

A Report *of*

**“SUSTAINABLE DEVELOPMENT
RESEARCH IN THE ASIA-PACIFIC”
(SDRAP)**

UNDER



Internal Quality Assurance Cell



MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE, GWALIOR

(A Govt. Aided UGC Autonomous & NAAC Accredited Institute Affiliated to RGPV, Bhopal)

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“SUSTAINABLE DEVELOPMENT RESEARCH IN THE ASIA-PACIFIC” (SDRAP) 19th -21st December 2019

A Short Report

About Conference

Madhav Institute of Technology & Science (M.I.T.S.), Gwalior will host the “SUSTAINABLE DEVELOPMENT RESEARCH IN THE ASIA-PACIFIC”, in partnership with the One Planet’s Sustainable Buildings and Construction Programme, and Manchester Metropolitan University HAW Hamburg, under the auspices of the Inter-University Sustainable Development Research Programme (IUSDRP). While the focus is on India; experiences, case studies and practices from India and other parts of the world, relating to sustainability education, cities, buildings and circularity are welcome.

This Symposium at MITS is a follow-up of the inaugural Symposium held at RMIT University, Melbourne Australia in 2017 supported by the United Nations One Planet SBC programme and the IUSDRP.

The symposium was designed to foster and facilitate the exchange of information, ideas and experiences acquired in the execution of projects with sustainability outcomes.

Publishing partners: *Selected papers will be published in a book under the award winning “World Sustainability Series” published by Springer and also in the “Journal of Sustainability Research”.*

The conference aims at providing a platform for academicians, corporate, research scholars, and students to contribute towards the vision of the conference with the blend of their experiences. It also aims to contribute towards the pool of resourceful knowledge and ideas to carve its niche and to provide an opportunity to all the participants for networking and collaboration in future research projects.

The organizers cordially invite research papers and case studies in the following major themes and their sub-themes:

Theme 1: Education for Sustainability

- ◆ Transformation and change - Capacity building activities
- ◆ Education for all and lifelong learning
- ◆ Systems thinking
- ◆ Critical Thinking and Reflection
- ◆ Partnerships for change
- ◆ Artificial Intelligence

Theme 2: Built Environment Sustainability

- ◆ Urban Regeneration
- ◆ Thermal comfort
- ◆ Building materials and construction works
- ◆ Urban landscapes
- ◆ Heritage conservation
- ◆ Social Sustainability

Theme 3: Circularity in the Built Environment

- ◆ Regenerating and restoring natural capita
- ◆ Maximising asset utilisation
- ◆ Optimising system performance
- ◆ Remanufacturing, recycling and refurbishing products and components
- ◆ Displacing resource use with virtual use

Theme 4: Smart and Sustainable Built Environment

- ◆ Resilient and Liveable Cities
- ◆ Urban informatics
- ◆ Sustainable urban renewal
- ◆ Spatial planning framework for climate adaptation
- ◆ Management, Monitoring, Policy and Law
- ◆ Infrastructure Energy Efficiency

Paper Presentations

A total of 60 participants registered for the symposium.

A total of 54 papers were received for the symposium. After the double blind review process 20 papers were selected for presentation and publication. 16 papers were presented.

S. No.	Title of the Paper	Authors	Organization
1	Are Historic and vernacular urban settlements a repository of Sustainable principles of life and environment? An exploration into the Agraharam settlements of Kerala.	Binumol Tom and Suja Kumari	RIT, MCA Kerala
2	Sustainable City Planning Strategies: Examples extracted from Vernacular settlement patterns in Sri Lanka	K. K. Kamani Syla and K. K. L. Aruna Syla	University of Peradeniya & Central Engineering Consultancy Bureau
3	Parameters for Quantitative Evaluation of non-structure Sustainable strategies for management of water in urban area	Aishwarya Khadse	<i>ARCHITECT</i>

4	Sociability - a precursor to Social Sustainability	Aparna Sathish and Tina Pujara	College of Engineering Trivandrum, Kerala & Indian Institute of Technology, Roorkee
5	Evaluating architectural design schemes for Anganwadi center in Ajjarkad, Karnataka, India by architecture students through community participatory methods	Susan Ang, Rama Devi Nandineni and Norwina Mohd. Nawawi	Deakin University, Australia; Manipal Academy of Higher education, Manipal, India; International Islamic uni. Malaysia
6	How a little design project means a lot to a community: Lessons learnt from the power of partnerships in Ajjarkad Karnataka, India	Susan Ang, Norwina Mohd. Nawawi and Rama Devi Nandineni	Deakin University, Australia; Manipal Academy of Higher education, Manipal, India; International Islamic Uni. Malaysia
7	Appraisal of governance systems' performance as per Comparative Analysis	Kranti Kumar Maurya and Arindam Biswas	IIT Roorkee
8	Strengthening Sustainability in Sri Lankan Construction Industry: Through Corporate Social Responsibility	Vathsala Somachandra, Kamani Sylva and Ranjith Dissanayake	University of Peradeniya
9	SUSTAINABLE MODULAR STEEL-PRECAST CONCRETE BUILDING CONSTRUCTION SYSTEM FOR DWELLINGS IN SINAGPORE	Liew Kian Heng and Liew Yuqi	LIEW STRATEGICS
10	Smart Cities in India: Linkages with Circular Economy	Almas Siddiqui and Dr. Rajindra Kumar Pandit	MITS Gwalior
11	Sustainable Infrastructure planning by using carrying capacity assessment in Gwalior city.	Jayeshkumar Maheshkumar Bhagwat and Varuvel Devadas	Indian Institute of Technology. Roorkee
12	Integrating occupant behaviour in thermal comfort assessment of low-income dwellings	Jeetika Malik and Ronita Bardhan	Indian Institute of Technology Bombay

13	Sustainable Banking - Scale Development and Validation	Mohd Shamshad, Syed Hameedur Rahman Zaini and Asif Akhtar	Aligarh Muslim University
14	Bridging the gap between industry and academia: the case of Indonesia	Usha Iyer-Raniga and Tony Dalton	RMIT University Melbourne Australia
15	Assessment of Urban Quality of Life in Built Environment: A case of Delhi	Shweta Shrivastava and Dr. Devendra Pratap Singh	Amity University, Noida
16	Developing Guidelines for Built Environment of Anganwadi and Its Importance towards Meeting Sustainable Development Goals	Dr. Pradeep G Kini, Kala Choyimanikandiyil, Sri Charan P and Hatem Mahmoud Osman	Manipal Academy of Higher Education, Manipal, Karnataka; The British University in Egypt, Suez Road, Cairo Governorate 11837, Egypt
17	The Role of PCM for Lifetime Heating of Buildings in Cold Climatic Conditions	Anand Kushwah, M.K. Gaur, R.K. Pandit, Vikas Kumar Thakur, Pushpendra Singh and Rishika Shah	MITS Gwalior
18	Role of Design and Material of Buildings in Sustainable Green Development: A Review	Rishika Shah, Rajinder Kumar Pandit and Manoj Kumar Gaur	MITS Gwalior
19	“Building Integrated Photovoltaic for Architectural Façades: a review on technology trends, aesthetic design considerations and industry uptake in Singapore”.	Guillermo Aranda-Mena	RMIT University Melbourne Australia
20	Impact of Building Materials on Heating and Cooling Loads for Social Housing in India	Kiran K. Ghosh, Megha Behal, Sanjoli Tuteja, Sanjay Seth, Rajat Gupta	Impact of Building Materials on Heating and Cooling Loads for Social Housing in India

List of Experts

Out of the total 13 experts, 4 experts were from foreign countries (Germany, Australia, Geneva and Switzerland).

There were 6 keynote speakers each one for 6 sessions. Other than these sessions, there was a separate session named as **“Sustainable procurement of built environment: Learnings from India & abroad”** having 4 experts and 1 chair. An industrial session was also scheduled in which two experts gave a keynote.

S. No.	Name of Expert	Topic	Designation	Workplace
EXPERTS				
1	Sanjay Kumar (SESSION CHAIR)	Sustainable procurement of built environment: Learnings from India & abroad	General Manager	DFCCIL, Ministry of Railway, Government of India, New Delhi, India
2	Mr. Sanjeev Karpe		MD	Native Konbac Bamboo Products Pvt. Ltd., Sindhudurg, India
3	Ms. Gabriella Gyori		Circular Procurement Advisor and Coach	Germany
4	Dr. Megha Rath		Sustainable Health in Procurement Project Coordinator (SHiPP)	Health Care Without Harm (HCWH), Geneva, Switzerland
5	Kate Harris		CEO	Good Environmental Choice Australia (GECA)
		Vice Chair	Living Future Institute of Australia (LIFA)	
INDUSTRY SESSION				
6	Pankaj Khanna	Joint Presentation by DA-TERI on MAS-SHIP Project	Senior Consultant	Sustainable Habitat Development Alternatives
KEYNOTE SPEAKERS				
8	Dr. G.N. Tiwari	PVT technologies and its application	Professor	Center for Energy Studies, IIT Delhi
9	Judith Rogers	Beyond incrementalism: sustainability education and the transformation of 'the world'		RMIT Melbourne
10	Kailashi Shankar	Sustainable Smart Cities of India: A Reality?	Architect-planner	IIT Roorkee
11	Ar. Rajendra Kumar	Changing Urban Dynamic of Indian Cities	Architect & Director	School of Architecture, Noida International University, Greater Noida.
12	Rommel Mehta	Landscape Planning and Design for Sustainable Development	Architect	Former Head of the Department of Landscape Architecture, SPA, Delhi

13	Nidhi Gupta	Sustainability in Built Environments - Moving towards and beyond Zero	Architect & Researcher (Domain : Sustainable Development, Energy Efficiency)	Environmental Design Solutions Pvt. Ltd. [EDS], New Delhi
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Schedule

The three day symposium was conducted with paper presentation on the first two days and city tour of Gwalior on the third day.

The schedule of the conference is attached herewith.

SECOND INTERNATIONAL SYMPOSIUM				
SUSTAINABLE DEVELOPMENT RESEARCH IN THE ASIA-PACIFIC				
19 TH - 21 ST DECEMBER, 2019				
MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE, GWALIOR, INDIA				
SCHEDULE				
DAY 1				
TIME	THEME	ACTIVITY		
9:30 am – 11:00 am	<i>Inaugural</i>	<i>Inaugural Session</i> Introduction to the theme of conference Welcome Address: Dr. Rajindra Kumar Pandit Address by Guest of Honour: Er. Ramesh Agrawal Address by Chief Guest: Shri Prashant Mehta Address by Chair: Dr. Usha Iyer-Raniga		
11:00 am - 11:15 am	<i>Material use and efficiency</i>	Coffee Break		
11:15 am - 11:45 am		KEYNOTE 1: G. N. TIWARI PVT technologies and its application		
12:00 pm - 12:45 pm		IND: 40	IND: 50	IND: 46
12:45 pm		Discussions: 15 min		
1:00 pm - 2:00 pm	<i>Mechanisms for resource use and efficiencies at various scales</i>	Lunch		
2:00 pm - 2:30 pm		KEYNOTE 2: RAJENDRA KUMAR Changing Urban Dynamic of Indian Cities		
2:30 pm - 3:00 pm		IND: 15	SG: 49	
3:00 pm		Discussions: 20 min		
3:20 pm - 3:50 pm	<i>Social imperatives for sustainability and policy</i>	KEYNOTE 3: ROMMEL MEHTA Landscape Planning and Design for Sustainable Development		
3:50 pm - 4:00 pm		Coffee Break		
4:00 pm - 5:00 pm		SL: 31	IND:37	IND:41 IND:44
5:00 pm		Discussions: 20 min		
5:20 pm		Thankyou Note		

SECOND INTERNATIONAL SYMPOSIUM
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SCHEDULE
DAY 2

TIME	THEME	ACTIVITY
9:30 am – 10:00 am	<i>Planning / City Scale</i>	KEYNOTE 4: KAILASHI SHANKAR Sustainable Smart Cities of India: A Reality?
10:00 am -11:15 am		IND: 5 SL: 11 IND: 26 IND: 16 IND: 19
11:15 am		Discussions: 10 min
11:25 am -11:40 am		<i>Coffee Break</i>
11:40 am - 12:10 pm	<i>Education</i>	KEYNOTE 5: JUDY ROGERS Beyond Incrementalism: sustainability education and the transformation of the 'world'
12:10 pm - 12:40 pm		IND: 42 IND: 20
12:40 pm		Discussions: 20 min
1:00 pm - 2:00 pm		<i>Lunch</i>
2:00 pm		SESSION CHAIR: SANJAY KUMAR
2:20 pm	<i>Sustainable procurement in the built environment : Learning from India and Abroad</i>	<i>Expert talk: SANJEEV KARPE</i>
2:40 pm		<i>Expert talk: MEGHA RATHI</i>
3:00 pm		<i>Expert talk: GABRIELLA GYORI</i>
3:20 pm		<i>Expert talk: KATE HARRIS</i>
3:40 pm		Discussions: 10 min
3:50 pm - 4:20 pm	<i>Industry Session</i>	SESSION CHAIR: PANKAJ KHANNA
4: 20 pm		SG: 33
4: 35 pm		Discussions: 10 min
4:45 pm -4:55 pm		<i>Coffee Break</i>
4:55 pm - 5:25 pm	<i>Green Building</i>	KEYNOTE 6: NIDHI GUPTA Sustainability in built environments - Moving towards and beyond zero
5:25 pm - 6:10 pm		IND: 48 IND: 38 IND: 45
6:10 pm		Discussions: 20 min
6:30 pm		Thank you note
DAY 3		<i>Gwalior City Tour</i>

(Dr. R. K. Pandit)
 DIRECTOR