WRI INDIA

Maintenance Models for Nature-based Solutions (NbS) in Public Spaces for Mumbai's Vulnerable Neighborhoods

A CONSULTATIVE STAKEHOLDER WORKSHOP TO CO-DEVELOP STRATEGIES FOR LONG-TERM SUSTENANCE OF QUALITY PUBLIC SPACES

October 13, 2023 | Mumbai (Hybrid) | Shruti Maliwar, Deepti Talpade, and Neha Shigwan

INTRODUCTION

Routine climate-change-induced events such as heat waves and floods have severely impacted the quality of urban life and are often fatal and financially disruptive, especially for vulnerable communities, as evidenced in the Mumbai Climate Action Plan (Brihanmumbai Municipal Corporation 2022). In densely packed informal settlements and resettlement colonies such as Lallubhai Compound in M East Ward, barren and concretized public spaces offer little to no relief during the grueling summer months. The colonies can be waterlogged and inaccessible during the monsoon months, leading to health concerns such as a rise in respiratory disorders and waterborne diseases (Doctors for You and MMR-EIS 2018).

Although integrated solutions for biodiversity restoration and waste and water management can build climate resilience in public places, complexities of land ownership and tenure, along with challenging sociopolitical conditions, impact the long-term sustenance of such solutions.

This makes it necessary to work with diverse stakeholders, such as government agencies, community-based organizations, nongovernmental organizations (NGOs), and academic institutions from the start of the projects, in order to build stewardship and align interests to ensure well-nurtured public spaces.

CONTENTS

CHALLENGES

Workshop topics were organized to address concerns regarding neglected upkeep of public spaces. The concerns were identified through consultations with project partners and during implementation of pilot projects (Talpade and Maliwar 2023) for urban greening and nature-based solutions (NbS) in vulnerable neighborhoods.

- **Lack of collaborative action and capacities to nurture climate-resilient public spaces:** Public space development projects in vulnerable neighborhoods follow a top-down approach and often do not integrate bottom-up efforts and knowledge. Further, project plans fail to integrate communities into the planning and decision-making processes. This leads to spaces that are often disconnected from the immediate context, because of which the community does not take ownership of the solutions.

- **Challenges with land governance:** Uncertainty within the process of transfer of land rights can result in a lack of defined roles and responsibilities for maintenance of public spaces, for example, in contexts such as rehabilitation and resettlement (R&R) colonies like Lallubhai Compound. As determined through an ongoing research being conducted by Youth for Unity and Voluntary Action (YUVA) an NGO working towards empowering vulnerable groups-the ownership of land of the entire Slum Rehabilitation Scheme (SRS) layout, in principle, is usually transferred by the owner or developer to the planning authority, in this case the Mumbai Metropolitan Region Development Authority (MMRDA) or the Slum Rehabilitation Authority (SRA). Until this transfer is effected on paper, ownership remains vested with the original owner. Other entities such as the Brihanmumbai Municipal Corporation (BMC) are brought in after specific periods of time for the maintenance of buildings; however, the responsibility for maintenance of public spaces remains unclear. Addressing such ownership and governance challenges requires case-specific legal and regulatory intervention.

- **Lack of integrated and inclusive funding mechanism:** Although capital expenditure (CapEx) costs may be available for NbS in public spaces, it is difficult to raise funds for operations and maintenance activities. Funding opportunities that support the entire lifecycle of maintenance need to be developed, not just for the upkeep of engineered solutions but also for the employment of people involved

FIGURE 1 | Example of building typologies at Lallubhai Compound, accommodating over one lakh individuals

Photo Credit: YUVA

in the project implementation and maintenance cycle, from gardeners to waste pickers, thus creating jobs for maintenance. The lack of such cohesive financing mechanisms is a challenge to the long-term sustenance of NbS, especially in vulnerable neighborhoods.

PURPOSE OF THE WORKSHOP

WRI India in partnership with YUVA hosted a working session to address the abovementioned challenges and explore collaborative models for maintenance that can support the ecological transformation of derelict open spaces in low-income communities (R&R colonies, transit accommodation, and self-organized settlements).

The following topics were discussed:

1. Who maintains public spaces and their infrastructure?
   (Who are the actors concerned and what capacities need to be built?)

2. How can we institutionalize frameworks for co-development?
   (What are the legal and regulatory aspects that need to be considered?)

3. What are the means of maintaining public spaces and their infrastructure?
   (What kinds of diverse sources of finance and resources need to be mobilized?)

The workshop brought together 30 participants, including subject matter experts, NGOs, academic institutions, government body representatives, and financiers, to discuss potential solutions.

INTRODUCTORY PRESENTATION

The opening presentation by Deepti Talpade, Program Lead, WRI India, and Shruti Maliwar, Senior Program Associate, WRI India (see Appendix A), highlighted challenges, such as funding limitations and priorities, lack of stewardship, and unstable land tenure that impact the long-term sustenance of projects. To demonstrate such challenges and their impacts on communities, the Lal Maidan (open space) in Lallubhai Compound, a resettlement colony in Mumbai, was taken up as an example.

FIGURE 2 | Layout of Lallubhai Compound, with water-logged and inaccessible public spaces

Photo credit: WRI India

FIGURE 3 | Challenges in maintenance

Funds
Limited to CapEx

Stewardship
No defined roles/
incentives

Land Tenure
No stable tenure
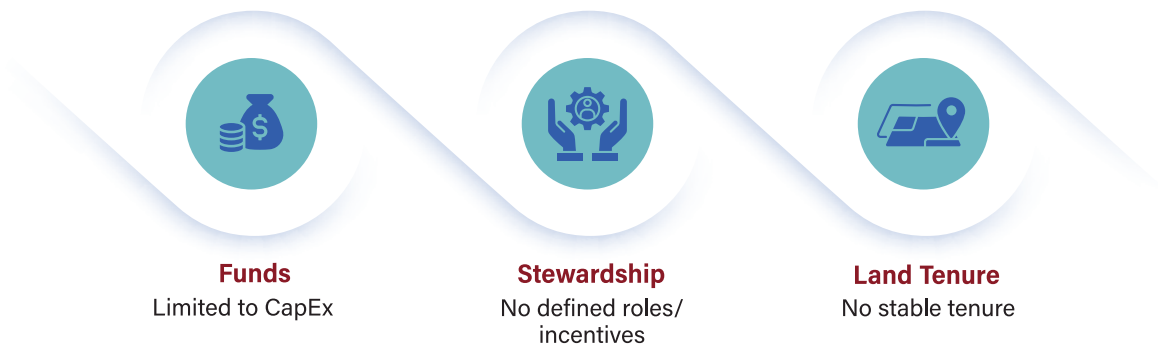
Goal : To develop inclusive, collaborative,and scalable solutions for long-term maintenance of NbS

Source: WRI India

Some of the concerns prevalent here were site-specific concerns, such as waterlogging and lack of waste management that affect health, inequitable access for community members, and a lack of defined roles and responsibilities due to land tenure issues. The community expressed the need to develop Lal Maidan as a green recreation space. WRI India and YUVA, having obtained funding from Wipro Foundation, are now in the process of preparing a detailed project report (DPR) for the 18,000 sq. m project for ecological transformation through NbS. The intention is to develop place-based, inclusive, and collaborative solutions. For this, the team has been working with various stakeholders, such as community groups, experts, government agencies, and NGOs through varied participatory methods. This process identified various gaps in addressing the long-term maintenance of the proposed NbS. Hence, the workshop was conducted to find solutions and initiate a discourse on maintenance practices followed by other similar organizations.

FIGURE 4 | Co-design workshops with community groups to map aspirations and needs regarding public spaces in Lallubhai Compound, M East Ward

Photo Credit: (Left) WRI India; (Right) YUVA

SESSION 1: WHO MAINTAINS PUBLIC SPACES AND THEIR INFRASTRUCTURE?

Siddharth Pandey, Associate Director, Centre for Urban and Regional Excellence (CURE), Delhi, discussed the role of maintenance in CURE's build-operate-transfer (BOT) approach.

> *In this model, stakeholders identified during the transfer stage should ideally be involved throughout the entire project lifecycle, from proposal to execution, fostering ownership and responsibility, and building capacities.*

One of the challenges in Delhi is the notion of local government bodies that the maintenance of projects implemented by NGOs or private entities is the responsibility of the implementing body and the community (beneficiaries), even for projects implemented in public spaces. Two comparative examples of CURE's sanitation projects were illustrated, the first being in Savda Ghevra (a resettlement colony with land tenure, and facing sanitation concerns) and Safeda Basti (a settlement on government land without land tenure, which also faced sanitation concerns because the community toilet could not cater to all the inhabitants). The intervention at Safeda Basti was more successful because community participation was integrated across the project, including within the design, execution, and maintenance stages, which built stewardship of the solution. The community members themselves contributed money for the implementation and continue to do so for periodic maintenance. For sustainable operations and maintenance practices, planning for factors such as labor, resources, materials, management, location, and design is key (Bhardwaj et al. 2017). These examples initiated the need for a larger conversation on: If NbS is implemented in public spaces by an NGO, should its maintenance become the responsibility of the community or of the government?

FIGURE 5 | Images from CURE's project at Safeda Basti: Simplified sewer networks to home toilets, managed by local committees

Note: CURE = Centre for Urban and Regional Excellence.
Photo Credit: CURE

Avinash Kaur, Program manager and Simpreet Singh, consultant at the Transforming M Ward Project, Tata Institute of Social Sciences (TISS), shared their experiences of revitalizing two maidans, Deen Dayal Maidan and Karbala Maidan, in Cheeta Camp, during the course of which they encountered issues of substance abuse and unequal access for community members. The Brihanmumbai Municipal Corporation (BMC) carried out the implementation work in Deen Dayal Maidan, but failed to provide adequate

maintenance. This resulted in the maidan being used primarily by the cricket association, gendering the space and making it less accessible to other residents. This situation raises the following questions: Who is the public, and who are public spaces made for?

In the case of the Karbala Maidan, the laying of a new Development Plan (DP) road cutting through the maidan without taking its on-ground functions into consideration has blocked access to the maidan.

TISS mentioned that in various projects, the lack of consideration of community needs and their exclusion from the design and planning process led to a lack of ownership and subsequently low maintenance of the space.

FIGURE 6 | Public spaces in a vulnerable neighborhood are multi-layered and multi-dimensional

Interest of the Community
- Stakeholders involved in the space
- User groups/ stakeholders and their interest
- Social dynamics of the space

DP Reservations/ Remarks
- PG/RG/Amenity/etc.

Interest of the State
- Control over most spaces in the vulnerable communities- BMC, collector, MMRDA, MHADA, Forest dept, GoI.
- Aspirations for the space are often different than that of the community.

Interest of the Political Representative
- Aspirations for the space are often different than that of the community.
- Aspirations of what greening means for them also varies- there is a lot more hardscaping and works that require use of concrete.

All the above affected the decision making for site selection and planning of the intervention

Note: BMC = Brihanmumbai Municipal Corporation; DP = Development Plan; MHADA = Maharashtra Housing and Area Development Authority; MMRDA = Mumbai Metropolitan Region Development Authority; PG = playground; RG = recreation ground.
Source: Transforming M Ward Project, Tata Institute of Social Services (TISS), M East Ward.

Jyoti Mhapsekar, Founder, Stree Mukti Sanghatana, used examples of solid waste management mechanisms in Worli Koliwada and Anushakti Nagar developed by her, to highlight the role of behavioral change toward waste disposal, training sessions on waste segregation, and a community-led maintenance system for long-term sustainability. Awareness and public education are key to sustaining public space interventions. She also shared her challenges with the Dattak Vasti Yojana (Slum Adoption Scheme) under the BMC, where issues such as lack of fund transparency and the absence of monitoring systems have rendered the scheme ineffective.

Kirti Wani, Consultant, Oikos for Ecological Services, emphasized the importance of planting native plants that are ecologically suitable for the site while also considering their utility for the local community, in order to build community interest in the project. Involving the local community in the planning and implementation processes, selecting a gardener or caretaker from the community, and training them in maintenance practices such as pruning, watering, and composting can support longevity of solutions as ecological resources are also linked to livlihood opportunities. Sharing maintenance guidelines as a resource with both the community and the BMC through handbooks and visual media, can enable effective monitoring and maintenance. Designing solutions with a recognition of capacities available for maintenance is another such step.

Ashwin Paranjpe, Water Expert and Founder, Gorus Farms, emphasized the role of water literacy at the household level including its journey from source to use to sewage, and understanding water balance. Regarding the development of a maintenance model for NbS, he stressed the need for training key stakeholders involved in the maintenance of naturalized water infrastructure.

Key takeaways

- Adopt participatory, bottom-up, demand-driven approaches that upskill stakeholders and communities.
- Include stakeholders identified during the transfer stage of projects within the complete project cycle to foster ownership and responsibility. Align livelihood opportunities with provision of environmental assets to build community self-reliance and participation.
- Develop awareness campaigns about the benefits of waste, water, and landscape infrastructure, supported by training sessions for behavioral change.
- Design participation processes after assessing community and stakeholder capacities and socioeconomic vulnerabilities.
- Design engineering solutions that are suitable for the site ecology and social structures, are easy to maintain and monitor, and respond to community needs.

SESSION 2: HOW CAN WE INSTITUTIONALIZE FRAMEWORKS FOR CO-DEVELOPMENT?

The approach to planning and implementing the project plays a pivotal role in determining its maintenance strategy, highlighted **Roshni Nuggehalli, Executive Director, Youth for Unity and Voluntary Action (YUVA).** The two approaches practiced—one, where experts and organizations identify issues in the space and propose solutions to community members after understanding their needs, and the other, where community organizations initiate the need for intervention on recognizing the issues faced by them—each having distinct maintenance models (YUVA 2019).

> *Ownership and maintenance are processes built over time through a co-design, process-oriented approach involving the stakeholders of land ownership and governance. Mapping these structures within the community in the form of society federations, 'mohalla' (neighborhood) committees, and youth groups helps institutionalize these structures, facilitating a better understanding of how to finance them for maintenance or create newer structures. There may be challenges in financing existing community operational structures because of their informal nature.*

The nature of sustainability within informal settlements varies due to the risk of eviction or reassignment of land for redevelopment, and these factors should be considered when designing the maintenance models and aligned with the estimated maintenance timelines on a case-by-case basis.

Vishram Patil, former Chief of Social Development Cell, MMRDA, emphasized that financing and maintaining public spaces (DP roads, public parks, public open spaces) is the corporation's statutory responsibility. In the DP, the definition (Municipal Corporation of Greater Mumbai 2018) of private layout and public layout compartmentalizes the ownership of land within the governance system and creates institutional gaps in assigning maintenance responsibility.

For instance, the BMC Act states that the BMC's responsibility for maintenance extends only to the DP plots developed by it. Therefore, although R&R settlements are public housing for project-affected persons, they are considered private layouts because they are planned and developed by the MMRDA, creating an ambiguity about who is responsible for their maintenance. Similarly, the DP does not cover SRA plots, and SRA regulations take precedence over local planning codes, leading to uncertainties regarding the roles of the associated authorities for infrastructure maintenance within the SRA plots. In the absence of a body that is responsible for maintenance, the community, which may or may not be equipped for it, shoulders

the responsibility of maintenance. Communities can resolve these challenges by reaching out to political corporators and connecting with the corporation or by utilizing MLA funds and MP funds for upgrades and maintenance.

> *Because communities may lack technical capacity, financial means, and managerial skills, local government bodies should play a major role in maintenance, prioritizing community needs. If the municipal corporation is unable to carry out the maintenance, other entities (e.g., NGOs and private organizations), with approval from the municipal corporation and after consultations with the community, can implement their maintenance model.*

The CapEx budget should incorporate maintenance costs for 5–10 years after implementation, learning from financing models in government systems, where the maintenance responsibility of the developer extends to 5–10 years after roads are given for development. Recognizing that public spaces undergo extensive use with little to no supervision and require upgrades approximately every five years, this factor should motivate allocation of funds for retrofitting.

Trupti Amritwar Vaitla, Trustee and Director, Mumbai Environmental Social Network (MESN), shared experiences of working with low-income communities in slums, where the built structures are considered private whereas the open spaces in between are considered public. These communities often lack the financial means and time required for maintenance processes, emphasizing the role of the local government body, as well as community participation. Although the Advanced Locality Management model can be beneficial toward this end, it can be challenging to implement in low-income neighborhoods.

> *Leveraging technological interventions within maintenance models for monitoring, where real-time data can be collected to ensure government accountability, is one possible solution. This approach would also empower the community to report their observations and issues, prompting immediate action from the authorities concerned.*

Key takeaways

- Different socio-ecological contexts, combined with differences in stakeholder capacities, require case-specific approaches and timelines.

- It is necessary to prioritize the role of local government bodies and community groups to develop successful implementation and maintenance models.

- Stakeholders should invest in monitoring NbS interventions to enable timely action, while building community capacities to report concerns regarding the upkeep of infrastructure.

- Planning authorities should integrate maintenance funds within CapEx budgets for periodic repair and retrofit of public services.

- Communication mechanisms can be integrated to enable communities to resolve challenges by reaching out to the corporation and/ or local governing actors such as MLAs and MPs to utilize local funds for upgrading and maintaining the public spaces.

- Mapping local structures within communities such as society federations, mohalla committees, and youth and women's groups can lead to the development of informed strategies to institutionalize such structures and an understanding of how to finance them for maintenance. Newer structures can be created wherever necessary.

SESSION 3: WHAT ARE THE MEANS OF MAINTAINING PUBLIC SPACES AND THEIR INFRASTRUCTURE?

Niyati Sareen, Project Director, Water and Education, Hinduja Foundation, highlighted the foundation's sustainable approaches to water rejuvenation. She gave the example of the project undertaken in the villages in the vicinity of Ashok Leyland's Pantnagar plant in Uttarakhand, which emphasized a people-centric approach to enhance operations and maintenance. She highlighted the importance of incentivizing stakeholders, designing the system to generate and support livelihoods and other co-benefits such as health and education, organizing and upskilling during data collection, and incorporating implementation phases and monitoring phases to boost active engagement in the maintenance process. One of the key takeaways from her experience was the importance of involving the end user in all project stages by building structures to support community livelihoods and health. This could ensure long-term interest in projects and therefore their sustenance.

> *Segregating project models into stages that align the nature of available funding with the co-benefits (the environment, livelihood, health, education, etc.) to be achieved at each stage was another important takeaway. This was demonstrated through examples of multiple-year engagements that the foundation supports.*

Sukanya Narain, Founder of Sustainnovate and Strategy Advisor at SEWA Bharat, shared perspectives from the grassroots and the impact financing sector, highlighting the importance of adopting participatory, bottom-up, demand-driven approaches. There was an emphasis on instilling community ownership of assets across the project's stages, moving beyond the project mindset, and ensuring that community self-resilience continues after the project period.

Sukanya also highlighted the need to develop approaches to manage the convergence of livelihood and environmental opportunities.

Building capacities to ensure that the community can take active ownership of assets to support community livelihoods (owning assets) and alternative forms of livelihoods (renting assets) becomes necessary. Aligning community motivations with government intentions can bridge resource gaps. Funding strategies should support processes at different stages, and develop partnerships and collaborations for bankable projects that attract investments. She noted the lack of funding available specifically for NbS projects. The development of monetizable sustainability and climate indicators to track co-benefits over time can be an evidence-building strategy that is more likely to de-risk investments.

Lastly, she pointed out that funding can be staged, with public authorities, civil society organizations, and institutions entering at different stages. Once relationships have been established and bankable projects developed, private corporations and governments will be willing to endorse the project.

Lubaina Rangwala, Program Head, Urban Development, WRI India, acknowledged a possible role for the community in short-term maintenance, but stressed the need for more collaborative models for long-term sustainability. Although gray infrastructure upkeep is more actively managed by the government, it can be difficult to assign roles for the maintenance of softer landscaped spaces that have been built collectively. Additionally, site complexity and lack of resources lead to challenges in achieving larger climate adaptation goals. To address shifts to the business-as-usual scenarios, she discussed different ways of building regulatory mechanisms and technical capacities for maintaining NbS (such as bioswales).

A second point was made regarding the need to learn from successful models implemented in affluent neighborhoods. What kind of organizational or funding models can we take forward from these practices?

> *This was followed by a discussion on the institutional focus that is needed for developing holistic citywide solutions using funds sourced collectively from different departments and private funders, for co-benefits.*

Additionally, regulatory challenges that can sometimes negatively impact communities were highlighted. For example, restoration efforts can often lead to communities losing access to land.

Environmental impacts such as cooling, improved air quality, and increased biodiversity are realized in the long term and require continuous preservation and maintenance efforts; social impacts can be realized in the short term. There is a need to understand how impacts aggregate over time.

Sahana Goswami, Senior Project Manager at WRI India, summarized the importance of institutional training and capacity building in NbS. She highlighted concerns about the burden we may be placing on the community, raising the question of how this burden could be distributed: whose responsibility is maintenance? She mentioned the development of platforms for resource sharing as a solution, such as a joint benefits authority to share funds, risks, and benefits. Lastly, she discussed how we can make institutional budgets work for project models, with the government taking up the responsibility, looking at NbS as a viable option, learning from other cities, and stepping away from current tendering processes.

FIGURE 7 | **Example of interactions between TISS, WRI India, the BMC, and community organizations such as cricket associations to ensure support for implementation and maintenance**

Note: BMC = Brihanmumbai Municipal Corporation; TISS = Tata Institute of Social Sciences.
Photo credit: WRI India.

Simpreet Singh, Transforming M Ward Project, TISS, stated that in the case of greening initiatives, operations and maintenance should not be seen as separate phases. Maintenance begins as soon as the project is initiated. The traditional linear planning approach for NbS implementation needs to be reconfigured to incorporate ongoing maintenance right from the start.

Nakul Heble, Program Officer, Wipro Foundation, highlighted the importance of determining the value of the space after project completion, involving various experts and local actors to see the space as a valuable resource and a "living lab" as in the case of Lal Maidan. There is a general assumption that maintenance

is easy because nature takes care of itself. However, site complexities add specific challenges that need to be addressed. There should be a clear understanding of the characteristics of the resource that is to be conserved, preserved, and converted.

Further, Nakul discussed the need to strengthen existing structures within the community and integrate financial resources from various actors by viewing this as a syndicated effort, where guidelines can define each actor's contribution. It is important to define maintenance costs and responsibilities, and these should be mapped out from the start of the project. Different institutions can be brought together to make a workable model of NbS.

Deepti Talpade, Program Lead, WRI India, reiterated in her closing remarks that maintenance involves not only safeguarding existing ecosystems and community usage but also enhancing and upgrading systems over the project lifecycle. She emphasized the importance of building resilience for a continuous process, mapping the drivers of the system, identifying best practice maintenance models for varying contexts, and documenting integrated processes that enable long-term sustainability.

Key takeaways

- Develop an institutional focus for holistic citywide solutions, use funds sourced collectively from different departments and private funders, and view project operations and maintenance as a syndicated effort.

- Align livelihood opportunities with provision of environmental assets to build the community's self-reliance.

- Recognize how impacts aggregate over time, and align funding to corresponding timelines. Environmental impacts such as cooling, improved air quality, and increased biodiversity are realized in the long term and require continuous preservation efforts; social impacts can be realized in the short term.

- Plan maintenance, capacity building, and long-term funding from the beginning of the project cycle. It is important to define maintenance costs and responsibilities, and these should be mapped out from the start of the project.

- Regulatory documents and guidelines such as Standard Operating Procedure can define each actor's contribution to different project stages.

THE WAY FORWARD

The key objective of the workshop was to discuss ways to develop sustainable strategies for NbS for public space development in vulnerable neighborhoods. As the takeaways of the workshop suggest, a collaborative, multi-stakeholder approach is essential to achieve this goal. Moving ahead, we aim to integrate the following suggestions into the project planning process:

- Ensure that implementation partners and government agencies involve stakeholders throughout the entire project lifecycle by using inclusive methods of engagement to foster stewardship. **Participatory, bottom-up, demand-driven approaches should be case specific**.

- Move beyond the project mindset to **ensure that community resilience continues after the completion of implementation activities** by developing approaches to align livelihood opportunities with environmental assets.

- Design solutions that are ecologically suitable, easy to maintain, and responsive to community needs. Upskilling stakeholders and communities is necessary to ensure effective monitoring and maintenance practices. **A social engineering approach** that involves communities during the engineering process can help with capacity building.

- Integrate financial and resource support from various actors and institutions across project stages, and **view maintenance support as a syndicated effort** to help formulate a workable model of NbS.

- **Develop monetizable sustainability and climate indicators** to track co-benefits over time as an evidence-building strategy that is likely to de-risk investments.

- **Recognize that impacts aggregate over time.** Whereas environmental impacts are realized in the long term and require continuous preservation and maintenance efforts, social impacts can be realized in the short term.

- Inform strategies with **learnings and methods adapted from the best practices** of projects carried out in similar contexts and regions.

FIGURE 8 | The consultative workshop: Hybrid interface

Photo Credit: WRI India.

APPENDIX A

Link to introductory presentation

https://onewri-my.sharepoint.com/:b:/g/personal/priya_narayanan_wri_org/ERJ96L8TBI9CnvM1_Bhz7VUBGXIGwh4tw tZP6aO1-UJ7hA?e=nnvdGZ

LIST OF SPEAKERS AND DISCUSSANTS

Introduction

Deepti Talpade, Program Lead, WRI India

Case study presentation: Lal Maidan, Lallubhai Compound as an example of derelict public spaces in Mumbai's rehabilitation and resettlement colonies

Deepti Talpade, Program Lead, WRI India

Shruti Maliwar, Senior Project Associate, WRI India

Session 1: Who maintains public spaces and their infrastructure? (Who are the actors concerned and what capacities need to be built?)

Siddharth Pandey, Associate Director, Centre for Urban and Regional Excellence (CURE)

Avinash Kaur, Project Manager; **Simpreet Singh**, Consultant, Transforming M Ward Project, Tata Institute of Social Sciences (TISS)

Jyoti Mhapsekar, Founder, Stree Mukti Sanghatana (SMS)

Discussants:

Kirti Wani, Consultant, Oikos For Ecological Services

Ashwin Paranjpe, Water Expert and Founder, Gorus Farms

Session 2: How can we institutionalize frameworks for co-development? (What are the legal and regulatory aspects that need to be considered?)

Roshni Nuggehalli, Executive Director, Youth for Unity and Voluntary Action (YUVA)

Vishram Patil, former Chief of Social Development Cell, MMRDA

Trupti Amritwar Vaitla, Trustee and Director, Mumbai Environmental Social Network (MESN)

Session 3: What are the means of maintaining public spaces and their infrastructure? (What kinds of diverse sources of finance and resources need to be mobilized?)

Niyati Sareen, Project Director, Water and Education, Hinduja Foundation

Sukanya Narain, Founder of Sustainnovate and Strategy Advisor at SEWA Bharat

Lubaina Rangwala, Program Head, Urban Development, WRI India

Discussants:

Sahana Goswami, Senior Program Manager, Urban Water Resilience, WRI India

Nakul Heble, Program Officer, Wipro Foundation

LIST OF ABBREVIATIONS

ALM	Advanced Locality Management
BOT	Build-Operate-Transfer
BMC	Brihanmumbai Municipal Corporation
CURE	Centre for Urban and Regional Excellence
DP	Development Plan
DPR	Detailed Project Report
MHADA	Maharashtra Housing and Area Development Authority
MESN	Mumbai Environmental Social Network
MLA	Member of Legislative Assembly
MMRDA	The Mumbai Metropolitan Region Development Authority
MP	Member of Parliament
NbS	Nature-based solutions
NGO	Nongovernmental organization
R&R	Rehabilitation and resettlement
SMS	Stree Mukti Sanghatana
SRA	Slum Rehabilitation Authority
SRS	Slum Rehabilitation Scheme
TISS	Tata Institute of Social Sciences
YUVA	Youth for Unity and Voluntary Action
WRI	World Resources Institute

ENDNOTES

The ALM is an identified locality or neighborhood, the residents of which commit themselves to improve the "Quality of Life" in the locality / neighborhood in close co-operation with the MCGM.

https://www.mcgm.gov.in/irj/go/km/docs/documents/Circulars/ALM%20manual.pdf

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ABOUT WRI INDIA

WRI India, an independent charity legally registered as the India Resources Trust, provides objective information and practical proposals to foster environmentally sound and socially equitable development. Our work focuses on building sustainable and liveable cities and working towards a low carbon economy. Through research, analysis, and recommendations, WRI India puts ideas into action to build transformative solutions to protect the earth, promote livelihoods, and enhance human well-being. We are inspired by and associated with World Resources Institute (WRI), a global research organization. Know more: www.wri-india.org

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