CLIMATE PRACTITIONERS' INDIA NETWORK

Annual Activity Booklet

2022-2023

THINK

COLLAB

INSPIRE

INNOVATE

CPIN
CLIMATE PRACTITIONERS' INDIA NETWORK
Inspire - Think - Collaborate - Innovate

2022-2023

Annual Activity
Booklet

"The greatest threat to our planet is the belief that someone else will save it."
— Robert Swan

"It is our collective and individual responsibility to protect and nurture the global family, to support its weaker members and to preserve and tend to the environment in which we all live."
— Dalai Lama

ABBREVIATIONS

NIUA - National Institute of Urban Affairs

C-Cube - Climate Centre for Cities

CPIN - Climate Practitioners India Network

AFOLU - Agriculture, Forestry and Other Land Use

CBDRRC - Common but Differentiated Responsibilities & Respective Capabilities

FIIs - Foreign Institutional Investors

ABD - Asian Development Bank

AfBD - African Development Bank

IREDA - Indian Renewable Energy Development Agency

MNRE - Ministry of New and Renewable Energy

SIDBI - Small Industries Development Bank of India

WRI - World Resources Institute

CARBSE - Centre for Advanced Research in Building Science and Energy

CRDF - CEPT Research & Development Foundation

CCA - City Climate Alliance

YKA - Youth Ki Awaaz

KIT - Karlsruhe Institute of Technology

IPCC - Intergovernmental Panel on Climate Change

SEWA - Self-Employed Women's Association

IoT - Internet of Things

AI & ML - Artificial Intelligence & Machine Learning

EV - Electric Vehicle

BRTS - Bus Rapid Transport System

PBS - Public Bicycle System

MPLAD - Members of Parliament Local Area Development

GDP - Gross Domestic Product

RMI - Rocky Mountain Institute

NbS - Nature-based Solutions

BSBR - Business Responsibility and Sustainability Reporting

SWITCH - Sustainable Wellness Initiative by The Climate Heroes

CDRI - Coalition for Disaster Resilient Infrastructure

CWAS - Centre for Water and Sanitation

AILSG - All India Institute of Local Self Government

CDCC - Centre for Chronic Disease Control

TERI - The Energy and Resources Institute

SEEDS - Sustainable Environment and Ecological Development Society

CPCB - Central Pollution Control Board

AQLI - Air Quality Life Index

GW - gigawatt

CII - Confederation of Indian Industry

BEE - Bureau of Energy Efficiency

WHO - World Health Organisation

IMD - India Meteorological Department

Foreword

I am pleased to highlight the critical importance of citizen science and community-driven climate action. The Climate Professionals India Network (CPIN) has been at the forefront of fostering citizen collaborations to raise climate awareness and build resilience. Their flexible and innovative approach is an example of how we can collectively tackle the challenges posed by climate change.

Citizen science offers a powerful avenue for democratizing science and empowering communities to take an active role in understanding and addressing local climate impacts. By involving citizens in data collection, analysis, and knowledge sharing, CPIN is does not only aim at generating valuable scientific insights but also cultivating a sense of ownership and agency among participants. This model of flexible, community-driven climate action is crucial for developing context-specific solutions and fostering long-term engagement.

Moreover, studies have shown that participation in citizen science projects can significantly improve data literacy, scientific understanding, and environmental stewardship among citizens. By inspiring and supporting each other through their network, CPIN aims at creating a ripple effect of climate awareness and action that can have far-reaching impacts.

As we face the daunting challenges of climate change, it is essential to harness the collective power of citizens and communities. The approach of enabling citizens to collaborate with local agencies serves as an example of how we can empower people to become agents of change in their own communities. I commend their efforts and encourage others to follow their lead in building a more resilient and sustainable future for all.

Dr. Debolina Kundu
Director, National Institute of Urban Affairs (NIUA)

Messages

Building climate resilience requires collective action, especially from our youth. Young people's innovative spirit and passion for inclusive, participatory solutions are vital to creating a climate-resilient future. By engaging our youth in climate action, we can develop effective, equitable, and sustainable strategies to mitigate and adapt to climate change.

Victor R. Shinde

CPIN has made significant strides in connecting members and facilitating impactful climate actions. As we progress, these initiatives will continue to drive our mission, increase engagement, and support sustainable urban development across India. I am incredibly grateful to all our members for their dedication and efforts.

Anshul Abbasi

The active engagement of Volunteers helped us reach more than 100 cities and cross the 1000 practitioners mark in our network within 2 years from inception. With the continued engagement and vision of supporting ULBs, I believe that we have initiated a movement that can support local ULBs understand more about climate and take decisions for a sustainable and resilient future.

Punit Gandhi

We led the initial months focusing on defining our vision through convenings. We recognized that practitioners needed direct access to their urban local bodies to inform climate-centric decisions. To mainstream climate dialogues, we launched the Volunteers Program to understand practitioners' challenges and support their efforts. The movement has started and there is a long way to go.

Ayushi Govil

The "Make the SWITCH" challenge, a youth-driven initiative, captured the essence of what we hoped to achieve when I came up with the name. We created the challenge with the aim of encouraging individuals and communities to reconsider their daily choices in the urban spaces, understand their climate impacts, and make the 'switch' to sustainable solutions.

Kaveri Bahure

CPIN, the people's network, has unlocked vast opportunities for people-led climate action. By fostering understanding, collaboration, innovation, and implementation, the foundation for climate-resilient cities is laid. As active citizens, anyone can leverage the potential of CPIN to drive meaningful change and create a hopeful future for all.

Deepshikha Sinha

About CPIN

The Climate Practitioners India Network is a one-of-a-kind network which is working towards developing a solutions-oriented engagement platform for citizens across India on Climate Change. The network has been able to onboard 1000+ practitioners from more than 100 cities across India over the two last years. To develop the network forward, it is important to create value within the practitioners registered to develop climate actions on the ground and help the network expand sustainably. For the same, CPIN is involved with multiple initiatives to highlight the work done by the practitioners, act as a forum to seek support on developing climate actions and connect with like-minded individuals across India.
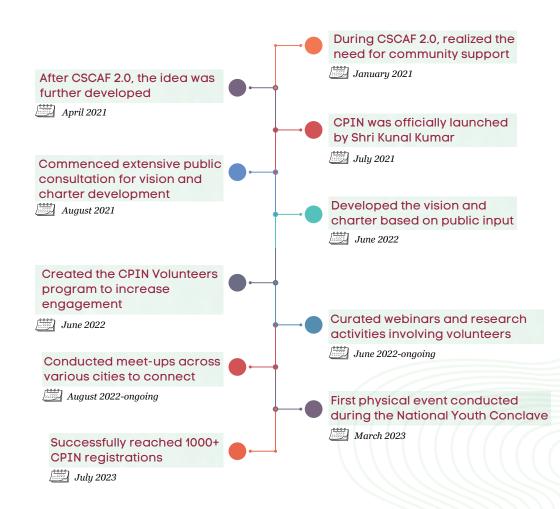
1000+
Registered Members

100+ Cities
where Members have worked on Climate Change

83%
of Young Registered Members

Organogram

After CSCAF 2.0, the idea was further developed
📅 *April 2021*

Commenced extensive public consultation for vision and charter development
📅 *August 2021*

Created the CPIN Volunteers program to increase engagement
📅 *June 2022*

Conducted meet-ups across various cities to connect
📅 *August 2022-ongoing*

Successfully reached 1000+ CPIN registrations
📅 *July 2023*

During CSCAF 2.0, realized the need for community support
📅 *January 2021*

CPIN was officially launched by Shri Kunal Kumar
📅 *July 2021*

Developed the vision and charter based on public input
📅 *June 2022*

Curated webinars and research activities involving volunteers
📅 *June 2022-ongoing*

First physical event conducted during the National Youth Conclave
📅 *March 2023*

Contents

Our Network

Climate Practitioners' from the following 100+ cities are registered members of CPIN:

Agartala	Hamirpur	New Town Kolkata
Agra	Howrah	Palampur
Ahmedabad	Hubli Dharwad	Panaji
Aizwal	Imphal	Panchkula
Ajmer	Indore	Patna
Aligarh	Jabalpur	Pimpri Chinchwad
Amaravati	Jaipur	Puducherry
Amritsar	Jammu	Pune
Aurangabad	Jamshedpur	Raipur
Ayodhya	Jhansi	Rajkot
Bareilly	Jodhpur	Ranchi
Bengaluru	Kakinada	Rohtak
Bhopal	Kanpur	Rourkela
Bhubaneshwar	Kargil	Salem
Bihar Sharif	Karimnagar	Shillong
Bilaspur	Karnal	Shimla
Chandigarh	Kavaratti	Siliguri
Chennai	Kochi	Silvassa
Chhindwara	Kohima	Solapur
Coimbatore	Latur	Solan
Cuttack	Leh	Srinagar
Dharamshala	Lucknow	Surat
Dehradun	Ludhiana	Thane
Delhi	Madurai	Tiruchirapalli
Diu	Mangalore	Thiruvananthapuram
Durgapur	Meerut	Tirupati
Faridabad	Moradabad	Tirunelveli
Gandhinagar	Mumbai	Udaipur
Gangtok	Muzaffarpur	Ujjain
Ghaziabad	Mysore	Vadodara
Gorakhpur	Nagpur	Varanasi
Gulbarga	Nainital	Vishakhapatnam
Gurugram	Nanded	Warangal
Guwahati	Nashik	

Number of registered Climate Practitioners with expertise across 5 thematic areas:

- 49 — Energy & Green Buildings
- 104 — Mobility & Air Quality
- 204 — Water Management
- 251 — Waste Management
- 548 — Urban Planning, Green Cover & Biodiversity

Not to Scale. For representation purpose only

CPIN Volunteers

The Climate Practitioners' India Network is open for enrollment to individuals in various capacities, including college students, working professionals, entrepreneurs, business owners, academic researchers, industry partners, and concerned citizens. To enhance overall engagement within the network and facilitate interactions among diverse members, a Volunteer Program has been established.

The CPIN Volunteer Program aims to improve member engagement and contribute to the growth of a strong network. Volunteer roles are designed for a one-year term, with volunteers expected to commit a minimum of 7 and a maximum of 10 hours per month. Volunteers will work towards realizing CPIN's vision. The first cohort of CPIN volunteers were onboarded in 2022. Selected volunteers contributed in the following capacities:

COMMUNITY ENGAGEMENT
Facilitate community involvement by generating compelling topics for CPIN discussions, actively participating in citizen communities during designated CPIN initiatives, and managing correspondence with CPIN members as needed.

NETWORKING AND OUTREACH
Establish connections and outreach efforts by identifying and involving a range of entities such as startups, NGOs, organizations, academia, etc., for CPIN discussions, collaborate with the Community Engagement team to craft sub-group structures.

GRAPHICS AND SOCIAL MEDIA
Generate visual outreach materials like posters and videos, produce content for posts utilizing platforms such as Canva and Adobe Suite, curate social media campaigns for both CPIN and CPIN events, and create session timestamps outlining key discussion points.

EVENTS AND INITIATIVES
Develop and manage an event calendar, coordinate with volunteers for periodic events, curate panelist lists, secure confirmations, facilitate moderation and technology management, and formulate discussion points for each occasion.

RESEARCH AND LEARNING
Assist in researching and disseminating knowledge beneficial to CPIN, analyze data for CPIN research projects, conduct secondary research as needed, and establish an open repository for members to contribute and access research and knowledge materials.

Aakanksha Chourasia

Meet Shah

Pragya Bohra

Sajal Jain

Sakshi Jindal

Sanjeevani Awasthi

Siddhi Mehta

Soomrit Chattopadhyay

Sukanya Manik Khese

Vishwajeet Poojary

Anuja Bali — Abhiyant Tiwari — Sagnik Dey — Shreya Karmakar — Shriram Manogaran — Annet Bincy Edwin

Jay Shah — Jigisha Jaiswal — Kumar Shashwat — Sanket Vairagade — Akanksha Golchha — Anjali Tamrakar

Manoj Kumar Singh — Sai S. H. Pallerlamudi — Anusha Kant — Lalit Kishor Bhati — Eidho Ti — Lakshman Srikanth

Ranit Chatterjee — Nishant Saini — Shamita Chaudhary — Shyamala Mani — Suneel Pandey — Abhijit Lokre

Arjit Soni — Gayatri Doctor — Saket S Dongre — Hitesh D. Khimaniya — Jit Kumar — Nikita Pathak

Yash Shukla — Avni Mishra — Ayadi Mishra — Lipika Sharma — Charu C. Devshali — Faiza Solanki

Saarthak Khurana — Mercian Daniel — Radhika Jhaveri — Raj Mariwala — Y. K. Sandhya — Ekta Gupta

1

CPIN Webinars

The monthly webinars and the CPIN sub-groups are part of a well-organised initiative aimed at fostering discussions, networking, and knowledge exchange within a community.

I. Monthly Webinars:
- **Frequency:** CPIN webinars are conducted on a monthly basis, precisely on the last Saturday of each month.
- **Facilitators:** The webinars are organised by CPIN volunteers, indicating a commitment to the community's well-being and interests.
- **Objective:** The primary purpose of these webinars is to facilitate discussions and collaborations. It serves as a platform for members of the network to come together and exchange knowledge and ideas.
- **Panel:** The event features a panel of 4-5 climate practitioners who are experts in the chosen topic of the month. These panellists bring their insights and expertise to the table.
- **Open Discussion:** The second hour of the event is dedicated to open discussion. This segment allows all attendees to actively participate, share their thoughts, ask questions, and engage in the dialogue.

II. CPIN Sub-groups:
- **Group Formation:** 3 sub-groups have been established. These are informal groups within the larger network. They provide a platform for members with shared interests to collaborate and interact.
- **Initiation and Leadership:** Any member of the network can take the initiative to create a sub-group.
- **Meetings:** Sub-groups hold frequent meetings. These discussions serve as opportunities for like-minded members to delve deeper into their specific areas of interest, collaborate on projects, and engage in focused discussions.

In summary, this initiative effectively combines structured monthly events with expert panel discussions for broad knowledge sharing and open dialogue. Additionally, it fosters the development of sub-groups, providing a more specialised and interactive platform for members with similar climate-related interests.

Air Quality

Background

Air quality management in India has become a pressing concern due to rapid industrialization, urbanization, and increasing vehicular emissions, leading to severe air pollution in many cities and regions. The Central Pollution Control Board (CPCB) and State Pollution Control Boards (SPCBs) monitor air quality and enforce National Ambient Air Quality Standards (NAAQS). The National Clean Air Program (NCAP), launched in 2019, aims to address air pollution in 122 cities with city-specific action plans. This panel discussion addressed key challenges including inadequate infrastructure, enforcement issues, and the need for public awareness to promote sustainable practices and cleaner air for the well-being of citizens and the environment.

Credits: India Environment Portal

Speakers

- Abhiyant Tiwari, Assistant Professor, Gujarat institute of Disaster Management
- Anuja Bali, Founder, Itti's Skill School for Climate Action
- Sagnik Dey, Institute Chair, Centre for Atmospheric Science, IIT Delhi
- Shreya Karmakar, Research Assistant - Advocacy, Partnerships and External Relations, Coalition for Disaster Resilient Infrastructure (CDRI)
- Shriram Manogaran, Analyst, Clean Air Fund

Takeaways

- One of the major challenges in Indian cities for air pollution is the lack of comprehensive state-level research and data on air pollution specific to each city hinders the formulation of effective pollution control strategies
- Insufficient human resources and capacity in the relevant departments may lead to challenges in implementing and monitoring air pollution control measures
- The availability and transparency of air quality data and the accountability of responsible authorities may be lacking, affecting the decision-making process
- The absence of clear and time-bound targets for reducing air pollution can hamper progress and lead to complacency in tackling the issue
- Inadequate infrastructure and a status-driven society, where owning a car or bike is seen as a symbol of social status, may contribute to vehicular emissions and air pollution
- Efforts to change societal norms and perceptions around vehicle ownership and transportation can be beneficial. Encouraging alternatives to personal vehicle usage, such as cycling, walking, and public transit, can help reduce emissions
- In 2021, more than 80 million LPG connections were granted to mitigate indoor air pollution from conventional cooking practices

Key Insights

- According to a recent study published in Lancet Planetary Health, the combined impact of indoor and outdoor air pollution resulted in the loss of 1.67 million lives in India during the year 2019
- The Air Quality Life Index (AQLI), developed by the Energy Policy Institute at the University of Chicago, estimates that people in India would gain an average of 4.8 years of life expectancy if the country met the WHO's air quality standards
- India has made significant progress in increasing its renewable energy capacity. As of 2021, the country's renewable energy capacity stands at over 98 GW, comprising solar, wind, and other renewable sources

Webinar 2
Water Management
27 August 2022

Credits: J. Carl Ganter

Background

Since 2001, with a population of 285 million, the anticipated water demand has risen from 38,475 MLD to 50,895 MLD in 2011, coinciding with a population increase to 377 million. The recommended service level benchmark for domestic water use in urban local bodies is 135 litres per capita per day (LPCD). However, according to the Central Public Health and Environmental Engineering Organisation (CPHEEO), the current average water supply in urban local bodies is only 69.25 LPCD. This highlights a substantial disparity between the water demand and supply in India's urban areas.

Speakers

- Annet Bincy Edwin, Urban Planner
- Jay Shah, Project Officer, ICLEI South Asia
- Jigisha Jaiswal, Senior Research Associate, Centre for Water and Sanitation (CWAS)
- Sanket Vairagade, Project Officer, All India Institute of Local Self Government (AIILSG)
- Shashwat Kumar, Architect and Planner, Development 2050

Takeaways

- Extreme water stress, contaminated surface water and lack of access to piped water supply were discussed to be the problems of the present.
- The effects from climate change like droughts and rising sea levels also affect access to safe water and sanitation for families in India.
- The impacts of climate change, such as droughts and rising sea levels, further aggravate the difficulties faced by Indian families in securing safe water and proper sanitation.
- Industries generate substantial amounts of waste containing hazardous chemicals and pollutants, which is eventually drained into freshwater sources, subsequently flowing into canals, rivers, and eventually the sea.
- Most cities in India predominantly rely on groundwater due to insufficient water supply meeting demand, thereby adversely affecting both the quality and quantity of groundwater.
- A strategic approach was discussed as the implementation of rainwater harvesting systems to collect and store rainwater, serving as a valuable resource for drinking or recharging underground aquifers.
- Additionally, porous pavements for driveways and walkways proves beneficial, as they enable rain to permeate the ground, replenishing groundwater supplies instead of contributing to runoff and erosion.

Key Insights

- According to TERI, 163 million people lack access to safe drinking water in India, 210 million people do not have improved basic sanitation facilities. 54% of people in urban areas have access to better sanitation, 96% of people have improved water sources. Of India's population, 72% live in rural areas, 84% of which, have access to potable water and 21% have better sanitation.
- To address current and future water demands, there is a crucial need to reuse treated wastewater.
- Additionally, considering the groundwater table, aquifer recharge initiatives should be implemented in most cities.
- Indian cities must initiate transformative changes in water distribution management.
- Key measures include implementing metering, reducing NRW (non-revenue water) levels to around 10%, and ensuring high cleanliness and hygiene standards in slums.

Renewable Energy
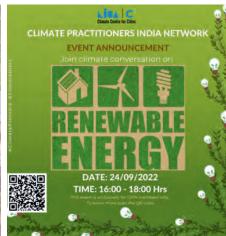24 September 2022

Credits: Mongabay

Background

In this insightful panel discussion, experts delved into the future prospects of India's Renewable Energy sector, particularly in light of India's ambitious 2030 goals. The conversation revolved around policy support, investment incentives and the role of citizens to enhance the effectiveness of India's renewable energy transition. Amidst these discussions, one key area of focus was determining the most suitable renewable energy sources for India, considering solar, wind, biomass, hydropower and emerging technologies in terms of resource availability, scalability, and environmental impact. Regarding carbon neutrality, the panellists delved into the life cycle analysis of renewable energy sources.

Speakers

- Akanksha Golchha, Lead Consultant, Clean Energy Access and Finance, Natural Resources Defence Council (NRDC)
- Anjali Tamrakar, Environmental Consultant, Arghyam
- Manoj Kumar Singh, CEO, Net Zero Think Private Limited
- Sai Sri Harsha Pallerlamudi, Senior Associate, RMI India

Takeaways

- By embracing a more mindful approach to consumption, citizens can actively contribute to lowering energy demand and reducing reliance on conventional, carbon-intensive sources
- While renewable technologies themselves produce little to no direct carbon emissions during operation, the entire life cycle of these systems, including manufacturing, transportation, installation, & decommissioning, must be taken into account to assess their overall carbon footprint
- The energy transition encountered obstacles due to policy rollbacks and changes at the central level, leading to uncertainties in the industry and setbacks in renewable energy projects and investments
- For example, the implementation of the Kusum scheme, designed to assist farmers in adopting solar pumps for irrigation, faced challenges related to landholding issues and support provision, causing delays in fully achieving its objectives
- The Northeast and South regions have potential for hydroelectric power, but solar energy is less effective due to lower radiation levels. Some states with strong wind resources face challenges in providing 24/7 availability. India has both high and medium radiation zones for solar energy and the potential for bio-power generation

Key Insights

- India has significant solar potential, with most places having a potential of 4 to 6 sq. kms. for solar installations. The wind energy potential is substantial, with 202 GW from onshore wind and 174 GW from offshore wind, but efforts are needed to make wind power more economically viable
- The target is to establish one solar city per state. Demand for electricity rises during heatwaves, accounting for 25% of peak power demand, reaching 160 to 210 GW in July. Behavioural changes are required to manage this demand effectively
- There are pockets in India with geothermal energy potential, and green hydrogen is being explored as a clean energy option. Energy storage solutions are crucial for the effective integration of renewable energy sources

Tech-Driven Solutions for Climate Adaptation
29 October 2022

Background

The panel discussion aimed to address challenges in the built environment sector related to climate change, urbanization, and infrastructure demands. It explored how technological advancements could be used to meet infrastructure needs while ensuring sustainability. The discussion emphasized tech-enabled climate adaptation solutions, including smart urban design, green infrastructure, energy-efficient buildings, climate-responsive agriculture, advanced data analytics for early warning systems, and remote sensing and geospatial technologies. Emerging technologies like IoT, AI, ML, and big data analytics play a significant role in implementing these solutions.

Credits: Smart Cities Mission

Speakers

- Anusha Kant, Technical Lead, Climate Change and Sustainable Urbanism
- Eldho Ti, Professor, Civil Department, IIT Bombay
- Lakshman Srikanth, Director, Technical Services, SEEDS India
- Lalit Kishore Bhati, Co-Founder, PATH Architects-Planners & Auroville Integral Sustainability Institute
- Ranit Chatterjee, Co-founder & Director, Resilience Innovation Knowledge Academy India Pvt Ltd and RIKA Institute

Takeaways

- Adoption of tech-driven solutions fosters innovation and economic growth, creating new opportunities in the green technology sector
- Smart urban design, green infrastructure, energy-efficient buildings, climate-responsive agriculture, and data analytics are key tech-driven solutions
- Integration of emerging technologies like IoT, AI, ML, and big data analytics enhances the effectiveness of these solutions
- Tech-driven solutions can help address the urban heat island effect. Implementation of cool roofs, green roofs, and intelligent urban planning using advanced data analytics can effectively reduce heat island effects and enhance climate resilience in Indian cities
- Early warning systems enabled by advanced data analytics help anticipate and respond to extreme weather events
- Remote sensing and geospatial technologies aid in monitoring and assessing climate impacts, supporting informed decision-making
- Embracing tech-driven solutions creates economic opportunities and jobs in the green technology sector
- Digital platforms and mobile applications can empower citizens to report climate-related issues, share ideas, and collaborate with local authorities in developing climate-resilient strategies

Key Insights

- IoT-based smart water management systems can optimize water usage, potentially leading to water savings of up to 30-40% in urban areas
- ML models can analyze weather patterns, solar radiation data, and wind speeds to identify suitable locations for solar and wind power projects. This helps in maximizing energy generation and reducing carbon emissions
- Drones equipped with AI algorithms can assess damages in disaster-affected areas, while ML models help in allocating resources and planning recovery measures
- AI-based grid management systems enable better integration of renewable energy sources into the power grid

Solid Waste Management
26 November 2022

Background

India's solid waste management poses significant challenges due to the immense volume of waste generated and limited resources for proper handling. Only 80% of waste is collected, and merely 28% undergoes treatment, contributing to pollution and contamination of water sources and air. Despite these challenges, the Swachh Bharat Abhiyan initiative has made progress by constructing over 10 crore toilets and improving waste treatment capacity. To further address the issue, the focus should be on waste segregation, recycling, and decentralized waste management systems. Promoting awareness and community engagement is crucial to achieving sustainable waste management practices.

Credits: WasteAid

Speakers

- Ekta Gupta, Environment Consultant, Corporation of Delhi (MCD)
- Nishant Saini, Executive CSR, NTPC Ltd.
- Shamita Chaudhary, Founder, Malba Project
- Shyamala Mani, Sr Advisor, WASH & Waste Management, Centre for Chronic Disease Control (CDCC)
- Suneel Pandey, Director, TERI

Takeaways

- India's SWM plan faces challenges with insufficient infrastructure and resources, requiring significant investments to match developed nations' waste treatment facilities and advanced technologies
- Improper waste disposal leads to pollution of air, water, and soil, which directly impacts public health. India must enforce stricter regulations, improve segregation, and implement effective monitoring for public health prioritization
- Extended Producer Responsibility (EPR) is a concept where waste generators, particularly major factories, are held accountable for the proper disposal and management of the waste they produce. EPR implementation in India involves tracking the compliance of waste-generating factories through regulatory mechanisms and monitoring systems
- Segregating waste at the source requires a change in mindset and behavioral patterns. Civil societies and NGOs play a crucial role in creating awareness, organizing workshops, and implementing community-level initiatives to educate people about the benefits of waste segregation

Key Insights

- According to a research article published in the Journal of Urban Management (December 2021), the total annual waste generated in India amounts to 62 million metric tons (MT). Among this waste, 7.9 MT is classified as hazardous waste, 5.6 MT is plastic waste, 1.5 MT is e-waste, and 0.17 MT is biomedical waste
- The Indian Central Pollution Control Board (CPCB) has recently projected that the annual waste generation in India will surge to 165 MT by the year 2030. Consequently, the generation of hazardous, plastic, e-waste, and biomedical waste is expected to increase proportionately as well
- Improper waste management practices contribute to water pollution. According to a report by CPCB, about 70% of the surface water in India is polluted to a varying extent

Public Mobility Infrastructure
28 January 2023

Credits: WRI India

Background

India has been facing challenges related to traffic congestion, air pollution, and limited public transportation options in urban areas. In response to these challenges, the Indian government has been investing in various public mobility initiatives. Major developments to promote sustainable mobility included the expansion of the metro rail network, BRT systems, adoption of EVs and establishment of its charging infrastructure. Despite these developments, challenges persist in terms of ensuring last-mile connectivity, affordability and accessibility of public transportation. The central focus of this panel discussion was the challenges encountered and the continuous endeavours and investments aimed at establishing a comprehensive and efficient transportation system.

Speakers

- Abhijit Lokre - Partner and Founder, The Urban Lab
- Arjit Soni - Founder & CEO - MYBYK (Greenpedia Bike Share Private Limited)
- Gayatri Doctor - Sr Associate Professor, Faculty of Management, CEPT University
- Saket S Dongre- Founder & Managing Director - Illuminar Ventures Pvt Ltd

Takeaways

- The public mobility sector contributes to approximately 23-24% of carbon emissions, which have detrimental effects on the environment
- After the COVID-19 pandemic, there has been an increase in individual transit, with a notable share of 70-80% being two-wheelers
- To improve climate conditions related to mobility infrastructure, efforts are being made to promote mobility as a service concept, which involves integrating various modes of transportation such as biking, cars, buses, and metros into a cohesive system with intermodal transit hubs
- Improvements in transportation infrastructure can lead to increased usage and congestion
- However, the adoption of electric vehicles, which use lithium batteries, requires careful management due to their reactivity and environmental impact
- Implementing integrated ticketing and fare systems across different modes of public transportation can simplify the payment process for commuters and encourage multimodal travel
- Improving traffic management and road safety measures can lead to smoother traffic flow and safer roads, enhancing the overall efficiency of public transportation

Key Insights

- The overall electric vehicle (EV) sales in April 2023 declined 21% to 1,10,503 units from March 2023. However, the sales increased by 51% from that in April 2022
- EV registrations in April 2023 were driven by electric two-wheelers and passenger-type electric three-wheelers, which together accounted for 90.48% of total registrations in the month
- According to the Bureau of Energy Efficiency (BEE) and the Ministry of Power data, 8,738 operational public electric vehicle charging stations have been installed in India, as of, June 2023
- However, India would need to install more than 4 lakh chargers annually with a total of 13.20 lakh chargers till 2030 according to a report released by Confederation of Indian Industry (CII)

Climate Change in Informal Settlements
25 January 2023

Background

Informal settlements, also known as slums, are experiencing significant population growth as millions of people migrate to cities annually. It is projected that by 2050, 2/3rd of the global population will live in urban areas. In India, one out of every 6 urban dwellers resides in slums, which lack essential infrastructure, making them vulnerable to extreme events and limiting access to basic resources. These settlements primarily house socio-economically marginalized populations, which further increases their climate vulnerability. According to the IPCC's Sixth Assessment Report, the growth of vulnerabilities is most pronounced in urban informal settlements.

Credits: Arko Datto

Speakers

- Hitesh D. Khimaniya, GIS Expert, Geomaze Education & Research Development
- Jit Kumar, Former Chief Town Planner, Sahara Prime City Ltd.
- Nikita Pathak, Program Coordinator, Mahila Housing SEWA Trust
- Yash Shukla, Principal Researcher and Centre Head, Centre for Advanced Research in Building Science and Energy (CARBSE), CRDF-CEPT University

Takeaways

- Directing investments towards reducing climate risks for low-income and marginalized residents in informal settlements
- Developing solutions at the community level to cope with disasters, extreme events, and heat stress. Indigenous solutions and community-based approaches can be effective in addressing challenges due to the lack of immediate access to resources
- Engaging residents in decision-making processes ensures that solutions are tailored to their needs and challenges
- Climate change-induced heat stress is a significant concern for informal settlements. Addressing this issue through appropriate design and planning interventions can enhance residents' thermal comfort and overall well-being
- Recommendations may involve policy changes that support climate change adaptation efforts in informal settlements.
- Implementing regulations and guidelines can promote climate-sensitive planning and resilience-building in urban areas
- The solutions proposed should not only address climate vulnerabilities but also accommodate developmental co-benefits, such as improved sanitation, hygiene, and safety

Key Insights

- As per survey report by UN Habitat, it is estimated that around 60-70% of the world's urban population living in slums or informal settlements belongs to marginalized communities
- As of the latest data available by World Bank, around 33% of cities in the world have formal plans in place to address the needs of informal settlements
- The SEWA (Self-Employed Women's Association) Trust actively participated in the Delhi Development Plan, advocating for the concerns and rights of over 1.5 million informal community members
- As per C40 Cities report, the contribution of informal settlements to climate change is significant. For example, it is reported that informal settlements in cities contribute to about 10-15% of urban greenhouse gas emissions globally

Gendered Impacts of Climate Change: Women's Vulnerability and Resilience

11 March 2023

Credits: UN Women

Background

The session was held on International Women's Day to highlight the disproportionate impact of climate change on women, who are not only victims but also powerful agents of change. In developing countries, women constitute 70% of the agricultural workforce, facing heightened vulnerability to climate-related disasters. Additionally, water scarcity burdens them with household water collection, negatively impacting their health, education, and economic opportunities. Limited access to resources and decision-making further complicates climate adaptation for women. Nevertheless, women contribute significantly to climate resilience through their traditional knowledge and community-based adaptation efforts. Empowering women and promoting gender equality can positively affect climate change mitigation.

Speakers

- Anuja Bali, Founder, Itti's Skill School & MyWasteMyResponsibilty
- Avni Mishra, Consultant, Consortium of International Agriculture and Research (CGIAR) - Gender Impact Platform
- Ayadi Mishra, Co-Chair, We Are Tomorrow Global Partnership (WAT-GP)
- Lipika Sharma, Advocate & Senior Legal Consultant, UN Women & Women Resilience to Disasters Knowledge Hub (WRD)

Takeaways

- When disasters strike, women often face greater risks and vulnerabilities compared to men such as increased mortality, severe health impacts, significant economic loss, displacement & migration and limited access to resources. On the other hand, Women demonstrate their strength as agents of change by actively engaging in post-disaster recovery and resilience-building efforts within their communities
- To prevent climate change solutions from perpetuating gender norms, a gender-sensitive approach is crucial across sectors like law, policy, agriculture, and waste management
- This entails recognizing the unique needs and experiences of women and non-binary individuals and integrating their perspectives into climate action plans
- Short-term measures to address the gendered impacts of climate change on women in India may include targeted financial support and capacity-building programs for women, ensuring their inclusion in climate-related projects and initiatives.
- Long-term strategies may involve advancing gender equality in education, healthcare, and economic opportunities, thereby empowering women to effectively cope with climate challenges

Key Insights

- As per a report published by Climate Policy Initiative 2021, only about 2% of global climate finance goes to projects that focus on gender equality and women's empowerment
- Studies conducted by WHO suggest that women face higher risk of heat stress, malnutrition, and infectious diseases, which could result in an estimated 38,000 additional deaths per year by 2050
- Incorporating gender-responsive approaches into environmental law and intellectual property rights will involve acknowledgement of distinct effects of climate change on women and men, aiming to improve women's access to resources, land rights, and technology transfer for climate adaptation and mitigation
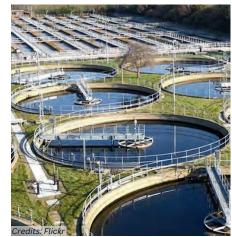
Financing a Climate Resilient Future

29 April 2023

Credits: Flickr

Background

The session highlighted the importance of climate financing in climate action. It emphasized that financial resources are essential for implementing effective climate solutions. Climate financing is often overlooked in plans, despite being crucial for achieving ambitious climate goals. The current investment in climate action is inadequate, being only a fraction of what is needed. This significant gap underscores the urgent need for increased funding from governments, private sectors, and international cooperation to combat climate change effectively. Mobilizing public and private funds is essential, as well as supporting developing nations to ensure a fair transition to a sustainable future.

Speakers

- Charu Chandra Devshali, Senior Research Fellow, Climate Change Group, M S Swaminathan Research Foundation (MSSRF)
- Faiza Solanki, Sr. Program Associate, WRI-India
- Saarthak Khurana, Manager, Climate Policy Initiative

Takeaways

- Climate finance has primarily focused on mitigation efforts, but transferring funds from developed to developing countries is challenging due to localized gains
- Sector-wise competition for funds poses obstacles to compromise and increased funding
- The principle of climate funding, based on CBDRRC, requires a push from the Global South to be reminded of these responsibilities
- Prioritizing clean electricity and mobility sectors was suggested, followed by addressing harder-to-abate sectors
- The introduction of new financial instruments like credit guarantees and loss and damage funds, along with internalizing externalities and encouraging renewable energy-based industrialization, are vital considerations
- Climate adaptation programs receive less attention compared to mitigation, with MSMEs receiving higher climate finance allocation than the agriculture sector
- Government sources like IREDA, MNRE, and SIDBI, and development financial institutions such as the ADB and AfDB play crucial roles, while private funds like the Green Climate Fund and CSR funds increasingly invest in climate-related initiatives

Key Insights

- Currently, the global climate investment stands at approximately USD 636 billion, but the required amount is much higher at USD 3.7 trillion. In India, around INR 3.5 trillion has been invested, but INR 11 trillion is needed
- The initial investment amounts to approximately INR 35,000 crore for Green energy transition and INR 19,700 crore for technology upgradation
- The introduction of the new BRSR reporting framework is a positive step, and green bonds worth around INR 1,62,000 crore are expected to be traded, with about 80% of these bonds dedicated to power generation

Mental Health Impacts of Climate Change
27 May 2023

Credits: Getty Images

Background

The mental health impacts of climate change are multifaceted and vary across different populations and geographic regions. Vulnerable communities, such as those in developing countries or areas prone to extreme weather events, may be more susceptible to experiencing mental health challenges related to climate change. Some key aspects addressed in this panel discussion were psychological distress, social and economic stressors, and climate anxiety. Additionally, the discussion focused on examining the adverse effects of climate change on the mental well-being of children and adolescents, as well as exploring strategies to foster resilience through active coping mechanisms, social support, and economic resources.

Speakers

- Mercian Daniel - Sr. Research Fellow, The George Institute of Global Health
- Radhika Jhaveri - Independent Climate/Environmental Campaigner
- Raj Mariwala - Director, Mariwala Health Initiative
- Y.K. Sandhya - Sr. Research Fellow, The George Institute of Global Health

Takeaways

- Climate Change extends extreme weather conditions leading to physical and mental stress, among inhabitants. Fluctuation in heat temperatures, droughts, floods, cyclones or other climate extremes effect vulnerable communities physically, socially as well as emotionally.
- As not every person in society is able to access comfortable shelter and work-space conditions, the anxiety levels vary in people on the basis of age, gender, abilities, economic strata and workspace exposure to extreme climatic conditions.
- One of the most affected communities are persons with disability who experience physical - mental distress, and face difficulties manoeuvring daily life activities.
- There are health initiatives, state level government departments and non-governmental organisations that focus on such concerns. Connecting to these bodies can initiate proper aids for treatment and possible solutions.
- Climate change has also impacted agricultural patterns and produce affecting livelihoods of farming communities thereby, impacting their mental health.
- According to World Health Organisation, climate change exacerbates many social, environmental and economic risk factors for problems in mental health and psychosocial wellbeing.

Key Insights

- Vulnerable populations in India, such as low-income communities, children, the elderly, and those with pre-existing mental health conditions, are at a higher risk of experiencing mental health challenges due to climate change-related stressors.
- The The International Plant Protection Convention (IPPC) has revealed that rapidly increasing climate change poses a rising threat to mental health and psychosocial well-being; from emotional distress to anxiety, depression, grief, and suicidal behaviour.
- Mental health activists and practitioners face social resistance and do not receive desired support from community members. Major awareness initiatives are needed.
- Building resilient communities to work within themselves may lead to a path of creating mentally equipped society to tackle climate change effects.

Climate Change and Society

01 July 2023

Credits: Shutterstock

Background

The session brought to light a range of methods to raise awareness, and the panelists expressed their opinions regarding the importance of government regulations in tackling social inequality and lessening the impact of climate change on communities at risk. Furthermore, potential repercussions on the overall economy and GDP due to the widening societal gap resulting from the effects of climate change were deliberated upon. The conversation also encompassed potential governmental reforms designed to aid vulnerable sections of society. The roles of businesses, corporations, governments, and policymakers in supporting communities in need were explored. One of the central themes of discussion involved exploring alternatives to bridge the accessibility divide in climate finance for vulnerable communities.

Speakers

- Maitreyee Sevekari - Doctoral Researcher, Karlsruhe Institute of Technology (KIT)
- Preeti Panigrahi - Associate Director, Socratus Foundation for Collective Wisdom
- Shravan Shankar - Co-Founder, Climake

Takeaways

- Government rules and regulations are essential to address social inequality and mitigate the impact of climate change in order to ensure equitable resource allocation, environmental justice, fair access to opportunities and financial support
- Climate change can lead to forced migration and displacement of communities, particularly those living in vulnerable areas.
- Regulations can guide land-use planning, relocation strategies, and resource management to minimize the impact of such displacement and protect the rights of affected communities
- The deepening societal inequality can have significant implications on India's overall economy and GDP including reduced agricultural productivity, labor market challenges, increased healthcare costs, reduced human capital development
- The allocation of tax funds for addressing climate change is a complex and should incorporate certain considerations such as magnitude of climate challenges, economic capacity, policy goals, investment returns, public participation, coordination with private sector and preparedness
- NGOs and grassroots organizations can play crucial roles in aiding vulnerable communities by lead small-scale projects and provide emergency relief, evacuation plans, and shelter during disasters

Key Insights

- Strategies that can help to bridge the accessibility gap to climate finance for vulnerable communities could be targeted funding mechanism, capacity building, transparency, local financial institutions, local innovation, direct funding channels, partnership, and policy alignment
- Around 20 million tribal people in India are particularly vulnerable to climate change impacts due to their close dependence on natural resources and ecosystems
- India recorded 2227 human casualties due to extreme weather events in 2022, according to the annual statement on climate of India issued by IMD

CPIN Meet organised in Pune in May '23 for the development of City Climate Action Plan

CPIN Meet organised in Mumbai in May '23 to enable establishment of City Chapters via CPIN ambassadors

CPIN Meet organised in Leh in May '23 through Climate Action Plan development to deliberate on climate issues and identify potential areas in the city

CPIN Meet organised in Vishakhapatnam in October '22 to build the capacity of 100+ students

CPIN Meet kickstarted in Ahmedabad in August '22 to deliberate on modes of citizen engagement

2 CPIN Meet

CPIN Meet is an offline discussion conducted in various cities across India with the aim of addressing climate-related challenges and fostering community engagement. As of now, five CPIN Meets have taken place in Pune, Leh, Ahmedabad, Visakhapatnam, and Mumbai. These meetings serve as a platform for productive discussions with citizens and community leaders on a range of climate-related issues.

I. Objective:
CPIN Meet provides a forum for participants to discuss and identify the unique environmental and climate challenges faced by their respective cities. This can encompass issues like air quality, water scarcity, urban heat islands, waste management, and more. CPIN Meet also aims to showcase and highlight the various initiatives and efforts taken by the citizens themselves to address climate challenges. This might include community-driven projects, awareness campaigns, and grassroots actions that contribute to environmental sustainability.

II. Identification of support requirements and best practices:
Additionally, participants have the opportunity to express what kind of support and resources are needed to address climate challenges effectively. This can involve financial assistance, technical expertise, policy changes, or infrastructure development. CPIN Meets facilitate discussions on the success and impact of initiatives that have been implemented in the city.

III. Replication in other cities:
One of the overarching goals of CPIN Meet is to explore whether successful initiatives and strategies from one city can be replicated or adapted in other Indian cities. This cross-pollination of ideas can lead to more comprehensive and effective climate action across the country.

Overall, CPIN Meets are vital in fostering community engagement and raising awareness about climate change at the local level. By bringing together citizens, community leaders, and experts to discuss challenges, share solutions, and collaborate, these meetings play a significant role in driving climate action and building resilient, sustainable cities in India.

CPIN Meet in
Pune

24 May 2023

Discussion

- Identification and prioritisation of climate issues in Pune such as water stagnation, traffic congestion, waste management, urban heat effect, loss of biodiversity
- Mapping of flooding hotspots, congestion lanes, urban heat island, vulnerable areas across the municipal boundary
- Specific issues discussed were frequency of cloud burst incidents, sufficiency of existing water supplies and potential future water sources, water recharge initiatives
- Various climate actions taken by NGOs, academic institutions and other community groups such as raising awareness, conducting climate research, developing baselines, organising campaigns
- Couple of solutions suggested by participants included geotagging of borewells, dug wells, and springs to address groundwater depletion and pollution, equitable water supply distribution scheme

Key Insights

- Loss of biodiversity and habitat fragmentation, flash floods and improper waste disposal were among the high priority areas
- As per recent data, the incidents of human and wild animal conflicts have increased on a significant level with 139 such incidents in 2020, this number has gone up to 341 between April 2022 and March 2023
- Focus points to address climate issues in Pune were identified including improvement of the drainage system, explore alternative water sources, promote rainwater harvesting, conservation of water bodies, focusing on polluted wells, enforce the use of STP treated water in construction activities to reduce groundwater usage

CPIN Meet in
Mumbai

17 May 2023

Discussion

- Handholding of city officials to help them understand, prioritize, and implement effective strategies to address climate change and promote sustainable actions within their cities
- Understanding the establishment of ALMs (Advanced Locality Management), their objectives, successes and challenges
- Various climate actions have already been taken such as: door-to-door collection of segregated garbage, covering the storm water drains with a footpath using MPLAD funds, development of green spots, development of gardens and parks, education about waste management and composting
- However, ALMs saw a decrease in participation due to limitation of resources, exploitation of the process and changing dynamics
- Identification of issues such as lack of specific guidelines and measurable deliverables

Key Insights

- Establishment of a framework aimed at engaging CPIN members as active CPIN ambassadors for climate initiatives in Mumbai and other enthusiastic urban areas, to be referred as 'City Chapters'
- Break down larger objectives into smaller, manageable deliverables that can be tracked and evaluated, providing a roadmap for communities and individuals to follow
- Establish partnerships to strengthen ALM initiatives
- Collaboration with educational institutions, local businesses, and NGOs to gain support and resources for ALMs can help in the process
- Establishing a culture of continuous learning and integrating mechanisms for evaluating the effectiveness of training programs

CPIN Meet in
Leh

10 May 2023

Discussion

- NGO members from various organisations came together to discuss about the Leh climate, it's fragility and concerns of everyday life.
- Identified climate challenges included flash floods, availability of potable water in summers and loss of usable water in winters. Urbanisation challenges also include encroachment of land resource, especially in habitable gauges, traffic congestion during tourist season, increased polution with tourist inflow and dog menace leading to last mile connectivity.
- Plastic waste during tourist season is a big climate threat as it hampers water courses and natural canals leading to further issues in natural resource management and public health.
- Climate change has begun impacting livestock, public property leading to loss of life and agricultural produce.

Key Insights

- Leh experiences a substantial summer season lasting for approximately 6-7 months. This extended period serves as the primary working season for the region.
- Leh is witnessing a trend of increasing temperatures, particularly during the summer months. This rise in temperature contributes to various challenges, such as alterations in the natural landscape
- Leh is characterized by a 'cold and sunny' climate. Leveraging this unique climatic condition, the region employs solar passive construction techniques.
- With more than 300 sunny days annually, Leh utilizes these construction methods to capture and harness solar heat efficiently, contributing to sustainable and energy-efficient practices in the built environment.

CPIN Meet in
Vishakhapatnam

21 October 2022

Discussion

- Awareness campaign on climate change with 100+ students including knowledge dissemination about the causes of climate change and impacts of climate change (local and global)
- Cities both contribute to and are affected by climate change due to their significant energy consumption, emissions, and vulnerability to the impacts of changing climate patterns
- Students received training in different sectors that contribute to climate change like the emission of greenhouse gases, energy usage, transportation systems, industrial activities, and waste generation
- Furthermore, the effects of climate change were addressed, including phenomena like the urban heat island effect, severe weather events, rising sea levels, scarcity of water resources, disturbances in ecosystems, and areas of susceptibility

Key Insights

- The engagement witnessed organic conversations about disaster risk reduction in the city of Visakhapatnam
- The citizens of Vizag have been working as volunteers with city administration
- The Integrated Command & Control Centre (ICCC) is equipped with emergency response systems and there is a smart pole network that facilitates two-way exchange among citizens and officials of Greater Visakhapatnam Municipal Corporation (GVMC).
- There are strong community groups, NGOs for nature and ethnic groups, academic groups and collectives working for the betterment of the city.
- GVMC also has a "Eco Vizag" program that collaborates for plantation, coastal edge conservation, rejuvenation of urban ecological areas, etc.

CPIN Meet in
Ahmedabad

29 August 2022

Discussion

- Discussed about the various activities that can be started under the CPIN activities. Break down larger objectives into smaller, manageable deliverables that can be tracked and evaluated, providing a roadmap for communities and individuals to follow.
- Establishment of a framework aimed at engaging CPIN members as active CPIN ambassadors for climate initiatives in Mumbai and other enthusiastic urban areas, to be referred as 'City Chapters'.
- Understood the different activities that local NGOs take up with the community to safeguard the city environment. Further also understanding the base level needs of the city governments in developing such solutions.
- The volunteers shared some of the best practices they have been involved with or have seen functioning at the community level.
- Strategizing on city officials can be handholded to develop climate actions on ground.

Key Insights

- Climate Centre for Cities at the National Institute of Urban Affairs (NIUA) organized the first in-person Climate Practitioners India Network (CPIN) in Ahmedabad. 20 members from various parts of the country attended the event. The discussion focused on the future mode of engagement for better collaboration, data initiatives in cities by members, development of knowledge products and citizen awareness campaigns.

CPIN Meet organised in Pune in May '23 for the development of City Climate Action Plan

Citizen-civic partnership as ALM groups working in Mumbai | Credits: Hindustan Times

CPIN Meet organised in Leh in May '23 through Climate Action Plan development to deliberate on climate issues and identify potential areas in the city

CPIN Meet organised in Vishakhapatnam in October '22 to build the capacity of 100+ students

CPIN Meet kickstarted in Ahmedabad in August '22 to deliberate on modes of citizen engagement

Ms. Maitrayee Kamble delivering 'CPIN Talks'

Ms. Vedika Nair introducing Youth Climate Leadership Program

Mr. Ranveer Tanwar interacting with audience about steps to conserve water bodies

Glimpse of attendees of the session

Speakers and moderators of the 'CPIN Talks' during National Youth Conclave

3

CPIN Talks

The citizens of the country are aware of the adversities of climate change and have been seeking solutions to solve the same. It is imperative to develop a solutions-oriented engagement platform for the practitioners across India on Climate Change. CPIN Talks aims to be the platform to showcase the new and innovative solutions that have worked in the field of climate and sustainability.

The talks tend to initiate dialogues and efforts of individuals and communities to form a network of best practices on various levels, inspiring and informing fellow citizens.

#BuildingClimateAction

at National Youth Conclave

14 March 2023

The solutions showcased the work and efforts being led by various Non-Governmental Organization (NGO) and Start-ups, and how they are facilitating change in the ecosystem bringing solutions to collectively build climate resilience. The CPIN Talks will showcased 15-minute impact pitch by each changemaker (speaker), followed by interaction with attendees of the session.

The platform also acted as an invigorating space for the young enthusiasts who would want to work in similar fields.
It helped them understand how enterprises are leading the change, breaking the boundaries and how they plan to upscale their impact. The changemakers also focussed on the core skill sets required for the the attendees to understand how their skills can be utilized within their interest areas.

The objectives of the session were -
1. To provide unique perspectives to the youth on climate actions and community engagement.
2. Peer-to-peer learning among attendees.
3. Awareness to collaborate within formal and informal sectors for climate action

Mr. Ramveer Tanwar (Pond Man), who is a much-celebrated Environmentalist and TEDx Speaker, based in Greater Noida has been passionate about water conservation since his student life. He has contributed to restore and rejuvenate 40+ ponds and lakes in all over India. Besides this Mr. Tanwar has major contribution in development and maintenance of 8 urban forests. He has been a part of many related projects and on panel consultant for various corporate and public endeavors.

MR. RAMVEER TANWAR

Say Earth | PONDMAN

"A city is empty without a waterbody - lake, pond. It is an important component of a city. So it is very important to rejuvenate and protect these waterbodies for a sustainable city with increase in biodiversity"

- Water bodies are essential physical and social infrastructure of any city
- Flooding happens when human activities encroach natural course or catchment areas of natural drainage system
- Working on Nymphal pond, brought back 450+ migratory birds, supporting eco-tourism
- There is a 10 step process to rejuvenate a pond that anyone can follow !

MS. MAITREYEE KAMBLE

स्वRA-Sanitech | DICCI NextGen

Ms. Maitreyee is a young entrepreneur based in Pune with a strong sense of social responsibility through her business ventures.

Her startup, "स्वRA-Sanitech," has developed a mobile app-based service called Honey Sucker, which operates on a 'Circular Sanitation Economy' model, aimed at uplifting sanitation workers. She has also launched 'TI Bus,' which offers one-stop sanitation services to women. Currently, she is also working as the DICCI NextGen National Convener, with the aim of encouraging entrepreneurship and innovation among SC/ST entrepreneurs.

"Smart Sanitation is a sustainable business strategy with a lot of interesting scope and an aim to protect future generation while investing in the present. Passion, Persistence and Patience is the key"

- A green business is something that doesn't create a negative impact on the environment or society & does not compromise the future.
- The 3 P's - Passion, Persistence, Patience - are essential to create a sustainable business.
- She worked with many grass-root communities and organisations to support sanitation workers, especially women, to become entrepreneurs.
- A mobile app called HoneySucker promotes getting a septic tank cleaned without fatal harm to the workers. Look it up!

MR. ANSHU SHARMA

SEEDS | Disaster Management Strategist

Dr. Anshu Sharma is an urban planner with a doctoral degree in global environmental studies from Kyoto University, Japan. He is a Co-Founder of SEEDS, a not-for-profit organization that enables community resilience through practical solutions in the areas of disaster readiness, response and rehabilitation.

Over the last 30 years, Anshu has worked extensively on disaster risk and climate emergency issues. He has also co-edited books on Indigenous Knowledge and Disaster Risk Reduction.

"Risk assessment supported by building AI technologies can help plan better strategies to manage disasters in a city"

- Google Maps has improved so much, all of us carry a lot of information of homes and communities in our pocket.
- SEEDS helped Delhi government map around 250 more water bodies, that were missed, in the city. Mapping identifies assets.
- Since cyclone FANI, he has been working on an AI (Artificial Intelligence platform) to have efficient risk mitigation strategy for climate resilience.
- SEEDS used the AI model to look at all rooftops to understand the existing risks to create a Disaster Risk Reduction Plan, for a small town in Puri.

Why Waste Wednesdays Foundation in association with MCD is involved in raising awareness against single-use plastic and reducing the use of SUP by translating awareness into practice and providing alternatives at sources.

Dr. Makhija has been instrumental in achieving 100% waste segregation at source in
Navjeevan Vihar and maintaining the same for last three and a half years now. She has upcycled and distributed over 10000 cloth bags to residents, domestic helps, construction site workers, JJ Clusters etc.

DR. RUBY MAKHIJA
Why Waste Wednesdays Foundation

Ranjan Kishor Panda, popularly known as Water Man of Odisha and a Climate Crusader, he convenes two active networks: Water Initiatives (WI) and Combat Climate Change Network, India. He is also the co-founder of the #Youth4WaterIndia campaign.

He is a well-known expert on water, sanitation, disasters and climate change issues; and also a senior columnist. He was awarded by the President of India as the first "Green Hero" by NDTV-TOYOTA and many more awards and recognitions to his credit.

MR. RANJAN PANDA
Water Man of Odisha | Youth4WaterIndia

"Challenges are opportunities! We, as youngsters of the country need to seek out for these opportunities, analyze the problems, strategize the methods and execute to make a change. The best time to do it is now. The best way to do it is Together..."

"Technology is the supplement to the ultimate factor i.e, mother earth. We need to first save and protect our planet and it's ecosystem followed by technological support."

- We use a lot of single use plastics in our lives - plastic items used for 12 minutes stays on the planet for 1000 years!
- Navjivan Vihar neighbourhood achieved 100 percent waste-segregation and has been recycling its dry waste
- She has been spearheading initaives like 'Crockery Bank', reducing use of single use plastics at public gatherings
- To achieve community projects - prioritise, analyse, strategise, execute, plan, and then monitor

- ...We don't call them water bodies or ponds or lakes, we call them TRADITIONAL WISDOM.
- We have several type of structures in villages of India depending on local geo-ecological conditions, but we are gradually forgetting the importance because we have grown to rely on concrete engineering, a lot.
- We should not just revive the water bodies but the science around it, it's a living eco-system.
- Plastic Free Picnic Challenge, floated by Youth4Water(2019), also an opportunity to get benefitted with nature.

Shiekh Intekhab Alam is an Architect - Urbanist by training, equally passionate about research and practice. His firm 'EMARA' is engaged in many architecture & landscape projects across India, specifically in Ladakh and Delhi. A strong influence of Ladakh is reflected in the design philosophies, directed towards vernacular and traditional wisdom.

His work entails an environment of community interaction including students, creating a platform for Social Design. Currently, Alam is also a visiting faculty at Jindal School of Art and Architecture, Sonepat, Haryana.

MR. SHIEKH INTEKHAB ALAM

EMARA

"Traditional practices informing architectural practices can be a solution to protect biodiversity of various climate challenged zones, thus mitigating climate change"

- He highlighted "Indigenous knowledge informing architecture design processes help mitigate climate change."
- Vernacular architecture means building using local materials (like wood, rammed earth, mud), local methods of construction applying native expertise.
- He also emphasises that built solutions remains within the region, modern or western systems might not be always useful
- Youth from across the country learn and experience this art of construction, with them.

Vedika Nair is a student of Sanskriti School currently studying in class 11. As a member of her school's student council, Vedika has undertaken several projects focusing on themes of environment and sustainability, as well as women's empowerment. She was a fellow at Take the World Forward Fellowship, a former intern at NIUA, and is an active member of her school's environment, community service, mathematics, and women's empowerment clubs. Vedika's interests range from writing to design, and she is passionate about using her skills to contribute to the issues she cares about.

MS. VEDIKA NAIR

Student

"Providing a dynamic platform to the youth of the country is very important to undertake climate actions. This will help them lead today, to the future of tomorrow"

- Vedika Nair, highlighted that climate change is affecting our daily lives, moreover, youth are especially threatened.
- She proposed to build a 'Youth Climate Leaders Program' that can provide an integrated space for climate-action to schools, students and communities, collectively.
- A map based visualization of impacts can provide social proofing and transparency.
- Climate Action Clubs, in all schools can enable climate action with communities at neighbourhood level.

S
W
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PESTEL

4 Citizens' Perspectives

This initiative is designed to foster dialogue and engagement among citizens and practitioners in the realm of climate change. Its primary goal is to establish a platform for open discussion and to map the various perspectives held by participants on specific topics of interest within the field of climate change.

Here's a breakdown of the key elements of this event:

I. Mapping Perspectives:

A MIRO board exercise is employed to visually map citizens' and practitioners' perspectives. The PESTLE analysis framework (Political, Economic, Social, Technological, Legal, and Environmental factors) is used to categorise and understand these perspectives. This approach allows for a structured and comprehensive view of the issues.

II. Topic Alignment:

The topics selected for discussion align with those of the CPIN webinars held each month. This coherence ensures that the insights gathered in this discussion are relevant and can directly contribute to CPIN webinars.

III. Link with citizen's input:

The insights and findings from this discussion can serve as the foundation for generating a list of questions, challenges, and opportunities. These items are then transformed into questionnaires that will be used in CPIN webinars, which are scheduled for the last Saturday of every month. This process creates a direct link between the broader community's input and the ongoing discussions within CPIN.

In summary, this event is a well-structured initiative that not only encourages dialogue and collaboration but also ensures that the insights generated are directly integrated into ongoing discussions and policy development in the field of climate change. It serves as a means of empowering individuals to have a say in shaping the future of climate-related initiatives and in enhancing general awareness about this critical topic. The first Citizens' Perspective was conducted in December, 2023 on Solid Waste Management.

POLITICAL

STRENGTH
i. Enforcement of ban on single-use plastics

WEAKNESS
i. Inadequate waste management efforts relative to waste generation
ii. Proposals fail to incentivise manufacturers and retailers to bear the environmental and social costs of waste, hindering the development of sustainable alternatives

OPPORTUNITIES
i. Engage officials and citizens through awareness campaigns and gamification

THREAT
i. Continued lobbying of the private sector against PPP (Public-Private Partnership) laws

ECONOMIC

STRENGTH
i. The informal economy support the economic sustainability of the recycling industry, but caution must be exercised to prevent rampant exploitation

WEAKNESS
i. Due to insufficient biodegradable packaging materials; industries rely excessively on single-use plastics for packaging

OPPORTUNITIES
i. Exploration of potential business models centred around consumer waste collection and establishing connections with recycling demands
ii. Online second-hand trading promotes environmental conservation and encourages item reuse

SOCIAL

STRENGTH
i. NGOs advocate for waste worker rights, dignity, and improved livelihoods

WEAKNESS
i. Unprotected workforce of waste pickers face social and economic exploitation

OPPORTUNITIES
i. Enhancing support for waste pickers, the most marginalised in the urban informal sector, with a focus on improving conditions through cooperative efforts

THREAT
i. Workers in this sector face health hazards such as musculoskeletal issues, respiratory and gastrointestinal illnesses, and lack access to social security benefits

DID YOU KNOW?

- Speaking about India's exemplary journey of becoming Open Defecation Free (ODF), Shri Hardeep S. Puri, Minister of Housing & Urban Affairs and Petroleum & Natural Gas, remarked that Waste processing capacities of urban local bodies (ULBs) increased from a mere 18% in 2014 to 73% in 2022.

- Addressing the 'Lakshya Zero Dumpsite Challenge,' the Minister affirmed that all existing dumpsites, which collectively hold 160 million metric tonnes of waste and occupy 15,000 acres of valuable land, will undergo reclamation. He highlighted the approval of Action Plans for over 1,000 such legacy dumpsites, including those in Delhi, which hold a total of 128 million metric tonnes of waste.

LEGAL

STRENGTH

i. The Solid Waste Management Rules, 2016, encourages the adoption of advanced technologies and promotes the concept of extended producer responsibility

WEAKNESS

i. Weak implementation of Extended Producer Responsibility (EPR) laws for Producers, Importers, and Brand Owners (PIBOs) across diverse regions, lacking clear hierarchy and addressing of waste management responsibilities

ii. Limited data on e-waste generation types and unknown e-waste flow

OPPORTUNITIES

i. Ensuring compliance with local government bye-laws

ENVIRONMENTAL

STRENGTH

i. There is a growing focus on waste-to-compost and waste-to-energy practices

WEAKNESS

i. Lack of awareness among citizens on the importance of segregation at the source

OPPORTUNITIES

i. Active participation by composting organic waste locally and reduce environmental impact of waste disposal

THREAT

i. The prevalence of a consumerist mindset, prematurely replacing items, unnecessary packaging leads to the generation of excessive waste

TECHNOLOGICAL

STRENGTH

i. Technology is utilised for efficient waste segregation and collection processes, including the use of GPS-enabled vehicles, route optimisation and smart bins

WEAKNESS

i. Advanced waste management technologies, such as waste-to-energy plants or high-tech sorting systems, can be expensive to install and maintain in smaller municipalities

OPPORTUNITIES

i. AI and data analytics aid the circular economy by providing insights into spatial and temporal waste generation patterns

ii. Explore business potential for metal recycling

DID YOU KNOW?

- According to the Central Pollution Control Board (CPCB) annual report for 2020–21, India generates 160,038.9 tonnes per day (TPD) of solid waste, of which 152,749.5 TPD (95.40%) is collected, 79,956.3 TPD (50%) is processed, 29,427.2 (18.4%) TPD is landfilled; 50,655.4 TPD (31.7%) of the total waste generated remains unaccounted for.

- Construction and demolition waste generated in India is 150 MT and accounts for 35%–40% of the global C&D waste annually. India recycles only 1% of the C&D waste that is produced, according to the Center for Science and Environment estimates.

Pic Source : Team SSE Sustainability video

5 SWITCH Challenge

The SWITCH Action challenge, i.e. **"Sustainable Wellness Initiative by The Climate Heroes"**, was an initiative aimed at encouraging individuals and groups to set-up examples that illustrate collective climate action or capture existing good practices for propagation of 'Make a SWITCH' to sustainable means and practices. The challenge was floated to make the citizens and youth aware about existence and adoption of good practices for sustainable future.

Pic Source: Team SSE Sustainability Video

These actions were encouraged not to be limited to tree plantation, waste management, rainwater harvesting initiative but undertaking acts tfrom daily life to bring global and local attention on climate resilience. This will also encourage developing habits that build climate resilience by collective action, thereby heightening climate empowerment.

Pic Source: Prakriti Thinkers Video

Pic Source: Prakriti Thinkers Video

Pic. Credit: BioEnzyme The Wonder Liquid

Video Competition
SWITCH CHALLENGE

Feb - March 2023

The challenge was an initiative aimed at encouraging individuals and groups to take collective climate actions on ground, for example, effective rainwater harvesting initiative, sustainable public-space making or any innovative means of recycling, reclaiming and reusing products and practices for a sustainable future. The challenge instigated youth to deliberate and make a video to influence audience to make the switch to sustainable means and practices. Around 40 groups registered for the challenge and three winners were declared by the end, for the most inspiring "Make A Switch" video.

The SWITCH actions were asked to align to the five thematic area of the Climate Smart Cities Assessment Framework (CSCAF) -
➔ Energy and Green Buildings
➔ Urban Planning, Green Cover & Biodiversity
➔ Mobility and Air Quality
➔ Water Management
➔ Waste Management

The objective of the initiative was to create awareness about sustainable individual and community practices, encouraging actions that build climate resilience by promoting promoting the values of community level - "connection, collaboration and co-creation". This may result in enhancing community level sense-of-ownership and responsibility facilitating climate resilience.
The evaluation criteria for the same were -
i. Originality of ideas in alignment to the thematic areas
ii. Understanding local context
iii. Community participation
iv. Feasibility of implementation

Winning Entries (one can follow the link to explore challenge details and it's results)

Team SSE Sustainability
https://t.ly/bdWBR

Revival of cultural knowledge through climate action and community engagement Prikriti Thinkers
https://t.ly/6_4kR

BioEnzyme The Wonder Liquid Dhriti Jagasheth Dhanvi Shah
https://t.ly/3uk4f

niua.in/c-cube/make-switch-challenge

CLAP Now! Game

14 March 2023

The interactive session held the young audience's keen attention through the use of technology to understand decision making in climate action. CLAP Now, is an interactive card game for city officials from various government departments to support them in making climate positive decisions and actions.

The moderators used an application to teach the youth on the larger ideas in the urban climate sector by making them think about their hometowns. Through polls, the audience understood various problems of climate extremities and disaster risk in urban agglomerations.

Solutions were also presented from the Climate Smart Cities Assessment Framework like green roofs, data dissemination, flood management, rejuvenating urban forests, and increasing permeable surfaces. There was a lot of positive interaction and discussion with the 100+ audience members.

The session concluded with a presentation by RTI International on a knowledge product -Sustainable Urban Networks For Dynamic and Resilient (SUNDAR). It is built from key findings from five cities and focused on the need for interdepartmental conversions for infrastructural planning and resilience in India cities.

National Youth Conclave 2023
CLIMATE CAFE

13 - 14 March 2023

Climate Cafe was a spatial engagement element during the Youth Conclave (13-14 March 2023) that witnessed heavy footfall by visitors. The pledge board attracted visitors of all age-groups to opt for sustainable daily life practices. Augmented Reality feature made visitors experience the wild but fragile ecosystem of geography of Ladakh. An interactive digital game engaged young participants to make informed decisions for climate resilience.

#ClimateProIndia

#BuildingClimateAction

#YouthforClimate

#C3actions

#ClimateMitra

#ClimateCollaboration

76 77

Core Values

CPIN Vision

- Support formal-informal citizen efforts for climate action
- Build an ecosystem for developing local climate resilience
- Ensure insights from the CPIN learnings get absorbed into the National Institute of Urban Affairs
- Form stronger channels of multi-sectoral collaborations driven by citizens for effective climate action
- Mainstreaming on-ground activities for making climate resilient communities

Scaling Up CPIN

- Increase CPIN member network across Indian cities and states to amplify reach and impact
- Onboard volunteers to engage with professionals, citizens and city administrators
- Increase climate awareness, discourse, facilitate climate related knowledge sharing mediums, and encourage local climate actions
- Facilitate partnerships between people's networks and city administrations for participatory approaches to urban management

Anticipated Future Initiatives

As we look ahead, the Climate Practitioners India Network (CPIN) is excited to introduce a range of future activities in cooperation with the member network, is intended to enhance impact and expand reach to facilitate climate awareness and encourage local climate action.

Networking, a key focus area, to develop a contact database of CPIN members to foster multi-sectoral, multi-stakeholder discussions and partnerships. By voluntarily sharing basic information, members can easily connect with one another, facilitating one-on-one interactions and collaborations.

Climate Centre Talks, a dedicated event series recognizing expert speakers on climate crisis, adaptation, and mitigation. These talks will be uploaded on NIUA TV and YouTube, in English as well as multiple local languages with easier consumption by a larger audience.

Recognizing local trailblazers through the **Climate Champions of India initiative**. The initiative can involve extensive engagement with multiple organizations to identify and celebrate innovators tackling climate change through startups, social enterprises, citizen initiatives, and social media. An annual or biennial event could showcase initiatives by local and city champions.

A people driven **Climate Bulletin** to showcase highlights of climate events, feature panelist descriptions, and gather feedback through climate values surveys. This bulletin can provide direction for future roadmap, invite collaboration, map divergent opinions on goals, priorities, and strategies for effective climate action.

City Chapters for local initiatives can play a crucial role in implementing climate actions on the ground. These chapters may map expert practitioners in each city to lead local initiatives and facilitate peer-to-peer learning. Additionally, they can support urban local bodies in their climate action plans.

The **Climate Practitioners Hub** can be a facilitator in the public network offering certificate courses organized by CPIN partner organizations. These courses will aim to build local capacities and skills, thereby aiding urban local bodies in developing effective climate actions.

Climate Awareness Month, an annual campaign during COP meetings, can raise awareness on various climate subjects and the latest international developments. Various activities can be conducted to engage different age groups, fostering a broader understanding of climate challenges.

Sustainable Dialogues, a periodic engagement series, can allow practitioners to discuss urban stress and shocks, share challenges, and explore solutions. As these dialogues become more consistent, city officials can be invited to share real-life challenges, creating an information repository accessible to all practitioners and city officials.

Academia Engagement can mimic the Model United Nations structure, enabling students to conduct academic modeling and simulations on climate action topics at inter- and intra-institutional levels. This will foster a deeper understanding of global governance and climate policies among the youth.

A comprehensive **mapping of resources** that involves creating a crowdsourced knowledge repository across multiple themes, accessible through a web based dashboard. This may also act as a platform for possible organization level and individual collaboration. Mapping theme-specific resources such as resources like books, reports, journals movies, documentaries, podcasts, games, news, job boards; collaborative organisations like startups, data labs, NGOs, etc., as well as financing models like funding grants, possible public support, crowdfunding interface, and more. This effort can simplify outreach process and mobilise on-ground climate action.

The future initiatives are set to drive collective climate action forward by increasing participation, and support sustainable urban development across Indian cities. Together, we will continue to build a resilient and sustainable future.

Message to CPIN members

What began as a mere topic in a brainstorming session back in 2020 has blossomed into a successful reality in a remarkably short time. While working on the ClimateSmart Cities Assessment Framework, we realized that finding people who understand different aspects of climate across Indian cities was becoming increasingly difficult. Access to such resources would greatly help work with cities and help them develop climate-centric strategies. This was the seed for starting the Climate Practitioners India Network. During the initial months, we focused predominantly on convenings to define our vision and realized that practitioners wanted access to their Urban Local Bodies (ULB) to support climate-centric decision-making. Climate Practitioners India Network (CPIN) was conceptualized over a few months and officially launched in July 2021. Our aim was to develop a community of climate enthusiasts to connect, collaborate, and co-create climate solutions. Since its inception, CPIN has remained committed to fostering citizen-centric and practitioner-focused climate actions.

Reflecting on the early stages of CPIN, we organized multiple stakeholder consultations to understand the needs of practitioners, which led to the development of our 'Vision' and 'Objectives'. One of the significant milestones has been the 'Climate Volunteers' program, aimed at making CPIN self-sustainable. The first cohort of volunteers made substantial contributions in community engagement, network development, outreach, advocacy, research, and learning. Supported by the Climate Centre for Cities, these initiatives have made a meaningful impact.

Throughout 2022 and 2023, CPIN organized regular webinars and discussions, creating platforms for sharing knowledge and best practices. The "Make a SWITCH Challenge" exemplified the power of grassroots involvement through on-ground, community-led actions. Additionally, CPIN has successfully facilitated networking among members, enabling collaboration and the implementation of effective climate actions.

'Climate Volunteers' program, facilitated climate dialogues making the exchanges mainstream as well as drew the curtains open to the challenges of practitioners across India. The active engagement of volunteers helped us reach more than 100 cities and cross the 1000 practitioners mark in our network within two years from inception. With the continued engagement and vision of supporting ULBs, we believe that we have initiated a movement that can help local ULB understand more about climate and take decisions for a sustainable and resilient future.

Looking forward, we are excited to introduce several new initiatives. We plan to launch "Climate Awareness Month", an annual campaign featuring photography competitions, debates, and essay competitions to engage various age groups. Further initiatives like "Sustainable Dialogues", "CPIN Blogs", and "City Chapters" will support local climate actions and peer-to-peer learning, aiding initiatives by urban local bodies. The "Climate Practitioners Hub" will offer certificate courses by CPIN partners, building local capacities and skills.

CPIN has made significant strides in connecting members and facilitating impactful climate actions. As we progress, these initiatives will continue to drive our mission, increase engagement, and support sustainable urban development across India. We are incredibly grateful to all our members for their dedication and efforts. Together, we are building a resilient and sustainable future.

CPIN Team

Become a CPIN member by scanning and registering

AWARENESS

ON-GROUND ACTION

NETWORKING

ENGAGEMENT WITH GOVERNMENT