Inequality in cities

Dimensions of urban inequality and mitigating strategies

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Contents

1

Introduction

A Street in the informally grown refugee camp Domiz in Iraq
GIZ/Markus Kirchgesser

1.1 INEQUALITY IN CITIES: MANDATE OF THE INTERNATIONAL AGENDA TO REDUCE INEQUALITY

Global challenges such as migration, digitisation and climate change are exacerbating existing inequality and call for a sustainable transformation. This is particularly relevant for cities, as the urban population is projected to double by 2050. Millions of people live in confined spaces in cities, which presents challenges, but offers a range of opportunities too. International frameworks such as the 2030 Agenda for Sustainable Development (adopted in 2015), the Paris Climate Agreement (2015), the New Urban Agenda (2016) and the Global Action Plan (2022) have been launched over the past ten years to address these challenges. The focus in this context is on creating inclusive and sustainable cities that offer all residents equal opportunities and access to resources.

The 2030 Agenda provides a general framework for sustainable development, aiming to eradicate poverty in all its forms and create a resilient future. The 17 Sustainable Development Goals (SDGs) and 169 targets aim to fill any gaps left unaddressed by the Millennium Development Goals (MDGs). SDG 11 aims to improve the quality of urban life by reducing social, economic and environmental inequality.

The Paris Climate Agreement focuses on climate change and the associated necessary adaptation measures, pursuing three goals: a) to limit the global average increase in temperature to below two degrees Celsius above pre-industrial levels, b) reduce emissions and implement measures to adapt to climate change and c) channel funding in line with climate targets[1]. Climate change has serious consequences for city dwellers, particularly in developing countries, and is therefore closely linked with sustainable urban development[2]. To limit its impact, it is vital that countries and cities become climate-neutral by 2050. This transition should be approached collectively and in a socially just way (*Just Transition*)[3], meaning that responsibilities and particular vulnerabilities are taken into account.

1 Paris Agreement| BMZ
2 Climate change and development | BMZ
3 Just Transition | BMZ

The New Urban Agenda (NUA) provides a global framework for sustainable urban growth and envisages a future in which everyone can benefit equally from city life ('right to the city' for all). It acknowledges problems such as a lack of housing, inadequate infrastructure and limited access to education and work, which often go hand in hand with poverty and exclusion. The NUA calls for cities to serve all residents and enable participation. This requires changes in urban planning, financing and administration, using integrative approaches that take everyone's needs into account. UN-Habitat's Global Action Plan – Accelerating for Transforming Informal Settlements and Slums by 2030 (GAP) also advocates for just cities, supporting broader participation and stronger commitment to transforming slums and informal settlements. It aims to accelerate the implementation of the SDGs and the NUA and to emphasise and actively shape the need for coordinated measures for a sustainable transition by 2030.

The 2030 Agenda and the Paris Climate Agreement set the general framework for German development policy. BMZ works on a wide range of topics together with its partners and commissioning parties/clients. These two agreements, along with the NUA and the Global Action Plan, lay out the guiding principles for urban development in German development cooperation. In collaboration with governments and representatives of the private sector and civil society, BMZ develops solutions for the socially just, environmentally sustainable and climate-sensitive development of cities and municipalities[4].

Smog haze over a main street in Hanoi, Vietnam, one of the cities with the highest levels of air pollution | GIZ

4 Sustainable urban development | BMZ

Pedastrians crossing a zebra crossing in the city centre of San José, Costa Rica | GIZ/Jose Diaz

1.2 BMZ'S GOALS: STARTING POINTS FOR SUSTAINABLE URBAN DEVELOPMENT

BMZ's goals are aligned with the international mandate for reducing inequality. The document 'A World in Transition' takes stock of the progress made in achieving the 2030 Agenda, around the halfway point in 2023. The world is changing. In recent years, many advances in development have been reversed or at least slowed by the rise of autocracies (e.g. Afghanistan and West Africa) and increasingly fragile contexts (e.g. in Yemen, Gaza and the Sudan). The COVID-19 pandemic and the fallout from the Russian war of aggression have also exacerbated various forms of inequality. As a result, global challenges, such as climate change and socio-economic inequalities, issues addressed by development policy have increased and become even more diverse.

In BMZ's position paper „Sustainable Urban Development", German development policy promotes integrated urban development in its partner countries. The aim is for cities to become climate-neutral, resilient and liveable places that play a key role in protecting the environment and the climate and in implementing the 2030 Agenda. Two thirds of the Agenda's goals can only be achieved with cities, which means they make a key contribution to reducing poverty and inequality.

Today's investments in urban infrastructure will shape life for decades to come, which is why urbanisation today must be sustainable, i.e. climate and environmentally friendly, inclusive and socially just. The SDGs can only be achieved through cities, and in collaboration with the urban population, based on global agendas such as the 2030 Agenda, the Paris Climate Agreement, the *NUA* and UN Habitat's *Global Action Plan* (GAP). The aim is to create a liveable and sustainable future for all through a just urban transition.

The BMZ position paper „Less inequality“ focuses on growing inequality worldwide, which jeopardises economic growth and social cohesion. Reducing inequality is a key prerequisite for sustainable development. The causes of increasing inequality include technological change, globalisation, climate change and conflict. BMZ's approach to combating inequality spans three dimensions:

1. Economic: Just financial and fiscal policy, including global economic and trade policy.
2. Social: Access to basic services, representation of all social groups in the political arena.
3. Ecological: Protection from the impact of climate change and biodiversity loss.

BMZ's strategy 'Responsibility for Our Planet – Climate and Energy' addresses inequality and recognises climate change as one of the biggest global challenges. The SDGs can only be achieved if climate change is limited, requiring structural changes in the areas of energy and urban development. BMZ supports social, ecological and economic transformation in the areas of intervention 'climate change mitigation and adaptation', 'renewable energy and energy efficiency', and 'sustainable urban development'.

Finally, BMZ's 'Feminist Development Policy' also addresses various kinds of inequality. Conflicts are not gender-neutral.: women are more frequently affected by sexualised violence and are underrepresented in peace negotiations. The *gender pay gap* contributes to economic disadvantage worldwide. Women also still predominantly shoulder tasks such as childcare, care work and housework, which makes it difficult for them to access education and paid work, secure incomes and career advancement. Disadvantages for women also exist outside the domain of care work. The COVID-19 pandemic exacerbated this imbalance in many regions, with women and girls having to give up or lose their jobs more frequently than men[5]. The climate crisis is also exacerbating gender inequality. Here too, BMZ aims to create a more equal society in which everyone can participate on an equal footing.

Indian women participate in a workshop to promote female entrepreneurs
GIZ/Vicotria Hohenhausen

5 ILO (2022): World Employment and Social Outlook – Trends 2022 and Heinrich Böll Stiftung (2021): Hard-Won Progress on Gender Equality Destroyed: The Impact of the COVID-19-Crisis on Women and LGBTIQ.

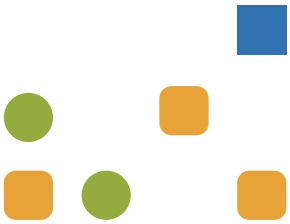
Aerial view of a township bordering a wealthy neighbourhood in South Africa | Adobe Stock/fivepointsix

1.3 DEFINITION OF THE CONCEPT OF INEQUALITY FOR GERMAN DEVELOPMENT COOPERATION

Inequality manifests in various forms, many of which are mutually reinforcing. A key distinction is made between inequality of opportunities versus inequality of outcomes. Inequality of opportunities describes unequal access to resources such as education, basic services (such as health care) and the labour market, and is dependent on characteristics such as origin, socio-economic status, gender, ethnic or religious affiliation, age, disability and sexual orientation. In this context, intersectionality is regarded as the interaction and overlaps between various forms of discrimination based on different characteristics. Inequality of outcomes refers to the unequal distribution of income and wealth as a result of unequal opportunities. Inequality can be vertical and/or horizontal. Whereas vertical inequality refers to differences between individuals, particularly at either end of the income and wealth distribution axis, horizontal inequality describes differences between population groups with specific characteristics, such as ethnic or social affiliation.

Monetary inequality concerns both income and wealth, whereby wealth is usually distributed more unequally. Non-monetary inequality combines a number of different indicators. One example is the *Inequality-adjusted Human Development Index* (IHDI), which measures inequality in the distribution of health, education and income. It shows that inequality exists not just at a financial level, but also in the form of unequal participation in social, political and economic processes. Another example is the World Bank's *Shared Prosperity* approach, which compares the growth rate of the poorest 40% of the population with the national average.

Monetary inequality is often measured by the Gini index or Palma ratio. The Gini index measures income inequality on a scale from 0 to 100, where zero equals perfect equality and 100 equals maximum inequality. Developing countries with high levels of inequality include Colombia (Gini coefficient of 55), Brazil (52), Zambia and Angola (both 51) as well as Mozambique and Zimbabwe (both 50). Developing countries with low inequality include Kyrgyzstan (26) and Tonga (27). In Africa, Guinea (30) and the Niger (33) have



relatively low inequality, with the Dominican Republic (37) and El Salvador (39)[6]. in Latin America also coming in on the low end of the scale. The World Bank recently introduced a new indicator which highlights particularly high levels of inequality: countries with a Gini coefficient over 40. These countries – of which there are 52 in total – are concentrated in Latin America and sub-Saharan Africa.[7]

Figure 1 (top) provides an overview of global inequality as measured by the Gini index. It shows that income inequality is highest in Latin America and sub-Saharan Africa. As the Gini coefficient is less sensitive to changes at either end of the income distribution axis however, alternative measures such as the Palma ratio can be used to provide additional insights into the distribution structure. The Palma ratio compares the income share of the richest 10% of a population with that of the poorest 40%. Figure 1 (bottom) shows that the countries where inequality is highest, as measured by the Palma ratio, are also in Latin America and sub-Saharan Africa (The table in the appendix also provides an overview of regional inequality).

The new focus on inequality in German development cooperation marks a change in the development policy discourse. Reducing inequality is also being emphasised more strongly in multilateral negotiations (e.g. the current G20). In addition to improving the living conditions of people living in poverty, structural inequality and discrimination are now also taking centre stage, placing the emphasis on the responsibility of privileged groups to create a more just society. Reducing inequality is vital if the 2030 Agenda is to be implemented rapidly, particularly in the context of SDG 1 – No poverty.

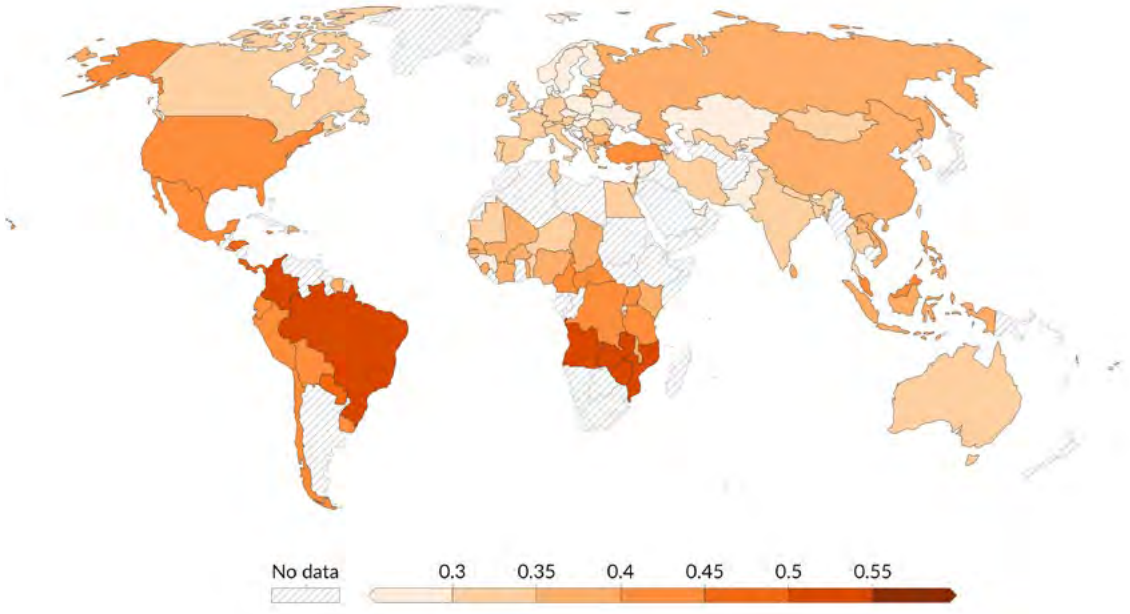
Given rising inequality in this area and in response to predictions that three billion people will be living in slums by 2050, the issue of 'adequate housing for all' is also increasingly taking centre stage on the global development policy agenda. The twelfth session of the World Urban Forum (WUF12) in Cairo on the theme 'It all starts at home' provided a key impetus for anchoring the topic on the global agenda. In its Strategic Plan 2026-2029, UN-Habitat, under its new Executive Director Annaclaudia Rossbach, has once again set the goal of 'adequate housing for all' as a core task.

6 Income inequality: Gini coefficient, 1963 to 2023. Note: The Gini coefficient for some countries that are also known for high inequality, such as South Africa and Namibia, is not given in this source.

7 Inside the World Bank's new inequality indicator: The number of countries with high inequality. The World Bank's new Poverty, Prosperity, and Planet Report (2024) uses this indicator and shows that the percentage of the world's population living in countries with high levels of inequality has stagnated since 2013, despite the fact that the total number of countries with high inequality has fallen. Countries in Latin America and the Caribbean and in sub-Saharan Africa are particularly affected. Many people in these regions – 1.7 billion in total – continue to live in conditions of high inequality. This corresponds to 22% of the world's population.

FIGURE 1: Gini index (top), 2023 & Palma ratio (bottom), 2022

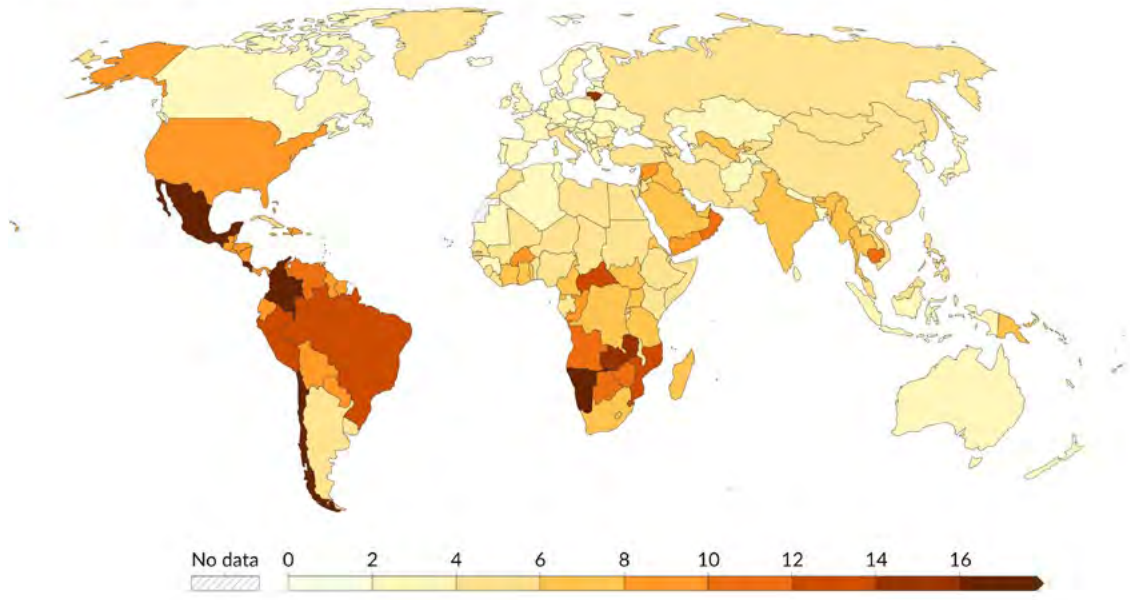
The Gini coefficient[1] measures inequality on a scale from 0 to 1. Higher values indicate higher inequality. Depending on the country and year, the data relates to income measured after taxes and benefits, or to consumption, per capita[2].



1. Gini coefficient: The Gini coefficient is the most commonly used measure of inequality. It is typically used as a measure of income inequality, but it can be used to measure the inequality of any distribution – such as the distribution of wealth, or even life expectancy. It measures inequality on a scale from 0 to 1, where higher values indicate higher inequality. This can sometimes be shown as a percentage from 0 to 100%, this is then called the 'Gini Index'. A value of 0 indicates perfect equality – where everyone has the same income. A value of 1 indicates perfect inequality – where one person receives all the income, and everyone else receives nothing. Read more in our article: Measuring inequality: What is the Gini coefficient?

2. Per capita (income): "Per capita" here means that each person (including children) is attributed an equal share of the total income received by all members of their household.

The Palma ratio is a measure of inequality that divides the share received by the richest 10% by the share of the poorest 40%. Higher values indicate higher inequality. Inequality is measured here in terms of income before taxes and benefits.



Note: Income is measured before payment of taxes and non-pension benefits, but after the payment of public and private pensions.

Source: Our World in Data

2

Challenges and strategies for reducing inequality

Favelas in front of high-rise buldings | Adobe Stock/Gustavo

2.1 CHALLENGES IN CITIES OF THE GLOBAL SOUTH

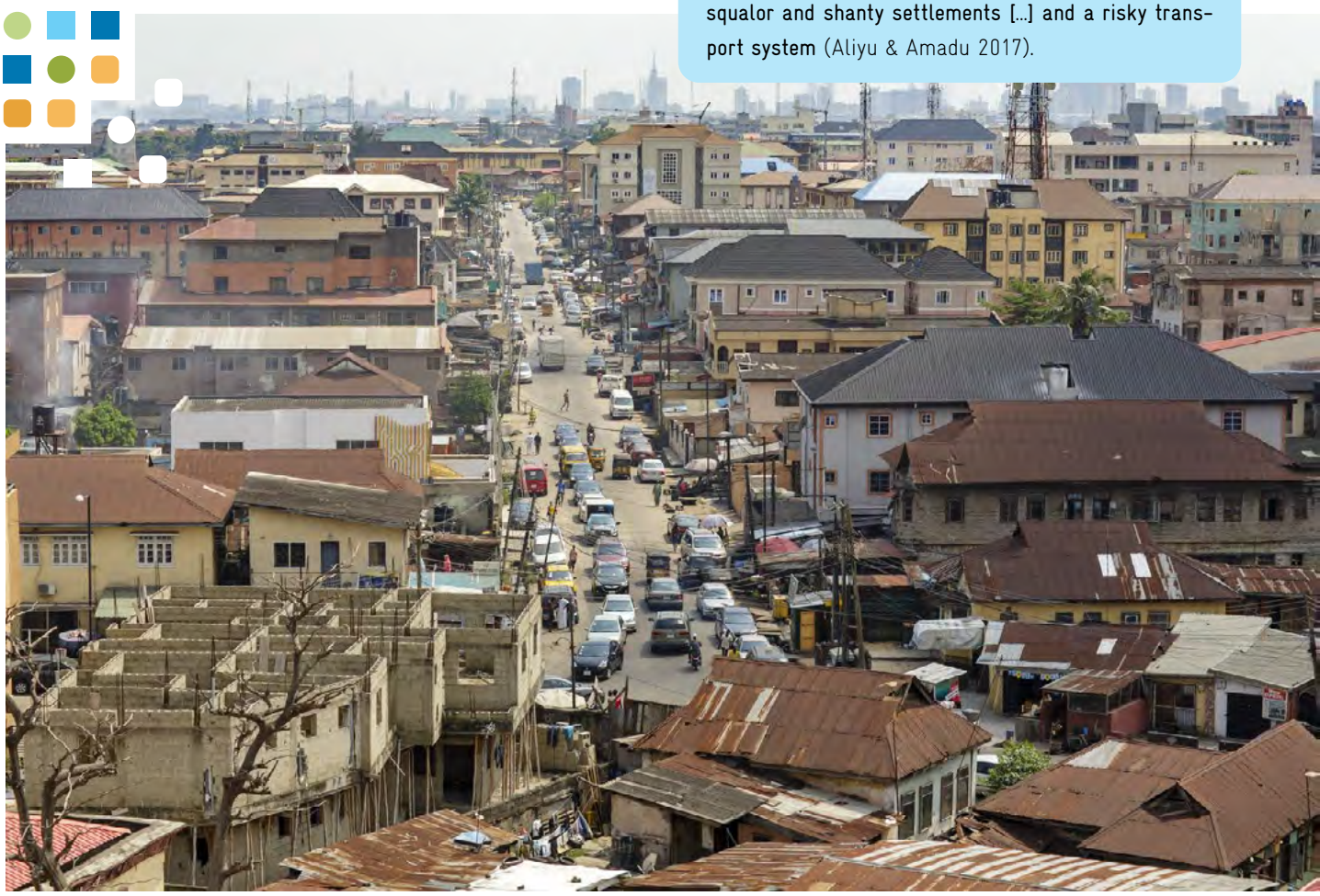
Due to their rapid growth, cities in Asia, Africa and Latin America face challenges such as overburdened infrastructure, informal settlements and environmental pollution. This manifests itself in pronounced inequality at local level, placing an additional burden on cities in the Global South. The various forms of inequality in the regions and cities warrant closer inspection if local solutions are to be developed.

An additional one billion people are expected to move to cities by 2050, 90% of them in Asia and Africa (UNDESA 2018). Countries such as China, India and Nigeria in particular account for a significant percentage of ongoing urban population growth, around 35% of the global increase. The 20 cities with the highest population density are also located in Asia and Africa – 15 of them are located in Asia and five in Africa (Sun et al. 2020).

The terms 'Global North' and 'Global South' refer to a privileged or disadvantaged political, economic and cultural position in a global context, rather than to distinct geographic units. Historically speaking, countries in the 'Global South' are generally socially, politically and economically disadvantaged compared with others in the global system, whereas countries in the 'Global North' have a more favourable position. The terms underline the inequality and dependency relationships between both groups, and are intended to replace the obsolete terms 'Third World' and 'developing countries', although 'Global North' and 'Global South' are also deemed less than satisfactory due to their Eurocentric connotations. In the context of this study, the term 'Global South' refers to the OECD-DAC list of countries that receive official development assistance (ODA). For more information, see: Global South/Global North | BMZ.

Africa has the highest urbanisation rate in the world. By 2050, around 950 million more people will be living in cities, primarily in small and medium-sized urban areas. Many are developing without sufficient planning and management however, making targeted policy measures difficult to implement (OECD 2020). Weak institutions (Acemoğlu et al. 2001) combined with a top-down planning approach that does not take sufficient account of local conditions and climate change (Kamana et al. 2024) exacerbate these problems. These rapidly growing cities also jeopardise ecosystems and biodiversity (Güneralp et al. 2017). To ensure that development in Africa is more sustainable, urban planning needs to shift to local and inclusive approaches, and support should be provided for integrated strategies that build urban resilience (Kamana et al. 2024).

Urbanization in Nigeria is mainly demographically driven without commensurate socio-economic dividends and benefits to the urban environment. This has created urban health crises of inadequate water safe supply, squalor and shanty settlements [...] and a risky transport system (Aliyu & Amadu 2017).



Buildings and construction sites in a neighbourhood in Lagos, Nigeria, with a view of the city centre's skyline | GIZ/ Thomas Imo

Urbanisation in **Asia** is primarily driven by rural-urban migration (Lall et al. 2021), with both push and pull factors playing a role in this context. In some South Asian countries, rapid population growth is further fuelling urban growth. The high population density lowers the per capita cost of public services, helping to drive successful poverty reduction (World Development Indicators). The economic growth of cities also plays an important role in reducing poverty. However, the region is struggling with largely uncontrolled urbanisation, primarily in South Asia, which encourages the spread of informal settlements and slums. To make cities more prosperous and liveable for all, policymakers need to strengthen local government, improve resources and accountability, and promote transport infrastructure, housing and resilience to climate change (Ellis & Roberts 2016).

In India, around 93 million people (or one in six city dwellers) live in slums, which are often located in city centres. Residents often work as domestic staff or waste pickers and struggle with problems such as a lack of water and sanitation, insecure jobs and land rights. Many dwellings have been threatened with demolition for years (Barnes & Sawhney 2021).

An informal settlement in a suburb of Mumbai, India
Unsplash/Poojan Thanekar

Latin America is the most urbanised region in the Global South, with over 80% of the population living in cities, a figure that is set to rise to 90% by 2050 (Arsht 2014, UN-Habitat 2017). The rapid growth experienced over the last 50 years has outpaced the development of appropriate policy measures (UN-Habitat 2017), leading to clear segregation into affluent neighbourhoods and poor peripheral areas (Angotti 2017). This also has a negative impact on the environment, with high commuter numbers, a preference for the use of private transport and overloaded urban infrastructure exacerbating air pollution (UN-Habitat 2017). Latin American cities are, however, also home to innovation hubs, with advances in communication and co-determination and the world's fastest growing internet population (Arsht 2014).

Beginning in the early 2000s, Mexico's Federal Government implemented a housing policy that focused on supply as the main target of expansion. [...] unfortunately, this goal failed to prioritize other critical issues like housing quality, accessibility, or location. [...] By placing millions of people far from economic and social opportunities in city centres, this housing approach also locked many Mexican cities and regions into environmentally unsustainable practices that promoted ongoing car-dependency and increasing sprawl (Fernández Reyes & Peon 2023).

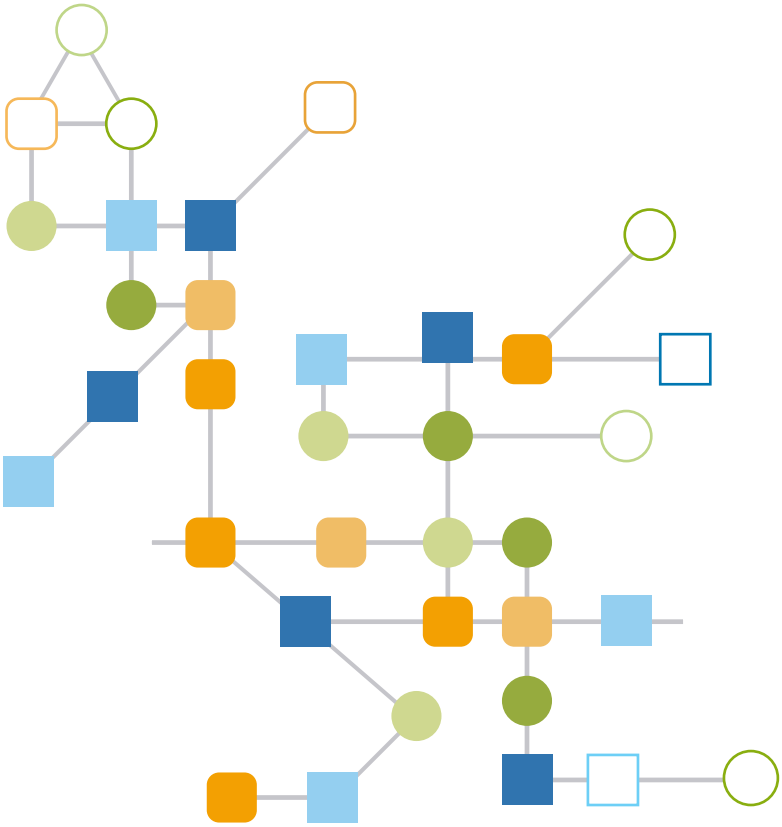
Aerial view of the urban sprawl of Guanajuato, Mexico
Pixabay/Juan Manuel Cortés

2.2 CITY-SPECIFIC DIMENSIONS OF INEQUALITY: URBAN PLANNING, CLIMATE-SENSITIVE URBAN DEVELOPMENT, SUSTAINABLE CONSTRUCTION, MUNICIPAL FINANCING

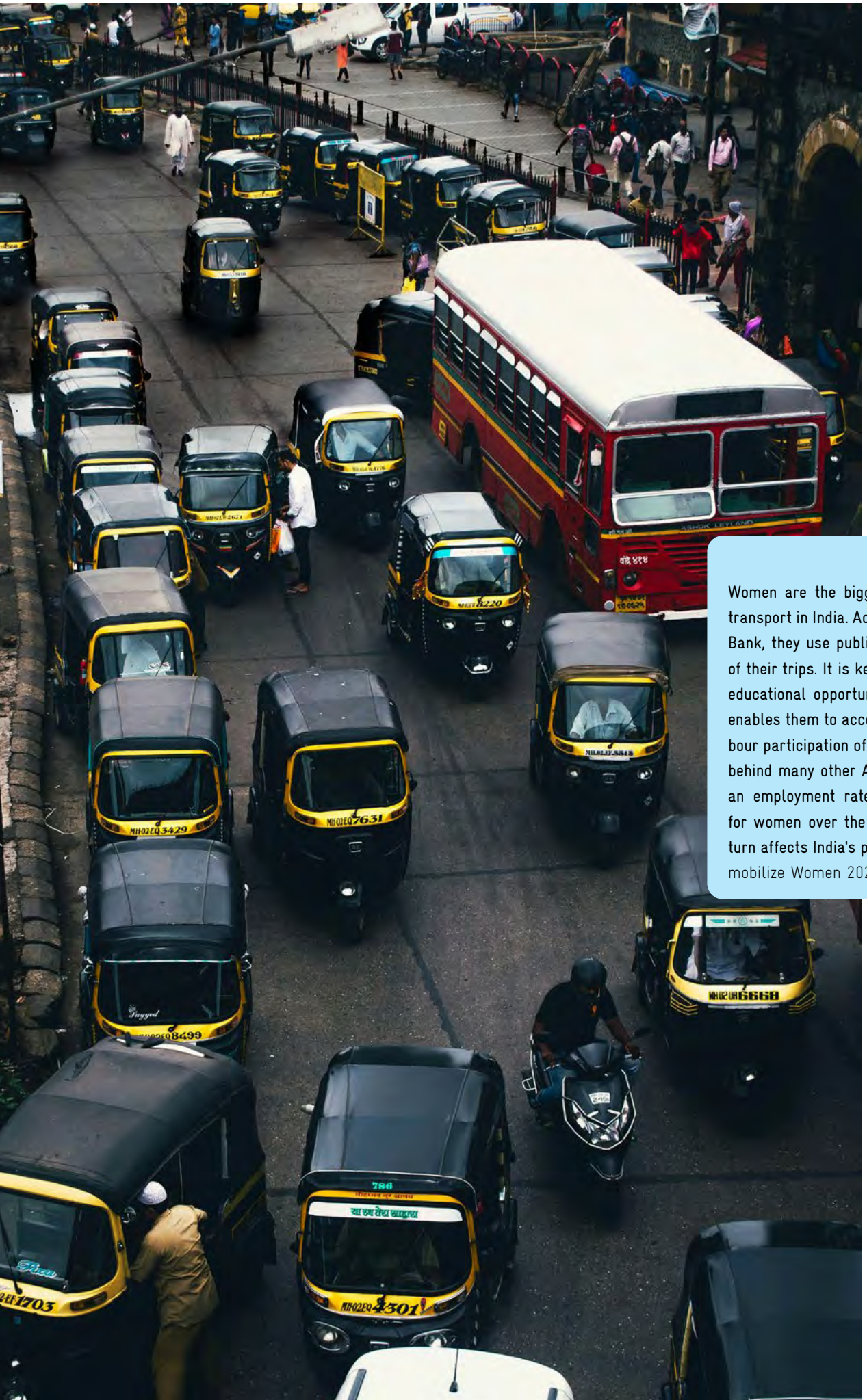
Different forms of inequality, such as access to public transport and adequate housing, are evident in most cities (Salesses et al. 2013). Poor urban planning – inadequate infrastructure and insufficient housing being just two examples – reinforces existing inequality and offers poorer residents little prospect of improvement. The impact is particularly severe in developing countries, where social security systems are often lacking. High levels of urban inequality also often lead to social instability and increased crime[8], particularly violent crime (Kelly 2000), weakening the social fabric and diminishing community spirit.

URBAN PLANNING

Institutional development and urban planning have been unable to keep pace with urbanisation in many countries of the Global South. These cities now face the negative consequences of rapid and dense urbanisation, which manifest as limited resources and restricted public capacity (Bryan et al. 2024). Sustainable institutional development and efficient urban planning do, however, play a key role in reducing urban inequality. Acemoğlu et al. (2001) show that differences in the quality of institutions have a decisive influence on a country's level of development. Institutions are best understood as the 'rules of the game' which shape human behaviour in economic, social and political life (IFAD 2013).



8 Peirce (2008) shows that inequality – not poverty – is the key cause of Brazil's high crime rate. Non-material forms of relative deprivation and a strict divide between social groups exerts greater influence than income inequality. As a result, measures that deter and combat crime or focus solely on combating poverty are not enough.



Women are the biggest users of public transport in India. According to the World Bank, they use public transport for 84% of their trips. It is key to them accessing educational opportunities, which in turn enables them to access employment. Labour participation of women in India lags behind many other Asian countries, with an employment rate of less than 30% for women over the age of 15, which in turn affects India's productivity (Women mobilize Women 2024).

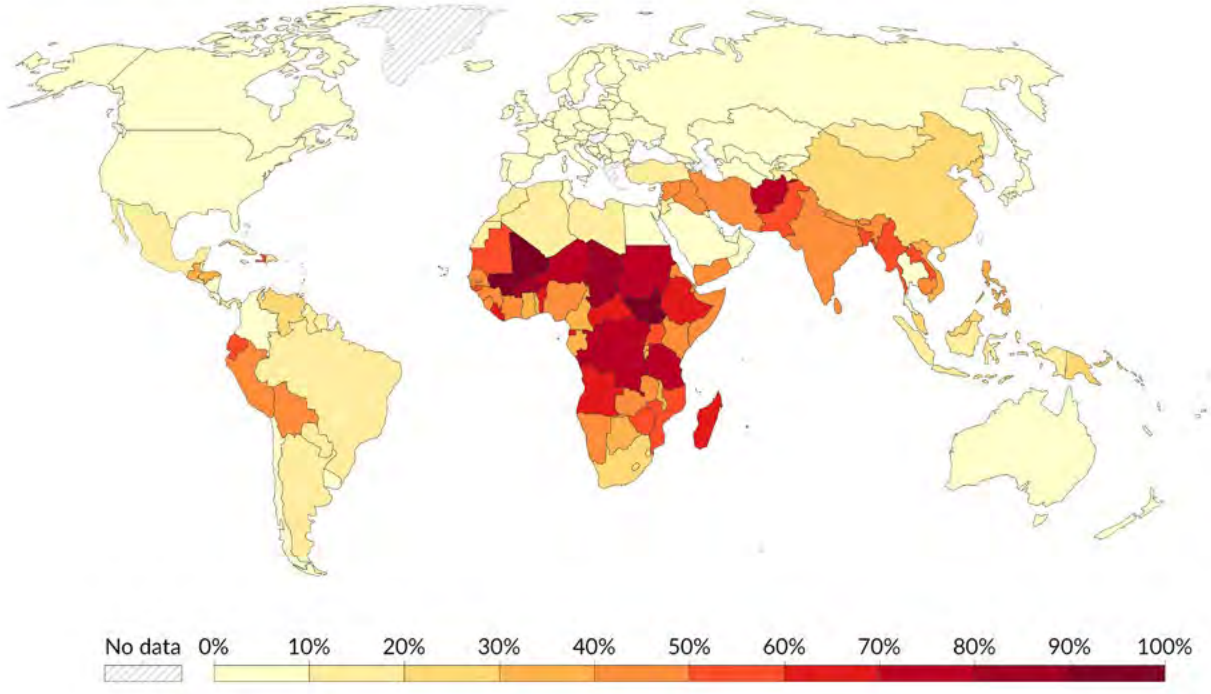
View of a busy street with tuktuks,motorcycles and buses in Mumbai
Unsplash/Atharva Tulsi

Mobility is crucial for equal participation and influences many forms of inequality, particularly through access to transport infrastructure. Studies show that poverty and inadequate transport connections are closely linked (Lucas 2012), for example through high cost or long journey times (Suel et al. 2024). Traditional transportation planning often leads to spatial segregation and a high degree of car-centricity, which is particularly detrimental to poorer population groups, as they rely on well-planned, reliable and affordable local transport. This is particularly the case for residents of informal settlements and marginalised areas. Marginalised groups such as women, people with disabilities and people living in poverty are the ones most strongly affected by inadequate transport connections. This influences education and employment opportunities (Hidayati et al, 2021) and access to services (Weston & King 2021). Wealthier areas, on the other hand, benefit from better transport connections, proximity to job opportunities and higher purchasing power (Arellana et al. 2021).

The emergence of informal settlements also poses a major challenge for urban planning in rapidly growing cities (Agyabend et al. 2022). Figure 2 shows the percentage of the urban population that live in slums. This figure is particularly high in Africa and South Asia.

FIGURE 2: Share of the urban population living in slums

A slum household is defined as a group of individuals living under the same roof lacking one or more of the following conditions: access to improved water, access to improved sanitation, sufficient living area, durability of housing, and security of tenure.

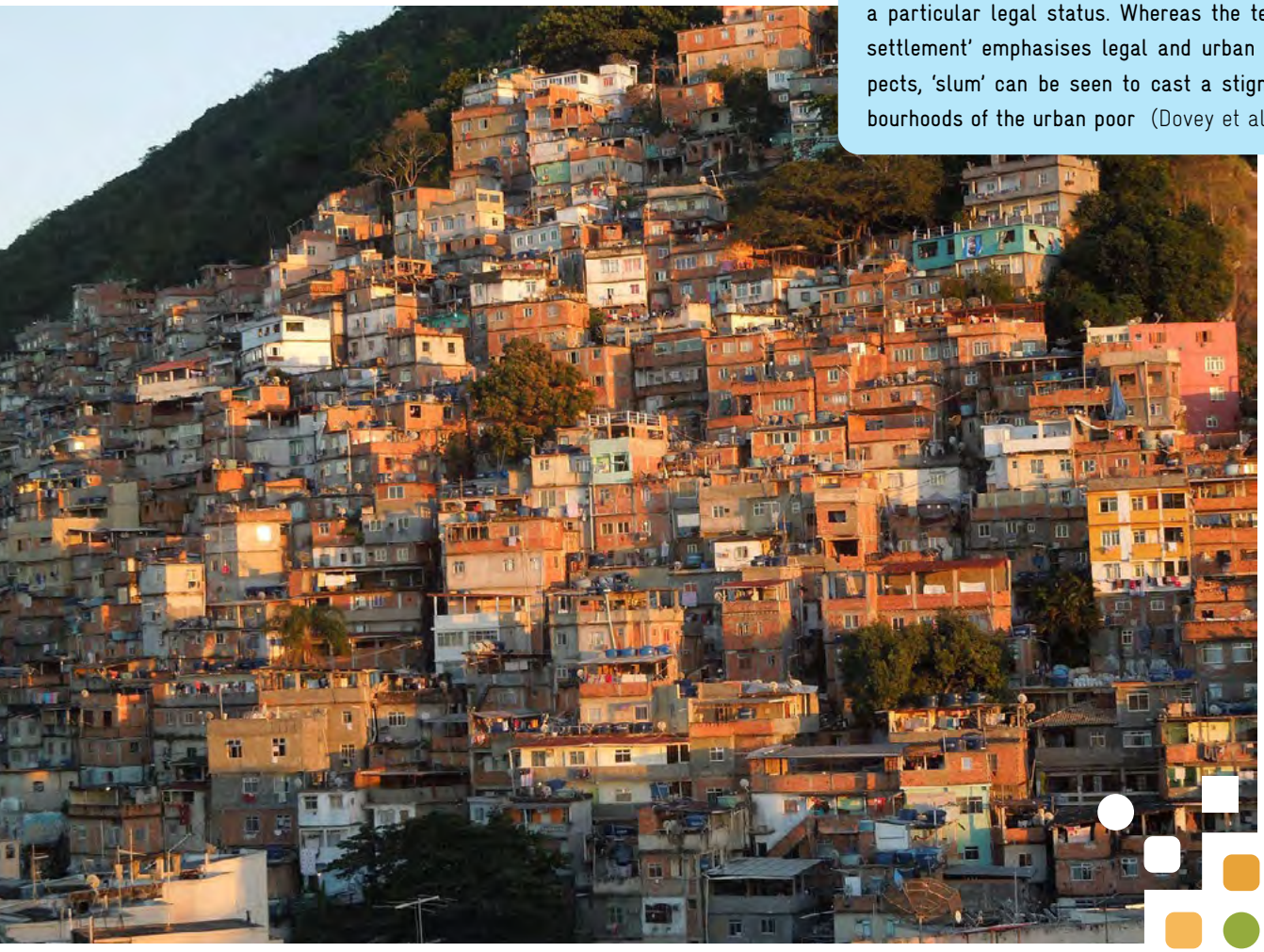


Source: Our World in Data

When they arrive in cities, rural migrants usually have no other option than to live in informal settlements on the outskirts or in unattractive locations harmful to their health (e.g. near landfills or factories). This is what happens when urban planning takes insufficient account of affordable housing, although the inclusivity of cities relies heavily on a sufficient supply of adequate housing. The unequal distribution of housing leads to certain sections of the population being disadvantaged and marginalised. According to UN-Habitat (2015), residents often lack security regarding land or housing, as well as access to basic services such as clean drinking water, sewerage, waste disposal and electricity. The quality of housing is usually poor. Dwellings are often self-built, lack insulation against heat and cold, and offer insufficient protection against dangerous extreme events such as heavy rain, floods, landslides or earthquakes (Nisi 2024). Education and health services are also often inadequate (Sevilla Núñez 2024).

Many city councils lack the funding, resources and expertise required to effectively tackle this problem (Weston & King 2021). To combat the housing shortage, it is not enough to simply build new homes; access to basic services and economic opportunities must also be guaranteed (Sevilla Núñez 2024). Urban planning strategies must therefore take population development into account and offer all city dwellers appropriate, affordable, well-connected housing with decent living conditions.

Informal settlements are areas that transgress state laws of land tenure, construction and urban planning, where infrastructure and services are frequently limited. As well as frequently having limited infrastructure and services, slums are additionally characterised by extreme poverty, overpopulation and poor living conditions, and in some regions have even been granted a particular legal status. Whereas the term 'informal settlement' emphasises legal and urban planning aspects, 'slum' can be seen to cast a stigma on neighbourhoods of the urban poor (Dovey et al. 2021).



View of a favela in Rio de Janeiro, Brasil
Pixabay/Anja Schindler

Urban planning must also take into account employment opportunities on the urban labour market, as access to work influences the distribution of income, thereby impacting inequality. In countries of the Global South in particular, the labour market is characterised by the duality of the formal and informal sectors. Around two billion people worldwide work in the informal sector, which provides between 50% and 80% of employment in developing countries. The informal economy accounts for over 75% of urban jobs in Africa, more than half in Asia and almost half in Latin America (ILO 2018). Many rural migrants move to cities to find work. However, there are not enough formal jobs in the cities, and the informal economy continues to grow (Ghani & Kanbur 2013). This increases inequality between workers in the formal and informal sectors, for example in terms of income opportunities, job security and access to social protection and home loans. Informal settlements usually only offer informal employment, while limited educational opportunities and poor transport connections make finding work in the formal economy more difficult.

The ability of citizens to shape urban planning constitutes another form of inequality. Co-determination is essential to incorporating the perspectives and needs of different groups into urban design in order to support inclusive urban development. Marginalised groups in particular often lack the necessary resources, however (Schmiz & Caminero 2022). In the Global South, co-determination is also often supported by development researchers and practitioners who apply Western models that are often difficult to implement at a local level. Furthermore, interest in planning processes tends to be low. Social, political and psychological factors such as a lack of awareness and trust in the planning system also limit participation. A case study from Dhaka, Bangladesh, for example, shows that citizens prefer informal transactions with political leaders, as these are perceived to be more effective than formal participation processes (Swapan 2016).

CLIMATE-SENSITIVE URBAN DEVELOPMENT

Climate change is putting a strain on urban infrastructure and the health of residents, especially in cities in the Global South (Nisi 2024). Higher temperatures are leading to rising sea levels and extreme weather events such as floods and droughts. At the same time, cities are responsible for around 70% of global CO_2 emissions, due mainly to transportation and buildings (IPCC 2022). The global economic costs of flooding and rising sea levels could amount to around USD 1 trillion per year by 2050 (Collier et al. 2018). Local governments must therefore plan and implement climate protection measures in order to limit negative impacts. However, many climate protection plans do not sufficiently integrate adaptation and reduction strategies. Recent plans, on the other hand, incorporate more comprehensive approaches. Plans from countries in the Global South tend to perform better on average than those from the Global North (Aboagye & Sharifi 2024).

Climate-related problems such as air pollution, water scarcity and irregular water supply, high water costs and urban heat islands, which are closely linked to urbanisation, place an additional burden on cities, infrastructure and people.

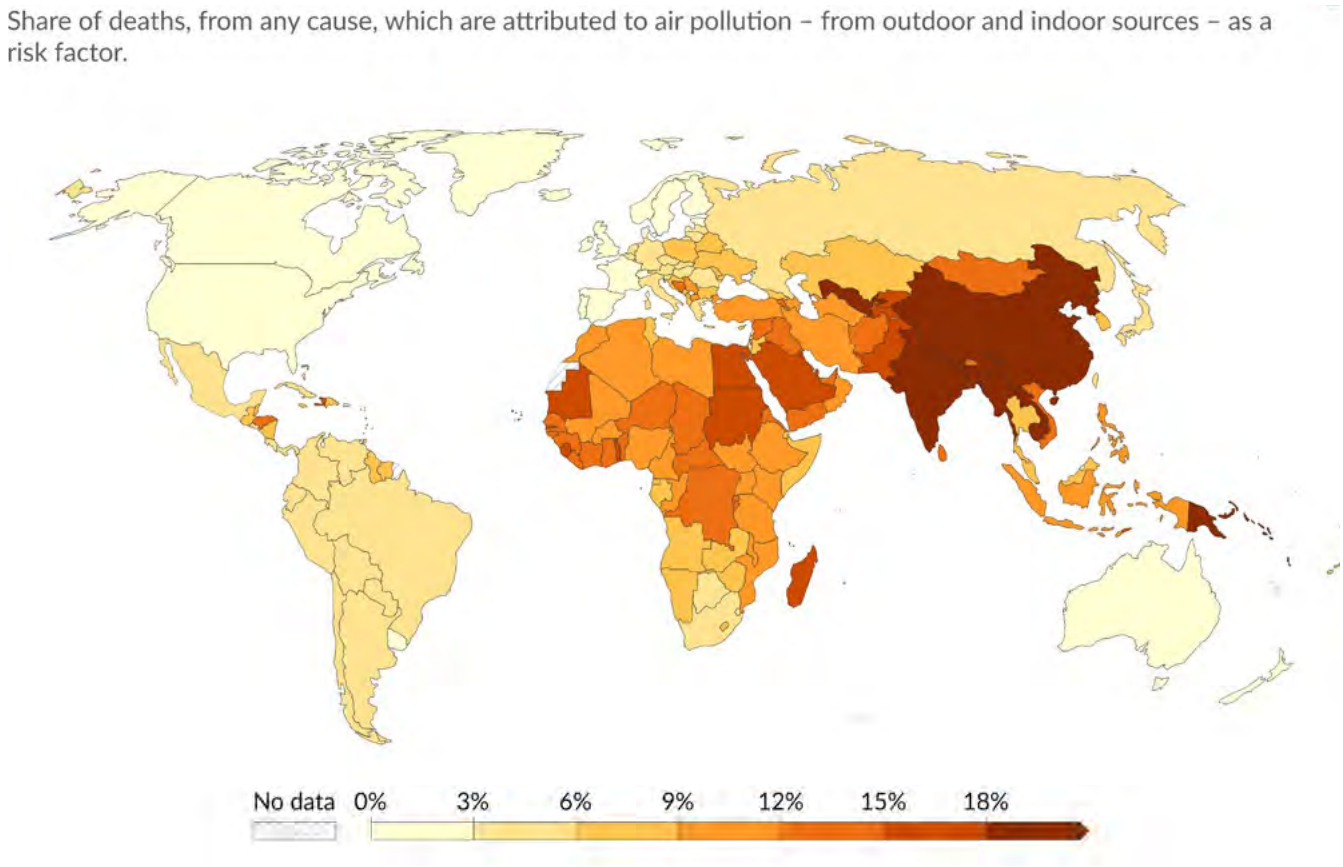
Air pollution affects the poorest urban households in particular, as they cannot afford to live in less polluted neighbourhoods. These people are most exposed to air pollution, which increases the risk of premature mortality from heart disease, stroke, cancer and respiratory disease (Corburn & Sverdlik 2019). According to the World Health Organization (WHO), air pollution was responsible for around seven million deaths worldwide in 2016. People in Asia and the Middle East are particularly impacted by high levels of air pollution (see figure 3). The underlying reasons include weak legislation, poor emissions standards and the prevalence of coal-fired power plants. In these regions, the poorest people often live in informal settlements near waste dumps and are therefore particularly impacted (UNEP 2019).

Water scarcity is also a major problem in cities around the world. The affected urban population is projected to increase from 933 million (one third of the global urban population) in 2016 to up to 2.4 billion people (one third to nearly half of the global urban population) in 2050 (He et al. 2021). The urban population in India and China are expected to be the most severely affected (see figure 4), alongside those living in poverty and the inhabitants of informal settlements that do not have adequate water supplies.

Nairobi, Kenya: The smouldering dump site in Dandora in the eastern outskirts of the city lies right next to schools, clinics and residential dwellings. The daily exposure to toxic fumes from the dump affects the overall well-being and health of people living nearby, particularly small children (UNEP 2019).

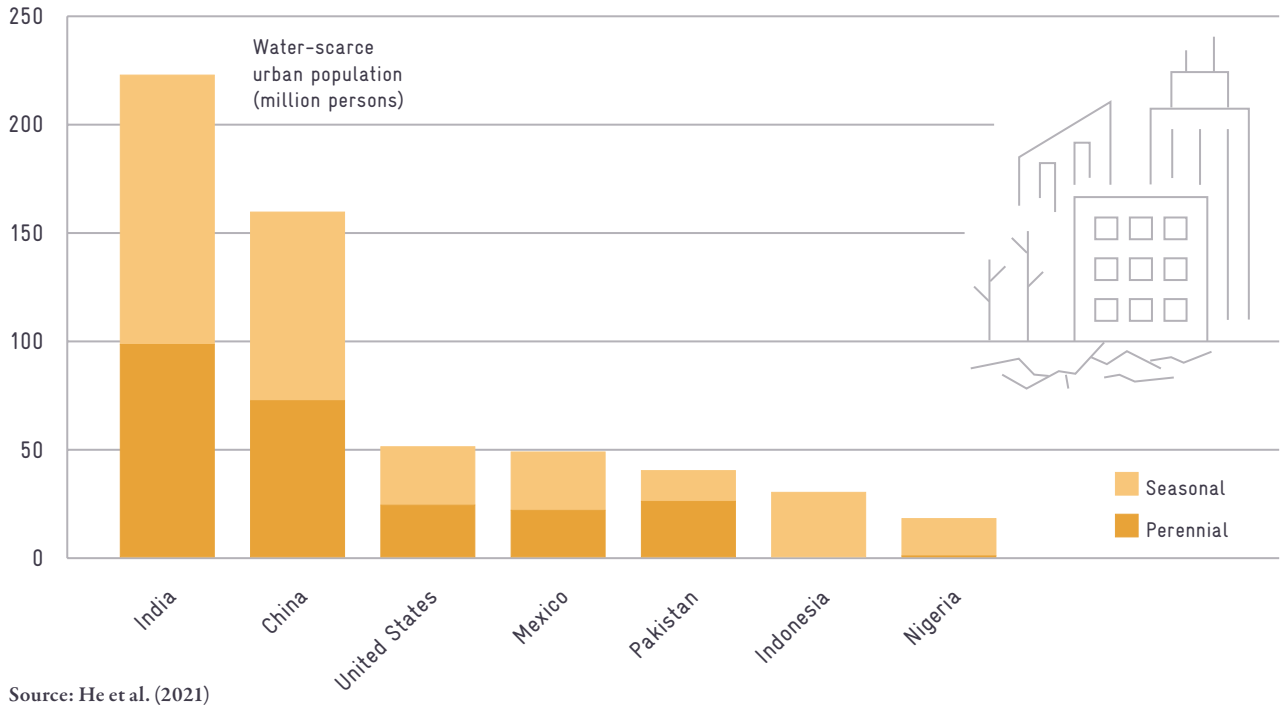
A landfill directly next to several houses in a residential area | Pixabay/PDPics

FIGURE 3: Share of deaths attributed to outdoor air pollution, 2021



Source: Our World in Data

FIGURE 4: Urban water scarcity by country, 2021



Source: He et al. (2021)

Specific challenges include intermittent water supply and affordability for poorer people. Intermittent water supply not only causes stress in daily life, it can also diminish water quality. Insufficient water pressure can increase the level of impurities, which in turn can result in elevated health risks for consumers. (Corburn & Sverdlik 2019). Although SDG 6.1 calls for access to 'safe and affordable' drinking water for all, many low-income households spend (too) much of their income on it, exceeding the recommended affordability threshold (Beard & Mitlin 2021). In many cities, such as Jakarta, this leads to the illegal pumping of groundwater, which ultimately results in subsidence in large urban areas and the associated flooding caused by rising sea levels and heavy rainfall.

Increased temperatures are influenced by both global climate processes and intensive urban development (Liu et al. 2022). Anthropogenic causes include the sealing and high building density of urban settlements as well as the emission of pollutants (Kuttler et al. 2024). Extreme temperatures have a negative impact on the population: Mortality rates are higher at increased temperatures than at moderate temperatures (Kovats & Hajat 2008). In addition to individual factors such as age and previous illnesses, external influences such as the housing situation (e.g. poor insulation) also play a key role (Kuttler et al. 2024). In India, for example, extreme heat threatens health and economic productivity and could lead to a loss of 150 to 250 billion dollars. Women and low-income workers are particularly affected[9].

Newly developed, low-income urban neighbourhoods in Nairobi – home to up to a third of the city's population – are not as well serviced as older, wealthier and less densely populated areas. More affluent neighbourhoods tend to have piped connections in their homes, whereas low-income households usually get their water from communal taps or water kiosks (Nyamai et al. 2022).

A long cue with water canisters and people in front of a communal tap in Kathmandu, Nepal | GIZ/Dirk Ostermeier

9 On Point: As heat and humidity rises, could India get too hot to work?

Residents of informal settlements and slums are more exposed to climate change during floods, heat waves and other natural disasters due to poor-quality housing (Williams et al. 2019)[10]. This increased vulnerability means that they often find themselves in a downward spiral in which their health and standard of living are continuously affected, which in turn reinforces inequality in urban society.

Urban green and open spaces also play a key role in reducing the impact of extreme weather events such as overheating and flooding. Despite their importance, these areas are very unevenly distributed. Studies show that cities with a low level of development and high population density have fewer green spaces than cities in the Global North (Li et al. 2024). And within cities, green spaces are often concentrated in wealthier neighbourhoods, which means that city dwellers do not benefit equally from the advantages they offer (Bille et al. 2023).

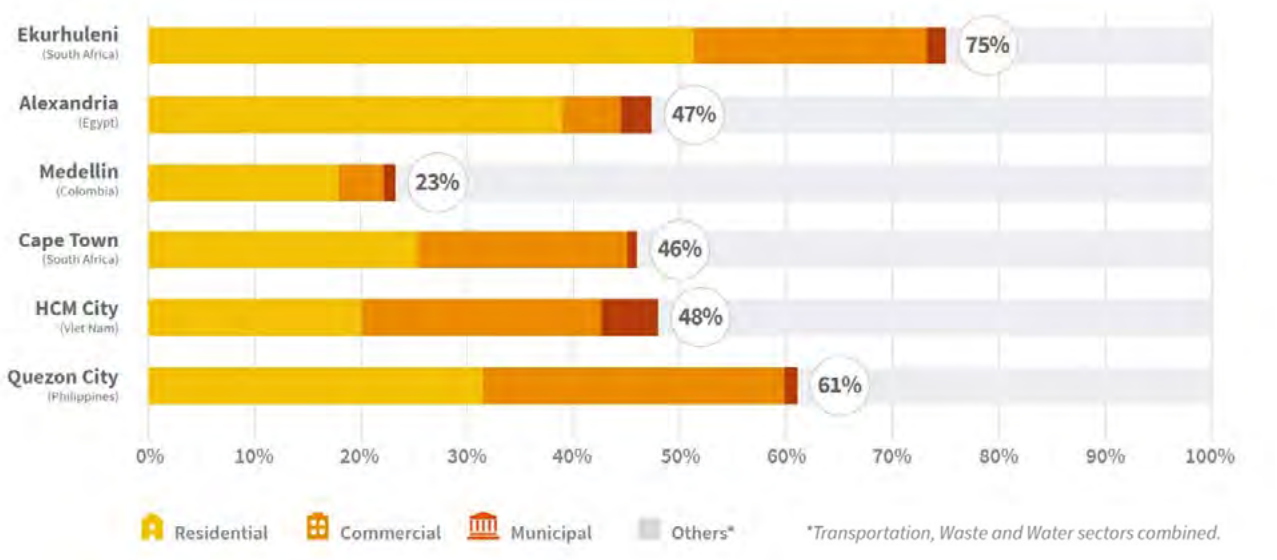
SUSTAINABLE CONSTRUCTION

Rapid population growth in cities in the Global South places significant pressure on housing markets. High construction costs, bureaucratic hurdles, limited financing options and high interest rates exacerbate the situation (Cities Alliance 2023). Poor governance, climate change and limited resources negatively impact an already difficult situation (Build Change 2022, Maina et al. 2024). As a result, regular housing construction cannot keep pace with demand, leading to increased informal construction. It is estimated that by 2030, three billion people (40% of the world's population) will be living in inadequate housing conditions. At the same time, the construction sector offers opportunities, given that many of the buildings that will exist by 2050 are yet to be built. Ultimately, however, such construction often happens informally (Cities Alliance 2023). Informal housing not only reinforces existing inequality, it also goes hand-in-hand with problems such as inadequate infrastructure, limited access to services, unsafe housing conditions and greater vulnerability to extreme weather events. The poor quality of construction also affects residents' health (Maina et al. 2024), due to inferior and unhealthy materials and the risk of unstable buildings (Cities Alliance 2023).

A close-up of a layered wall of a building made of natural and reusable materials such as clay
Unsplash/Johny Goerend

10 The World Bank has also developed an indicator that measures the number of people worldwide who are exposed to a high risk from climate-induced hazards such as floods, heat, droughts and hurricanes. Around 18% of the world's population is considered highly vulnerable, as they are likely to experience severe climate shocks in their lifetime from which they will find it difficult to recover. – Poverty, Prosperity, and Planet Report 2024.

FIGURE 5: Share of GHGs emitted by the built environment as a percentage of total greenhouse gas emissions (calculated using the APEX online app)



Source: How a New Innovative Financing Tool is Greening Buildings in Cities.

The construction sector also accounts for around a third of global energy demand, including for construction, heating, cooling and lighting (UNEP 2022). Figure 5 depicts the percentage of GHGs emitted by the construction sector in six cities in the Global South. In most cases, buildings contribute around 50% of emissions, but in Quezon City and Ekurhuleni they contribute significantly more. Only Medellín has a lower percentage at 23%.

The long life of buildings means that today's decisions have a durable impact on energy consumption, which is why sustainable construction needs to be considered from the outset (Nisi 2024). According to the *Intergovernmental Panel on Climate Change* (IPCC), efficiency measures in the construction and building sector could reduce carbon emissions in developing countries by up to 80%. Improved energy efficiency in buildings would not only help the environment, it would also reduce energy poverty. However, households that suffer the most from energy poverty[11]. and poor housing quality often do not have the financial means to make energy-efficient building renovations (Braubach & Ferrand 2013, Camprubí et al. 2016, Charlier et al. 2018, see also Micale et al. 2023).

In informal settlements, too, where energy consumption is low, residents could benefit greatly from insulation measures (Figueroa 2016). Good insulation improves indoor temperatures and comfort, offering health benefits (Lacroix & Chaton 2015, Liddell & Guiney 2015, Poortinga et al. 2018, Nisi 2024). Building design also influences heat stress and the need for energy-intensive cooling (Nutkiewicz et al. 2022). In tropical regions, people who live in informal settlements are severely affected by heat all year round. Improvements to the external structure of buildings could reduce this load by up to 98%. Redesigning informal settlements could improve living conditions for residents and reduce the growing demand for cooling.

A variety of approaches needs to be developed and implemented in order to meet the different requirements of city dwellers (e.g. social housing, informal settlements), the country's development status, the local climate (cooling and/or heating), the ownership structure (tenants or owners) and the lifespan of buildings.

11 This would free up to 2.8 billion people in the Global South from energy poverty (see Sustainable buildings | UNEP - UN Environment Programme).

Through the implementation of a property tax, a paved street in a municipality in Madagaskar can be built | GIZ/Markus Kirchgessner

MUNICIPAL FINANCING

Local governments are responsible for important tasks such as water supply, waste disposal and social services. By being citizen-oriented, they can respond better to citizen's needs and help reduce inequality. This requires sustainable financing, however. The mobilisation of local resources is crucial for economic growth, social justice and sustainable development.

Sources of revenue for local governments include taxes, service charges and transfers from higher levels of government. Additional income can be generated through investment, the sale of land, licences and permits, and land value capture. The most common taxes levied by local governments worldwide are property and business taxes (Freire & Garzón 2014). Traditional sources of funding from central governments and international aid organisations are usually not sufficient to meet the high levels of investment required for rapid urbanisation and population growth in cities of the Global South. There is already an annual shortfall of over USD 1 trillion for urban investment (KfW 2019). Cities therefore need to tap into private finance through local capital markets and partnerships, which requires a good credit rating, transparent financial management and equitable investment. It is estimated that only around 20% of the largest 500 cities in developing countries are considered creditworthy[12].Development plans should be disclosed and citizens actively involved in order to promote more just urban development.

Smaller and medium-sized cities are more dependent on transfers from central governments, whereas large cities generate their own revenue to a greater degree. In Brazil, subsidies account for around 90% of revenue in cities with up to 5,000 inhabitants, and only 45% in cities with over one million inhabitants. In countries such as Pakistan, only about 7% of spending is collected as own revenue (Freire & Garzón 2014). This dependency reduces the financial au-

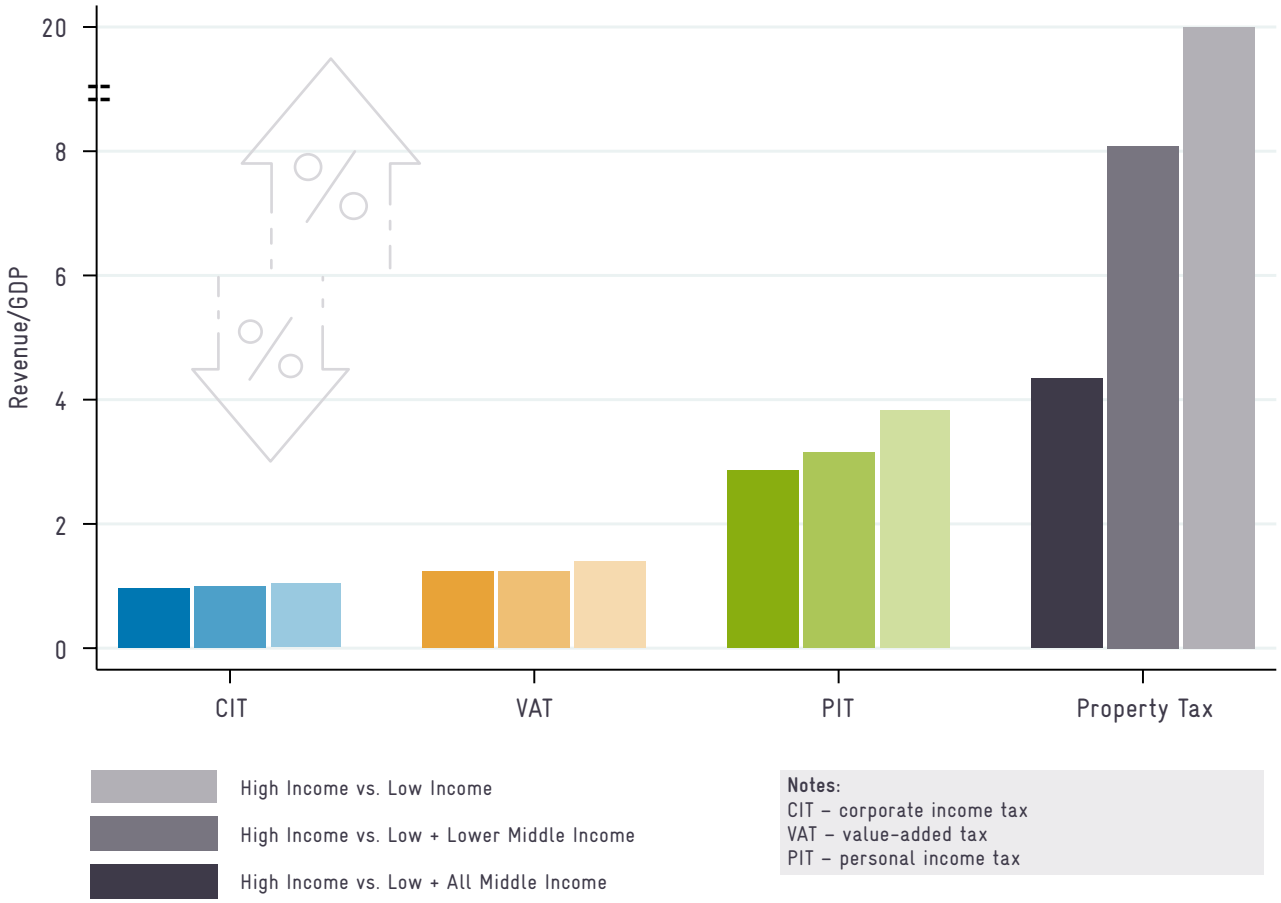
12 City Creditworthiness Initiative: A Partnership to Deliver Municipal Finance.

tonomy of smaller cities, makes them vulnerable to budget cuts and increases inequality in infrastructure and service quality.

Over the past twenty years, developing countries have been able to increase their tax revenues (Yogo & Ngo Njib 2018), but still lag far behind developed countries. On average, low-income countries levy taxes amounting to between 10 and 20% of GDP, while the figure for high-income countries is around 40% (Besley & Persson 2014). Although higher tax revenue creates financial room for manoeuvre for cities, they do not necessarily ensure that the tax system is progressive. Property tax is a particularly relevant source of municipal revenue. The difference is more pronounced here than with other tax revenues (Brockmeyer et al. 2021). Figure 6 shows the ratio of revenue to GDP for high to low-income countries (lightest-coloured bar), for high to lower-middle and low-income countries (medium bar) and for high- to all middle-income countries (darkest bar).

Another important source of funding is *land value capture* (LVC), through which increases in the value of land resulting from public infrastructure projects and changes in land use are clawed back ('captured') by public author-

FIGURE 6: Ratio of tax revenue to GDP in high-income countries compared to low-income countries

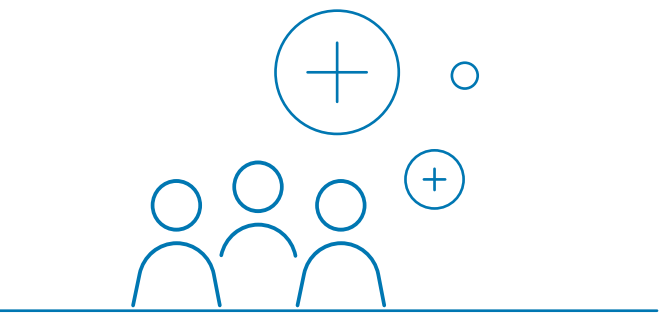


Source: Brockmeyer et al. (2021)

ities. This helps local authorities to finance infrastructure and housing projects. Land markets vary greatly at national level, however. In countries such as Ukraine and Ethiopia, where there has been a tradition of nationalisation, experience with LVC instruments is still limited. In many African countries such as Ghana and Namibia, however, various types of land use rights exist (GIZ 2021). Different levels of know-how and experience in applying LVC as well as unresolved ownership claims and a lack of national regulation lead to inequality in municipal financing at local level and in the population's ability to access services as a result.

Sufficient funding is not the only key factor, however. Since the 2008 recession, efficiency and the effective management of financial resources have become increasingly important. This includes good expenditure management, systematic analysis, cost-benefit analyses and benchmarking (Morrell & Kopanyi 2014). Transparent contract award procedures, financial controls and a good understanding of the political framework are also required (ibid.). However, many cities do not have the capacity or knowledge to implement these processes.

Participatory citizens' budgets can also give citizens the opportunity to have a say in prioritising public spending. In this way, scarce resources can be targeted and social needs better supported, which helps reduce inequality, particularly through investment in housing and education. (Tonkiss 2020).



2.3 RESULTS-BASED SOLUTIONS

URBAN PLANNING

Cities that wish to reduce inequality should strengthen the capacities of their local institutions in order to create a stable framework for investment and urban planning (Acemoğlu et al. 2001). Robust institutions and well-defined property rights can enable cities to utilise their resources more efficiently, thereby supporting equal economic opportunities. In this context, it is important to analyse the institutional landscape and assign responsibility to the different actors involved. Strategies need to be flexible and geared to local conditions in order to close capacity gaps. A step-by-step approach and stronger networking between local organisations are also crucial. It is also important to ensure that technical skills are supported. Relevant data and tools assist decision-makers in supporting sustainable change (IFAD 2013).

Building transport infrastructure that can keep pace with the growing demand for mobility is another challenge for rapidly growing cities. The construction of new roads – which often appears to be the solution to traffic problems – usually generates even more traffic, with the additional roads being used by new drivers (Duranton & Turner 2012). Poorer sections of the population also rarely benefit from new roads, as they usually cannot afford their own vehicles. In fact, they are likely to face further disadvantages due to increasing noise and environmental pollution and physical segregation (wide roads as barriers). Instead of building new roads, investment should be made in public transport to make better use of limited space in cities and offer the less well off an affordable mode of transport.

Cost-benefit analyses show that bus systems, especially Bus Rapid Transit (BRT), are more cost-effective and efficient than rail systems. A BRT typically has special features such as set routes and vehicles, stations, control systems and passenger information (Wirasinghe et al. 2013). They help reduce journey times, lower costs and provide lower-income groups with better access to public transport (Venter et al. 2017). Their design should be inclusive to ensure that the benefits are fairly distributed. Middle-income sections of the population are currently the main beneficiaries of BRTs, with informal settlements and peripheral areas often not experiencing sufficient coverage.

Housing solutions are also urgently required. When looking at urban housing, we can go beyond simple dichotomies, such as formal/informal and public/private, and consider a spectrum of options (King et al. 2017). Three approaches are recommended: upgrading informal settlements using a participatory approach[13], supporting rental housing and making unused urban land available for affordable housing. These measures could make a decisive contribution to improving equity, boosting economic productivity and increasing environmental sustainability in cities.

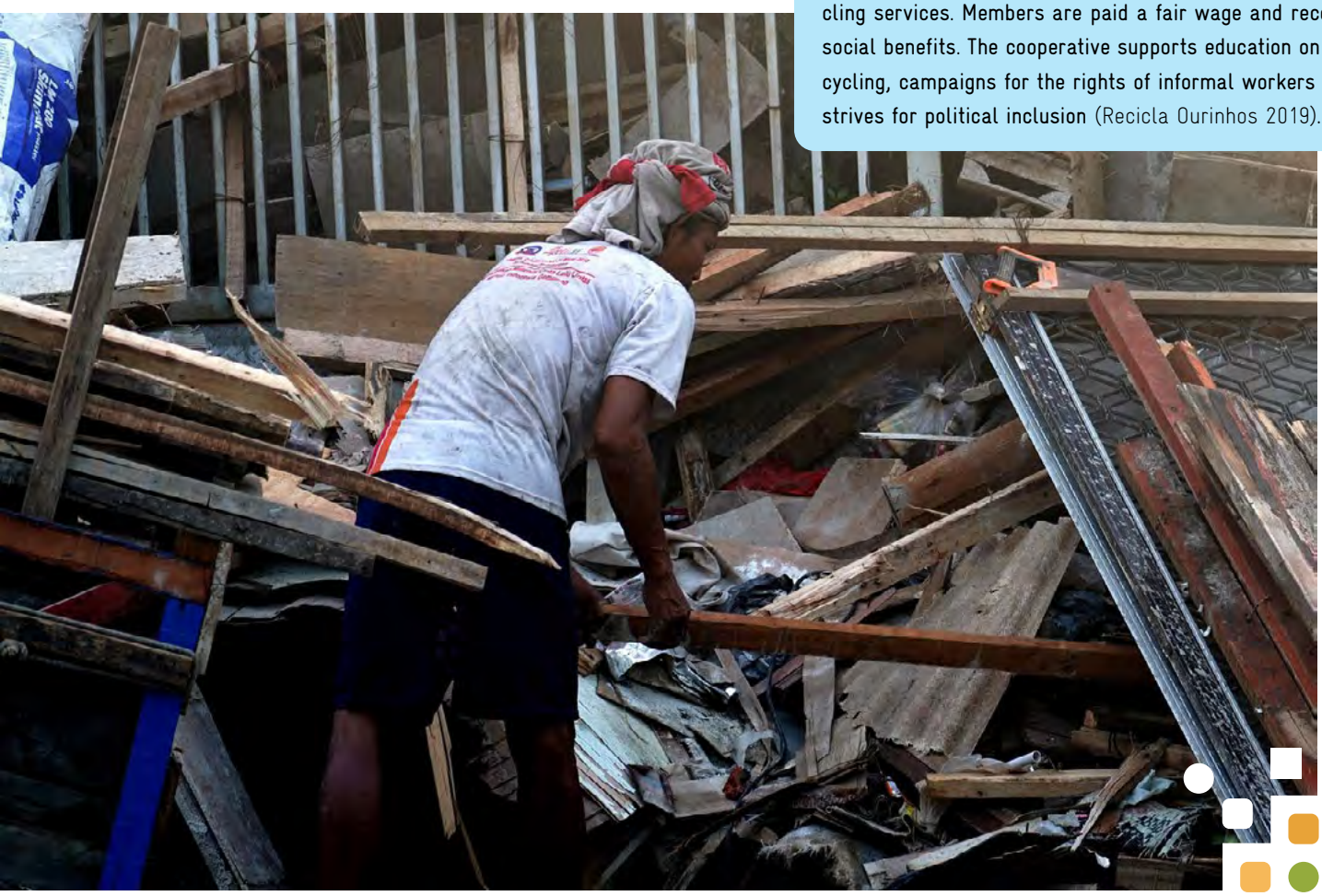
Mukuru SPA in Nairobi is a participatory planning process used to upgrade informal settlements. Local communities, the city administration and over 40 organisations are working together to improve infrastructure and quality of life. The process uses methods such as community mapping and savings groups to actively involve and empower local residents (Muungano Alliance).

Cooperation between municipal practicioners with actors from the economy, science and civil society on sustainable urban development and waste management | GIZ/Eva Prediger

13 Source for example Mukuru SPA: Mukuru SPA — Muungano wa Wanavijiji.

Urban planning should also take the labour market into consideration. The informal sector plays a key role in cities in the Global South. The most important groups of workers in the informal economy include home-based workers, street vendors and waste pickers. These groups are particularly affected by urban development measures and need access to public services, open spaces and income-generating contracts (ILO & WIEGO 2013). An increasing number of cities are responding to their needs by providing home-based workers with security of tenure and access to services, making public spaces available to street vendors and integrating waste pickers into public waste management[14]. Local development plans, urban land use plans and legislation should therefore be drafted together with informal workers and their representatives (Chen & Beard 2018).

Recicla Ourinhos is a cooperative in Brazil that started out as an initiative for waste pickers who wished to improve their working conditions. With support from the municipal authorities, it offers waste collection, sorting and recycling services. Members are paid a fair wage and receive social benefits. The cooperative supports education on recycling, campaigns for the rights of informal workers and strives for political inclusion (Recicla Ourinhos 2019).



An informal waste picker searching a landfill
Pixabay/ignatonosbg

14 Source for Recicla Ourinhos example: brochure-Ourinhos_def_EN.ai.

Cities should also ensure that their plans are drafted fairly, based on the principle of co-determination. UN-Habitat has developed the Our City Plans toolkit: An incremental and participatory toolbox for urban planning that supports local government and urban stakeholders in better implementing integrative urban planning processes. Along with guidance, tools and additional resources, it offers a step-by-step methodology that can be tailored to users' needs. The toolkit is based on the experience of over 100 participatory planning processes worldwide and was developed to make urban planning more accessible, equitable and democratic. Also from UN-Habitat, MY Neighbourhood is a checklist of urban planning principles for neighbourhood design that can be applied in various local contexts. It provides an integrated approach by combining important urban objectives with different sectors (such as transport, housing and public spaces) and design levels – from the neighbourhood to streets and buildings.

Tailored to the needs of women and girls, #HerCity is another UN-Habitat toolkit that focuses on the inclusion of girls and women in urban planning, broadening the scope of perspectives that are included in planning and improving cities for all. The initiative incorporates methods and tools to promote the participation of girls and women and create sustainable and inclusive cities in the long term.

Femmedina, an initiative launched in 2020 by Cities Alliance and the Municipality of Tunis, empowers women living in the Medina through a participatory, gender-sensitive approach to urban planning. It encourages their participation in decision-making processes and improves the use of public spaces. The challenges that women face were identified through inclusive surveys and workshops. Women actively participate in community mapping and exploratory neighbourhood walks (Cities Alliance 2022).

Two Tunesian women in a training networking at an exposition about the digitalisation of agriculture in Riyeda, Tunisia | GIZ

CLIMATE-SENSITIVE URBAN DEVELOPMENT

Resilience to climate change is created by reducing climate-related risks and developing effective coping measures. Along with short-term measures, policymakers also need to develop medium- and long-term adaptation strategies. Immediate measures could include increasing general awareness of disaster risks. Long-term plans could incorporate the development of a fairer infrastructure as well as building and land use regulations that specifically target poorer population groups.

The responsibility for the majority of climate change adaptation decisions lies with private actors such as households and companies. These actors are often unable to manage the adaptation measures alone and are only able to take inequality into account to a limited extent. They need enabling conditions and policy measures that provide incentives and resources to facilitate this task (Dookie & Gannon 2022). Many cities have therefore developed adaptation strategies to support vulnerable groups.

Reducing the use of fossil fuels is a key measure in the fight against air pollution. It directly improves air quality and impacts positively on the urban climate. Switching to emission-free electric vehicles, in local transport, for example, is one way of moving away from fossil fuels[15]. This reduces pollution, improves air quality and reduces health risks.

Bengaluru, India, plans to convert its bus fleet to electric by 2031 in order to reduce CO_2 emissions and improve air quality. The project could save 51,460 tonnes of CO_2 per yeara and cut fuel costs by USD 700,000. A sustainable business model is to be developed with support from the C40 Cities Finance Facility (GFA/HEAT GmbH 2020).

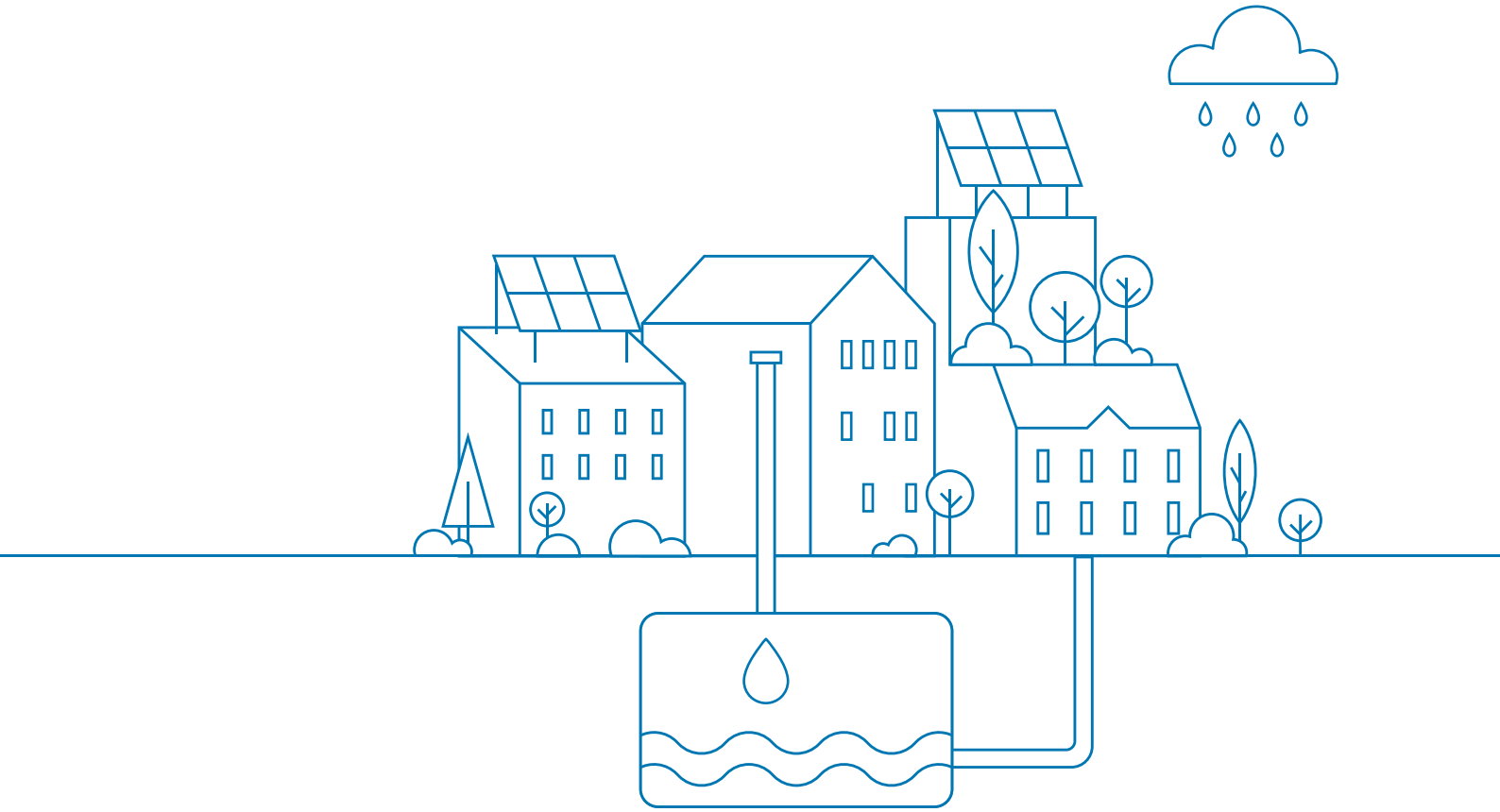
Close-up of a bus in Bengaluru, India
Unsplash/Niiimmmmiiiii

15 Source for example: C40 Cities Finance Facility | Bengaluru Electric Mobility.

Good waste management is also crucial for improving air quality in many cities. In sub-Saharan Africa less than half of urban waste is collected, while the rest often ends up in open landfills. Measures such as composting, recycling and improved waste collection would help combat the problem. Dakar, for example, is rehabilitating waste incineration sites, Addis Ababa is promoting recycling, Accra is involving the community in waste separation and Tshwane is raising awareness of the dangers of tyre incineration[16].

A range of different measures should to be taken to combat water scarcity in cities. Firstly, it is important to motivate households to save water, for example through information campaigns or more efficient technologies. Secondly, wastewater systems and water infrastructure should be modernised to prevent leaks. Thirdly, using rainwater and purifying wastewater could help provide a sustainable water supply. Finally, it is crucial to protect water sources and regenerate natural water reservoirs to ensure long-term water supply[17]. These measures also help ensure a continuous supply of water to cities.

Another concrete approach to making access to drinking water fairer and affordable for all is the introduction of block tariffs, where the price of water increases gradually as consumption rises. The first block ensures basic supply by providing a minimum quantity free of charge or at a low price. The design of block tariffs requires careful consideration, however. Setting the water volume too high in the first block can lead to wastage. This approach is also considered by some as an indirect subsidy for richer households, as the low tariff applies to everyone. Setting the volume in the first block too low, on the other hand, can penalise big households, usually poorer ones, as tariffs usually apply per household. Block tariffs are widely used in developing countries and are viewed positively from a behavioural economics perspective. Implementation is relatively simple, but local factors such as minimum volume, access to water supply and household size play an important role (von Hirschenhausen et al. 2017).



16 How cities are tackling the silent killer of air pollution | World Economic Forum.
17 How to solve water shortage in cities – DW – 23.07.2024.

In Amman, Jordan, the Urban Micro-Lungs initiative aims to bring back nature into the city, creating urgently needed green spaces in densely populated neighbourhoods. It improves air quality and rainwater management and provides residents shade and protection from flooding by reducing water runoff (City Transitions).

A man planting trees for the creation of an urban forest in Amman, Jordan | GIZ

Greening the urban environment reduces the impact of extreme weather events. Forests, parks and wetlands improve the urban climate by cooling the air and absorbing noise. They also sequester carbon and reduce the demand for air conditioning systems that are energy-intensive (Collier et al. 2018). In green spaces, water can also seep into the ground, and runoff can be controlled in the event of flooding (Rößler 2015). These spaces are also used for leisure and relaxation. They promote physical activity, mental wellbeing and the general health of city dwellers (Wolch et al. 2014), and encourage social interaction in the city (Haase 2023). The health benefits of urban green and blue spaces are widely recognised, especially for children and the elderly[18]. Furthermore, the estimated effect of outdoor recreation spaces is greater for children from families with low socio-economic status (Rubio-Cabañez 2024), making green and open spaces an important element in municipal climate adaptation strategies. Measures in low-income neighbourhoods in particular help to reduce social inequality[19]. The quantity and quality of green spaces should therefore be improved, and their distribution and access taken into account in order to promote equal opportunities (Gómez-Baggethun et al.2013, Haase et al. 2014, Kabisch et al. 2017, Elmqvist et al. 2018).

An urban adaptation strategy can be developed as a standalone plan or integrated into a national climate protection plan. It is important that cities incorporate climate risks into their planning together with the local population (Nisi 2024) and find solutions that are needs-based and adapted to local conditions, especially for disadvantaged groups. This requires suitable planning tools, technical resources and specialist expertise.

18 Who benefits from nature in cities? Social inequalities in access to urban green and blue spaces across Europe — European Environment Agency.

19 Source for example: Jordan - CityTransitions.

SUSTAINABLE CONSTRUCTION

Measures to increase the energy efficiency of existing buildings and the sustainable construction of new buildings play an important role in sustainable development. They are particularly important for low-income residents, as they can improve the quality of living and provide protection from climate-related stresses such as extreme heat.

The *World Resources Institute* (WRI) recommends eight measures to increase the energy efficiency of buildings[20]:

1. Building efficiency codes and standards: Minimum standards for energy and resource efficiency
2. Efficiency improvement targets: Clear targets to reduce energy consumption and provide orientation for sustainable development
3. Performance information and certifications: Transparency in energy consumption to help owners and tenants make decisions and compare information.
4. Incentives and finance: Funding opportunities and financing models to support high initial costs.
5. Government leadership by example: Increasing the energy efficiency of our own municipal buildings and setting standards.
6. Engaging building owners, managers, and occupants: Greater involvement of actors (owners, users and service providers) to boost private investment in energy efficiency.
7. Engaging technical and financial service providers: Campaigns and incentives to change behaviour and motivate private actors to implement energy-efficient solutions.
8. Working with utilities: Use of consumption data to develop targeted measures and incentive programmes to promote investment in efficiency.

Building a low-cost roof cooling-system made of PET bottles in Chennai, Tamil Nadu, India | GIZ

20 Accelerating Building Efficiency: Eight Actions for Urban Leaders.

Aerial view of a Brasilian small town with solar panels on the rooftops
Unsplash/Kawê Rodrigues

Using building efficiency measures to boost energy productivity can slow down the increased demand for energy in developing countries. Every dollar spent on energy efficiency saves an average of over two dollars on energy supply. Improving building efficiency also creates space for other important investments and helps city administrations make better use of their limited resources. Efficient buildings also improve people's quality of life, especially in disadvantaged neighbourhoods and informal settlements (Nisi 2024). Energy efficiency makes better use of resources overall and offers city dwellers greater access to more reliable, safer energy.

The use of sustainable construction materials offers another interesting option. An example from Burkina Faso shows how buildings can be constructed that remain cool in extreme temperatures (up to 40C) and without air conditioning. These buildings use sustainable construction methods, including traditional architectural techniques, thick walls, natural ventilation and high ceilings to regulate the indoor climate. This reduces energy requirements and makes the buildings resistant to the region's hot climate (Borràs 2024)[21].

Policymakers should therefore focus on regulating the trade of unsustainable material for the Global South to avoid it becoming a dumpsite and jeopardising people's lives, and instead focus on sustainable trade that ensures that the materials used are safe for construction (Cities Alliance 2023).

MUNICIPAL FINANCING

Well-functioning municipal finances are also of central importance for cities. Without sufficient funds, it is difficult to repair roads or ensure waste disposal. If, on top of this, there is a lack of institutional capacity, cities will not be able to collect taxes efficiently, which leads to low revenues. It is therefore important to examine which taxes are easier to collect, how collection is implemented and which tax rates maximise tax receipts (Bryan et al. 2024).

Interesting new evidence from Dzansi et al. (2022) shows the potential of technology to improve local tax revenues in Ghana. They are testing a new technology that helps tax col-

21 Diébédo Francis Kéré: How to build with clay ... and community | TED Talk.

lectors locate property owners in order to be able to deliver tax bills – a major problem in many developing countries. This technology increases the delivery of bills by 27% and tax collections by as much as 103%. Balán et al. (2022) document the role local chiefs can play in improving tax compliance in the Democratic Republic of the Congo. Their study examines whether local elites or state agents function better as tax collectors in low-capacity states. An experiment in a Congolese city showed that local chiefs helped increase tax payments by 3.2 percentage points and revenues by 44%, although they also collected more bribes. Their greater efficiency was primarily because they used local information to target households with a high willingness to pay.

Tax adjustments can also increase tax revenue. A study, also from the Democratic Republic of Congo, analysed how tax rates and enforcement influence fiscal capacity in low-income countries. In an experiment, a little over 38,000 property owners were randomly assigned to the status quo tax rate or a tax rate reduction. The findings show that the current tax rate is above the revenue-maximising tax rate and that a reduction of one third would maximise revenue. Two other variations – randomised enforcement letters and randomised assignment of tax collectors – show that the revenue-maximising tax rate increases with enforcement. Tax rates and enforcement are thus complementary levers. These findings show that low state enforcement capacity sets the upper limit of the revenue-maximising tax rate and that an increase in tax rates depends on enforcement (Bergeron et al. 2024).

Conducting accurate land assessments and building local capacity are crucial to improving land value capture in developing countries. Decentralised decision-making structures and overcoming technical challenges, such as measuring value growth and high initial costs, are also important. Fair cost allocation that considers the owners' ability to pay helps to make the system fairer and more efficient (Goytía & Cristini 2020).

New models and resources also support cities. The World Bank's Global Infrastructure Facility (GIF) works with international financial institutions to support scalable project preparations, identify revenue streams and enhance the creditworthiness of cities (Pilkington & Buchalla Pacca 2019). Project Preparation Facilities (PPFs) also help cities to structure projects so that they attract investors and secure financing. They bridge the gap between goals and financial feasibility and play a key role in scaling up access to finance and driving urban transformation (Pool et al. 2024).

In the long term, cities in the Global South should conduct a comprehensive cost-benefit analysis of different taxes and tax rates by gathering evidence on implementation problems and the impact of tax rates (Bryan et al. 2024). Higher tax revenues enable investment possibilities and create fiscal room to support disadvantaged population groups and reduce inequality.

Mongolian-German cooperation for the bankability of investment projects regarding the refinery of raw materials | GIZ

Empowerment of women and local communities in Ukraine through Mobile Makerspaces (Tolocar) for reconstruction
GIZ/Sergiy Bezborodko

„Ukraine's cities are among the worst affected areas: Most of their buildings and infrastructure have either been partially or completely destroyed."

2.4 EXAMPLES OF INTERNATIONAL BEST-PRACTICE

2.4.1 INCLUDING WOMEN IN RECONSTRUCTION PLANS IN UKRAINE FROM THE START: AN INTEGRATIVE APPROACH TO SUSTAINABLE RENEWAL

CONTEXT

As of October 2024, around two-and-a-half years after the start of the Russian war of aggression, 3.6 million people in Ukraine were internally displaced and 4.3 million were returnees. Most of these are women and children[22]. The war has destroyed cities and infrastructure and significantly expanded the informal labour market. According to the ILO, five million formal jobs have been lost.

Social inequality, particularly gender-specific inequality, has become even more pronounced. Women and girls are particularly affected by displacement, poverty and violence and bear a great deal of responsibility for their families. Despite this, women are active throughout the country – as frontline fighters or as humanitarian aid workers and carers. They should therefore also play a key role in the reconstruction of Ukraine.

22 Ukraine — Internal Displacement Report — General Population Survey Round 18 (October 2024) | Displacement Tracking Matrix.

APPROACH

To highlight the role of women and their needs in Ukraine's reconstruction process, Cities Alliance, StreetNet International and WIEGO organised a workshop in Brussels in February 2023. The aim was to present the recently published study Rebuilding with Women: Amplifying Their Voices in Ukraine's Recovery, which is based on numerous interviews with Ukrainian women, and to conduct discussions with representatives of the European Commission, the European Investment Bank, UNOPS, NGOs and other actors involved in the reconstruction of the country.

The event focussed on three key topics:

1. Current initiatives of European institutions to support Ukraine and the integration of gender equality.
2. Findings from the Rebuilding with Women study and the impact of war on women.
3. Ensure that the medium and long-term reconstruction process takes into account the needs of women and girls.

Although the participants agreed that women must play a central role in reconstruction, it remained unclear how exactly this role can be integrated into urban plans. Gender inequality has so far been primarily addressed in the context of gender-based violence, but rarely in relation to the planning and reconstruction of urban infrastructure and services. There is therefore a risk that rebuilt infrastructure, services and public spaces will continue to reinforce existing inequality.

Workshop for the usage of 3D printers as part of reconstruction efforts | GIZ/Volodymyr Babii

KEY RESULTS

Although no final decisions were reached, a number of insights were gained from the discussions:

1. A multi-stakeholder approach that involves civil society, local communities and governments is needed for reconstruction. The process must be participatory, with women at its core. Experience from the post-war rebuilding of European cities can help Ukraine to organise reconstruction effectively and inclusively. Increasing decentralisation and the strengthening the capacity of local governments can further support this process.

2. Women must be at the centre of efforts to rebuild Ukraine. The workshop highlighted the importance of engaging women and girls in mapping war damage and designing urban services. Women-friendly urban planning includes, for example, barrier-free footpaths, playgrounds, accessible toilets and easily accessible facilities. Adequate childcare places are also important to enable women to play an active role in reconstruction.

3. A clear framework for social and economic inclusion is needed. In addition to rebuilding infrastructure, issues such as access to land, services, education and economic opportunities need to be addressed. The Ukrainian Government and the international community must support income-generating opportunities, in particular by restoring childcare and healthcare for women and designing transport options that meet women's needs.

4. Women's skills need to be further developed in a targeted manner, particularly in the area of digitalisation. It is important to develop their capabilities. Labour laws must comply with international and EU standards and protect workers' rights.

5. Mechanisms for gender-responsive budgeting are necessary in order to take gender issues into account when allocating funds to support Ukraine. These will provide financial support to women's organisations and monitor initiatives to promote women and gender equality[23].

23 Sources: Including Women in Ukraine's Reconstruction from the Start | Cities Alliance | Workshop brief-jtb.docx | Cities_alliance_rebuilding_with_women_december_2022.pdf

Construction of the Anandoloy building with the local community in Rudrapur, Bangladesh | Stefano Mori

2.4.2 ANANDALOY PROJECT IN BANGLADESH

CONTEXT

In Rudrapur, a rural region in Bangladesh, people with disabilities are stigmatised and socially excluded due to traditional beliefs. Poverty forces families to go out to work, which means that people with disabilities are often left to fend for themselves during the day. Therapy centres are rare in Bangladesh, and none were previously available in Rudrapur. The *Anandaloy* Building combines a therapy centre for people with disabilities with a studio that produces fair textiles (Dipdii Textiles).

APPROACH

The defining features of the *Anandaloy* building include the use of sustainable materials, innovative construction methods and the close involvement of the local community. The main materials used were loam and bamboo from the region, which were processed by local craftspeople. By applying special technologies, it was possible to design the building creatively. Construction was managed by a local building contractor, supported by a team of villagers, including people with disabilities. The transfer of knowledge from Studio Anna Heringer to the local community, including through other projects, has also enabled new skills to be anchored locally. Another storey was added to the building to host the *Dipdii Textiles* Studio, offering women the opportunity to work as tailors in their village and so helping to combat rural-urban migration. A ramp up to the first floor is a visible sign of inclusive access and participation. By creating therapy, learning and work opportunities for people with disabilities, the building actively promotes inclusion and community spirit.

KEY RESULTS

The building embodies inclusion and makes disabilities visible. This has triggered discussion around accessibility and participation. The centre has also created job opportunities for women, strengthened the local economy and integrated people with disabilities into work and the community. A large portion of the budget was invested in local craftspeople. The use of local materials and energy resources combined with global expertise has boosted local added value. Through its innovative architecture, the building conveys the message 'Diversity is wonderful', provides a viable alternative to conventional construction methods and shows how traditional materials can be used in a modern and sustainable manner[24].

Finished construction of a centre for people with disabilities and Dipdii Textiles Studio in Rudrapur, Bangladesh | Kurt Hoerbst

24 Source: Anna Heringer | Architecture: Anandaloy.

Modernisation of a residential building in an informal settlement in the greater area of Lima, Peru | Habitat for Humanity International

2.4.3 INCLUSIVE SOCIO-ECOLOGICAL TRANSFORMATION IN RAPIDLY URBANISING AREAS IN GREATER LIMA – PERU

CONTEXT

Peru has experienced rapid urbanisation since 2000, with cities growing by more than 40% and 90% of construction activity taking place in the informal sector. The urban population is expected to grow by a further 30% by 2050. This will exacerbate inequality in cities, particularly in terms of housing. More than 140,000 new homes are built every year, but only 43,000 of these are in the formal sector. Low-income families often have to live in precarious living conditions for decades while they gradually build their homes, a process oftentimes taking longer than seven years till construction is finished. Sustainable building practices are rarely used, as these households tend to favour conventional, resource-intensive products.

APPROACH

In 2023, the Terwilliger Centre of Innovation in Shelter conducted a study with the aim of improving sustainability in the construction process for families in need. The study focused on four key housing typologies, based on factors such as location and materials used, and conducted an inventory of 40 building products in the Lima metropolitan area that reduce environmental impact, promote resource efficiency and improve quality of life. These solutions were comprehensively mapped to identify cost-effective, scalable options for each typology, increasing competition in the market. Four excellent practical solutions emerged: natural light (passive design), cross ventilation, concrete admixture and biodegradable concrete, as well as 17 other solutions that offered moderate potential.

The study highlights the effectiveness and simplicity of passive design strategies that use natural resources such as sunlight and wind to improve thermal comfort and reduce the carbon footprint. Importantly, the study also demonstrates that these sustainable solutions are cost effective and can attract the interest of market participants, including financial institutions and local governments.

The research emphasises the need to reconcile housing justice with climate-friendly solutions for future generations. Current green development paradigms often neglect the specific motivations and needs of low-income communities, favouring rigid frameworks over adaptable approaches. Two obstacles have to be overcome: Firstly, the misconception that 'green' solutions require significant upfront investment. Secondly, the lack of awareness and skills in the area of self-built living space. This project aims to bridge knowledge gaps by transferring professional guidelines for passive construction into practical, viable solutions. These solutions must be appropriate for low-income populations to ensure that climate-relevant designs meet the immediate needs of communities that are looking to build sustainable housing.

KEY RESULTS

Providing sustainable solutions that can be integrated into the construction processes of low-income households will increase competition in the market and lead to competitive prices for sustainable building materials and services. This will benefit both households in need and the cities in which they live. Affordable, sustainable construction reduces social exclusion in housing markets by giving marginalised, low-income households who do not have access to adequate housing the opportunity to build better quality, more affordable homes.

In addition, sustainable solutions that take into account the realities of local people's lives could make low-income housing in Peru more resilient, reduce household expenditure and cut carbon emissions when building homes.

Home owners in front of their modernised house in the greater area of Lima, Peru
Habitat for Humanity International

Informal settlement on a slope in Vila Mar, Salvador, Brasil
C40 Cities Finance Facility

> **„The Vila Mar project demonstrates the commitment of the city and its partners to overcoming the climate crisis challenges and improving conditions for the local population in the long term."**
>
> – Gabriela Morias (coordinator), Salvador

2.4.4 C40 FINANCE FACILITY BRAZIL

CONTEXT

The city of Salvador in Brazil faces a number of different climate-change-related challenges. It will have to deal with increased rainfall in the coming years, which is likely to lead to more frequent flooding and landslides. This is exacerbated by poorly developed infrastructure, such as drainage systems that are blocked by waste and so impede rainwater runoff. Salvador is also likely to be exposed to higher temperatures and more intense heatwaves. These changes to the climate have particularly devastating effects in low-income neighbourhoods, where settlements are often informal. Due to their location and poor urban planning, such areas are susceptible to climate-related risks, which significantly impairs the quality of life of residents and jeopardises their safety.

APPROACH

The informal settlement of Vila Mar, for example, is particularly affected by climate change. To address these challenges, the city is pursuing an integrative approach that promotes cooperation between the city administration, residents and experts. The aim is to develop measures that will strengthen the long-term resilience of the affected neighbourhoods. This includes constructing flood defences, improving wastewater and drainage systems and creating green spaces that serve as natural barriers against flooding.

KEY RESULTS

The measures already implemented have started to have a positive impact. By expanding and optimising infrastructure, the risk of flooding and landslides in Vila Mar has been significantly reduced, improving living conditions and increasing residents' safety. Active participation by the local population in planning and implementing these measures strengthens the sense of community and supports social and economic development[25].

Rendering of the vision of the Vila Mar project to create protected slopes and walkable nature | C40 Cities Finance Facility

25 Source: C40 Cities Finance Facility | Protecting against floods and landslides in a low-income neighbourhood.

Newly built market hall in the sengalese capital of Dakar
International Growth Centre (IGC)

2.4.5 MUNICIPAL FINANCING IN DAKAR, SENEGAL

CONTEXT

Dakar, the capital of Senegal, faces major challenges that are being exacerbated by growing urbanisation. The need for urban infrastructure, housing and public services is increasing, while the city's financial resources are limited. State transfers and local tax revenues are not sufficient to finance the required investment. The city's dependence on international donors, whose projects are often long-term and are not always aligned with the city's plans, does not make the situation any easier.

In 2014, Dakar planned to issue a municipal bond totalling USD 40 million to close this gap. The aim was to build a modern market hall for over 4,000 street vendors that would offer safe working conditions, access to credit and other services. International partners such as the *Bill and Melinda Gates Foundation* and the World Bank supported Dakar, providing guarantees and advice in order to increase the city's creditworthiness. Although the national government ultimately blocked implementation, the process has strengthened the city's financial management and opened up new avenues for alternative financing options.

APPROACH

This municipal bond is one example of an innovative approach to municipal financing. Small bond denominations were designed to attract investments from both institutions and the street traders themselves and so strengthen their identification with the project. Planning also included measures to improve creditworthiness and financial management. International partners helped to reduce risk for investors and prepare the bond for the market. Despite thorough preparations, the bond issue was halted by government decree. This setback emphasises the key role that political context and support at national level play in local reform.

KEY RESULTS

Although the municipal bond was ultimately not issued, the process still had a positive impact. The city was able to improve its financial management and increase its creditworthiness, giving it access to other sources of funding. Dakar has since successfully taken out further concessional and commercial loans to finance important infrastructure projects. Planned public participation has also strengthened the relationship between the city administration and residents, who now feel more involved in urban development. The example also shows the important role cooperation between the local and national levels plays in the success of innovative financing measures. The national government is now boosting local revenue through property tax reform and better coordination. These developments also emphasise the importance of measures such as the planned bond for urban development in the Global South, even though the bond was not issued[26].

Newly built residential complex in Dakar | International Growth Centre (IGC)

26 Source: Enhancing the financial position of cities: Evidence from Dakar | International Growth Centre and fsud_report_case_studies_dakar.pdf.

3

Recommendations for action

Planning workshop for the climate-friendly upgrading of the informal settlement Onyika in Windhoek, Nambia with its residents | GIZ

3.1 CITY-SPECIFIC RECOMMENDATIONS FOR ACTION

URBAN PLANNING

In terms of urban planning, cities in the Global South have various options for reducing urban inequality. Local institutional capacities are always an important factor in this context and should be developed. Robust institutions provide reliable framework conditions for investing in infrastructure, housing, education and access to the labour market, all of which are building blocks for just and sustainable urban development.

Targeted measures could include expanding affordable public transport systems, such as Bus Rapid Transit (BRT) systems, which make efficient use of limited urban space and offer accessible mobility options to low-income population groups. The prerequisite here is that such measures also cover informal settlements and low-income neighbourhoods. In terms of housing construction, the participatory upgrading of informal settlements, support for affordable rental housing and the utilisation of derelict land can reduce social and spatial inequality. The involvement of the informal sector in urban planning is also essential. Measures such as access to public services, open spaces and income-generating contracts for home-based workers, street vendors and waste pickers can significantly improve their living conditions.

Integrative planning processes are also important. Cities can use tools such as the Cities Alliance approach or UN-Habitat's *Our City Plans* to develop participatory and sustainable solutions. The *#HerCity* toolkit also focuses on the inclusion of girls and women in order to promote diversity and make urban planning gender-equitable.

CLIMATE-SENSITIVE URBAN DEVELOPMENT

Climate-friendly cities are becoming increasingly important in meeting the challenges of climate change. To strengthen resilience to climate change and reduce social inequality, cities must take measures that benefit the entire population, especially low-income groups. One example is reducing the use of fossil fuels and expanding publicly accessible green spaces in urban development plans. These measures help improve air quality and reduce the heat island effect. If consideration is given to disadvantaged residential neighbourhoods, they too can benefit from such measures. Another example is introducing socially equitable water supply models, such as block tariffs, to make access to drinking water more just. Here, too, the plans should take into account the needs of low-income households.

To increase acceptance and the effectiveness of various measures, it is also important to involve the population in the planning process. Participatory approaches ensure that adaptation strategies meet local needs and that low-income groups are included in the decision-making process.

Urban greenery in Hanoi, Vietnam | GIZ

A sustainable and energy-efficient newly built complex in Ulaanbaatar, Mongolia of the GIZ-project Integrated Urban Development | GIZ

SUSTAINABLE CONSTRUCTION

The construction sector also harbours potential for reducing urban inequality. Cities can take measures to improve the energy efficiency of existing and new buildings. Recommendations include introducing mandatory building efficiency regulations and access to information on energy consumption. Innovative financing models can help cover the initial investment costs. Improved building efficiency is particularly important for low-income groups, who are susceptible to climate-related stresses such as heatwaves. Using sustainable materials in construction can also help create a pleasant indoor climate without air conditioning, even in extreme temperatures.

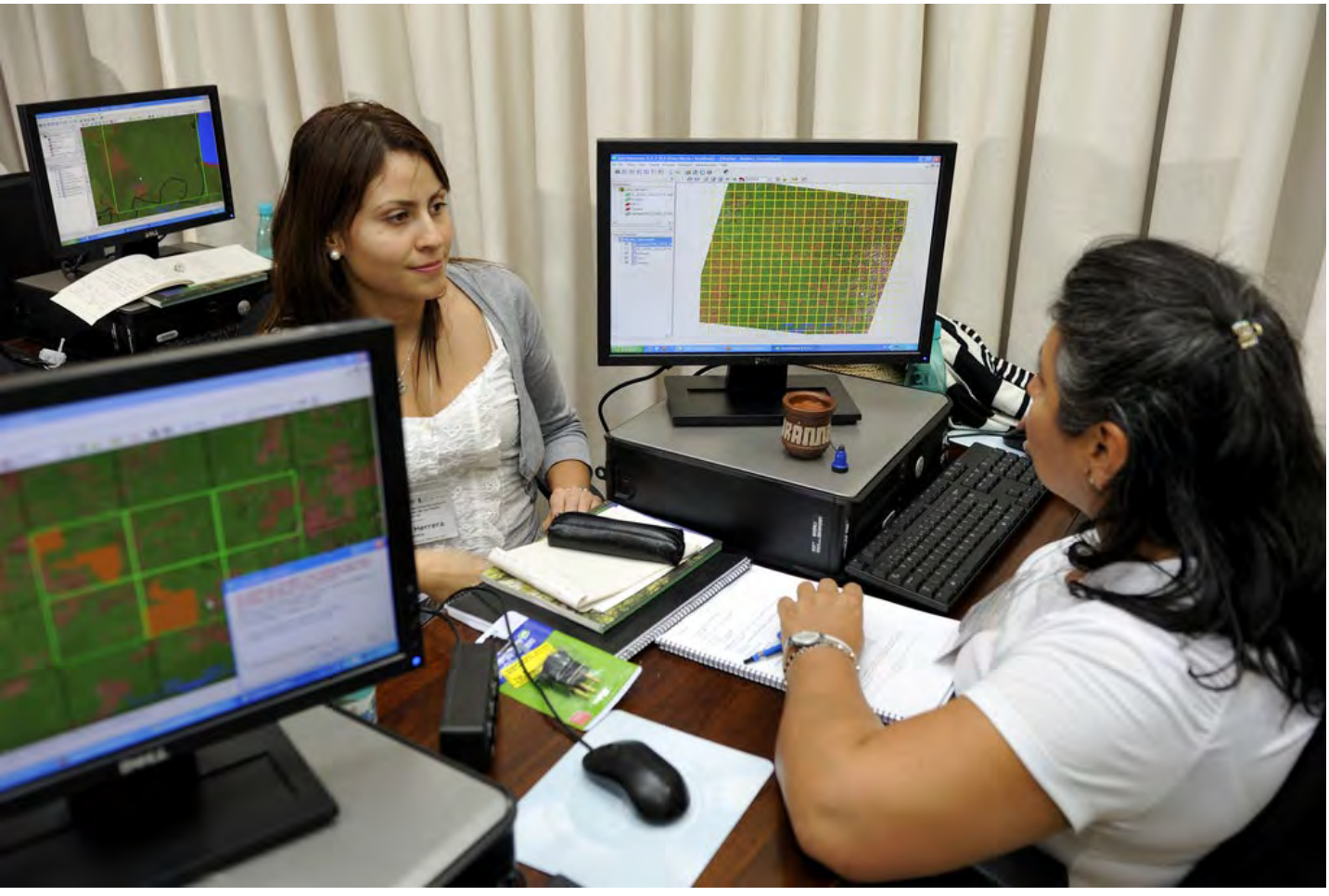
Local governments can also act as role models by implementing energy-efficient measures in their own buildings and motivating others to follow suit. The involvement of private sector actors through information campaigns and incentives can also increase participation. Decision-makers should also regulate the trade in non-sustainable building materials to prevent hazardous materials from being used in construction. The focus should be on safe and sustainable trading practices that promote the safety and resilience of buildings.

MUNICIPAL FINANCING

In order to achieve improvements in municipal financing, cities in the Global South should develop strategies for increasing tax revenue in line with local conditions. As the study from Ghana shows, the use of technology to improve tax collection has proven effective, significantly increasing the delivery of bills and boosting tax revenue. In countries with low levels of state capacity, local elites such as *chiefs* can help increase tax compliance by addressing specific households. Tax adjustments such as a reduction in tax rates can also maximise tax revenue, especially when combined with improved enforcement.

In the long term, a cost-benefit analysis of tax policy should be carried out in order to optimise tax strategies. International programmes such as the *Global Infrastructure Facility* and *Project Preparation Facilities* can help cities to tap into new sources of income and prepare financing projects. Higher tax revenues in turn enable investment in public services, particularly for disadvantaged groups, helping to reduce social inequality and improve the quality of life.

Workshop on the monitoring of the forests in the Amazon area in Belem, Brasil | GIZ/Florian Kopp



3.2 KEY MESSAGES

URBAN PLANNING

- Strengthening local institutions creates a reliable framework for investment in urban planning and reduces inequality in case of targeting disadvantaged groups.
- Infrastructure measures such as inclusive housing and public mobility enhance quality of life and improve access to paid employment.
- Participatory measures and the involvement of the informal sector promote co-determination and reduce social inequality.

CLIMATE-SENSITIVE URBAN DEVELOPMENT

- Expanding public green spaces can reduce the heat island effect, improve air quality and enhance quality of life. It is important that disadvantaged neighbourhoods also benefit from these measures.
- Socially equitable water supply models must be adapted so that low-income households have affordable access to drinking water.
- Participatory approaches ensure that adaptation strategies meet the needs of the population.

SUSTAINABLE CONSTRUCTION

- Measures to improve energy efficiency can reduce social inequality by protecting low-income groups from climate-related stress such as heat waves.
- The use of sustainable building materials can also create a comfortable indoor climate without the need for air conditioning, even in extreme temperatures.
- The trade in non-sustainable building materials should be regulated in order to prevent the use of hazardous materials.
- Local governments need to act as role models, with incentives being provided to encourage the involvement of the private sector.

MUNICIPAL FINANCING

- To increase tax revenue, cities in the Global South should develop tax strategies that are aligned with local conditions. Higher tax revenues make investment in public services possible and so help to reduce inequality.
- Using technology to improve tax collection and encouraging local elites, such as chiefs, to address specific households are promising approaches to increasing tax compliance.
- International programmes such as the *Global Infrastructure Facility* and *Project Preparation Facilities* can help cities to tap into new sources of income and prepare financing projects.

Female and male construction workers working together on a construction site in India
GIZ/ Michael Netzhammer

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ANNEX

The table shows the high level of inequality in the different regions throughout the world, as measured by the Gini coefficient and the Palma ratio. The highest level of inequality is in Latin America, followed by Africa and Asia. Inequality in Europe and the European Union is significantly lower by comparison.

TABELLE: Inequality by region, 2022

REGION	GINI COEFFICIENT (BEFORE TAXES)	PALMA RATIO
Africa	67	10.12
Asia (excluding the Middle East)	64	7.92
Latin America	70	15.11
Europe	49	3.17
European Union	48	3.08

Source: Our World in Data. Data Gini coefficient (before tax) and Palma ratio: World Inequality Database.