



# **National Conference on Techno-Traditional Indian Knowledge Systems for Eco-Sensitive Coastal Settlement Planning**

Organised by the School of Planning and Architecture, Vijayawada (SPAV),  
Institute of Town Planners, India (ITPI), and ITPI Andhra Pradesh Chapter

September 26th and 27th, 2024

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**A Detailed Summary of the Event**

## **Conference Committee**

### **Chief Patrons**

Prof. Dr. Ramesh Srikonda, Director, School of Planning and Architecture, Vijayawada

Mr. N. K. Patel, President, Institute of Town Planners, India

### **Technical Committee**

Prof. Dr. Ayon Kumar Tarafdar, Professor and Dean (Academic), SPA Vijayawada

Dr. Adinarayanane R., Faculty and Dean (Planning & Development), SPA Vijayawada

Dr. S. V. Krishna Kumar, Faculty and Dean (Student Affairs), SPA Vijayawada

Dr. Srinivas Daketi, Faculty and Head, Department of Architecture, SPA Vijayawada

Dr. Prasanth Vardhan, Faculty and Head, Department of Planning, SPA Vijayawada

Dr. Rajakumari Muthusamy, Faculty, Department of Planning, SPA Vijayawada

Dr. Y. S. Rao, Former Deputy Librarian, SPA Vijayawada

Dr. Nagaraju Kaja, Faculty, Department of Architecture, SPA Vijayawada

Dr. Faiz Ahmed C., Faculty, Department of Architecture, SPA Vijayawada

### **Finance Committee**

Dr. N. Kranti Kumar, Faculty, Department of Architecture, SPA Vijayawada

Mr. J. M. Bhagwat, Faculty, Department of Planning, SPA Vijayawada

Dr. Anurag Bagade, Faculty, Department of Planning, SPA Vijayawada

## About the Conference

The planning and design of coastal zones - with respect to constantly changing eco-systems, demographic requirements, economic potentials and threats due to climate hazards – is a domain of intense intellectual speculation, administrative potential and research dimension. Further, incorporating Indian Knowledge Systems can provide useful insights and approaches to coastal planning and design. Traditional methods such as *Vastu Shastra* and Traditional Ecological Knowledge (TEK) can help to harmonize human settlements with natural surroundings by considering ecological balance, resource sustainability, and climatic resilience.

In this regard, the two-day ‘National Conference on Techno-Traditional Indian Knowledge Systems for Eco-Sensitive Coastal Settlement Planning’ was organised by the School of Planning and Architecture, Vijayawada (SPAV) in collaboration with the Institute of Town Planners, India (ITPI) and ITPI Andhra Pradesh Chapter. The conference was conducted at the School of Planning and Architecture, Vijayawada on 26<sup>th</sup> and 27<sup>th</sup> September 2024.

The conference brought together professionals, practitioners, academicians and researchers working in the realm of coastal corridors and embracing aspects of traditionality and vernacularity in settlement planning and design, a theme highly pertinent in the current scenario. The conference offered a dynamic platform to explore the synergy between modern technology and ancient wisdom in fostering sustainable development and resilience along India's coastal regions.

The Conference had a total of 71 registered participants, 14 paper submissions, and 2 poster presentations, hosted 7 technical sessions chaired by eminent person from the field of planning and architecture featuring 13 expert speakers and 9 young planners. The experts and stakeholders delved into innovative technical and methodological approaches that integrate digital mapping, GIS applications, and early warning systems with indigenous knowledge systems. Discussions revolved around reviving traditional practices and traditional knowledge systems that enhance disaster preparedness and promote sustainable livelihoods in coastal corridors. Through case studies and collaborative sessions, the conference aimed to empower coastal communities, bridging the gap between innovation and heritage for a resilient coastal future.

## Organisers

### School of Planning and Architecture, Vijayawada – A Brief

School of Planning and Architecture, Vijayawada (SPAV) was established in 2008 by the Ministry of Human Resource Development (MHRD), Ministry of Education (MoE), Government of India, as an autonomous institution. SPAV is a premier Centrally Funded Technical Institution (CFTI) for excellence in the fields of Planning and Architecture.

### Institute of Town Planners, India – A Brief

Institute of Town Planners, India (ITPI) is the apex body of town planners in India and was constituted in the year 1951. ITPI has a vision to promote dynamic, inclusive and integrated town and country planning practice, education, research and institutional mechanism for vibrant, sustainable and resilient spatio-economic development of towns, cities and regions.

## Conference Schedule

### Inaugural Session

Welcome Address by Mr. V. P. Kulshrestha, Secretary General, ITPI  
 Address by Dr. Ayon Kumar Tarafdar, Dean Academic, SPA Vijayawada  
 Address by Mr. Pradeep Kapoor, Council member and Ex-Secretary General, ITPI and BoG Member, SPA, Vijayawada  
 Inaugural Address by Dr. Ramesh Srikonda, Director, SPA Vijayawada  
 Presidential Address by Mr. Anoop Srivastava, Vice President, ITPI  
 Address by Chief Guest Dr. Ponguru Narayana, Hon'ble Minister for Municipal Administration & Urban Development, Government of Andhra Pradesh  
 Felicitations of the Dignitaries  
 Vote of Thanks by Mr. K. V. Uma Maheswara Rao, Registrar, SPA Vijayawada  
 National Anthem

### Day 1 - Theme 1: Exploring the Intersection of Technology and Traditional Knowledge in Coastal Area Planning

TECHNICAL SESSIONS		
<b>Technical Session 1a:</b> Reviving Traditional Indian Knowledge Systems: Lessons from Coastal Communities Addressing Functional, Spatial, Economic, and Social Needs		
A. Session Chair:	Dr. Iyer Vijayalaxmi Kasinath, Professor, SPA Vijayawada	(5 mins)
B. Expert Speaker 1:	Dr. S. Mohammed Irshad, Faculty, Centre for Disasters and Development, Jamsetji Tata School of Disaster Studies	(15 mins)
C. Expert Speaker 2:	Dr. Janmejy Gupta, Dean (Research), SPA Vijayawada	(15 mins)
D. Paper Presentation by Young Planner:	Ar. Sheetal Kalbandhe, Young Planner	(10 mins)
E. Paper Presentation by Young Planner:	Ms. Srajati Tiwari, Young Planner	(10 mins)
F. Rapporteur:	Mr. Rajeev R., Faculty, SPA Vijayawada	(5 mins)
Felicitations		
<b>Technical Session 1b:</b> Technological Innovations in Coastal Settlement Planning: Opportunities and Challenges		
A. Session Chair:	Dr. Sanjay Gupta, Professor, SPA, Delhi	(5 mins)
B. Expert Speaker 1:	Dr. Ajay Katuri, Consultant, Climate Change and Technical Facilitation Expert	(15 mins)
C. Expert Speaker 2:	Dr. RNS Murthy, Faculty, SPA Vijayawada	(15 mins)
D. Paper Presentation by Young Planner:	Ms. Akkala Bhavitha, Young Planner	(10 mins)
E. Rapporteur:	Dr. Arpan Paul, Faculty, SPA Vijayawada	(5 mins)
Felicitations		

<b>Technical Session 1c: Sustainable Resource Management: Combining Modern Technology with Indigenous Practices</b>		
A. Session Chair:	Mr. V. P. Kulshrestha, Secretary General, ITPI	(5 mins)
B. Expert Speaker 1:	Mr. Rajneesh Sareen, Program Director, CSE, New Delhi	(15 mins)
C. Expert Speaker 2:	Ar. Xavier Benedict, AARDE Foundation	(15 mins)
D. Paper Presentation by Young Planner:	Ms. Shreedha S., Young Planner	(10 mins)
E. Rapporteur:	Dr. Subhashish Banerjee, Joint Director, Town & Country Planning, Indore, MP	(5 mins)
Felicitations		

## Day 2 – Theme 2: Disaster Mitigation and Resilience through Techno-Traditional Approaches

<b>Keynote Speech -</b> Dr. Amir Ali Khan, Faculty, NDMA, New Delhi (online)		
<b>Technical Session 2a: Indigenous Perspectives on Coastal Disaster Risk Reduction: Harnessing Traditional Wisdom for Resilient Communities</b>		
A. Session Chair:	Dr. Ayon Kumar Tarafdar, Professor and Dean (Academic), SPA Vijayawada	(5 mins)
B. Expert Speaker 1:	Dr. Aparna, Faculty, NIRMA University, Ahmedabad	(15 mins)
C. Paper Presentation by Young Planner:	Mr. Hanumanth Ram, Young Planner	(10 mins)
D. Paper Presentation by Young Planner:	Ms. Dhanushyaa, Young Planner	(10 mins)
D. Rapporteur:	Ms. Ekta, Faculty, SPA Vijayawada	(5 mins)
Felicitations		
<b>Technical Session 2b: Early Warning Systems and Remote Sensing: Enhancing Coastal Disaster Preparedness with Modern Technology</b>		
A. Session Chair:	Dr. N. Sridharan, Former Director, SPA Vijayawada and SPA Bhopal	(5 mins)
B. Expert Speaker 1:	Dr. Faiz Ahmed C, Faculty, SPA Vijayawada	(15 mins)
C. Expert Speaker 2:	Dr. Prashanti Rao, Faculty, SPA Vijayawada	(15 mins)
D. Paper Presentation by Young Planner:	Mr. Yamin R, Young Planner	(10 mins)
E. Rapporteur:	Mr. Rajeev R., Faculty, SPA Vijayawada	(5 mins)
Felicitations		
<b>Technical Session 2c: Sustainable Livelihoods and Economic Resilience: Techno-Traditional Solutions for Coastal Communities</b>		
A. Session Chair:	Dr. Adinarayanane R, Dean (P&D), SPA Vijayawada	(5 mins)
B. Expert Speaker 1:	Dr. Panneerselvam A, LEA Associates, New Delhi	(15 mins)
C. Expert Speaker 2:	Dr. Solanki Ghosh, Faculty, SPA Delhi	(15 mins)
D. Paper Presentation by Young Planner:	Mr. Saishree Naik, Young Planner	(10 mins)
E. Rapporteur:	Dr. Prasanth Vardhan, Faculty and HoD, Department of Planning, SPA Vijayawada	(5 mins)
Felicitations		

<b>Technical Session 2d: Capacity Building and Knowledge Transfer: Empowering Coastal Settlements for Effective Disaster Response</b>		
A. Session Chair:	Mr. S.B. Honnur, Former Director of DTCP, Karnataka	(5 mins)
B. Expert Speaker 1:	Dr. Anurag Bagade, Faculty, SPA Vijayawada	(15 mins)
C. Expert Speaker 2:	Dr. Naina G., Faculty, SPA Vijayawada	(15 mins)
D. Paper Presentation by Young Planner:	Ms. Lipi Shrivastava, Student, SPA Vijayawada	(10 mins)
E. Rapporteur:	Dr. Rajakumari M., Faculty, SPA Vijayawada	(5 mins)
Felicitations		

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### **Valedictory Session & Closing Ceremony**

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Welcome Address by Dr. Prasanth Vardhan, Faculty and Head, Department of Planning, SPA Vijayawada

Concluding Remarks by Prof. Dr. Ramesh Srikonda, Director, SPA Vijayawada

Address by Mr. Pradeep Kapoor, Council member and Ex-Secretary General, ITPI and BoG Member, SPA, Vijayawada

Felicitation of the Chief Guest

Address by the Chief Guest, Dr. P. B. Vijayakumar, Senior Designated Counsel in the Hon'ble High Court of Andhra Pradesh and Telangana

Release of Deliberations by Chief Guest, Director SPA Vijayawada, and Dignitaries on the dais

Vote of Thanks by Mr. V. P. Kulshreshtha, Secretary General, ITPI

National Anthem

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## Inaugural Session

The event began with a warm welcome extended to dignitaries, esteemed guests, participants, and students, emphasizing the significance of the conference theme, which aimed to integrate traditional knowledge systems with modern technology for sustainable coastal settlement planning. The venue team volunteers ensured all attendees were seated in their designated places before the commencement of formal proceedings.



*Highlights from the Inaugural Session*

The Chief Guest, Honourable Dr. P. Narayana garu, Minister for Municipal Administration and Urban Development, Government of Andhra Pradesh, was welcomed with great respect. Dr. Narayana garu, in his inaugural address, highlighted the importance of sustainable urban infrastructure and shared insights from his tenure as the Minister for Municipal Administration & Urban Development. He discussed the critical need for planning approaches that balance environmental sustainability with urban development, particularly in coastal regions, and appreciated the role of Indian traditional knowledge in this endeavour.

The thematic focus of the conference was elaborated upon, emphasizing two broad areas: Exploring the Intersection of Technology and Traditional Knowledge in Coastal Area Planning and Disaster Mitigation and Resilience through Techno-Traditional Approaches.

Mr. V. P. Kulshrestha, Secretary General of ITPI, delivered the welcome address, setting the tone for the conference by underlining the importance of collaboration between traditional practices and contemporary technological advancements. Following him, Prof. Dr. Ayon Kumar Tarafdar, Dean Academic at SPA Vijayawada, highlighted the relevance of the conference by discussing the vulnerability of Andhra Pradesh's and India's coastlines to disasters like cyclones and rising sea levels. He emphasized the importance of integrating traditional knowledge with modern technology to address these challenges, noting how the conference would benefit both practitioners and students in developing sustainable coastal planning strategies.

Mr. Pradeep Kapoor, Council Member and Ex-Secretary General of ITPI, shared his thoughts on the changing dynamics of urban planning in India, especially the growing importance of eco-sensitive planning. He stressed the need for planners to be adaptable and responsive to both natural and human-made challenges faced by coastal settlements.



*Highlights from the Inaugural Session*

The Director of SPA Vijayawada, Prof. Dr. Ramesh Srikonda, delivered the inaugural address, emphasizing the institution's commitment to sustainable planning strategies for coastal regions. He highlighted SPA Vijayawada's role as a leading centre for urban and regional planning education, noting its focus on addressing real-world challenges through research and academic rigor. Prof. Dr. Ramesh Srikonda applauded the interdisciplinary nature of the conference, which brought together experts, young planners, and scholars to exchange knowledge, explore innovative ideas, and develop practical solutions for eco-sensitive coastal settlement planning.

Mr. Anoop Srivastava, Vice President of ITPI, delivered the Presidential Address, emphasizing the critical role of integrated planning in addressing the vulnerabilities faced by coastal settlements. He reiterated the significance of combining scientific innovations with indigenous wisdom to create resilient urban frameworks.

The ceremony concluded with a Vote of Thanks by Mr. K. V. Uma Maheswara Rao, Registrar of SPA Vijayawada, followed by the National Anthem, marking the successful start of the two-day conference.



## Theme 1

### Exploring the Intersection of Technology and Traditional Knowledge in Coastal Area Planning

Day 1 of the conference focused on the theme of intersection of current and upcoming technology with traditional knowledge embedded in coastal areas in the context of planning for these areas. Three broad technical sessions were drawn with the following sub-themes:

- a. Reviving Traditional Indian Knowledge Systems: Lessons from Coastal Communities addressing functional, spatial, economic and social needs

*This sub-theme focused on the rich repository of traditional knowledge systems present in Indian coastal communities. It explored how ancient practices related to sustainable fishing, agriculture, and natural resource management can be revived and integrated into modern coastal planning efforts. This sub-theme also explored the intricate ways in which traditional knowledge systems meet the diverse demands of coastal communities. It investigated how these systems, which encompass functional aspects such as livelihood practices, spatial considerations such as settlement patterns and land use, economic activities such as fishing and agriculture, and social dynamics such as community governance and cultural practices, contribute to the long-term development and resilience of coastal areas.*

- b. Technological Innovations in Coastal Settlement Planning: Opportunities and Challenges

*This sub-theme delved into the latest technological advancements such as Geographic Information Systems (GIS), Remote Sensing, and big data analytics, and examined how these innovations can be applied to coastal settlement planning. This sub-theme examined the integration of Traditional Ecological Knowledge (TEK) with digital mapping techniques and GIS applications. It showcased examples of how indigenous knowledge about coastal ecosystems, including weather patterns, marine biodiversity, and land-use practices, can be digitally mapped and analysed to inform sustainable coastal development plans.*

- c. Sustainable Resource Management: Combining Modern Technology with Indigenous Community Based Practices

*This sub-theme explored strategies for combining modern technology with indigenous coastal community-based practices to promote sustainable resource management in coastal areas. It discussed innovative approaches such as fishermen or coastal community-based monitoring, participatory mapping, and initiatives that empower local communities to actively engage in the conservation and stewardship of coastal resources.*

## Technical Session 1a

### Reviving Traditional Indian Knowledge Systems: Lessons from Coastal Communities Addressing Functional, Spatial, Economic, and Social Needs

Session Chair: **Prof. Dr. Iyer Vijayalaxmi Kasinath**, Professor, SPA Vijayawada

Expert Speaker 1: **Dr. S. Mohammed Irshad**, Faculty, Centre for Disasters and Development, Jamsetji Tata School of Disaster Studies – presentation titled *'Challenges of Practicing Traditional Knowledge for Livelihood Risk Management of the Fishing Community'*

Expert Speaker 2: **Dr. Janmejy Gupta**, Faculty and Dean (Research), SPA Vijayawada – presentation titled *'Lessons from Coastal Communities Addressing Environmental & Economic Needs: An Example of Eluru, Andhra Pradesh'*

Paper Presentation by Young Planner: **Ms. Sheetal Kalbandhe** – presentation titled *'Reviving Traditional Indian Knowledge Systems: Lessons from Coastal Communities Addressing Functional, Spatial, Economic, and Social Needs'*

Paper Presentation by Young Planner: **Ms. Srajati Tiwari** – presentation titled *'Integrating Renewable Energy for Sustainable Coastal Urban Development: Case Area - Visakhapatnam'*

Rapporteur Summary by **Mr. Rajeev R.**, Faculty, SPA Vijayawada

This session provided a comprehensive exploration of how coastal communities have historically leveraged indigenous knowledge to overcome various challenges. The discussion was framed around four key dimensions: functional adaptations, spatial configurations, economic resilience, and social & cultural strength, underscoring the relevance of traditional practices in contemporary coastal settlement planning.

In his presentation, Dr. Mohamed Irshad discussed how climate change, particularly ocean warming, affects fish stocks and the livelihoods of fishing communities. He noted that rising sea temperatures, pollution, and unscientific coastal development are driving pelagic fish away from shallow waters. The emphasis on the blue economy exacerbates risks for vulnerable coastal areas, while the shift from traditional fishing to fish cultivation alienates Indigenous knowledge systems, diminishing their effectiveness in managing these challenges.

Dr. Janmejy Gupta's presentation explored how coastal communities, particularly in Eluru, have historically adapted to environmental challenges while maintaining economic resilience. He highlighted the integration of ecological wisdom with sustainable economic practices, offering valuable lessons for contemporary coastal settlement planning. Through this example, Dr. Gupta emphasized the importance of preserving traditional knowledge systems to address modern environmental and economic challenges.

Young planner Ms. Sheetal Kalbandhe's presentation, Reviving Traditional Indian Knowledge Systems for Enhanced Coastal Planning, highlights the vital role of indigenous knowledge in disaster preparedness. She explains how coastal communities in regions like Bangladesh and the Andaman Islands utilize natural signs—such as animal behaviours and changes in weather—to anticipate cyclones and tsunamis. Ms. Kalbandhe advocates for blending these traditional practices with modern disaster management techniques to enhance resilience in vulnerable coastal areas and emphasizes the importance of preserving and sharing this valuable knowledge for improved climate adaptation.



*Speakers of Technical Session 1a*

Young planner Ms. Srajati Tiwari's presentation, titled Integrating Renewable Energy for Sustainable Coastal Urban Development: Case Area - Visakhapatnam, highlights the benefits of combining renewable energy technologies with Traditional Ecological Knowledge (TEK) for sustainable urban coastal planning. Tiwari examines how wind, solar, and biomass energy can be integrated into Visakhapatnam's infrastructure, using TEK to optimize resource management, energy placement, and community resilience. Drawing from case studies, including cities like Singapore, the presentation underscores the role of Smart Grids in improving energy efficiency and disaster resilience. Tiwari identifies potential challenges, such as regulatory barriers and infrastructure needs, and advocates for collaborative efforts among policymakers, industry leaders, and communities to establish resilient energy strategies, creating a model for other coastal cities.

Mr. Rajeev summarized the session as providing key insights into how coastal communities have effectively addressed various challenges for centuries, stressing the value of reviving traditional knowledge systems. These systems offer holistic solutions that align with the functional, spatial, economic, and social needs of coastal settlements.

A reflection on the learnings of the session reveals that integrating traditional knowledge with contemporary technology presents a powerful opportunity for sustainable coastal settlement planning. It is apparent that this needs to be approached with a respect for the depth of indigenous wisdom, ensuring that it complements modern tools and science.

In conclusion, this session reinforced the idea that coastal communities, often viewed as vulnerable, are in fact sources of resilience and innovation. Their traditional knowledge addresses not only functional and spatial needs but also economic and social sustainability. By reviving and integrating these insights into modern planning, we can develop eco-sensitive, resilient coastal settlements in the face of climate change.

## Technical Session 1b

### Technological Innovations in Coastal Settlement Planning – Opportunities & Challenges

Session Chair: **Dr. Sanjay Gupta**, Professor, SPA Delhi

Expert Presentation 1: **Dr. Ajay Katuri**, Consultant, Climate Change and Technical Facilitation Expert – presentation titled *'Leveraging Traditional and Modern Technologies for Resilient Andhra Pradesh – A Planner's Approach'*

Expert Presentation 2: **Dr. R. N. S. Murthy**, Faculty, Department of Architecture, SPA Vijayawada – presentation titled *'A Positive Perspective of Impact of Cyclones on Human Settlements, Bay of Bengal, Andhra Pradesh, India'*

Paper Presentation by Young Planner: **Ms. Akkala Bhavitha** – presentation titled *'Future Proofing Coastal Settlements: Application for Technological Innovations in Planning'*, co-authored with Mr. Arup P. Chandrasekaran and Mr. Dravid David.

Rapporteur Summary by **Dr. Arpan Paul Singh**, Faculty, Department of Planning, SPA Vijayawada

This session focused on Technological Innovations in Coastal Settlement Planning, a crucial topic in light of growing environmental challenges and coastal vulnerabilities. This session emphasized the integration of both traditional knowledge and modern technological innovations to enhance coastal resilience and create sustainable coastal settlements.



*Speakers of Technical Session 1b*

The session began with an insightful introduction to the session by Dr. Sanjay Gupta, who gave some interesting statistics on urbanization along the coastlines and the consequent deterioration of coastal ecosystems. He talked about the importance of utilizing simulation models in coastal development and emphasized that spatial and hydrodynamic models are key in understanding and predicting coastal dynamics, which are critical in planning for sustainable coastal development. Dr. Gupta also discussed

the concept of Digital Twin Models, a cutting-edge simulation process that integrates both physical habitats and environmental factors. These models simulate real-world coastal conditions, providing a digital replica that can be used to test different planning strategies and assess their potential impact on the environment. This approach ensures that planning is informed by data-driven insights, which can improve decision-making and the sustainability of coastal development.

Dr. Ajay Katuri discussed the recent floods in Vijayawada and the alarming rate of water body loss in the region. He emphasized the need for state-level strategic plans and the development of Model DCRs (Development Control Regulations) to guide sustainable coastal development. One of the key takeaways from his presentation was the importance of traditional delineation methods which can help better understand the natural landscape and inform planning. Dr. Katuri also advocated for the use of modern tools such as Google Earth Engine and QGIS and also ideas like sponge city planning, a concept that emphasizes water absorption and management in urban areas to prevent flooding. He also discussed the use of LIDAR surveys, a technology that provides high-resolution topographic data, which is essential for understanding coastal landscapes. Additionally, he introduced the concept of utility tunnels, which has been successfully implemented in GIFT City (Gujarat International Finance Tec-City). Utility tunnels are an innovative solution for managing urban infrastructure & can play a significant role in making coastal cities more resilient.

Dr. R. N. S. Murthy provided an interesting perspective on the benefits of cyclones for coastal human settlements. He argued that while cyclones are often viewed as destructive forces, they also offer ecological benefits such as nutrient replenishment for the soil, vegetation clearing, and even drought relief in some cases. Drawing from examples in Andhra Pradesh, Dr. Murthy shared insights into how these natural events can contribute to the regeneration of coastal ecosystems and create conditions that benefit human settlements in the long term.

Young Planner, Ms. Bhavita followed up with a presentation on future-proofing coastal settlements through technological innovations. She emphasized the use of bio-fencing, a method that utilizes natural barriers such as mangroves to protect coastal areas from erosion and storms. Additionally, she discussed the importance of traditional housing methods that have stood the test of time in coastal regions. These houses are often designed to withstand harsh weather conditions, offering a blueprint for modern construction in vulnerable areas. Ms. Bhavita also touched on emerging technologies such as virtual realities and blockchain technologies, which could be instrumental in mitigation and adaptation to climate change impacts in coastal areas. She too highlighted the significance of Digital Twin technology in planning for climate change adaptation and called for an integrated adaptation approach that combines both technological and traditional methods for holistic coastal resilience.

Dr. Arpan Paul Singh summarised key points presented by the speakers of the session. He highlighted where and how the different tools and strategies can be implemented in buttressing resilience, development, and climate change mitigation and adaptation in coastal areas, as well as decision-making processes in coastal planning.

In conclusion, the session emphasized that integrating technological innovations with traditional knowledge is key to enhancing coastal settlement planning. This dynamic and informed approach allows for the development of strategies that are not only sustainable but also adaptive to the evolving environmental challenges faced by coastal regions. By leveraging both modern technologies & time-tested practices, coastal communities can be better equipped to face the impacts of climate change & ensure the long-term resilience of their settlements.

## Technical Session 1c

### Sustainable Resource Management: Combining Modern Technology with Indigenous Practices

Session Chair: **Mr. V. P. Kulshrestha**, Secretary General, ITPI

Expert Speaker 1: **Mr. Rajneesh Sareen**, Program Director at Centre for Science and Environment (CSE), New Delhi – presentation titled *'Urban Discomfort – Building Resilience for Heat'*

Expert Speaker 2: **Ar. Xavier Benedict**, AARDE Foundation – presentation titled *'Save Pulicat Lagoon to Save Chennai'*

Paper Presentation by Young Planner: **Ms. Shreedha S.** – presentation titled *'Geospatial Approach to Assessing the Flood Risk in Sangli City, Maharashtra'*, co-authored with Mr. Jayeshkumar Maheshkumar Bhagwat

Rapporteur Summary by **Dr. Subhashish Banerjee**, Joint Director, Town & Country Planning, Indore

This session highlighted the critical need for sustainable resource management through the integration of modern technology and indigenous practices, especially in light of rapid urbanization and climate change.



*Speakers of Technical Session 1c*

The session chair Mr. V. P. Kulshrestha underscored the importance of identifying and understanding existing indigenous practices and modern technology before an attempt at combining them. He stressed upon the need for the integration of the two especially for coastal regions which are highly eco-sensitive. To illustrate his point, he took up the case of mangroves and wetland areas and the crucial role

indigenous practices play in their conservation and restoration. Further, he advocated for community engagement and a participatory approach, particularly with growing settlement sizes along the coast. He noted how a fusion of traditional practices and modern technology in Andhra Pradesh's coastal planning can create a balanced, resilient, and sustainable model of development. This approach will not only preserve the cultural heritage and ecosystem, but also prepare these areas to face modern challenges like climate change, resource depletion, and natural disasters effectively.

In his presentation, Mr. Rajneesh Sareen examined key national policies, including the Energy Conservation Building Codes (2017-18) and the India Cooling Action Plan (2019), addressing their role in managing urban heat. Sareen emphasized the limitations of current Heat Action Plans, which often fail to account for local contexts, and advocated for the creation of comprehensive *Cooling Master Plans*. These plans would integrate heat management strategies directly into urban planning, ensuring cities are better equipped to handle rising temperatures and reduce heat-related vulnerabilities.

Ar. Xavier Benedict emphasized the socio-economic and environmental significance of Pulicat Lagoon. He highlighted the lagoon's crucial role in supporting both the local ecosystem and the livelihoods of the surrounding communities. Benedict also discussed the importance of empowering local communities, particularly women, through traditional crafts, which play a vital role in sustainable development efforts. The preservation of Pulicat Lagoon, he argued, is essential for maintaining the environmental balance and promoting socio-economic well-being in the region.

Her presentation showcased case studies that illustrated how integrating indigenous practices with modern technology can significantly improve resource management in coastal settlements. By leveraging geospatial tools alongside traditional knowledge, she demonstrated how this combined approach can enhance disaster preparedness, mitigate flood risks, and promote sustainable development in vulnerable coastal areas.

Dr. Subhashish Banerjee summarized the session by emphasizing the collaborative potential between government, academia, and local communities in driving sustainable resource management.

The session concluded with a focus on the critical importance of combining modern technology with indigenous practices for sustainable resource management. A paradigm shift toward ecological balance and community involvement is necessary to create resilient coastal settlements.

## Theme 2

### Disaster Mitigation and Resilience through Techno-Traditional Approaches

Day 2 of the conference focused on techno-traditional approaches to disaster mitigation and resilience. Four broad technical sessions were drawn with the following sub-themes:

- a. Indigenous Perspectives on Coastal Disaster Risk Reduction: Harnessing Traditional Wisdom for Resilient Communities  
*This sub-theme explored traditional knowledge systems that have been passed down through generations and their relevance in understanding and mitigating coastal hazards such as cyclones, tsunamis, and sea-level rise.*
- b. Early Warning Systems and Remote Sensing: Enhancing Coastal Disaster Preparedness with Modern Technology  
*This sub-theme focused on the use of modern technology, including early warning systems, satellite imagery, and drones, to enhance coastal disaster preparedness and response. It discussed the development and implementation of early warning systems for coastal hazards, including real-time monitoring of weather patterns, oceanographic conditions, and seismic activity.*
- c. Sustainable Livelihoods and Economic Resilience: Techno-Traditional Solutions for Coastal Communities  
*This sub-theme explored techno-traditional solutions for promoting sustainable livelihoods and economic resilience in coastal communities. It examined innovative approaches such as eco-tourism, sustainable fisheries management, and agroforestry that combine modern technology with traditional knowledge to generate income while conserving coastal ecosystems.*
- d. Capacity Building and Knowledge Transfer: Empowering Coastal Settlements for Effective Disaster Response  
*This sub-theme addressed the importance of capacity building and knowledge transfer in empowering coastal settlements for effective disaster response. It discussed strategies for building the resilience of coastal communities through education, training, and community-based disaster preparedness programs.*



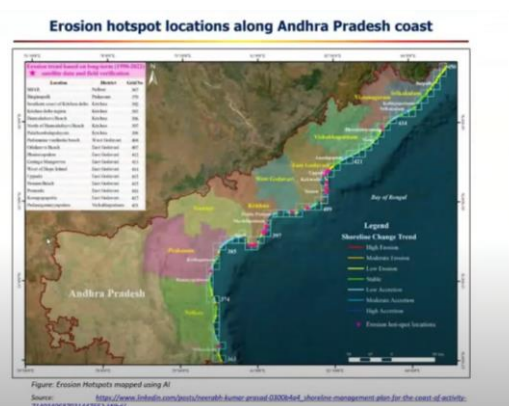
## Keynote Speech

**Dr. Amir Ali Khan**, Head, Resilient Infrastructure Division, National Institute of Disaster Management (NIDM), New Delhi, addressed the theme of the day '*Disaster Mitigation and Resilience through Techno-Traditional Approaches*'.

After a short introduction of NIDM and its activities, Dr. Khan briefly addressed coastal disasters and underlying reasons, climate change and its impact, various challenges faced by coastal areas and some recent trends in these matters, shedding light on the relevance of the theme. He then elaborated on existing traditional knowledge and management practices for disaster risk reduction (DRR). He discussed traditional practices and coping mechanisms such as the Khazan ecosystems, community stewardship for mangrove restoration of Bhitarkanika in Odisha, modifications in housing design, Kamli Lata plantations, earthquake safe houses in various parts of India. He highlighted some of the challenges facing the use of indigenous knowledge in disaster management including the lack of written records, loss of knowledge, scepticism, difficulty in integrating with technology, and lack of support.

Then, pointing to the use of modern technology in DRR, he addressed the applications of Artificial Intelligence (AI) and Machine Learning (ML) in coastal disaster management through case studies such as application of Digital Shoreline Analysis System (DSAS) in the analysis of shoreline changes in Vishakhapatnam coast, the use of AI for mangrove conservation and coastal protection in Sundarbans, AI-driven coastal flooding risk mapping in the Idukki district of Kerala, and tech-enabled zero casualty success during Cyclone Biparjoy in Gujarat. He emphasized the need for warning dissemination and effective, efficient, and resilient infrastructure for communication in disaster situations while introducing resilience building initiatives like the *Bhookamp* Alert Application and SACHET-CAP based Integrated Alert System.

Dr. Khan made the case for an integrated approach to disaster response and preparedness entailing integration with development programmes, adoption of a holistic people-centric strategy, coordination of structural interventions and community-based disaster management, training and orientation of development agencies to embed disaster risk reduction into national and local planning processes, and stakeholder collaboration. Stressing on the need to marry traditional and modern knowledge systems to sustainably address developmental goals, he outlined a few strategies for their integration such as community involvement, capacity building and policy support. Then, Dr. Khan briefed about some recent trends in disaster preparedness with potential for long-term applications – the multi-hazard approach and holistic approach. He concluded his presentation by emphasizing that it is upon us to make the crucial choice whether we invest in risk reduction actions before the disaster or pay high costs of recovery later.



Keynote Speech

## Technical Session 2a

### Indigenous Perspectives on Coastal Disaster Risk Reduction: Harnessing Traditional Wisdom for Resilient Communities

Session Chair: **Prof. Dr. Ayon Kumar Tarafdar**, Professor and Dean (Academic), SPA Vijayawada

Expert Presentation: **Dr. Aparna**, Faculty, NIRMA University, Ahmedabad – presentation titled '*Eco-sensitive and Resilient Coastal Settlement Planning: The Proposal for Pondy necklace, Puducherry*', co-authored with Prof. Utpal Sharma, Prof. R. Parthasarathy, Prof. Lalitha

Paper Presentation by Young Planner: **Mr. Hanumanth Ram** – presentation titled '*Impact Prediction using Cyclone-Risk Identification Framework – A Case of Thane Cyclone 2011, Tamil Nadu Coast*', co-authored with Mr. Rajeev R.

Paper Presentation by Young Planner: **Ms. Dhanushyaa** – presentation titled '*Integrating Indigenous Knowledge with Modern Coastal Disaster Risk Reduction: Case of Chennai*', co-authored with Ms. Priya R.

Rapporteur Summary by **Ms. Ekta**, Faculty, Department of Planning, SPA Vijayawada

This session focused on the integration of indigenous knowledge with modern scientific methods to build disaster-resilient coastal communities. Indigenous perspectives offer valuable insights, particularly in areas like disaster preparedness, land-use practices, and social cohesion.

Indigenous perspectives on coastal Disaster Risk Reduction (DRR) emphasize the integration of traditional wisdom with modern scientific approaches to build resilient communities. Indigenous knowledge, deeply rooted in cultural practices and environmental interactions, offers valuable insights into disaster preparedness and response. This knowledge, however, is often marginalized in favor of scientific methods, despite its proven effectiveness in various contexts, which is very much evident in our day to day lifestyle choices that we are making. For example, indigenous coastal communities frequently employ early warning systems based on natural indicators, such as animal behavior or changes in sea patterns, which have proven effective in disaster preparedness. Furthermore, their land-use practices, such as building on elevated areas and maintaining protective ecosystems like mangroves and coral reefs, reduce exposure to coastal hazards like tsunamis and storm surges. Indigenous knowledge systems also foster strong social cohesion, which is essential for effective collective action during and after disasters. This localized, community-driven approach can complement contemporary scientific methods, providing a holistic framework for building resilience. Integrating indigenous wisdom with modern DRR strategies not only strengthens risk mitigation but also supports the cultural preservation and self-determination of indigenous communities.

Session chair Prof. Dr. Ayon Tarafdar opened the session by mentioning how the studio exercises at SPA Vijayawada try to be cognisant and vigilant of the traditional practices carried out in various areas. He also mentioned the application of latest tools and techniques that are open source and available for free which are used by our students like DSAS, INVEST, SWAT, etc.

Dr. Aparna presented the World Bank-funded project on ENCORE: Integrated Coastal Zone Management Program. Focusing on the Pondy Ecotourism Project, she emphasized the development of eco-sensitive tourism with minimal intervention, while preserving nature and fostering livelihood generation through local arts and crafts. Her presentation featured photos illustrating the region's rich local culture and the potential for sustainable development.



*Speakers of Technical Session 2a*

Mr. Hanumanth discussed the integration of modern scientific approaches with traditional wisdom in coastal planning. His study focused on storm surge, hydrological, and hydraulic modelling techniques, including a case study on the Cuddalore Coast. He highlighted the Risk Identification Framework, designed to assess cyclone-related risks, and TNSMART, a decision support tool for disaster response planning in Tamil Nadu.

Ms. Dhanushyaa explored the importance of indigenous knowledge in DRR, drawing examples from the Toda and Jarawa tribes. She also reflected on Indian knowledge systems and their relevance in Chennai's coastal resilience over the years. Her presentation underlined the ongoing importance of traditional wisdom in coastal communities.

The session, summarized by Ms. Ekta, emphasized the value of integrating indigenous perspectives into contemporary disaster risk reduction strategies. She spoke of the lack of strong reasoned observations on nature's behaviour and the application of common sense in current urban practices. She highlighted the importance of rational, traditional knowledge that has evolved through generations of interaction with nature. This approach, combined with modern scientific tools like DSAS, INVEST, and SWAT, provides a more holistic and effective framework for coastal DRR.

The session laid a strong emphasis on the potential for blending traditional knowledge with technological advancements to build resilient coastal communities. It reinforced the idea that while technological changes have transformed many aspects of life, there is still significant scope for harnessing indigenous wisdom to foster resilience in coastal communities.

## Technical Session 2b

### Early Warning Systems and Remote Sensing: Enhancing Coastal Disaster Preparedness with Modern Technology

Session Chair: **Prof. Dr. N. Sridharan**, Former Director, SPA Vijayawada & SPA Bhopal

Expert Presentation 1: **Dr. Faiz Ahmed C.**, Faculty, Department of Architecture, SPA Vijayawada – presentation titled ‘Resilience to Extreme Heat – Need for Revision in Climate Vulnerability Index (CVI) Indicators: A Case of Temperature Trend Analysis in Low-Income Housing Settlements in Vijayawada’

Expert Presentation 2: **Dr. Prashanti Rao**, Faculty, Department of Architecture, SPA Vijayawada – presentation titled ‘*Insights from the 2004 Tsunami and Future Prospects in Remote Sensing and Early Warnings*’

Paper Presentation by Young Planner: **Mr. Yamin R.** – presentation titled ‘*Leveraging Early Warning System and Remote Sensing for Enhanced Disaster Preparedness in Vulnerable Regions*’, co-authored with Mr. Vignesh and Ms. Ekta

Rapporteur Summary by **Mr. Rajeev R.**, Faculty, Department of Planning, SPA Vijayawada

This session explored innovative methods for addressing climate resilience in coastal areas, focusing on adaptive thermal comfort, disaster response, and early warning systems for vulnerable communities. Presenters discussed both technological and community-based approaches to enhance preparedness and resilience in the face of climate change and sudden natural disasters.

Dr. Faiz Ahmed discussed on aspects linking Urban Heat and Heat-wave conditions taking the case of Vijayawada, India. He mentioned that with increasing temperatures recorded continuously in our rapidly growing urban areas, it is important to study the adaptive thermal comfort using micro-level simulations at local level, which was demonstrated through site-specific and built-unit level analysis. The study pointed to the need for understanding tolerance to heat as a coping strategy, especially for low-income housing sector in the case area – one of the vulnerable sections of the society. The study also brought out the following observations - (1) Poor planning layouts and spatial arrangements; (2) Lack of Climate-driven Planning and design; (3) Under-estimated Climate Vulnerability. The discussion insisted on the need for implementing Heat Action Plan (in which long-term and short-term strategies have been enumerated) by building climate vulnerability mapping and index and linking the same with Heat Index – looking at ‘heat’ as an equal concern in the Vulnerability index building.

Dr. Prashanti Rao in her presentation first outlined the genesis of the sudden onset disaster of Tsunami and the cascading disasters it brings with it viz. volcanic eruptions, health epidemics and other concerns of salt-water intrusion, economic impact on the sectors of tourism, fisheries, ports, agriculture etc. Further the study through the facts stated pointed to the question of Early Warning Systems (EWS) for Tsunami, which is a sudden onset disaster. Examples showed how efforts taken by the concerned ministry, INCOIS and ITIEWC have tried to record earthquakes and predict if it might lead to tsunami. Further she discussed on the role of Remote Sensing (RS) in EWS, preparedness, damage detection and mitigation through various studies already carried out using a few analytical models like SAR model. The discussion also emphasized the role of AI as a newly evolving area of research in the domain of EWS for disasters and aid to RS.

Mr. Yamin, a young planner, also presented on the effectiveness of early warning systems in mitigating coastal hazards. She emphasized the role of technology and community-driven efforts in improving preparedness and response to coastal disasters like tsunamis and storm surges.



*Speakers of Technical Session 2b*

The session chair, Dr. Sridharan, summed up the discussion interestingly, with a few key highlights – the use of emerging Early Warning System (EWS) and Remote Sensing (RS) technology for disaster preparedness, integration of traditional knowledge with modern technology, improving socio-cultural acceptance of technology pertaining to disaster management, integrating these aspects spatially with careful land use planning, and finally, as much as ‘Planning’, it is equally important for ‘Effective Implementation’ of these plans.

The session rapporteur, Mr. Rajeev R., summarized the discussion, emphasizing the significance of both adaptive strategies for climate resilience and the importance of early warning systems. He pointed out that while technological advancements are crucial, community awareness and preparedness are equally important in coastal disaster mitigation. The integration of thermal comfort solutions with effective early warning systems can provide a more comprehensive approach to coastal climate resilience.

The session underscored the importance of developing both adaptive strategies for managing climate vulnerabilities and enhancing early warning systems to mitigate the risks posed by sudden natural disasters. A holistic approach, combining scientific innovation with community participation, was seen as the key to building resilient coastal settlements.

## Technical Session 2c

### Sustainable Livelihoods and Economic Resilience: Techno-Traditional Solutions for Coastal Communities

Session Chair: **Dr. Adinarayanane R.**, Faculty and Dean (Plng. & Devt.), SPA Vijayawada

Expert Speaker 1: **Dr. Panneerselvam A.**, Executive Director, LEA Associates South Asia Pvt. Ltd., New Delhi – presentation titled '*Sustainable Development Solutions for Vishakhapatnam Metropolitan Region (VMR), the largest coastal community in Andhra Pradesh state*'

Expert Speaker 2: **Dr. Solanki Ghosh**, Faculty, SPA Delhi and former Faculty, SPA Vijayawada – presentation titled '*Tackling Financial Uncertainties during Disasters through Indigenous Cooperative Models*', co-authored with Dr. Prasanth Vardhan and Ms. Poojaa Sri Jayashanker

Paper Presentation by Young Planner: **Ms. Saishree Naik** – presentation titled 'Enhancing Economic Resilience and Conservation of Coastal Confluence Zone through Ecosystem Service Valuation and Livelihood Dependency in South Goa', co-authored with Mr. Rajeev R.

Rapporteur Summary by **Dr. Prasanth Vardhan**, Head, Department of Planning, SPA Vijayawada

The session provided a comprehensive look into the integration of traditional knowledge with technological innovations to foster resilience in coastal regions. Session, chaired by Dr. Adinarayanane, emphasized the significance of disaster mitigation and resilience through a techno-traditional approach, particularly in the face of growing environmental and socio-economic challenges affecting coastal communities worldwide.

Dr. Adinarayanane began by highlighting the dual challenges faced by coastal communities in maintaining sustainable livelihoods amidst the pressures of human activity and environmental threats. He underscored the urgent need to recognize the value of traditional knowledge, especially in addressing vulnerabilities in coastal regions. He proposed the need of a framework that integrates both traditional and scientific knowledge through a participatory approach, aiming to bridge the gap between scientists and policymakers. This integrated approach, could not only address immediate environmental challenges but also foster long-term sustainability and resilience.

The first expert speaker Dr. Panneerselvam A discussed sustainable development solutions for the Visakhapatnam Metropolitan Region (VMR), one of the largest coastal communities in Andhra Pradesh. He highlighted the best practices in tourism development, drawing comparisons to successful coastal cities such as Croatia, Cape Town, and Madeira, which have effectively balanced tourism growth with environmental conservation. In Visakhapatnam, the focus was on leveraging the region's natural resources and unique terrain to drive sustainable growth. The key strengths and challenges facing the city, emphasizing that economic growth and prosperity to be key goals while maintaining sustainability were discussed. He introduced strategies for strategic economic development and diversification, focusing on greenfield urban development. Dr. Panneerselvam concluded by discussing the importance of evaluating other spatial strategies in the VMR to promote a sustainable future for the region.

The second expert speaker Dr. Solanki provided insights on tackling financial uncertainties during disasters through indigenous cooperative models, with a focus on financial resilience. She highlighted the need to quantify intangible losses during disasters and introduced an insurance-based framework utilizing indigenous cooperative models. Other models like *Phad* system in Rajasthan, where artisans and craftsmen come together to finance their businesses cooperatively, AMUL model, Self-Help Groups (SHGs), and *Kudumbashree* models for women empowerment, which have been successful in fostering

financial independence and resilience in communities. These models demonstrate how community-based financial systems can help coastal communities cope with disaster-induced uncertainties and build stronger economic resilience.



*Speakers of Technical Session 2c*

Ms. Saishree Naik focused on enhancing economic resilience and the conservation of coastal confluence zones through ecosystem service valuation and the examination of livelihood dependency on these services in South Goa. Her presentation underscored the critical role that ecosystem services play in supporting the livelihoods of coastal communities and highlighted the need for management guidelines that ensure the sustainable use of these services. By understanding the economic value of ecosystem services, Ms. Naik argued that policymakers and planners could better protect these vital resources while promoting economic resilience.

The session was summarized by Dr. Prasanth who emphasized the session's key points. He noted that coastal areas experiencing higher growth rates are often located in vulnerable zones, which underscores the need for resilient infrastructure. He also discussed the municipal investment gaps, stating that current spending is insufficient to meet the growing needs of coastal communities. He called for a 300% increase in investment to build resilient infrastructure capable of withstanding future environmental stresses. Additionally, he stated the importance of the creation of a dedicated community-enabled fund, which would help vulnerable coastal settlements cope with the pressures of climate change and other socio-economic challenges.

In conclusion, the session stressed the importance of integrating techno-traditional solutions to enhance the resilience of coastal communities. By combining scientific innovations with indigenous knowledge and community-driven models, coastal regions can not only mitigate the impacts of environmental changes but also create sustainable livelihoods for future generations. The session reiterated the need for collaborative efforts between scientists, policymakers, and communities to build a more resilient and prosperous future for coastal populations.

## Technical Session 2d

### Capacity Building and Knowledge Transfer: Empowering Coastal Settlements for Effective Disaster Response

Session Chair: **Mr. S. B. Honnur**, Former Director of DTCP, Karnataka

Expert Speaker 1: **Dr. Anurag Bagade**, Faculty, Department of Planning, SPA Vijayawada – presentation titled '*Strengthening Climate Resilience: Enhancing Capacity Building with Traditional Knowledge Systems*'

Expert Speaker 2: **Dr. Naina Gupta**, Faculty, Department of Planning, SPA Vijayawada – presentation titled '*Planning Framework for Climate and Disaster Resilient Transport Infrastructure*'

Paper Presentation by Young Planner: **Ms. Lipi Shrivastava**, M. Plan student, SPA Vijayawada – presentation titled '*Capacity Building & Knowledge Transfer for Disaster Mitigation & Resilience through Techno-Traditional Approach*', co-authored with Ms. Samiksha Patil

Rapporteur Summary by **Dr. Rajakumari M**, Faculty, Department of Planning, SPA Vijayawada

The session, chaired by Mr. S. B. Honnur, addressed the importance of capacity building and knowledge in empowering coastal settlements for effective disaster response.

Mr. S. B. Honnur spoke of the importance of capacity building in translating and disseminating existing knowledge and technology to the lowest levels of the executive and the community, increasing their effectiveness in disaster response. He emphasized the need for capacity building across various levels of the administration.

Dr. Anurag Bagade approached the topic through his research on Urban Heat Island (UHI) effect, highlighting how studies often lacked focus on mitigation measures. Scenarios were built for several Local Climate Zones (LCZs) to understand UHI and models were constructed. Consequently, a series of capacity building workshops were conducted in several cities which fed back into the research by revealing several nuances otherwise missed. These workshops essentially comprised a top-down approach to capacity building. He then showcased a bottom-up approach to capacity building which was more community-centric through a planning exercise in the gram panchayats of Alirajpur District and led to key inputs. He concluded his presentation by advocating for an integrated approach that benefited from the advantages of both approaches.

Dr. Naina Gupta began her presentation with a brief snapshot on the climate and disaster risk profile of India, highlighting the need for climate resilient infrastructure for transport sector. She then introduced the concept of resilience in the domain of transport sector and the integration of transport resilience in practice through key cases from across the globe. She went on to highlight gaps in existing practices including lacks in providing a well-understood comprehensive model to measure transportation resilience, lack of universal dimensions, complex nature of uncertainty and interconnectivity of the transportation infrastructures, and limited identification of resilience measurement dimensions for transportation infrastructure. Then, she highlighted the presence (or absence) of resilience considerations in existing transportation planning frameworks as well as plans (for transportation and mobility, infrastructure, etc.) in cities such as Mumbai, Bangalore, and Vishakhapatnam. Considering these, she outlined a new proposed framework integrating climate resilience in transport systems by incorporating activities such as assessing vulnerabilities and developing sectoral and spatial plans, designing resilient infrastructure solutions, and post disaster risk and recovery. She concluded by



highlighting the need for adaptive and resilient infrastructure, and the need for long term planning in achieving them.

Ms. Lipi Shrivastava's paper introduced the importance of merging indigenous knowledge with technological advancements for effective disaster risk reduction, focusing on capacity building and knowledge transfer as pivotal tools for disaster preparedness. She outlined how Community-based Disaster Risk Management (CBDRM) programmes can build resilience. She highlighted traditional knowledge system approaches adopted by people of Andaman & Nicobar Islands along coastal and environment management, community practices and knowledge, cultural practices and gender-based responses. She concluded the presentation by emphasising how the integration of traditional knowledge strategies with modern scientific approaches can help in enhancing resilience and reducing vulnerability to natural disasters, the importance of community participation, and the need for sustained efforts.



*Speakers of Technical Session 2d*

Dr. Rajakumari summarised the session by identifying key emergent themes such as the importance of capacity building for coastal resilience, knowledge transfer as a pillar of preparedness, the integration of traditional knowledge with modern technologies, sustainable livelihoods and community resilience, the challenges faced in implementation, and the role of institutional support and policy frameworks in sustaining capacity building efforts. She concluded by emphasizing that capacity building and knowledge transfer are not just strategies for disaster response but are essential processes for empowering coastal settlements to become self-reliant, resilient, and sustainable.

The session highlighted the importance of capacity building and knowledge transfer in effective disaster response in general and that of coastal communities in particular. Speakers relied on research experience, case studies, and analyses of existing planning frameworks and planning exercises to outline a crucial place for capacity building. They highlighted how the integration of traditional knowledge systems and community participation in urban planning could help strengthen both simultaneously, making them effective in ensuring coastal disaster preparedness and risk reduction.

## Valedictory Session & Closing Ceremony

Dr. P. B. Vijayakumar, Senior Designated Counsel in the Hon'ble High Court of Andhra Pradesh and Telangana was invited as the Chief Guest for the valedictory session and closing ceremony of the conference. Dr. P. B. Vijayakumar has an overall 40 years of experience in practice of law and appearing for more than 20 organisations and institutes in Andhra Pradesh, Telangana and other states.



Dignitaries on the dais



Dr. Prasanth Vardhan



Prof. Dr. Ramesh Srikonda



Dr. P. B. Vijayakumar



Shri. Pradeep Kapoor



Shri. V. P. Kulshrestha

### *Highlights of the Valedictory Session and Closing Ceremony*

Respected dignitaries on the dais included honourable Chief Guest Dr. P. B. Vijayakumar, Prof. Dr. Ramesh Srikonda, Director, SPA Vijayawada, Mr. V. P. Kulshrestha, Secretary General, ITPI, Mr.

Pradeep Kapoor, Council Member and Former Secretary General, ITPI, and Member of the Board of Governors, SPA Vijayawada, Mr. S.B. Honnur, Former Director, DTCP, Karnataka and National Council Member, ITPI, Mr. S. K. Shrimali, Former Additional Chief Planner, Rajasthan and National Council Member, ITPI, Mr. U. C. Gadkari, National Council Member, ITPI, Prof. Dr. Ayon Kumar Tarafdar, Dean Academic, SPA Vijayawada, Dr. Prasanth Vardhan, Head, Department of Planning, SPA Vijayawada, and Dr. Srinivas Daketi, Head, Department of Architecture, SPA Vijayawada.

Dr. Prasanth Vardhan, Head, Department of Planning, SPA Vijayawada delivered the welcome address to the valedictory session and closing ceremony of the Conference. While he reflected on the two-day conference filled with inspiring discussions, innovative ideas, and meaningful collaborations, he highlighted how the conference has served as a platform for knowledge sharing and bringing together various perspectives across India. He mentioned how the deliberations have created awareness on the importance of coastal settlements and have inspired to think beyond boundaries.

Prof. Dr. Ramesh Srikonda, Director, SPA Vijayawada delivered the concluding remarks of the conference. Although the technical sessions of the conference have come to an end, he spoke of it being a beginning to utilize the techno-traditional knowledge gained in the past two days. He then summarized the proceedings of the seven technical sessions of the two-day conference, including the inaugural address by honourable Minister Dr. Ponguru Narayana. He mentioned that the topics which have been deliberated by the experts, working professionals, academicians and young planners in the event of this conference must have made the student community and professionals sensitive towards coastal settlement planning with an integration of technology and indigenous practices. Further, he stated the Conference has re-exposed our students to several aspects of coastal settlement planning, leaving them more receptive than otherwise to this highly relevant domain and enriching their learning experience. Dr. Ramesh Srikonda concluded his address by saying that the Conference also has created scope for academicians to further integrate this focus area into their planning workshop exercises, which the organisers consider the success of the conference.

Mr. Pradeep Kapoor, Council Member and Former Secretary General, ITPI, and Member of the Board of Governors, SPA Vijayawada then addressed the gathering. He shared that during the ITPI Council Meeting held on 26<sup>th</sup> September 2024, the committee constituted by ITPI to frame the curriculum for B. Plan, M. Plan and integrated B. Plan and M. Plan courses has finalised a draft considering recommendations of the Government of India in the National Education Policy (NEP), 2020 to be sent to AICTE and Ministry of Education. He stated that new courses and specialisations at the postgraduate level have been introduced addressing new avenues and technologies in planning. Addressing the student community of SPA Vijayawada, he highlighted NOSPLAN and its rejuvenation in recent years. He invited students to actively participate and contribute to the success of NOSPLAN as a key platform for planning students across the nation to come together. He also highlighted various initiatives of ITPI for students, including how obtaining associate membership at ITPI has recently been eased and how such a membership can contribute to their professional advancement. He mentioned how ITPI has started hosting conferences and other such events in planning schools across the country, and how at the present conference opportunities have been extended to young planners who put up an impressive show.

After felicitation, the Chief Guest for the evening Dr. P. B. Vijayakumar, Senior Designated Counsel in the Hon'ble High Court of Andhra Pradesh and Telangana, addressed the gathering. He appreciated the relevance of the conference, especially in light of the recent disasters in Vijayawada. Dr. Vijayakumar emphasized that all planning exercises are subject to the forces of nature. He observed that India, with its history of engineering wonders from ancient times, continues to produce civil engineering marvels

at par with other countries of the world. He spoke of coastal settlements being rapid areas of growth and vulnerable zones at the same time. He mentioned how the conference has provided a platform for gathering innovative inputs in addressing this situation. Further, he spoke of the potent minds of students as fertile grounds for innovative ideas and how they will carry the torch of successful planning into the future. He concluded by saying that he wishes that all inputs from the conference are carried forward into practice.

Next, Deliberations of the Conference were released by the Chief Guest Dr. P. B. Vijayakumar, Prof. Dr. Ramesh Srikonda, Mr. V. P. Kulshrestha, Mr. Pradeep Kapoor, and other respected dignitaries on the dais.



*Release of the Deliberations of the Conference*

Mr. V. P. Kulshrestha delivered the Vote of Thanks. He extended his thanks on behalf of ITPI for the impressive and successful organisation of the two-day National Conference. He stated that he believed all the deliberations from the conference would lead to actionable outcomes. He recalled key pointers from the Conference regarding coastal settlements and the inaugural address by Honourable Minister Dr. Ponguru Narayana. He extended his thanks to the Chief Guest Dr. P. B. Vijayakumar for his presence. He extended his thanks to Prof. Dr. Ramesh Srikonda and SPA Vijayawada for the organisation of the conference.

With a note of thanks and the National Anthem, the two-day National Conference on Techno-Traditional Indian Knowledge Systems for Eco-Sensitive Coastal Settlement Planning, organised by School of Planning and Architecture, Vijayawada in collaboration with Institute of Town Planners, India (ITPI) and the Andhra Pradesh Regional Chapter of ITPI came to a conclusion.

## **Organising Committee**

### **Overall Coordination**

Dr. Prasanth Vardhan, Faculty and Head, Department of Planning, SPA Vijayawada

Prof. Dr. Ayon Kumar Tarafdar, Professor and Dean (Academic), SPA Vijayawada

Dr. Adinarayanane R., Faculty and Dean (Planning & Development), SPA Vijayawada

### **Organising Sub-Committees**

#### **Online Registration, Website updates, Banners, Posters, Brochures, Invitations, Media and Press**

Mr. Rajeev R.

Ms. Ekta

Dr. Arpan Paul Singh

Ms. Kadari Vineela

#### **Conference Kit, Stoles, Mementoes, Conference Kit Distribution, Registration Desk during the Conference**

Dr. Naina Gupta

Dr. Pavan Kumar MNV

Ms. B. Pravallika

Mr. Tamidipati Gnani Chaitanya

#### **Venue and Stage arrangements, Decoration, Cultural Programmes, Student Volunteer, On-stage management, Digital Screen**

Dr. Rajakumari M.

Ms. Aparna Sai D.

Ms. Monica Sekar

Mr. Kaladurgi Eswara Sai Pratap

#### **Audio and Video Recording, Photography, Electrical and IT Support**

Mr. J. M. Bhagwat

Mr. M. Govindan

Mr. Abhishek Arepalli

Mr. M. Gopinath

#### **Travel, Accommodation, Food, Hospitality and Reception of Guests**

Dr. Valliappan AL

Mr. Shyam Kumar PVS

Mr. Bhargava Teja

Ms. Pushyami N

#### **Certificate (Delegates & Papers), Exhibition Arrangements, Signages, Student Volunteers and House Keeping**

Dr. Diwakar Naik

Ms. Vineetha V

Ms. G. L. Pranathi

Mr. Sandeep Peeke



School of Planning and Architecture, Vijayawada



Institute of Town Planners India