



“Why Disaster Risk Insurance Matters”

National Disaster Management Authority (NDMA) &
Department of Financial Services (DoFS)

20th September 2024, Gulmohar Hall, India Habitat Center



**Chief Guest: Dr. P.K. Mishra, Principal Secretary to
Hon'ble PM**

Dr. P.K. Mishra is currently the Principal Secretary to the Prime Minister of India and has had an illustrious career in public service. He is a seasoned civil servant with extensive experience in disaster management, agriculture, and policy formulation. Dr. Mishra holds a PhD in Economics and has served in key roles, including as Secretary in the Ministry of Agriculture and Cooperation, where he was instrumental in shaping India's disaster management framework. He has also worked with international organizations like the United Nations and the World Bank. Known for his expertise in governance and administration, Dr. Mishra has been a driving force in implementing reforms in various sectors and is widely respected for his leadership and strategic insights in disaster risk management and public policy.



Special Guest: Shri M. Nagaraju, Secretary, DoFS

Mr. Nagaraju, IAS, a 1993 batch officer, is currently Secretary, Department of Financial Services, Ministry of Finance. He holds a post-graduate degree from the University of Hyderabad and has had a distinguished career in various state, national, and international roles. As Additional Secretary in the Ministry of Coal, he played a pivotal role in opening the coal sector for private commercial mining, auctioning over 115 mines. His leadership contributed to India's one-billion-ton coal production milestone. In Tripura, he was recognized for achievements in governance, healthcare, and ease of doing business. He also served in the Ministry of Finance and as an Advisor at the World Bank from 2008 to 2012.



Special Guest: Shri Vishvajit Sahay, AS&FA, MoES

Mr. Vishvajit Sahay belongs to the 1990 batch of the Indian Defence Accounts Service. An alumnus of St. Stephen's College Delhi, he has diverse experience of working in the Government of India, having earlier served as Joint Secretary in the Department of Heavy Industry and Director in the Ministry of Information & Broadcasting. He has held additional charge of the posts of Chairman & Managing Director, Heavy Engineering Corporation Ranchi, a Schedule 'A' CPSE, CEO & Project Director of National Automotive Testing Research & Development Infrastructure Project (NATRIP) and Director in the Directorate of Film Festivals, Delhi. Within the Defence Accounts Department, he has experience of working in the Acquisition Wing of the Ministry of Defence as Finance Manager (Land Systems), a cadre post in the MoD. He has also worked in several field and Headquarters Organizations of the Defence Accounts Department with experience of closely working with the MOD, Army and Ordnance Factories.

At present, Shri Sahay is working as Additional Secretary & Financial Adviser for the Department of Science & Technology, with the charge of the Department of Biotechnology and the Ministry of Earth Sciences.

PANEL DISCUSSION 1: EARTHQUAKE RISK REDUCTION



Chair: Dr. Krishna S. Vatsa, Member, NDMA

Krishna S. Vatsa has over 25 years of experience in disaster risk reduction and recovery. Before his current role as Member of the National Disaster Management Authority (NDMA), he served as Policy Advisor for Disaster Recovery at UNDP, working in New York and Nairobi. He also held roles as the Regional Disaster Reduction Advisor for South and South-West Asia and as Early Recovery Coordinator in the Philippines. A career civil servant, Shri. Vatsa led Maharashtra's Earthquake Rehabilitation Programme and served as Secretary for Relief, Rehabilitation, and Rural Development. He holds a Doctor of Science in Disaster Risk Management from George Washington University and has published extensively on the subject.



Co- Chair: Shri Safi Ahsan Rizvi, Advisor, NDMA

Safi Ahsan Rizvi is an accomplished professional with significant experience in disaster management and related fields. He has worked on various key initiatives aimed at enhancing disaster preparedness and risk reduction. With a strong background in governance and public policy, Shri Rizvi has played a pivotal role in implementing strategies and policies that focus on mitigating the impacts of natural disasters and improving response mechanisms. His contributions have been recognized in both national and international platforms, making him a respected figure in the field of disaster risk management.

Discussants:



Dr. Satoru Nishikawa, Senior Advisor, JICA, Japan

Prof. Satoru Nishikawa has had an illustrious career spanning government service, academia, and international organizations. Joining the Japanese Government in 1982, he held prominent roles, including Senior Disaster Relief Coordination Officer at the UN and Executive Director of the Asian Disaster Reduction Center. He played key roles in disaster response and planning, such as coordinating Japan's technical assistance after the 2004 Indian Ocean Tsunami and overseeing recovery planning after the 2011 Great East Japan Earthquake.

He contributed to global disaster management policies, hosting the 2005 UN World Conference on Disaster Reduction where the Hyogo Framework for Action was adopted. His academic tenure includes work on disaster risk reduction, business continuity planning, and international cooperation. Currently, Prof. Nishikawa serves as Senior Advisor for Disaster Reduction Strategy at JICA and a Specially Appointed Professor at Tohoku University. He is also actively involved with various disaster-related organizations and holds a Ph.D. in risk analysis.



Mr. Ting-Yu HSU, Professor, National Taiwan University

Dr. Hsu is currently active at the research on structural health monitoring, seismic isolation, and earthquake early warning. He was a research fellow at National Center for Research on Earthquake Engineering in Taiwan, and he became a professor in Taiwan Tech since August 2016. His research focused on developing damage detection algorithms for damage localization and quantification of infrastructure structures. The algorithms have been applied successfully to buildings, bridges, dams, and wind turbines, power transit towers, including considering varying environmental and operational conditions. Fast post-event evaluation of structural safety can be performed using the systems embedded with the developed algorithms to help recovery of normal operational of the structures, hence increase resilience and reduce loss of infrastructures due to natural disasters. On the other hand, Dr. Hsu has also developed on-site earthquake early warning algorithms using artificial intelligence techniques and signal processing techniques. The algorithm has been implemented successfully to elementary schools, high-tech factories and high-speed railways in Taiwan. Early warnings before destructive seismic waves can help shut down of high-speed railways, enable safe-parking of facilities in high-tech factories, and reduce risk to human life and valuable assets. This technology can also be integrated with semi-active control isolation systems.



Prof. CVR Murty, IIT Madras

Professor C.V.R. Murty is a renowned expert in structural earthquake engineering and currently serves as the Chair Professor in the Department of Civil Engineering at the Indian Institute of Technology (IIT) Madras. With research interests in the nonlinear behavior of reinforced concrete and steel structures and earthquake-resistant design, he has significantly advanced the field through academic contributions and practical applications.

Prof. Murty has conducted post-earthquake surveys, contributed to the revision of Indian seismic codes, and led numerous continuing education programs on seismic design. He is a member of the Advisory Committee of the National Disaster Management Authority (NDMA), Government of India, and the Chairman of the Earthquake Engineering Committee of the Bureau of Indian Standards (BIS).

An alumnus of IIT Madras (B.Tech. and M.Tech.) and the California Institute of Technology (Ph.D.), Prof. Murty has authored six books on earthquake-resistant design and construction. Previously, he served as the Director of the Department of Civil Engineering at IIT Jodhpur, further cementing his legacy as a leader in structural engineering and disaster mitigation.



Prof. Ravi Sinha, IIT Bombay

Ravi Sinha is Professor and former Dean of Alumni & Corporate Relations at IIT Bombay. His research activities are mainly in earthquake engineering, structural engineering and disaster risk management. Prof. Sinha is closely associated with policy-making related to disaster risk management in India. Prof. Sinha has chaired/served in several government panels. Prof. Sinha is

also a member of Maharashtra State Disaster Management Authority. He is the Co-Chairman of National Panel of Experts of Ministry of Road Transport and Highways, Government of India.

Prof. Ravi Sinha is a member of Executive Committee of Bureau of Indian Standards. He is also a member of its committees responsible for development of national standards related to earthquake safety. Prof. Sinha also has extensive experience on urban disaster risk management, and is a co-author of the World Bank's Primer on Climate Resilient Cities.



Prof. Yogendra Singh, IIT Roorkee

Dr. Yogendra Singh is a Professor in the Department of Earthquake Engineering at IIT Roorkee, specializing in structural dynamics and earthquake engineering. His research focuses on seismic design, structural analysis, and the behavior of buildings and bridges under dynamic loads. Dr. Singh has supervised numerous students at the postgraduate and doctoral levels. He has contributed significantly to the development of earthquake-resistant design practices and holds leadership roles in various academic and research forums in India. He has also authored several research papers on earthquake engineering.

TECHNICAL SESSION 1: EARTHQUAKE RISK ASSESSMENT AND SEISMIC MICROZONATION



Chair: Lt. General Syed Ata Hasnain, Member, NDMA

General Hasnain has had an illustrious 40-year career, serving in some of the most turbulent environments, including Sri Lanka, Siachen Glacier, the North East, and Jammu & Kashmir (J&K), where he completed seven tours. A decorated officer, he commanded the Indian Army's Srinagar-based 15 Corps and is a leading analyst on J&K, Pakistan, the Middle East, and transnational extremist violence. A regular columnist and speaker, he has contributed to major Indian newspapers and spoken at prestigious institutions worldwide. With a strong academic background, he is a Distinguished Fellow at multiple think tanks and serves on key governing

councils, including the Indian Council of World Affairs. In 2018, he was appointed Chancellor of the Central University of Kashmir by the President of India.



Co-Chair: Shri Sanjeev Jindal, Additional Secretary, MHA

Shri Sanjeev Kumar Jindal, a distinguished civil servant from the 1989 batch of the Central Secretariat Service (CSS), currently serves as Additional Secretary in the Ministry of Home Affairs. His expertise spans governance, security, and public administration, making him a respected figure in the administrative landscape.

Presenters:



Prof. Pradeep Ramancharla, Director, CBRI

Professor Pradeep Ramancharla is a leading expert in earthquake safety assessment and retrofitting of buildings, known for advancing the Applied Element Method (AEM) to enhance structural analysis efficiency. At IIT Hyderabad, he initiated the M.Tech. and Ph.D. programs in Structural Engineering and founded the Earthquake Engineering Research Centre, addressing India-specific seismic challenges.

With over 120 publications and the training of more than 1,000 students, he has contributed significantly to building a critical mass of earthquake engineers in India. His work includes assessing approximately 50,000 buildings across 60 cities and developing methodologies for housing typology and disaster risk indexing adopted by NDMA. As a member of BIS committees and Chair of the Code for Post-Earthquake Damage Assessment, he has influenced national

earthquake standards and policies. Additionally, his leadership roles, including Registrar at IIIT Hyderabad, reflect his dedication to advancing earthquake resilience and education.



Mr. Ryoji TAKAHASHI, Senior Project Manager, Oriental

Mr. Ryoji Takahashi is a highly experienced professional in architecture, civil engineering, and urban planning, with over two decades of expertise in disaster management. He began his career at Pacific Consultants International (PCI) in 1997, gaining hands-on experience in construction management and bridge design during an on-the-job training in Bangkok, Thailand.

In 1998, Mr. Takahashi transitioned to urban and disaster management planning, contributing to major international projects such as seismic microzoning and disaster mitigation in Iran, Turkey, and the Philippines. In 2005, he joined Pacific Consultants Co., Ltd. (PCKK) in Japan to deepen his expertise in hazard mapping and disaster management systems. He returned to PCI in 2007 and later joined Oriental Consultants Co. Ltd. in 2008, which became Oriental Consultants Global in 2014.

From 2018 to 2021, Mr. Takahashi served as a Senior Disaster Risk Management Specialist at the World Bank in Washington, D.C. Currently, he continues to lead international disaster management projects as a Team Leader at Oriental Consultants Global. His expertise spans engineering, project management, socio-economic analysis, procurement, financial planning, and stakeholder collaboration, establishing him as a global leader in disaster risk management.

Dr. Sumer Chopra, DG, ISR

Dr. Sumer Chopra serves as the Director General of the Institute of Seismological Research (ISR), Gandhinagar. A distinguished expert in seismology and earth sciences, Dr. Chopra has made significant contributions to seismic hazard assessment, earthquake monitoring, and research in geophysics. With extensive experience in leading scientific projects and fostering innovation, he has played a pivotal role in advancing ISR's mission to enhance understanding of seismic phenomena and mitigate earthquake risks. Renowned for his scholarly publications and collaborative initiatives, Dr. Chopra continues to be a driving force in the field of seismology, both nationally and internationally.



Mr. Avisek Mukherjee, AON

Avisek Mukherjee is an accomplished Earthquake Catastrophe Model Developer at Impact Forecasting, specializing in seismic hazard and risk assessment, as well as secondary perils modeling for liquefaction and landslides. He oversees earthquake model development for the APAC region. With prior experience as a Catastrophe Model Analyst at Verisk, Avisek has been contributing to Impact Forecasting since April 2020. He holds a postgraduate degree in Earthquake Engineering from IIT Roorkee and a bachelor's degree in Civil Engineering from West Bengal University of Technology, Kolkata.

Discussant:



Prof. Rupen Goswami, IIT Madras

Professor Rupen Goswami is a faculty member in the Department of Civil Engineering at the Indian Institute of Technology Madras (IIT Madras). His expertise lies in the fields of earthquake-resistant design, nonlinear behavior of structures, and seismic design codes. His research focuses on improving the seismic resilience of buildings and bridges through advanced structural analysis and design techniques. Prof. Goswami is also actively involved in outreach and continuing education, having organized courses on topics such as earthquake behavior of buildings and the design of steel structures using modern codes. His work contributes to bridging the gap between academic research and practical engineering solutions in structural safety under seismic conditions.

**TECHNICAL SESSION 2: EARTHQUAKE MONITORING
AND EARLY WARNING SYSTEMS**



Chair: Dr. OP Mishra, Director, NCS

Dr. O.P. Mishra is a distinguished seismologist and disaster risk management expert with over 30 years of experience in earth sciences. He holds advanced qualifications, including an M.Sc. Tech in Applied Geophysics from IIT(ISM) Dhanbad, a Ph.D. and D.Sc. from Ehime University, Japan, and a postgraduate diploma in Finance Management.

Dr. Mishra has worked with leading organizations, such as the Geological Survey of India, SAARC Disaster Management Centre, and UN agencies like UNDP, UNESCAP, and UNISDR, spearheading disaster risk resilience projects across South Asia. His international contributions include roles as a visiting professor in Japan and representing SAARC at global platforms.

A prolific academic, Dr. Mishra has supervised over 40 researchers, guided 10 Ph.D. scholars, and authored 150+ publications, including books and reports on geophysics, seismology, and disaster management. His work has earned him numerous accolades, such as the National Mineral Award (2008) and the Anni Talwani Gold Medal (2015). Dr. Mishra remains a thought leader in advancing disaster risk reduction and interdisciplinary earth sciences globally.



Co-Chair: Dr J.R. Kayal, Former DDG, GSI

Dr. J.R. Kayal is a distinguished geophysicist and former Deputy Director General of the Geological Survey of India (GSI). With a career spanning over several decades, he has made significant contributions to the field of seismology, particularly in microearthquake seismology and seismotectonics. He completed his MSc in Applied Geophysics from the Indian School of Mines (ISM), Dhanbad, and went on to pursue a PhD in Seismology at Victoria University of Wellington, New Zealand. Throughout his career, Dr. Kayal led major investigations into earthquake sources in the Indian region, including the study of seismic activities along the Himalayan arc and the Indo-Burma-Andaman-Sumatra regions.

Following his tenure at GSI, Dr. Kayal became an Emeritus Scientist with CSIR and served as an Adjunct or Visiting Professor at various institutes. He has authored over 100 research papers, and his work has been recognized internationally, including his role in advancing seismic hazard analysis. He is also a prominent speaker and has presented his work at numerous national and international conferences. Dr. Kayal has been involved in several collaborative research efforts,

working with organizations such as UNESCO and has contributed significantly to global discussions on seismic risks and disaster mitigation.

Presenters:



Dr. Satoru Nishikawa, Senior Advisor, JICA, Japan

Prof. Satoru Nishikawa has had an illustrious career spanning government service, academia, and international organizations. Joining the Japanese Government in 1982, he held prominent roles, including Senior Disaster Relief Coordination Officer at the UN and Executive Director of the Asian Disaster Reduction Center. He played key roles in disaster response and planning, such as coordinating Japan's technical assistance after the 2004 Indian Ocean Tsunami and overseeing recovery planning after the 2011 Great East Japan Earthquake.

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Prof. ML Sharma, IIT Roorkee

Professor Mukat Lal Sharma is a distinguished faculty member at the Department of Earthquake Engineering, IIT Roorkee. With a Ph.D. from IIT Roorkee, his expertise spans engineering seismology, seismotectonics, seismic hazard analysis, and strong ground motion prediction. Over his extensive academic career, he has published widely, including journal articles, book chapters, and conference papers, and has contributed to seismic microzonation and advanced seismic array systems. Prof. Sharma has been instrumental in seismic risk assessments and has collaborated on national and international seismic research projects



Dr. Arturo Iglesias Mendoza, Senior Researcher, UNAM-Mexico

Dr. Arturo Iglesias Mendoza is a Senior Researcher at the Department of Seismology, Institute of Geophysics, National Autonomous University of Mexico (UNAM). He holds a Ph.D. and a Master's degree in Seismology from UNAM and a Bachelor's degree in Geophysical Engineering

from the same institution. His research focuses on earthquake source mechanics, seismic wave propagation, and earthquake early warning systems.

Dr. Iglesias has contributed significantly to seismic hazard analysis and the development of strategies to improve the seismic alert system in Mexico City. He is also the head of the Satellite Geodesy Laboratory (LaGeos) at UNAM, where he leads innovative projects, including studies on crustal structure tomography and earthquake magnitude determination for seismic threats in Mexico

TECHNICAL SESSION 3: CHALLENGES IN IMPLEMENTING BUILDING CODES / BYE LAWS



Chair: Shri Rajendra Ratnoo, ED, NIDM

Shri Rajendra Ratnoo, an IAS officer of the 2001 Tamil Nadu cadre, currently serves as Executive Director of the National Institute of Disaster Management (NIDM) under the Ministry of Home Affairs, Government of India. He has extensive experience in disaster management, having handled Tsunami rehabilitation, floods, and health emergencies, among others. Previously, he served as Joint Secretary at DPIIT, overseeing international coordination, industrial development, and project monitoring. Shri Ratnoo holds multiple academic distinctions, including a gold medal from JNU, and has been awarded prestigious honors such as the Prime Minister's National Award and the Chief Minister's Award.



Co-Chair: Shri Dwaipayan Bhadra, Director & Head, BIS

Shri Dwaipayan Bhadra is Scientist -E & Head of the Civil Engineering Department (CED) of Bureau of Indian Standards overseeing the work of formulation of all the Civil Engineering Standards in BIS. He is a Civil Engineer and has more than 28 years of experience in the field of Civil Engineering. He started his career in Construction Industry and has worked for 8 years in the Private Sector. He joined Bureau of Indian Standards (BIS) in 2004 and has worked in all the major activities namely Standard Formulation, Conformity Assessment, Laboratory Services and Training Activity.

Presenters:



Dr. Satoru Nishikawa, JICA, Japan

Prof. Satoru Nishikawa has had an illustrious career spanning government service, academia, and international organizations. Joining the Japanese Government in 1982, he held prominent roles, including Senior Disaster Relief Coordination Officer at the UN and Executive Director of the Asian Disaster Reduction Center. He played key roles in disaster response and planning, such as coordinating Japan's technical assistance after the 2004 Indian Ocean Tsunami and overseeing recovery planning after the 2011 Great East Japan Earthquake.

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Dr. P. Kamatchi, Scientist, SERC



Prof. Yogendra Singh, IIT Roorkee

Dr. Yogendra Singh is a Professor in the Department of Earthquake Engineering at IIT Roorkee, specializing in structural dynamics and earthquake engineering. His research focuses on seismic design, structural analysis, and the behavior of buildings and bridges under dynamic loads. Dr. Singh has supervised numerous students at the postgraduate and doctoral levels. He has contributed significantly to the development of earthquake-resistant design practices and holds

leadership roles in various academic and research forums in India. He has also authored several research papers on earthquake engineering

Discussants:

**Shri Jitendra Yadav, Additional Comm., Municipal Corpn., Delhi
Ministry of Housing and Urban Affairs**

TECHNICAL SESSION 4: SEISMIC RETROFITTING, RECOVERY AND RECONSTRUCTION



Chair: Shri Rajendra Singh, Member and HoD, NDMA

Shri Rajendra Singh, a former Director General of the Indian Coast Guard (Feb 2016 - Jun 2019), brought remarkable leadership and strategic direction during his 39-year career. He commanded all classes of Indian Coast Guard ships and played a pivotal role in combating piracy, drug trafficking, and maritime security. His tenure saw the largest drug seizure in Indian maritime history, the rescue of lives at sea, and enhanced international cooperation. As Chairman of key maritime safety and security boards, he oversaw vital search and rescue operations and oil spill responses. His contributions to disaster management, especially during cyclones and floods, are widely recognized. Shri Rajendra Singh was awarded the Tatrakshak Medal and President's Tatrakshak Medal for his outstanding service.



Co-Chair: Prof. CVR Murty, IIT Madras

Professor C.V.R. Murty is a renowned expert in structural earthquake engineering and currently serves as the Chair Professor in the Department of Civil Engineering at the Indian Institute of Technology (IIT) Madras. With research interests in the nonlinear behavior of reinforced concrete and steel structures and earthquake-resistant design, he has significantly advanced the field through academic contributions and practical applications.

Prof. Murty has conducted post-earthquake surveys, contributed to the revision of Indian seismic codes, and led numerous continuing education programs on seismic design. He is a member of the Advisory Committee of the National Disaster Management Authority (NDMA), Government of India, and the Chairman of the Earthquake Engineering Committee of the Bureau of Indian Standards (BIS).

An alumnus of IIT Madras (B.Tech. and M.Tech.) and the California Institute of Technology (Ph.D.), Prof. Murty has authored six books on earthquake-resistant design and construction. Previously, he served as the Director of the Department of Civil Engineering at IIT Jodhpur, further cementing his legacy as a leader in structural engineering and disaster mitigation.

Presenters:



Shri Ramraj, Senior Director Program, CDRI

Shri Ramraj has over two decades of experience with the United Nations, intergovernmental and international organizations in several countries across Asia, Africa, and the Pacific in areas of disaster risk reduction, multi-hazard early warning, climate risk management, and recovery and reconstruction. His expertise lies in programme management, project formulation, policy, and strategic framework development and technical advisory support on policy/ programme formulation.

Prior to joining CDRI, Ramraj was Chief, Special Programs Management at Regional Integrated Multi-hazard Early Warning System for Africa and Asia. He also worked as Disaster Risk Management Advisor with UNDP in Nepal and Sri Lanka, where he led its flagship programme on Disaster Risk Management encompassing areas of policy, legal and institutional development, disaster preparedness and response, integrated climate risk management, early warning and seismic resilience.

Shri Ramraj holds a Bachelor's degree in Architecture from JNTU, Hyderabad, and a Master's Degree in Planning from SPA Delhi.



Prof. Santiago Pujol, Professor, University of Canterbury, New Zealand

Santiago Pujol is Professor of Civil Engineering at the University of Canterbury. Prior to moving to New Zealand, he was Professor of Civil Engineering at the Lyles School of Civil Engineering, Purdue University. His experience includes: earthquake engineering, evaluation and strengthening of existing structures, response of reinforced concrete to impulsive loads and earthquake demands, instrumentation and testing of structures, and failure investigations. He is a Fellow of the American Concrete Institute (ACI), and member of ACI committees 445 (Torsion and Shear), 314 (Simplified Design), 133 (Disaster Reconnaissance), and 318R (High-Strength Reinforcement). He is also member of the Earthquake Engineering Research Institute (EERI), associate editor of Earthquake Spectra, and founder of datacenterhub.org (a site funded by the U.S. National Science Foundation and dedicated to the systematic collection of research data). He received the Chester Paul Siess Award for Excellence in Structural Research from ACI, the Educational Award from Architectural Institute of Japan, and the Walter L. Huber Civil Engineering Research Prize from ASCE.



Shri Vivek Rawal, Director, People in Center Consulting

Vivek Rawal trained as an architect from School of Planning and Architecture, New Delhi, is currently based out of Ahmedabad, Gujarat, India. Working as Director, People in Centre Consulting, he has been involved in many post-disaster reconstruction and recovery programs for past 30 years in India, Nepal, Sri Lanka, Indonesia, and Afghanistan. In India, he has also been involved in preparation of National Guidelines on Temporary Shelters and Training Manual on Hazard Resistant Construction with mandate from National Disaster Management Authority. He is also founding member of Owner Driven Reconstruction Collaborative (ODRC) – an Indian network of individuals and NGOs working to support various nation-states in implementing post disaster owner driven housing reconstruction programs. He has been advocating for enabling policy frameworks that can ensure people’s ownership over their own housing process. Repairs and retrofitting of old or damaged houses have been a key dimension in the post-disaster recovery programs. Vivek Rawal has been involved in supporting policy formulation, facilitating implementation as well as training of engineers and artisans in repairs and retrofitting.



Dr. Rohan Shinde, AD (DRR), Miyamoto International

Mr. Rohan M Shinde is a Structural Engineer working as Associate Director– Disaster Risk Reduction, at Miyamoto International. He had been a Senior Research Scientist at IIT Bombay, India. He has more than 15 years of professional experience in Structural & Earthquake engineering and disaster risk resilience. He has worked with various levels of government as well as international organizations on several projects as an expert on multi-hazard (earthquake, floods

etc.) vulnerability and risk assessment and disaster risk reduction. He has worked with National Disaster Management Authority of India on several projects on risk reduction, mitigation, policy planning, higher education curriculum development, vulnerability and risk assessment. He has travelled across various disaster sites including Turkey, Nepal, Papua New Guinea for damage assessments. He has more than 15 National and International Research Publications in the field of Disaster Risk Resilience, Earthquake Engineering and Hazard Vulnerability Assessment.

Discussants:



Prof. Dipti Ranjan Sahoo, IIT Delhi

Prof. Dipti Ranjan Sahoo is the Dean (Infrastructure) and a Professor in the Department of Civil Engineering at IIT Delhi. He earned his Ph.D. in Civil Engineering from IIT Kanpur in 2008, focusing on earthquake-resistant design, and has held academic and research positions at IIT Bhubaneswar and the University of Texas at Arlington, USA.

Prof. Sahoo's research areas include performance-based earthquake design, seismic fragility assessment, hybrid simulation, passive vibration control, fiber-reinforced concrete, and structural fire engineering. He has published over 250 research articles, holds seven patents related to vibration control devices, and is the author of the textbook Indeterminate Structural Analysis. He has supervised over 150 students, including 15 Ph.D. candidates and 45 Master's students.

PANEL DISCUSSION 2: EARTHQUAKE RISK INSURANCE



Moderator: Shri M. Nagaraju, Secretary, DoFS

Mr. Nagaraju, IAS, a 1993 batch officer, is currently Secretary, Department of Financial Services, Ministry of Finance. He holds a post-graduate degree from the University of Hyderabad and has had a distinguished career in various state, national, and international roles. As Additional Secretary in the Ministry of Coal, he played a pivotal role in opening the coal sector for private commercial mining, auctioning over 115 mines. His leadership contributed to India's one-billion-

ton coal production milestone. In Tripura, he was recognized for achievements in governance, healthcare, and ease of doing business. He also served in the Ministry of Finance and as an Advisor at the World Bank from 2008 to 2012.



Co- Moderator: Shri Ahsan Rizvi, Advisor, NDMA

Safi Ahsan Rizvi is an accomplished professional with significant experience in disaster management and related fields. He has worked on various key initiatives aimed at enhancing disaster preparedness and risk reduction. With a strong background in governance and public policy, Shri Rizvi has played a pivotal role in implementing strategies and policies that focus on mitigating the impacts of natural disasters and improving response mechanisms. His contributions have been recognized in both national and international platforms, making him a respected figure in the field of disaster risk management.

Discussants:



Mr. Luis Alton, Senior Financial Sector Specialist, World Bank

Luis Alton, an Austrian national, is a Senior Financial Sector Specialist at the World Bank's Disaster Risk Financing and Insurance Program where his work focuses on integrating disaster related fiscal risk into public finance frameworks; and on designing and implementing financial solutions that increase countries' access to liquidity after disasters. Mr. Alton has been working on public finance issues for eleven years, of which two at the Ministry of Finance of Zanzibar (as an Overseas Development Institute Fellow) and nine at the World Bank. He holds a BSc from the London School of Economics and an MSc from University College London (both in Economics).



Mr. Scott McHardy, Head of Risk Financing, NHC, New Zealand

Scott is the Head of Risk Finance at the Natural Hazard Commission (NHC) Toka Tū Ake. Over the past four years Scott has led the development of NHC's risk financing strategy and is responsible for NHC's reinsurance programme, including the placement of the initial catastrophe bond in 2023.

Scott has undertaken a variety of roles across the New Zealand public sector, including Private Secretary to the Hon Gerry Brownlee, Minister Responsible for Canterbury Earthquake Recovery between 2010-2012.

Scott has an MBA from London Business School and an Executive Masters in Public Administration from the Australian National University in Canberra.



Mr. Shailendra Sapra, CEO, Reinsurance Solutions, India-AON

Mr. Shailendra joined Aon's Asia Analytics team in 2010, in Singapore where he provided insurance companies with reinsurance structuring advice and performed Dynamic Financial Analysis (DFA) for their portfolios. Then he moved into regional account management for insurers in India and for various global players like AXA and Great American. He has since taken up the role as CEO Reinsurance, India with a strong commitment to support IRDAI's Agenda of Insurance for All in 2047.

Shailen is a Singapore Airlines scholar and finished his Bachelors in Engineering from Nanyang Technological University. He is also a part qualified actuary and has recently finished his Msc. in International Relations from RSIS, Singapore.



Mr. Nikhil Nayak, Property Treaty Underwriter, Munich Re

Mr. Nikhil Nayak is a property treaty underwriter with extensive experience in natural catastrophe modelling. He is responsible for underwriting indemnity-based property treaty reinsurance contracts as well as parametric contracts. He has over 16 years of experience working with primary insurance, reinsurance, and model development companies in the natural catastrophe modelling space. He has a B. Tech and M. Tech degree in Ocean Engineering and Naval Architecture from Indian Institute of Technology Kharagpur.



Mr. Sumit Gupta, Vice President, Swiss Re

Sumit Gupta is a seasoned professional with over 18 years of experience in the insurance industry, spanning both life and general insurance. Based in Mumbai, he works with Public Sector Solutions (PSS) at Swiss Re, India, focusing on disaster risk financing, infrastructure and construction programs, social programs, and export credit. Sumit has held diverse roles in sales and product management, including significant tenures at ICICI Lombard General Insurance. He has collaborated extensively with central and state governments, contributing to the design and execution of policy guidelines for health and crop insurance, and has worked with public-sector enterprises on empanelment and risk management activities.