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From Community Vulnerability to Resilience

The Experience of European Cities



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The working paper is printed in this form to communicate the result of an analytical work with the objective of generating further discussions on the issue.

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Table of Contents

Executive summary **4**

1. Introduction **9**

2. Resilience and Vulnerability – Framing the Issues from a City Perspective **11**

3. From Community Vulnerability to Resilience – Seven Enabling City Actions **15**

3.1 Aligning initiatives with the goals of a city's strategy 16

3.2 Assessing vulnerability factors within the community 20

3.3 Establishing an inclusive participatory planning process 23

3.4 Designing initiatives that strengthen resilience and reduce vulnerability factors 26

3.5 Developing sustainable financing solutions 30

3.6 Coordinating initiatives within a multi-level governance system 35

3.7 Assessing the impact of initiatives 37

4. Lessons Learnt **38**

5. Conclusions and Implications for the CEB **46**

References **49**

Executive summary

The aim of this technical brief is to foster dialogue among city practitioners in European countries on ways to strengthen resilience and address vulnerability in city neighbourhoods and their communities[1]. There is widespread consensus on the importance of strengthening resilience and inclusion in cities and communities[2]. Helping cities become more resilient and inclusive also lies at the heart of the CEB's mandate as the social development bank for Europe. The brief focuses on actions and experiences in relation to two global and inter-related crises faced by all European cities – the COVID-19 pandemic and climate change – and draws lessons learnt that city practitioners can apply to address any other current or future crisis, including the local consequences of the unfolding crisis triggered by the Russian invasion of Ukraine.

Resilience and Vulnerability – Framing the Issues from a City Perspective

This brief proposes the following framework to articulate the interplay between shocks and stresses[3], resilience and vulnerability in cities:

- Resilience is the capacity of communities, institutions and systems within a city to cope, adapt and transform in order to thrive in the face of shocks and stresses (The Rockefeller Foundation/Arup, 2014; Béné et al., 2012). Strengthening resilience thus begins with identifying a city's assets and strengths.
- Multiple and intersecting shocks and stresses, including the COVID-19 pandemic, the climate crisis and the unfolding crisis generated by the ongoing war in Ukraine, are causing new vulnerabilities and intensifying existing ones. There are multiple factors affecting vulnerability depending on where people live, their economic status and their individual characteristics[4]. These vulnerability factors weaken resilience.
- A city can be resilient only if its communities are resilient. This brief focuses on resilience at community level, which, given the growing disparities across neighbourhoods within cities, is critical to strengthening resilience citywide.
- To effectively break the negative cycle caused by shocks and stresses, it is essential that initiatives strengthen resilience by building on the resources and assets of a community and, in parallel, explicitly assess and address vulnerability factors. Initiatives aimed at strengthening resilience are most effective when they integrate interventions[5] across multiple dimensions – environment, economy, society, institutions[6].

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1 A neighbourhood is any defined geographical or administrative area within a city. While many typologies of communities co-exist in a city, given its spatial focus this brief uses the terms community and neighbourhood interchangeably.

2 In particular, strengthening resilience is central for achieving Sustainable Development Goal (SDG) 11 which aims to make cities inclusive, safe, *resilient* and sustainable (United Nations, 2015b).

3 Shocks are typically characterised as sudden and acute events, stresses are longer-term trends with a slow onset and a protracted duration.

4 Place-based vulnerability factors are related to where people live, and are linked to the availability and accessibility of infrastructure, services and amenities; the nature and health of environmental systems; adequate access to land and housing, and exposure to climate-related or other physical risks. Economic vulnerability factors are related to economic status, as certain groups of people lack the economic resources to adapt to changing circumstances. Individual vulnerability factors are related to individual characteristics such as gender, age, ethnicity, and disabilities.

5 An initiative may comprise multiple interventions of different types. This brief defines interventions as the components of an initiative, i.e. the activities undertaken as part of an initiative.

6 These four dimensions are strictly interconnected as they all contribute to strengthen resilience. Environmental

From Community Vulnerability to Resilience – Seven Enabling City Actions

The following seven enabling actions undertaken by city practitioners are identified as critical for planning and implementing initiatives that both strengthen resilience and explicitly address vulnerability factors within communities. These actions are interlinked and form part of an iterative process.

❶ **Align initiatives with the goals of a city's strategy**. Alignment of initiatives with a city's strategy and its adaptation plans to climate change, COVID-19 and other crises is essential to scaling them up citywide, as Barcelona's experience with the Superblock programme demonstrates (see spotlights on next page). Selecting the location for piloting an initiative is a key decision that can affect its success and enable its scaling up. The criteria considered when selecting locations include the need for interventions, the expected benefits for the city as a whole, and the community buy-in and support.

❷ **Assess vulnerability factors within the community**. Assessing vulnerability factors in a community is a critical step to strengthen resilience and ensure that the most vulnerable groups are not left behind. Groups with place-based, economic and individual vulnerability factors are more likely to suffer from the negative impact of climate change and COVID-19[7]. Given the growing number and intensity of crises, if no action is taken, both the extent and the degree of vulnerability in communities are expected to increase over time.

❸ **Establish an inclusive participatory planning process**. Cities are experimenting with new flexible approaches to engage communities. Examples include Lisbon's green participatory budgeting and the innovative community-led participatory process adopted by Rotterdam's Resilient BoTu 2028 programme (see spotlights on next page). Cities are also taking steps to ensure that the voices of those at risk of being left behind are heard. For instance, Lisbon has adopted a hybrid model of participation comprising web-based and in-person meetings to reach out to groups who may not have internet access (Centre for Public Impact, 2021). Providing communities with expert knowledge is also critical to guide participatory planning and inform local decision-making.

❹ **Design initiatives that strengthen resilience and address vulnerability factors**. Cities in European countries are taking steps to develop initiatives that integrate multiple dimensions of resilience. Genoa's Polcevera Park and Red Circle project is an example of an innovative urban regeneration initiative that encompasses interventions across all four dimensions (environment, economy, society, institutions) while explicitly addressing multiple local vulnerability factors (see spotlights on next page).

❺ **Develop sustainable financing solutions**. The COVID-19 pandemic has impacted subnational own-source revenues although the extent of the impact varies to a significant extent across countries[8]. Higher tiers of government have been instrumental in containing the financial impact of COVID-19 in cities[9]. Municipal borrowing also contributed to meeting cities' short- and long-term needs in the

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resilience is critical for addressing increasing environmental degradation, overuse of natural resources, and the climate change emergency; economic resilience depends on the capacity of cities to promote robust and inclusive growth to withstand shocks and stresses; social resilience encompasses the capacity of cities to focus their resources on the most vulnerable groups and empower individuals to participate fully in society; institutional resilience depends on a city's institutional capacity to address crises and meet citizens' needs through open, transparent and inclusive public participatory processes (OECD, 2014a).

7 See, for instance, OECD (2018b), OECD (2021), Brandily et al. (2020), EEA (2018), United Nations (2020), EIGE (2021) and CEB (2021).

8 Evidence based on preliminary findings of the third edition of the OECD-UCLG World Observatory on Subnational Government Finance and Investment (OECD/UCLG, 2022 forthcoming).

9 Higher tiers of government include national and/or regional governments depending on a country's institutional setting.

wake of the pandemic[10]. International Financial Institutions (IFIs) and national Public Development Banks (PDBs)[11] play a key role in bridging the financing gap for resilience-strengthening investments by providing access to external finance to European cities, including small- and medium-size cities, which may face constraints in accessing credit from commercial banks.

❻ **Coordinate initiatives within a multi-level governance system**. Cities have been experimenting with new governance models and tools to enhance coordination when implementing initiatives. For instance, several cities have established a position or department tasked with strengthening resilience. The Resilient BoTu 2028 programme in Rotterdam has tested a new participatory governance approach to implement initiatives, while Milan has enhanced cooperation with the private sector to distribute food aid during the pandemic (URBACT, 2020). Cities are also increasingly adopting green or climate budgeting to embed climate targets into local decision-making (C40 Cities, 2021; OECD, 2022a).

❼ **Assess the impact of initiatives**. Assessing impact across multiple dimensions of resilience and collecting information on vulnerability factors are key to gaining a comprehensive understanding of the overall benefits of an initiative. Rotterdam relies on benchmarking as a tool to both assess impact and plan initiatives. The URBACT Healthy Cities Network has developed a monitoring tool to assess the health co-benefits of initiatives at the planning stage (URBACT, 2022b). Monitoring impact can be turned into an opportunity for co-producing knowledge by involving the community in the process of generating information, as shown by the OASIS Schoolyard project in Paris[12].

Spotlights: Resilience in Action – Examples from Barcelona, Rotterdam and Genoa

Barcelona's Superblock programme, Rotterdam's Resilient BoTu 2028 programme and Genoa's Polcevera Park and Red Circle project share one common feature: they are all innovative initiatives aimed at strengthening community resilience and ensuring that the most vulnerable groups are not left behind.

- **Barcelona's Superblock programme**. The Superblock programme was launched in 2015 by the City of Barcelona as an initiative aimed at improving environmental quality, strengthening resilience to climate change and enhancing social cohesion. The Superblock transforms urban mobility patterns within a neighbourhood while improving access to and quality of public and green spaces based on an inclusive participatory approach. It has been implemented in several neighbourhoods and is in the process of being scaled up citywide.
- **Rotterdam's Resilient BoTu 2028 programme**. The Resilient BoTu 2028 programme was launched in April 2019 by the City of Rotterdam to make the adjoining neighbourhoods of Bospolder and Tussendijken (hereafter "BoTu") Rotterdam's first "resilient district". The programme builds on the strengths of BoTu as a diverse community to enhance resilience while addressing BoTu's vulnerability factors. The programme has piloted an innovative participatory governance model in order to ensure

[10] With significant variations across European countries. In particular, borrowing capacity remains limited in cities in Western Balkan countries due to regulatory constraints.
[11] PDBs are banks located within the public sphere by mandate, ownership or governance, and comprise multinational, national and subnational financial institutions. National PDBs operate at national or subnational level (AFD/INSE, 2021).
[12] This community-based initiative aims to make schoolyards greener, more inclusive and comfortable spaces for children by transforming schoolyards into islands capable of storing water and reducing heat (Mairie de Paris, 2022). The project developed an innovative evaluation approach based on surveys of pupils, qualitative interviews with teachers and ethnographic observations of pupils' behaviours during implementation (UIA, 2021).

that BoTu residents play a central role in the decision-making processes and in the implementation of the programme.

- **Genoa's Polcevera Park and the Red Circle project**. Genoa's Polcevera Park and Red Circle project is a transformational initiative aimed at rebuilding and regenerating the neighbourhood affected by the collapse of the Morandi Bridge while strengthening the capacity of the community to address climate-related shocks and stresses. An integrated assessment of vulnerability factors was undertaken as an input to the planning process. The participatory process made use of diverse participatory tools to reach out to the community. The project integrates interventions across the four dimensions of resilience.

Lessons Learnt

The following five lessons have emerged from the experiences of European cities in planning and implementing resilience-strengthening initiatives:

Developing integrated solutions to address intersecting crises can deliver significant co-benefits. For instance, the COVID-19 crisis has further highlighted the need to scale up investments in social and affordable housing to address over-crowding. This has in turn provided the opportunity to build more energy efficient and climate-adapted housing infrastructure, which can deliver significant health, environmental and economic co-benefits. Similarly, the need to address economic vulnerabilities linked to the pandemic has prompted cities to develop transformative initiatives that also address the climate crisis. For instance, Bucharest Sector VI's local food bank and Nantes' Nourishing Landscapes projects contribute to a circular economy food system while supporting vulnerable groups affected by the pandemic[13]. In European Union (EU) countries, the implementation of the Recovery and Resilience Facility (RRF) will provide an opportunity for cities to develop integrated initiatives to support a climate resilient and just COVID-19 recovery.

Adopting inclusive participatory planning informed by a vulnerability assessment is critical to meet the needs of all community members and foster their empowerment. It is important to ensure that the participatory approach is adapted to the local context and to the objectives and scope of the planned initiative. Participatory planning is most effective when it is combined with mechanisms to empower communities to find their own solutions to local needs. Carrying out an integrated assessment of vulnerability factors in a community is also essential to inform participatory planning. Cities need time, commitment and resources to carry out inclusive participatory planning. To this end, cities would benefit from support, such as access to grants in combination with financing instruments, to develop inclusive participatory processes.

Investing in inclusive public spaces and green areas is a strategic entry point for strengthening resilience and reducing vulnerability factors. To strengthen resilience in communities, cities are undertaking investments in inclusive public and green spaces, either as pilot initiatives (e.g. Barcelona) or as part of regeneration investments (e.g. Rotterdam and Genoa). Inclusive public and green spaces are accessible, safe and liveable for all community members (Kaw et al., 2020). To mitigate the risk of gentrification which may be associated with such investments, cities are developing plans to preserve

[13] Bucharest Sector VI's local food bank is a community-based initiative aimed at preventing food waste, reducing food insecurity and social exclusion by collecting surplus food from the supply chain and ensuring its safe re-distribution to vulnerable groups through a social canteen. Nantes' Nourishing Landscapes project is a pilot initiative launched in 2020 to provide fresh vegetables to vulnerable households affected by the COVID-19 crisis which contributed to exacerbate food insecurity.

and scale up investments in social and affordable housing and introduce land use planning regulations that promote mixed use development.

Scaling up initiatives requires flexibility, coordination and citywide enabling investments. Scaling up initiatives requires flexibility to adapt the approach to local needs since vulnerability factors may differ significantly from one neighbourhood to another. It also requires developing innovative governance models, such as new institutional arrangements and processes, to enhance coordination across city departments. Citywide enabling investments in infrastructure are also essential to scaling up initiatives in line with the goals of a city's strategy. For instance, introducing motorised mobility restrictions to transform streets and squares into multi-functional public and green spaces can only succeed if public transport is modern, accessible and inclusive.

Strengthening the financial capacity of cities to address multiple crises requires a multi-pronged approach to support the diversification and optimal use of their financial resources. The financial capacity of cities to weather multiple crises will continue to depend on the extent of the support available from higher tiers of government, in particular predictable and consistent transfers. Diversifying and ensuring efficient use of municipal financial resources also call for enhancing access to external financing to scale up resilience-strengthening investments while ensuring fiscal sustainability. The role of IFIs and national PDBs will therefore continue to be critical to support cities in mobilising public and private finance. In EU countries, IFIs and national PDBs will be instrumental for the effective deployment of RRF resources by co-financing cities' own contributions and providing bridge financing. Enhancing the mobilisation of municipal own-source revenues is also important to enable cities to continue providing high-quality, inclusive services during a crisis.

Conclusions and Implications for the CEB

Adopting a vulnerability lens when strengthening resilience is essential to address the asymmetrical impact of shocks and stresses within communities. Cities that have made it a priority to explicitly target vulnerability factors are better prepared to address intersecting shocks and stresses and build resilience to future crises. Yet, change takes time and often occurs through an incremental, learning-by-doing approach. Cities need finance, capacity building and knowledge sharing to address these unprecedented challenges. The CEB is committed to support cities in all these areas. It finances investments that strengthen resilience and address vulnerability factors in cities of all sizes – from metropolitan areas to small urban areas[14]. It can also provide customised technical support and advisory services to cities through grant financing in combination with financing instruments, with a focus on its target group countries of Central, Eastern and South-Eastern Europe. In addition, the CEB promotes knowledge sharing and peer learning in cities in collaboration with partners such as the OECD and global city networks.

[14] The CEB addresses the financing gaps of small cities by providing financing to commercial banks and national PDBs for on-lending to cities.

1. Introduction

European cities are leading the way in addressing the climate crisis and are at the frontline of COVID-19 response and recovery efforts. In the future, cities are expected to face a growing number of inter-related crises of increasing intensity, including the unfolding crisis triggered by the Russian invasion of Ukraine. Beyond causing a humanitarian emergency in Ukraine, the war has engendered a severe economic shock and forced millions of people to flee their homes. If no action is taken, these inter-related crises are expected to deepen existing inequalities. Yet, these challenges can be turned into an opportunity to strengthen resilience and address long-standing vulnerabilities in cities by transforming the urban living environment, society, economy and institutions. The evidence gathered in this brief shows that European cities have the vision and the capacity to learn from these unprecedented challenges and seize this opportunity for transformation when they are provided with adequate resources and support.

There is widespread consensus on the importance of strengthening resilience in cities and communities. The UN Agenda 2030 for Sustainable Development, the New Urban Agenda and the Paris Agreement on Climate Change have identified resilience as a pathway towards sustainable and inclusive development in cities and communities (United Nations, 2015b; UN-Habitat, 2016; UNFCCC, 2015; UN-Habitat, 2017). In particular, strengthening resilience is central for achieving Sustainable Development Goal (SDG) 11 which aims to make cities inclusive, safe, resilient and sustainable. The Sendai Framework also underlines the importance of strengthening resilience at all levels, including national, local and community levels, through the implementation of integrated and inclusive measures that prevent and reduce hazard exposure and vulnerability to disaster, and that increase preparedness for response and recovery (United Nations, 2015a). The COVID-19 crisis has underscored the importance of building resilient communities and ensuring the inclusiveness of cities' actions to support a green and just recovery from the pandemic. For instance, the mayors of 31 cities[15] have signed the C40 Equity Pledge, committing to inclusive climate action and community-led development with a focus on vulnerable communities (C40 Cities, 2022). In EU countries, the Recovery and Resilience Facility (RRF), the EU's key instrument for supporting recovery from the COVID-19 pandemic, provides an unprecedented opportunity to make EU cities more sustainable, resilient and better prepared to address future challenges[16].

This brief aims to foster dialogue among city practitioners in European countries on actions that strengthen resilience and explicitly address vulnerability in communities. Rather than prescribing actions to be undertaken, the aim is to discuss the experiences of European cities and present approaches that city practitioners can consider when planning and implementing initiatives. The brief focuses on two global and inter-related crises faced by all European cities – the COVID-19 pandemic and climate change – and draws lessons learnt that city practitioners can apply to any other current or future crises. Assessing how cities are responding to these two global challenges provides valuable lessons that are relevant for any other challenge that cities will face.

This brief also aims to inform the CEB's programme of operations with cities. Helping cities become more resilient and inclusive lies at the heart of the CEB's mandate as the social development bank for Europe. Building on its strong and longstanding partnership with cities, the CEB is working closely with subnational governments in CEB member countries in charting a sustainable and inclusive path forward, including supporting a green and just recovery from COVID-19 and scaling up inclusive climate action (see Box 1 below).

[15] Including seven cities in European countries: Athens, Barcelona, Copenhagen, London, Milan, Paris and Warsaw.
[16] The RRF was established by Regulation (EU) 2021/41 which was adopted in February 2021 with the aim of helping EU member states respond to the economic and social impact of the COVID-19 pandemic, while ensuring that investments made in the recovery from the COVID-19 pandemic are in line with a just and green transition.

Box 1: The CEB's Partnership with Subnational Governments

Subnational governments play a key role in creating more prosperous, sustainable, inclusive and resilient societies, an objective that lies at the heart of the CEB's social mandate. The Bank's three lines of action, outlined in the CEB's Development Plan 2020-2022, consist in: (i) promoting inclusive growth that gives access to economic opportunities for all, (ii) providing support for vulnerable groups to nurture a more diverse society and (iii) integrating environmental sustainability as a cross-cutting line of action (CEB, 2019). The CEB has strengthened its cooperation with subnational governments in recent years as a result of the growing responsibilities placed upon them to provide a large array of social services and investments (CEB, 2021). The CEB provides flexible loan finance and grant-financed technical assistance to help subnational governments deliver sustainable, inclusive and reliable social services and infrastructure such as education, social housing, medical and social care facilities, social aid centres and local public transport systems, thus contributing to making communities more resilient and inclusive. In the last couple of years, the Bank has also been mobilising its resources to support cities in dealing with the COVID-19 pandemic and its aftermath, with the growing challenges posed by climate change and with the challenges of forced displacement due to the Russian invasion of Ukraine.

The CEB supports subnational governments through a number of financing instruments such as direct lending to subnational authorities and their companies (e.g. municipal utility companies), and loans to specialised municipal finance institutions or to national, regional or local promotional banks for on-lending to subnational governments. Since 2010, the CEB has provided a total of 51 direct loans to local governments and municipal companies for a total value of €3.7 billion, including €2.1 billion over the period 2018-21. Since 2010, the CEB has also provided a total of €4.3 billion in direct loans to regional and provincial governments, of which €3 billion in 2018-21. In addition, it has provided €4.9 billion in indirect loans to subnational governments and companies via commercial banks and financial institutions.

The lessons learnt presented in this brief reflect the rich experience of European cities, global organisations and city networks. Preparation of the brief benefited from consultations with cities that are leading the way forward on strengthening resilience in European countries – such as Genoa, Barcelona, Rotterdam and Tirana. The findings also reflect the experience of global organisations that are actively engaged in helping cities build resilience and address vulnerability, such as the C40 Cities; ICLEI; the OECD Champion Mayors for Inclusive Growth Initiative; the Resilient Cities Network; United Cities and Local Governments (UCLG) and URBACT. This brief also presents preliminary findings of the third edition of the OECD-UCLG World Observatory on Subnational Government Finance and Investment (OECD/UCLG, 2022 forthcoming).

The brief is structured as follows: Section 2 frames the issues from a city perspective; Section 3 identifies and discusses seven enabling actions undertaken by cities for planning and implementing initiatives to strengthen resilience and explicitly address vulnerabilities in communities, drawing on examples from European cities; Section 4 discusses the lessons learnt; Section 5 provides concluding remarks and implications for the CEB.

2. Resilience and Vulnerability – Framing the Issues from a City Perspective

Resilience is the capacity of communities, institutions and systems within a city to cope, adapt, and transform in order to thrive in the face of shocks and stresses (The Rockefeller Foundation/Arup, 2014)[17]. While shocks are typically characterised as sudden and acute events, stresses are longer-term trends with a slow onset and a protracted duration[18]. Resilience stems from the combination of and synergies between: (i) the capacity to *absorb* shocks and stresses in order to cope and recover quickly, while maintaining stability; (ii) the capacity to *adapt* to take advantage of opportunities and avoid the unwanted consequences of shocks and stresses, thus promoting flexibility without altering the way a system works; and (iii) the capacity to *transform* fundamentally, thus promoting behavioural and structural change in order to thrive when, as in the case of the climate crisis, the system itself contributes to the initial occurrence of shocks or stresses (Béné et al., 2012). Strengthening resilience calls for a shift from a reactive to a proactive approach in addressing shocks and stresses and for harnessing the strengths and resources of communities, institutions and systems within a city.

European cities are at the frontline in developing solutions to multiple challenges, such as COVID-19 and climate change. The COVID-19 pandemic and climate change are two global and inter-related crises faced by all European cities (Manzanedo and Manning, 2020). The pandemic affected cities and communities both as a global health shock and as a socio-economic shock associated with COVID-19 containment and mitigation policies (OECD, 2021a; CEB, 2020). While the COVID-19 pandemic is rapidly evolving and may become an endemic disease over time, outbreaks are expected to continue, and the emergence of new COVID-19 variants remains a possibility. In addition, cities will need to prepare for future outbreaks of infectious diseases. At the same time, climate change is causing a surge in both shocks (e.g. floods, droughts and heatwaves) and stresses (e.g. water shortages and environmental degradation) in cities[19]. Climate change is also significantly affecting human health in cities, directly through exposure to extreme climate events and indirectly through its effect on air and water quality and food production (WHO, 2021). The impact of the pandemic is compounded by climate change and environmental degradation as recent evidence indicates that people who live in places with poor air quality are more likely to die from COVID-19 even when accounting for other factors (Wu et al., 2020; CEB, 2020).

It is important that cities assess resilience through the lens of vulnerability, since shocks and stresses such as the COVID-19 pandemic and climate change are causing new vulnerabilities and intensifying existing ones. Vulnerability factors increase the exposure and/or sensitivity of individuals or groups to shocks and stresses and weaken their capacity to cope, adapt and thrive in the face of shocks and stresses. There are multiple vulnerability factors in a community depending on where people live, their economic status and individual characteristics (see Box 2 below). If left unchecked, vulnerability factors can exacerbate existing disparities within cities, leading to increased social and spatial segregation

[17] Resilience gained momentum in the scientific literature in the 1970s. The seminal work of Holling (1973) developed the concept of ecological resilience as the ability of ecosystems to absorb changes and still persist. This conceptualisation has had the most significant influence in the application of resilience to climate change, natural hazards and development (Schoon, 2005). Based on Holling's work on resilience in ecosystems, resilience then started being applied to social sciences to describe how communities, institutions and economies react to shocks and stresses (Klein et al., 2003). A vast number of social disciplines became interested in the concept of resilience, including psychology, anthropology and cultural theory. In parallel, the concept of resilience started being extended to socio-ecological systems such as cities (ACCCRN, 2016).

[18] The OECD defines shocks as sudden and unpredictable events affecting the performance of a system, and stresses as "longer-term and often predictable trends that undermine the performance of a given system and increase the vulnerability of the actors within it" (OECD, 2018a, p. 6). The definition of shocks and stresses is related to the duration of the event and not of the impact.

[19] See, for instance, EEA (2018) and Alfthan et al. (2015).

(OECD, 2018b; Musterd et al., 2017). For instance, climate gentrification is an emerging phenomenon as climate changes poses a threat to low-lying coastal cities (Wang et al., 2021; Pommeranz and Steininger, 2020). It is therefore important that any initiative that aims to strengthen resilience should also target vulnerability factors to ensure that vulnerable groups benefit from it. In addition, addressing potential trade-offs that may create winners and losers when planning an initiative is critical to ensure that the benefits for one group do not come at a cost for another group (Béné et al., 2013). For instance, place-based initiatives to strengthen resilience as part of urban regeneration programmes, such as investments in public and green spaces, may have the unintended effect of contributing to gentrification if trade-offs are not addressed (Anguelovski et al., 2018)[20].

Box 2: Assessing Vulnerability in Communities: An Integrated Approach

Any resilience-strengthening initiative needs to be based on a comprehensive assessment of the vulnerability factors that need to be addressed. There are three main approaches to carrying out a vulnerability assessment in a community. The socio-economic approach assesses vulnerability based on the socio-economic status of individuals or groups and their characteristics. This approach emphasises the capacity of individuals or groups to cope, adapt and thrive in the face of shocks and stresses based on long-standing socio-economic and individual vulnerability factors preceding their occurrence. The bio-physical or risk-hazard approach, which is predominantly used in disaster risk assessments, emphasises place-based vulnerability factors linked to the degradation of biophysical conditions as a result of a shock or a stress. Finally, the integrated approach combines both socio-economic and risk-hazard approaches to assess the complex and multifaceted dynamics of vulnerability (Tesso et al., 2012). An example of an integrated approach to assessing vulnerability is the framework developed by the IPCC to conceptualise vulnerability to climate change (IPCC, 2001).

This brief adopts an integrated approach to assessing vulnerability. Vulnerability is assessed based on the multiplicity of factors which increase the exposure and/or sensitivity of individuals or groups to shocks and stresses, or diminish their capacity to cope, adapt and thrive in the face of shocks and stresses. Such factors are related to where people live, their economic status and their individual characteristics:

- *Where people live* – One of the factors affecting vulnerability is the built and natural environment. Place-based vulnerability factors are linked to (i) the availability and accessibility of high-quality, affordable and resilient infrastructure, services and amenities (e.g. public spaces, health facilities); (ii) the nature, health and resilience of environmental systems to which a group has access; (iii) the availability of efficient systems needed to ensure adequate access to land and housing, and (iv) the exposure to climate-related or other physical risks.
- *Their economic status* – Another factor affecting vulnerability is economic status, as certain groups of people lack the economic resources to adapt to changing circumstances. These groups include the income poor, un/under-employed, workers dependent on sectors that are relatively more affected by shocks and stresses or those less able to switch to different jobs or economic activities.
- *Individual characteristics* – Individual characteristics related for instance to gender, age, ethnicity, and disabilities, may also increase vulnerability.

[20] Coined by Ruth Glass in 1964, the term gentrification refers to the process by which a traditionally lower-income neighbourhood undergoes demographic change, accompanied by changes to the built environment which lead to the displacement of lower-income residents typically due to increased property values and rents and decreased affordability (ICC, 2020).

The most effective initiatives to strengthen resilience are those that integrate interventions across multiple dimensions – environment, economy, society and institutions[21]. In line with the OECD Ministerial Council's statement of 2014, this brief identifies the following four dimensions of resilience: (i) *environmental resilience*, which is critical in the face of increasing environmental degradation, the overuse of natural resources, and the climate change emergency; (ii) *economic resilience*, encompassing the ability of cities to promote robust and inclusive growth, to enhance the capacity of the economy to withstand shocks and stresses and harness growth opportunities; (iii) *social resilience*, which depends on the capacity of cities to focus their resources on the most vulnerable groups and deliver services in a way that empowers individuals to participate fully in society; and (iv) *institutional resilience*, which depends on a city's institutional capacity to respond and rebound from a shock or a stress, to support open, transparent and inclusive processes so that policies meet citizens' needs, and to facilitate greater public participation that builds trust in the city government (OECD, 2014a; OECD, 2018a). It is important to integrate multiple dimensions when planning initiatives to strengthen resilience since each of these dimensions is relevant in its own way. They are also strongly interconnected as they all contribute to building the capacity to cope, adapt and thrive in the face of shocks and stresses.

A city can be resilient only if its communities are resilient. Given the growing disparities across areas within cities, the neighbourhood scale of action is critical to strengthen resilience citywide. This brief focuses on resilience at neighbourhood level, while acknowledging the importance and inter-connectedness of the global, national and local scales (see Box 3 below). Strengthening resilience requires the active engagement of communities. Available evidence from the COVID-19 pandemic has underscored the significant role of thriving communities in responding to and recovering from shocks and stresses (CEB, 2021). Initiatives to strengthen resilience within communities encompass a broad range of interventions. For instance, cities are piloting initiatives within communities to test innovative solutions with the objective of scaling them up citywide[22]. Piloting resilience initiatives in communities provides city practitioners with the opportunity to test an approach locally before it is scaled up. Cities are also carrying out place-based initiatives to address climate risk or COVID-19 contagion risk in distressed neighbourhoods as part of urban regeneration investments[23]. While this brief focuses on communities in an urban context, the approach and lessons learnt are also relevant for communities in rural settings, which are equally challenged by shocks and stresses.

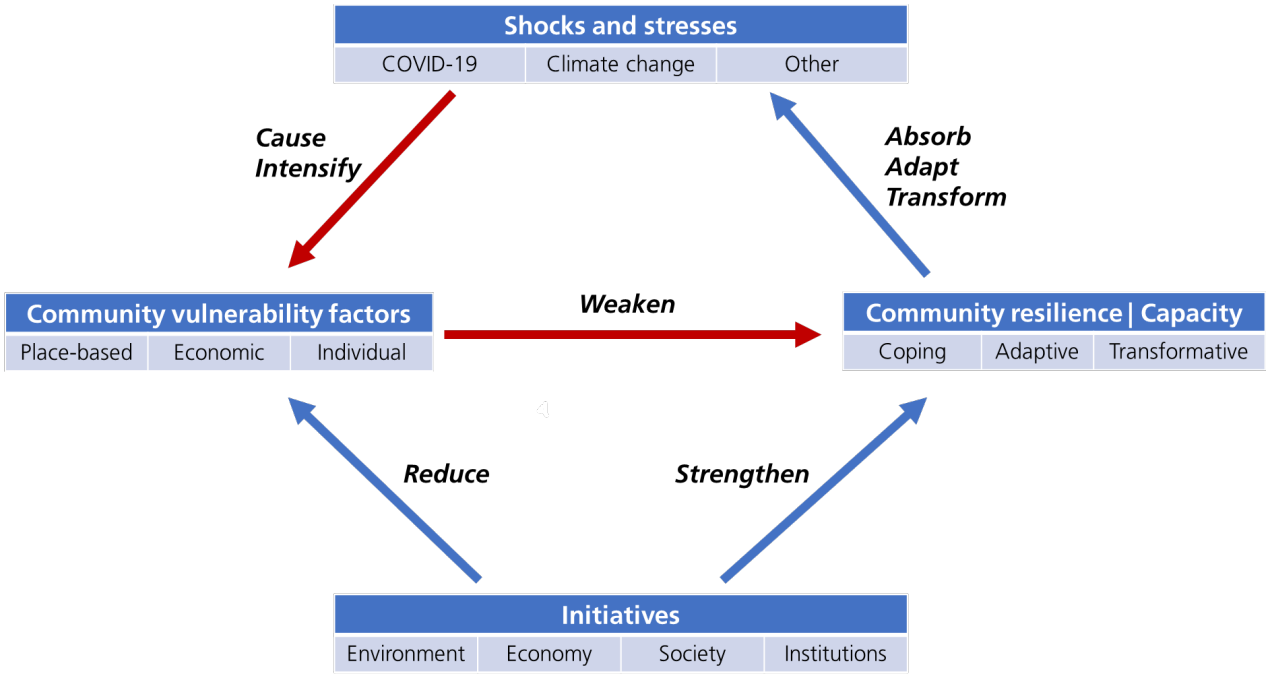
Box 3: City Neighbourhoods – The Local Scale of Action

A neighbourhood is any defined geographical area, ranging from street level to wards, districts or councils or any administrative area within cities. As highlighted by Jane Jacobs in her seminal work, city neighbourhoods are more than the sum of their streets, buildings and infrastructure, but rather "organs of self-government. Our failures in city neighbourhoods are, ultimately, failures in localised self-government. And our successes are successes at localised self-government" (Jacobs, 1961, p. 149). A neighbourhood is also an economic, social and physical continuum, which does not exist in isolation but only within a city system. Given its spatial focus, this brief uses the terms community and neighbourhood interchangeably. It is however worth noting that there are many typologies of communities in cities. A community can be composed by individuals who live in spatial proximity (National Research Council, 2003); other communities extend well beyond the physical boundaries of the neighbourhood, while many communities can coexist within a neighbourhood.

[21] An initiative may comprise multiple interventions of different types. This brief defines interventions as the components of an initiative, i.e. the activities undertaken as part of an initiative.
[22] See, for instance, Barcelona's Superblock programme presented in Spotlight 1 in Section 3.1 below.
[23] See, for instance, Rotterdam's Resilient BoTu 2028 programme presented in Spotlight 2 in Section 3.3 and Genoa's Polcevera Park and Red Circle project presented in Spotlight 3 in Section 3.4 below.

By identifying the interplay between shocks and stresses, vulnerability factors and resilience in communities, the framework described in this brief serves as guidance for city action (see Figure 1 below). Cities face multiple and inter-related shocks and stresses that cause new vulnerabilities and exacerbate existing ones within communities. In turn, vulnerability factors influence resilience by weakening the capacity of individuals and groups to absorb shocks and stresses in order to cope and recover quickly, adapt to the changing environment and transform in order to thrive in the face of shocks and stresses. Understanding the interplay between shocks and stresses, vulnerability factors and resilience is therefore critical for the success of any initiative. To effectively break the negative cycle caused by shocks and stresses, it is important to strengthen resilience by building on the resources and assets of a community and, in parallel, to explicitly assess and address vulnerability factors. Initiatives that integrate interventions across multiple dimensions of resilience are likely to be more effective given the increasing number and intensity of shocks and stresses faced by cities.

Figure 1. From Community Vulnerability to Resilience – A Framework for City Action



Source: CEB based on OECD (2014a), Béné et al. (2012) and IPCC (2001). Note: the red arrows illustrate the negative cycle caused by shocks and stresses; the blue arrows illustrate how initiatives can effectively counteract this cycle.

While the focus of this brief is on shocks and stresses related to the COVID-19 pandemic and climate change, the findings are relevant for any other current or future shock and/or stress faced by cities. Assessing how cities are responding to the COVID-19 pandemic and the climate crisis provides valuable lessons for addressing the next crisis. In the future, cities will need to drive solutions locally to cope, adapt and transform in order to thrive in the face of global inter-related shocks and stresses related to climate change, disease outbreaks, conflict and economic crises among other things. Beyond causing devastating losses and a humanitarian crisis in Ukraine, Russia's invasion of Ukraine has produced a severe economic shock, which is jeopardising economic recovery from the COVID-19 pandemic. Soaring energy and food prices resulting from the supply shocks are increasing the cost of living and disrupting supply chains, aggravating the negative economic impact of the COVID-19 pandemic and hurting economically vulnerable households the most (OECD, 2022b). Following the Russian invasion of Ukraine,

some 4.2 million people have fled Ukraine and have been hosted in European countries, putting pressure on the provision of basic services, housing and infrastructure (UNHCR, 2022)[24].

In the future, forced displacement due to conflict and climate change is expected to rise[25]. When cities are prepared to respond to forced displacement challenges, an influx of population can provide cities with the opportunity to strengthen resilience by contributing to the local economy and enhancing diversity[26]. For instance, COVID-19 highlighted the important role of foreign-born migrants in ensuring the functioning of European labour markets and the continuity of essential services during a crisis, in particular in cities (OECD, 2020b) [27]. However, when timely support is not provided to promote the integration of displaced populations, forced displacement may intensify vulnerabilities within the host communities. The pandemic has exposed and deepened the existing vulnerabilities of the forcibly displaced and further highlighted the need for scaling up social investments in order to help all community groups, including forcibly displaced people who are among the most vulnerable, weather a crisis (Hemerijck and Patuzzi, 2021).

3. From Community Vulnerability to Resilience – Seven Enabling City Actions

As the tier of government closest to communities, cities play the lead role in driving initiatives to strengthen resilience and reduce vulnerability at community level, in close partnership with local stakeholders and community members. Based on the experience of cities in European countries and in line with the framework described in the previous section, seven actions undertaken by city practitioners are identified as critical for the effective planning and implementation of initiatives that both strengthen resilience and reduce vulnerability in communities (hereafter "initiatives"). The seven enabling actions are depicted in Figure 2 below[28].

The seven actions are inter-linked and are part of an iterative process. For instance, assessing impact starts with the collection of baseline data during the initial planning phase, while assessing impact at completion in turn provides critical information to evaluate and, eventually, scale up an initiative if it is proven to be successful. Similarly, the assessment of vulnerability factors is a key input to designing an inclusive participatory planning process; at the same time, an inclusive participatory planning process provides additional valuable information to understand vulnerability factors in a community. The rest of the section presents the experience of European cities in undertaking the seven enabling actions.

[24] Information based on the UNHCR Operational Data Portal: Ukraine Refugee Situation, updated as of July 19, 2022.
[25] See, for instance, Kraler et al. (2020) and C40 Cities/Mayors Migration Council (2021).
[26] See Spotlight 2 on the Resilient BoTu 2028 programme presented in Section 3.3 below on the benefits of diverse communities for strengthening resilience.
[27] Across European countries, migrants account for about 14% of all workers delivering essential services such as food processing and health care. Cities benefit the most from the contribution of migrant workers in vital sectors. The share of migrants among all workers in essential services is 17.5% in cities compared to 7% in rural areas (OECD, 2020b).
[28] We take a selective approach by focusing on key enabling actions. These actions, although critical, are not meant to provide an exhaustive list of all the actions that city practitioners carry out.

Figure 2. Strengthening Resilience and Reducing Vulnerability in Communities – Seven Enabling City Actions



Source: CEB.

3.1 Aligning initiatives with the goals of a city's strategy

It is important to align an initiative at community level with the goals of a city's strategy and its adaptation plans to climate change, COVID-19 and other crises. Alignment ensures that the initiative not only meets the needs of the community, but also contributes to enhancing resilience citywide. It also enables cities to assess the contribution of initiatives to achieving citywide goals. Alignment with a city's strategy and plans is also essential to enable the scaling up of initiatives. Given the magnitude of the crises they face, cities are more and more interested in testing at local level solutions that have the potential to yield transformative impact and that can be scaled up to city level. An example of an initiative at community level which is fully aligned with the city's overarching strategic goals is the Superblock programme implemented by the City of Barcelona, which is in the process of being scaled up citywide (see Spotlight 1 below)[29].

Successful initiatives at community level are instrumental to achieving a city's overall climate goal, as exemplified by the OASIS Schoolyard project launched by the City of Paris in 2018[30]. This community-based initiative aims to make schoolyards greener, more inclusive and comfortable spaces for children by transforming schoolyards into islands capable of storing water and reducing heat, using a combination of technical innovation and nature-based solutions (Mairie de Paris, 2022). The OASIS Schoolyard project is fully aligned with the City of Paris' Climate Plan and the city's goal of making all public schoolyards climate resilient by 2050 (Mairie de Paris, 2020; Sitzoglou, 2020). The OASIS

[29] The CEB has co-financed the Superblock programme as part of a loan of €100 million to the City of Barcelona to support the city's investment budget. The loan was approved in 2018.
[30] OASIS stands for Openness, Adaptation, Sensitisation, Innovation and Social ties.

Schoolyard project was identified as part of the participatory process carried out for the preparation of the Resilience Strategy for Paris (Mairie de Paris, 2018). The initiative was prioritised given the important role that schools play in communities in Paris – all households live on average within 250 metres from a school. The project was piloted in ten schools over the period 2019-21 with funding from Urban Innovative Actions (UIA)[31], and it is now in the process of being scaled up citywide. The aim is to eventually transform schoolyards into community spaces that offer natural protection from heatwaves by opening them up to the general public after school hours. Since 2021, Paris' schoolyards have been open to the community on Saturdays. Building on the experience of Paris, the City of Barcelona has initiated a similar project with UIA funding (Ajuntament de Barcelona, 2022a).

Selecting the location for piloting an initiative is a key decision that can affect its success and enable its scaling up, since only initiatives that have a tangible impact on the ground are likely to be replicated. It is important to ensure that the criteria for the selection of the location are aligned with the overarching goals of a city's strategy and plans. As highlighted by the experience of the City of Barcelona, the criteria to be considered when selecting neighbourhoods include the need for interventions, the expected benefits for the city as a whole (including synergies with larger urban regeneration investments), and the community buy-in and support (see Spotlight 1 below). The experience of the City of Barcelona also shows that successful implementation of an initiative in one location can create a demonstration effect and enable a city to draw lessons learnt that can facilitate its scaling up. Similarly, the experience gained from the implementation of the Resilient BoTu 2028 programme in Rotterdam gave the community a significant advantage in responding to the COVID-19 crisis (Veldacademie, 2021), and its demonstration effect has the potential to foster action in other neighbourhoods (see Spotlight 2 in Section 3.3 below for more information on this initiative).

Photo 1. The OASIS Schoolyard Project in Paris



Source: Mairie de Paris. Note: OASIS courtyard on the right and courtyard not yet transformed on the left.

[31] UIA is an initiative of the EU that provides urban areas throughout Europe with support to pilot innovative solutions to pressing urban challenges in line with the EU urban agenda (UIA, 2022).



Barcelona's Superblock Programme

The Superblock programme (hereafter "the Superblock") was launched in 2015 by the City of Barcelona as an initiative aimed at improving environmental quality, strengthening resilience to climate change and enhancing social cohesion. Barcelona has entrusted responsibility for the planning and implementation of the Superblock to a multi-disciplinary technical team, the Superblock Technical Office, located within the Area of Ecology, Urban Planning, Infrastructure and Mobility, and benefiting from advisory services from a team of experts. Since it was launched, the Superblock has been implemented in several neighbourhoods across different districts of the city, such as Poblenou and Sant Antoni. The city now plans to scale up the Superblock citywide, starting with the central Eixample district. The onset of the COVID-19 pandemic provided the momentum for accelerating its implementation. The scaling up of the Superblock is critical for achieving the objective of Barcelona's Urban Mobility Plan for 2024, which aims to have more than 80% of the journeys in Barcelona made on foot, by bicycle or on public transport by 2024 (Ajuntament de Barcelona, 2020). Moreover, the scaling up of the Superblock is fully aligned with the city's Climate Emergency Action Plan for 2030 (Ajuntament de Barcelona, 2021c).

The concept. The Superblock transforms urban mobility patterns within a neighbourhood while improving access to and quality of public and green spaces based on an inclusive participatory approach. Motorised mobility restrictions are introduced in the streets in the Superblock area to prioritise active mobility and decrease air and noise pollution and congestion. The streets and squares where motorised traffic is restricted are then transformed into multi-functional public and green spaces where children can play safely and cultural and community activities can take place. The Superblock also contributes to adaptation to climate-related shocks and stresses such as heatwaves and heavy rainfall by increasing green spaces and permeable soil in the area.

The participatory process. Superblock projects are designed and implemented based on a highly inclusive participatory planning process to ensure that public spaces meet the diverse needs of the community and actions are adapted to the local context (Ajuntament de Barcelona, 2021a). A Neighbourhood Action Plan is prepared for each implementation site based on consultations with local stakeholders and an open dialogue with community members and business owners. Particular attention is paid to involving people with disabilities. For instance, initiatives to actively engage people who are visually impaired include building tactile models of the new neighbourhood area (Ajuntament de Barcelona, 2022c). The AMPAs[32], community associations of parents with children in the local schools, are also highly involved in the planning process. Women's groups are consulted to gauge their sense of safety when using public spaces, in line with the guidelines of the Gender Justice Plan (Ajuntament de Barcelona, 2021b). For instance, walks are arranged during the day and at night to identify interventions to make the spaces safer for women and children.

Core features. A core implementation feature of the Superblock is flexibility – a critical aspect to enable the successful scaling up of the initiative across diverse neighbourhoods. The original design concept has been adapted over time to diverse local contexts. For instance, mobility restrictions for private motorised vehicles are customised in line with the needs identified by communities. In addition, building upon lessons learnt from the initial implementation, restrictions on motorised mobility, which were originally implemented in a designated perimeter of city blocks, will be applied in the Eixample to a wider perimeter, through green axes, thus extending the benefits of the initiative. The green axes

[32] Asociació dels Mares i Pares dels Alumnes, Association of Mothers and Fathers of Students.

are proposed as a new model for inclusive and environmentally sustainable streets. Priority is given to pedestrians, with a 10 km/h speed limit for motorised vehicles and the elimination of the distinction between streets and sidewalks. To improve environmental sustainability, the green axes will have asphalt removed and replaced by other materials and permeable surfaces, and an average of 14% of green spaces. New urban furniture elements (such as benches, chairs and playground equipment) will be installed (Ajuntament de Barcelona, 2022b). An incremental approach has also been applied by combining structural and tactical urban interventions[33]. Actions based on tactical urbanism are introduced to allow for impact testing before implementing permanent interventions.

Neighbourhood selection. The aim of the first Superblock pilot, implemented in the Poblenou neighbourhood in 2016, was to address the lack of public spaces in the area, while leveraging urban regeneration and innovation initiatives being implemented in the 22@ innovation district, which aimed to diversify and transform the economic profile of the area from an historical industrial neighbourhood to a research and innovation hub. Then, in 2018, a Superblock was implemented in the neighbourhood of Sant Antoni, in the Eixample district. The neighbourhood was selected because of the lack of adequate access to green and public spaces and the strong support and buy-in from the community. The implementation of the Superblock in Sant Antoni was carried out in parallel with the redevelopment of Sant Antoni market to exploit synergies between the two projects. The Superblock project and the new market were inaugurated at the same time. For the current phase of implementation, Superblocks will be extended throughout the Eixample district, responding to the urgency of addressing environmental challenges in the city's central district, such as congestion, lack of public spaces and high levels of air and noise pollution. In planning the scaling up of the Superblock citywide, the city will also take social factors into consideration for the selection of the neighbourhoods, in line with the city's urban development and regeneration strategy, which aims to promote more balanced territorial development among the different areas of the city, while valuing and enhancing their diversity and uniqueness (Ajuntament de Barcelona, 2021d). The extensive participatory planning process, which includes workshops with community members, meetings with local stakeholders and community organisations and the development of a Neighbourhood Action Plan tailored to each community where the Superblock is being implemented, will ensure that each Superblock project is customised to the needs of diverse communities.

Impact. Available evidence shows that environmental quality has significantly improved in neighbourhoods where the Superblock has been implemented. For instance, in Sant Antoni, a reduction of 25% in NO2 and of 17% in PM10 in the air, and a reduction in noise pollution were recorded during the first year of implementation. In addition, increased use of public space and a greater variety of uses were registered (Agència de Salut Pública de Barcelona, 2021).

[33] Structural interventions are generally more permanent, more expensive and take more time to implement. Tactical urbanism involves short-term, low-cost, scalable interventions that can be implemented quickly, are easily reversible (e.g. pop-up bike lanes) and that inspire permanent change.

Photo 2. A Superblock Square in Sant Antoni



Source: Òscar Giralt, license CC BY-NC-ND 4.0.

Photo 3. A Superblock Square in Poblenou



Source: Vicente Zambrano González, license CC BY-NC-ND 4.0.

3.2 Assessing vulnerability factors within the community

Assessing vulnerability factors in a community is a critical step to gather the evidence needed to identify the most vulnerable groups and ensure that they are not left behind[34]. Some individuals or groups are either more exposed, sensitive or have a lower capacity to deal with shocks and stresses because of where they live, their economic status and their individual characteristics (as illustrated in Box 2 in Section 2 above). Groups and individuals with place-based, economic and individual vulnerabilities are more

[34] Ensuring that no one is left behind is the transformative promise of the 2030 Agenda for Sustainable Development and its SDGs. The 2030 Agenda pledges that the goals and targets are to be met for all segments of society and that efforts will be made to reach the most vulnerable first (United Nations, 2017).

likely to suffer from the negative impact of climate change and the COVID-19 pandemic (see Box 4 below). Vulnerability factors, in particular those related to economic status and individual characteristics, are also often accompanied by reduced representation and voice in local decision-making. As a result, it is important to pay special attention to assessing the needs of people with economic and individual vulnerability factors when planning initiatives to ensure that they are not left behind. For instance, people living with disabilities are particularly vulnerable to extreme climate-related events – e.g., people with chronic diseases have a heightened risk of heat-related mortality (EEA, 2018).

Vulnerability factors are interlinked. Place-based, economic and individual vulnerability factors tend to mutually reinforce each other, increasing the vulnerability of a group or an individual to a shock or a stress, and to its negative impact. For instance, people living in areas with limited access to services also tend to have limited economic resources, while certain individual characteristics may put people at a higher risk of being unemployed or under-employed. Given their linkages, place-based and economic vulnerabilities tend to be spatially concentrated, resulting in socio-economic segregation within cities. For instance, more than 30 000 houses with wooden pile foundations in the Netherlands need urgent foundation repair works, because of the damage caused by the increasing fluctuations in groundwater levels due to climate change[35]. Lower-income households are particularly at risk because they are unable to obtain financing for foundation repair works due either to insufficient income or to the high level of mortgages compared to house values. The combination of place-based and economic vulnerability factors is triggering a negative spiral of degradation and social segregation as more and more housing units are falling into disrepair, adversely affecting the living conditions of entire neighbourhoods and prompting the wealthier households to sell their homes and leave[36].

Given that the number and intensity of shocks and stresses that cities will face is predicted to rise over time, vulnerability in communities is also expected to increase significantly. If no action is taken, both the extent of vulnerability (i.e., the number of people who have at least one vulnerability factor) and the degree of vulnerability (i.e., the number of people with multiple vulnerability factors) are expected to increase over time. In addition, distressed neighbourhoods, where place-based and economic vulnerabilities tend to be concentrated, are expected to become more and more vulnerable to the compound effect of global shocks and stresses, such as the economic impact of the Russian invasion of Ukraine (OECD, 2022b).

Cities are best placed to identify and assess vulnerabilities in response to shocks or stresses, since they work closely with communities. An integrated assessment of all vulnerability factors in the community is a key input to the planning process. A vulnerability assessment based on an integrated approach provides city practitioners with the empirical evidence needed to design initiatives that target multiple vulnerability factors. In addition, a vulnerability assessment helps cities understand and address potential trade-offs that could create winners and losers when implementing initiatives. Failures to consider such trade-offs can generate unintended inequities from initiatives aimed at increasing resilience. For instance, measures to prevent gentrification are critical when carrying out investments in public and green spaces in distressed neighbourhoods. Collecting baseline data on vulnerability factors as part of a vulnerability assessment is also necessary to assess the impact of an initiative at completion.

[35] The decay of wooden piles, or inadequate bearing capacity of the piles, can cause long-term settlement of the buildings which can lead to structural problems that make the buildings unsafe to live in.

[36] The Sustainable Foundation Rehabilitation Programme was established to address these challenges (see Spotlight 4 in Section 3.5 below). In 2017, the CEB approved a loan of €50 million to co-finance the programme. The information presented in this brief is based on discussions with the agencies responsible for the implementation of the programme.

Box 4: Vulnerability to Climate Change and the COVID-19 Pandemic

Vulnerability factors often overlap. For instance, place-based and economic vulnerability factors tend to be spatially concentrated, resulting in socio-economic segregation within cities. Available evidence from 12 European metropolitan cities indicates that levels of socio-economic segregation increased in metropolitan Europe in the first decade of this century (Musterd et al., 2016). Since lower-income households have less choice over where they can live, income segregation tends to go hand in hand with the segregation of housing opportunities (OECD, 2018b). As a result, distressed neighbourhoods tend to be more vulnerable to the effect of crises such as the COVID-19 pandemic and climate change, which have a strong territorial dimension.

Available empirical evidence indicates that the neighbourhoods with the highest incidence of COVID-19 are not necessarily those with the highest population density, but rather the poorest ones, which are characterised by inadequate infrastructure, limited access to health care, over-crowding and sub-standard housing conditions (OECD, 2021a). Poorer communities also face higher than average mortality rates during health crises. In France, in high-infection regions, mortality rates were 38% higher in poorer municipalities (Brandily et al., 2020). Lower quality housing conditions were found to be the main determinant of higher mortality rates, followed by higher occupational exposure, as low-income households are less likely to be able to telework. Similar results for Germany were found by Plümper and Neuman (2020).

Distressed neighbourhoods are also more vulnerable to the effects of climate change. Within cities, households with lower socio-economic status tend to live in neighbourhoods which are more prone to natural disasters such as flooding, and have less access to green space, which further exacerbates climate-related risks. In addition, European areas with low incomes and high unemployment rates tend to have a high exposure to climate-related stresses, such as rising temperatures (EEA, 2018).

Vulnerability factors are also related to individual characteristics. For instance, mortality rates among the elderly population rose by over 20% in Finland during extreme heat events (Kollanus and Lanki, 2014). People with disabilities face higher COVID-19 related mortality rates and are more likely to lose jobs or face employment discrimination during economic downturns (United Nations, 2020). People with disabilities may be at greater risk of contracting COVID-19 when they live in institutional settings where social distancing measures may be more difficult to implement or when they depend on physical contact for support. Furthermore, vulnerabilities related to age and disabilities tend to intersect since an estimated 46% of people aged over 60 have a disability (United Nations, 2020).

Women and children have been disproportionally affected by COVID-19. The pandemic has shed light on, and exacerbated, existing gender differences in the labour market, particularly in sectors where domestic, part-time and temporary work are more prevalent (EIGE, 2021). Part-time job losses were particularly high among women, who are already about 30% more likely than men to be employed part time (EIGE, 2021). The increased burden of unpaid care due to the closure of schools and care facilities as a result of containment measures during the pandemic intensified the difficulty of balancing care duties with paid work for women, particularly single mothers. Children, particularly those from low-income households, face increased risk of lower education outcomes, poor nutrition, neglect and domestic violence as a result of school closures during the pandemic (OECD, 2020).

Note: See technical brief "Investing in Effective, Inclusive and Resilient Health and Social Care Systems in Europe" (CEB, 2021) for additional information on COVID-19 related vulnerability factors.

3.3 Establishing an inclusive participatory planning process

Establishing an inclusive participatory planning process from the outset is essential to ensure that initiatives are planned with the active engagement of local stakeholders and community members. Cities are experimenting with new flexible approaches to inclusive participation. For instance, the Resilient BoTu 2028 programme launched by the City of Rotterdam has adopted an innovative community-led participatory process, the Social Impact by Design strategy, to actively involve the community in the planning and implementation of the programme (see Spotlight 2 below). The OASIS Schoolyard project in Paris promotes social cohesion by engaging with children and the local community to co-design the new schoolyard spaces. Similarly, the City of Barcelona has made participatory planning a core feature of the Superblock programme by preparing a Neighbourhood Action Plan for each implementation site in close consultation with local stakeholders (see Spotlight 1 in Section 3.1 above).

European cities are increasingly relying on participatory budgeting to mobilise communities while collecting useful information about local priorities and needs (OECD, 2022a). Tirana has introduced participatory budgeting systematically in order to seek inputs from community members for the allocation of the city budget. Since 2019, the City of Lisbon, the first city in Europe to adopt participatory budgeting in 2008, has allocated the entirety of its participatory budget funds towards green projects, with an annual budget envelope of €2.5 million. Lisbon's green participatory budgeting aims to engage communities in the identification of local initiatives to improve sustainability, resilience and environmental outcomes. Following a technical eligibility check by a city, a list of proposed projects is published and voted on by citizens in tandem with a week-long window for raising complaints and concerns about the potential projects. The winning projects are integrated in the city's investment plan. Examples of projects funded include the creation of green spaces on unused wasteland, secure bicycle parking infrastructure, and urban gardens. Public participation is still encouraged during implementation through continuous feedback (Centre for Public Impact, 2021; OECD, 2022a). During the COVID-19 pandemic, Lisbon reinvented participatory budgeting by launching a new digital platform, which allowed the participatory process to be carried out effectively online. Other cities in European countries that have adopted green participatory budgeting are Grenoble and Brussels (OECD, 2022a).

It is critical to ensure that the voices of community groups, including those at risk of being left behind, are heard. As part of the planning for the Superblock programme, the City of Barcelona reaches out to associations representing people with disabilities and carries out consultations with women's groups to identify gender issues related to the safety of public spaces (see Spotlight 1 in Section 3.1 above). The City of Lisbon has launched participatory budgeting for schools to seek youth engagement. The increased digitalisation of processes and services, which accelerated with the onset of the COVID-19 pandemic, has contributed to marginalising some community members. To address this issue, cities are adapting their participatory planning processes to reach out to groups who may not have internet access. For instance, Tirana relies on local one-stop-shop information desks to connect with community members and provide an avenue for people to give feedback in person. As part of its green participatory budgeting initiative, the City of Lisbon has adopted a hybrid model of participation comprising both in-person and web-based meetings to actively seek the participation of the elderly, migrants and groups with low socio-economic backgrounds who may have limited access to the internet.

Community participation is most effective when it is embedded in a planning process that integrates both bottom-up and top-down approaches. Sharing expert knowledge on the risks associated with climate change and COVID-19 through community awareness campaigns is essential to provide

community members with the tools and knowledge to make informed decisions. For instance, big data are a powerful instrument to guide participatory planning and ensure that local decisions are informed by evidence. In the town of Hodonin in the Czech Republic, satellite imaging was used to map predicted temperatures associated with different planning scenarios for the regeneration of Masaryk Square. Five comparable scenarios were produced to clearly show that more car parking spaces and less green coverage would lead to increased temperatures[37]. This visual, data-driven tool was then used to inform the participatory planning process by providing local stakeholders with evidence of the environmental benefits of the design with the highest share of green space (Kaw et al., 2020).



Rotterdam's Resilient BoTu 2028 Programme

The Resilient BoTu 2028 programme was launched in April 2019 by the City of Rotterdam to make the adjoining neighbourhoods of Bospolder and Tussendijken (hereafter "BoTu") Rotterdam's first "resilient district". Located in the west of Rotterdam, the district was built between 1910 and 1930 when the port of Rotterdam expanded. In 1943 the western section of the district was hit by an allied bombardment, which destroyed 18 hectares of land, killed hundreds and made thousands homeless. The streets were rebuilt in the 1960s and 1970s as part of a large urban renewal and social housing programme. The concentration of affordable housing and the proximity to the port provided opportunities for unskilled work and attracted an influx of migrant workers to the area, which partly explains BoTu's diversity today. In effect, BoTu is a highly multicultural district, with several faith communities and more than a dozen active ethnic communities[38].

The vulnerability lens. Although BoTu has benefited from regeneration investments, it still faces a number of place-based vulnerabilities. The area is affected by climate-related shocks and stresses such as flooding and extreme temperatures, and suffers from air pollution. BoTu also lacks green space and only about 16% of the surface is water-absorbent, which amplifies heat and flood-related risks. BoTu residents also face economic vulnerabilities. Employment is low and residents often face constraints in finding employment – for instance language is a barrier since BoTu's population is 80% new-Dutch and 70% second generation migrants. Many households in BoTu have also incurred severe debt and are reliant on social welfare. More than 60% of the housing stock consists of rental housing that is often dated, not properly insulated or heated, and in need of maintenance, resulting in a high incidence of energy poverty. The district also has a high population of elderly who face additional vulnerability factors. In addition, BoTu's social indicators lag behind other districts. In 2018, the social index for Bospolder and Tussendijken was 94 and 84 respectively, in comparison with Rotterdam's average of 105[39] (Foundation GoBoTu, 2018b).

The approach. The Resilient BoTu 2028 programme builds on the work that Rotterdam has carried out in the district over the past decade. Recognising that strengthening resilience requires a long-term commitment and engagement with the community, the Resilient BoTu 2028 programme has an implementation period of ten years. The programme is aligned with the objectives of Rotterdam's

[37] The scenario modelling was conducted as a part of the Climate-fit.City initiative under the Pan-European Urban Climate Service (PUCS) project with funding from the EU's Horizon 2020 Research and Innovation Programme.
[38] Including Turkish, Moroccan, Surinamese, Cabo Verdean, Caribbean, Hindustani, Somalian, Ethiopian, Syrian, Spanish and Bulgarian communities.
[39] Rotterdam has established a system for benchmarking living conditions across districts based on three indexes – a social index, a security index, and a physical index. The social index covers multiple social and economic areas affecting living conditions. BoTu has a low score on economic and health indicators, resulting in an overall lower social index than the average.

Resilience Strategy which is centred on strengthening climate resilience, improving infrastructure for the 21st century, and creating a "network city" through citizen engagement, while anchoring resilience-building at neighbourhood level (Gemeente Rotterdam, 2021). The programme exemplifies the importance of approaching resilience in a holistic way to have a transformative impact on the ground. It builds on the strengths and assets of BoTu to enhance resilience while integrating a vulnerability lens. In particular, Resilient BoTu 2028 builds on the diversity of the community, the strong ties among community members and the trust that the community has in the city and district councils as a lever to strengthen resilience (Veldacademie, 2020). BoTu's migrant communities have a strong sense of solidarity and are committed to collectively fighting poverty. The way different ethnic, religious or cultural communities traditionally support and care for each other is an asset for BoTu.

The participatory process. A core feature of the programme is the inclusive and innovative community-based participatory planning approach. About 30% of the annual budget for Resilient BoTu 2028 (amounting to €1 million per year for the first five years) is allocated to initiatives that community members themselves identify based on their needs. The programme has piloted an innovative participatory approach, the Social Impact by Design strategy, under which projects are co-designed with residents, social entrepreneurs and other organisations from the district through a Call for Action in the community (Foundation GoBoTu, 2018a). Community members are invited to form teams and draft proposals for ideas that would strengthen resilience. The ideas are further developed with support from city representatives. The best proposals are then selected and funding mobilised to move forward with implementation. The participatory process itself is an important contributory factor to strengthening resilience. By building on the strong sense of solidarity among community members and providing space for community members to express their ideas and creativity, the participatory process contributes to empower the community and enhance its resilience.

Areas of action. The Resilient BoTu 2028 programme focuses on interventions across the four dimensions of resilience – environment, economy, society and institutions. Among the interventions implemented under the programme are the upgrading of housing stock to ensure that it is climate resilient, and the introduction of green spaces and nature-based solutions to reduce flooding and alleviate heat stress, alongside social programmes to build resilience holistically at community level (Foundation GoBoTu, 2018b). For instance, COVID-19 exacerbated vulnerability in BoTu, leading to income losses and food poverty, social and digital isolation and educational delays. In order to address the impact of COVID-19 in BoTu, the community-led initiative "Delfshaven Helpt" was established with support from community members and local institutions such as schools. The activities of Delfshaven Helpt included a grocery "giveaway" shop, grocery delivery, home visits to help the elderly and vulnerable people, and youth activities. The prompt response from the community was made possible by the existing strong community network which was strengthened through the implementation of the Resilient BoTu 2028 programme (Slingerland et al., 2022).

The governance model. By the start of 2019, the core team of Resilient BoTu 2028 included 20 representatives from key partners such as the municipality; the local foundation Delfshaven Cooperation; the Havensteder housing corporation; the International Architecture Biennale Rotterdam (IABR), a knowledge institute and cultural platform; Rebel, a social impact consultancy firm; and Veldacademie, a field research organisation in charge of monitoring the programme. Significant changes were recently introduced in the governance model in order to ensure that BoTu residents play a central role in decision-making processes and in the implementation of the programme. The previous core team has been replaced by the BoTu Council, a group of approximately 20 local stakeholders including residents, entrepreneurs, members of faith-based and social organisations, and professionals such as school principals, police officers and general practitioners. In addition, seven residents were selected as project leaders on different themes (such as communication, poverty, energy transition)

and are now receiving compensation for one day of work per week. Finally, all project plans and requests for funding from the Resilient BoTu budget are now presented to a dedicated committee of approximately 30 residents. The committee, rather than the municipality, is responsible for deciding which initiatives receive funding.

Participatory monitoring. The Resilient BoTu 2028 programme relies on participatory monitoring to document and evaluate progress in strengthening resilience with the support of Veldacademie in cooperation with the Erasmus University, Rotterdam University of Applied Sciences and Delft University of Technology. Veldacademie carries out participatory monitoring by interviewing community members, mapping social networks in the community, and carrying out surveys to assess implementation progress and the benefits of the programme. All data is shared with the community members.

Photo 4. Community Life in BoTu



Source: Frank Hanswijk.

3.4 Designing initiatives that strengthen resilience and reduce vulnerability factors

Initiatives that integrate interventions across multiple dimensions of resilience are more effective in addressing a growing number of complex and inter-related shocks and stresses. Communities need to strengthen their capacity to cope, adapt and thrive in the face of climate-related shocks and stresses. At the same time, the COVID-19 pandemic has had a far-reaching impact across all aspects of community life. Planning interventions that span the four dimensions of resilience – environment, economy, society and institutions – helps amplify the impact of an initiative since the four dimensions are inter-related and reinforce each other[40]. For instance, COVID-19 has highlighted the importance of efficient and flexible institutions to enhance the resilience of society as a whole during a pandemic.

Flexibility is essential to adapt an initiative to the local context and enable its scaling up. Flexibility is particularly important to respond to the complex challenges faced by cities, since vulnerability factors in communities may change quickly as a result of new shocks and stresses. Embedding flexibility in the design of an initiative ensures that the initiative can be adapted to meet the evolving needs and vulnerabilities within a community. Flexibility is also critical to adapt an initiative to diverse communities and ensure its successful scaling up citywide, as shown by the experience of the City of Barcelona with the implementation of the Superblock programme, which provides communities with the enabling framework and tools to customise the initiative to the local context (see Spotlight 1 in Section 3.1 above).

[40] See Section 2 above for a definition of the four dimensions based on OECD (2014a) and OECD (2018a).

Resilience is about coping, adapting *and* transforming in response to shocks and stresses. These three types of capacity – absorptive, adaptive, and transformative – all help strengthen resilience in a community. All three capacities are important for strengthening resilience in a community since each capacity addresses a different need and entails different results[41]. To illustrate how the three capacities complement each other, Table 1 below provides examples of resilience-strengthening interventions that build the absorptive, adaptive and transformative capacities of communities to address climate-related shocks or stresses such as flooding and the COVID-19 pandemic.

Table 1. Examples of Interventions to Strengthen Resilience as Absorptive, Adaptive and Transformative Capacities

Capacities	Shock or Stress	
	Flood	COVID-19
Absorptive – *Stability*	• Establishing reliable early warning systems to give city authorities and communities timely and accurate information to prepare for upcoming flood events. • Providing recovery support to households and businesses affected by a flood event.	• Introducing containment measures to limit the spread of COVID-19 and decrease pressure on health systems through public health measures (e.g. social distancing, wearing face masks, providing access to vaccines) and limitation of movements. • Distributing food aid to address the immediate needs of economically vulnerable groups affected by containment measures.
Adaptive – *Flexibility*	• Making multipurpose flood shelters accessible to the affected population. • Introducing nature-based solutions to reduce storm water runoff.	• Introducing tactical urban interventions to safely promote active mobility and children's play in open areas. • Establishing monitoring systems to inform local decision-making based on real time information.
Transformative – *Structural change*	• Transforming mobility patterns in a community to promote a shift from motorised to active mobility, leading to a reduction in greenhouse emissions. • Incorporating teaching and learning material on disaster risk reduction into the curricula of the education system to support behavioural change in communities.	• Re-imaging the provision of local public services through innovative technology and digital transformation to ensure provision of inclusive and accessible services during a pandemic. • Improving air quality and the quality of the environment to reduce COVID-19 spread and mortality.

Source: CEB.

An increasing number of cities in European countries are taking steps to develop innovative initiatives that integrate multiple dimensions of resilience. Genoa's Polcevera Park and Red Circle project is an example of an innovative urban regeneration initiative that encompasses interventions across all four dimensions driving resilience – environment, economy, society and institutions – while explicitly addressing multiple local vulnerability factors[42]. The aim of the programme is to transform the community affected by the collapse of the Morandi bridge while strengthening its coping and adaptive capacities to address climate-related shocks and stresses (see Spotlight 3 below)[43]. Other examples of resilience-strengthening initiatives carried out by European cities are illustrated in Spotlight 5 presented in Section 4 below.

[41] See Section 2 above for a definition of the three capacities based on Béné et al. (2012).
[42] In 2019, the CEB approved a €50 million loan to the City of Genoa to co-finance the city's investment budget including investments to strengthen resilience to natural hazards.
[43] This spotlight is based on information provided by the City of Genoa.



Genoa's Polcevera Park and the Red Circle Project

Genoa's Polcevera Park and Red Circle project is a transformational initiative aimed at rebuilding and regenerating the neighbourhood affected by the collapse of the Morandi Bridge. The bridge, which was part of a highway system connecting the city of Genoa to France, collapsed on August 14, 2018. The collapse of the highway infrastructure destroyed an entire neighbourhood, located in the Valpocevera Sub-municipality[44], and caused the loss of 43 lives. This major shock event then became a stress for the city: the collapse of the bridge divided the city in two parts, limiting mobility within the city and causing a cascading long-term impact on the regional and national economy.

The plan for transforming the neighbourhood. The collapse of the bridge prompted the city to start a transformative initiative to strengthen the resilience of the whole area. In addition to quantifying the damage caused by the collapse of the bridge, the city carried out a comprehensive analysis of climate-related shocks and stresses in the Valpocevera Sub-municipality, which is exposed to floods, landslides and rising temperatures. An open participatory process, the Polcevera Table 2.0, was initiated in 2019 to seek the active involvement of the community and local stakeholders to envision the transformation of the neighbourhood. In parallel, a design competition to develop a plan and feasibility study to regenerate the neighbourhood was launched. Genoa's Resilience Strategy provided the blueprint for framing and assessing the benefits of the transformation through the lens of resilience (Comune di Genova, 2019).

The vulnerability lens. An integrated assessment of vulnerability factors was undertaken. Indicators were collected to assess place-based vulnerability factors (e.g. dwellings directly affected by the collapse of the bridge; population, commercial activities and schools exposed to hydro-geological risk), socio-economic vulnerability factors (e.g. unemployed population, households facing economic hardship and single-parent households), and individual vulnerability factors (e.g. factors related to age and disabilities). About 35% of the population in the area is exposed to hydro-geological risk, while the unemployment rate ranges between 8.2% and 12.5%; about 26% of the residents are more than 65 years old, and about a third of them live alone.

The participatory process. The participatory process, the Polcevera Table 2.0, made use of diverse participatory tools. The city organised participatory meetings open to all inhabitants, associations and interest groups to share information and provide a space for discussing ideas as input to the feasibility study. Consultations were also held with local districts, institutions, economic entities and the University of Genoa. In addition, three thematic workshops were organised on specific elements of the feasibility study, namely architectural aspects, the landscape strategy and the energy strategy. The participatory process highlighted the need to strengthen resilience as transformative capacity to enable the new neighbourhood to thrive in the face of climate-related shocks and stresses and to prepare for future shocks. Needs, solutions, methods and actions were investigated and developed in an Action Plan, which became the road map for the transformation of the area. Ensuring that diverse means are employed to reach out to the community is an important factor in promoting the participation of all groups and valuing the diversity that exists within a neighbourhood. In addition to the above-mentioned participatory tools, the City of Genoa has established information points to provide feedback in person on the project. Lastly, the city is also working closely with the community and voluntary organisations to ensure that the needs of the most vulnerable groups are considered.

[44] The Valpocevera Sub-municipality or City District, with about 57 000 inhabitants, is one of the nine municipalities of the City of Genoa.

The Polcevera Park and Red Circle project. The winning project, The Polcevera Park and the Red Circle, which was submitted by a group led by the Milan-based studio of Stefano Boeri, aims to transform the area devastated by the tragedy into a resilient urban system for the local population and into an area of sustainable innovation and attraction for the city as a whole. The project will be implemented under the new San Giorgio bridge which was built in record time and inaugurated two years after the collapse of the old bridge, in August 2020. The project was chosen by UNESCO as one of the best renewal projects launched in 2020 in the world. The Polcevera Park and Red Circle project embeds redundancy, diversity and modularity (Kharrazi et al., 2020) as key defining elements of the resilience of the new neighbourhood. The impact of the project on the neighbourhood and the city will be assessed through the framework developed as part of the city's Resilience Strategy to measure the qualities of a resilient and sustainable city. The project integrates interventions across the four dimensions of resilience:

- **Environment.** Under the new bridge, the city will develop the Polcevera Park and the Red Circle as an integrated hydraulic system comprising interconnected park areas with different ecologies and infrastructure supporting active mobility. The Red Circle is a walkway connecting all the areas of the urban botanical park, including a cycle-pedestrian system 1 570 metres long. A wind tower has been designed to house wind turbines, promoting the production of clean and renewable energy, thus contributing to climate change mitigation. The design also integrates climate change adaptation elements: all green areas and squares will be designed to absorb rainwater and the extra water will be collected and used for irrigation.

- **Society.** The project also provides space for remembering the tragedy as a way to strengthen the resilience of the community. A temporary art installation (*Radura della Memoria*), a circle-shaped podium 50 metres in diameter under the new bridge, has been developed in memory of the 43 lost lives and as a symbol of the strength of the community. The circle is made from 43 trees that fell during a storm that took place two months after the bridge collapsed. The central space in the circle is a place for meditation and reading. The installation will remain available to the city until the project is completed; it will be then dismantled and re-used in all its components. The installation is an example of how nature and green areas can not only improve environmental resilience, but also provide a healing space that can help strengthen social cohesion after a tragedy.

- **Economy.** The project is expected to strengthen the economic resilience of the neighbourhood, which is part of an old industrial estate and therefore suffers from economic decline and depopulation. The Polcevera Park and the Red Circle project area aims to become the new economic centre of attraction for the entire district. New economic hubs (such as the Green Factory area, the New Forts and the ex Mercato Ovoavicolo) will be developed to attract businesses and create an ecosystem that promotes innovation.

- **Institutions.** The collapse of the Morandi bridge has served as a catalyst to accelerate the use of smart technologies to strengthen the resilience of local institutions, including risk forecasting and nowcasting capacities. Smart technology is now used to measure traffic flows on and under the new bridge and an alert system has been put in place to warn people in case of danger. Artificial intelligence also monitors the structure of the bridge and maintenance needs that arise, while better forecasting technologies have been developed to track extreme weather events. The increased use of digital technology in response to the disaster builds resilience by supporting local institutions such as the police departments and the municipality in tracking, preventing and alerting people to possible risks. The establishment of a Resilience Manager position has also contributed to strengthen the resilience of local institutions. The Resilience Manager facilitates horizontal cross-departmental coordination by providing technical advice on how to embed resilience in the transformation of the area.

Photo 5. The San Giorgio Bridge



Source: Comune di Genova.

Photo 6. Polcevera Park and the Red Circle Project Rendition



Source: Comune di Genova.

3.5 Developing sustainable financing solutions

The COVID-19 pandemic has impacted subnational own-source revenues (such as local taxes, user charges and fees), although the extent of the impact varies across countries. According to preliminary evidence from the World Observatory for Subnational Government Finance and Investment (OECD/UCLG, 2022 forthcoming), subnational tax revenues decreased by 4.2% on average in real terms between 2019 and 2020 for 41 OECD countries, including EU countries. However, there is remarkable variation among countries: in some countries, local governments experienced increases in

their subnational tax revenues in real terms (e.g., 8.4% in the Slovak Republic and 4.6% in Finland) whereas others saw their tax revenues decrease (e.g., a reduction of 11.1% in Italy, 4.9% in Germany and 2.7% in Spain)[45]. Tariffs and fees revenues also fell sharply by 8.5% on average in real terms between 2019 and 2020 in a sample of 40 OECD and EU countries, with significant differences across countries. Preliminary OECD evidence indicates that subnational tax revenues continued to dwindle in 2021.

During the COVID-19 crisis, national and regional governments were instrumental in containing the financial impact of the pandemic at local level. Higher tiers of government[46] supported local governments in recovering from the crisis by compensating any decrease in own-source revenues and/or increase in local current expenditures with higher inter-governmental transfers. They also deployed a range of instruments to maintain or accelerate local public investments. Such instruments include improving self-financing capacity, relaxing budget rules, increasing capital transfers and subsidies, easing access to long-term bank credits and capital markets and supporting project preparation and implementation (OECD, 2021a; OECD/UCLG, 2022 forthcoming). The support of higher tiers of government also plays a key role in enabling the scaling up of resilience-strengthening initiatives and ensuring their long-term financial sustainability. National governments are best placed to aggregate resources from multiple sources, including leveraging private finance, to implement initiatives at scale across cities, as illustrated by the Sustainable Foundation Rehabilitation Programme in the Netherlands (see Spotlight 4 below).

European cities are taking steps to increase local revenues to offset the impact of crises. For instance, Tirana is making progress towards increasing own-source revenues and enhancing its creditworthiness by undertaking reforms to improve the efficiency of its revenue collection and to apply user pay principles in line with users' payment capacity. In Romania, the main local taxes are the property tax on buildings and the land tax. Improved property evaluation and collection rates in recent years have led to a significant increase in revenues from these local taxes from 37% of subnational government tax revenues in 2016 to 63.4% in 2020 (OECD/UCLG, 2022 forthcoming). In addition, cities are diversifying their revenues by utilising land value capture instruments (OECD/Lincoln Institute of Land Policy, 2022). The OECD-Lincoln Institute's Global Compendium on Land Value Capture found that almost all surveyed countries[47] use land value capture instruments. However, there are differences in the modalities and magnitude of their use. For instance, in European countries the use of developer obligations and strategic land management is more prominent than charges for development rights, which are common in other regions[48].

Cities in EU countries increased their borrowing in the wake of the COVID-19 crisis. OECD evidence indicates that by June 2020, 15% of surveyed subnational governments in EU countries had increased borrowing to cope with the COVID-19 crisis and an additional 24% were planning to increase borrowing (OECD, 2021a). The increase in subnational borrowing was in part due to national government measures to facilitate access to debt to meet the extraordinary needs of subnational governments during the crisis. While long-term subnational borrowing increased as a result of public

[45] Information based on preliminary analysis. Further insights will be published by the OECD-UCLG World Observatory on Subnational Government Finance and Investment (OECD/UCLG, 2022 forthcoming).
[46] Higher tiers of government include national and/or regional governments depending on a country's institutional setting.
[47] 59 out of 60 surveyed countries.
[48] Developer obligations are fees or contributions developers pay in exchange for development approval; the fees and contributions are used to fund or directly provide for public services. Strategic land management is the practice of governments actively buying, developing, selling and leasing land to advance public needs and recoup value increments borne through public action; charges for development rights are cash or in-kind contributions payable in exchange for development rights mostly related to building and re-zoning.

investment stimulus plans, short-term and emergency loans accounted for more than half of new subnational government borrowing in EU countries in June 2020 (OECD, 2021a). However, subnational borrowing remains limited in cities in Western Balkan countries largely due to constraining regulatory frameworks[49]. In the coming years, any further increase in subnational borrowing in EU countries will depend on the borrowing capacity of subnational governments and the continued support from higher tiers of government.

International Financial Institutions (IFIs) and national Public Development Banks (PDBs) play a key role in bridging the financing gap for resilience-strengthening investments in cities[50]. IFIs and national PDBs support cities in developing sustainable financing solutions for strengthening resilience by providing access to external long-term financing at competitive terms and leveraging private finance (for instance, through instruments to blend public and private finance and de-risk investments), in combination with technical support. IFIs, such as the CEB, also provide financing to financial intermediaries for on-lending to subnational governments, including small- and medium-size cities which may face constraints in accessing financing from commercial banks. To illustrate how IFIs are supporting cities through financial intermediaries, Spotlight 4 below provides examples of a diverse range of initiatives co-financed by CEB loans to support investments in social and affordable housing that embed resilience elements. The examples show that CEB lending was instrumental in leveraging other sources of finance, including private finance.

As the COVID-19 pandemic has highlighted, organisations in the community, voluntary and social enterprise sector play an important role at local level by providing social services and supporting job creation to address vulnerability factors within communities. Finding sustainable solutions to meet the financing needs of the sector, which faces constraints in accessing affordable finance from mainstream financial sources, is critical for enhancing resilience at community level. Specialised financial intermediaries and social lending institutions are instrumental in providing affordable finance that meets the needs of community, voluntary and social enterprise organisations. For instance, in 2007, the Government of Ireland established the Social Finance Foundation to provide wholesale affordable finance to organisations in the sector by leveraging funds from Irish commercial banks[51]. The Irish model is an innovative approach, with the potential of being replicated in other countries (OECD, 2017). In Italy, Istituto del Credito Sportivo (ICS), a public bank specialised in financing sports and culture facilities, provided subsidised loans to amateur sports clubs to address their liquidity needs during the COVID-19 pandemic[52].

[49] For instance, in Albania and in Serbia, all borrowing has to be approved by the central government authorities, in Serbia local governments are forbidden to engage in long-term borrowing aside from financing capital investments included in the approved local budget, and such borrowing cannot exceed 50% of the preceding year's revenues. In Bosnia and Herzegovina, cities can only contract long-term debt if their debt service payment does not exceed 10% of the preceding year's revenues. Moreover, their total borrowing obligations cannot exceed 20% of the actual municipal revenues generated in the previous fiscal year.

[50] PDBs are banks located within the public sphere by mandate, ownership or governance, and comprise multinational, national and subnational financial institutions. National PDBs operate at national or subnational level (AFD/INSE, 2021).

[51] The Social Finance Foundation provides funding to social finance lending partners, Clann Credo and Community Finance Ireland, which then provide loans to community and voluntary organisations, and social enterprises.

[52] In 2021, the CEB provided a loan of €20 million to ICS to co-finance subsidised loans to amateur sports clubs.



Mobilising Finance for Resilient Social Housing

Scaling up investments in social and affordable housing is a priority to address multiple and intersecting place-based, economic and individual vulnerability factors and also a strategic entry point for strengthening resilience to climate change and the COVID-19 pandemic. Mobilising both public and private finance is critical to meet the growing financing needs in the sector, as indicated by the examples of three projects co-financed by the CEB[53].

Mobilising public and private financing for affordable, inclusive and climate-adapted senior housing in Paskov, Czech Republic. Paskov is a town in the Moravian-Silesian Region of the Czech Republic, with a population of around 4 000 inhabitants. The town has been facing out-migration and needs to support a growing ageing population who cannot live with their extended families, who may have moved out of Paskov. The municipality converted an ancient chateau that had fallen into disrepair into a senior living apartment complex for a total of 36 elderly people. The senior living space is highly accessible, being located in the city centre in proximity of shops and services, and offers opportunities for socialisation and community living. Two of the units are wheelchair accessible. The operating costs of the facility are subsidised by the municipality to make the apartments affordable to all. The adaptive re-use of the chateau integrates environmental sustainability elements such as green roof ecosystems and water permeable walkways. All apartments have been rented out since 2020. The senior living apartments increased well-being and social inclusion for the elderly during COVID-19. The initiative also helped ensure the protection and adaptation of cultural heritage resources. Adaptive re-use is a sustainable approach to the long-term conservation of a cultural heritage building and the preservation of its cultural value for the community. The senior housing project was financed with municipal own-source revenues and a loan by Československá Obchodní Banka (CSOB), one of the largest commercial banks in the Czech Republic. CSOB received a loan of €100 million from the CEB in 2017 for on-lending to subnational government entities including small urban areas such as Paskov.

Leveraging public finance to scale up energy efficient social housing in the Netherlands. NWB Bank, the Dutch national promotional bank, provides tailored low-cost finance to public entities to support the transition to a climate-neutral and circular economy and enhance sustainability. NWB Bank plays a key role in financing the growing need for social housing in cities. For instance, NWB Bank has provided two loans, with CEB co-financing, to the Rochdale Housing Association to renovate the social housing stock in the Netherlands. One of the investments co-financed with the loans is for renovation and energy efficiency improvements in a 100-year-old social housing complex in Amsterdam's Kinkerbuurt neighbourhood where approximately 300 housing units have been renovated. The area has experienced significant growth in the last years, leading to an increase in housing prices and gentrification. The availability of social housing in the neighbourhood contributes to slowing down gentrification and is part of a broader effort to regenerate the area. As the renovation was partially financed with a 25% increase in rent, eligible households received a subsidy of about €200-300 per month from the government to ensure that rent remained affordable following the renovation. The Thuis Housing Foundation in Eindhoven also received a loan from NWB Bank, co-financed by the CEB, to renovate 183 houses, including energy efficiency improvements. On average there are 1 000 applicants for every new social housing unit in Eindhoven and the availability of land is limited. This project helped relieve pressure on social housing by converting houses into apartments to increase the number of

[53] The information presented in this spotlight is based on discussions with the agencies responsible for the implementation of the initiatives.

dwellings. In 2018, the CEB approved a €300 million loan to NWB Bank in order to finance public infrastructure, social housing and energy efficiency investments across the Netherlands.

Piloting an innovative financing solution for energy efficient and climate-adapted housing for vulnerable home owners in the Netherlands. More than 30 000 houses with wooden pile foundations in Rotterdam, Zaanstad, Schiedam and Dordrecht are expected to become uninhabitable within the next 15 years in the absence of foundation repair works, because of the damage caused by the increasing fluctuations in groundwater levels due to climate change. The Sustainable Foundation Rehabilitation Programme aimed to provide affordable mortgages to vulnerable homeowners who could not access market-based mortgages in order to finance urgent repairs to the foundations of their homes. Foundation repair works are adaptive measures, allowing housing units to better withstand dry periods. The programme also mandated that energy efficiency improvements be included in the foundation repair works, yielding both climate change mitigation and adaptation benefits. The programme was designed as a pilot targeting about 1 000 buildings (2 000 families). It was financed by the Fund for Sustainable Foundation Rehabilitation (FDF), an entity established jointly by public and private stakeholders (including the Dutch government and commercial banks, insurance associations, participating municipalities, and non-governmental organisations) and managed by SVn, a non-profit foundation of Dutch municipalities and provinces. In 2017, FDF received a loan of €50 million from the CEB to co-finance the first phase of the rehabilitation of the house foundations affected by unstable ground conditions. However, implementation was slowed down by the fact that mortgage financing required all individual homeowners sharing a collective building to agree to the repairs. The restrictive criteria for mortgage financing was also an obstacle. The programme has subsequently been cancelled due to fewer uptakes than expected.

Photo 7. Inclusive and Climate-adapted Senior Housing in Paskov



Source: Paskov Municipality.

3.6 Coordinating initiatives within a multi-level governance system

City governments have a key role to play in coordinating initiatives across city departments and tiers of government[54]. Community resilience cannot be built in isolation. Initiatives are implemented within a multi-level governance system to manage shared responsibilities. Since initiatives often span multiple dimensions, horizontal coordination across city departments is essential for the effective implementation of initiatives. Vertical coordination is also critical given that responsibilities for planning, financing and implementing resilience-strengthening initiatives are shared across national, regional and local governments. Tools for vertical coordination include dialogue platforms, intergovernmental consultation bodies and contractual arrangements (OECD, 2019). As highlighted in the OECD guidelines for making decentralisation work, it is however important to "avoid multiplying co-ordination mechanisms with no clear role in the decision-making process" (OECD, 2019, p. 158).

Enhancing the capacity of cities to coordinate initiatives within a multi-level governance system is expected to become increasingly important given the magnitude and complexity of the challenges faced by cities. The NetZeroCities initiative has identified fragmentation of responsibilities within cities and the lack of appropriate coordination between city departments as major roadblocks for climate action[55] (NetZeroCities, 2022). Cities have been experimenting with new governance models to enhance coordination, such as the establishment of a position or department tasked with strengthening resilience and entrusted with cross-sectoral responsibilities. For instance, several cities in European countries have created the role of the chief resilience officer to coordinate the planning and implementation of resilience-strengthening initiatives across departments[56]. In the aftermath of the collapse of the Morandi bridge, the City of Genoa established the position of Resilience Manager to address the multiple challenges faced by the city. Athens was the first city in Europe to appoint a chief heat officer in 2021, with responsibility for raising awareness about the risks associated with extreme heat and finding community-based solutions for cooling the environment and protecting the most vulnerable groups, such as the elderly. Cities are also testing new governance models to develop inclusive and flexible participatory planning processes which effectively engage all community members. Rotterdam has established an innovative participatory governance model for the implementation of the Resilient BoTu 2028 programme and has entrusted a dedicated committee with responsibility for reviewing and approving initiatives funded under the programme (see Spotlight 2 in Section 3.3 above).

Inter-sectoral collaboration is particularly important to improve health outcomes in cities. The COVID-19 pandemic and the climate crisis have highlighted the importance of mainstreaming health considerations into urban planning (URBACT, 2022b). Implementing urban planning interventions to address the health-related impact of climate change and COVID-19 requires integrated actions across city departments. In addition, mechanisms for vertical coordination are critical since responsibilities in the health sector are often shared between city, regional and national governments. This was

[54] The specific roles of cities depend on the main features of a country's multi-level governance system and therefore vary to a significant extent across European countries.

[55] NetZeroCities (NZC) is part of the Horizon 2020 Research and Innovation Programme in support of the EU's Green Deal. The initiative was designed to help cities overcome the barriers that they face to achieving climate neutrality by 2030. NZC supports the EU Mission to deliver 100 climate neutral and smart cities by 2030. The initiative will develop tools and resources as a one-stop service-oriented platform for European cities and promote pilots and twinning arrangements to drive learning.

[56] The role of the chief resilience officer was first created in 2013 when The Rockefeller Foundation pioneered the 100 Resilient Cities programme to enable transformational change in cities by supporting resilience plans and early implementation of resilience-strengthening projects. Building on the experience of the 100 Resilient Cities programme, the Resilient Cities Network was established as a city-led organisation consisting of member cities and Chief Resilience Officers from the 100 Resilient Cities programme.

particularly evident during the vaccination rollout in response to COVID-19 (OECD, 2021a). To enhance coordination across city departments, the URBACT Healthy Cities Network has developed the Healthy Cities Generator, a prototype planning tool that enables cities to include health considerations systematically in urban planning and to assess the overall health impact of their urban plans[57].

The COVID-19 crisis has underscored the importance of strengthening coordination between the public and private sectors to meet the needs of the most vulnerable groups. Coordination between the public and private sectors is critical to ensure flexible and innovative ways to distribute healthy food to vulnerable communities during an economic crisis. For instance, in Milan, several associations and charities providing food aid closed down during the COVID-19 crisis. Milan stepped up to the role by setting up a centralised food distribution system, managed by the Food Policy, Social Affairs and Civic Defence Departments, to improve access to and quality of food aid during the pandemic in partnership with public and private stakeholders. The city created ten temporary food hubs across the city to prepare food aid packages for vulnerable families and persons identified by social services and non-profit operators. A special food hub was opened within the Municipal Wholesale Market for the collection and distribution of fresh produce that was added to the food aid packages (URBACT, 2020). Cities also strengthened coordination with the private sector to address the housing needs of homeless people during the pandemic. For instance, the City of Prague set up a task force to negotiate with hospitality providers (i.e. hotel and motel owners) the rental of their properties to accommodate homeless people during the pandemic as an emergency measure. The initiative alleviated the distress of homeless people and reduced the risk of contagion[58].

Strengthening coordination between cities' climate or resilience departments and procurement departments is also a priority to strengthen resilience. Procurement can be a lever to promote a market shift towards more sustainable and resilient solutions for communities by engaging contractors in areas such as the circular management of resources. The City of Turku in Finland is supporting circular food systems through public procurement as part of the Circular Turku project, implemented with support from ICLEI[59]. The strategic public procurement department in Turku has developed a monitoring tool to map all the major drivers of carbon footprint in food services in Turku. The city has applied the tool to its food contracts for kitchen facilities providing meals in education and care institutions such as kindergartens, schools, homes for the elderly, care services for the disabled and child protection units. Among the actions identified to reduce the carbon footprint is to increase the number of vegetarian meals in education institutions (City of Turku/ICLEI, 2020)[60].

Increased coordination across city departments is important to establish harmonised and consistent processes to track climate action, in particular climate adaptation. Green budgeting is a governance tool that helps cities mainstream climate and environmental considerations in all decision-making across city departments and ensure that the spending and impact related to climate action can be tracked (C40 Cities, 2021). Cities are increasingly adopting green budgeting principles to track local

[57] The URBACT Healthy Cities Network comprises the following cities and regions: Vic, Pärnu, Falerna, Anykščiai, South East Region of Malta, Alphen aan den Rijn, Loulé, Farkadona and Bradford.

[58] In 2021, the European Federation of National Organizations Working with the Homeless (FEANTSA) organised in coordination with the CEB a knowledge-sharing event on city experiences in housing homeless people during the pandemic.

[59] The Circular Turku project aims to identify circular economy initiatives across 5 priority sectors (food, water, buildings and construction, energy, transport and logistics) through multi-stakeholder engagement, to develop engagement campaigns for Turku and peer cities to integrate circular economy initiatives into climate planning, to design a tool to integrate social equity into the Circular Turku roadmap, and to identify lessons learnt for international dissemination.

[60] In 2018 and 2019, the CEB approved two €50 million loans to the City of Turku to co-finance the implementation of Turku's investment budget, aimed at improving municipal infrastructure.

public expenditures and investments according to their impact on the environment and climate, to improve the transparency and accountability of climate-related expenditures and to mobilise finance. The City of Oslo has developed a climate budget approach which has inspired several other municipalities in Europe. Oslo's climate budget transparently outlines what actions the city will take to lower emissions, who is going to carry out those actions, how the impact of the actions will be reported, and how much they will cost. Other cities, such as Lille and Clermont-Ferrand in France, have also adopted green budgeting principles (OECD, 2022a).

3.7 Assessing the impact of initiatives

Assessing the impact of resilience-strengthening initiatives is essential to foster learning and ultimately build communities' transformative capacity – a key feature of resilience[61]. Assessing impact enables cities to draw lessons learnt that can be integrated in the preparation or scaling up of initiatives. It is therefore particularly helpful to assess the impact of innovative pilot initiatives. It is important to evaluate the benefits of initiatives across all the dimensions driving resilience and to collect indicators on vulnerability factors to have a comprehensive understanding of the overall impact of a resilience-strengthening initiative[62]. As part of its green budgeting approach, the City of Clermont-Ferrand developed its investment programme for 2021-2030 using an evaluation tool that integrated climate impact assessment alongside social indicators estimating the impact of the planned investments on reducing social inequality, increasing diversity and promoting citizen involvement. The results of the climate and social impact ratings were consolidated and used during budget debates. The evaluation tool helped elected officials become more aware of the cross-cutting nature of climate and social issues and make better-informed public investment decisions (OECD, 2022a). The Healthy Cities Generator developed by the URBACT Healthy Cities Network provides a comprehensive list of actionable indicators to help city practitioners assess the health co-benefits of initiatives based on evidence from scientific peer-reviewed publications, covering the environmental, physical, lifestyle, mental, and well-being aspects of health (URBACT, 2022b).

Benchmarking is a useful tool not only to assess impact but also to plan initiatives. By collecting comparable indicators across communities, cities can benchmark vulnerability across areas. The City of Rotterdam has developed a monitoring tool comprising three indexes (the social index, safety index and physical index) to provide an integrated assessment of all dimensions of resilience and vulnerability factors. The information is collected every two years in all districts based on a combination of quantitative and qualitative data. The monitoring tool also serves as a planning tool. For instance, the monitoring tool allows the city to assess and compare social indicators in the BoTu district with other districts in the city. This valuable information can be used to track progress in strengthening resilience and explicitly addressing vulnerability factors in BoTu as part of the implementation of the Resilient BoTu 2028 programme (see Spotlight 2 in Section 3.3 above).

Assessing impact at community level presents challenges as indicators and data may not be readily available. This challenge can be turned into an opportunity for co-producing knowledge at local scale by involving the community in the process of generating data and information at an early stage, as shown by the OASIS Schoolyard project in Paris. The project has a strong focus on learning and has embedded evaluation into the project's design from its inception. As part of the pilot schoolyards

[61] Impact is defined as "the extent to which an initiative has generated or is expected to generate significant positive or negative, intended or unintended, higher-level effects" (OECD, 2021b, p. 64). Impact assesses the potential transformative effects of an initiative by capturing the immediate results as well as the broader indirect co-benefits.

[62] For more information on methodologies for assessing impact of resilience-strengthening initiatives, see OECD (2018a and 2014b) and The Rockefeller Foundation/Arup (2016).

financed by the UIA, the OASIS Schoolyard project developed an innovative evaluation approach to explore the inter-connection between environmental and social factors – i.e. how improved outdoor spaces affect children's behaviour. The city developed an integrated assessment of climate and social impact based on a mixed-method approach, encompassing both quantitative and qualitative data collection[63]. Social impact was assessed through surveys of pupils, qualitative interviews with teachers and ethnographic observations of pupils' behaviours during implementation. The surveys were adapted to children of all ages, and innovative survey techniques were piloted using puppets for pre-school pupils, as well as pupils with disabilities. The evaluation team and the project stakeholders worked closely together to quickly adjust activities based on the results of the evaluation. The city plans to use the OASIS framework as a blueprint to carry out the evaluation of climate resilience projects across the city (UIA, 2021).

Knowledge sharing is important to ensure that lessons learnt from impact assessment are integrated when planning new initiatives. The City of Genoa is developing a one-stop-shop academy, a knowledge-sharing platform that provides virtual and in-person meeting spaces where stakeholders with different professional backgrounds and skill sets and community members can share knowledge and propose ideas for a more sustainable future for the city, drawing on the latest empirical evidence. The one-stop-shop academy is expected to be a knowledge hub that fosters interdisciplinary knowledge sharing and supports public participation in the planning process, and will cover themes such as climate change, ageing population, digital transition and health. In addition, global knowledge-sharing initiatives such as the UCLG live online learning experience provide cities around the world with a virtual platform and online resources to support them in their response to the COVID-19 pandemic and other shocks and stresses (UCLG, 2022).

4. Lessons Learnt

This section highlights five key lessons that emerged from discussions with city practitioners and global organisations. The lessons learnt are based on European cities' experiences in undertaking initiatives to strengthen resilience and reduce vulnerability factors at community level. The deep experience of European cities is exemplified by the initiatives presented in Spotlight 5 below, which illustrates how innovative, community-based initiatives can help absorb a shock or a stress while at the same time promoting adaptation, enabling transformation towards more sustainable and inclusive solutions, and targeting intersecting vulnerability factors.

Developing integrated solutions to address intersecting crises can deliver significant co-benefits

The experience of cities in European countries indicates that significant synergies can be achieved by developing integrated solutions to intersecting crises. While the concurrence of the COVID-19 pandemic and the climate crisis has intensified vulnerabilities, the COVID-19 crisis has also provided the impetus to scale up initiatives that address multiple shocks and stresses. For instance, the pandemic has called for increased investments in social and affordable housing to address over-crowding and reduce exposure of vulnerable groups to COVID-19. This has provided an opportunity to build more energy efficient and climate-adapted social and affordable housing infrastructure. Similarly, investing

[63] The evaluation was carried out jointly by the Laboratory for Interdisciplinary Evaluation of Public Policies of Sciences Po (LIEPP), responsible for the social impact assessment, and the Interdisciplinary Laboratory of Energies of Tomorrow (LIED), responsible for the climate impact assessment, with support from Météo-France, the weather monitoring and forecasting agency, in charge of defining the evaluation protocol for assessing the cooling effects created by the newly designed schoolyards in the neighbourhoods.

in inclusive public and green spaces meets the twin objectives of addressing the climate and COVID-19 crises. The need to address economic vulnerabilities linked to the pandemic has also prompted cities to develop transformative initiatives to address the climate crisis. Examples of such initiatives are the local food bank launched by Bucharest Sector VI and the Nourishing Landscapes project in Nantes. Both initiatives contribute to a circular economy food system while supporting vulnerable groups affected by the pandemic (see Spotlight 5 below).

Promoting renewable energy communities is expected to play an important role in strengthening resilience by tackling intersecting crises at local level. COVID-19 has exacerbated energy poverty in European countries, where, after the first year of the pandemic, the share of population unable to heat their homes adequately has increased from 6.9% to 8.2% (Šikšnelytė Butkienė, 2022). The effect of the pandemic on energy poverty has been intensified by the war in Ukraine. Low-income households living in distressed neighbourhoods with inadequate housing stock have been the most affected. These challenges have also catalysed city action to find innovative solutions to both the climate crisis and rising energy poverty. For instance, the Sun4All initiative[64] contributes to an inclusive transition towards clean energy by promoting renewable energy schemes at community level in EU countries. The initiative is currently implemented in four pilot locations[65]. Solar energy is generated by local photovoltaic installations owned by the participating cities and located close to the community benefiting from the scheme. The initiative contributes to addressing energy poverty by making participants co-owners of local photovoltaic installations at no cost. Through this financial support scheme, revenues produced through the generation and sale of renewable energy are credited on the participants' energy bills, leading to a significant reduction in their energy costs. Free advice on efficient energy management at home is also provided to participants to foster community empowerment. Building on the results of the testing phase, the Sun4All initiative is expected to be scaled up across European cities.

Developing integrated solutions to address multiple crises can deliver significant socio-economic, health and environmental co-benefits for the community as a whole. For instance, investing in energy efficient and climate-adapted social housing helps address underlying socio-economic vulnerabilities by creating local jobs, reducing energy poverty and improving physical and mental health. The co-benefits of increasing public and green spaces include revitalising the local economy, enhancing social cohesion, and improving physical and mental health by reducing air pollution and promoting active mobility (WHO, 2016). By addressing underlying vulnerabilities, such co-benefits are also expected to strengthen the resilience of communities to future crises. Based on research carried out by the C40 Global Mayors COVID-19 Recovery Task Force, a green and just recovery from the COVID-19 pandemic has the potential of creating 50 million sustainable jobs across the nearly 100 member cities in the C40 network by 2025 (C40 Cities, 2020a and 2020b). In EU countries, implementation of the RRF will provide an opportunity for cities to develop integrated initiatives to support a climate resilient and just COVID-19 recovery, since a minimum of 37% of RRF resources will be allocated to climate-related investments (European Commission, 2022). The benefits of combining the responses to the climate and COVID-19 crises were also highlighted in the Geneva Declaration of Mayors (UNECE, 2021).

[64] This initiative has received funding from the EU's Horizon 2020 Research and Innovation Programme. ICLEI acts as promoter and replicator of the pilot's good practices across Europe.

[65] The initiative is implemented in Barcelona (Spain), Rome (Italy), Communauté de Communes Cœur de Savoie (France), and Almada (Portugal).

Adopting inclusive participatory planning informed by a vulnerability assessment is critical to meet the needs of all community members and foster their empowerment

It is important to ensure that the participatory approach, including the level of participation sought from community members and the modalities of the participatory process, is adapted to the local context and to the objectives and scope of the planned initiative. One of the lessons learnt from the Sustainable Foundation Rehabilitation Programme in the Netherlands is that even an initiative with sound and innovative financing mechanisms will face implementation challenges if the initiative does not have the buy-in of communities (see Spotlight 4 in Section 3.5 above). Participatory planning is not only important for the success of the initiative. The participatory process has a value in itself, regardless of its outcomes. An inclusive participatory process contributes to building a more resilient and cohesive society by empowering community members to come together, identify their needs and propose solutions.

Evidence from European cities shows that participatory planning is most effective when it is combined with mechanisms to empower communities to find their own solutions to local needs, such as participatory budgeting. Given its flexibility, participatory budgeting has the potential to become a powerful instrument for enhancing community resilience by earmarking funds for resilience-strengthening objectives such as climate adaptation, as the City of Lisbon has done (see Section 3.3 above). Innovative governance models for inclusive participatory approaches, such as the one established by the Resilient BoTu 2028 programme in Rotterdam, build on the same logic of empowering communities to find their own solutions.

There are important synergies between participatory planning and monitoring. Participatory planning sets the foundation for effectively monitoring the impact of an initiative by developing processes for gathering feedback and evidence from beneficiaries. Participatory processes are also an opportunity to enhance community learning by raising public awareness, which increases the likelihood of success of an initiative. In turn, monitoring the impact of an initiative enables cities to draw lessons learnt that can help design effective and inclusive participatory processes.

Carrying out an integrated assessment of all vulnerability factors in a community is essential to inform participatory planning. It allows cities to gather evidence on vulnerable groups that would need targeted support to benefit from an initiative, such as people with disabilities when planning for the regeneration of public spaces. Cities would benefit from operational tools to mainstream vulnerability assessments in the participatory planning phase. Operational tools may include guidance in identifying groups experiencing place-based, economic and individual vulnerability factors, paying particular attention to groups facing multiple vulnerability factors; approaches to engage with vulnerable groups at risk of being left behind as part of the participatory planning process; and guidelines to measure and monitor progress in addressing vulnerability factors. By adopting such tools, cities contribute to implementing the 2030 Agenda's commitment to "leave no one behind" in line with the UNSDG's approach to operationalise the pledge (UNSDG, 2022).

Cities need time, commitment and resources to carry out inclusive participatory planning. It is essential that cities allocate adequate human and financial resources to participatory planning from the early planning stage. To this end, cities would benefit from support, such as access to grants in combination with financing instruments, to design processes and governance models that are conducive to inclusive participation and informed by vulnerability assessments. To carry out participatory planning successfully, cities also need the skills to communicate effectively to community members on transformative initiatives which demand behavioural change and will deliver benefits in the medium and long terms.

Investing in inclusive public spaces and green areas is a strategic entry point for strengthening resilience and reducing vulnerability factors

Investing in public spaces and green areas is a strategic entry point for strengthening resilience (URBACT, 2022a). Restrictions on motorised mobility in public spaces encourage a modal shift towards active mobility and promote social cohesion. Public and green spaces also mitigate the impact of COVID-19 by promoting active mobility and recreational options compatible with social distancing. Cities are undertaking investments to increase access to public and green spaces either as pilot initiatives based on a combination of structural and tactical urban interventions (e.g. Barcelona's Superblock programme) or as part of the regeneration of distressed neighbourhoods (e.g. Rotterdam's Resilient BoTu 2028 programme, Genoa's Polcevera Park and Red Circle project). Green spaces also contribute to preventing urban heat islands and reducing the impact of heavy rainfall and flooding when implemented in conjunction with nature-based solutions. For instance, the City of Valencia is implementing a project to pilot the use of nature-based solutions to address heat stress and flood risk in a distressed neighbourhood of the city (see Spotlight 5 below).

Investing in inclusive public and green spaces – i.e. spaces that are accessible, safe and liveable for all community members – has the potential of addressing multiple vulnerability factors in a community (Kaw et al., 2020). Promoting multiple uses of public spaces, as is done in the Superblock programme in Barcelona, is key to cater to the diverse needs of community members (e.g. children, youth, the elderly, and persons with disabilities). The City of Milan implemented two pilot projects to close off streets after school hours to provide children with a safe place to meet, play and learn during the COVID-19 lockdown (see Spotlight 5 below). Les Planes Park in Barcelona is specifically designed so that children with different abilities can play in the park (Kaw et al., 2020). However, when public and green spaces fail to meet accessibility and safety objectives, the investments may have the unintended impact of exacerbating existing inequalities. For instance, introducing restrictions on motorised mobility in a public area that is not perceived as safe is a significant constraint to promoting its use, in particular among women. A recent study carried out by Metropolis found that gender considerations are not systematically mainstreamed in public space projects (Metropolis, 2022).

Investments in public and green spaces, especially if they are integrated in broader urban regeneration investments, can lead to a rise in property values in a neighbourhood, with the unintended effect of promoting gentrification and exacerbating inequalities. To manage gentrification, cities are developing plans to preserve and scale up investments in social and affordable housing in neighbourhoods, and introducing land use planning regulations that promote mixed use development (Beccaria and Kallay, 2021). In addition, any pilot to increase green space needs to be anchored in a plan to scale up such investments citywide since uneven distribution of green areas contributes to gentrification. Building on the experience of the first Superblock projects, the City of Barcelona plans to develop green axes citywide, starting with the Eixample district (see Spotlight 1 in Section 3.1 above). Furthermore, as part of the implementation strategy for the green axes, and in line with the city's long tradition of implementing planning regulations that promote mixed land use, the city plans to enact regulations to protect local street-level commercial activities in order to prevent the displacement of local businesses and preserve the diversity of neighbourhoods. The regulations are part of the city's broader strategy to prevent gentrification, which also includes increased investments in social housing and regulations for market-based new housing construction and housing renovation requiring developers to set aside 30% of apartments for affordable housing.

Scaling up initiatives requires flexibility, coordination and citywide enabling investments

Scaling up innovative solutions requires flexibility to adapt the approach to local needs, given that vulnerability factors are expected to change significantly from one neighbourhood to another. The City of Barcelona has gained significant experience in tailoring community-based initiatives centred on public and green spaces to the characteristics of diverse neighbourhoods (see Spotlight 1 in Section 3.1 above). In addition, cities are increasingly resorting to tactical urbanism as a key feature to promote a flexible and responsive approach to local needs.

Cities are developing innovative governance models to coordinate the scaling up of initiatives. They are testing new institutional arrangements (e.g. by creating resilience departments) and new processes (e.g. by promoting the adoption of practices such as green budgeting) to enhance coordination across city departments. They are also relying more and more on the development of user-friendly, data-driven monitoring tools as a way to strengthen coordination across city departments in areas that require multi-sectoral interventions (e.g. health; circular economy). For instance, the City of Vilnius has developed a digital key performance indicator (KPI) system as a flexible and dynamic tool that enables the city to make informed decisions to proactively manage the impact of the COVID-19 pandemic citywide and scale up initiatives in support of climate-related objectives, such as promoting active mobility (see Spotlight 5 below).

Citywide enabling investments in infrastructure and services are essential to scaling up initiatives in line with a city's overarching strategy. As illustrated by the experience of the City of Barcelona, introducing motorised mobility restrictions to transform streets and squares into multi-functional public and green spaces can only succeed if public transport is modern, accessible and inclusive. The scaling up of the Superblock programme in Barcelona has been enabled by citywide investments to ensure that every city dweller has access to modern public transport. Citywide infrastructure promoting active mobility (e.g. bike lanes) is also critical to ensure that the health co-benefits of scaling up investments in public and green spaces materialise. The experience of flood-prone cities such as Genoa emphasises the importance of an overarching city strategy combining investments in grey, green and soft solutions to strengthen resilience to flood risks (Comune di Genova, 2019). The City of Kuopio was able to quickly implement wellness initiatives catering to children and youth to strengthen resilience in the aftermath of the COVID-19 pandemic, since the city had already undertaken citywide enabling investments in cultural and sports infrastructure in line with the objective of its strategy to improve the well-being of its residents.

Strengthening the financial capacity of cities to address multiple crises requires a multi-pronged approach to support the diversification and optimal use of their financial resources

Enhancing the financial capacity of cities to address multiple crises requires a multipronged approach to diversify their financial resources and ensure their efficient use. The diversification and optimal use of municipal financial resources call for continued and timely support from higher tiers of government to help cities weather multiple crises, enhanced access to external financing to scale up investments within a framework of fiscal sustainability, and stronger municipal own-source revenues to finance high-quality, inclusive services.

Over the coming years, the impact of the COVID-19 pandemic and the unfolding economic crisis triggered by the Russian invasion of Ukraine on municipal finances will depend on the extent and timeliness of the support provided by national and regional governments and on EU funding made available to cities. As cities are still incurring the costs related to multiple crises, predictable and consistent transfers from higher tiers of government will continue to have a significant impact on

municipal finances (World Bank, 2021; OECD, 2022a). For instance, to support municipal investments, following the enactment of the 2019 Law on Local Self-Government Finance, Montenegro's central government has established the Support Fund for Pre-Financing Municipal Donor-Supported Projects to transfer funds to municipalities for local infrastructure projects co-financed by European funds (OECD/UCLG, 2022 forthcoming). In EU countries, under the RRF, cities will have access to grant financing from national governments to address the climate crisis and promote a just and green recovery[66].

In the future, financing from IFIs and national PDBs will remain critical in enabling cities to access external public and private financing to support response and recovery in the face of multiple shocks and stresses. In EU countries, IFIs and national PDBs will be instrumental to ensuring the effective deployment of RRF resources by co-financing cities' own contributions and providing bridge financing. The joint declaration by PDBs at the first Finance in Common Summit reiterated the commitment of PDBs to support climate action and the COVID-19 recovery in line with sustainable finance principles (Finance in Common, 2020)[67]. For instance, the Finance in Common initiative will launch a new Coalition on Resilient Cities & Regions as a global community of practice for PDBs with the objective of reinforcing and scaling up financing for subnational investments to support a green and just transition[68].

Strengthening municipal capacity is essential to enable cities to tap external sources of finance. Mobilising private finance through Public Private Partnerships (PPPs) is a challenge for cities given the multi-level governance of subnational PPPs and their complexity (OECD, 2018c). For instance, Kosovo's 2011 Law on PPP allows municipalities to mobilise private finance either by signing contracts directly with private companies or by establishing PPPs. However, neither of Kosovo's two PPP projects between 2016 and 2020 were at municipal level, demonstrating that additional support to cities is needed even when access to external finance is provided for in the legal framework (OECD/UCLG, 2022 forthcoming). IFIs and national PDBs support capacity building in cities by providing grant resources for technical assistance and the preparation of feasibility studies. Sound feasibility studies are a pre-condition for leveraging external financing, including private financing in the form of PPPs at subnational level. Global and national city organisations are instrumental in facilitating the sharing of experience and strengthening municipal capacity to access grant resources. In particular, national municipal associations, such as ANCI[69], play a key role in supporting small- and medium-size cities.

Enhancing municipal own-source revenue mobilisation capacity is critical to increase the stability and predictability of municipal revenues. Stable and predictable revenue streams enable cities to provide high-quality, inclusive services during a crisis and enhance creditworthiness, thus increasing fiscal space for borrowing. Evidence indicates that cities with more robust own-source revenues are better prepared to face and recover from shocks such as the COVID-19 pandemic (World Bank, 2021). Improving the efficiency of own-source revenue collection and applying user pay principles can deliver significant financial benefits, as the experience of Tirana shows (see Section 3.5 above). Relying on

[66] As per Regulation (EU) 2021/41, the RRF is structured around six pillars: green transition; digital transformation; economic cohesion, productivity and competitiveness; social and territorial cohesion; health, economic, social and institutional resilience; policies for the next generation.

[67] The Finance in Common Summit is a global summit gathering the world's PDBs. The joint declaration was signed during the first edition of the summit which was held in Paris on November 10-12, 2020. The strategic role of PDBs to finance a resilient recovery at local level was also reiterated during the second edition of the Finance in Common Summit which took place in Rome on October 19-20, 2021. See, for instance, Finance in Common/Alianza de Desarrollo (2021).

[68] This community of practice will be launched during the third edition of the Finance in Common Summit, which will be held in October 2022 in Abidjan, Ivory Coast.

[69] ANCI (Associazione Nazionale Comuni Italiani) is the national association of Italian municipalities, with a membership which includes almost every municipality in Italy.

land value capture tools has also the potential of creating new revenue streams at local level in European countries. However, obstacles such as resistance from property owners and the perception that fees are too high often impede the use of land value capture instruments. Raising public support, bringing heightened levels of transparency and fairness to the rules surrounding land value capture, and developing much needed local capacity to utilise these instruments can all help promote a greater uptake of land value capture tools (OECD/Lincoln Institute of Land Policy, 2022).



Initiatives to Strengthen Resilience and Reduce Vulnerability in Communities – Examples from European Countries

Local food bank in Bucharest Sector VI. With a population of about 400 000, Sector VI is one of the six municipal districts of Bucharest municipality. Inhabitants of Sector VI exhibit a number of intersecting vulnerability factors. The district has an ageing population with seniors representing about 33% of the entire population, many of whom have disabilities. Additionally, around 10% of the Sector VI population were economically disadvantaged and in need of social assistance prior to the COVID-19 pandemic. The share of population requiring social assistance has increased to 12% following the COVID-19 crisis. The municipality initiated a food bank, a community-based initiative aimed at preventing food waste, reducing food insecurity and social exclusion by collecting surplus food from the supply chain and ensuring its safe re-distribution to vulnerable groups through a social canteen. The food bank and its canteen, which are co-financed by the CEB, will become operational in the first quarter of 2023. The food bank will offer several programmes benefiting the community such as food distribution to disadvantaged groups, a social kitchen, food for seniors and the promotion of healthy eating. The programmes are expected to benefit approximately 18 000 vulnerable people in Sector VI, such as elderly people, single parents and their children, unemployed people, people with disabilities and the Roma community. The community-based initiative will help those that are most vulnerable to economic shocks such as the COVID-19 pandemic. In addition, the initiative is expected to have a transformative impact on the local community by contributing to a circular economy food system and creating jobs. The initiative also promotes social cohesion by engaging local volunteers including beneficiaries who are capable and willing to work. The sustainability of the initiative is ensured by the partnership between Sector VI and local stakeholders such as businesses and NGOs that actively support the local food bank with their financial resources and expertise[70].

Play Streets in Milan. Milan has implemented two pilot projects to close off streets after school hours to provide children with a safe place to meet, play and learn in the evening. This initiative was launched during the first COVID-19 lockdown as the subsequent closure of schools led to social isolation for many children. The Play Streets initiative is aligned with the Milan 2020 Adaption Strategy (Comune di Milano, 2020) which prioritises initiatives to enhance neighbourhood resilience by promoting public space as a common good, particularly in the suburbs and distressed neighbourhoods (Comune di Milano, 2022). The pilot project at Sottocorno elementary school in Rogoredo illustrates how communities, institutions and the private sector can work together to implement local adaptive actions that can be scaled up to facilitate citywide transformation. The City of Milan, Sottocorno elementary school, the professional services firm Arup and the Lego Foundation worked in tandem to close nearby streets between certain hours and provided fun, educational events for children. Scaling up the project

[70] In 2020, the CEB has approved a €47 million loan to Sector VI of the Municipality of Bucharest to co-finance municipal investments aimed at addressing a number of environmental and social priorities.

provides further benefits for the city of Milan as a whole by strengthening environmental resilience through reduced emissions and the promotion of active mobility.

Nourishing Landscapes in Nantes. The City of Nantes launched the Nourishing Landscapes project as a pilot initiative in 2020 to provide fresh vegetables to vulnerable households affected by the COVID-19 crisis which contributed to exacerbate food insecurity. Owing to its success in terms of both food production and community support, in 2021, the initiative was made permanent. The land plots were expanded and improved, making them more suitable for agricultural purposes. Half of the land plots are currently being farmed by local residents in partnership with associations. As a result, 20 tons of locally grown vegetables were harvested in 24 land plots spread around 11 neighbourhoods in Nantes in 2021. In addition, the land plots were used for educational activities by local schools and for cooking workshops. The initiative has a number of local benefits; it helps address economic vulnerability, and it also strengthens climate resilience by promoting the consumption of local, seasonal produce. Additionally, the initiative has increased community resilience by encouraging community members to make healthy lifestyle choices such as eating fresh produce, learning new skills, spending time outdoors and fighting social isolation (Nantes Métropole, 2020)[71].

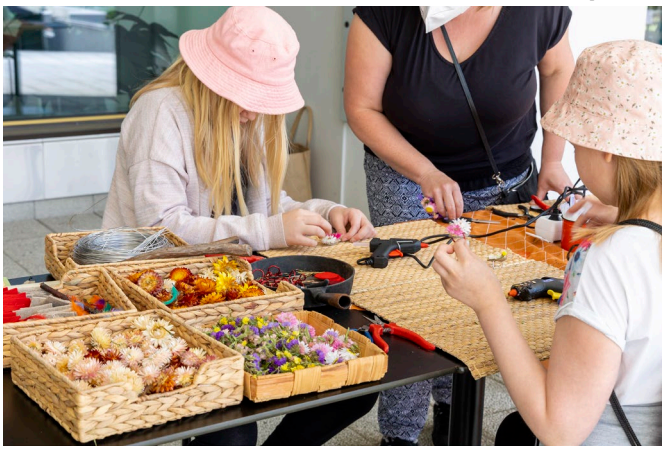
Wellness initiative to strengthen resilience in the aftermath of the COVID-19 pandemic in Kuopio. Kuopio, a mid-size city in the region of Pohjois-Savo in Finland, has a long-standing commitment to improving the overall well-being of its residents. For instance, the city carries out an annual well-being survey. Kuopio's initiatives to improve well-being have helped people cope, adapt and recover from the COVID-19 crisis. One of the initiatives undertaken by the city is the Liikkis-bracelet, the wellness bracelet for children and young people under the age of 20. The bracelet provides children and young people with affordable access to all well-being services provided by the city, including sports facilities, movie theatre visits and discounted access to children's courses at the Kuopio Community College. The bracelets have been popular and more than 3 000 have sold in a year. The bracelets encourage an active lifestyle among children and young people and make it easier for those from lower income families to access these services. The price of the bracelet is €40 for 6 months and €70 for 12 months[72].

Leveraging innovative technology to strengthen resilience in Vilnius. The City of Vilnius has developed a digital key performance indicator (KPI) system to monitor municipal services and assess the needs of its citizens (City of Vilnius, 2022). The KPI system provides a flexible and dynamic tool that enables the city to monitor, in real time, municipal services and take data-driven decisions. City departments can therefore make informed decisions based on up-to-date information, which is timelier and more efficient than relying solely on citizen surveys. For example, the KPI system has been an important tool for managing the COVID-19 pandemic, by enabling the city to monitor, in real time, the occupancy of patients' beds in every hospital, and to make immediate decisions regarding the redistribution of hospital resources and the city budget. Another area monitored by the city is active mobility. The City of Vilnius has also developed an award-winning app (Walk15) to promote walking among the its citizens; the app tracks the steps of citizens and "translates" them into trees saved by not covering the same distance by car, thus contributing to savings in CO_2 emissions. Virtual trees in the app become real ones, with the help of Walk15 partners[73].

[71] The CEB has been partnering with the City of Nantes since 2020 when it approved a €150 million loan to co-finance investments for sustainable mobility.
[72] In 2018 and in 2020, the CEB approved two loans for €50 million each to the City of Kuopio to co-finance the municipal investment budget.
[73] The CEB approved two loans, in 2017 and 2021, for €35 million each to the Vilnius City Municipality, to co-finance social investments in the city.

Climate resilience through nature-based solutions in Valencia. Valencia is implementing a pilot project to test nature-based solutions to address heat stress and flood risk in Benicalap-Ciutat Fallera, a distressed neighbourhood characterised by high unemployment, an ageing population and deteriorating infrastructure. The nature-based solutions have been implemented to reinforce the resilience of the city and local institutions such as schools and senior centres to climate-related shocks and stresses. A vertical garden has been installed at a local school, for example, to provide temperature regulation and further reduce the building's energy needs. Additionally, wastewater from the school is filtered by the plants as it moves down the wall and then used to irrigate the school garden. A local senior centre has been fitted with a green roof to reduce heat in the building, cutting electricity consumption related to air conditioning by 20-25%. Both of these examples display the economic and social co-benefits of such initiatives and their transformative impact at community level. Additionally, a small forest has been planted as part of the Benicalap Park extension project to help offset the urban heat island effect. The forest includes a sustainable drainage system to help with water management, water quality and runoff volume reduction. A blue-green corridor has been piloted to provide a green, pedestrianised space for local residents while also using permeable paving to improve drainage systems (GrowGreen, 2022). In addition, the city has developed the GrowGreen app to provide information about the local vegetation and promote learning about biodiversity. The city has also started a pilot project providing the opportunity for people with disabilities to become actively engaged in their communities by distributing organic and local seasonal produce.

Photo 8. Youth Wellness Initiative in Kuopio



Source: City of Kuopio.

Photo 9. Nature-based Solutions in Valencia



Source: City of Valencia.

5. Conclusions and Implications for the CEB

Introducing a vulnerability lens when planning and implementing initiatives that strengthen resilience in communities is essential to address the asymmetrical impact of multiple and intersecting crises. Addressing vulnerability factors delivers benefits for the city as a whole by ensuring that the most vulnerable are not left behind and by promoting social cohesion. Cities that have made it a priority to explicitly assess and target vulnerability factors while strengthening resilience are also better prepared to respond to and recover from future shocks and stresses. It is important to ensure that resilience-strengthening initiatives target all aspects of vulnerability in a community as multiple shocks and stresses tend to deepen existing vulnerabilities and create new ones by negatively affecting the quality of the environment, deteriorating the social fabric, triggering an economic crisis and weakening institutions. Cities would benefit from adopting a vulnerability lens in all the seven enabling actions discussed in Section 3 above – from aligning initiatives with the goals of a city's strategy to assessing impact.

The extent and depth of the crises faced by European cities, including the climate crisis, the COVID-19 pandemic and the Russian invasion of Ukraine, underscore the importance of developing innovative initiatives to address intersecting shocks and stresses and strengthen resilience to future crises. Cities are exploring new tools and approaches to engage communities, enhance coordination and assess impact. The experience of European cities has underlined the fact that change takes time and often occurs through an incremental, learning-by-doing approach. Even small pilot initiatives can trigger a process of change that benefits the city as a whole. In addition, developing innovative solutions in one of the cities' areas of action can start a virtuous process that benefits other areas of actions. For example, developing innovative monitoring tools helps cities to assess impact, to facilitate coordination across city departments and to enable communities to make informed decisions.

Cities need finance, capacity building and knowledge sharing to build their capacity to cope, adapt and thrive in the face of shocks and stresses. The CEB is committed to support cities in all these three areas, as it aims to enhance its support to cities in planning and implementing initiatives that address vulnerability and strengthen resilience to a multiplicity of shocks and stresses.

Finance

Enhancing cities' financial capacity is critical to meeting the growing financing needs for resilience-strengthening investments. For instance, the experience of European cities has highlighted the need to mobilise finance in order to carry out enabling citywide investments in sustainable mobility, which are necessary for scaling up resilience-strengthening initiatives (such as transforming streets and squares into public and green spaces), and investments in social and affordable housing to prevent the unintended effect of gentrification. This brief has also underscored the importance of diversifying and ensuring optimal use of municipal financial resources, including support from higher tiers of government, municipal own-source revenues and external financing, to strengthen the financial capacity of cities to address multiple crises (see Section 4 above).

The CEB finances investments that strengthen resilience and address vulnerability in cities of all sizes – from metropolitan areas to small urban areas. The CEB offers a range of flexible financing instruments that enable cities to strengthen resilience to crises, such as the COVID-19 pandemic and climate-related shocks and stresses, while addressing vulnerability factors. Such instruments include municipal budget support through a Public Sector Financing Facility loan, project financing, and an EU Co-financing Facility loan covering both the cities' own financing contributions and bridge financing. For instance, the CEB provides financing to cities to improve the quality and accessibility of public transport, promote active mobility, increase access to inclusive green and public spaces, scale up energy efficient and climate-adapted social and affordable housing, and enhance the quality and accessibility of community health and social care facilities[74]. The CEB is also a key partner of EU cities for the implementation of investments financed under the RRF. For example, the CEB has provided financing to the region of Žilina and Trnava in the Slovak Republic for investments under the RRF[75]. The CEB addresses the financing gaps of small cities and towns by providing financing to commercial banks and national PDBs for on-lending to cities for municipal infrastructure investments – e.g., the CEB has provided a loan to the town of Paskov in the Czech Republic through the commercial bank CSOB to co-finance senior living housing (see Spotlight 4 in Section 3.5 above). In addition, the CEB

[74] For instance, in 2019, the CEB provided a loan of €100 million to Marseilles to co-finance investments in sustainable mobility. The Bank has also co-financed investments enhancing inclusive access to public and green spaces as part of the Superblock programme in the city of Barcelona (see Spotlight 1 in Section 3.1 above). Examples of CEB loans co-financing investments in social and affordable housing are provided in Spotlight 4 in Section 3.5 above.

[75] In 2021, the CEB approved a loan of €40 million to the region of Žilina and a loan of €30 million to the region of Trnava in the Slovak Republic.

provides lending to specialised financial institutions to scale up affordable finance for organisations in the community, voluntary and social enterprise sector.

Capacity building

It is important to help cities build their capacity across all the seven enabling actions highlighted in this brief. For instance, cities need support to carry out integrated vulnerability assessments, develop inclusive participatory planning, design new governance models to coordinate actions within city departments, and access grant funding opportunities. Strengthening the capacity of small- and medium-size cities is particularly important to ensure that they are not left behind. IFIs such as the CEB can play an important role in this area.

The CEB provides technical assistance and advisory services to build local capacity. The CEB can provide customised technical support and advisory services to cities through grant financing in combination with financing instruments, with a focus on its target group countries of Central, Eastern and South-Eastern Europe. As an example, it provided technical support to the Investment and Development Fund of Montenegro (IDF) to assess municipal financial capacity during the preparation of a CEB loan aimed at improving living conditions and reducing territorial inequalities in Montenegro[76]. The CEB has also provided technical assistance to the Albanian Development Fund (ADF) to build the capacities of municipalities across multiple areas, including carrying out participatory planning and strengthening municipal financial capacity[77].

Knowledge sharing

Cities need access to peer learning and knowledge to find solutions to global challenges. City-to-city learning can be instrumental in replicating successful initiatives internationally, such as the City of Barcelona's Superblock programme and the City of Paris' Oasis Schoolyard project. IFIs, international organisations and global city networks such as ICLEI, UCLG and the Resilient Cities Network play a key role in promoting knowledge sharing and peer learning among cities, drive collective action across sectors and advocate for inclusive and just climate action and COVID-19 recovery.

The CEB promotes city-to-city learning in partnership with international organisations and city networks. The CEB has built close partnerships with international organisations such as the OECD, IFIs and global city networks to share knowledge and lessons learnt and to leverage each other's experience to best support European cities and communities. Since 2019, the CEB has been a sponsoring member of the OECD-UCLG World Observatory on Subnational Government Finance and Investment. The objective of the initiative is to ensure standardised, reliable and transparent access to data on subnational government structure, finance and investment, and to support international dialogue and capacity building on multi-level governance and subnational finance. The third edition of the initiative has a special focus on COVID-19 territorial management and impact on subnational public finances (OECD/UCLG, 2022 forthcoming). The CEB is also an active member of the Finance in Common initiative. In addition, CEB publications provide opportunities to enhance cooperation with cities and to share knowledge and lessons learnt in order to strengthen the resilience of communities across Europe. The CEB will share the lessons learnt and the city experiences highlighted in this brief to promote city-to-city learning as part of its engagement with cities.

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[76] In 2021, the CEB approved a loan of €30 million to IDF to finance priority local infrastructure investments in Montenegro, with a focus on under-served municipalities

[77] The technical assistance was provided as part of the implementation of a loan of €37.5 million to ADF to promote sustainable territorial development through an integrated and multi-sectoral approach.

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