerships for resilient infrastructure development is a critical priority for the future.
- » There is a need to strengthen disaster data collection and technical expertise for creating risk informed infrastructure design and retrofitting.
- » There has to be extensive discussions addressing the barriers to concessional financing, and capacity gaps of SIDS in submitting proposals to advance the islands' resilience. Such discussions shall be organised in appropriate forums to examine the pledges and commitments made. CDRI can organise discussions, partnerships and actions to improve overall resilience and advocacy of SIDS.
- » In order to build on the available local, national and regional institutional capacities both in terms of human capital, there is a need to develop the structure of institutions and their ability to access climate finance. ●●●●

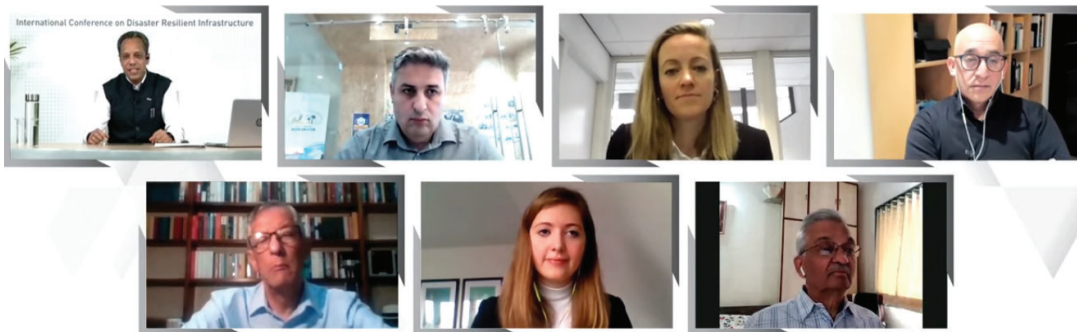


[Top row, left to right] Douglas Slater, Ronald Jackson, Deryck Omar
 [Bottom row, left to right] Andria Grosvenor, Daniel Best, Isaac Anthony



SESSION 2

Innovations and Emerging Technologies for Uncertain Future



[Top row, left to right] Arunabha Ghosh, Amir Dinur, Olga Pleumeekers, Banny Banerjee
[Bottom row, left to right] Osvaldo Luiz Leal de Moraes, Jacqueline Hood, Anil Kakodkar

Keynote Speaker: Dr. Anil Kakodkar, Former-Chairman, Atomic Energy Commission, India; Rajiv Gandhi Science & Technology Commission, Govt. of Maharashtra, India

Moderator: Dr. Arunabha Ghosh, Founder - CEO, Council on Energy, Environment and Water (CEEW), India

Speakers: Mr. Amir Dinur, CEO, Seismic AI, *Winner of TechEmerge 2021 by the World Bank, Israel; Ms. Jacqueline Hood, Highways Marketing Director, Amey Consulting, UK; Ms. Olga Pleumeekers, Director, Nelen and Schuurmans, *Winner of TechEmerge 2021 by the World Bank, The Netherlands; Prof. Banny Banerjee, Director, Stanford ChangeLabs, USA; Dr. Osvaldo Luiz Leal de Moraes, Director, National Centre for Monitoring and Early Warning of Natural Disasters – CEMADEN, Ministry of Science, Technology and Innovation, Brazil

The keynote address outlined the contours of innovation and emerging technologies and how these can address the three pillars of infrastructure resilience: i) assessment, ii) preparedness, and iii) building back better. It highlighted the significance of Early Warning Systems, infrastructure monitoring, real-time information, systems dynamics and disaster management frameworks for achieving disaster and climate resilient infrastructure.

Key Takeaways

- » A holistic approach, including technological, systems, financial, and social innovations, is required to create an innovation ecosystem in DRI.
- » There is a need to support innovations and facilitate the availability, adaptability, and acceptability of it through both public and private partnerships.
- » There is a need for periodical review and retrofitting along with the scope being left to accommodate additional needs in infrastructure design as per the changing events. Critical infrastructure must be engineered to take care of extreme events – events both triggered externally and internally within the system.

- » Need for dependable, credible and robust Early Warning Systems along with an area by area, facility by facility emergency response plan to enhance preparedness, response and recovery.
- » Need to quantitatively understand the inter-relationships between human activities and natural processes and their consequent impacts.
- » CDRI needs to encourage active sharing of knowledge, resources and experiences for potential cooperation amongst its partners.
- » Need for Systems Acupuncture Design for integrating technological innovations with non-technological layers, the linked heuristics and institutional capacities are critical and need to be understood.
- » While we focus on innovations and testing the pressure points in our own infrastructure systems, it is important for deployment of available innovation options. Doing this can change the way we engage with infrastructure from resilience at one hand to criticality on the other.
- » There is a need to democratize data to enhance resilience.
- » There is a need for technology to be able to make best decisions to operate and manage asset resilience. ●●●

Highlights

The session explored the need and significance of innovations and harnessing its potential in the context of disaster resilient infrastructure (DRI).

SESSION 3

Exploring Digital Infrastructure Resilience

Keynote Speaker: Shri Ravi Shankar Prasad, Honourable Minister of Communications, Electronics & Information Technology and Law & Justice, Government of India

Moderator: Mr. Abhilash Panda, Head of Infrastructure Resilience, United Nations Office for Disaster Risk Reduction (UNDRR)

Speakers: Ms. Aruna Pidikiti, Senior Vice President, Network Operations, Bharti Airtel Limited; Mr. Satoshi Sasakura, Executive Manager (Disaster

Countermeasures Office Manager), Nippon Telegraph and Telephone Corporation; Mr. Brad Morell, Senior Advisor, FirstNet Authority; Ms. Vanessa Gray, Head of Environment and Emergency Telecommunications Division, International Telecommunication Union (ITU-BDT); Mr. Philippe Lorec, Advisor to the General Secretariat of Ministry of Environment, Government of France; Prof. Simon Pietro Romano, Professor of Computer Networks, University of Napoli Federico II, Napoli

Highlights

As interconnectivity and dependency on digital infrastructures will increase exponentially, so

will the vulnerabilities. The session explored and addressed the current and future disaster risks of systems underpinned by digital infrastructure and

discussed how an enabling environment can be developed for digital infrastructure resilience. It stressed on the importance of digital connectivity





[Top row, left to right] Ravi Shankar Prasad, Abhilash Panda, Simon Pietro Romano, Philippe Lorec

[Bottom row, left to right] Aruna Pidikiti, Satoshi Sasakura, Vanessa Gray, Brad Morell

for sustainable development, internet exchanges and applications benefits.

Key Takeaways

- » International organizations, national governments and private agencies should take collaborative steps towards understanding and mitigating cascading and compounding disaster risks in

the context of digital infrastructure to ensure resilience.

- » A governmental approach based on sectoral cooperation and public private partnerships for investing in digital innovation and designing digital platforms with privacy, safety and security is needed.
- » There is a need to identify risks and vulnerabilities, which can be done through collaboration with

local governments.

- » A focused approach to minimise vulnerability of the three major pillars - power supply systems and transmission, data centres and their location, and fibre connectivity.
- » Converging resilience by combining physical and digital infrastructure is required to increase overall resilience of the systems. ●●●

SESSION 4

Urban Resilience

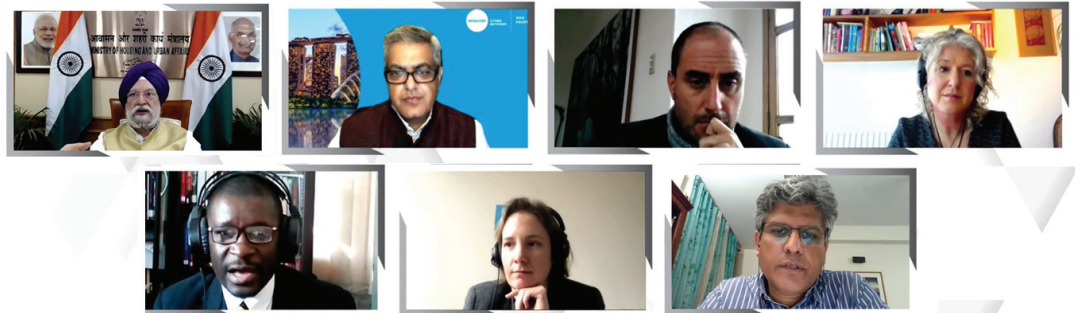
Keynote Speaker: Shri Hardeep Singh Puri, Honourable Minister of Housing and Urban Affairs, GOI

Stage Setting Presentation: Dr. Tina Comes, Scientific Director, 4TU Resilience Engineering, Associate Professor, TU Delft

Moderator: Mr. Amit Prothi, Regional Director, APAC, Resilient Cities Network

Speakers: Ms. Sacha Stolp, Director of Innovation for Future Proof Assets, City of Amsterdam; Mr. David Jácome Polit, Municipality of Quito / Resilient Cities Network; Mr. Manuel de Araujo, Mayor, Quelimane Municipality, Mozambique

Conclusion: Mr. Jagan Shah, Senior Infrastructure Adviser, Foreign, Commonwealth and Development Office, UK Government



[Top row, left to right] Hardeep Singh Puri, Amit Prothi, David Jácome Polit, Sacha Stolp

[Bottom row, left to right] Manuel de Araujo, Tina Comes, Jagan Shah

Highlights

The coming decades will witness more than two-thirds of the world's population living in cities, calling for unprecedented investment in infrastructure systems, which is however exposed to a range of hazards. The session brought out the available opportunities and reflected on critical roadblocks to improve the resilience of these systems through the lens of urbanization. It analysed how resilience can be factored into the conceptualization, planning, design, regulation, and management of infrastructure.

Key Takeaways

- » In order to understand urban resilience, capacity development through training programmes and the CDRI Masterclass is required.
- » Advocacy projects should be taken up through workshops with national government/public agencies.
- » Partners should provide technical support for risk assessment for cities.
- » A collaborative approach is required to build tools and techniques to support urban resilience. ●●●

