



# **ICDRI 2025 Programme Highlights and Session Summaries**

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“Ideas alone do not protect coastlines; they must turn into projects, budgets and blueprints.” – **Dr. P. K. Mishra**,  
**Principal Secretary to the PM of India, and Co-Chair, CDRI Governing Council**

“Every euro we invest in resilience today saves many more in repairs and lost growth tomorrow.” – **Agnès Pannier-Runacher**,  
**Honourable Minister for Ecological Transition, Biodiversity, Forestry, Maritime Affairs and Fisheries, France**

“Early warning without early finance is only half a solution; link alerts to funds that reach communities before the storm, not after.” – **Kamal Kishore**,  
**Special Representative of the United Nations Secretary-General (SRSG) for Disaster Risk Reduction, and Head of UNDRR**

“Resilience must be built proactively, not reactively; its cost has to be written into every stage of the development cycle.” – **Sanjeev Jindal**,  
**Additional Secretary (Disaster Management), Ministry of Home Affairs, India**

“Challenges are daunting but not unreachable. We (SIDS) are asking not for charity, we are asking for meaningful partnerships” – **H.E. Walton Webson**, **Permanent Representative to UN, Antigua and Barbuda**

“For building resilience we must invest in data, technology and share knowledge; we need trust, we need to work together.” – **Prof. Celeste Saulo**, **Secretary-General, WMO**



# Day 1: Coastal resilience solutions: Technical discussions



Amit Prothi  
Director General, CDRI

## Welcome Address by Director General, CDRI

### Key messages:

- **Urgency with purpose:** Amit Prothi, DG, CDRI, highlighted that climate-driven losses to roads, ports, power, and people are spiralling, yet resilient upgrades remain a fraction of total spend. Therefore, “waiting is costlier than acting,” he added.
- **SIDS-led solutions:** Rather than prescribing solutions from the top-down, CDRI will work to focus the attention of the world on SIDS and coastal regions to ensure that island governments co-author every next step in their journey to resilience.
- **Data for decisive action:** Amit Prothi highlighted the Global Infrastructure Risk Model and Resilience Index (GIRI) model and new coastal geospatial tools that will give planners “minutes that mean the difference between tragedy and survival” when early warnings arrive.
- **Finance as an enabler, not a hurdle:** Infrastructure dollars must reward risk-smart design, cut red tape, and crowd-in private capital.

“Let’s keep SIDS and coastal communities front and centre of resilient infrastructure actions. CDRI’s ambition and task is to channel global attention toward their priorities and co-design every next step with them.” – **Amit Prothi, Director General, CDRI**

# Session 1: Lived Experiences: Voices from the coast

## Speakers:

### Schmoi McLean

Programme Coordination,  
Monitoring and Evaluation  
Officer, Climate Change  
Division, Ministry of Economic  
Growth and Job Creation,  
Jamaica

### Titi Tutuvanu-Schwalger

Managing Director,  
T&D Consult



## Key insights:

- **Local capability is the first line of defence.** Schmoi McLean described how Jamaican fishing villages rebuilt hurricane-damaged jetties with local labour and materials, noting that “skills earned on one project stay on the island for the next.”
- **Regional project bundles widen the financing door.** Titi Tutuvanu-Schwalger observed that when several islands package similar upgrades together, concessional lenders and insurers can treat them as a single but lower-risk portfolio.
- **Upfront investment pays back quickly.** Both speakers pointed to projects: elevated bridges in Samoa and mangrove-backed sea walls in Jamaica, where moderate additional cost at design stage avoided much larger repair bills after the storms.
- **Data and lived metrics guide scarce funds.** Hazard maps now steer Jamaica’s coastal roads budget to the stretches most likely to fail, while community measures such as avoided displacement and women’s employment help make the investment case to finance ministries.
- **Peer exchanges accelerate replication.** The speakers welcomed formal SIDS-to-SIDS mentoring. “Samoa’s bridge crew could coach the Caribbean next,” Titi Tutuvanu-Schwalger suggested. This will ensure that proven designs and contract models travel faster across oceans.



Hon. Sakiasi Ditoka, Minister for Rural and Maritime Development and Disaster Management, Fiji



Fishbowl discussion: Resilience of critical infrastructure in coasts



Schmoi McLean addressing Lived Experiences: Voices from the Coast session

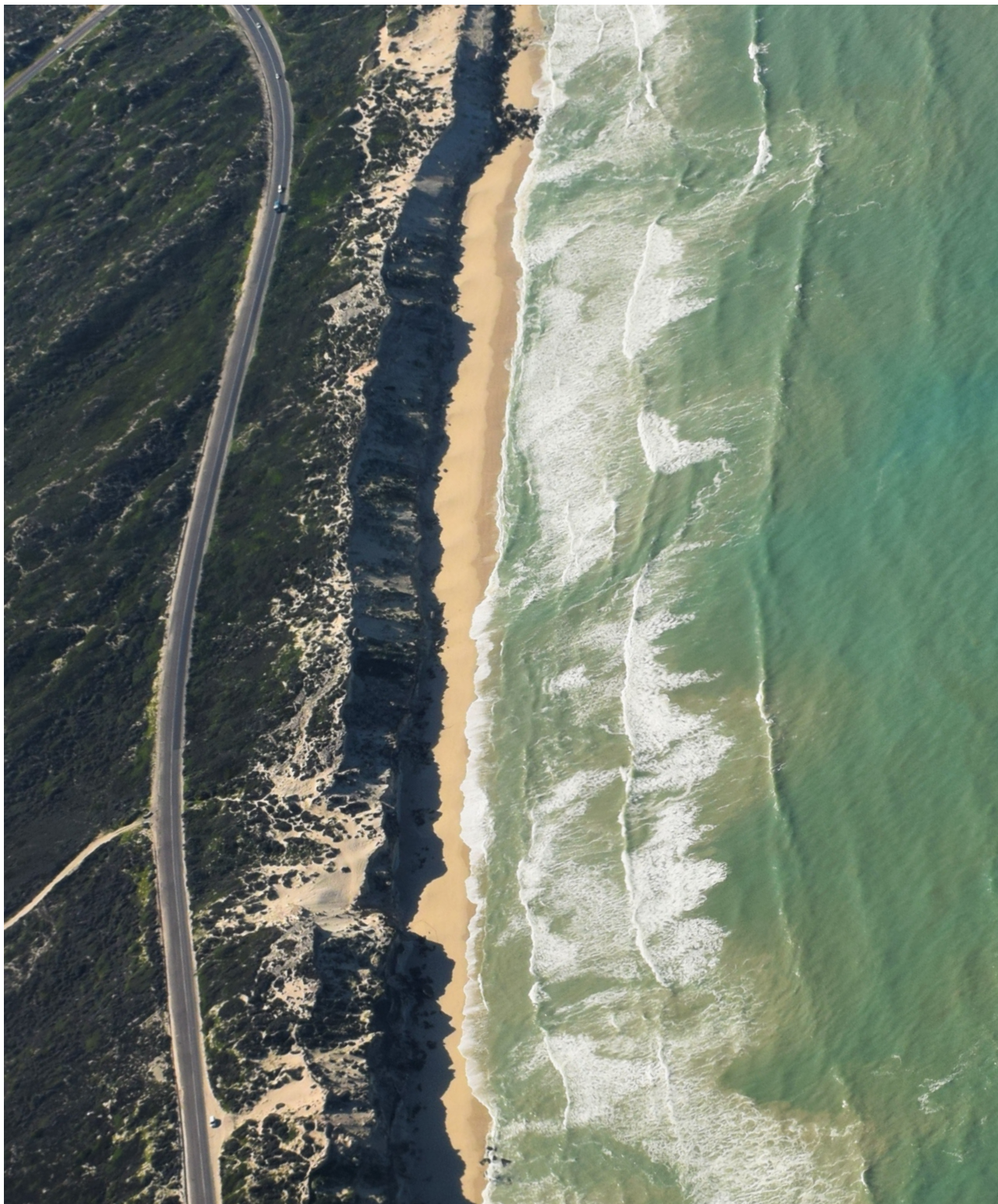
**“It [infrastructure] is not just about concrete; it is about people.” – Schmoi McLean, Jamaica**

**“Local engagement works when our own people build and maintain bridges, we strengthen skills and resilience at the same time.” – Titi Tutuvalu-Schwalger, Samoa**

Real-world experience from Jamaica and Samoa shows that climate resilience must be locally rooted and community driven. Schmoi McLean of Jamaica highlighted the growing threat to fishing villages and tourist towns from rising seas and intensifying hurricanes—costing the country an average of \$8 million annually. Yet, she emphasized that investments in locally-led solutions, like sea wall extensions and mangrove restoration, are proving far more cost-effective than repeated repairs. Infrastructure, she stressed, must put “people first, concrete second,” calling for systemic risk assessments and meaningful citizen input before plans are drawn.

Titi Tutuvalu-Schwalger shared the story of the Vaisigano Bridge, a critical link between the capital and airport in Samoa. By contracting local firms and training village labourers—including women in supervisory roles—Samoa not only reduced costs but built long-term technical capacity for future infrastructure challenges. Both speakers underscored that upfront investment in resilience pays for itself, whether through elevated bridges or nature-based coastal protection. They also stressed the power of bundling projects regionally to unlock concessional finance and insurance, and the value of using data and social impact metrics—like reduced displacement or increased women’s employment—to guide scarce resources.

Crucially, peer learning emerged as a powerful accelerant. With proven models and contract templates already working on the ground, formal SIDS-to-SIDS mentoring—such as Samoa’s bridge crews training counterparts in the Caribbean—can help scale success faster across regions. In the face of escalating climate risks, these lived experiences offer a roadmap for resilient, inclusive, and sustainable infrastructure development.



## Session 2: Securing the resilience dividend

### Speakers:

#### Savina Carluccio

Executive Director,  
ICSI (**Moderator**)

#### Harriette Stone

Senior Disaster  
Risk Management  
Consultant,  
GFDRR

#### Dr. Floris Boogaard

Senior Researcher,  
Urban Land & Water  
Management,  
Deltares

#### Andrew Maskrey

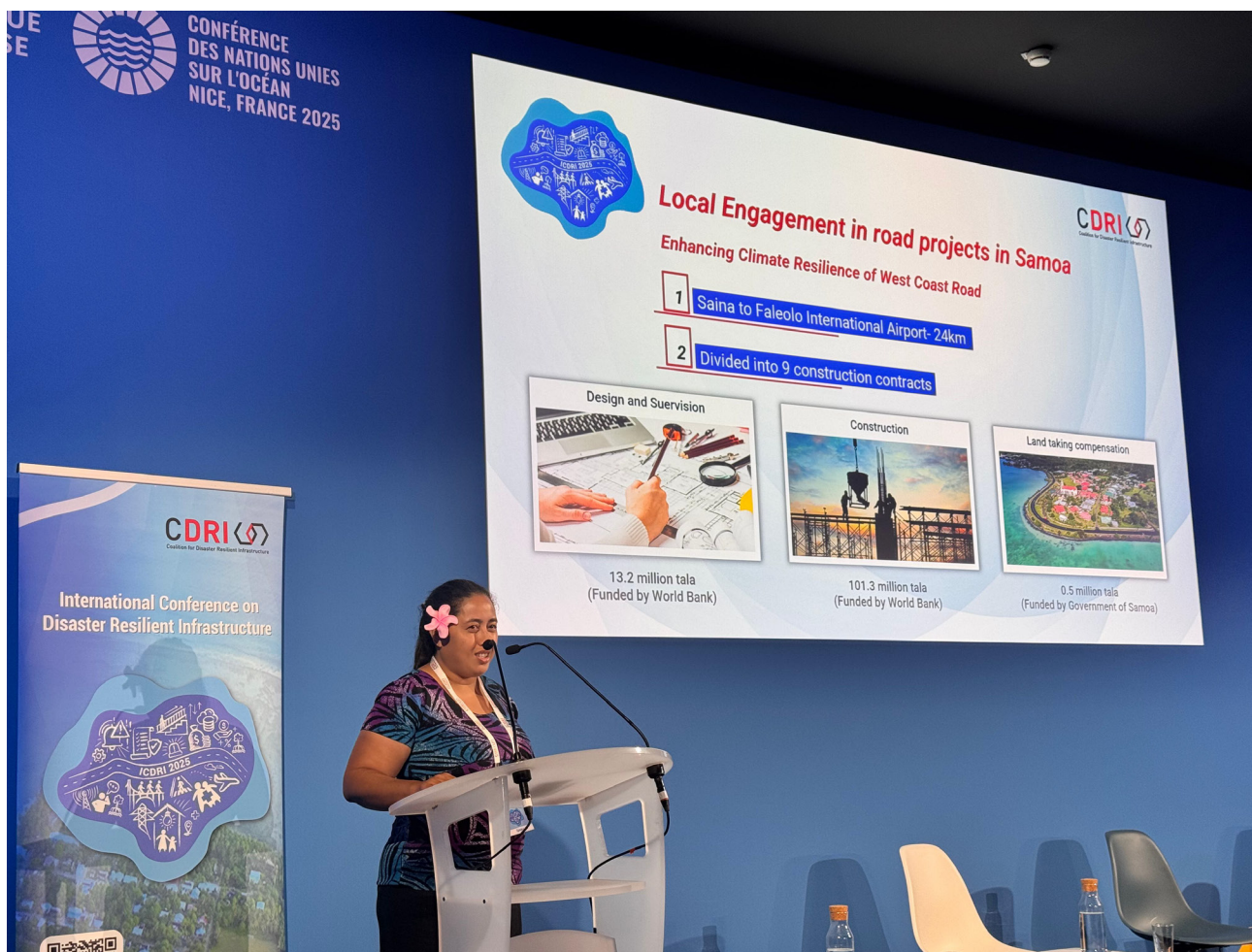
Senior Advisor,  
CDRI Report on Global  
Infrastructure Resilience



### Key insights:

- **Measure what matters.** ‘What cannot be measured cannot be managed’, a fundamental principle of risk management, was reiterated by Andrew Maskrey while calling for asset registers and probabilistic loss models to calculate liabilities and galvanize political action. Speakers stressed that without such data and models, governments are practically “blind to what they stand to lose.”
- **The full resilience dividend is broader than repairs.** Speakers emphasized that we should be able to count the whole dividend of investing in resilient infrastructure including service uptime, biodiversity and tourism gains, and other co-benefits. Counting the ‘whole dividend’ therefore turns resilience from a budget line-item into an economic growth strategy, which is especially vital for SIDS where every dollar must serve multiple goals.
- **We should put the right tree in the right place.** Dr. Boogaard cautioned against one-size-fits-all approach to NbS. Well-suited NbS often outperform grey infrastructure on overall value but NbS such as mangroves and reefs succeed only where local ecology supports them.

- **Capacity and communication gaps must be bridged.** Data and models must be converted into plain-language messages for finance ministries, while pooled regional analytics can help small islands process growing satellite and internet of things (IoT) datasets for a comprehensive understanding of risks.
- **Pick tech that pays back.** Citing examples of drone bridge inspections in Samoa and blockchain cash transfers in Vanuatu, speakers stressed that technologies should be affordable, locally serviceable, and tied to a clear decision chain.



Titi Tutuvanu-Schwalger sharing the story of the Vaisigano Bridge, Samoa

## Recommendations:

- » **Expanding the Global Infrastructure Resilience Survey (GIRS).** Adding island loss data and NbS case studies would strengthen the evidence base ahead of COP30.
- » **Co-creating a ‘Resilience Dividend Toolkit.’** Practical guidance on risk quantification, NbS appraisal, and technology selection could help smaller economies prepare investable projects. CDRI could facilitate the discussions and development of such a resilience dividend toolkit.
- » **Testing shared regional modelling hubs.** Caribbean, Pacific, and Indian Ocean islands can access analytics and training collaboratively to ensure peer exchange of knowledge and learnings.



“Technology can give us a data-rich picture of risk, but its real worth shows when we turn that data into timely decisions that keep communities connected and respond better to disasters.” – **Harriette Stone, GFDRR**

## Session 3: Access to finance in SIDS

**Opening Remarks:** : Sainivalati S. Navoti (Chief, SIDS Unit, UNDESA) opened this session with a reminder that stronger cyclones are erasing years of growth in minutes and financing must therefore shift “from reactive aid to anticipatory resilience.” He also highlighted that financial resilience including pre-arranged credit, faster concessional windows and risk-sharing insurance, is now the bedrock of sustainable development.

### Speakers:

#### Prof. Ilan Noy

Te Āwhionukurangi Chair in the Economics of Disasters and Climate Change, School of Economics and Finance, Victoria University of Wellington (Moderator)

#### Ritu Bharadwaj

Director - Climate Resilience, Finance and Loss and Damage, IIED



#### Edoardo Carlucci

Policy Advisor – Sustainable Finance, Economic, Law and Policy Programme, IISD

#### Kiran Atwal

Head of Small Island Developing States - Foreign, Commonwealth and Development Office, UK

#### Noriko Sakurai

Special Advisor, Disaster Risk Reduction Group, Global Environment Department, JICA

### Key insights:

- **Current eligibility rules miss the real vulnerabilities.** Ritu Bharadwaj and other panellists noted that income thresholds alone ignore how a single cyclone can spike debt and wipe out a year's revenue. Therefore, a vulnerability lens that weighs hazard exposure, narrow economies and fiscal buffers would better match finance to risk.
- **Bundling creates investment scale.** Kiran Atwal explained that grouping similar port-upgrade or coastal-road projects across several islands can cut transaction costs and produce tickets large enough for institutional investors and reinsurers that cannot engage with one-off deals.

- **Guarantees trim borrowing costs.** Noriko Sakurai outlined modelling that shows a pooled first-loss guarantee could knock one to two percentage points off infrastructure loan rates, especially in local currency. This could turn a borderline investable project into a bankable one.
- **Nature-based solutions and designs appeal to blended finance.** Edoardo Carlucci showed evidence that well-sited mangrove or coral reef solutions are ‘often 50% cheaper to build and deliver 30% more added value’ than hard structures, once tourism, fisheries and carbon gains are accounted for.
- **Readiness still starts at home.** The panel agreed that early dialogue with funders, clear asset registers and pre-appraised project sheets shorten the path from concept to disbursement. Domestic-currency blue- or green-bonds anchored by multilateral purchase commitments can also tap local savings pools.

### Recommendations:

- » **Jointly test a ‘SIDS accreditation passport’.** Panel agreed that two volunteer islands might try a single, streamlined approval process and report how much faster and cheaper it makes getting access to funds.
- » **Donors set up a dedicated ‘resilience window’.** A special pot of money inside an existing climate fund could be used to blend small grants with low-interest loans that turn into grants if a big storm/disaster hits an island.
- » **Prototype a cross-ocean guarantee facility.** Caribbean and Pacific islands could team up to back each other’s loans. This could help spreading the risk and lowering interest rates for everyone.

“Financial resilience is now the foundation of sustainable development; we must move from reactive aid to anticipatory investment.” – **Sainivalati S. Navoti, UNDESA**

## Session 4: Global standards, local compliance

### Speakers:

#### Agathe Nougaret

International Technical Expert – Infrastructure and Climate Change Adaptation, CDRI (Moderator)

#### Judy Zakreski

Senior Vice President, Global Operations & Solutions, International Code Council

#### Edwin Lau

Head, Blue Dot Network Secretariat

#### Dr. Kit Miyamoto

Chief Executive Officer, Miyamoto International

#### Maria Medard

Disaster Management Coordinator, CARILEC

#### Peguy Pierre

Assistant Director, Ministry of Public Works, Transport and Communication, Haiti

### Key insights:

- **Codes should match forward-looking risk.** Judy Zakreski and other panellists warned that if standards “freeze in time,” then they lock in yesterday’s hazard profiles. Treating codes as living documents, therefore, keeps design loads aligned with changing wind speeds and sea levels.
- **Affordability means life-cycle value.** Edwin Lau highlighted that Blue Dot’s whole-life audit often shows that higher upfront resilience pays for itself through lower downtime and insurance premiums. This is a useful evidence, especially when ministries remain concerned about the cost of investing in resilience.
- **Retrofitting deserves formal rules.** Kit Miyamoto argued that adding clear retrofit chapters (and contractor accreditation) in national codes and standards could build confidence among engineers, banks and homeowners. This would bring the existing stock, and not just new builds, up to safer standards.
- **Regional alignment speeds recovery.** Maria Medard explained that when Caribbean utilities share common equipment specs and mutual-aid agreements, “lights come back on faster and cheaper” after a storm.

- **Local constraints shape compliance.** Peguy Pierre outlined Haiti's approach of phased code upgrades paired with low-interest retrofit loans and on-site training, keep requirements realistic while nudging practice upward. All panellist agreed with these assertions.



Session on 'Global Standards, Local Compliance'

L to R: Agathe Nougaret, CDRI; Judy Zakreski, International Code Council; Edwin Lau, Blue Dot Network; Kit Miyamoto, Miyamoto International; Peguy Pierre, Ministry of Public Works, Transport and Communication, Haiti; Maria Medard, CARILEC

## Recommendations:

- » **Pilot climate-adjusted code modules.** Selected islands could include new hazard maps and retrofit chapters onto existing legislation, and then share results region-wide for evaluation and peer learning.
- » **Co-develop a simple life-cycle cost tool.** Planning ministries in SIDS supported by development partners could test a calculator that brings avoided damage, down-time and co-benefits into budget debates. This links back to the 'resilience dividend toolkit' discussion in the first technical panel of the day.
- » **A Caribbean standards forum for power utilities.** International development partners can help utilities to map overlapping equipment specs, agree on a priority list to harmonise and set up a shared digital inventory.
- » **Creating a fast-track contractor accreditation path.** With donor support, SIDS could have short, modular training linked to the updated codes, that could give local builders proof of competence and regulators confidence in compliance.

"Codes should be living documents; if they freeze in time, they build for yesterday's risks." – **Judy Zakreski, International Code Council**

## Session 5: Data, technology & early warning systems for coastal infrastructure resilience

Charlotte Cardona (Vice President, Communications and Institutional Relations, Intersec) showed how FR-Alert, France's new cloud platform that links all nine mobile operators, lets authorities push cell-broadcast and location-based SMS warnings in seconds, monitor delivery on a live dashboard, and overlay evacuation routes on the same screen. The system now covers mainland France and its overseas territories. Damien Serre (Founder, CEO and Design Director, The Climate Standards) presented a South Pacific case study which includes remotely piloted drones and free satellite imagery feeding into an open-source risk-mapping engine that scores every coastal road, bridge, and health post for wave, wind, and landslide exposure. Planners in Vanuatu and French Polynesia are already using the tool to prioritize retrofits and plot evacuation corridors. Together the two demos underlined the session's theme: technology that is quick to deploy, low on bandwidth, and serviceable by local teams.

The session moderator then invited a panel to pinpoint the data and technology gaps that still leave SIDS infrastructure exposed and to test three draft calls to action: a SIDS Global Data Hub 2.0, universal multi-hazard early warning coverage by 2030, and the creation of permanent data-tech cadres.



L to R: Ajay Lavakare, CDRI; Damien Serre, Climate Standards; Charlotte Cardona, Intersec; Harkunti Rahayu, Institute of Technology of Sumatera Indonesia; Srinivasa Kumar Tummala, UNESCO-IOC; Greg Scott, PVBLIC Foundation; Ofa Masiwawa, NDMO Tonga

## Speakers:

### Ajay Lavakare

Senior Advisor,  
CDRI **(Moderator)**

### Dr. Srinivasa Kumar Tummala

Head ICG/IOTWMS Secretariat,  
Tsunami Resilience Section,  
UNESCO – IOC

### Dr. Harkunti P. Rahayu

Professor, Urban and Regional  
Planning Study Program,  
Faculty of Infrastructure and  
Regional Technology, Institute  
Technology of Sumatera,  
Indonesia

### Dr. Greg Scott

Executive Director,  
SDG Alliance,  
PVBLIC Foundation

### Ofa Ema Petulisa Masiwawa

Geospatial Officer,  
National Disaster Risk  
Management Office, Tonga



## Key insights:

- **Data are still patchy, and siloed.** Panellists agreed that ocean-hazard monitoring, gender-disaggregated vulnerability data and infrastructure-loss records remain incomplete or locked behind paywalls which affects planning and investment decisions in SIDS.
- **Technology must fit the context.** As Prof. Serre noted, unarmed aerial vehicle (UAV) surveys and low-cost satellite links work in remote atolls because they can be operated and serviced locally. Complex and sophisticated platforms used elsewhere carry the risk of becoming the “white elephants” in SIDS.
- **Early warnings still miss the last mile.** Dr Tummala highlighted that fewer than 40% of SIDS have full multi-hazard EWS and many alerts still fail to reach people with disabilities or to outer-island communities.
- **Trusted hubs build confidence.** Dr Scott explained that a unified SIDS Global Data Hub would turn scattered datasets into an open, decision-ready platform for planners, insurers and investors.
- **Capacity is the long game.** Ofa Ema Petulisa Masiwawa and other panellists stressed that without a standing cadre of geospatial and information, communication and technology (ICT) specialists inside SIDS governments, even the best tools “fade when project funding ends.”

## Recommendations:

- » **Co-design the SIDS Global Data Hub 2.0.** With support from development partners, a small group of islands, a regional university, and a private body can co-design an open platform that merges hazard, asset, and loss data, creating a live 'one-stop shop' for risk analytics in SIDS.
- » **Define a 100-percent early-warning roadmap for SIDS.** International agencies, development partners, and local departments in SIDS should map sensor gaps, telecom options (cell-broadcast, radio, vibro-alert), and inclusive messaging needs. It would then enable assessment of finance gap and a clear pathway to accessing appropriate instruments to close this gap.
- » **Launch a data-tech fellowship track.** International partners, universities, and other relevant stakeholders should pair SIDS officials with residency fellowships and follow-up mentoring. This would ensure seeding of permanent cadres who can maintain systems and translate analytics into resilient projects.

"If the data stay scattered, we fly blind; but a shared hub turns numbers into decisions the moment they're needed." — **Dr. Greg Scott, SDG Data Alliance**



## Closing session: Announcement of the 2025 coastal resilience-focused Fellowship cohort

Dr. Ulises-Javier Jáuregui-Haza (Professor, Instituto Tecnológico de Santo Domingo, Dominican Republic), noted that the CDRI Fellowship Programme “gives SIDS practitioners the time, mentorship, and global networks they rarely have inside busy line ministries,” to turn promising pilots into policies and investment proposals.



# Day 2: High-level policy forum: Leadership & finance for resilient infrastructure in SIDS



## Session 1 Inaugural: Leaders' messages on 'resilience for SIDS'

Amit Prothi, DG, CDRI, cast ICDRI 2025 as “the working bridge” between the GPDRR stocktake and the Third UN Ocean Conference. He reminded delegates that the previous day had surfaced practical fixes including local capacity, data hubs, and bundled finance, and urged them to convert those potential solutions into the agreed Call to Action before leaving Nice. He outlined three priorities for the day:

- Validate SIDS priorities already logged in the draft Call to Action
- Sharpen the financing asks so they resonate in multilateral boardrooms
- Keep lived experience at the centre: “policy without practice goes nowhere”

### Heads of Government messages:

- **Prime Minister Narendra Modi** (India) emphasized that “the cost of doing nothing is rising by the day.” He outlined five priorities: (i) Global repository of resilience lessons, (ii) Resilient budgeting and access to finance for vulnerable nations, (iii) Local capacity-building through skill development and education, (iv) Considering SIDS as large ocean states; and (v) Strengthening EWS and tighter international coordination. The Prime Minister highlighted India’s progress in building disaster resilience. He then concluded that SIDS deserve special attention and tailored support.



- **President Mohamed Irfaan Ali** (Guyana) called ports, bridges, and sea walls “the arteries of our economy.” He warned that every storm-forced closure stalls trade and jobs. Access to concessional finance, he said, is now the decisive gap between ambition and delivery.



- **President David Adeang** (Nauru) urged partners to agree on a Multidimensional Vulnerability Index, so funding reflects real exposure rather than income labels. “Small islands cannot build resilience alone or in isolation,” he added, while inviting larger economies to share risk-modelling expertise and low-cost standby credit.



- **Prime Minister Gaston Browne** (Antigua & Barbuda) stressed that climate threats are “present realities, not distant risks,” making resilience a matter of survival. He pressed for predictable technology transfer and faster draw-down of pledged funds, because long approval cycles “cost lives and livelihoods.”



- **Prime Minister Alix Didier Fils-Aimé** (Haiti) framed resilience as both “a moral duty and a political imperative.” He highlighted community-driven reconstruction after recent hurricanes and asked partners to channel more technical assistance into small public works departments, where “one well-trained engineer can change an island’s future.”



## Session 2: Reimagining coastal infrastructure for SIDS

### High-level perspectives:

- **Dr. P. K. Mishra** (Principal Secretary to the Prime Minister of India) highlighted three priorities for resilient infrastructure in SIDS : (1) integrating risk data into budgets, (2) scaling proven solutions like regional risk pools and mangrove–reef buffers, and (3) supporting CDRI Secretariat in turning the draft Call to Action into actionable projects. The importance of translating analysis into quality infrastructure was emphasized.
- **Agnès Pannier-Runacher** (Minister for Ecological Transition, Biodiversity, Forestry, Maritime Affairs and Fisheries, Government of France) pledged France's continued technical support for SIDS through engineering schools, data platforms, and financing for resilient, low-carbon coastal infrastructure. She highlighted the economic benefits of resilient infrastructure, stating that every euro not spent on adaptation could lead to greater repair costs and lost growth.



Dr. P. K. Mishra,  
Principal Secretary to the Prime Minister of India



Agnès Pannier-Runacher,  
Hon. Minister for Ecological Transition,  
Biodiversity, Forestry, Maritime Affairs  
and Fisheries, France

## Speakers:

### Nisha Pillai

Journalist and  
Anchor  
(Moderator)

### Kamal Kishore

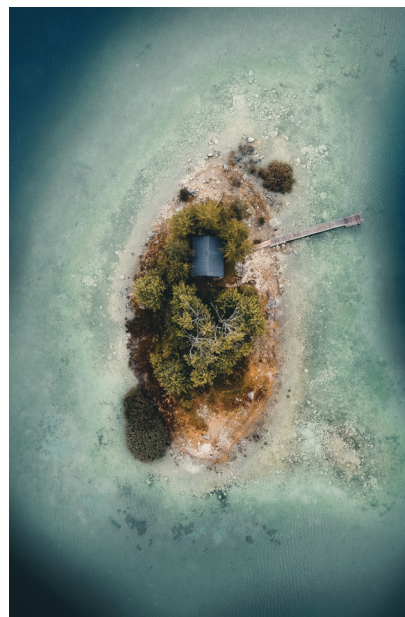
Special Representative of  
the United Nations Secretary  
General (SRSG) for  
Disaster Risk Reduction  
and Head of UNDRR

### Dr. Rachel Kyte

UK Special  
Representative  
for Climate

### Merina Jessamy

Permanent Secretary for  
Economic Development,  
Planning and Cooperatives,  
Grenada



## Key insights:

- **Make risk visible, then fund it.** Panellists agreed that when finance ministries see probabilistic loss numbers expressed in annual budget terms, they shift resources from emergency repairs to prevention. The Global Infrastructure Risk Model and Resilience Index (GIRI) was cited as a practical tool in this respect, which is now being localized for island contexts as well.
- **Resilience pays its own way.** Life-cycle analyses discussed by the panel showed that upgrading design standards, whether elevating a bridge deck or adding mangrove buffers, often recovers its extra cost within the first major storm season through lower downtime and insurance premiums.
- **Finance must fit tight fiscal space and local context.** Merina Jessamy and Dr. Rachel Kyte stressed that grant-blended loans, risk-pool payouts, and small-ticket guarantees are essential where debt ceilings are already strained. Linking such instruments to nature-based solutions can unlock additional climate and biodiversity funding streams. SRSG Kamal Kishore highlighted that some countries buy coverage that pays out only when rainfall crosses a set threshold; yet, lower rainfall can still cause heavy damage, and the community gets nothing. Parametric products must therefore be tailored to real and local impacts.

- **Warnings need to protect livelihoods, not just lives.** SRSK Kamal Kishore highlighted pilots where power grid operators and harbour masters join seasonal outlook briefings. As a result, there have been shorter electricity outages and faster port re-openings after storms, which is evidence that early warning systems must extend beyond civil-protection agencies.
- **Eligibility must mirror real vulnerability.** Consistent with Nauru's call for using a Multidimensional Vulnerability Index, speakers noted that drought-prone Cape Verde, cyclone-hit Grenada, and quake-exposed Vanuatu face different risk mixes that GDP averages alone cannot fully capture and therefore financing criteria should adjust accordingly.



L to R: Nisha Pillai; Merina Jessamy, Grenada; Rachel Kyte, UK Special Representative for Climate; Kamal Kishore, Special Representative of the UN Secretary-General for Disaster Risk Reduction and Head, UNDRR

## Recommendations:

- » **Integrate risk analytics into public-investment systems.** CDRI, SIDS finance ministries, and MDBs should pilot budget templates that embed loss-expectancy figures and resilience cost-benefit ratios in project appraisals.
- » **Co-design 'livelihood-ready' early warning upgrades.** SIDS island clusters (Caribbean, Pacific and Indian Oceans) should work with utilities, port authorities, and telecom operators to link impact-based forecasts to clear operating protocols and community outreach.
- » **Advance a SIDS-led Vulnerability Index.** SIDS governments, UN agencies, and climate funds should form a technical working group that may be hosted virtually by CDRI to refine vulnerability indicators around infrastructure and help in ongoing efforts to build consensus for a formal adoption.

"Resilience is best understood at the local level. People understand what it takes to make their community resilient, especially women. Getting the funding into their hands is important." - **Dr. Rachel Kyte, UK Special Representative for Climate**

"Resilient infrastructure is critical for SIDS. We have to ensure that we are investing well." - **Elizabeth Riley, Executive Director of the Caribbean Disaster Emergency Management Agency**



Dr. Krishna Vatsa, Member, NDMA, India and Co-chair of CDRI's Executive Committee



Prof. Celeste Saulo, Secretary General, World Meteorological Organization



Sanjeev Jindal, Additional Secretary, Ministry of Home Affairs, Government of India



## Session 3: Resilient Infrastructure: Resilient SIDS

Building on the morning's high-level messages, the panel asked how SIDS can weave resilience into every stage of the infrastructure life-cycle. Speakers showcased governance models that make hazard checks into permits and showed donor projects doubling as on-the-job training for local agencies. They stressed the value of plugging global design codes and open-data platforms into national rules.

**Special remarks:** Taking the floor first, H.E. Walton Webson (Permanent Representative to UN, Antigua and Barbuda) called resilient infrastructure “a way of life, not a one-off project.” He urged partners to view SIDS as innovators who have already pioneered tools such as regional risk pools and blue bonds. Financing must follow national strategies and real hazard exposure, because a single hurricane can undo years of progress even in a “middle-income” or a “high income” SIDS economy. To keep that money effective, every donor-funded project should leave behind open design files, trained local staff and digital datasets, so knowledge stays in the islands. He closed by stressing that data and technology are the foundation on which resilience must be built, a prompt to embed risk metrics into every future project.

### Speakers:

#### Prof. Ravi Sinha

Professor,  
Department of Civil  
Engineering, Indian  
Institute of Technology  
Bombay (Moderator)

#### Giuseppe Mancinelli

Deputy Director for Latin  
America and the Caribbean  
and Representative  
for the Multi-Country Office  
for the Caribbean, UNOPS



#### Elizabeth Riley

Executive Director of the  
Caribbean Disaster  
Emergency Management  
Agency

#### Takahiro Konami

Director,  
Ministry of Land,  
Infrastructure,  
Transport and Tourism,  
Government of Japan

#### Vice-Minister Andrea Hermenejildo

Undersecretary  
General of Risk  
Management, Ecuador

## Key messages:

- **Strong rules unlock strong projects.** Vice-Minister Andrea Hermenejildo showed how Ecuador's one-stop permit desk screens every road, bridge, or water plant for disaster risk before approval. That single step helps in trimming red tape and makes agencies clearly accountable for resilience.
- **Standards must fit the local reality.** Giuseppe Mancinelli explained that codes tailored to locally available materials, affordable nature-based designs, and realistic maintenance budgets keep projects insurable and extend their service life.
- **Regional pooling multiplies capacity.** Drawing on Hurricane Beryl, Elizabeth Riley described how Caribbean utilities with common equipment specifications and a shared spare-parts bank restored power several days faster than islands working alone.
- **Codes should breathe.** Takahiro Konami highlighted Japan's "living annexes," which update cyclone, flood, and seismic loads after each major event. A similar 'bolt-on' approach would let SIDS refine standards without rewriting entire laws.
- **Every donor build should teach something.** Panellists agreed that external projects only add lasting value when they budget for on-site shadowing, publish open digital manuals, and leave behind a trained local team ready to replicate the work.



H.E. Amb. Walton Webson, Permanent Representative to UN, Antigua & Barbuda delivers opening remarks for the session Resilient Infrastructure : Resilient SIDS



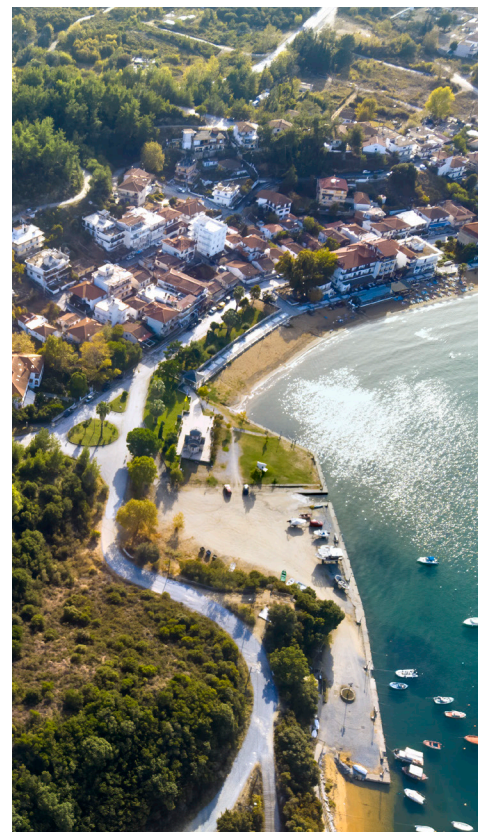
## Recommendations:

- » **Co-draft modular SIDS code chapters.** Engineering institutes from the Caribbean, Pacific and Indian Oceans could jointly craft plug-in sections like cyclone loads, mangrove set-backs, and retrofit tiers for countries to adopt and adapt.
- » **Co-create a virtual ‘pipeline help desk.’** CDRI, UNOPS, regional banks, and other partners could staff an online bureau where island agencies have access to design and finance experts during the early months when many proposals stall.
- » **Embed on-the-job learning in donor contracts.** Development partners could earmark modest funds for local shadowing, open documentation, and follow-up mentoring. This would ensure skills and data remain in country long after a donor funded project ends.

## Session 4: Data and technology for adaptive action

**Special remarks:** Opening the discussion, Hon. Sakiasi Ditoka (Minister for Rural and Maritime Development and Disaster Management, Fiji) warned that “without data we fly blind,” noting that a single cyclone can erase years of growth when planners lack up-to-date shoreline maps and asset registers. He called for an open, cloud-based ‘data home’ that islands control themselves, affordable satellite links for outer communities, and capacity programmes that leave cadres, not just hardware, in the islands. He ended by highlighting that “data sovereignty is the first step to climate sovereignty.”

**Special remarks:** Prof. Celeste Saulo (Secretary General, WMO) stressed that hazard, exposure and impact layers must sit in one open platform. This can help ministries to convert forecasts into siting rules, budgets and early action. Prof. Saulo emphasized that “for building resilience we must invest in data, technology and share knowledge; we need trust, we need to work together.”



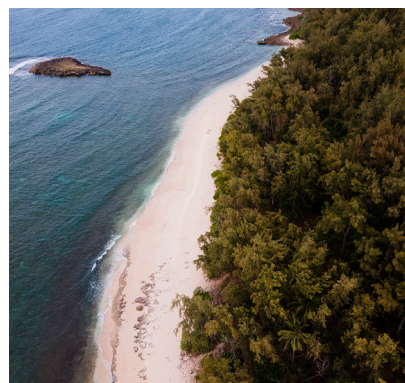
## Speakers:

### Ajay Lavakare

Senior Advisor,  
CDRI (**Moderator**)

### Dr. Max Puig

Executive Vice President,  
National Council for  
Climate Change and Clean  
Development Mechanism,  
Dominican Republic



### Sapphire Vital

Technical Lead,  
Program Development  
Unit, Caribbean  
Community Climate  
Change Centre

### Paula Gerhardt

Director, Disaster Risk  
Reduction and  
Preparedness Section,  
Department of Foreign  
Affairs and Trade, Australia

### Dr. Benjamin Koetz

Head - Long-term Action  
Section, Climate Action,  
Sustainability and Science  
Department, Directorate  
of Earth Observation  
Programmes, European  
Space Agency (ESA)



Panel for the session 'Data & Technology for Adaptive Action'

L to R: Ajay Lavakare, CDRI; Benjamin Koetz, European Space Agency; Max Puig, NCCCDM Dominican Republic; Sapphire Vital, CCCCC; Paula Gerhardt, DFAT Australia

## Key insights:

- **Open, trusted data ecosystems are essential.** WMO Secretary-General Prof. Celeste Saulo stressed that hazard, exposure and impact layers must sit in one open platform. This can help ministries to convert forecasts into siting rules, budgets, and early action.
- **Space assets now serve local action.** Dr. Benjamin Koetz showed Copernicus examples where free satellite imagery, paired with AI, mapped flood depth within 48 hours. Such granularity is achieved by small GIS teams which can feed into resilient reconstruction plans.
- **AI can cut the warning-to-response gap.** Sapphire Vital described Caribbean pilots where machine-learning models translate rainfall radar into outage forecasts for power lines and roads, guiding crew pre-positioning and reducing downtime. This offers avenues of data sharing and peer learning for SIDS across oceans.
- **Sound data underpins fair finance.** Dr. Max Puig noted that parametric insurance fails when triggers rely on sparse gauges. Investing in sensor density and asset registers therefore could lift both the speed and fairness of payouts.
- **Capacity outweighs hardware.** Paula Gerhardt warned that costly data portals become “doorstoppers” if local technicians cannot update or interpret them. She also outlined that long-term technical support, fellowships, and South-South exchanges must accompany any equipment grant.

## Recommendations:

- » **Forge a ‘SIDS Data Compact.’** Governments, donors, and science agencies should sign a common licence that makes any publicly funded dataset or tool fully open, with clear budgets for long-term hosting and updates. This also addresses the data-sharing gaps flagged by Paula Gerhardt and endorses the CDRI Call to Action regarding the SIDS Global Datahub 2.0.
- » **Launch a parametric baseline initiative.** WMO, ESA, and other regional hydro-meteorological services and insurance partners should map sensor gaps, expand coastal gauges, and build an open asset register so cyclone and tsunami triggers match real exposure.
- » **Co-create a ‘SIDS AI sandbox.’** ESA, the Caribbean Climate Centre, and island universities with support from organizations like CDRI can run an annual challenge that adapts lightweight AI models to small datasets and low-bandwidth settings. This would help in pairing local analysts with global tech mentors and echoing the panel’s emphasis on “capacity over hardware.”

"We will be able to embed satellite imagery, utilize weather data, and link it to water systems, connecting all this information to multi-hazard systems and planning, thanks to AI." - **Dr. Max Puig, Executive Vice President, National Council for Climate Change and Clean Development Mechanism, Dominican Republic**



L to R: Ede Ijjasz-Vasquez, CDRI; Emily Wilkinson, ODI Global; Ekhosuehi Iyehen, Insurance Development Forum; Gallina Vincelette, The World Bank; Govindraj Ethiraj, The Core Report on 'Investing Today for a More Resilient Tomorrow'

## Session 5: Investing today for a more resilient tomorrow

**Special remarks:** Sharing India's experience, Sanjeev Jindal (Additional Secretary Disaster Management, Ministry of Home Affairs, Government of India) argued that "resilience must be built proactively, not reactively." India's DRM Act, Multi-hazard early warning systems, and parametric crop insurance show how legal mandates, data, and risk-layered finance can move from policy to practice. He urged SIDS to also embed disaster-risk clauses in fiscal rules and to pair every capital project with a clear financing plan for maintenance and quick recovery.

### Speakers:

#### Dr. Emily Wilkinson

Principal Research Fellow and Director, Resilient and Sustainable Islands Initiative, ODI Global **(Moderator)**

#### Dr. Ede Ijjasz-Vasquez

Lead Coordinating Author, Second Global Infrastructure Resilience Report, CDRI



#### Govindraj Ethiraj

Founder and Editor, The Core Report

#### Gallina Vincelette

Vice President - Operations Policy and Country Services, The World Bank

#### Ekhosuehi Iyahen

Secretary General, Insurance Development Forum

### Key insights:

- **Data-driven risk modelling unlocks capital.** Dr. Ede Ijjasz-Vasquez showcased GIRI and relevant data for SIDS. The panel noted that investors gain confidence when probabilistic loss data are linked to service-disruption costs, not just physical damage.
- **Insurance can catalyse wider reform.** Ekhosuehi Iyahen explained that fast parametric payouts make the case for higher design standards. She argued that when risk is measurable and priced, it becomes investable.

- **Multilateral tools are evolving.** Gallina Vincelette outlined the World Bank's SIDS Crisis Toolkit that includes cat bonds, rapid-response drawdowns, and debt-pause clauses. She highlighted MDB efforts by showing how blended packages can match different hazard profiles and debt constraints especially in SIDS.
- **Private finance needs clarity and data.** Journalist Govindraj Ethiraj observed that banks hesitate when climate risk metrics are unclear. A public global data hub and simple AI tools can lower due diligence costs and bring in new investors.
- **Capacity inside finance ministries is the hinge.** Panellists agreed that small, multidisciplinary 'resilience units' can keep project pipelines moving, coordinate donors, and ensure that resilience clauses survive political cycles.

### Future directions outlined:

- **Fast-track a 'SIDS accreditation passport'.** Echoing the Call to Action, climate funds and MDBs could test a single, harmonized due-diligence process with two pilot islands, cutting approval times and transaction costs.
- **Tie concessional terms to resilience compliance.** Lenders and insurers could offer premium discounts, interest rate reductions, or tax breaks for projects that meet certified resilient design and maintenance standards.
- **Stand up country investment platforms.** Governments, donors, and the private sector could pool data, expertise, and finance in one 'shopfront' per island. This would help in turning scattered grants and loans into blended packages ready for market uptake.
- **Embed resilience units in ministries of finance.** A shared programme of secondments and long-term advisers could give small treasuries the engineering, legal, and risk-finance skills needed to sustain pipelines and negotiations.

"If a project is insurable, it is often also investable." – Ekhosuehi Iyahan, Insurance Development Forum

## Session 6: Resilient Infrastructure: Resilient Africa

Dr. Krishna Vatsa (Member, National Disaster Management Authority, India and Co-Chair, CDRI Executive Committee) announced CDRI's Resilient Africa Programme, a multi-year technical assistance effort aimed at embedding resilience across transport, power, telecom, and relevant social infrastructure on the continent.

Journalist and emcee Nisha Pillai steered a fireside conversation with Anne Grillo (Director of Globalization, Ministry of Foreign Affairs and Europe, France and Co-Chair, CDRI Governing Council) and H.E. Moses Vilakati (Commissioner - Agriculture, Rural Development, Blue Economy, and Sustainable Environment (ARBE), African Union Commission) to explore why the programme matters and how it can scale.



H.E. Moses Vilakati, Commissioner, African Union Commission in conversation with Anne Grillo, Director of Globalization, Ministry of Foreign Affairs and Europe, Government of France and co-chair CDRI Governing Council

- **Anchor skills in regional centres of excellence.** There could be three training hubs: one each in West, East, and Southern Africa, which should offer short courses, project shadowing, and alumni networks for engineers, risk-finance officers, and ICT specialists.
- **Institutionalize an AU-led partnership forum.** To keep momentum, the programme could establish an annual forum under African Union auspices. Governments, private investors, and civil-society groups can collectively review progress, highlight bottlenecks, and refresh priorities on such a forum.



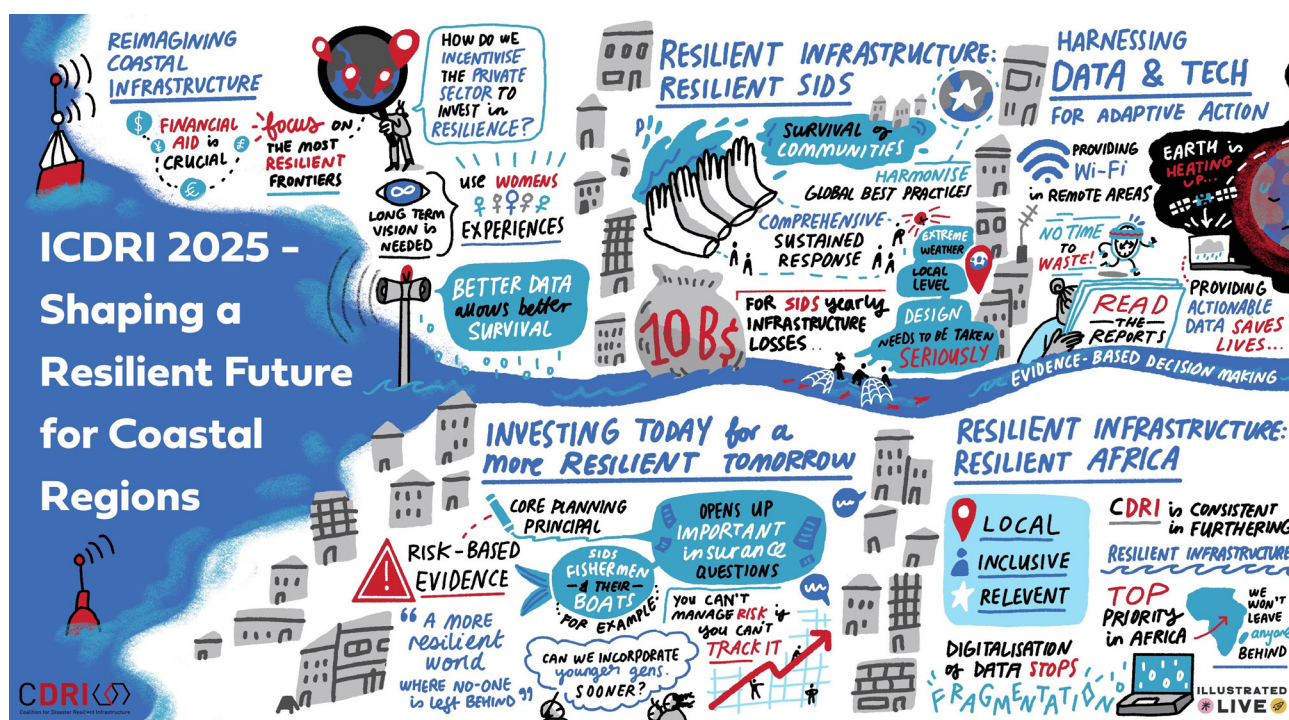
“Resilience must be local, inclusive, and relevant; generic toolkits don’t work.” – **Dr. Krishna Vatsa, CDRI Executive Committee**

“Disasters are here; Africa’s priority is sustainable, resilient infrastructure that closes our development gap.” – **H.E. Moses Vilakati, African Union Commission**

# Closing and Way Forward

Dr. P. K. Mishra closed the conference by celebrating the “double identity” of islands and coastal states: exposed frontline communities yet fertile testbeds for innovation. He added that over the two days, delegates heard how Jamaican mangrove sea walls, Pacific parametric insurance, and Caribbean open-data portals are already reducing losses and speeding recovery, and how CDRI’s new ‘Resilient Africa Programme’ will export that spirit of locally-led problem-solving across an entire continent. On finance, he welcomed debate on catastrophe bonds, debt-pause clauses, and performance-based guarantees. He stressed on a single insight: risk that is measured and shared can be insured, invested in, and, ultimately, reduced. That idea underpins the draft Call to Action on Resilient Infrastructure in SIDS as well, which links open data standards to streamlined accreditation and funding pathways.

Dr. Mishra highlighted that building resilience must thread through every initiative of the coalition partners. South-South exchanges, technical fellowships, and regional centres of excellence will therefore stay at the core of CDRI investments to ensure that an innovation piloted in one island also benefits many others.





L to R: Anne Grillo, Director of Globalization, Ministry of Foreign Affairs and Europe, Government of France; P.K. Mishra, Principal Secretary to the PM of India; Amit Prothi, Director General, CDRI



ICDRI 2025, Nice, France



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