

Task Force 02

**SUSTAINABLE CLIMATE ACTION AND INCLUSIVE JUST ENERGY TRANSITIONS**

## Using Participatory Processes to Create and Implement Local Climate Change Adaptation Plans for Urban Resilience and Water Security

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## Abstract

Efficient, transformative change is needed to address the impact of more frequent and extreme weather events that threaten fast-growing urban areas of the Global South, and its water resources. Though National Adaptation Plans (NAPs) have helped countries identify adaptation needs and develop strategies to meet them, support from local actors is essential to implement comprehensive changes for global resilience. Against this backdrop, this brief recommends that the G20 encourage cities, other subnational-level governments, and in particular water resource management actors, to develop and implement climate adaptation plans and governance agreements by using participatory approaches that bring in a wide range of stakeholders and leverage a variety of expertise.

Participatory methods can create long-term public commitment, establish shared responsibilities for local governance, promote greater community involvement, and involve communities that are often left out of decision-making processes that impact them. Furthermore, the use of transdisciplinary and participatory approaches can promote key global agendas, such as the New Urban Agenda, and the 2030 Agenda for Sustainable Development.

This brief highlights tools that can facilitate the effective use of such processes for local adaptation, and provides examples in which such efforts have been employed. It outlines potential benefits and trade-offs, with suggestions about how to overcome common challenges. It also highlights examples of participatory processes that have helped address water-related planning examples that advanced SDG 6 (ensure clean water and sanitation for all), while also safeguarding biodiversity, ensuring food security, promoting good health, and reducing inequality.

**Keywords:** Local Governments; Community; Governance; Climate Change Adaptation; Sustainability; Water Safety; Urban Resilience; Democracy; Participation; Co-creation.

## Diagnosis

As climate change intensifies, governments must take urgent actions to enhance resilience and promote sustainable development. The Paris Agreement marked a global milestone in responding to climate change by establishing a commitment among 195 countries to reduce greenhouse gas emissions through Nationally Determined Contributions (NDCs). However, nearly ten years after the agreement, there is a pressing need to increase the ambition of these goals and accelerate the implementation of adaptation measures, especially by the G20 countries. Responsible for 78% of global greenhouse gas (GHG) emissions, the G20 nations saw a 1.2% increase in their emissions in 2022 (UNEP 2023).

**Current and historic contributions to climate change**  
(% share by countries or regions)

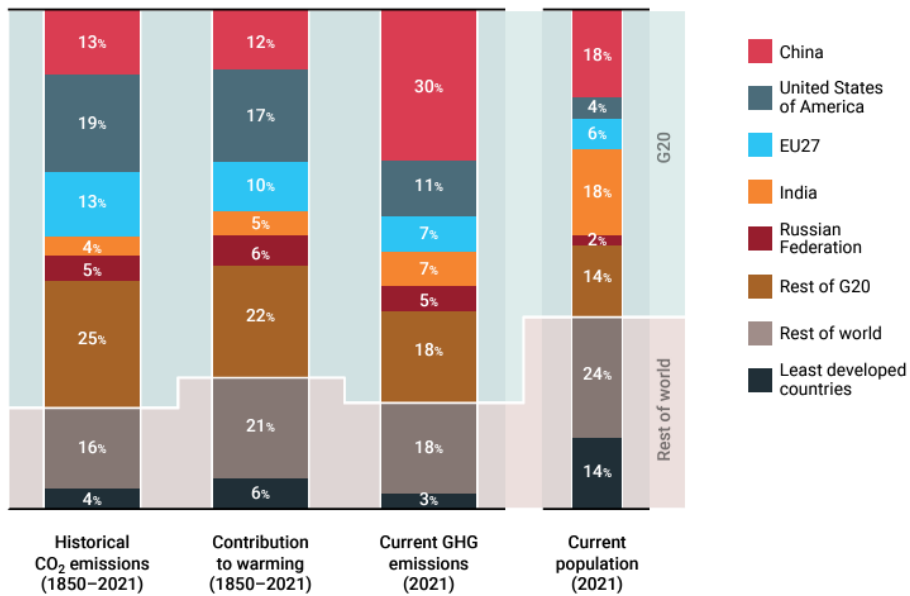


FIGURE 1 - Current and historic contributions to climate change. Source: United Nations Environment Programme (2023).

The slow and uncertain journey to net zero underscores the disturbing climate scenarios scientists have warned about since the Earth Summit in 1992. Storms, floods, landslides, heat waves, and forest fires are becoming more intense and frequent, leading to massive climate impacts and significant losses, particularly for the most vulnerable populations. These extreme climate events demonstrate that investment in mitigation alone is insufficient to reverse climate instability. It is essential to elevate and prioritize also the adaptation.

Globally agreed agendas (such as the New Urban Agenda<sup>1</sup> and the 2030 Agenda for Sustainable Development<sup>2</sup>) recognize cities as key players in their efforts. Such recognition underscores global urbanization trends and forecasts indicating that, by 2050, 68% of the world's population will likely live in cities (UN 2019). Progress in implementing and improving national climate adaptation policies has been slow, with top-down strategies being a key limiting factor (UNEP 2023). Thus, a cornerstone of global climate change adaptation efforts must be building climate resilience at local levels – particularly in the urban environments where a growing portion of the world's population lives, especially for water-management (in particular transboundary water-management).


Though the rapid growth of populations and climate risks pose enormous challenges for urban areas, it also offers opportunities and incentives to do things differently and better. In this policy brief, we encourage the G20 to extend its leadership role in

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<sup>1</sup> Access the document here: <https://unhabitat.org/sites/default/files/2019/05/nua-english.pdf>

<sup>2</sup> Access the document here:


<https://sustainabledevelopment.un.org/content/documents/21252030%20Agenda%20for%20Sustainable%20Development%20web.pdf>



promoting effective adaptation planning and governance measures at the national level by advocating for such planning and governance at subnational levels. We urge the G20 to advocate for the use of participatory processes, so that local entities can inclusively co-design and develop infrastructure, services, and governance to support social wellbeing, enhance economic development, address growing inequalities, and include the insights of those who often are left out of policymaking, thus also extending the reach of such initiatives, especially in informal or irregular areas where government presence and public policies are scarce.

This brief argues that a key to progress in adaptation at local levels is participatory processes. Planning, decision-making, and collective intervention at the urban level require insights and engagement from stakeholders with a wide array of experiences and expertise. Urban areas can use such approaches to achieve many aims: to build resilience to climate change, promote sustainable development, and expand inclusion of often left-out groups. However, many city governments lack tools, resources and capacity to fully engage representatives of all urban and peri-urban communities, often leaving key populations excluded from decisions that directly affect them.

Therefore, the G20 should support subnational governments with resources and knowledge to facilitate participatory processes for democratic local adaptation planning and action. Participatory processes can further the reach, effectiveness, and the long-term implementation of climate adaptation projects, especially in vulnerable communities, while also highlighting shared democratic values and a culture of public responsibility, belonging, and collective action. Diverse and flexible policies should be devised to encourage participation of actors outside of the public sector, bringing in representatives



of academia, local communities, the private sector, and civil society organizations, especially for tackling water scarcity prevention and its rational use.

## **Recommendations**

The G20 should encourage local governments to undertake the following three steps to foster participatory adaptation planning and governance at subnational levels:

### **1. Commit to involving representatives of key stakeholder groups and those with scientific expertise in decision-making at subnational levels.**

Subnational-level governments and local authorities should bring together every important stakeholder in parity workgroups; these workshops should be mediated by local governments to help overcome societal imbalances, develop bottom-up policies, and set the stage for solid inclusive governance. Local governments should promote and encourage NGOs, university extension projects, and community-led initiatives from the rural to peri-urban, then from peri-urban to city territories – particularly to foster the effectiveness of water basin-based governance and disaster prevention and adaptation, while at the same time thus prioritizing commonly excluded vulnerable settlements until reaching city centers. Successful planning needs to be from water producer to water consumption territories.

The "Waters of Serrinha do Paranoá" project is a proven, practical example of promoting water security in the Paranoá Lake basin, located in Brasília, Brazil, which experienced water rationing and severe droughts between 2017 and 2018. A partnership between non-governmental organizations (NGOs) and public institutions (such as the

North Lake Regional Administration and the University of Brasilia) led to the mapping of 115 water springs that supply the city's lake with freshwater, using a low-cost participatory methodology and open-source tools. This mapping not only identified springs for protection but also revealed that 45 of them needed to be recovered. Through a partnership with a public nursery, which provided the seedlings and technical support, these springs were restored using agroforestry techniques for ecological regeneration. This effort directly involved various community members, including students, residents, public servants, NGOs, religious groups, military personnel, scouts, university students, and social and artistic movements (Herzog and Rozado 2020). Today, these springs are protected by three brigades of professional firefighters who volunteer to prevent fires and ensure the continuity of the work carried out. This was achieved through the implementation of low-budget and high community engagement policies, making this project an example that could inspire similar initiatives or be replicated in countries and cities with limited financial resources.

## **2. Integrate transdisciplinary knowledge and co-production methods into policymaking processes.**

Advancing the 17 SDGs and integrating transdisciplinary knowledge and co-production into policymaking is complex. To that end, this framework provides guidance:

**The Tandem Framework** – This framework (presented in Daniels et al 2019) emphasizes the importance of creating the conditions that foster collaborative decision-making processes; these require bringing together people with diverse expertise and experience to share perspectives and co-develop new knowledge that represents multiple

disciplines, decision-making levels, and practices. Tandem has been applied to: 1) strengthen and develop relationships that increase institutional embedding; 2) improve climate information uptake and use; 3) increase capacity, confidence and a shared understanding of climate information (by users) and the decision context (by providers); and 4) serve as a non-prescriptive guide to co-design an effective process for collaborative learning, action, and scoping differentiated vulnerability and risks, including, but not limited to water issues, while incorporating local knowledge, gender and power considerations. The Tandem framework was used and tested in case studies to improve co-production of climate services for agriculture in Nigeria (Butterfield and Osano 2020); co-design climate services to support adaptation to natural hazards in Sweden (André et al. 2020); co-design climate services for water planning in Colombia (Santos Santos and Swartling 2020); and to support collaborative solutions to climate change impacts in Lusaka, Zambia (Daniels et al. 2019).



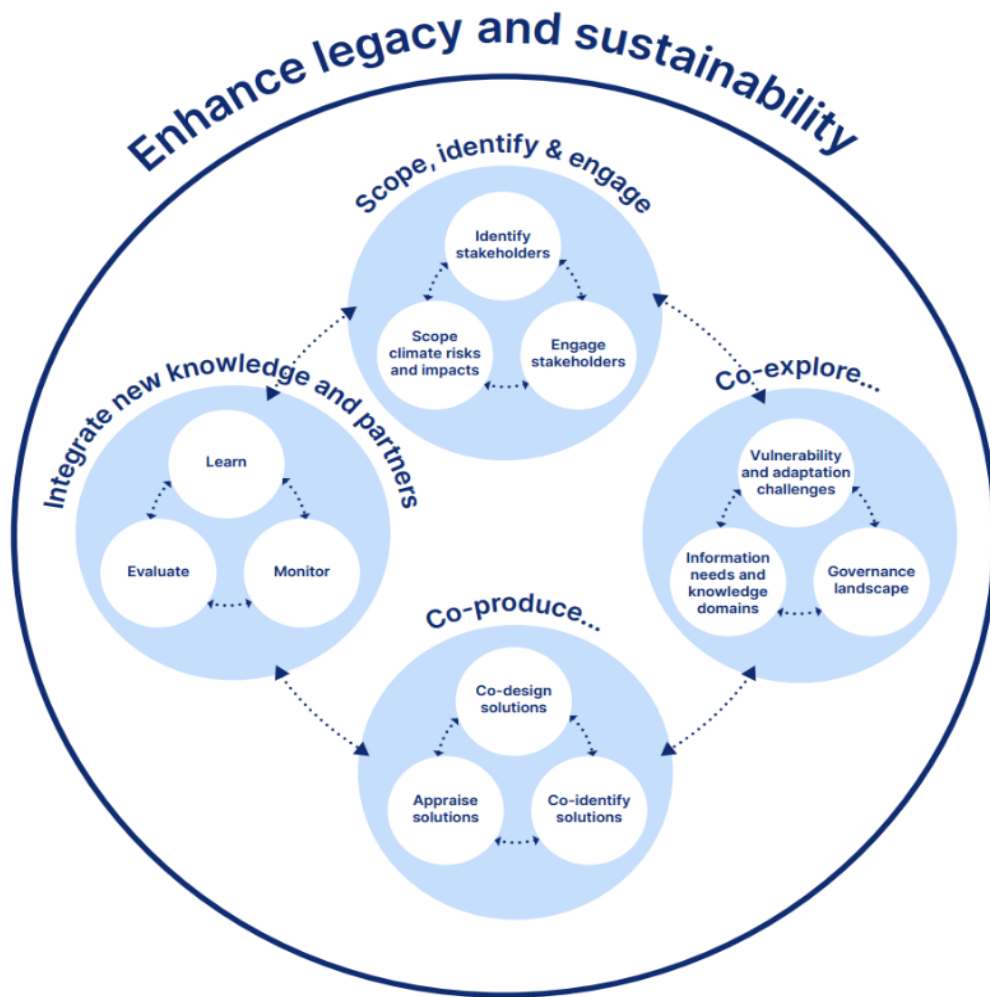


FIGURE 2 - The Tandem Framework step-by-step process.

Source: Tandem Guidance – weADAPT

### 3. Increase local climate finance to advance local solutions.

The finance gap for climate change adaptation is widening, as illustrated by the 15% decrease in international public adaptation finance flows to developing countries from 2020 to 2021 (UNEP 2023). Therefore, it is recommended that the G20 encourage the following measures to promote climate financing and the integration of actions at the local level:

**Championing the Adaptation Fund** to finance climate adaptation projects in urban environments, emphasizing social inclusion in processes and the use of nature-based solutions.

**Strengthening collaboration among multilateral development banks (MDBs), national stakeholders, and city networks** to address urban climate challenges, utilizing MDB funds and technical assistance programs to support city-level climate action plans.

**Facilitating investment in green, water infiltration and retention infrastructures, energy and water-efficient housing, and wide scope resilience measures such as active mobility**, through leveraging funds such as the Green Climate Fund.

## Potential Outcomes

The recommendations outlined are applicable in different situations and countries, as demonstrated in the examples presented, yielding valuable lessons and a proven effective record. These contributed to improving approaches, adjusting recommendations to better meet specific needs, and more effective implementation. Here we draw attention to some key issues:

### Potential challenges

**Resistance to institutional and cultural change** – A participatory, community-led approach (to water management and other issues) demands significant institutional and cultural changes. Resistance may be encountered, not only from traditional power holders within government and industry but also from within communities themselves, where trust in public institutions may be low or where skepticism about new governance models prevails.

**Competition for resource allocation** – Increasing partnerships and leveraging multi-stakeholder governance can lead to challenges in resource allocation. Competing interests may emerge among stakeholders – including those representing civil society, the private sector, and government bodies – creating friction. This is a concern, especially where water resources are scarce or where investment in nature-based solutions is seen as less economically beneficial than traditional infrastructure projects.

**Using finance to address these barriers** – Increased investment is needed to undertake needed actions. Projects funded by international funds and MDBs can lead to significant advancements in local adaptation policies and actions. Moreover,

collaboration with these international institutions provides access to a vast network of knowledge, global experiences, and technical expertise, enabling the adoption of best practices and innovations, and enhancing local capacities.

Accessing external finance is nevertheless challenging. Local governments need to present well-structured projects, and demonstrate long-term management and financial sustainability. In many small- and medium -sized cities in the Global South, significant challenges stem from limited technical capacity in local governments, coupled with less developed public accounting and transparency mechanisms. To boost access, coordinated national and international efforts should actively recruit communities for projects, seek to improve local governance infrastructure by enhancing transparency mechanisms, and promote citizen and multilevel participation at all stages of the project.

### **Potential positive outcomes**

**Enhanced community engagement** – Wider participation in public decision-making processes lead to better quality decisions, better acceptance of decisions, and the development of social capital. Such benefits stem from the plurality of knowledge and expertise, network-building, enhancement of common-ground solutions, transparency of public administration, accountability, and the resulting improvement of democratic culture (Zuccolotto and Teixeira 2015). Representatives of local communities bring valuable insights, and their participation can increase support for implementation of initiatives and assure ongoing monitoring and continuity. In terms of water security, once empowered with decision-making capabilities, and supported by nature-based solutions, local communities can autonomously implement widespread small-scale complementary projects of locally adapted water management practices, as in the case of the Serrinha do

Paranoá initiative. Such participatory approaches can ensure that water-management strategies are effective in the long run, with a greater chance of withstanding political changes in government offices and leadership.

**Strengthened democratic culture** – The adoption of civic ecology practices and the focus on sustainable, multi-stakeholder governance structures may enhance the resilience of democratic institutions and values. Shared responsibility, public commitments, and local civic engagement can foster a necessary shared sense of belonging.

The reinvigoration of the public space and dialogue can create cohesive communities in which extremist ideologies are less likely to take root, since participatory and effective democratic governance was able to secure a very tangible and central pillar of life: the availability of water as a collective achievement and human right.

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