

#### **THE 17 GOALS**

In 2015, world leaders agreed to 17 goals for a better world by 2030. These goals have the power to end poverty, fight inequality and stop climate change. Guided by the goals, it is now up to all of us, governments, businesses, civil society and the general public to work together to build a better future for everyone. https://www.globalgoals.org/





### LEAVE NO ONE BEHIND

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#### PREFACE

The United Nations' Sustainable Development Goals Report 2023 is a stark reminder that international progress towards the 2030 Agenda is far behind where it needs to be. It is unlikely that the objectives will be achieved in the remaining fifteen years, but there are signs of clear progress and increased efforts in this respect.

Uncontrolled urban sprawl all over the world threatens not only the environmental, social and economic balance of the globe, but also its relation to nature and biodiversity. Climate crises, frequent natural disasters, political upheavals and wars in many countries have revealed social, economic and environmental inequalities that disproportionally affect those living in poverty. The world faces the difficult task of how to best respond to today's climatic and social challenges. Urban planning and architecture are challenged to find adequate answers in this difficult context. Building is a public act. It depends on political and economic factors and requires interdisciplinary collabouration. Architects are called upon to design places capable of generating a better society, buildings that contribute to the wellbeing of the people that use them and environmental challenges. Architects are educated and trained to coordinate the knowhow of other disciplines and specialists, to use technology intelligently, to find solutions within the given economic and legal framework. At the same time, they are active in promoting changes in legislation to improve public policy, optimise the use of land and natural resources, reduce energy expenditure and improve environmental protection. What is truly es sential and unique for the profession of architect, though, is the ability to translate needs into spatial solutions and respond with design creativity to the particularities of the task, place and context with consideration of raints.

As a design specialist, the architect is challenged to understand the needs of both users and investors and interpret them in the interest of society. The profession does not only have an aesthetic, but also a social, ethical and political responsibility. Good design is not extravagant, but responsible. Quality does not imply high cost but care for people and public interests. The different formal languages and aesthetics of the projects express the diversity of cultural identities and sensibilities, and manifest the enriching plurality found across the world.

The projects selected to feature in this compendium document examples of remarkable social engage-ment and creativity. It is particularly encouraging that the projects have been planned and realised in all parts of the world. With 96 projects from 29 Member Sections spanning all 5 UIA Regions, the Guidebook demonstrates how responsible architecture can contribute to the achievement of the 17 UN Sustainable Development Goals across the globe. On behalf of the UIA, I would like to congratulate the UIA SDG Commission and its 2021-23 Co-Directors for the third edition of the UIA Guidebook, and thank the Royal Danish Academy and the UIA 2023 Congress organisers for their collabouration in the realisation of this impressive publication.

#### Regina Gonthier UIA President

#### THERE'S NO POINT OF RETURN.

In the year 2023, we find ourselves at the midpoint of the 2030 Agenda's timeline. Following the challenges posed by the COVID-19 pandemic and a global economic crisis, a recent analysis commissioned by the United Nations and presented by its Secretary General, António Guterres, reveals that less than 13% of the 2030 Agenda's targets have been achieved thus far.

The significant outcomes of the UIA Congress 2023, which took place in Copenhagen last summer, indicate a heightened awareness among architecture and urban planning professionals of their essential role in combatting the challenges of climate change, as they actively seek sustainable solutions in their day-to-day practices. This confirms our unwavering dedication to this important global agenda and its objectives, underscoring the fundamental role that the UIA, a global organisation representing over 100 countries and territories and recognised by numerous United Nations agencies, will continue to play in the years to come.

Inspired by the previous publications orchestrated by the Royal Danish Academy, the UIA SDG Commission designed and developed this Guidebook. Its purpose extends beyond mere dissemination of knowledge about the 17 Sustainable Development Goals; it also aims to share the results of the labour undertaken by architecture professionals worldwide. This, however, is just the inception of our journey, and there is no point of return as we steadfastly pursue the mission to leave no one behind.

We would like to express our heartfelt gratitude for the unwavering support extended by our members, the UIA Secretariat and Bureau throughout this undertaking. This publication was only made possible through the collabourative endeavours of the regional sections from five regions, who diligently promoted the call for proposals and spurred the active involvement of their members.

We trust that you will find this Guidebook enriching, and we encourage you to use it as a vehicle to propagate the principles of sustainable development in architecture and urban planning, thereby inspiring forthcoming generations of professionals.

#### Cid Blanco Jr. and Iman Gawad

UIA SDG Commission Co-Directors (2021-2023) Editors of the UIA Guidebook for the 2030 Agenda

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In the following pages, all projects were identified with the category they were registered by their authors:

**EFP** - Experiences from the Past **LDP** - Last Decade Projects **IFF** - Inspirations for the Future

## **Ň:††**iľ

**NO POVERTY** end poverty in all its forms everywhere Poverty is more than the lack of income and resources to ensure a sustainable livelihood. Its manifestations include hunger and malnutrition, limited access to education and other basic services, social discrimination and exclusion as well as the lack of participation in decision making.<sup>1</sup>

The decline of global extreme poverty continues but has slowed. The deceleration indicates that the world is not on track to achieve the target of less than 3% of the world's population living in extreme poverty by 2030. Strong social protection systems and government spending on key services often help those left behind get back on their feet and escape poverty, but these services need to be brought to scale.<sup>2</sup>

To find out more about Goal #1, visit: https://www.un.org/sustainabledevelopment/poverty/ 1 Extract from UN's Global Issues, available from https://www.un.org/en/sections/issues-depth/poverty/ 2 Extract from UN's SDGs Knowledge Platform/: https://sustainabledevelopment.un.org/sdg1 Architecture cannot lift people out of poverty, but the built environment can affect the impact of poverty on people's lives by providing access to affordable housing, sanitation, educational institutions, health facilities and spaces for recreation.

Through building design and planning, architects can develop buildings and settlements that are low cost, safe and healthy. Examples of this can be found in social housing schemes, co-ops and projects for urban upgrading.

The overarching principle of architecture's contribution to the goal of no poverty is that buildings and public spaces must help provide services that are affordable and accessible for marginalised and poor citizens.

This requires new architectural solutions emphasising low-cost construction principles, natural light and ventilation, use of local materials and increased reuse of available materials. Buildings must be designed using products and materials that do not compromise the environment, while maintaining the affordability of the solutions.

Furthermore, architecture, landscape design and planning must adapt the built environment to local climatic, geographical and cultural contexts, working with the surrounding environment and not against it, to increase quality of life while helping inhabitants save on electricity and other running costs. As part of this, architects working on development projects must engage local communities and help marginalised and poor citizens gain ownership of the built environment of which they are a part. Finally, the building process itself must take place under conditions that protect the environment as well as workers and other stakeholders.



#### ZERO HUNGER

End hunger, achieve food security and improved nutrition and promote sustainable agriculture It is time to rethink how we grow, share and consume our food in more sustainable ways. If done right, agriculture, forestry and fisheries can provide nutritious food for all and generate decent incomes while supporting people-centred rural development and protecting the environment.

Right now, our soils, freshwater, oceans, forests and biodiversity are being rapidly degraded. Climate change is putting even more pressure on the resources we depend on, increasing risks associated with disasters, such as droughts and floods. Many rural women and men can no longer make ends meet on their land, forcing them to migrate to cities in search of opportunities.<sup>1</sup>

To find out more about Goal #2, visit: https://www.un.org/sustainabiledevelopment/hunger/ 1 Extract from UN's Sustainability Goals: https://www.un.org/sustainabledevelopment/hunger/ The built environment contributes to the securing of food supplies through planning, landscape and building designs that protect existing ecosystems and prioritise the preservation and expansion of areas for food production.

Creating conditions to support sustainable farming must be an integral part of building development, especially where fertile land is scarce due to urban density, harsh climatic conditions or restricted access. Planning, landscape and building design can contribute by developing built environments that favour land use for food production in many scales. Examples of this can be found in urban farming projects, micro-gardening initiatives for refugees, production cooperatives and regenerative landscape design. Furthermore, the built environment can help to maintain and rebuild species diversity in open land as well as in suburban settlements and even in dense urban areas. This requires working with local geography, climatic conditions and locally adapted crops in the design of areas for food production.

The design of areas for food production, on a micro scale as well as on a larger scale, must be robust and geared to cope with climatic changes, such as more extreme weather, drought and floods. Also, a local production ecosystem can co-exist between the production of building materials, like timber or bricks, and food, making it important to consider how the food production interacts with the production of building materials. Finally, building and landscape design must involve end users when designing areas for food production to ensure the relevance and longevity of the production.

#### GOOD HEALTH AND WELL-BEING Ensure healthy lives and promote well-being for all at all ages

Ensuring healthy lives and promoting well-being for all at all ages is important to building prosperous societies. Yet, despite great strides in improving people's health and well-being in recent years, inequalities in health care access still persist.<sup>1</sup>

Many more efforts are needed to fully eradicate a wide range of diseases and address many different persistent and emerging health issues. By focusing on providing more efficient funding of health systems, improved sanitation and hygiene, increased access to physicians and more tips on ways to reduce ambient pollution, significant progress can be made in helping to save the lives of millions.<sup>2</sup>

To find out more about Goal #3, visit: https://www.un.org/sustainabledevelopment/health/

1 Extract from UN report WHY IT MATTERS – Good Health and well-being – PDF 2 Extract from UN's Sustainability Goals: https://www.un.org/sustainabledevelopment/health/ Architecture plays a crucial part in creating a built environment that supports good health and well-being. Access to health systems, sanitation and hygiene plays a major role in a healthy life, and in reducing the spread of diseases, as does spatial planning that allows social distancing in public spaces and at work.

Furthermore, most people spend the majority of their lives indoors, making indoor climate an influential factor of health. Building design must thus enable a healthy indoor climate concerning light, acoustics, air quality and exposure to radiation and degassing. This is important in all buildings, but especially so in buildings with vulnerable users, such as hospitals. Building design must further avoid the use of environmentally hazardous materials and substances.

Transmission of diseases and illnesses often happens within the built environment. Building design and the layout of settlements and urban areas are crucial to curb the spread of diseases and exposure to bacteria and viruses, such as the novel COVID-19.

Furthermore, infrastructure, health institutions and the design of urban areas affect citizens' access to exercise opportunities. Buildings, settlements and urban areas must therefore be planned so that they allow and encourage physical activity. Urban layout also influences the risk of accidents, for example in traffic, and this too can be addressed through design.

How architecture interacts with health varies greatly, and examples of this can be found in housing that reduces the risk of infection with malaria, in patientcommunity buildings and in the design of public spaces.

#### **QUALITY EDUCATION**

Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all Obtaining quality education is the foundation to creating sustainable development. In addition to improving quality of life, access to inclusive education can help equip locals with the tools required to develop innovative solutions to the world's greatest problems.

The reasons for lack of quality education are due to lack of adequately trained teachers, poor conditions of schools and equity issues related to opportunities provided to rural children. For quality education to be provided to the children of impoverished families, investment is needed in educational scholarships, teacher training workshops, school building and improvement of water and electricity access in schools.<sup>1</sup>

To find out more about Goal #4, visit: https://www.un.org/sustainabledevelopment/education/

1 Extract from UN's Sustainability Goals: https://www.un.org/sustainabledevelopment/education/

# Schools and educational spaces are a crucial part of our investment in the future.

Whether in a refugee camp, in informal settlements or in rural communities, access to schools and education is defining the future of our children. Schools, universities and other educational institutions all require architectural design that enables a productive learning environment. However, architecture also has a key role to play in creating affordable, accessible and inclusive educational solutions for all children, including children who are marginalised or have special needs, and for communities with limited resources to maintain conventional school buildings or limited access to an existing school system. Children from poor or marginalised communities, who are female or have disabilities, must not be left behind, This requires architectural solutions that are accessible and address the needs of all students.

Examples of this can be found in school facilities for minorities or marginalised groups, in schools that enable children to stay in their local community while studying, and in schools for children with special needs.

Furthermore, the built environment can provide training opportunities regarding the sustainable performance of buildings, settlements and urban areas for both users and craftsmen. In development, as well as in use, buildings and communal facilities can interact with and promote a sustainable culture of usage.

On the level of primary education, an increased focus on knowledge regarding sustainable design and crafts will be key in building the future sustainable development.



**GENDER EQUALITY** Achieve gender equality and empower all women and girls Gender equality is not only a fundamental human right, but a necessary foundation for a peaceful, prosperous and sustainable world.<sup>1</sup>

Yet, gender inequality persists worldwide, depriving women and girls of their basic rights and opportunities. Achieving gender equality and the empowerment of women and girls will require more vigorous efforts, including legal frameworks, to counter deeply rooted gender-based discrimination that often results from patriarchal attitudes and related social norms.<sup>2</sup>

To find out more about Goal #5, visit: https://www.un.org/sustainabledevelopment/gender-equality

1 Extract from UN's Sustainability Goals: https://www.un.org/sustainabledevelopment/gender-equality/

2 Extract from UN's SDGs Knowledge Platform https://sustainabledevelopment.un.org/sdg5 To support a movement towards gender equality, the design of buildings, settlements and urban areas must be inclusive to all citizens regardless of gender.

The organisation of public spaces, institutions and services must prioritise the security of girls, women and LGBT+ citizens and help minimise the risk of abuse. The ability to move safely in public spaces, in public institutions and at the workplace is essential to the inclusion of women and girls in civil society and to women being able to hold a job outside of their home, which is key to being self-supporting. Also needed are affordable and secure buildings to provide health services, basic sanitary services and meeting places for women and LGBT+ citizens. Examples of this includes maternity clinics, community centres, safe houses or secure public bathrooms.

Design of playgrounds, public parks and sports facilities must offer girls, women and LGBT+ citizens equal access to leisure and physical activities and create conditions that encourage use by all.

The building industry itself must work towards equal pay, promote diversity and work to oppose sexual harassment. As part of this, the industry must support women's ability to handle heavy construction processes that are otherwise reserved for men, for example by the introduction of lifting technologies. From design through construction, the industry must avoid a narrowly gendered work culture in order to promote diversity and co-ownership so that more women and LGBT+ professionals will be able to join the industry at all levels.



#### CLEAN WATER AND SANITATION Ensure availability and sustainable management of water and sanitation for all

Access to water, sanitation and hygiene is a human right, yet billions are still faced with daily challenges accessing even the most basic of services. Clean, accessible water for all is an essential part of the world we want to live in, and there is sufficient fresh water on the planet to achieve this. However, due to bad economics or poor infrastructure, millions of people including children die every year from diseases associated with inadequate water supply, sanitation and hygiene.<sup>1</sup>

To find out more about Goal #6, visit: https://www.un.org/sustainabledevelopment/water-and sanitation/

1 Extract from UN's Sustainability Goals: https://www.un.org/sustainabledevelopment/water-andsanitation/ Adequate treatment and disposal of sewage, access to clean drinking water and access to handwashing and cleaning are crucial to human health and to stopping the spread of bacteria and viruses, such as Schistosomiasis.

Buildings and public spaces must be designed so that access to handwashing and cleaning is accessible to all citizens. Furthermore, to take advantage of rainfall where clean water is scarce, buildings must be designed so that rainwater can be collected, purified and used as drinking water.

In areas where rainwater does not need to be collected for drinking water, buildings and urban areas must be designed so that rainwater can enter the groundwater without being mixed with wastewater or being polluted in other ways. As for sanitation, the buildings, services, sewage systems and infrastructure must be planned and designed to keep bacteria and contaminated water separate from clean water and out of contact with citizens. A key part of this is to ensure access to toilet facilities that are designed to handle the waste produced. Building materials that do not contribute to groundwater contamination should be chosen, whether during extraction, construction or in use.

Furthermore, urban areas, settlements and buildings must be designed to withstand climate change related to water, such as more extreme precipitation, drought and floods. Landscape architecture and urban planning must protect freshwater resources through conservation projects and the design of recreational areas that protect, collect and handle water.

Examples of this are found in waterhandling features at building level, in climate adaptation projects on an urban scale, and in communal toilets and washing facilities.



LDP

### NO HOUSE WITHOUT A BATHROOM (NENHUMA CASA SEM BANHEIRO)

#### **Project Description**

No House Without Bathroom is a housing improvement programme implemented through technical assistance provided by architects in homes of low-income families. It is based on the Federal Law which ensures free technical assistance for social housing (ATHIS) as a public housing policy and aims to meet household sanitation needs relating to water use, hygiene and the proper sewage disposal by building sanitary facilities in houses where there is no bathroom or where one is in precarious condition. The sanitation solutions are designed on the site according to the needs of each family, environmental conditions and infrastructure installed in the community, so it seeks to optimise resources in its implementation. In the midst of the Covid-19 pandemic, the Council of Architecture and Urbanism of Rio Grande do Sul conceived the programme No House

Without Bathroom, as a way to claim for mobilisation of the public authorities regarding the urgent need for investments in household sanitation. The inter-institutional cooperation established between governments, institutions of public interest and architects' entities underpinned its implementation. The programme is being developed in a dozen cities. So far, has invested around US\$ 3 million with public funding and benefited 1.200 families in Rio Grande do Sul.



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**Client:** State Department of Housing (SOP/RS), City Hall of Canoas and 359 low-income families **Project Location:** Canoas, Rio Grande do Sul, Brazil

**Built Area:** 3,6 m<sup>2</sup> **Year of Conclusion:** 2023 (in progress)







#### Linking the project to the indicated **SDGs**

The main purpose of the No House Without Bathroom programme is to promote technical assistance for social housing, as a public policy that combines access to water and sanitation with the right to adequate housing and the city (SDG 6 / SDG 11), in order to contribute to the achievement of the sustainable development goals and targets defined by United Nations Urban Agenda 2030. No House Without Bathroom programme also contributes to reducing maternal and child mortality related to drinking water, hygiene and sanitation and the transmission of waterborne diseases, e.g., Ascaridea, Cholera,

Leptospirosis, Hepatitis, Typhoid, etc.  $(SDG_3)$  and promoting social inclusion by ensuring equal access to public goods and services for all, regardless of economic conditions (SDG 10). Concerning the encouragement and promotion of partnerships, No House Without Bathroom is part of a joint effort between several public institutions and civil society, mobilising financial, technical and management resources to support the implementation of the programme (SGD 17).



#### AFFORDABLE AND CLEAN ENERGY Ensure access to affordable,

eliable, sustainable and modern nergy for all Our everyday lives depend on reliable and affordable energy services to function smoothly and to develop equitably. In fact, energy is central to nearly every major challenge and opportunity the world faces today. Be it for jobs, security, climate change, food production or increasing incomes, access to energy for all is essential.

Focusing on universal access to energy, increased energy efficiency and the increased use of renewable energy through new economic and job opportunities is crucial to creating more sustainable and inclusive communities and resilience to environmental issues like climate change.

However, the challenge is far from being solved and there needs to be more access to clean fuel and technology and more progress needs to be made regarding integrating renewable energy into end-use applications in buildings, transport and industry.

To find out more about Goal #7, visit: https://www.un.org/sustainabledevelopment/energy/

Extract from UN's Sustainability Goals: https://www.un.org/sustainabledevelopment/energy/ The built environment is a major source of energy consumption throughout the life cycle of buildings and structures; from the extraction of raw materials and production of components, over the construction of buildings and structures, to the energy consumed throughout a building or structure's lifetime, to energy used in disassembly and finally disposal or reuse.

Buildings must be designed both to limit energy consumption in use, for example by using materials and layouts that minimise overheating, and to produce and recycle energy, for example by storing excess heat during the day and employing it at night. This means designing and constructing buildings, settlements and urban areas that employ appropriate energy technology under the given geographical, climatic and cultural conditions. Examples of this includes the use of daylight, natural ventilation or a choice of materials that support heating or cooling, such as heavy exterior walls in a hot and dry climate. Solutions that would consume a high level of energy in use in a given context must be avoided, such as exposed all-glass facades in a hot climate. The built environment can also contribute through the development of solutions that employ innovative sources of renewable energy.

Building and planning must be approached with a focus on total energy consumption through the whole life cycle. As part of this, energy-intensive materials and materials produced with non-clean energy, such as coalfired bricks, must be phased out or find new forms.



#### DECENT WORK AND ECONOMIC GROWTH Promote sustained, inclusive and

Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all Today, roughly half the world's population still lives on the equivalent of about US\$2 a day with global unemployment rates of 5.7%, and having a job doesn't guarantee the ability to escape from poverty in many places. This slow and uneven progress requires us to rethink and retool our economic and social policies aimed at eradicating poverty.<sup>1</sup>

Sustainable economic growth will require societies to create the conditions that allow people to have quality jobs that stimulate the economy while not harming the environment. Job opportunities and decent working conditions are also required for the whole working age population.

To find out more about Goal #8, visit: https://www.un.org/sustainabledevelopment/economic-growth/

1 Extract from UN's Sustainability Goals: https://www.un.org/sustainabledevelopment/economic-growth/ The built environment interacts with decent work and economic growth on both a planning level and on a building level.

Safe public spaces and affordable transit routes to the workplace are crucial for finding employment. The ability to move from home to a workplace, and the time spent in transit, determines what jobs are available, making healthy and safe public space and transportation systems key to citizens' access to work. Cities and settlements must also be planned and designed so that poor and marginalised citizens have access to a business outlet, such as a marketplace, where local produce, handicrafts and other services can be bought and sold. Workplaces must be designed so that they support healthy, accessible and productive work environments for all employees, including access to sanitation and a spatial organisation that makes social distancing possible when needed. Investing in good working conditions

backs a company's economic growth through higher productivity and fewer sick days.

In the building industry, focus is needed on decent working conditions and safety for workers. This entails the use of materials extracted and produced in safe and clean working environments as well as secure and controlled working conditions on building sites and in demolition processes. Furthermore, by emphasising investment in human resources, the industry can develop towards more sustainable economic growth by using increased skills and knowledge to reduce the amount of raw materials and energy needed, while improving productivity.

Examples of this can be found in planning projects for informal settlements, in state-of-the-art office buildings and in capacity-building initiatives.



#### INDUSTRY, INNOVATION AND INFRASTRUCTURE Build resilient infrastructure,

romote inclusive and sustainable ndustrialisation and foster innovatio Economic growth, social development and climate action are heavily dependent on investments in infrastructure, sustainable industrial development and technological progress. In the face of a rapidly changing global economic landscape and increasing inequalities, sustained growth must therefore include industrialisation that first of all, makes opportunities accessible to all people, and secondly, is supported by innovation and resilient infrastructure.<sup>1</sup>

To find out more about Goal #9, visit: https://www.un.org/sustainabledevelopment/infrastructureindustrialisation/

Extract from UN report WHY IT MATTERS – INDUSTRY, NNOVATION AND INFRASTRUCTURE – PDF. The building industry is producing massive amounts of waste and consuming large amounts of natural resources and energy. Further to this, the transportation and production of building components globally rather than locally carry environmental as well as humane costs.

Advancing sustainability in the built environment requires a development of industry and industrial infrastructure away from current practice and towards new ways of producing and assembling. We must develop our industry, its services, products and transportation systems to pollute less, tie up less energy, produce less waste and provide solutions that are safer and healthier than current standards.

The building industry is by nature site specific, and we must aim at utilising local industries and advancing the development of sustainable products locally, in all countries. This requires

the development of both physical and digital infrastructures to promote more sustainable trade and coexistence, including much more focus on the industry's use of local materials and resources. Where advanced industry is available, the focus is on the development of products that improve existing standards and raise the level of sustainability, for example by moving from a focus on no waste in production to a focus on no waste in a life-cycle perspective. This requires training and the development of new competences at all levels in the building industry as well as research and prototypes for testing the potential of new tools, processes and solutions. The resulting innovations in industry must continuously be measured against a culturally and climatically site-specific impact on sustainability.

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Inequalities based on income, sex, age, disability, sexual orientation, race, class, ethnicity, religion and opportunity continue to persist across the world, within and among countries. Inequality threatens long-term social and economic development, harms poverty reduction and destroys people's sense of fulfilment and self-worth. This, in turn, can breed crime, disease and environmental degradation.

Most importantly, we cannot achieve sustainable development and make the planet better for all if people are excluded from opportunities, services and the chance of having a better life. To reduce inequality within and among countries is therefore a key issue.<sup>1</sup>

To find out more about Goal #10, visit: https://www.un.org/sustainabledevelopment/inequality/

1 Extract from UN report WHY IT MATTERS – REDUCED INEQUALITIES – PDF The built environment can act as an amplifier and enforcer of inequalities. To reduce inequalities, planning and building must prioritise design that ensures inclusion and accessibility for all, including citizens that are marginalised, at risk or living with a disability.

Citizens with disabilities risk being restricted to their homes, or unable to hold a job, because stairs, steps, information systems, acoustics and other design features can make streets, transportation systems and institutions inaccessible. Religious and ethnic minorities, LGBT+ citizens and women experience being confined to designated areas or secluded from educational institutions and leisure facilities. Landscape qualities, like a beach or a view, can be closed to the public through design and planning that make them accessible only to owners or customers.

To reduce inequalities, architecture must be designed and executed so that it is socially responsible, inclusive and takes into consideration the needs of all members of society, leaving no one behind. Buildings, settlements and urban areas must be designed with accessibility as a core functionality; from ensuring even surfaces, lifts, ramps and wayfinding features to giving attention to doorways and the height of utilities. It also means that social responsibility and inclusiveness must guide the programmeming, planning and design of buildings and urban areas so that they support and allow use by all, with respect to local culture and needs. Examples span from state-of-the-art institutions adhering to universal design, over initiatives supporting specific at-need groups, to communities designed to include and prioritise marginalised citizens.



#### SUSTAINABLE CITIES AND COMMUNITIES

ke cities and human tlements inclusive, safe, ilient and sustainable Cities are hubs for ideas, commerce, culture, science, productivity, social development and much more. At their best, cities have enabled people to advance socially and economically. With the number of people living within cities projected to rise to 5 billion people – 60% of the world's population – by 2030, it is important that efficient urban planning and management practices are in place to deal with the challenges brought by urbanisation.<sup>1</sup>

Many challenges exist to maintaining cities in a way that continues to create jobs and prosperity without straining land and resources. Common urban challenges include congestion, lack of funds to provide basic services, a shortage of adequate housing, declining infrastructure and rising air pollution within cities.

To find out more about Goal #11, visit: https://www.un.org/sustainabledevelopment/cities

1 Extract from UN's Sustainability Goals: https://www.un.org/sustainabledevelopment/cities/

# The built environment is crucial to the development of sustainable cities and communities.

Architecture, design and planning contribute in multiple ways to make cities and settlements inclusive, safe, healthy, resilient and environmentally sustainable. Among key contributions are design and planning that secure affordable, accessible and healthy housing, access to sanitation, as well as buildings, public spaces and infrastructure which help to reduce the spread of diseases through design. Furthermore, public infrastructure can enhance mobility and accessibility, both between parts of a city and its surroundings, and can contribute to the reduction of pollution from transportation by enabling walking and biking.

Urban design can contribute to including all citizens by spatial organisation and designs that reduce

risks of intimidation and crimes, such as assault. Consideration of the needs of marginalised and disenfranchised citizens should be included from the early stages of planning, and all levels of stakeholders should be involved in the process. Urban design should also help reduce and counteract the environmental impacts of overuse, traffic, waste, noise and light pollution in urban areas. Individual buildings, as well as building complexes and settlements, must be developed to increase resilience and robustness in the face of climate change and include vegetation and green areas to help counteract the loss of vegetation and biodiversity caused by urban growth.

Examples of this span broadly and can be found in urban renewal projects, in climate adaptation plans, in the transformation and reuse of outdated buildings and structures, and in initiatives aimed at the inclusion and support of marginalised citizens.

# $\mathbf{CO}$



RESPONSIBLE CONSUMPTION AND PRODUCTION Ensure sustainable consumption and production patterns Sustainable consumption and production is about promoting resource and energy efficiency, sustainable infrastructure, and providing access to basic services, green and decent jobs and a better quality of life for all. Its implementation helps to achieve overall development plans, reduce future economic, environmental and social costs, strengthen economic competitiveness and reduce poverty.

Worldwide material consumption has expanded rapidly, as has material footprint per capita, seriously jeopardising the achievement of Sustainable Development Goal 12 and the Goals more broadly. Urgent action is needed to ensure that current material needs do not lead to the overextraction of resources or to the degradation of environmental resources, and should include policies that improve resource efficiency, reduce waste and mainstream sustainability practices across all sectors of the economy.<sup>1</sup>

To find out more about Goal #12, visit: https://www.un.org/sustainabledevelopment/sustainable-consumptionproduction

<sup>1</sup> Extract from UN's Sustainability Goals: https://sustainabledevelopment.un.org/sdgg:

#### The building industry is a major consumer of natural resources and contributor to waste.

When buildings are demolished, most of the value of existing materials and components are lost. The same applies to renovations, which transform vast amounts of already extracted and treated materials into waste. Even the process of constructing new buildings is producing waste; from cut-off bits of gypsum board over discarded formwork and the wrapping that components are delivered in, to materials damaged by weather or mistreatment.

Designing for long lifetime, steady maintenance and keeping what we already have, by careful adaptation of existing buildings, are keys to sustainable consumption in the built environment. Design considerations for durability and life cycles can reduce the value loss and waste production in the building industry and in individual components, buildings and structures. Ideally, the design of buildings allows them to transform into different uses over time so that the materials and other resources invested in the structure retain their value even when a given use changes or becomes obsolete. Additionally, individual components and materials should be designed and employed so that they can be recycled and upcycled.

Design and construction of new buildings must give priority to reducing the amount of material resources employed and waste produced. New architectural solutions and components must be developed that significantly reduce the use of resources overall, significantly limit the use of nonrenewable natural resources and emphasise the use and reuse of local materials.



CLIMATE ACTION Take urgent action to combat climate change and its impacts Climate change is now affecting every country on every continent. It is disrupting national economies and affecting lives, costing people, communities and countries dearly today and even more tomorrow. Weather patterns are changing, sea levels are rising, weather events are becoming more extreme and greenhouse gas emissions are now at their highest levels in history. Without action, the world's average surface temperature is likely to surpass a 3 degrees centigrade increase this century. The poorest and most vulnerable people are being affected the most.

Affordable, scalable solutions are now available to enable countries to leapfrog to cleaner, more resilient economies. Climate change, however, is a global challenge that does not respect national borders. It is an issue that requires solutions that need to be coordinated at the international level to help developing countries move toward a low-carbon economy.<sup>1</sup>

To find out more about Goal #13, visit: https://www.un.org/sustainabledevelopment/climate-change/

1 Extract from UN's Sustainability Goals: https://www.un.org/sustainabledevelopment/climate-change/

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LIFE ON LAND

Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss

Forests cover 30.7% of the Earth's surface and, in addition to providing food security and shelter, they are key to combating climate change, protecting biodiversity and the homes of the indigenous population. By protecting forests, we will also be able to strengthen natural resource management and increase land productivity. At the current time, thirteen million hectares of forests are being lost every year while the persistent degradation of drylands has led to the desertification of 3.6 billion hectares. Even though up to 15% of land is currently under protection, biodiversity is still at risk.1

To find out more about Goal #15, visit: https://www.un.org/sustainabledevelopment/biodiversit;

1 Extract from UN's Sustainability Goals: https://www.un.org/sustainabledevelopment/biodiversity/

#### The amount of built structures, buildings, settlements and cities taking up land, is rapidly growing.

Ecosystems and biodiversity are under intense pressure due to growing cities and settlements, farming, mining and the changing climate. To protect, restore and support ecosystems and biodiversity, buildings and settlements must include habitats for plants, insects and animals. This means that greenfield developments should be kept to a minimum and that planning and development of all new settlements must ensure sustainable conditions for local ecosystems, flora and fauna. Nature networks that allow plant life should be developed in existing settlements and urban areas so that insects and other animals can co-exist with the built environment. Examples are found at all scales; from pocket parks and insect hotels to large-scale planning projects establishing or re-establishing nature networks and biodiversity in both big cities, suburbia and farmland.

Furthermore, the building industry can help promote sustainable forestry and combat deforestation by using wood only from sustainable sources and by generally using materials that are renewable and sustainably produced and which do not compromise biodiversity and natural habitats. Local flora and fauna must form the basis of landscape design in buildings and settlements, including lawns and interior greenery, so that plants can interact with and support local ecosystems.

When done carefully, buildings placed in vulnerable ecosystems or in wildlifeparks can add to their preservation through sustainable tourism and raised public awareness.

#### PEACE, JUSTICE AND STRONG INSTITUTIONS Promote peaceful and inclu

Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels Peaceful, just and inclusive societies are necessary to achieve the Sustainable Development Goals (SDGs). People everywhere need to be free of fear of all forms of violence and feel safe as they go about their lives whatever their ethnicity, faith or sexual orientation. In order to advance the SDGs, we need effective and inclusive public institutions that can deliver quality education and healthcare, fair economic policies and inclusive environmental protection.<sup>1</sup>

To find out more about Goal #16, visit: https://www.un.org/sustainabledevelopment/peace-justice/

1 Extract from UN report WHY IT MATTERS – PEACE; JUSTICE AND STRONG INSTITUTIONS – PDF Parliaments, courthouses, as well as civic institutions like public libraries, are cornerstones in a just and peaceful society while local community centres, places of worship and memorials can represent citizens' commitment to social change and to an inclusive and compassionate society.

Architecture does not make an institution just, but the effort and values put into a building can represent society's commitment to justice, democracy and inclusiveness. Examples of this span from prestigious public buildings to NGO-funded memorials and community centres. The built environment evolves continuously as new buildings, monuments and structures are added and older ones are developed or replaced. In this process, representation of equal justice for all citizens must find an architectural expression shaped through the inclusion of, and in dialogue with, all stakeholders.

To support society's expression of its values through buildings and public space, architecture and planning must ensure that public spaces and institutions are inclusive, welcoming, secure and non-discriminatory. As part of this, public health measures and terror protection should be developed that are inclusive and inviting to all citizens and users. The design of libraries, community centres, memorials and places of worship must ensure safety, inclusiveness and affordability.

The building industry itself must pay close attention to procurement and construction processes in order to discourage theft, corruption, bribery and all other forms of organised crime. The building industry must also ensure that the extraction, production and handling of building materials do not rely on abuse, exploitation, human trafficking or child labour.



#### PARTNERSHIPS FOR THE GOALS Strengthen the means of

Strengthen the means of implementation and revitalise the global partnership for sustainable development A successful sustainable development agenda requires partnerships between governments, the private sector and civil society. These inclusive partnerships built upon principles and values, a shared vision, and shared goals that place people and the planet at the centre, are needed at the global, regional, national and local level.

Urgent action is needed to mobilise, redirect and unlock the transformative power of trillions of dollars of private resources to deliver on sustainable development objectives. Long-term investments, including foreign direct investment, are needed in critical sectors, especially in developing countries.<sup>1</sup>

To find out more about Goal #17, visit: https://www.un.org/sustainabledevelopment/globalpartnerships/

1 Extract from UN's Sustainability Goals: https://www.un.org/sustainabledevelopment/globalpartnerships/ Every home, building and settlement is built by many hands. The development of a sustainable future similarly requires that we work together, in partnership. No single stakeholder can reach the UN 17 sustainable development goals alone.

The challenge of achieving the goals requires the involvement of all; from governments and institutional actors to researchers, businesses and citizens. Architects, designers and planners can contribute by sharing knowledge, promoting sustainable solutions and engaging in collabourations with research and institutional partners to develop and implement sustainable solutions. Examples span from nonprofit partnerships providing homes for the displaced, to commercial partnerships developing new sustainable products and services to the building industry. Key to the partnerships is a willingness to include new knowledge, test new practices, engage with local

climate, culture and resources and work with end users to ensure commitment and ownership in a life-cycle perspective.

Partnerships for the goals also include associations and networks of professionals who have committed to working with the goals. From the International Union of Architects (UIA), which brings together architectural associations from all over the world and represent 3.2 million architects, to local study groups sharing know-how of green roofing systems.

The challenges addressed by the goals are global; to achieve them we must work together across professional fields and national borders.

Architecture interacts with each of the goals, and for each goal we must partner with other professionals, authorities, citizens and researchers to move towards more sustainable solutions everywhere.