# SLUM UPGRADING IS CLIMATE ACTION

EXPERIENCE AND INSIGHTS FROM THE GLOBAL SOUTH







# Slum Upgrading is Climate Action: Experiences and Insights from the Global South

Acknowledgements: This position paper was prepared for Cities Alliance in collaboration with Slum Dwellers International (SDI) and International Institute for Environment and Development (IIED), as part of the Building Resilience in Informal Settlements programme, funded by the Swedish International Development Agency (SIDA).

### Author:

Nina Schoonman, IIED in collaboration with Ghana Federation of the Urban Poor and People's Dialogue, Muungano wa Wanavijiji and SDI-Kenya, Malawi Federation of Urban and Rural Poor and Centre for Community Organisation and Development, Fédération Sénégalaise des Habitants and urbaSEN, Federation of Urban and Rural Poor Sierra Leone and Centre of Dialogue on Human Settlement and Poverty Alleviation, Tanzania Urban Poor Federation and Centre for Community Initiatives, National Slum Dwellers Federation of Uganda and ACTogether, Zambia Homeless and Poor People's Federation and People's Process on Housing and Poverty in Zambia, Zimbabwe Homeless People's Federation and Dialogue on Shelter for the Homeless Trust.

### Reviewers:

Cities Alliance: Mara Forbes, Julie Greenwalt, Lamberte Ingabire; IIED: Anna Walnycki, Marcelle Mardon; SDI: Mikkel Harder, Patience Mudimu, Farouk Braimah

We would also like to thank Botswana Homeless and Poor People' Federation and Trust for Community Initiatives, Brazilian SDI Federation and Rede Internacional de Ação Comunitária - INTERAÇÃO, National Slum Dwellers Federation of India, Mahila Milan and Society for the Promotion of Area Resource Centres, Federation of Liberia Urban Poor Savers and YMCA Liberia, Shack Dwellers Federation of Namibia and Namibia Housing Action Group, Homeless People's Federation and Philippine Action for Community-led Shelter Initiatives Inc., Federation of the Urban Poor, the Informal Settlement Network and Community Organisation Resource Centre.

# Design and layout:

Phoenix Design Aid

### Cover Photo:

Women community members from Fédération Sénégalaise des Habitants (FSH), Senegal. Credit: @ StudioBaïnem/FlorentChiappero

Cities Alliance is a global partnership fighting urban poverty and supporting cities to deliver sustainable development. Hosted by UNOPS.

### Disclaimer:

The views expressed in this publication are those of the author(s) and do not necessarily reflect the corporate policies or viewpoints of the Cities Alliance Secretariat, its members, or UNOPS.

First published in 2024. Cities Alliance - UN House, Boulevard du Régent 37 - 40, 1000 Brussels, Belgium info@citiesalliance.org

Please cite this publication as:

Cities Alliance (2024): Slum Upgrading is Climate Action: Experience and Insights from the Global South





This material/production has been financed by the Swedish International Development Cooperation Agency, Sida. Responsibility for the content rests entirely with the creator. Sida does not necessarily share the expressed views and interpretations.







Photo: @ YMCA Liberia

# Contents

Introduction	4
1. Understanding Climate Risks: Urban Poor Communities on the Frontlines	6
2. Slum Upgrading is Climate Action	9
2.1 Data-driven and risk-informed co-production	11
2.2 Innovative, socially responsive, integrated, co-produced approaches	13
2.3 Locally led climate action is more inclusive, effective, efficient and just	14
2.4 Fit for purpose finance	16
3. Scaling What Works and Blending Finance: The Climate Finance Opportunity	17
Conclusion: Key Messages and Outlook	22

# INTRODUCTION

# THE 2024 GLOBAL RISK REPORT LISTS CLIMATERELATED THREATS AS THE MOST SEVERE GLOBAL RISK OVER THE NEXT DECADE.

Cities face a dual challenge of catering to rapidly growing populations while managing intensifying climate risks and rising greenhouse gas emissions.<sup>2</sup> Unplanned urbanisation, coupled with climate change, poses complex risks, especially for people who are already grappling with poverty, unemployment, and inadequate housing and service.<sup>3</sup> In this context, cities hold immense potential to change the course of development. Accordingly, the Intergovernmental Panel on Climate Change (IPCC) has argued for a focus on urban transformations, highlighting that informal settlements are vital for understanding the delivery of these transformations.<sup>4</sup>

Community-led and co-produced solutions are integral to building resilience in cities.<sup>5</sup> Urban poor residents are especially vulnerable to climate change because they are forced to live in at-risk settlements that lack access to adequate and affordable housing, infrastructure, and services, characterised by political and institutional marginalisation.<sup>6</sup> By addressing the underlying drivers of risk, climate-responsive upgrading provides opportunities to improve living conditions, whilst reducing exposure and vulnerability to climate hazards.<sup>7</sup> It is also clear that action taken to address climate change without due consideration for the needs of these communities can fail to address - or even exacerbate - deeper structural issues contributing to informality and vulnerability.<sup>8</sup>

Organised urban poor communities - in SDI, they are federations made up of hundreds or thousands of saving groups united across neighbourhoods and cities - are demonstrating how upgrading projects focused on improving housing, infrastructure, and services can enhance community resilience. The emphasis on upgrading as climate action reinforces that solutions must address the lived realities of the urban poor. Unlike top-down, technocratic approaches that risk marginalising informal settlements, communityled upgrading leverages local knowledge, fosters collaboration, and challenges conventional development models. This approach not only builds resilience at the community level, but also promotes social justice by confronting inequalities and empowering those most affected by climate change. In addition, local governments in Global South cities often have limited resources to deliver basic services, infrastructure, and adaptation interventions. Partnerships with organised urban poor communities present novel opportunities to develop innovative approaches that draw on the resources and knowledge of all stakeholders.

While community action is critical, it has limitations in terms of scalability and affordability. Communities face severe funding constraints, and just 3.5 per cent of global climate finance (equivalent to USD 1.2 billion) has been allocated to projects that include the urban poor. 9 Communities lack the resources to address major infrastructure needs, such as paved roads, piped water mains, sewers, and storm drainage systems. 10 Unclear land tenure also creates barriers to investment in long-term solutions.<sup>11</sup> Urban poor communities face myriad forms of exclusion, and the lack of integration of informal settlements with wider urban systems, processes, and policies can make it hard to scale local action. Without external support, community efforts are often trapped in a limited pilot mode, hindering their potential for broader implementation. This calls for collaborative efforts with local government and other urban stakeholders to crowd in funding and implement city-scale solutions. 12 Federations of the urban poor have repeatedly demonstrated their capacity to lead local initiatives to withstand

the layered shocks and stresses of urban informal living. Federations are already leveraging small-scale, localised projects as a foundation to engage in broader dialogues with local governments, demonstrating the power of grassroots initiatives in influencing urban policy and planning. Scaling these efforts presents a unique opportunity for equitable urban climate action that has the potential to improve development outcomes for the city as a whole.

This paper sets out to shape the design, planning and financing of climate action in the cities of the Global South in ways that are cost-effective, efficient and fair.

"Upgrading slums is not just about physical improvements but also about transforming lives and empowering communities. This includes education, political empowerment, and improving overall well-being."

Patience Mudimu, Dialogue on Shelter for the Homeless in Zimbabwe Trust



Photo: @ACTogether Uganda

# 1. UNDERSTANDING CLIMATE RISKS: URBAN POOR COMMUNITIES ON THE FRONTLINES

Cities in the Global South face many intersecting challenges and compounded vulnerabilities. Rapid, unplanned urbanisation and weak governance have contributed to the growth of informal settlements that house a substantial share of the urban population. Informal settlements are home to 1.1 billion people, a figure forecast to increase to 2 billion in the next 30 years. <sup>13</sup> Additionally, informal economies, which provide livelihoods for many urban residents, remain largely unregulated and unsupported by policy frameworks. This is creating increasingly unequal cities where informality is the norm rather than the exception. Marginalisation and exclusion lead to disparities in income, housing, infrastructure, services, and governance, which translate into uneven climate change burdens. <sup>14</sup>

Urban poor residents often live in the most at-risk areas (e.g., on riverbanks, steep hillside slopes, flood plains, wetlands, etc.), which increases their exposure to climate hazards. <sup>15</sup> Environmental degradation resulting from activities such as sand mining and charcoal burning, which are driven by immediate livelihood needs, increases climate risks. Economic constraints also force the urban poor to use inadequate building materials and construction methods, making their homes more susceptible to damage from climate stresses. Poor urban planning leaves up to 70 per cent of the urban population in the Global South without risk-reducing municipal infrastructure, <sup>16</sup> such as drainage or waste management systems.

## Urban poor communities sit on the frontlines of climate risks such as:



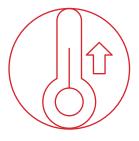
# **Flooding**

Climate change is contributing to more frequent and extreme rainfall and storms, flooding, and sea level rise.<sup>17</sup> Informal settlements are often located in the most at-risk geographical areas of the cities. Flooding leads to property damage, disruption of livelihoods, displacement, and in extreme cases, death. Poor quality housing is less likely to withstand flooding impacts,18 and homes and possessions are rarely insured.<sup>19</sup> Inadequate drainage infrastructure and waste management worsen the situation, as they disrupt water flows and increase risks of contaminated water supplies and outbreaks of waterborne diseases.20



# Drought and water scarcity

Urban water crises associated with rainfall variability, aging infrastructure, and inadequate planning are becoming more common. This translates into water, food, and energy shortages, with cascading impacts on health, livelihoods, and security.<sup>21</sup> These impacts are compounded for the urban poor, who already have restricted access and typically pay a premium for water due to the poverty penalty.<sup>22</sup> Women and girls, who are typically responsible for water provision, are forced to spend longer searching for water, which jeopardises their safety and limits their time for other things.



# Rising temperatures and extreme heat

By 2100, between 50-75 per cent of the global population could be exposed to lifethreatening conditions of extreme heat and humidity.<sup>23</sup> Urban areas, particularly informal settlements, experience the 'urban heat island' effect, which increases temperatures due to density, limited open space, and minimal vegetation.<sup>24</sup> Corrugated iron roofs and poor insulation increase indoor temperatures, and most residents lack access to, or cannot afford, utilities like electricity or water to mitigate heat impacts. This leads to chronic heat stress,25 which can increase illness and mortality, reduce productivity, and increase water shortages, energy supply disruptions, and associated costs of living.26



Photo: @ IIED

# Climate risks are not isolated; their impacts play out against a backdrop of existing multi-dimensional risks associated with urban informality and inequality.

For example, living in a state of housing precarity enhances exposure and vulnerability to climate hazards. However, planned resettlement or managed retreat, which are increasingly being presented as strategic approaches to disaster risk reduction and climate change adaptation for urban informal settlements, <sup>27</sup> fit into a longstanding pattern of marginalisation, neglect, forcible demolition, and displacement. <sup>28</sup> In this context, climate change should not be addressed in an isolated manner; rather, solutions to address climate change are a powerful entry point for addressing a range of interconnected risks that disproportionately affect poor and marginalised urban residents, especially those in informal settlements.

Federations of the urban poor have an intimate understanding of these intersecting risks and challenges. They have repeatedly demonstrated their ability to withstand the layered shocks and stresses of urban informal living and design context-specific solutions that address unmet needs and local priorities. As the frontline responders to climate risks, urban poor

communities are not just victims, but agents capable of driving meaningful adaptation and resilience strategies. Embedded in these communities that constitute most of the urban population in the Global South, SDI affiliates are uniquely positioned to lead efforts to build resilience in their neighbourhoods and cities. The SDI network's established structure and extensive experience in amplifying grassroots action increase this potential, promoting learning from the settlement to the city scale; from the city to national level, across cities and from local to global. By partnering with organisations like SDI, which are led by urban poor communities themselves and have a nuanced understanding of their needs and priorities, stakeholders can tap into a capable and ready network for enhancing integrated urban resilience.

The following section sets out the need for transformative approaches to build urban resilience and highlights how **organised communities of the urban poor are uniquely positioned leaders in local climate action in their cities and settlements.** 

# 2. SLUM UPGRADING IS CLIMATE ACTION<sup>29</sup>

NATIONAL AND LOCAL GOVERNMENTS, DONORS, CLIMATE FINANCE AGENCIES AND OTHER STAKEHOLDERS HAVE YET TO RECOGNISE THAT SLUM UPGRADING IS AN EFFECTIVE FORM OF CLIMATE ACTION THAT ADDRESSES ENVIRONMENTAL CHALLENGES AND CLIMATE RISKS ALONG WITH UNMET BASIC SERVICE AND HOUSING NEEDS AS WELL AS SOCIO-ECONOMIC INEQUALITIES.<sup>30</sup>

SDI federations have long been building their own housing and provisioning their own basic infrastructure and services. However, sector-specific, siloed responses that address a certain deficit without considering other, interconnected challenges may lead to incomplete, short-lived solutions, or exacerbate issues elsewhere. For instance, better drainage systems can help to reduce the risks of flooding; however, residents remain vulnerable to flooding if inadequate waste management results in clogged drains. Therefore, efforts to promote local climate action and resilience must work across sectors and stakeholders - within the settlement and with the city beyond - to tackle the multitude of risks linked to inadequate housing, infrastructure, and services in informal settlements in an integrated manner.<sup>31</sup>

This demands more collaborative, multi-sectoral approaches, as well as improved socio-spatial integration with the wider city. SDI federations are building relationships with other urban stakeholders and exploring ways to strengthen synergies across sectoral responses. For example, the Kenyan federation is pioneering more integrated forms of upgrading in settlements such as Mukuru (Kenya), where the communities are working with the city government to develop integrated strategies across eight sectors to foster resilience.



The urgency for effective, integrated, and inclusive urban adaptation strategies is growing, and these strategies need to be rooted in local realities and address local needs.<sup>34</sup> SDI ensures that urban poor communities take the lead in establishing development priorities and strategies. For instance, the Sierra Leone federation played a key role in shaping the city's new "Transform Freetown" agenda, which positions "informal settlement upgrades" as one of the critical pathways to climate action, which is the city's number one priority.35 This work is co-led by a reform coalition known as the "Transforming Lives" consortium, designed to support the City Council in rolling out a comprehensive slum upgrading programme in Cockle Bay and Kolleh Town settlements.36

By working with informality rather than against it, upgrading acknowledges and supports the realities of urban poor residents. Unlike top-down, technocratic approaches that risk marginalising informal settlements, community-led upgrading that works with informality, tenure insecurity, and informal economies can leverage local knowledge, foster collaboration, and challenge conventional development models, creating space for transformative change. This approach not only builds resilience at the community level, but also promotes social justice by confronting inequalities and empowering those most affected by climate change. Evidence on how community-led climate action enhances urban resilience is rapidly growing.<sup>37</sup>

The following sections set out how **SDI** federations are responding to climate challenges in transformative ways, and specifically highlights the unique role of urban poor federations in leading climate action in their settlements and cities.



Photo: @ Centre for Community Initiatives (CCI) Tanzania

# 2.1 Data-driven and risk-informed co-production of knowledge

Accurate and disaggregated data on climate impacts, housing conditions, infrastructure, and service deficits is essential for evidence-based planning and climate-responsive upgrading.<sup>38</sup>

This data enables communities, planners, and policymakers to understand the specific vulnerabilities and needs of different communities, facilitating more targeted and effective adaptation strategies. However, such local data is often scarce, expensive, or difficult to obtain, creating a barrier to evidence-based urban planning and development. SDI affiliates – with decades of experience in profiling, mapping and enumerating informal settlements – address this gap by generating critical data on the scale and nature of informality, unmet needs, and community priorities.

Increasingly, federations are integrating climate change into these data collection processes to build a more nuanced understanding of layered risks. For example, in Lilongwe, Malawi, federations have systematically mapped climate risks to inform the production of Community Resilience Plans and Risk Management Frameworks, which are necessary to access Ward Development Funds. The SDI affiliate in Freetown, Sierra Leone, has completed site and needs assessments, which were used to demarcate hazard and urban planning zones according to risk levels and highlight risk-informed upgrading options.

The data and knowledge generated by SDI affiliates contributes directly to tangible outcomes, such as early warning systems and disaster risk management. In Freetown, Community Disaster Management Committees made up of community members, predominantly women, are taking action to build resilience, such as through evacuation centres and disaster protocols.

SDI is also working to translate data into accessible, actionable, easy-to-understand information that can inform co-produced solutions with local governments and national agencies. For instance, SDI affiliates in Kenya, Tanzania and Uganda have partnered with government meteorological agencies to improve and disseminate weather and climate information under the DARAJA programme. This helps residents to prepare for and reduce risks. In Nairobi, DARAJA is reported to have led to a 300 per cent increase in household repairs made in response to weather forecasts. In Tanzania, the co-production of knowledge about disaster and other risks with residents, local NGOs, and local government representatives has not just helped to inform community disaster responses, but also led to incremental changes in local governance, such as better linking of local budgets with disaster risk reduction priorities, and the representation of civil society on the municipal disaster management committees.<sup>39</sup>



Photo: @ Namibia Action Housing Group (NHAG)

# 2.2 Innovative, socially responsive, integrated, co-produced approaches

Upgrading projects typically rely on conventional approaches to the development of housing, infrastructure, and services.

Transformative upgrading calls for innovations that go beyond technical engineering to focus on the interaction of people and their environment<sup>40</sup> and institutionalised mechanisms for co-production that span data collection to planning and implementation.

SDI federations are piloting such approaches throughout their work, including through sustainable construction, integrated infrastructure design, and nature-based solutions (NbS). For example, women in Dakar, Senegal, are leading the development of lowtech, low-cost housing using local, natural materials and passive design to improve thermal comfort in informal settlements. They are working with residents and government to co-design, co-finance and coproduce decent housing and urban development that responds to local conditions and promotes local livelihoods. In Zambia, the federation is building eco-friendly housing using clay bricks made in the community, whilst Tanzanian federations are bringing back the use of natural materials, like Typha grass and earth-cement mixtures, which improve climate resilience and comfort. Such housing initiatives are widespread across the SDI network, with women taking the lead to deliver resilient, low-carbon, and affordable homes.

At the neighbourhood level, affiliates are building more resilient infrastructure and innovative service delivery models. For instance, in the face of a devastating drought in Southern Africa, affiliates across the region are prioritising water. In Zambia, the federation has trained and employed local youth to rehabilitate and maintain water reservoirs in public spaces. In Zimbabwe, federation finances have been leveraged to install solar-powered boreholes to improve water access in drought-prone areas, which illustrates how locally led upgrading solutions can decarbonise upgrading. in Mumbai, India, women are also leading energy transitions with innovative solar systems – serviced by women – that power communal

facilities such as lighting and water pumps.<sup>41</sup>

There is growing recognition of the potential of nature to address diverse urban challenges, 42 including in informal settlements.<sup>43</sup> By integrating nature-based solutions<sup>44</sup> into upgrading efforts, urban poor federations are creating healthier, more resilient settlements. In particular, restoration and afforestation initiatives like those in Sierra Leone, Kenya, and Tanzania are growing across the SDI network, whilst urban agriculture is helping to support food security and livelihoods in Brazil, Namibia, South Africa, and Zambia. For example, the federation is central to community conservation efforts to restore coastal wetlands in Freetown, Sierra Leone, with the aim to address climate risks associated with flooding, coastal erosion, sea-level rise, as well as safeguard sustainable coastal livelihoods. When livelihoods are secure, individuals, families, and communities have more resources to invest in climate-resilient infrastructure, participate in community-based initiatives, and withstand the economic shocks associated with climate change.

"Sustainable livelihoods are very central to [the] survival and dignity of people, so it should be the fulcrum of our interventions."

Francis Reffell, Centre of Dialogue on Human Settlement and Poverty Alleviation (CODOHSAPA) Sierra Leone



Photo: @ CODOHSAPA Sierra Leone

# 2.3 Locally led climate action is more inclusive, effective, efficient and just

Federations of the urban poor, like those within the SDI network, demonstrate how community-driven processes can transform neighbourhoods and build inclusive and resilient settlements.<sup>45</sup>

Federations are inclusive of the diversity of lived experiences and intersectional vulnerabilities present in these settlements, which enhances social justice. <sup>46</sup> For example, women-led savings groups form the backbone of SDI federations, providing more than just financial stability; they create supportive environments where women can develop leadership skills and coordinate collective actions, enabling communities to address local priorities like disaster preparedness, housing upgrades, and infrastructure improvements.

Federations see young people as the future of the movement and prioritise their voices and leadership. For instance, youth are at the forefront of data collection (Know Your City Campaign) and digital advocacy (KYC TV), where young leaders leverage social media and technology to amplify the voices of informal settlement communities. By doing so, they push for climate justice on local, national, and global platforms, ensuring that the concerns and solutions of urban poor communities are heard in broader climate dialogues.

SDI's model of peer-to-peer exchange promotes the sharing of best practices, innovations, and lessons learned between communities facing comparable challenges. In this way, federations can accelerate the adoption of climate adaptation and mitigation strategies that have proven successful in similar contexts, ensuring that communities do not need to start from scratch but can build on established solutions. For example, a recent exchange in Freetown convened SDI affiliates from nine countries, alongside local government and other urban stakeholders, to share and discuss climate resilience strategies that can be replicated and

# "You cannot lead if you cannot lead yourself."

Bright Lwembe, Zambia Homeless and Poor People's Federation

scaled in cities globally. This horizontal learning model also creates more equitable spaces for communities and officials to learn together, which unlocks opportunities for the co-production of practical strategies and interventions.<sup>47</sup> This has been crucial in cities like <u>Freetown</u> (Sierra Leone) and <u>Nairobi</u> (Kenya), where participatory learning or planning platforms have brought together city officials, community representatives, and other urban stakeholders to discuss upgrading and community adaptation plans.

More broadly, urban poor federations have a long history of leveraging small-scale, local projects as the basis to engage in broader dialogues with local government. For example, in Lilongwe, Malawi, the SDI affiliate is involved in the City Resilience Action Planning (CityRAP) process, including the development of the forthcoming Resilience Framework of Action, which will coordinate efforts across the city. Such engagement has helped shift policy focus toward more equitable climate adaptation strategies. In Kenya, the longstanding engagement with different government bodies has catalysed a shift in the perspectives of government officials on informality and service delivery.<sup>48</sup> In this way, participatory planning approaches can promote processes that translate the needs and ambitions of the communities into new visions and imaginations of how a city could be.49

Despite such successes, weak local government structures and fragmented governance often prevent communities from having a meaningful say in policy and planning decisions. Actions at the city scale can significantly impact local resilience, either positively or negatively. For example, misguided investments in storm and surface drains in one location can increase flooding risks downstream. By contrast, planting mangroves in coastal zones can provide more equitable protection across the city. It is crucial that national, city and local governments work with communities to enhance participatory decision-making and ensure that the voices of the most vulnerable inform policies, planning and financing in meaningful, sustainable ways.





Photo: @ Philippine Action for Community-led Shelter Initiatives, Inc. (PACSII)

# 2.4 Fit for purpose finance

"Pesa yetu, maamuzu yetu (Our money, our decisions)."

Husna Schechonge, Tanzania Urban Poor Federation (TUPF)

Federation organising has long been anchored by the ritual of daily or weekly savings, whereby slum dwellers – especially women – come together to form savings groups and save a small amount each day. Over time, savings accumulate and form the basis of revolving funds. These local financing mechanisms allow residents to organise around shared priorities, such as securing land tenure, improving housing, enhancing infrastructure, and addressing climate vulnerabilities. This collective savings approach builds financial resilience as well as trust and solidarity among community members, creating a strong foundation for locally led initiatives.

SDI's Urban Poor Funds (UPF) are a key example of how community savings can support climate action. These revolving funds use pooled community savings to attract capital from other actors, which is then loaned out to

support local projects.<sup>50</sup> Approximately 70 per cent of SDI affiliates have active UPFs managed by communityled governance structures. This governance model ensures that financial decisions align with the community's needs and priorities, promoting transparency and accountability. Importantly, UPFs enable federations to respond quickly in the face of climate risks, without waiting for external aid. Affiliates are also exploring how UPFs can support the establishment of city climate funds, which can support action at wider city scales.

Community funds make it possible for federations to pilot novel ideas, learn from experiences, and expand successful initiatives, making climate action more adaptable. Community funds also demonstrate that organised communities of the urban poor possess the networks, skills, and capabilities necessary to initiate and implement locally driven climate action, effectively channelling climate finance to those communities most in need. However, it will be crucial to amplify these community-led financing initiatives if we are to transform settlements and cities at scale.

# 3. SCALING WHAT WORKS AND BLENDING FINANCE: THE CLIMATE FINANCE OPPORTUNITY

"We are not money makers but looking for ways of finding it."

Sarah Namboozo, National Slum Dwellers Federation of Uganda (NSDFU) The strengths of community funds are clear; they are cost-effective, locally owned, and tailored to the unique context and needs of communities. However, while community savings serve as an essential starting point or "pioneer investments" for resilience projects,51 they are insufficient for large-scale infrastructure upgrades, such as drainage systems and flood defences, which require substantial capital.<sup>52</sup> In addition, integrating climate change considerations into upgrading is likely to require additional funding, including emergency or contingency funding, and it is appropriate that these costs be met (at least in part) by climate finance.53 Without this funding - which developed countries committed to providing - the urban poor are forced to rely on their own resources, including their limited household budgets, remittances, and savings groups to offset climate-induced loss and damage. The urban poor already bear the brunt of climate change impacts; it is unjust to expect them to foot the bill as well.

To realise impact at scale, partnerships with local government and other stakeholders are essential.

This calls for collaborative efforts with local government and other urban stakeholders to crowd in funding and implement solutions at city scale. For example, governments should collaborate with organised communities of the urban poor when revising their Nationally Determined Contributions (NDCs), National Adaptation Plans (NAPs), and other strategies, and involve them in projects relating to urban development and climate action. This collaboration can be supported by SDI, which is anchored in community organisation and mobilisation. SDI has the experience, knowledge, and data available and is willing and ready to engage. Such collaborations can be supported through established, trusted partnerships, such as those that exist between Cities Alliance and its members, including SDI.

Despite the urgent need for additional funds, the funding gap is widening.<sup>54</sup> Adaptation finance has been presented as a mechanism to enhance justice by redistributing resources from countries that bear more responsibility for climate change to countries that (will) experience more severe impacts.<sup>55</sup> Although climate finance for cities is increasing, just 1.2 per cent of urban climate investments flow to climate change adaptation and resilience solutions.<sup>56</sup> Only 3.5 per cent of global climate finance (equivalent to USD 1.2 billion) has been allocated to projects that include the urban poor.<sup>57</sup> Even less is explicitly and exclusively directed to the urban poor. Moreover, most funds remain inaccessible to local communities due to high entry barriers. For

example, requirements for mature organisational systems or accounting procedures may conflict with more socially oriented collective action, and funding may be inaccessible without access to long-term core funding.

Addressing these financial barriers requires a multifaceted approach:

1. Increase local-level climate finance: It is critical to increase the proportion of climate finance allocated to local levels through measurable targets and develop direct access modalities for climate funds. Direct access enables local organisations to apply for and manage funding themselves, empowering them to implement context-specific solutions more effectively. Some SDI affiliates have already developed targeted finance mechanisms to directly fund community initiatives through organised groups, such as Kenya's Next-Level Grants Facility, which is designed to efficiently support community groups to amplify their work and quickly respond to emergencies. Disbursing climate finance to community-based organisations could amplify their impacts while strengthening their standing to build more equal partnerships with government.



Photo: @ Vuyisile Moyo, UCT



Photo: @ IIED

- 2. Blend climate finance with local resources, including collective community funds: Pooling resources from different sources including public, private, and philanthropic funding can help to overcome the limitations of individual funding streams. The collective savings and organisational capacity of communities offer the potential to create blended finance models to develop bankable projects. This includes using community finance to leverage private finance to invest in low-income housing and infrastructure investment. Blended finance can also spread risk and attract more investment as it offers the potential of social impact.
- 3. Innovate financing mechanisms: Exploring options such as resilience bonds, social impact bonds, and climate bonds can attract investment by showcasing the dual benefits of financial and social/environmental returns. These mechanisms allow for flexible financing structures that align with the needs of urban poor communities and support scalable adaptation projects.

Locally controlled finance is urgently needed to challenge marginalisation and rethink development as usual. This means that climate finance governance systems (international, national and sub-national) will need to change to accommodate more localised, patient, and flexible finance flows. Global conversations have remained focused on the scale of the climate financing gap, yet there are equally important questions around how and where climate finance is spent, and why this is the case. Amidst widespread calls to transform finance systems, we need to better understand how climate finance might secure social justice, equity, and poverty reduction on the ground. SDI's experience with testing and adapting various funding mechanisms at the community, city, and national levels presents an invaluable resource in the quest to unlock financing for locally led adaptation.

# Scale, Cost and Types of Interventions







$\Box$	HEE	$\Box \bigcirc$			r = 1
пυ	USE	ПО	LU	∟⊏ V	EL

# **COMMUNITY** LEVEL

# **CITY** LEVEL

Cost	<u>\$</u>	\$ \$	\$ \$ \$ \$
Potential Resilience Impact	<b>₩</b>	<b>*</b>	
Types of Activities	Building house up one level; replacing roof; painting roof white	Repairing a small bridge after a storm; community clean-ups of drainage; mangrove planting; communal water kiosks and sanitation units	Upgrading drainage system; grey-green coastal rehabilitation with mangroves and sea wall; upgrading roads and bridges
Who/what typically funds this?	Households, community savings groups, remittances	Community savings groups, local NGOs, small grants programs	National governments, multi-lateral development banks, bi-lateral donors





Photo: @ People's Process on Housing and Poverty in Zambia (PPHPZ)

# CONCLUSION: KEY MESSAGES AND OUTLOOK

Urban poor communities hold they key to transformative, inclusive, climate action in cities.

Communities, like those represented within the SDI network, have proven to be champions in innovative, integrated, and replicable climate responses. Community-led efforts often provide the foundation for city-scale transformation. For example, participatory upgrading in Mukuru, Kenya, and risk-informed development in Freetown, Sierra Leone, demonstrate that upgrading informal settlements is not just about physical improvements; it is a transformative process that builds climate resilience and promotes more equitable urban development. However, collaborative efforts and additional financing will be critical to scale these efforts and achieve the full potential of community-led, city-wide transformative climate action.

# Partnering with urban poor federations provides a unique opportunity to:

- Tap into local expertise and experience to ensure that solutions are both relevant and effective.
- Build resilience through proven, communityled upgrading approaches that address systemic vulnerabilities and unmet urban needs.
- Leverage existing grassroots networks to scale equitable, city-wide climate adaptation and mitigation efforts.

### THE FUTURE OF THIS APPROACH RELIES ON:

# Understanding that slum upgrading advances climate action and social justice

National and local governments, global donors, climate finance agencies, and other stakeholders do not recognise that slum upgrading is an impactful form of climate action that addresses environmental challenges and climate risks along with unmet urban needs and socio-economic inequalities.<sup>60</sup>

In-situ slum upgrading as climate action stands in contrast to forced relocation and evictions, which can result in negative outcomes for displaced communities, such as the loss of homes, livelihoods, and social networks.

### Institutionalisation of co-production

Public and philanthropic resourcing is needed for collaborative localised data generation and analysis that build a shared understanding of climate risks and local solutions and their intersection with poverty and informality as well as resourcing for the co-production of appropriate responses.

Local governments can institutionalise coproduction through participatory planning processes and novel inclusive governance platforms, such as urban labs, to ensure that knowledge, solutions, and priorities are coproduced with organised communities.

# City stakeholders work with urban informality, not against it

Local governments and donors must recognise informal settlements as integral parts of the city and legitimate sites for climate action.

Informal settlements, economies, and tenure insecurity are not barriers to action; instead, they can lead to novel solutions through more inclusive planning processes and commitments to co-production.

# 4. Locally led climate action to advance equity, sustainability, and efficiency

Including vulnerable and low-income communities in decision-making processes around climate change is less likely to replicate existing socio-economic inequalities in cities. Investments in low-income and vulnerable settlements offer huge co-benefits. Climate investments can tackle existing basic service and housing deficits while responding to climate change. Interventions such as NbS also promote decarbonisation.

# Nimbler and more decentralised climate finance for cities

Organised communities and local governments have city funds that can receive and blend climate finance with local resources. More climate finance is needed to support climate action in informal settlements, with measurable targets.

Direct access modalities are needed within climate finance mechanisms.

Funders should work with urban poor federations to co-design and capacitate new city-level funding facilities that blend climate finance with local resources.

As global climate conversations continue, this is a call to governments, funders, and development partners to act decisively in moving toward tangible, integrated, and communityled solutions in settlements and cities.

## **Endnotes**

- 1. Heading, S. and Cavaciuti-Wishart, E., 2024. These are the biggest global risks we face in 2024 and beyond. *World Economic Forum*, 10 January. Available at: https://www.weforum.org/stories/2024/01/global-risks-report-2024/ [Accessed 28 November 2024].
- Global Resilience Partnership & Transitions Research, 2024. From Informality to Impact: The Untapped Potential of Scaling Urban Resilience Innovation in Informality. Policy and Investment Briefing Note. Cape Town, South Africa. Available at: https://www.globalresiliencepartnership.org/report-out-now-from-informality-to-impact-the-untapped-potential-of-scaling-urban-resilience-innovation-in-informality/ [Accessed 4 December 2024].
- 3. Henderson, J.V., Storeygard, A. and Deichmann, U., 2017. Has climate change driven urbanization in Africa? Journal of Development Economics, 124, pp. 60-82. Available at: https://doi.org/10.1016/j.jdeveco.2016.09.001.; Williams, D.S. et al., 2019. Vulnerability of informal settlements in the context of rapid urbanization and climate change. Environment and Urbanization, 31(1), pp. 157-176. Available at: https://doi.org/10.1177/0956247818819694.; Satterthwaite, D. et al., 2020. Building Resilience to Climate Change in Informal Settlements. One Earth, 2(2), pp. 143-156. Available at: https://doi.org/10.1016/j.oneear.2020.02.002.
- 4. IPCC, 2018. Global Warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty. IPCC. Available at: https://www.ipcc.ch/site/assets/uploads/sites/2/2019/06/SR15\_Summary\_Volume\_Low\_Res.pdf.
- 5. Khalatbari Limaki, A., 2024. The Potential of Community-Led Development Initiatives for Addressing Urban Inequality: Strategies and Challenges of Successful Models in Practice. *International Journal of Architecture and Planning*, 4(1). Available at: https://doi.org/10.51483/IJARP.4.1.2024.13-24.; Nath, S., 2024. Mobilising transformative community-based climate change adaptation. *Urban Transformations*, 6(1), p. 1. Available at: https://doi.org/10.1186/s42854-023-00059-7.; Karol Mohan, A. and Muraleedharan, G., 2024. Exploring co-production in redirecting climate urbanism. *Climate and Development*, 0(0), pp. 1-19. Available at: https://doi.org/10.1080/17565529.2024.2339249.; Barcena, A. and A. Bahadur, 2023. Co-producing Urban Resilience Solutions: The Role of Power and Politics. *IIED*: London. Available at: https://www.iied.org/22191iied.
- 6. Satterthwaite, D. et al., 2020. Building Resilience to Climate Change in Informal Settlements. *One Earth*, 2(2), pp. 143-156. Available at: https://doi.org/10.1016/j.oneear.2020.02.002.
- 7. French, M., Trundle, A., Korte, I. and Koto, C., 2021. Climate Resilience in Urban Informal Settlements: Towards a Transformative Upgrading Agenda. In: de Graaf-van Dinther, R. (ed.) Climate Resilient Urban Areas. Palgrave Studies in Climate Resilient Societies. Palgrave Macmillan, Cham. Available at: https://doi.org/10.1007/978-3-030-57537-3\_7; Almansi, F., Motta, J.M. and Hardoy, J., 2020. Incorporating a resilience lens into the social and urban transformation of informal settlements: the participatory upgrading process in Villa 20, Buenos Aires (2016-2020). Environment and Urbanization, 32(2), pp. 407-428. Available at: https://doi.org/10.1177/0956247820935717; Collado, J.R.N. and Wang, H.H., 2020. Slum upgrading and climate change adaptation and mitigation: Lessons from Latin America. Cities, 104, p. 102791. Available at: https://doi.org/10.1016/j.cities.2020.102791.
- 8. Reckien, D. et al., 2017. Climate change, equity and the Sustainable Development Goals: an urban perspective. *Environment and Urbanization*, 29(1), pp. 159-182. Available at: https://doi.org/10.1177/0956247816677778; Pratt, B., 2023. Equitable Urban Planning for Climate Change. *Journal of Planning Literature*, 38(1), pp. 59-69. Available at: https://doi.org/10.1177/08854122221138125.
- 9. Cities Alliance, 2024. Climate Finance for the Urban Poor: A Review of Global Climate Funds. Cities Alliance: Brussels, Belgium. Available at: https://www.citiesalliance.org/resources/publications/publications/climate-finance-urban-poor-review-global-climate-funds.
- 10. Satterthwaite, D. et al., 2020. Building Resilience to Climate Change in Informal Settlements. *One Earth*, 2(2), pp. 143–156. Available at: https://doi.org/10.1016/j.oneear.2020.02.002.
- 11. Zazyki, M.A. et al., 2022. Property rights in informal settlements. Cities, 122, p. 103540. Available at: https://doi.org/10.1016/j. cities.2021.103540; McEvoy, D., Mitchell, D. and Trundle, A., 2019. Land tenure and urban climate resilience in the South Pacific. Climate and Development, 12(1), pp. 1-11. Available at: https://doi.org/10.1080/17565529.2019.1594666; Mitchell, D. and McEvoy, D., 2019. Land Tenure and Climate Vulnerability: A World in Which Everyone Enjoys Secure Land Rights. UN-Habitat: Nairobi, Kenya. Available at: https://unhabitat.org/land-tenure-and-climate-vulnerability.
- 12. Walnycki, A. and Tucker Landesman, 2024. Climate action for equitable cities: Working with informal communities for low-carbon, resilient futures. *IIED*, 30 October. Available at: https://www.iied.org/climate-action-for-equitable-cities-working-informal-communities-for-low-carbon-resilient-futures [Accessed 28 November 2024].
- 13. United Nations, 2023. Sustainable Development Goals Report 2023: Goal 11 Make cities and human settlements inclusive, safe, resilient, and sustainable. Available at: https://unstats.un.org/sdgs/report/2023/goal-11.
- 14. IPCC, 2022. Climate Change 2022: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change. H.-O. Pörtner, D.C. Roberts, M. Tignor, E.S. Poloczanska, K. Mintenbeck, A. Alegría, M. Craig, S. Langsdorf, S. Löschke, V. Möller, A. Okem, B. Rama (eds.). Cambridge University Press, Cambridge, UK and New York, NY, USA. Available at: https://doi.org/10.1017/9781009325844.
- 15. Satterthwaite, D. et al., 2020. Building Resilience to Climate Change in Informal Settlements. *One Earth*, 2(2), pp. 143-156. Available at: https://doi.org/10.1016/j.oneear.2020.02.002.
- 16. Mahendra, A. et al., 2021. Seven Transformations for More Equitable and Sustainable Cities. *World Resources Report*, Towards a More Equal City. Washington, DC: World Resources Institute. Available at: https://doi.org/10.46830/wrirpt.19.00124.
- Dodman, D. et al., 2022. Cities, settlements and key infrastructure. In: H.-O. Pörtner, D.C. Roberts, M. Tignor, E.S. Poloczanska, K. Mintenbeck, A. Alegría, M. Craig, S. Langsdorf, S. Löschke, V. Möller, A. Okem, B. Rama (eds.) Climate Change 2022: Impacts, Adaptation, and Vulnerability. Cambridge University Press. Available at: https://doi.org/10.1017/9781009325844.

- 18. Kikwasi, G. and Mbuya, E., 2019. Vulnerability analysis of building structures to floods: The case of flooding informal settlements in Dar es Salaam, Tanzania. *International Journal of Building Pathology and Adaptation*, 37(5), pp.629-656. https://doi.org/10.1108/JJBPA-07-2018-0056.
- 19. Møller-Jensen, L., Grasham, C.F., Korzenevica, M. and Charles, K.J., 2023. Probing Political Paradox: Urban Expansion, Floods Risk Vulnerability and Social Justice in Urban Africa. *Journal of Urban Affairs*, 45(3), pp.505-521. https://doi.org/10.1080/07352166.2022.2108 436; Grasham, C.F., Korzenevica, M. and Charles, K.J., 2019. On Considering Climate Resilience in Urban Water Security: A Review of the Vulnerability of the Urban Poor in Sub-Saharan Africa. *WIREs Water*, 6(3), https://doi.org/10.1002/wat2.1344.
- Louw, E., et al., 2019. Impacts of Flood Disasters in Nigeria: A Critical Evaluation of Health Implications and Management. Jàmbá: Journal of Disaster Risk Studies, 11(1), pp.1-9. https://hdl.handle.net/10520/EJC-16a950c4a3; Okoth Okaka, F. and Odhiambo, B.D.O., 2019. Health Vulnerability to Flood-Induced Risks of Households in Flood-Prone Informal Settlements in the Coastal City of Mombasa, Kenya. Natural Hazards, 99(2), pp.1007-1029. https://doi.org/10.1007/s11069-019-03792-0.
- Livingston, J., 2021. Water scarcity & health in urban Africa. *Daedalus*, 150(4), pp.85-102. https://doi.org/10.1162/daed\_a\_01874; Grasham, C.F., Korzenevica, M. and Charles, K.J., 2019. On Considering Climate Resilience in Urban Water Security: A Review of the Vulnerability of the Urban Poor in Sub-Saharan Africa. *WIREs Water*, 6(3), https://doi.org/10.1002/wat2.1344.
- 22. Braimah, I., Obeng Nti, K. and Amponsah, O., 2018. Poverty Penalty in Urban Water Market in Ghana. *Urban Forum*, 29(1), pp.147–168. https://doi.org/10.1007/s12132-017-9328-x; Smiley, S.L., 2020. Heterogeneous water provision in Dar es Salaam: The role of networked infrastructures and alternative systems in informal areas. *Environment and Planning E: Nature and Space*, 3(4), pp.1215-1231. https://doi.org/10.1177/2514848620908194.
- 23. Dodman, D., Hayward, B., Pelling, M., Castan Broto, V., Chow, W., Chu, E., Dawson, R., Khirfan, L., McPhearson, T., Prakash, A., Zheng, Y. and Ziervogel, G., 2022. Cities, settlements and key infrastructure. In: H.-O. Pörtner, D.C. Roberts, M. Tignor, E.S. Poloczanska, K. Mintenbeck, A. Alegría, M. Craig, S. Langsdorf, S. Löschke, V. Möller, A. Okem and B. Rama, eds. *Climate Change 2022: Impacts, Adaptation and Vulnerability*. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change. Cambridge University Press, Cambridge, UK and New York, NY, USA, pp.907-1040. https://doi.org/10.1017/9781009325844.008.
- 24. Li, X., Stringer, L.C. and Dallimer, M., 2022. The Impacts of Urbanisation and Climate Change on the Urban Thermal Environment in Africa. *Climate*, 10(11), p.164. https://doi.org/10.3390/cli10110164; Laue, F., Adegun, O.B. and Ley, A., 2022. Heat Stress Adaptation within Informal, Low-Income Urban Settlements in Africa. *Sustainability*, 14(13), p.8182. https://doi.org/10.3390/su14138182.
- 25. Ramsay, E.E., Fleming, G.M., Faber, P.A., Barker, S.F., Sweeney, R., Taruc, R.R., Chown, S.L. and Duffy, G.A., 2021. Chronic heat stress in tropical urban informal settlements. *iScience*, 24(11). https://doi.org/10.1016/j.isci.2021.103248.
- 26. Dodman, D., Hayward, B., Pelling, M., Castan Broto, V., Chow, W., Chu, E., Dawson, R., Khirfan, L., McPhearson, T., Prakash, A., Zheng, Y. and Ziervogel, G., 2022. Cities, settlements and key infrastructure. In: H.-O. Pörtner, D.C. Roberts, M. Tignor, E.S. Poloczanska, K. Mintenbeck, A. Alegría, M. Craig, S. Langsdorf, S. Löschke, V. Möller, A. Okem and B. Rama, eds. Climate Change 2022: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change. Cambridge University Press, Cambridge, UK and New York, NY, USA, pp.907-1040. https://doi.org/10.1017/9781009325844.008; Pasquini, L., van Aardenne, L., Godsmark, C.N., Lee, J. and Jack, C., 2020. Emerging climate change-related public health challenges in Africa: A case study of the heat-health vulnerability of informal settlement residents in Dar es Salaam, Tanzania. Science of the Total Environment, 747, p.141355. https://doi.org/10.1016/j.scitotenv.2020.141355.
- 27. Tadgell, A., Doberstein, B. and Mortsch, L., 2018. Principles for Climate-Related Resettlement of Informal Settlements in Less Developed Nations: A Review of Resettlement Literature and Institutional Guidelines. Climate and Development, 10(2), pp.102-115. https://doi.org/10.1080/17565529.2017.1291401; Arnall, A., 2019. Resettlement as climate change adaptation: what can be learned from state-led relocation in rural Africa and Asia?. Climate and Development, 11(3), pp.253-263. https://doi.org/10.1080/17565529.2018.1442799; Doberstein, B., 2019. Alternatives to long distance resettlement for urban informal settlements affected by disaster and climate change. KnE Social Sciences, pp.136-150. https://doi.org/10.18502/kss.v3i21.4964.
- 28. Anguelovski, I., Connolly, J.J., Pearsall, H., Shokry, G., Checker, M., Maantay, J., Gould, K., Lewis, T., Maroko, A. and Roberts, J.T., 2019. Why green "climate gentrification" threatens poor and vulnerable populations. *Proceedings of the National Academy of Sciences*, 116(52), pp.26139-26143. https://doi.org/10.1073/pnas.1920490117.
- 29. Doberstein, B., 2019. Alternatives to long distance resettlement for urban informal settlements affected by disaster and climate change. KnE Social Sciences, pp.136-150. https://doi.org/10.18502/kss.v3i21.4964; Siders, A.R., Ajibade, I. Introduction: Managed retreat and environmental justice in a changing climate. *J Environ Stud Sci* 11, 287-293 (2021). https://doi.org/10.1007/s13412-021-00700-6; Ajibade, I., Sullivan, M., Lower, C., Yarina, L. and Reilly, A., 2022. Are managed retreat programs successful and just? A global mapping of success typologies, justice dimensions, and trade-offs. *Global Environmental Change*, 76, p.102576. https://doi.org/10.1016/j.gloenvcha.2022.102576
- 30. French, M., Trundle, A., Korte, I., Koto, C. (2021). Climate Resilience in Urban Informal Settlements: Towards a Transformative Upgrading Agenda. In: de Graaf-van Dinther, R. (eds) Climate Resilient Urban Areas. Palgrave Studies in Climate Resilient Societies. Palgrave Macmillan, Cham. https://doi.org/10.1007/978-3-030-57537-3\_7; Almansi, F., Motta, J. M., & Hardoy, J. (2020). Incorporating a resilience lens into the social and urban transformation of informal settlements: the participatory upgrading process in Villa 20, Buenos Aires (2016-2020). Environment and Urbanization, 32(2), 407-428. https://doi.org/10.1177/0956247820935717; Collado, J. R. N., & Wang, H. H. (2020). Slum upgrading and climate change adaptation and mitigation: Lessons from Latin America. Cities, 104, 102791. https://doi.org/10.1016/j. cities.2020.102791
- 31. Satterthwaite, D. et al. (2020) 'Building Resilience to Climate Change in Informal Settlements', One Earth, 2(2), pp. 143-156. Available at: https://doi.org/10.1016/j.oneear.2020.02.002.

- 32. Clar, Christoph. "Coordinating Climate Change Adaptation across Levels of Government: The Gap between Theory and Practice of Integrated Adaptation Strategy Processes." Journal of Environmental Planning and Management 62(12), pp. 2166-85, https://doi.org/10.1080/09640568.2018.1536604; Bouwer, Roy, Lorena Pasquini, and Marie-Ange Baudoin. 2021. "Breaking Down the Silos: Building Resilience through Cohesive and Collaborative Social Networks." Environmental Development 39, 100646, https://doi.org/10.1016/j.envdev.2021.100646; Ellevseth Oseland, Stina. 2019. "Breaking Silos: Can Cities Break down Institutional Barriers in Climate Planning?" Journal of Environmental Policy & Planning 21(4), pp. 345-57, https://doi.org/10.1080/1523908X.2019.1623657; Lin, Brenda B. et al. 2021. "Integrating Solutions to Adapt Cities for Climate Change." The Lancet Planetary Health 5(7), pp. 479-86, https://doi.org/10.1016/S2542-5196(21)00135-2; Hurlimann, Anna, Sareh Moosavi, and Geoffrey R. Browne. 2021. "Urban Planning Policy Must Do More to Integrate Climate Change Adaptation and Mitigation Actions." Land Use Policy 101, 105188, https://doi.org/10.1016/j.landusepol.2020.105188
- 33. Sverdlik, A., Mitlin, D. and Dodman, D., 2019. Realising the multiple benefits of climate resilience and inclusive development in informal settlements. *International Institute for Environment and Development (IIED)*. Produced through a collaborative partnership under Cities Alliance's Joint Work Programme on Resilient Cities. C40 Cities Climate Leadership Group: New York, NY. https://www.citiesalliance.org/sites/default/files/2019-12/JWP%20%282019%29%20Realising%20the%20Multiple%20Benefits.pdf
- 34. Khalatbari Limaki, A. (2024) 'The Potential of Community-Led Development Initiatives for Addressing Urban Inequality: Strategies and Challenges of Successful Models in Practice', *International Journal of Architecture and Planning*, 4(1). Available at: https://doi.org/10.51483/IJARP.4.1.2024.13-24.
- 35. Freetown City Council. 2024. Transform Freetown Transforming Lives: Freetown Development Agenda 2024-2028. Accessed 7 December 2024, https://fcc.gov.sl/transform-freetown-transforming-lives-freetown-development-agenda-2024-2028/.
- 36. Macarthy, JM, de Bruijne, K, Conteh, Felix, Hitchen, J, and Koroma, B, Reffell, F Freetown: City report (June 05, 2024). Available at http://dx.doi.org/10.2139/ssrn.4916071
- 37. Dobson, Skye. "Community-Driven Pathways for Implementation of Global Urban Resilience Goals in Africa." Africa's Urban Risk and Resilience 26, pp. 78-84, https://doi.org/10.1016/j.ijdrr.2017.09.028; Archer, Diane. "Building Urban Climate Resilience through Community-Driven Approaches to Development: Experiences from Asia." International Journal of Climate Change Strategies and Management 8(5), pp. 654-69, https://doi.org/10.1108/IJCCSM-03-2014-0035; Khalatbari Limaki, A. (2024) 'The Potential of Community-Led Development Initiatives for Addressing Urban Inequality: Strategies and Challenges of Successful Models in Practice', International Journal of Architecture and Planning, 4(1). Available at: https://doi.org/10.51483/IJARP.4.1.2024.13-24; Nath, S. (2024) 'Mobilising transformative community-based climate change adaptation', Urban Transformations, 6(1), p. 1. Available at: https://doi.org/10.1186/s42854-023-00059-7
- 38. Walnycki, Anna, Aditya Bahadur, and Tucker Landesman. 2022. Better Cities Are Possible: Responding to the Twin Crises of Climate Change and Inequality. IIED: London, https://www.iied.org/21006iied.
- 39. Johnson, C., E. Osuteye, T. Ndezi, and F. Makoba. 2022. "Co-producing Knowledge to Address Disaster Risks in Informal Settlements in Dar es Salaam, Tanzania: Pathways Toward Urban Equality?" *Environment and Urbanization*, 34(2), pp. 349-371. https://doi.org/10.1177/09562478221112256.
- 40. French, M., Trundle, A., Korte, I., Koto, C. (2021). Climate Resilience in Urban Informal Settlements: Towards a Transformative Upgrading Agenda. In: de Graaf-van Dinther, R. (eds) Climate Resilient Urban Areas. Palgrave Studies in Climate Resilient Societies. Palgrave Macmillan, Cham. https://doi.org/10.1007/978-3-030-57537-3\_7
- 41. In Jodhpur India, the Mahila Housing Trust Community Actions Groups lobbied for and co-produced a Heat Action Plan, leading to practical interventions such as cool roofs and net-zero cooling stations that provide drinking water and first aid in marginalised communities.
- 42. Depietri, Y., McPhearson, T. (2017). Integrating the Grey, Green, and Blue in Cities: Nature-Based Solutions for Climate Change Adaptation and Risk Reduction. In: Kabisch, N., Korn, H., Stadler, J., Bonn, A. (eds) Nature-Based Solutions to Climate Change Adaptation in Urban Areas. Theory and Practice of Urban Sustainability Transitions. Springer, Cham. https://doi.org/10.1007/978-3-319-56091-5\_6; Hobbie, Sarah E. and Nancy B. Grimm. 2020. "Nature-Based Approaches to Managing Climate Change Impacts in Cities." *Philosophical Transactions of the Royal Society B* 375(1794), 20190124, https://doi.org/10.1098/rstb.2019.0124; Brink, Ebba et al. 2016. "Cascades of Green: A Review of Ecosystem-Based Adaptation in Urban Areas." *Global Environmental Change* 36, pp. 111-23, https://doi.org/10.1016/j. gloenvcha.2015.11.003; van den Bosch, M. and Å Ode Sang. 2017. "Urban Natural Environments as Nature-Based Solutions for Improved Public Health A Systematic Review of Reviews." *Environmental Research* 158, pp. 373-84, https://doi.org/10.1016/j.envres.2017.05.040; Frantzeskaki, Niki et al. 2019. "Nature-Based Solutions for Urban Climate Change Adaptation: Linking Science, Policy, and Practice Communities for Evidence-Based Decision-Making." *BioScience* 69(6), pp. 455-66, https://doi.org/10.1093/biosci/biz042; Adams, Clare, Niki Frantzeskaki, and Magnus Moglia. 2023. "Mainstreaming Nature-Based Solutions in Cities: A Systematic Literature Review and a Proposal for Facilitating Urban Transitions." *Land Use Policy* 130, 106661, https://doi.org/10.1016/j.landusepol.2023.106661; Crosson, C. (2023). Nature-Based Adaptation in a Nairobi Informal Settlement: Addressing Chronic Flooding While Increasing Community Resilience Through Multi-Benefit Green Infrastructure. In: Faircloth, B., Pedersen Zari, M., Thomsen, M.R., Tamke, M. (eds) Design for Climate Adaptation. UIA 2023. Sustainable Development Goals Series. Springer, Cham. https://doi.org/10.1007/978-3-031-36320-7\_31
- 43. UN-Habitat. 2023. The Critical Role of Nature-Based Solutions for Enhancing Climate Resilience in Informal Areas: An Urban Supplement to the UNFCCC Technical Guidelines on National Adaptation Plans. Nairobi, Kenya. https://unhabitat.org/sites/default/files/2023/10/unh.\_2023.\_the\_critical\_role\_of\_nature-based\_solutions\_for\_enhancing\_climate\_resilience\_in\_informal\_areas.pdf
- 44. Nature-based Solutions are "actions to protect, sustainable manage, and restore natural and modified ecosystems that address societal challenges (...) effectively and adaptively, simultaneously providing human wellbeing and biodiversity benefits." (as defined by the IUCN; see https://portals.iucn.org/library/sites/library/files/documents/2016-036.pdf)
- 45. Archer, D., 2016. Building urban climate resilience through community-driven approaches to development: Experiences from Asia. *International Journal of Climate Change Strategies and Management*, 8(5), pp.654-669. https://doi.org/10.1108/IJCCSM-03-2014-0035; Dobson, S., 2017. Community-driven pathways for implementation of global urban resilience goals in Africa. *International Journal of Disaster Risk Reduction*, 26, pp.78-84. https://doi.org/10.1016/j.ijdrr.2017.09.028; Malloy, J.T. and Ashcraft, C.M., 2020. A framework for implementing socially just climate adaptation. *Climatic Change*, 160(1), pp.1-14. https://doi.org/10.1007/s10584-020-02705-6

- 46. French, M., Trundle, A., Korte, I., Koto, C. (2021). Climate Resilience in Urban Informal Settlements: Towards a Transformative Upgrading Agenda. In: de Graaf-van Dinther, R. (eds) Climate Resilient Urban Areas. Palgrave Studies in Climate Resilient Societies. Palgrave Macmillan, Cham. https://doi.org/10.1007/978-3-030-57537-3\_7; McArdle, Rachel. 2021. "Intersectional Climate Urbanism: Towards the Inclusion of Marginalised Voices." Geoforum 126, pp. 302-5, https://doi.org/10.1016/j.geoforum.2021.08.005; Amorim-Maia, Ana T. et al. 2022. "Intersectional Climate Justice: A Conceptual Pathway for Bridging Adaptation Planning, Transformative Action, and Social Equity." *Urban Climate* 41, 101053, https://doi.org/10.1016/j.uclim.2021.101053; Rigon, Andrea. 2022. "Diversity, Justice and Slum Upgrading: An Intersectional Approach to Urban Development." *Habitat International* 13, 102691, https://doi.org/10.1016/j.habitatint.2022.102691
- 47. Castán Broto, Vanesa, et al. 2022. "Co-Production Outcomes for Urban Equality: Learning from Different Trajectories of Citizens' Involvement in Urban Change." Current Research in Environmental Sustainability 4, 100179, https://doi.org/10.1016/j.crsust.2022.100179
- 48. Lines, Kate and Jack Makau. 2018. "Taking the Long View: 20 Years of Muungano Wa Wanavijiji, the Kenyan Federation of Slum Dwellers." Environment and Urbanization 30(2), pp. 407-24, https://doi.org/10.1177/0956247818785327.
- 49. Pelling, Mark, Karen O'Brien, and David Matyas. 2015. "Adaptation and Transformation." Climatic Change 133(1), pp. 113-27, https://doi.org/10.1007/s10584-014-1303-0.
- 50. Shand, Wayne et al. 2017. Enabling Private Investment in Informal Settlements: Exploring the Potential of Community Finance.Infrastructure and Cities for Economic Development, UK Aid. Available at https://www.iied.org/g04180; Shand, Wayne and Sarah Colenbrander. 2018. "Financing the Inclusive City: The Catalytic Role of Community Savings." Environment and Urbanization 30(1), pp. 175–90, https://doi.org/10.1177/0956247817751340.
- 51. Mitlin, Diana, Sarah Colenbrander, and David Satterthwaite. 2018. "Editorial: Finance for Community-Led Local, City and National Development." *Environment and Urbanization* 30(1), pp. 3–14, https://doi.org/10.1177/0956247818758251.
- 52. Satterthwaite, D. et al. (2020) 'Building Resilience to Climate Change in Informal Settlements', One Earth, 2(2), pp. 143–156. Available at: https://doi.org/10.1016/j.oneear.2020.02.002.
- 53. Soanes, M, Shakya, C, Walnycki, A and Greene, S (2019) Money where it matters: designing funds for the frontier. IIED Issue Paper. IIED, London. http://pubs.iied.org/10199IIED; Colenbrander, Sarah, David Dodman, and Diana Mitlin. 2018. "Using Climate Finance to Advance Climate Justice: The Politics and Practice of Channelling Resources to the Local Level." Climate Policy 18(7), pp. 902–15, https://doi.org/10.1080/14693062.2017.1388212; Dodman, David, Diane Archer, and David Satterthwaite. 2019. "Editorial: Responding to Climate Change in Contexts of Urban Poverty and Informality." Environment and Urbanization 31(1), pp. 3–12, https://doi.org/10.1177/0956247819830004; Barnard, Sam. 2015. Climate Finance for Cities: How Can Climate Funds Best Support Low-Carbon and Climate Resilient Urban Development? ODI Working and Discussion Papers. ODI: London. https://coilink.org/20.500.12592/kjr7hh
- 54. United Nations Environment Programme (UNEP) (2023). Adaptation Gap Report 2023: Underfinanced. Underprepared. Inadequate investment and planning on climate adaptation leaves world exposed. Nairobi. https://doi.org/10.59117/20.500.11822/43796
- 55. Colenbrander, Sarah, David Dodman, and Diana Mitlin. 2018. "Using Climate Finance to Advance Climate Justice: The Politics and Practice of Channelling Resources to the Local Level." Climate Policy 18(7), pp. 902-15, https://doi.org/10.1080/14693062.2017.1388212
- 56. Cities Climate Finance Leadership Alliance (CCFLA). 2024. The State of Cities Climate Finance 2024. Cities Climate Finance Leadership Alliance at: https://citiesclimatefinance.org/publications/2024-state-of-cities-climate-finance
- 57. Cities Alliance. 2024. Climate Finance for the Urban Poor: A Review of Global Climate Funds. Cities Alliance: Brussels, Belgium. https://www.citiesalliance.org/resources/publications/publications/climate-finance-urban-poor-review-global-climate-funds.
- 58. Global Resilience Partnership & Transitions Research (2024) From Informality to Impact: The Untapped Potential of Scaling Urban Resilience Innovation in Informality. Policy and Investment Briefing Note. Cape Town, South Africa. Available at: https://www.globalresiliencepartnership.org/report-out-now-from-informality-to-impact-the-untapped-potential-of-scaling-urban-resilience-innovation-in-informality/ (Accessed: 4 December 2024).
- 59. Shand, Wayne et al. 2017. Enabling Private Investment in Informal Settlements: Exploring the Potential of Community Finance. Infrastructure and Cities for Economic Development, UK Aid. Available at https://www.iied.org/g04180
- 60. French, M., Trundle, A., Korte, I., Koto, C. (2021). Climate Resilience in Urban Informal Settlements: Towards a Transformative Upgrading Agenda. In: de Graaf-van Dinther, R. (eds) Climate Resilient Urban Areas. Palgrave Studies in Climate Resilient Societies. Palgrave Macmillan, Cham. https://doi.org/10.1007/978-3-030-57537-3\_7; Almansi, F., Motta, J. M., & Hardoy, J. (2020). Incorporating a resilience lens into the social and urban transformation of informal settlements: the participatory upgrading process in Villa 20, Buenos Aires (2016-2020). Environment and Urbanization, 32(2), 407-428. https://doi.org/10.1177/0956247820935717; Collado, J. R. N., & Wang, H. H. (2020). Slum upgrading and climate change adaptation and mitigation: Lessons from Latin America. Cities, 104, 102791. https://doi.org/10.1016/j.cities.2020.102791





UN House Boulevard du Régent, 37 1000 Brussels, Belgium www.citiesalliance.org **Contact us** 

@CitiesAlliance & @CitiesAlliance in

info@citiesalliance.org