INCLUSIVE CLIMATE ACTION IN PRACTICE

A C40 CASE STUDY

ADVANCING PARTICIPATORY APPROACHES IN CITY CLIMATE INITIATIVES:
WASTE MANAGEMENT PRACTICES IN BENGALURU

Bruhat Bengaluru Mahanagara Palike

SAAHAS

C40 CITIES

ACKNOWLEDGEMENTS

This case study received generous support in funding from Porticus as part of the C40 Cities Global Green New Deal pilot implementation initiative.

Authors:

Saahas
Annie Philip
Angel Vinod

C40 Cities
Akshatha Venkatesha
Silvia Marcon

We would like to express our deep gratitude to Bruhat Bengaluru Mahanagara Palike (BBMP) and Bengaluru Solid Waste Management Limited (BSWML) for their collaboration in the pilot implementation.

Many thanks to C40 colleagues for their valuable inputs: Jazmin Burgess and Connor Muesen.

Published

July 2024

Design and typesetting: Karthikeyan Gopinathan

ADVANCING PARTICIPATORY APPROACHES IN CITY CLIMATE INITIATIVES: WASTE MANAGEMENT PRACTICES IN BENGALURU

BACKGROUND

More than half of the world's population already lives in urban areas. By 2050, the share is expected to grow to 68%, with 90% of this urbanisation projected to take place in Asia and Africa[1], and India[2] being one of the fastest urbanising countries in the world. The speed and scale of urbanisation bring with it challenges, such as meeting the accelerating demand for affordable housing and viable infrastructure, including transport systems, basic services and jobs[3], especially for the nearly 1 billion urban poor living in informal settlements around the world[4].

Rapid urbanisation leads to informal development and puts local communities at risk of flooding, droughts, heat extremes and other climate hazards. These risks negatively impact urban infrastructure, housing availability, and cities' capacity to provide basic services, ultimately threatening human livelihoods and health.

Climate impacts are far from equally distributed; the urban poor and traditionally marginalised groups, including women, are disproportionately affected. India is one of the most vulnerable countries to the impacts of climate change. **More than 80 percent of India's population lives in districts that are at risk of climate-induced disasters[5].**

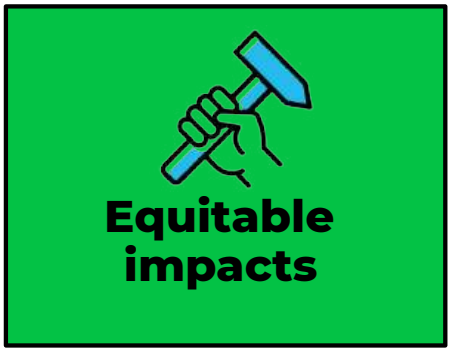
Cities are where the urgency and opportunity for action[6] to avoid climate-related risks and losses are greatest and they therefore hold the key to advancing the climate-resilient development that is needed.

WHAT IS INCLUSIVE CLIMATE ACTION (ICA)?

Because climate impacts are not evenly distributed, local climate policies need to address and reduce structural vulnerabilities and inequalities. For these policies to be effective, they must be informed by the knowledge, needs and lived experience of all residents, including those who are marginalised and removed from the decision-making process.

To support cities in ensuring all benefit from climate action, **C40's Inclusive Climate Action (ICA) Programme** provides targeted policy and technical assistance to cities in developing and delivering local climate policies and programs that drive climate mitigation and adaptation, are community-oriented and designed inclusively, address structural inequalities and deliver and distribute the benefits of climate action equitably to foster climate justice.

The ICA participatory approach emphasises **engaging a wide range of local communities and stakeholders, to better understand the challenges they face in the context of policy implementation**, for city officials to make better and more informed policy decisions that address residents' specific needs and ensure more efficient use of resources.



C40 Inclusive Climate Action Pillars

WHAT IS JUST TRANSITION?

To limit warming to 1.5°C, global emissions need to drop drastically by 2030[7]. Urban regeneration policies and local economic development are key to the long-term success of this transition and to ensure better outcomes for those affected by climate change. **A just and inclusive transition is key to ensuring the benefits of climate actions can be felt equally by all urban residents, making sure no one is left behind, and protecting livelihoods and maximising the employment benefits of climate action.**

A just transition[8] aims to create more, better-quality jobs, whilst putting in place policies to safeguard the livelihoods of workers affected by job losses due to the transition from a carbon-based economy to a non-polluting economy, and also maximise job creation from climate action and to raise the quality of those jobs. According to the International Labour Organisation, 70% of jobs[9] potentially affected by the transition can be reclaimed through labour reallocation, workforce access to training, and active labour policy measures[10].

City-led action is key because lack of just transition planning and investment in people is having a negative impact, for example, it is reported that only 13% of the global workforce[11] is ready for green jobs. Policy support for projects and communities in cities can take different forms to ensure a just transition for those disproportionately affected by the climate crisis, and people living in the Global South[12] are at the forefront. In 2022, C40 Cities committed to driving 50 million good, green jobs by 2030[13] and to ensuring that these jobs are accessible to all, including women, migrants, informal workers and young people, with opportunities for up-skilling and retraining in key sectors such as construction, transport, waste, energy, and health and care, to ensure that the transition to a green economy also delivers social justice.

INCLUSIVE WASTE MANAGEMENT IN CITIES

Waste management activities, carried out by formal and informal workers, present a significant potential for cities to support good green jobs and deliver a just transition[14]. They are critical to reducing the need for landfill sites, minimising greenhouse gas emissions from both landfill sites and waste transportation, and limiting the amount of plastic in our oceans and rivers. Informal waste worker activities have also demonstrated their crucial role in maintaining public health in cities. During the COVID-19 pandemic, many informal workers kept waste management systems afloat despite the lockdowns and isolation requirements.

Waste workers (both formal and informal) are socially and economically marginalised. As outdoors workers they are exposed to extreme heat, flooding, poor air quality, water shortage and all of the associated consequences, and can be subject to discriminatory behaviour, harassment, violence and extortion. These inadequate working[15] conditions, absence of security, limited access to resources and opportunities, and inadequate health coverage and insurance support exacerbate their vulnerability to climate-related risks.

Ensuring a just transition in this context is key to delivering climate change mitigation and adaptation policies and programmes that are inclusive and redistributive of the benefits they will generate. Inclusivity measures must account for intersectionality in delivering climate goals where prevailing inequities among vulnerable groups also compound climate risks. For instance, the most disadvantaged groups are the urban poor, among which women, migrants, and young people are disproportionately represented. They face higher risks in terms of poverty, social exclusion, climate change and poor service provision, including waste management.

The C40 ICA programme works with cities to identify workstreams within their Climate Action Plans that could be leveraged to respond to the needs, capacities, and resilience-building priorities of frontline and at-risk communities, informal workers, and informal settlement dwellers, such as retaining their livelihoods in the face of climate events. Often this involves starting with comprehensive needs gap assessments and then identifying solutions for stronger partnerships with informal workers that are suitable and sustainable in a city. For example, in the waste management value chain, cities can be the ambassadors for the official recognition and integration of informal waste workers into public policies, including at the national level.

Limited access to quality healthcare

Leading to severe health comorbidities, chronic illnesses and shorter lifespans.
45-50 years - Avg. life expectancy

Lack of access to quality education

The children of informal, migrant waste workers are prone to dropping out early and often required to engage in child labour.

Low resilience to financial shocks

Forced to borrow from informal sources for health or any other emergencies as they can not borrow from institutions

No retirement due to lack of savings

Elderly persons are also required to continue working to support themselves as they don't have savings and/or pension benefits.

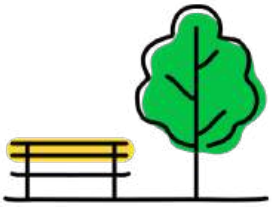
Lack of access to adequate, safe & climate resilient housing

Workers & their families due to lack of purchasing power, discrimination, social exclusion, etc. are forced to live in dismal conditions.

Lack of access to upskilling & equitable transition

Difficult to move to other lines of work that are more dignified, stable, improve income and quality of life.

Challenges that waste workers face as a consequence of their occupation



Lack of access to community spaces, support systems, leisure & rest

This further limits their capacity to cope with their physically and mentally demanding work & living conditions.

Leading the way for informal sector access to social protection

In **Accra**'s waste sector, stakeholders, including city officials, informal workers, and ecosystem experts, identified social insurance as crucial for enhancing resilience within the informal sector during the Accra needs assessment. In March 2024, the city of Accra initiated the registration of 209 informal waste sector workers into a social insurance scheme, serving as a pilot initiative to demonstrate the effectiveness of social insurance in bolstering workers' resilience when they cannot work due to socio-economic shocks or climate impacts such as heat and flooding. The pilot will also showcase to development partners the potential for supporting informal workers in mitigating the impacts of climate action.

Similarly in **Addis Ababa**, a waste sector gender needs assessment conducted by the city with support from C40, has showcased the significance of social security and social insurance policies and programmes to build socio-economic resilience for women informal waste sector workers who face additional gender-based layers of exclusion within the waste sector. In **Freetown**, informal workers, predominantly women, face a significant challenge with climate stresses, especially extreme heat which increases their vulnerability to heat-related illnesses and impacts their economic stability. Through the ICA Africa programme, C40 is working with the city and informal workers to assess the trends and impacts faced by informal female market workers in the context of urban loss and damage approaches to inform future policy and planning.

To know more about C40 ICA programme work on informality see 'Inclusive climate action spotlight series Loss and Damage and a Just Transition in Africa'[16]

ENABLING BENGALURU'S JOURNEY TOWARDS EQUITY AND JUST TRANSITION FOR WASTE WORKERS

Like other rapidly growing cities, Bengaluru faces significant challenges in managing its waste, with large quantities being disposed of in unregulated dumps or openly burned. This generates substantial greenhouse gases and creates inequitable working conditions for the waste workers, one of the most disadvantaged groups in the current waste management system. As stated above, these waste workers significantly contribute to environmental protection and emissions reduction, however, structural and systemic inequalities exacerbate their vulnerability.

Using these challenges as opportunities, the city administration has taken steps to commit to inclusive climate action and equitable waste management. The city undertook a dedicated process to identify key equity challenges and opportunities related to its climate change policies and programmes. Bengaluru joined the C40 Cities network in 2017 and the Bruhat Bengaluru Mahanagara Palike (BBMP) - the administrative authority for the city - initiated the Bengaluru Climate Action and Resilience Plan (BCAP). In 2022, Bengaluru became the first city in the South and West Asia region to join C40's Inclusive Climate Action / Global Green New Deal initiative and, in partnership with C40 Cities, launched the BCAP in 2023 - one of the first in the country - to adapt to the impacts of climate change, including addressing waste management issues.

Bengaluru, through the ICA pilot implementation initiative, is building inclusive institutional mechanisms for waste management by engaging with a diverse group of stakeholders, ensuring consideration of formal and informal waste sector workers in the city's climate governance.

BASELINE ASSESSMENT FOR CREATING AN INCLUSIVE AND RESILIENT WASTE MANAGEMENT SYSTEM

From June to September 2023 the city of Bengaluru undertook a baseline assessment to identify and map all stakeholders in the waste value chain of Bulk Waste Generators (BWG)[17] and conduct a detailed analysis of their vulnerabilities, powers and interests. This included frontline waste sector workers - formal and informal - who already contributed to the city's waste management efforts. This analysis assisted in developing people-centric engagement plans and approaches for each stakeholder group, including government officials, waste workers, waste contractors, community organisations, waste generators and experts.

In over four months, 5 stakeholder workshops and more than 25 semi-structured interviews were carried out with over 120 participants. The creation of secure environments for stakeholders, coupled with the implementation of active listening techniques and dialogues, and the prioritisation of the experiences of those identified as the most vulnerable within the solid waste management value chain, enabled the development of action-oriented interventions that were beneficial and acceptable to all stakeholders. Vulnerable and marginalised groups such as waste workers, who tend to be left out in most climate action dialogues were consulted distinctly using participatory tools such as semi-structured interviews, focus group discussions and workshops.

Understanding the needs of informal waste sector workers

The findings from the baseline assessment report and the extensive stakeholder engagement process showed that there is a need for various stakeholders to work in confluence to enforce existing policy regulations while also bridging gaps in terms of stakeholder capacities, implementation and monitoring systems in the bulk waste management ecosystem. In Bengaluru, this meant supporting targeted engagement by the city to advance inclusive climate action and equitable waste management systems through **(i)** upskilling and capacity building of frontline workers (Junior Health Inspectors and waste workers), waste contractors and zonal city officials involved in managing solid waste management and **(ii)** establishing monitoring and evaluation frameworks to track progress and ensure that interventions are inclusive and effective.

CAPACITY BUILDING AND AWARENESS RAISING FOR INCLUSIVE, EQUITABLE AND RESILIENT WASTE MANAGEMENT SYSTEMS

During the stakeholders engagement process, an assessment was conducted to determine the existing levels of understanding and comfort with the principles of equity and inclusion in climate action, waste-related laws and policies, sustainable decentralised waste management systems and waste worker welfare. The assessment indicated a high level of interest and a need to build capacities in these topics for city officials and more broadly amongst the waste value chain of the city. These engagements also constituted an **opportunity for city officials to gain a deeper understanding of the challenges they face when collaborating with key groups, including civil society, contractors, and waste workers.**

Furthermore, they provided a platform for accessing networks and contacts that could be leveraged to build climate resilience for city residents.

Critical stakeholders such as senior BBMP officials and Junior Health Inspectors (JHI), waste contractors (who employ waste workers) and the waste workers were identified as pivotal forces in transforming the existing waste management practices into sustainable and inclusive systems. By mobilising these local actors and strengthening their common understanding and awareness, more equitable and climate-resilient waste management systems can support a just transition for waste workers.

Starting in early 2024, **a second phase of the project** focused on the design, development and implementation of an awareness programme including a package of capacity building and training sessions for various stakeholders involved in BWG and waste management in Bengaluru (Bommanahalli zone), including city officials, contractors and waste workers.

City officials, key experts, community representatives and civil society organisations were consulted to co-design a set of training resources and provided extensive inputs based on their expertise and practical experiences, in approximately 30 consultations and planning meetings over 6 months.

A total of 8 training modules covering inclusive climate action, equitable solid waste management systems, waste worker welfare, decentralised organic waste management and sustainable waste management practices were delivered to senior city officials (decision makers), waste contractors (implementers), and waste sector workers (formal and informal). These sessions were designed to be interactive and participatory and included activities to enable the participants to understand and implement key training topics in real-life situations. Over 85 people from these stakeholder groups attended the training sessions conducted in May and June 2024.

Awareness program on provisions for waste sector workers

Training for Junior Health Inspectors (JHI)

The city officials involved in the project activated their soft power facilitating and convening with stakeholders to institutionalise the capacity-building sessions, which encouraged participation and dissemination of knowledge amongst various stakeholders involved in the waste management system. The city's institutional support was also instrumental in ensuring that the training resources and capacity-building sessions were designed in a participatory and inclusive manner and pertinent to the broader context of city administration and the functioning of solid waste management systems.

Ultimately, the implementation of workforce development interventions has enabled city officials and practitioners to directly implement equity-led climate programming in Bengaluru.

ENSURE INCLUSIVENESS IN SOLID WASTE MANAGEMENT BY ESTABLISHING MONITORING MECHANISMS AND INDICATORS

In addition to the awareness programme, a well-defined monitoring and performance evaluation (M&E) framework for the bulk waste management process was developed in consultation with various city officials and domain experts. In developing this M&E framework, indicators/guiding principles, equity and inclusivity parameters - such as health and well-being of waste workers, environmental pollution and

key objectives were co-developed with the city officials along with processes and responsibilities of the relevant monitoring agencies.

Apart from efficiency and performance-related gaps which are typically addressed through M&E, concerns on equity and inclusivity were also addressed. For example, segregation at source, provision of personal protective equipment (PPE) and compliance with labour regulations are parameters that directly affect worker well-being and working conditions. By monitoring these, certain challenges that workers face can be documented and mitigated and can enable a just and inclusive transition. Thus, the M&E framework has the potential to be a critical tool to ensure that vulnerable groups are considered, to provide information and visibility to all stakeholders at all levels, and as a mechanism to improve the overall efficiency and equity of waste management systems.

TAKEAWAYS FROM THE PARTICIPATORY WASTE MANAGEMENT PRACTICES IN BENGALURU

- Needs assessment in climate action is an important tool for cities in setting priorities and in making knowledge, needs and lived experiences of marginalised groups, including women, youth, migrants and informal workers known and visible. The city's waste management functions are inherently strengthened by prioritising inclusive climate action for migrants and informal workers.

- Collaborating with a broad set of stakeholders is critical in enabling the city to co-design climate action by adopting equity and inclusivity practices for equitable impacts. The city took the lead in bringing stakeholders together to ensure that the impacts of climate action benefit groups that typically face social and economic exclusion. This critical lead strengthened existing connections between key city departments and external stakeholders, including frontline and marginalised groups.

- Institutionalising inclusive climate action awareness and training with the city administration, including the possibility of replicating training and capacity building, ensures institutional capacity to implement climate initiatives and programmes that distribute the benefits of climate action equitably.

- Monitoring mechanisms that track progress across waste management systems and provide real-time data to inform decision-making can be used to address equity and inclusivity and to design solutions inclusively.

WAY FORWARD

Bengaluru's journey towards inclusive and equitable waste management practices represents a significant step in jointly addressing social and climate justice. From becoming the first city in South and West Asia to join C40's Inclusive Climate Action (ICA) programme in 2022, Bengaluru has been playing a critical role in demonstrating that participatory approaches can deliver strengthened, inclusive, and sustainable waste management practices while addressing the climate action needs in the city.

For two years, by actively engaging vulnerable stakeholders, particularly waste workers, building their capacities, providing institutional support and developing robust monitoring frameworks, the city has laid a strong foundation for sustainable and climate-resilient waste management systems. Bengaluru's leadership in integrating frontline waste workers into the city's climate resilience efforts was the springboard for the first inclusive climate action workshop in the South-West Asia region in July 2024. The city experience facilitated knowledge sharing, encouraged other Indian cities to take action, and inspired officials to make their cities more inclusive.

The workshop, titled "Participatory Practices for Inclusive Climate Action in Cities", was co-hosted by C40 Cities and BBMP, and brought together 100+ stakeholders, including 31 representatives from 15 Indian cities[18] to exchange knowledge on inclusive climate action.

The workshop highlighted Indian cities' need for:

- Inclusive practices and approaches in national and sub-national climate programmes and initiatives
- Considering social inclusion for equitable impacts
- Local and mainstreaming climate action at the local level, focusing on driving change for wider benefits that are inclusive of all residents and citizens.

In 2025, Bengaluru will scale up its established inclusive climate action pilot in solid waste management (SWM) to support other city zones in implementing programmes that are at the nexus between frontline waste sector workers and climate resilience and strengthen its ongoing work to provide deeper engagement with key communities and stakeholders who will be better recognised and integrated into Bangalore's climate action programmes, strengthening their inclusivity.

As Bengaluru continues to refine and expand its initiatives, it serves as a valuable model and inspiration for other cities in the Global South striving to deliver inclusive climate action, while ensuring that no community is left behind in the pursuit of sustainable development within the reality of climate change.

References

1 The World Urban Population | Infographics (2016), Urbanet

2 Infographics: Urbanisation and Urban Development in India (2018), Urbanet

3 Urban Development, (2023), World Bank Group

4 The Sustainable Development Goals Report 2024, (2024), Department of Economic and Social Affairs, UN

5 India: Helping People Build Resilience to Climate Change (2023), World Bank Group

6 Summary for Policymakers (2022), IPCC

7 1.5°C Climate Action Plans, C40 Cities

8 Achieving the just transition: A toolkit for city leaders across the globe' (2023), C40 Cities

9 Skills for a Greener Future: Key Findings, (2019), International Labour Organisation

10 World Employment Social Outlook 2018: Greening with Jobs (2018), International Labour Organisation

11 The future of jobs is green: How climate change is changing labour markets (2023). World Economic Forum

12 Suri Shoba, (2023), It's time for climate justice- A Global South perspective on the fight against the climate crisis, Observer Research Foundation

13 Technical Report: The Case for a Green and Just Recovery, (2020), C40 Cities

14 Inclusive waste management in cities, Analysis and recommendations for city-led actions to make waste management value chains more inclusive, green, and socially just, (2023), C40 Cities

15 Decent work is defined by the ILO as opportunities for work that is productive and delivers a fair income, security in the workplace and social protection for all, better prospects for personal development and social integration, freedom for people to express their concerns, organise and participate in the decisions that affect their lives and equality of opportunity and treatment for all women and men.

16 Inclusive climate action spotlight series Loss and Damage and a Just Transition in Africa at page 9, (2024) C40 Cities

17 Under the BBMP 2012 notice, "bulk waste generator" was defined as any commercial entity generating more than 10 KGs of waste per day or a residential apartment complex with more than 50 units. Since then, BWG classification for residential category has been increased from 50 units and above or 10 KGs of waste per day to 100 units. In case of commercial/institutional categories, it has been increased to 100 KGs of waste per day and/or located in an area above 5000 sq mts.

18

Gujarat	- Surat
Maharashtra	- Thane, Mumbai, Pimpri Chinchwad
Karnataka	- Ballari, Belagavi, Hubli-Dharwad, Davanagere, Mangaluru, Shivamogga, Tumakuru, Bengaluru
Andhra Pradesh	- Visakhapatnam
Tamil Nadu	- Chennai, Hosur