JULY
2023

First & Foremost

MUMBAI first
To make the city a better place to live, work and invest in

Government of Maharashtra

EUROPEAN UNION

Kingdom of the Netherlands

G20 भारत 2023 INDIA

RESILIENCE FIRST
SURVIVE & THRIVE

GLOBAL COASTAL CITIES Summit 2023

A Global Conversation on Climate Solutions for Coastal Cities

Dear Friends,

We are thankful to our readers for their appreciation and response to the new 'digital avatar' of our Newsletter, First & Foremost. As you all know, this newsletter is a window to Mumbai First, where we share our various initiatives and programs to engage with the citizens of Mumbai.

During the Silver Jubilee Year of Mumbai First, we identified "Climate Action" as one of our core themes and had organized, with the support of Union Ministry of Environment, Government of Maharashtra, European Union (amongst others), two international conferences on Climate Crisis. The Global Coastal Cities Summit was in continuation of this initiative, during India's G20 Presidency this year. The Summit was supported by the Government of Maharashtra, European Union, World Bank, Resilience First (London), Kingdom of Netherlands, Asian Development Bank, amongst others. The recommendations emanating from the summit have been sent to the authorities to deal with the challenges of climate change and further details of the summit are given in the ensuing pages.

In addition to the Summit, we also organized many other important activities in the last quarter, such as a closed-door consultation on the depletion of the Air Quality Index in Mumbai with Dr. M.M. Kutty (Chairperson - CAQM Delhi), participating at various International Forums to address issues of urban resilience, meeting with the representatives of the State to discuss and ensure the best for Mumbai City.

Mumbai First is committed to making the city sustainable, resilient, and truly world-class. We welcome your feedback and suggestions and look forward to continuing our journey of making Mumbai a better place to live, work and invest in for all its citizens.

- Mumbai First Team

SESSION I: Inaugural

Summary

The Global Coastal Cities Summit 2023 highlighted the critical issue of climate change in Mumbai, focusing on sea level rise. Esteemed speakers stressed collaboration and localized solutions, emphasizing the significance of Asian coastal cities. Key takeaways included the urgency to address climate challenges, the responsibility of cities to reduce CO2 emissions, and the opportunity to transform Mumbai into a more equitable and livable city.

Highlights

The panel discussion highlighted the need for immediate action, collaboration, and tailored approaches to address climate change in Asian coastal cities, with a specific focus on the challenges faced by Mumbai and the broader implications for the region.

Participants in the Inaugural Session

- **Mr. Narinder Nayar (Chairman, Mumbai First)**
- **European Union's H.E. Mr. Ugo Astuto (Virtually)**
- **Mr. Bart de Jong (Consul General of The Netherlands)**
- **Mr. Praveen Pardeshi (Member - Administration, Capacity Building Commission)**
- **Dr. Roxy Mathew Koll (Climate Scientist, Indian Institute of Tropical Meteorology)**
- **Mr. Nidish Nair (Leader - Climate Resilience and Cities, PwC)**
- **Mr. Ashank Desai (Vice Chairman, Mumbai First)**

ELG Roundtable by RESILIENCE FIRST (London)

During the Global Coastal Cities Summit, our newly partnered Associate Member Resilience First (London) hosted the second edition of Engineering Leadership Group Executive Roundtable (ELG Roundtable).

At this Executive Roundtable, G20 governments were called to work with private-sector and engineering-inclusive organizations to introduce policies to support the parallel development of multiple low-carbon technologies to improve the availability of financially feasible decarbonization pathways, with a view to driving sustainable economic growth.

It brought together the world's leading engineering-inclusive organizations and focused on the role of urban infrastructures in the transition to a net-zero economy.

SESSION II: Rising Tide

Highlights

The key takeaways shed light on the gender disparities in responding to rising temperatures, India's approach to low carbon development, challenges in policy-making, and the progress made by OECD member nations in reducing CO2 emissions. It emphasizes the importance of addressing gender inequalities, integrating multiple aspects of sustainability in development strategies, and ensuring equity in climate policies.

Summary

The panel discussion on Asian coastal cities explored the scientific understanding of rising sea levels, the impact on infrastructure and human settlements, and mitigation/adaptation strategies. It aimed to inspire collaboration, actionable solutions, and resilience in creating a sustainable future for coastal communities.

Participants:

- **Chair: Mr. P. Velrasu (Addl. Municipal Commissioner (Projects), MCGM)**
- **Moderator: Dr. Ronita Bardhan (Associate Professor of Sustainable Built Environment, University of Cambridge, UK)**
- **Dr. Krupali Uplekar Krusche (Director, Development and Advancement of Resilient Cities Alliance (DVARCA), University of Notre Dame, USA)**
- **Ms. Harshita Narwekar (Project Specialist & Municipal Councilor, MCGM)**
- **Dr. Yasukata Fukahori (Consul-General, Consulate General of Japan)**
- **Ms. Hazel Khoo (Director, Coastal Protection Department, Public Utilities Board (PUB), Singapore (VC))**
- **Mr. Dhiraj Mehra (Director for Initiatives in India, University of Notre Dame, USA)**
- **Mr. Bart de Jong (Consul-General, Consulate General of Netherlands)**
- **Dr. Jai Asundi (Executive Director, Center for Study of Science, Technology and Policy, CSTEP)**

SESSION III:
Partnering for Resilience & Sustainability

Highlights

The event brought together esteemed panelists who engaged in insightful discussions, exploring innovative solutions aimed at safeguarding essential coastal infrastructure, including major ports. The discussions were enriched by the sharing of global success stories, offering valuable inspiration and lessons for developing resilient infrastructure to tackle the ongoing climate crisis.

Summary

The session focused on the challenges faced by critical infrastructure and ports in coastal cities due to climate change and rising sea levels. Experts shared insights and success stories to inspire innovative solutions and enhance resilience in safeguarding coastal infrastructure.

Participants:

- **Chair: Mr. Rajiv Jalota (Chairman, Mumbai Port Trust (MbPT))**
- **Moderator: Mr. George Karagiannis (Director, Engineering Leadership Group, Resilience First)**
- **Presentation on Cities Resilience Framework: Ms. Mrinal Mathur (Associate, Leading on Sustainability, Arup India)**
- **Video Presentation: Dr. Abhas K. Jha (Practice Manager, Climate Change and Disaster Risk Management, South Asia Region, World Bank)**
- **Mr. Vinit Kumar (Former Chairman of Kolkata Port Trust)**
- **Mr. Sarbodaman Mukherjee (Asst. Director, Strategic Management, Mumbai Port Trust (MbPT))**
- **Mr.Willem van Deursen (Integrated Water Resource Management, Carthago Consultancy, Rotterdam)**
- **Dr. Krishna Vats (Member, National Disaster Management Authority (NDMA)**

SESSION IV:
From Risk to Resilience

Highlights

Valuable insights were shared on transitioning from planning to implementation, and discussions among experts facilitated meaningful conversations and the identification of actionable strategies to tackle climate change challenges in urban areas such as Mumbai.

Summary

The session focused on developing climate-resilient infrastructure in Mumbai, drawing inspiration from successful strategies in European cities. Discussions centered around mapping out the planning and implementation process, addressing unique challenges as a coastal city. Valuable insights were shared to tackle climate change challenges in urban areas.

Participants:

- **Chair: Mr. R.A. Rajeev (Former Metropolitan Commissioner, Mumbai)**
- **Moderator: Ms. Supriya Krishnan (Urban Resilience Specialist, Ph.D. Researcher at TU Delft)**
- **Mr. Shankar Deshpande (Chief, Mithi River Development and Protection Authority, MMRDA)**
- **Ms. Geeta Pillai (Chief General Manager, CIDCO)**
- **Dr. Fredrik Huthoff (Water Resource Management, Disaster Risk Reduction Expert)**
- **Mr. Harpal Dave (Addl. Chief Town Planner, Government of Gujarat)**
- **Mr. Dilip Shekdar (Advisor Planning, Mumbai Port Trust (MbPT))**
- **Mr. Daljit Singh Kohli (Indian Representative, Port of Antwerp-Bruges, Belgium)**

SESSION V:
Responding to Climate Change

Summary

The session featured distinguished panelists discussing proactive measures taken by businesses to address climate change challenges and adapt to its implications. It emphasized identifying vulnerable sectors and increasing climate investment for effective resilience. Real-life examples and valuable insights were shared to guide businesses in adapting and protecting themselves.

Highlights

The session provided a comprehensive examination of strategies for addressing climate change in urban business centers, showcasing real-life examples of proactive measures and offering valuable insights for businesses seeking to adapt and protect themselves from the crisis.

Participants:

- **Chair: Dr. Prasad Modak (Managing Director, Environmental Management Centre Pvt Ltd)**
- **Mr. Swaroop Banerjee (Vice President, Sustainability JSW Foundation)**
- **Mr. Chanakya Chakravarti (Head of Indirect Strategies, Asia Pacific, Ivanhoe Cambridge)**
- **Mr. Akshay Shetty (Manager, Dasra)**
- **Ms. Ambika Vishwanath (Co-founder, Kubernein Initiative)**

SPECIAL ADDRESS: Hon. Shri. Deepak Kesarkar

Summary

Special Address was given by the Hon'ble Guardian Minister of Mumbai City, Government of Maharashtra - Shri. Deepak Kesarkar.

Highlights

Hon'ble Minister shed a light on all the flagship programs government is undertaking in areas like sewage management, sustainable transport, water management etc. to enhance city's resilience.

Hon'ble Minister also congratulated Mumbai First for their constant efforts in future-proofing the city and creating a common platform for the government as well as private entities.

Meeting the Hon'ble Governor for the betterment of Mumbai

Our leadership team called on **His Excellency Shri Ramesh Bais**, the Hon'ble Governor of Maharashtra to apprise him of the various initiatives of Mumbai First and seek his guidance. His Excellency appreciated the various initiatives undertaken by Mumbai First to make the city resilient and sustainable. Hon'ble Governor also very kindly accepted our invitation to inaugurate the Global Coastal Cities Summit.

Meeting the new Chief Secretary for the future of Mumbai

Our Chairman Mr. Narinder Nayar welcomed the new **Chief Secretary, Mr. Manoj Saunik** and discussed with him areas of development and collaboration between the Government of Maharashtra and Mumbai First.

Aakash Bhavsar
PowerTrain Media

As someone who had been on construction sites during his teens because of his dad's nature of work, Aakash was always intrigued by the process of building massive infrastructures. Earthmovers, cranes, and concrete taking shape always seemed interesting to him. Later on during his college days, he posted a few random videos he had made on youtube, and the dopamine hit after seeing the viewership increase was great. However, those were not infra videos.

During this time he was following people like Chandrashekhar Dhage, Marine Bharat (Chaitanya Kulkarni), and Sahil P on social media posting infrastructure updates. But the biggest step up was when he decided he should make a daily news series about Infra(Infranews) as there was too much to cover. The time limitations for making dedicated videos, Infranews took off and today, PowerTrain Media have above 900 episodes so far and has reached more than 130 Million people.

How does PowerTrain produce these videos?

The process of video creation starts with an idea, he mentioned. The idea can be something that's new and trendy in the world of infrastructure. It can be a major government announcement but mostly they find something from the audience's comments, reading too much on infra, and finding some weird case study or a question that has not been answered properly yet. For example, their video named 'Why did Goa Skybus Metro Fail' was about a decade-old scrapped project that caught their attention, and they thought the country should know more about it.

Once the topic is finalized, the process of developing the script starts. Reading articles, watching old news videos, and going through research papers and reports are part of the basic research process. However sometimes for more complicated topics like the Skybus, they reach out to people involved personally. He underlines that many government officials no matter how high the office is have started becoming helpful in providing data to them as the community grows. The script is finalized once all the data is collected and authenticated. The next step is the voiceover which includes recording the narration for the script.

He further said that it takes about 2-3 days to make a complete video. Currently, with their team of 2 dedicated editors and him as manager, writer, and editor, they push 40+ videos a month. However, most of them are news series videos that can be created quickly with a template, like news collection, narration recording, and fitting everything in premade video editor template.

How has the Power Train journey been so far?

Aakash states that this journey has been incredible for him. When they started 3 years back there was no such thing as a dedicated infrastructure category on the Indian youtube platform or any social media platform. As the growth accelerated they have seen more mainstream participation with the content, may it be private companies, organizations, or the government directly.

He shared that about 8-9% of their viewership is from Europe and the US and these aren't just NRIs but people witnessing Indian growth and ingenuity. He also underlines that their Indian audience is mostly young who participate actively and acquire knowledge to educate others. Many of them are competitive exam students.

He highlighted that audiences have embraced the idea of sustainable development and sustainable infrastructure going hand-in-hand. They celebrate the up-to-date scientific, and practical growth and are slowly moving away from fundamental, biased, and non-scientific reporting on the infrastructure around the city.

Challenges and obstacles PowerTrain face in the process of producing these videos:

The Powertrain team stated that some of the most difficult tasks are the collection of data that is real-time, access to sites to shoot videos, and taking drone shots is difficult. There have also been a few instances of fellow creators falling victim to political dramas in the past, especially when a sensitive infra project is discussed during government change, he says.

How can the city encourage more people to join such community-based movements?

The team mentions that they believe the outreach of urban infrastructure amongst public has been basic. However, once their understanding shifts to things like decongestion, economic impact and opportunity creation, people will themselves contribute to the initiatives and take active participation. The team believes that community-based movements are more crucial than the size of the contribution.

They believe that the aware citizens will make decisions based on social matters for development like infra and not on the traditionally run divisive ways. This will lead the city to have millions of people support the initiatives where they see the cause and effect clearly.

This awareness can be done using social media by promoting projects like any other massive government scheme, and by group outreach. It's a difficult task to do, but Akash and his team are certain that issues such as modern trains, and highways and other infrastructure projects are paving their ways into daily conversations of citizens.

Mumbai Should Rise Above the Rising Seas

Roxy Mathew Koll

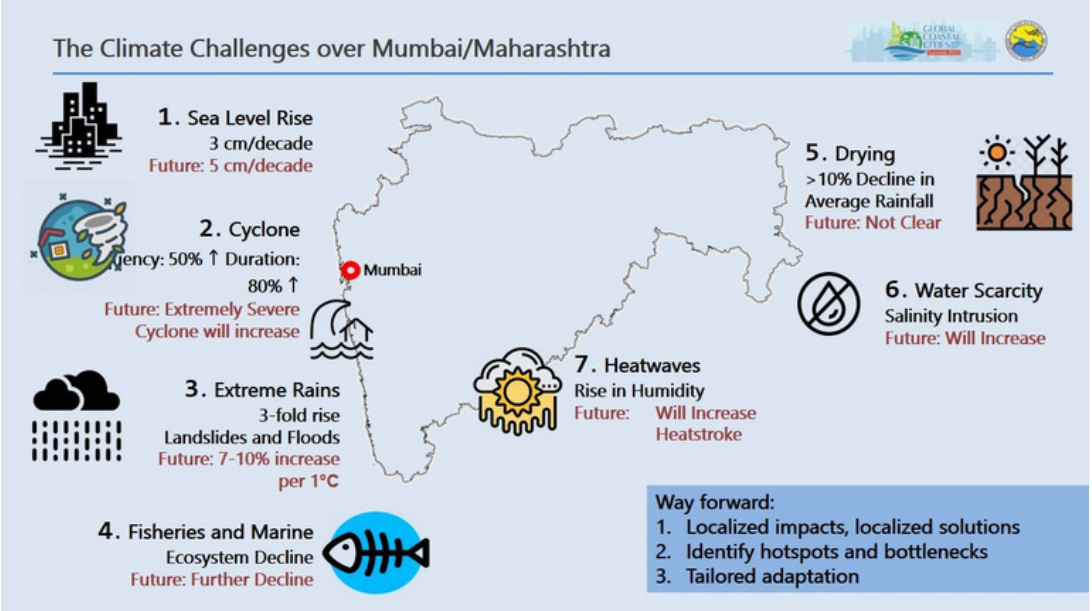
Climate Scientist,
Indian Institute of Tropical Meteorology

Mumbai is growing at a fast rate. The population of Mumbai, including the city and the suburbs, crossed 20 million around the time when global surface warming hit 1 degree Celsius. By 2050, the population is projected to double—reaching about 40 million. Guess where we will be in terms of global warming? Global mean surface temperatures will cross 2 degrees Celsius by then.

As Mumbai's population skyrockets, so does the urgency to address the pressing challenges posed by climate change. Mumbai has always been vulnerable to flooding and extreme weather events. However, the effects of climate change are exacerbating these risks, necessitating immediate action to protect the city and its inhabitants.

India, particularly the west coast, is at high risk because we are in the tropical belt where the weather systems are relatively short and fast-moving, and hence less predictable. The impacts of global warming are hence heightened in the tropics. India has become the poster child of climate change. The geographical location of India—surrounded by the tropical waters at one end and Himalayas at the other end—used to be the region's forte, but not anymore.

The tropical waters are warming at a fast rate, and the Himalayan glaciers are also melting rapidly. As a result, India is witnessing a clear trend in rising sea level, cyclones, floods, landslides, heatwaves, and droughts. This is affecting the food, water, and energy security of the region.



Sea level rise is one of the most significant consequences of climate change, and Mumbai finds itself on the front lines of this battle. Sea level rise in the Arabian Sea is not just due to melting ice—it is largely due to thermal expansion caused by the warming of the ocean—since water expands as it warms. With its expansive coastline and low-lying areas, the city is highly susceptible to inundation as the seas encroach further inland.

Will Mumbai submerge by 2050? A recent study indicated that large parts of Mumbai could be underwater by 2050. This is however based on satellite-based elevation data that is not calibrated over India using ground truth data at local levels.

Based on the current rates of sea level rise, Mumbai may not submerge by 2050. However, floods that are prolonged and cover a large area will happen. Mumbai is a city which was made out of water, and some parts of it have always been at or under sea level. The worst-case scenario might be when floods due to heavy rains and high tide come together in the future when the sea level is also high. Such “compound floods” have the potential to submerge large parts of Mumbai, at least for several days in the near future.

Climate change is only one side of the story. Cities of India are vulnerable to flash floods as rapid development, concretization, and land use changes shrinks down the floodplains and congest the rivers. The Bandra Kurla Complex was built on mangrove land and the Mithi river was reduced to a nallah due to roads and encroachment. Mumbai floods are more of a management problem due to unplanned development than a climate change problem.

We need to redesign our cities such that they are resilient to the intensifying floods. If Mumbai's population is going to double by 2050, this will go hand-in-hand with a corresponding surge in urban development. Any development can be an opportunity to redesign the city considering “future” climate challenges.

Flood maps should be prepared based on 2070–2100 climate change projections to safeguard the city from worst-case scenarios in the future. The city must adopt a holistic approach that combines eco-system-based sustainable development with innovative engineering solutions and thoughtful urban planning techniques to elevate itself above the rising seas and floods. In addition to the physical infrastructure, Mumbai must also focus on the preservation and restoration of its natural ecosystems.

Mangroves and floodplains have traditionally acted as the lungs of the city, protecting it from flood water and strong winds. Protecting and expanding these coastal wetlands can significantly enhance Mumbai's resilience to sea level rise while providing safe habitats for biodiversity and marine life.

Despite all efforts, compound floods can have devastating consequences, overwhelming existing infrastructure and emergency response systems. To confront these compound events, Mumbai needs to adopt a multi-faceted approach that integrates early warning systems, disaster risk reduction, and community engagement. Strengthening infrastructure, improving drainage systems, and implementing effective land-use planning can reduce the vulnerability of Mumbai's neighborhoods to flooding and landslides. Simultaneously, educating and empowering communities to respond and recover from these events is crucial for resilience.

Adaptation and resilience strategies are crucial for Mumbai's survival. However, Mumbai cannot fight this battle alone. Collaboration between different stakeholders—government bodies, urban planners, architects, scientists, engineers, and community organizations—is vital to developing comprehensive strategies.

Public-private partnerships can provide the necessary funding and expertise to implement innovative solutions effectively. Mumbai stands at a critical juncture in its history. The city's future, prosperity, and even survival depend on its ability to adapt and rise above the rising seas.

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We thank our partners and collaborators for making the Global Coastal Cities Summit a grand success!

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