

[ CONCISE GUIDES  
*to the* UNITED NATIONS  
SUSTAINABLE DEVELOPMENT GOALS ]

SDG11

# **Sustainable Cities and Communities**

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Towards Inclusive,  
Safe, and Resilient  
Settlements

MAHA AL-ZU'BI  
VESELA RADOVIC

# SDG11 – SUSTAINABLE CITIES AND COMMUNITIES

## CONCISE GUIDES TO THE UNITED NATIONS SUSTAINABLE DEVELOPMENT GOALS

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# SDG11 – SUSTAINABLE CITIES AND COMMUNITIES

Towards Inclusive, Safe,  
and Resilient Settlements

BY

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# INTRODUCTION

As current projections indicate that the majority of the world's future population will live in urban areas, cities play a central role in the pursuit of sustainable development. This recognition materialised through the inclusion of Sustainable Development Goal 11 (SDG11): 'Make cities and human settlements inclusive, safe, resilient and sustainable' in the post-2015 goals. In order to strengthen resilience, adaptive capacity and adaption to climate impact, related hazards and associated risks, cities need to have a greater role in the local development of natural resource planning and management, with broader access to resources and a more decentralised governance structure. This book will use empirical analysis to address challenges associated with SDG11 implementation such as localising actions, cross-cutting, preparing data and indicators, establishing processes and structures to measure SDG progress and communicating the SDG to a wider audience.

The book consists of three chapters orienting readers new to the SDG agenda and illustrating how to approach SDG11 implementation at a local level. Chapter 1 provides insights into the importance of cities in SDG discourse. The chapter explains the role of cities and human settlements in achieving sustainable development and explores the interactions between different international discourses on cities,

such as the sustainable agenda 2015–2030, the Paris Agreement, the Sendai Framework for Disaster Risk Reduction 2015–2030 (SFDRR) and Habitat-III and the New Urban Development Agenda (NUDA). Chapter 2 describes briefly the importance of SDG localisation and related processes, the cross-cutting nature of SDG11 and the process of initiating SDG11 implementation; it explores step-by-step suggestions for local authorities and stakeholders as they define, plan and implement strategies for achieving SDG11. It further elaborates on implementation challenges, particularly communication, localising actions, reporting and its cross-cutting nature. Chapter 3 explores SDG stories, reflecting on policies and strategies from different cities, countries and regions – the Middle East (Amman City), Europe (Serbia) – including actions that integrate SDGs into local, regional and national plans to improve natural resources management, reduce greenhouse gas (GHG) emissions and develop urban adaptation and resilience strategies to help decision makers, planners and practitioners achieve SDG11. It also promotes an enabling environment, methodology, tools and mechanisms, which can be adapted to different contexts to help achieve sustainable development.

## CITIES AND KEY INTERACTIONS

Cities are not isolated. They interact extensively with surrounding regions and, increasingly, with the rest of the world. Since the emergence of new discourses and agendas, such as sustainable development, climate change, disaster risk reduction (DRR), urban development, etc., scholars stress the need to create integrated and harmonised policies and promote a coordinated decision-making approach at local, national, regional and international levels. Furthermore, they argue that achieving overlapping objectives and goals can occur when decision makers better recognise and understand how their actions, interests and mandates link and interact with other components within the broader system of governance.

### 1. SUSTAINABLE AGENDA (2015–2030)

In September 2000, the historic Millennium Declaration, ‘Millennium Development Goals’ (MDGs), was announced in the presence of 189 countries’ leaders, in which they committed to achieve a set of eight global goals by September 2015 (United Nations (UN), 2018). To maintain momentum,



the UN has invested enormous efforts since 2012, during the United Nations Conference on Sustainable Development Goals (UNCSDG) in Rio de Janeiro, on developing a new set of sustainable development goals (SDGs). As a result, in September 2015, world leaders adopted a post-2015 sustainable development agenda, which includes 17 SDGs and 169 targets to set the scene for the new SDGs, aiming, inter alia, at ending poverty, fighting inequality and injustice and tackling climate change by 2030. This agenda, *Transforming Our World: The 2030 Agenda for Sustainable Development*, is seen as a plan of action for people, the planet and prosperity, agreed by the General Assembly summit.

The 17 SDGs seek to build on the MDGs and complete what they did not achieve (UN, 2015b). The scope of the SDGs is more comprehensive in one important respect, but much less in another. As the SDGs grew out of the UNCSDG in 2012, they were heavily integrated into the concept of sustainable natural resources. In fact, the SDGs can be characterised as MDGs+. While there are new references to inequalities, seven out of the 17 goals relate to energy and the environment. All of the goals are of paramount importance in urban areas all over the globe. Achieving the SDGs by 2030 will, of course, not primarily be the responsibility of the UN system; it will require the engagement, participation and allocation of resources of many stakeholders, particularly the governments of member states. The UN development system needs to find its role within these efforts (Browne & Weiss, 2016).

During the United Nations Sustainable Development Summit in September 2015, the relationship between cities, sustainable development, socio-economic factors, human settlement and natural resources was finally recognised. It was also clear that, without transforming our approach to how we design, build and manage our urban space, sustainable

development cannot be achieved. The world leaders' recognition of this materialised in the inclusion of SDG11: 'Make cities and human settlements inclusive, safe, resilient and sustainable', to strengthen resilience and the capacity to adapt to climate-related hazards and impact on natural resources (UN, 2015b). This goal is a remarkable success for urbanists and local stakeholders worldwide and puts urbanisation and territorial development at the heart of sustainable development. SDG11 and its 10 targets – as illustrated in [Box 1](#) – require action from sub-national urban governments. SDG11 targets address a wide range of unique urban challenges, such as the upgrading of slums and the provision of affordable housing, public transportation systems, planning and governance, cultural heritage, disaster management, air quality, waste management and public and green spaces.

**Box 1. SDG11 and its 10 Targets (UN, 2015b).**

- 11.1 By 2030, ensure access for all to adequate, safe and affordable housing and basic services and upgrade slums.
- 11.2 By 2030, provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women and children, persons with disabilities and older persons.
- 11.3 By 2030, enhance inclusive and sustainable urbanisation and capacity for participatory, integrated and sustainable human settlement planning and management in all countries.

*(Continued)*

- 11.4 Strengthen efforts to protect and safeguard the world's cultural and natural heritage.
- 11.5 By 2030, significantly reduce the number of deaths and the number of people affected and substantially decrease the direct economic losses relative to global gross domestic product caused by disasters, including water-related disasters, with a focus on protecting the poor and people in vulnerable situations.
- 11.6 By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management.
- 11.7 By 2030, provide universal access to safe, inclusive and accessible, green and public spaces, in particular for women and children, older persons and persons with disabilities.
- 11.8 Support positive economic, social and environmental links between urban, peri-urban and rural areas by strengthening national and regional development planning.
- 11.9 By 2020, substantially increase the number of cities and human settlements adopting and implementing integrated policies and plans towards inclusion, resource efficiency, mitigation and adaptation to climate change, resilience to disasters and develop and implement, in line with the SFDRR, holistic disaster risk management at all levels.
- 11.10 Support least developed countries, including through financial and technical assistance, in building sustainable and resilient buildings utilising local materials.

These targets are not easy to achieve. The implementation process requires a comprehensive planning and design process, resources and capacity and the effective cooperation, coordination and active engagement of all stakeholders (e.g. civil society organisations, citizens, scientists, academics, the private sector, etc.) at various levels – globally, regionally, nationally and locally – to effectively respond to existing challenges. Furthermore, they require clear governance frameworks; informed policy frameworks; comprehensive, collaborative and solid plans; innovative solutions; technology; financial resources; building capacities; etc., in order to achieve SDG11 in its targets.

## 2. PARIS AGREEMENT

The interaction between cities, urbanisation and climate change is complex. According to the Intergovernmental Panel on Climate Change (IPCC) (2014) in its Fifth Assessment Report, there was overwhelming consensus that climate change impacts are accelerating and fuelled by human-caused emissions: ‘It is extremely likely that human influence has been the dominant cause of the observed warming since the mid-20th century’. In addition, the International Energy Agency (IEA) (2008) estimates that urban areas are responsible for more than 67% of energy-related global (GHG emissions (e.g. transportation, building sectors, etc.) and this is expected to rise to 74% by 2030. Furthermore, the IEA (2013) Outlook Report (p. 1) projects that world energy consumption will grow by 56% between 2010 and 2040. At the same time, climate change is predicted to lead to a range of effects and impacts (e.g. cross-sectoral and cross-border) that will vary from region to region (Campbell-Lendrum & Corvalan, 2007; IPCC, 2014), and cities will be the most

vulnerable to the potential impacts of climate change (Hunt & Watkiss, 2011). According to the World Economic Forum (WEF) (2011), climate change impacts will restrict the capacity of existing systems (natural and built environments) that rely on natural resource supply management systems to provide reliable and affordable water, energy and food. These complex dynamics pose substantial risks for the sustainable development agenda and the resource security ambitions of governments, businesses and communities (Hoff, 2011; Weitz, Huber-Lee, Davis, & Hoff, 2014). Fig. 1 illustrates the complex dynamics between cities and climate change.

The linkages between trends in GHG emissions and urbanisation are complex and encompass many factors including the level of socio-economic development, rate of economic growth, rate of population growth, availability of energy resources, technology and innovation and urban form and infrastructure (Staden, 2014, p. 14). On the other hand, particularly in the developing world, most cities face major challenges such as poor living conditions, urban poverty, lack of financial resources, centralised policy and governance and constraints on productivity due to lack of basic infrastructure, capacity, knowledge and skills. Over time, these challenges make cities more vulnerable to natural disasters and climate change impacts and less resilient (United Nations Department of Economic and Social Affairs, 2013).

Recently, there has been a growing consensus among world leaders that cities are vital places for global mitigation and adaptation efforts (Bulkeley, 2013; Bulkeley, Castán Broto, Hodson, & Marvin, 2011). Scholars argue that without forward action at a global level and without significant changes at an urban level (e.g. urban governance and policy), the trend in GHG emissions and associated climate change impacts will continue as urbanisation trends grow (Bradbury & Tompkins, 2013; IEA, 2010).

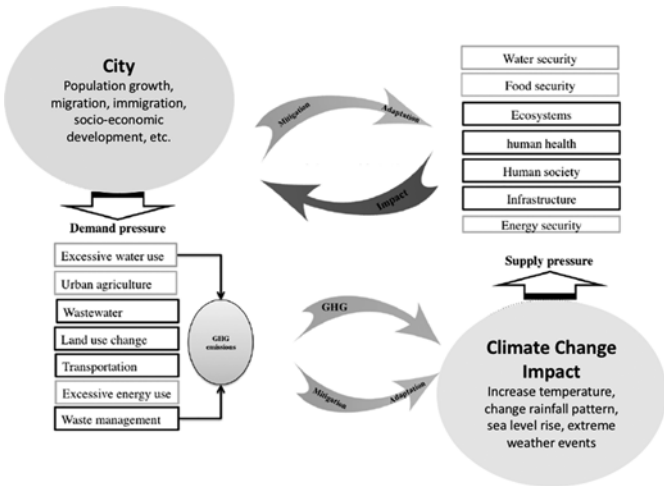


Fig. 1. Complex Dynamics between Cities and Climate Change. *Source:* Adapted from Al-Zu’bi (2017).

In 2015, an agreement was reached among 196 world leaders (developed and developing countries) at the United Nations Climate Change Summit in Paris with core elements that included commitments to limits on emissions to relatively safe levels; to reductions in global warming by 2 °C with the hope of further decreasing this to 1.5 °C; to adaptation, financial commitments and transparency; and to the promotion of carbon trading (UN, 2015a). Recently, the debate on climate change has shifted, and mitigation approaches have been complemented by a new paradigm, that of adaptation to the risks introduced by climate change (Alber & Kern, 2008; UN, 2015a). The need to focus on adaptation has been significantly increased through the failure among high-income nations to act to reduce GHG emissions (Huq, Kovats, Reid, & Satterthwaite, 2007).

The post-2015 sustainable development agenda places emphasis on the important role of cities in responding to

climate change impact. This was clear in SDG11: 'Make cities and human settlements inclusive, safe, resilient and sustainable' and SDG13: 'Take urgent action to combat climate change and its impacts' to strengthen resilience and the capacity to adapt to climate-related hazards and their impact on natural resources (UN, 2015b). Both SDG goals put considerable weight on the need for adaptation and mitigation measures to respond to climate change impact and to achieve sustainable development.

To ensure a reduction in GHG emissions and less damage to ecosystems and the built environment, decision makers and planners must enact new policies, legislation, planning processes, etc., that drive economic investment into low-carbon technologies, reduce global GHG emissions and enhance the resilience of ecosystems, communities and critical infrastructure (United Nations Human Settlements Programme (UN-Habitat), 2011).

### 3. NEW URBAN DEVELOPMENT AGENDA (HABITAT-III)

Cities currently accommodate more than 50% of the world's population; by 2030 this is expected to reach 60% (UN, 2015c). Growing trends in urbanisation and their associated challenges to people, infrastructure and ecosystems were recognised as significant at the United Nations Conference on Housing and Sustainable Urban Development (Habitat III) in 2016, in which the commitment of global leaders to sustainable urbanisation was translated into the NUDA. This focusses on what needs to be done to ensure that cities and human settlements are the vehicles of development and are themselves designed, planned, developed and managed in sustainable ways.

The NUDA gave the opportunity to a wide spectrum of stakeholders to open discussions and dialogues on important urban challenges and questions, such as how to sustainably design, plan and manage cities, towns and villages; these dialogues shape the design and implementation of the new global sustainable development agenda and climate change goals (Amann & Jurasszovich, 2017). The new urban agenda elaborates on SDG11 of the SDGs: ‘Make cities and human settlements inclusive, safe, resilient, and sustainable’. For example, the urban agenda has additional substantive urban issues not covered by the SDGs; in particular, it provides a spatial or location framework for the delivery of SDGs within urban areas, with a focus on additional means of implementation.

The linkages between the SDGs and the new urban agenda are significant and share a common relevance to cities and human settlements. However, the new urban agenda does not address directly most SDGs; rather, it facilitates their delivery within the urban context. For instance, it focusses on local-level implementation and calls for sustainable urban planning as an important instrument for supporting the sustainable use and management of land and natural resources. In addition, it calls for financing from both public (e.g. economic gains from urbanisation, including land and property value and infrastructure projects, etc.) and private (e.g. real estate, housing, etc.) sources. It also encourages a diverse range of multilateral financial institutions, regional development banks, private-sector leaders, micro-financing banks, etc. to invest in affordable and incremental housing in all its forms (Amann & Jurasszovich, 2017). Furthermore, the SDGs acknowledge the importance of implementation at a local level and the important role of local governments. At the same time, the urban agenda also places emphasis on the need to develop the capacity of local authorities and other local actors to



understand the synergies in implementing both the NUDA and the SDGs at the local urban level.

As the means to implement SDG11 are very limited, the new urban agenda expands on these by addressing essential spatial (e.g. spatial planning, etc.) and governance frameworks (policies, legislations and finance mechanisms within urban areas).

While the SDG framework forms the global core of Agenda 2030, urban stakeholders will be looking to the new urban agenda to articulate an integrated vision of sustainable urban development and to set out some of the means of implementation for the SDGs in cities and regions. It is clear that, without transforming the current approach on how we design, build and manage our urban space, sustainable development cannot be achieved.

#### 4. SENDAI FRAMEWORK FOR DISASTER RISK REDUCTION 2015–2030

Natural and man-made disasters continue to adversely affect all areas of the world. In 2016, 342 disasters triggered by natural hazards were registered; this was below the 2006–2015 annual average (376.4), but the number of people reported affected by natural disasters (564.4 million) was the highest since 2006, amounting to 1.5 times its annual average (224 million). The estimates of the economic cost of natural disasters was US\$ 154 billion in 2016; this was the fifth highest since 2006, 12% above the 2006–2015 annual average (Guha-Sapir, Hoyois, Wallemacq, & Below, 2016).

It is widely recognised that there is a dynamic and potentially mutually reinforcing relationship between disasters and development: disasters impact on development and development impacts on disasters (Keating et al., 2014). This fact is

obvious at a national level, but even more visible on a local level. In many countries, the situation of local self-management has deteriorated over the last few years. The state of the least developed municipalities is quite alarming. Many plans and projects for different improvement programmes have been devised, yet positive results are slow in coming (Radović & Komatina-Petrović, 2012). Therefore, it is essential to consider disaster risk as an integral part of the development process at global, national and local levels. Disasters jeopardise achieving the goals laid out in the MDGs and severely affect many countries with the enormous losses they cause. The experiences of the United Nations International Decade for Natural Disaster Reduction (IDNDR) during the period 1990–1999 were very useful for future efforts in the area of DRR. IDNDR was launched by the General Assembly in 1989 and contributed to a more articulated and serious consideration of the disaster/development relationship (United Nations Development Programme (UNDP), 2004). Furthermore, the United Nations established the Secretariat of the International Strategy for Disaster Reduction (UNISDR) and the UN International Strategy for Disaster Reduction (ISDR) as a successor to IDNDR in 2000, with the aim of promoting ways of improving awareness, assessment and management of disaster risks.

The International Strategy embodies the principles articulated in a number of major documents adopted during the decade, including, in particular, the Yokohama Strategy and Plan of Action for a Safer World. The Aichi/Nagoya International Conference, held in November 1993 under the theme of *Disaster Management in Metropolitan Areas for the 21st Century*, gathered together a total of 1,100 experts from 46 countries and nine international organisations (United Nations Office for Disaster Risk Reduction (UNISDR), 2018).

As a result, the Hyogo Framework for Action 2005–2015 (HFA) was formed; its priorities being primarily to

emphasise the significance of national and local governments in the reduction of hazard risks. This important document insists on the identification, evaluation and surveillance of hazard risks and on creating and improving the efficiency of early warning systems. Knowledge and innovation, education and availability of information, research, discussions and training are also top priorities in the fight against catastrophes (Radović, Raspopović, & Mitić, 2013). The HFA created space for addressing the underlying risk drivers in Strategic Goal 1, the integration of DRR into sustainable development policy and planning, as well as the priority for Action 4, which aims to reduce the underlying risk factors (UNISDR, 2015).

The SFDRR, adopted by the Third United Nations World Conference on Disaster Risk Reduction held in Sendai, Japan, defines expected outcomes over the next 15 years, based on experience gained from the previous actions of all interested parties: 'The substantial reduction of disaster risk and losses in lives, livelihoods and health and in the economic, physical, social, cultural and environmental assets of persons, businesses, communities and countries' (UN Resolution 69/283). The documents cover broad issues like the role of science and technology in disaster, SDGs and climate change mitigation and adaptation.

The resolution highlighted four priorities, seven targets, 13 principles and suggested actions for stakeholders at global, regional, national and local levels. Four priorities in this framework are as follows:

- understanding disaster risk;
- strengthening disaster risk governance to manage disaster risk;
- investing in DRR for resilience; and

- improving disaster preparedness for effective response and to ‘Build Back Better’ in recovery, rehabilitation and reconstruction.

The *Science and Technology Roadmap to Support the Implementation of the SFDRR* includes expected outcomes, actions and deliverables under each of the four priorities for action under the Sendai Framework. The science and technology community can then link to and plan around the implementation of the roadmap. The expected outcome by 2030 is to achieve a substantial reduction in disaster risk and loss of life, livelihoods and health in the economic, physical, social, cultural and environmental aspects of persons, the private sector, communities and countries. There are four priorities, seven targets, thirteen principles and suggested actions for stakeholders at global, regional, national and local levels (UNISDR, 2016a). Among the many efforts to realise effectively the desired outcomes of SFDRR in practice, the General Assembly in its resolution number 69/284 established an open-ended intergovernmental expert working group comprising experts nominated by States and supported by the United Nations Office for Disaster Risk Reduction, with the involvement of relevant stakeholders, for the development of a set of possible indicators for measuring global progress in the implementation of the SFDRR, coherent with the work of the Inter-Agency and Expert Group on SDG Indicators and the update of the publication *2009 UNISDR Terminology on Disaster Risk Reduction*. The report was adopted by the United Nations General Assembly in 2016 (UN Resolution A/RES/71/644).

Terminology in this interdisciplinary area is facilitated by the United Nations Office for Disaster Risk Reduction (UNISDR) based on consultations with experts, the UNISDR Scientific and Technical Advisory Group, practitioners and

partners to reach consensus on definitions. The result is the proposed updated terminology on DRR.

The new definition of disaster risk management is the application of DRR policies and strategies to prevent new risk of disaster, reduce existing disaster risk and manage residual risk, thereby contributing to the strengthening of resilience and a reduction in loss caused by disasters. DRR is aimed at preventing new, reducing existing and managing residual risk, all of which contribute to strengthening resilience and thereby achieving sustainable development (UNISDR, 2017). The enhanced integration of disaster risk concerns into development policy, development plans and individual development initiatives would both strengthen disaster resilience and contribute to sustainable development (Benson, 2016).

Making cities and human settlements inclusive, safe, resilient and sustainable in contemporary risk-affected society is not an easily achievable goal. A resulting increase in exposure to natural hazards will need to be matched by substantial reductions in urban vulnerability in order to limit loss caused by disasters in these cities as they grow. Cities hit by major hazards can take years to recover (Pelling et al., 2014). As urban areas continue to expand at an unprecedented pace, particular efforts will be needed to stem the increased risk of disasters in those regions and, in particular, to strengthen the resilience of the cities' poorest inhabitants. Megacities (cities exceeding 10 million inhabitants), once exceptional, are now increasingly commonplace. Today, the Asia-Pacific region is home to 17 megacities, three of them being the world's largest – Tokyo, Delhi and Shanghai. It is projected that, by 2030, the region will have no less than 22 megacities. Between 1980 and 2010, the region's cities grew by around one billion people and will grow by another one billion by 2040 (United Nations Human Settlements Programme & United Nations Economic and United Nation Social Commission for Asia

and the Pacific, 2015). The *5th Annual Natural Hazards Risk Atlas Report* assesses the natural hazard exposure of over 1,300 cities, selected for their importance as significant economic and population centres in the coming decade. Of the 100 cities with the greatest exposure to natural hazards, 21 are located in the Philippines, 16 in China, 11 in Japan and 8 in Bangladesh (Verisk Maplecroft, 2015).

Most disaster-prone cities are unprepared for future disasters and ill-equipped to reduce associated risks. Policy makers face numerous challenges with respect to urban risk management, including: lack of adequate knowledge and administrative capacities; weak finances; lack of coordination between departments; weak law enforcement mechanisms; and corruption. There is an urgent need to promote a culture of prevention at all levels and to improve management practices. Local action is the centrepiece of the UNDP's approach to building disaster-resilient cities. The UNDP promotes the establishment of legal and legislative instruments and technical tools that prioritise DRR as an integral part of urban development. Although seismic risks are of paramount concern in many urban settings, the UNDP promotes a comprehensive multi-hazard approach that builds on risk identification and vulnerability assessments. In 2010, UNISDR launched a specific campaign – *Making Cities Resilient* – to increase awareness about the benefits of focussing on sustainable urbanisation to reduce disaster risks. *Making Cities Resilient* is an ongoing global campaign extended to cities of all sizes, including megacities, as part of priority for Action 4: Enhancing disaster preparedness for effective response and to 'Build Back Better' in recovery, rehabilitation and reconstruction devoted to Action 4.2 entitled: Build capacity to ensure that all sectors and countries understand, have access to and can use scientific information for better informed decision making (UNISDR, 2016b).

The Sendai Framework is of paramount importance for promoting SDGs through disaster risk management, especially in connection with SDG11 and a number of closely linked SDGs. Stakeholders also have to bear in mind that, among all the other actions, better urban planning and management are needed to make the world's urban spaces more inclusive, safe, resilient and sustainable. The last UN report on progress towards the SDGs is encouraging about the achievements of SDG11; it provides a global overview of the current situation of the goals, on the basis of the latest available data for indicators in the global indicator framework 2017 and the achievements of interested parties (United Nations Economic and Social Council, 2017).

## 5. CONCLUSION

There has recently been a growing consensus that cities are vital places for integrating policies, plans and implementation activities. There are several global frameworks (e.g. Sustainable Agenda 2015–2030, Paris Agreement, Sendai Framework, New Urban Agenda, etc.) currently addressing issues related to inclusive, safe and resilient communities and settlements; there are also considerable – but uneven – efforts at regional, national and sub-national levels to implement SDG11. A focus on cities and SDG11 implementation needs channelling through integrated policies and plans, joint working groups and comprehensive activities on the ground. Scholars argue that, without forward action by world leaders and without significant changes in urban policy and governance, the trend in GHG emissions and associated climate change impacts will continue as urbanisation trends grow.

Understanding the synergies, interactions, conflicts and trade-offs between international development and

environmental related discourses, frameworks, agendas, etc. would contribute to a more integrated urban development planning and policy, also to well-informed decisions leading to more inclusive, safe and resilient settlements. Moreover, synergies would increase the cost-effectiveness of sustainable development measures and involve many actors with various interests; but, this might lead to the establishment of complex governance.

All efforts should be made to strengthen the synergies and linkages between sustainable development, climate change, DRR, urban development dialogues and other relevant issues, such as management the natural resources, health, traditional knowledge, gender and humanitarian responses, in order to bring different communities of practice together at all governance levels to guide and implement integrated approaches. Undoubtedly, a more informed understanding of the interactions and trade-offs between urbanisation, cities, climate change impacts and disaster risk would contribute to more integrated policies and more effective strategies and measures.

The current model of sustainable development and its actions needs to be localised and realigned to the changing world in order to address climate change impact, disaster risk and the challenges of urbanisation. Such a comprehensive model offers the international community an opportunity to breakdown the silos within the development agenda and focus on common, cross-cutting and coherent outcomes; however, it also requires consideration and action across all policies and sectors and at all levels of decision making, given their multiple interactions with all aspects of sustainable development.

The topic of sustainable development, particularly safe, resilient communities, will see great debate and rapid changes in thinking and action over the coming years. The issue of cities' vulnerability to climate change impact and disaster



risk must remain central to the discussions and progress must be made to effectively and fairly to address the increased risks. Comprehensive urban planning must consider adaptive capacity to increase resilience to future threats and reduce the currently unacceptable and increasing level of natural and man-made hazards and risks.

## 2

# SDG 11 AND THE ASSOCIATED CHALLENGES TO IMPLEMENTATION

*Why cities matter ....* Cities have significant potential in contributing to resource demand management (e.g. infrastructure, awareness, policy interventions and community engagement) and urban climate-related strategies (adaptation and mitigation). Furthermore, at the city scale, there are significant opportunities for synergies between the sectors and potential for collaboration and coordination between the key actors responsible for planning and designing sustainable development plans, adaptation and mitigation responses, disaster early warning systems, etc. There are also various significant sectoral interlinkages and urban synergies between SDG11 and potential innovations and practical solutions to advance policy coherence and interventions within cities. It is critically important for policy makers in global, regional and national governments and cities to understand these linkages and the need for coordination when devising sustainable development strategies. Despite the progress that has been achieved at a global level in recent years to help guide and drive local,

national and regional processes on sustainable development, many knowledge gaps and challenges still exist that might hinder the SDG11 implementation process.

## 1. LOCALISING SDG 11

The World Commission on Environment and Development's (WCED) Report *Our Common Future* – also known as the Brundtland Report provided a significant international foundation to the 'sustainable cities' concept. The report focussed on the integration of economic, social and environmental concerns, taking into consideration global and local issues, and made cities a key arena in which the concept of sustainable development could be applied. The report argued that, as the majority of the world's future population will live in urban areas, cities should be central to the pursuit of sustainable development (World Commission on Environment and Development, 1987).

Despite early recognition of the 'sustainable cities' concept in 1987, collaborative partnerships between cities and various stakeholders (including, but not limited to the private sector, non-governmental organisations, community-based organisations, etc.) did not materialise until the UNCSDG in Rio De Janeiro in 1992. Following the emergence of the concept, there has been a growing interest in the role that cities could play in addressing global environmental issues (Bulkeley, 2013).

In 2013, the Nantes Declaration of Mayors urged cities to adopt a universal SDG and to announce their readiness to collaborate with all local government networks and global partners to ensure implementation as part of the post-2015 development agenda (International Council for Local Environmental Initiatives (ICLEI), 2013). It became obvious that

cities cannot be left out of the equation when global and national governments are planning to achieve sustainable development.

The United Nations Sustainable Development Summit in September 2015, with its agreed Agenda 2030, reinforced the importance of localised action in ending poverty, fighting inequality and injustice and tackling climate change by 2030. In particular, this recognition materialised with the inclusion of SDG11: ‘Make cities and human settlements inclusive, safe, resilient and sustainable’ and SDG13: ‘Take urgent action to combat climate change and its impacts’ to strengthen resilience and the capacity to adapt to climate-related hazards and impacts on natural resources (UN, 2015b).

The Paris Agreement in December 2015 emphasised the role of cities and non-party stakeholders in mitigation (cutting GHG emissions, etc.) and adaptation (e.g. building resilience, decreasing vulnerability, etc.). Furthermore, it stressed that enhancing climate governance on the city scale matters, as the global climate change drivers of increasing temperature and changing precipitation are strongly linked to the urban cycle of water, energy, food and related key pillars and urban services. According to the UN-Habitat (2011), national governments will not be able to meet their international commitments for addressing mitigation and adaptation without localising actions (UN-Habitat, 2011).

Localising SDG11 actions requires new relations between the many levels of government and could involve new network spheres of authority that challenge the traditional interaction between local, national, regional and global levels. Furthermore, in order to contribute actively to achieving the SDGs, particularly SDG11, cities need to have a greater role in the local development of natural resource planning and management, with wider access to resources and a more decentralised governance structure. Therefore, cities need to

collaborate and coordinate with higher levels of government (national and regional), community leaders, the private sector, stakeholders and other cities to gain the authority, technical expertise and funding needed to meet SDG11 and its targets.

National governments should work closely with local authorities and communities to integrate SDG11 into development processes, to renew and plan their cities and human settlements so as to foster community cohesion and personal security and to stimulate innovation and employment (UN, 2015b).

Sustainable urban development requires integration and extensive coordination between all local and national authorities, including land-use planning, urban agriculture, water resource management, energy-related authorities, employment opportunities, technology, transportation infrastructure development, socio-economic development, waste management, etc. For example, the construction sector is one of the fastest growing sectors across the globe driven by high population growth and rapid urbanisation. As a result, this sector presents major environmental and social challenges such as a high contribution to GHG emissions, the reduction in agricultural lands and green space, air pollution, etc. Recently, many urban sustainability approaches have been tested and have demonstrated their potential contribution to the SDGs. For example, researchers claim that 'green roofs', as a sustainable urban approach, are closely tied in with the SDGs and contribute to the economic, social and environmental pillars of sustainable urban development. Al-Zu'bi and Mansour (2017) demonstrate the direct and indirect relationship between 'green roofs' and SDGs. [Table 1](#) shows the positive aspects of green roofs and how they contribute to most of the SDGs in achieving environmental sustainability. Without doubt, the city scale offers more examples of its importance and potential for integration in responding to the SDGs.

**Table 1.** Contributions of Green Roofs to SDGs (Al-Zu'bi & Mansour, 2017).

Sustainable Development Goals	Green Roofs Contributions
Goal 1: End poverty in all its forms everywhere	<ul style="list-style-type: none"> <li>- Creates opportunities for low-income people to find employment through construction, installation, or maintenance (Kingma, 2012)</li> <li>- The money spent on produce grown locally and sold in farmers' markets stays in the community, raising incomes and creating jobs (Kisner, 2008; Zeeuw, Veenhuizen, &amp; Dubbeling, 2011)</li> </ul>
Goal 2: End hunger, achieve food security and improved nutrition and promote sustainable agriculture	<ul style="list-style-type: none"> <li>- A supply of homegrown food, especially fresh nutritious vegetables, makes a difference in the lives of the urban poor through improved nutrition (Kisner, 2008; Whitman, 2013)</li> </ul>
Goal 3: Ensure healthy lives and promote well-being for all at all stages	<ul style="list-style-type: none"> <li>- Contributes to the greening of cities, curbs air pollution, increases humidity and lowers temperatures (Goussous, Siam, &amp; Alzoubi, 2014; Lehmann, 2013; Specht et al., 2014; Zarandi, Pakari, &amp; Zaimi, 2011)</li> </ul>
Goal 4: Achieve gender equality and empower all women and girls	<ul style="list-style-type: none"> <li>- Indirectly empowers women, the predominant urban producers, to gain access to income and control over household resources and decision making (Kisner, 2008; Rashid, Ahmed, &amp; Khan, 2010)</li> </ul>

Table 1. (Continued)

Sustainable Development Goals	Green Roofs Contributions
Goal 5: Ensure availability and sustainable management of water and sanitation for all	<ul style="list-style-type: none"> <li>- Green roofs' growing media retain rainwater and, together with plants, return a portion of this water to the atmosphere through evaporation and transpiration (evapotranspiration)</li> <li>- Storm water that does leave the green roof is delayed and reduced in volume; it is cleaner than runoff from a conventional roof</li> <li>- Retention and delay of runoff eases stress on storm water infrastructure and sewers (Fioretti, Palla, Lanza, &amp; Principi, 2010; Köehler, 2005)</li> </ul>
Goal 6: Ensure access to affordable, reliable, sustainable and modern energy for all	<ul style="list-style-type: none"> <li>- Reduces the heat influx through the roof; less energy for cooling or heating can lead to significant cost savings</li> <li>- In summer, a green roof protects the building from direct solar heat; however, in winter, it minimises heat loss through added insulation on the roof (Fioretti et al., 2010; Goussous et al., 2014)</li> </ul>
Goal 9: Build resilient infrastructure, promote inclusive and sustainable industrialisation and foster innovation	<ul style="list-style-type: none"> <li>- Planting vegetation in cities helps to cancel the concrete jungle effect wherein temperatures rise, polluted air is not filtered and rainwater is not absorbed into the ground (Zeeuw et al., 2011)</li> </ul>

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- Goal 11: Make cities and human settlement inclusive, safe, resilient and sustainable
- Transforms the endless concrete of cities into productive green spaces (Hui, 2011; Kingma, 2012; Zarandi et al., 2011)
  - More economical and efficient over the life span of the roof because of the energy saved and the longevity of roof membranes (Porsche & Köhler, 2003)
  - Amenity space for day care, meetings and recreation (Kingma, 2012)
  - Promotes sense of community (Kingma, 2012)
- Goal 13: Take urgent action to combat climate change and its impacts
- Contributes to combating the urban heat island effect, increases energy efficiency (energy conservation translates into fewer GHG emissions), lowering temperatures and purifying the air city-dwellers breathe (Goussous et al., 2014; Hutchins, 2007; Lehmann, 2013; Rashid et al., 2010; Zarandi et al., 2011)
- Goal 15: Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, halt and reverse land degradation and halt biodiversity loss
-



## 2. THE CROSS-CUTTING NATURE

SDG11 is cross-cutting throughout the 2030 Agenda, but at the same time remains within previously mentioned legal frameworks (SFDRR, the Climate Change Agreement – COP 21 and New Urban Agenda) adopted in 2015 and 2016, which define the pace of the sustainable future of humanity. The conjunction of interlinkages between the SDGs and all other agreements of such global significance offers an opportunity for creating coherence across the different, but overlapping policy areas. Achieving one goal or target may contribute to achieving other goals or targets. The SDGs and their associated targets form a complicated network of interlinkages through connections among and between each other. Understanding the interlinkages between the goals and targets is crucial for integrated governance and policy coherence in implementing the SDGs. Many policy documents and much scientific literature point out that the SDGs and their targets interact with each other in an indivisible way (Moinuddin & Zhou, 2017).

Goal 11 codifies the integral role of stakeholders in many ongoing and cross-cutting issues that include work on inclusive, safe, resilient and sustainable cities and human settlements. SDG11 directly addresses the relevance of cities and local governments in fighting poverty and achieving sustainable development by 2030. It is of considerable political importance that the profile, responsibilities and opportunities of local and regional governments are raised in this way. This will also help them access financial means to implement transformative projects and infrastructure, much needed to make cities resilient and sustainable. Directly or indirectly, SDG11 targets correspond with SDG 1, 2, 3, 4, 5, 6, 7, 8, 9, 12, 13, 16 and 17 targets. The ICLEI (2015) briefing paper provides useful background information on some important urban themes and debates regarding local and urban sustainability.

Furthermore, it describes in detail the importance of cities and human settlements in attaining all 17 goals by 2030. In this chapter, each of the 17 SDGs highlight two of the numerous examples that exist to inspire local actions: one from the Global North and another from the Global South. The examples relating to SDG11 in this document are about actions realised in New York City and Mexico City (ICLEI, 2015).

Birch and Wachter (2011) have argued that since the challenges posed by large-scale urbanisation are immense, the future of human development requires us to find ways to promote socially inclusive growth, environmental sustainability and resilient infrastructure. The way urban settlements are planned, designed, developed and managed will affect human health, wellbeing, safety, security and opportunity (McMichael, 2000). Achieving an adequate level of sustainability in cities is a very costly issue. John I. 'Hans' Gilderbloom, considered one of the most influential figures in urban affairs with an emphasis on sustainability, housing, health and transportation, described how the Sustainable Urban Neighborhoods programme at the Kentucky Institute for Environment and Sustainable Development, which lasted 25 years at the University of Louisville, has brought millions of dollars in competitive research and service grants to respond to the demands of residents in decaying neighbourhoods for sustainable urban regeneration (Gilderbloom, 2015). In many cities over the world, urban regeneration is recognised as an urgent need in various national strategies. Yet, many plans adopted at local and national levels cannot be realised in the near future due to budget constraints. International aid, however, offers a way to ensure that the sustainability issue is addressed in numerous projects in developing countries.

It is therefore important to understand the paramount role of Multilateral Development Banks (hereinafter MDBs)<sup>1</sup> in implementing the SDGs. Financing responsibility has been

taken up by MDBs, as was clarified in several joint statements in the wake of the adoption of Agenda 2030 (Mbengue & de Moerloose, 2017) in 2015, when MDB officials announced that the international community is working towards agreeing on a set of SDGs to meet the dual challenges of overcoming poverty and protecting the planet. Achieving the SDGs will require moving from billions to trillions of dollars in resource flows. They expressed the wish to work with member countries to translate the SDGs into national targets and to introduce and implement the policies and programmes needed to achieve them (World Bank, 2015).

Achieving SDG11 targets sets the scene for achieving targets in many other SDGs. For the purpose of this chapter, we shall briefly examine a few of these. The chosen examples relate to widely recognised global risks that include the widening gap between rich and poor and adaptation to climate changes. Connected to both are the frequency of different disasters, environmental risks and their impact on population health, with migration as a specific global political risk. Siri and Capon (2015) considered that a focus on health for current and future generations nearly always encompasses sustainable, inclusive and productive economic and environmental goals, particularly in cities, where economy, environment and wellbeing are fundamentally intertwined (Siri & Capon, 2015).

For over a decade, the Global Risks Report prepared by the WEF has brought together diverse perspectives from different age groups, countries and sectors: business, academia, civil society and government. It has focussed attention on the evolution of global risks and the deep interconnections between them (WEF, 2017). Health, ongoing migration crises, climate change, DRR and environmental protection are all closely connected with the concept of sustainable development.

Today, in an increasingly unstable climate, growing economic and social inequities challenge the resilience and

resistance of natural systems thus contributing to the emergence, resurgence and redistribution of infectious disease on a global scale. In the past, widespread diseases that affect multiple continents (pandemics) have often been the catalyst of social disruption and major shifts in human settlements, while in other instances the resurgence of infectious disease have inspired social and environmental reforms.

Dylan Evans (2012) highlights that:

when making evaluations in situations of uncertainty, people often make very poor probability estimate and may even ignore probabilities altogether, with sometimes devastating consequences. The decisions that we face both individually and as a society are only become more daunting.

Therefore, an evaluation has to be presented in the form of a valuable report, to help understand how global climate change presents a new and very different type of national security challenge. In it, the authors stated that the national and international security environment and climate change threaten to add new hostile and stressful factors. On the simplest level, society has the potential to create sustained natural and humanitarian disasters on a scale far beyond those we see today. The consequences will likely foster political instability where societal demands exceed the capacity of governments to cope.

Climate change acts as a threat multiplier for instability in some of the most volatile regions of the world. Projected climate change will seriously exacerbate already marginal living standards in many Asian, African, and Middle Eastern nations, causing widespread political instability and the likelihood of failed states. (Radović, 2011; The CNA Corporation, 2007)

This prediction has become a reality with global events in recent years. Climate changes significantly contribute to existing tensions and facilitate, along with weakened governance, economic collapse, in turn causing mass migration of people and devastating disasters all over the world. Increased loss from property damage and lost revenue due to the disruption of business caused by extreme events translates into an increased volatility of earnings in those sectors exposed to weather conditions. These include utilities, tourism, agriculture, transportation, health, energy, water and waste management and forestry (Radović & Keković, 2012).

Even in the most developed countries policy makers are faced with the urgent need to adapt to ongoing climate changes after devastating disasters (Hurricane Katrina, Fukushima earthquake, extreme weather events in the USA, floods in Western and Central Europe, cyclones in Australia, etc.). Hartmut Fünfgeld (2011) points out that:

in Australia, cities have managed to absorb, to different degrees of success, rapidly growing populations, increasing demand on public facilities and infrastructure, changing mobility patterns and significant technological innovations. They now have a new, huge challenge ahead of themselves: to accommodate significant climatic change while maintaining their liveability and functioning as an urban system.

Peroloni (2017) urges urban designers to find new approaches in redesigning those cities (Melbourne, Sidney and Canberra) that are projected to double their size in the next 40 years.

Population health and wellbeing outcomes have been identified explicitly within the SDGs, but these cannot be achieved without managing those risks that are so closely associated

with disasters. This issue was the theme of the 2008–2009 world campaign: *Hospitals Safe from Disasters: Reduce Risk, Protect Health Facilities, and Save Lives*. The UNISDR coordinated the campaign in partnership with the World Health Organisation (WHO). Their efforts were supported by the Global Facility for Disaster Reduction and Recovery of the World Bank, in partnership with governments, international and regional organisations and non-governmental organisations in the attempt to raise awareness about protecting health facilities and ensuring their functioning during and in the aftermath of disasters. This campaign addresses the issue of keeping Hospitals Safe from Disasters in line with the UNISDR’s mandated focus on natural hazards without considering other safety issues. Among European countries participating in the campaign were Serbia and Croatia (Achour & Price, 2010; Radović, Vitale, & Tchounwou, 2012).

There is also explicit mention of resilience building and DRR in the proposed SDG targets (Aitsi-Selmi et al., 2015). SDG11 and SDG3: ‘Ensure healthy lives and promote well-being for all at all ages’ are closely linked in many ways. SDG13: ‘Take urgent action to combat climate change and its impacts’ is also in line with them. In the context of DRR, SDG11 and its targets 11.b and 11.5 represent areas of potential synergy with the Sendai Framework. In particular, target 11.5 stated,

By 2030, significantly reduce the number of deaths and the number of people affected and substantially decrease the direct economic losses relative to global gross domestic product caused by disasters, including water-related disasters, with a focus on protecting the poor and people in vulnerable situations.

The Sendai Framework puts health at the centre of the policy stage – much more so than its predecessor, the Hyogo

Framework. It recognises the health impacts of disasters, the importance of health system resilience and of the monitoring and surveillance of disease through other policy instruments. There is a recognition in the proposals for both the SDGs and the post-2015 DRR Framework that their desired outcomes are a product of complex and interconnected social and economic processes with overlaps across the two agendas. As a reflection of this, important synergies exist between the proposed SDGs and post-2015 DRR Framework targets and indicators. For example, SDG11, which addresses safe and resilient cities, has self-evident crossover with the post-2015 DRR Framework, which aims to reduce the impact of disasters on urban and other populations and strengthen the resilience of communities and systems. Therefore, SDG11 among other SDGs focusses on sustainable practices to mitigate the impact of human activity on the climate (including SDG2, SDG8, SDG12 and SDG14) and addresses the significance of prevention activities in at-risk territories (Aitsi-Selmi & Murray, 2015).

The Addis Ababa Action Agenda contains several key cross-cutting initiatives that build on the synergies of the SDGs and address critical gaps in their delivery. Cross-cutting issues and commitments in the Addis Agenda, as contained in these initiatives, can contribute to progress across a large number of SDGs. Investing in sustainable and resilient infrastructure, including transport, energy, water and sanitation for all, is a key priority of the Addis Ababa Action Agenda (UN, 2016). These issues are of paramount importance for cities.

Achieving SDG11 in megacities is a challenge for policy makers and planners. It is a matter of governance and politics to provide an opportunity for cross-sectoral collaboration and development of multi-sectoral partnerships with key stakeholders and also the involvement of civil society organisations worldwide.

A positive example in this area is the activity of the League of Arab States which adopted, through the Social Affairs Ministers Council, the *2016–2026 Decade of Arab Civil Society Organisations to Achieve SDGs*. The Arab Decade includes the commitment of the League of Arab States and its member states to strengthen partnership with civil society in implementing the 2030 Agenda and achieving the goals of sustainable development. The United Nations regional system, including the Economic and Social Commission for Western Asia – ESCWA – has a pivotal role in providing technical support to countries and all development partners, including civil society, in order to convert the Sustainable Development Plan for 2030 into a framework for achieving regional and national development goals.

As stated in the text of the ESCWA at the 21st meeting of the Regional Coordination Mechanism (RCM), held on 25 and 26 November 2015 in Cairo, a large number of residents of the region are struggling today to survive. Millions have become displaced persons and refugees, and these population movements have resulted in heavy burdens on neighbouring countries, while many countries sink into conflicts and wars, as is the case in Syria, Yemen, Libya, Iraq and Somalia, as well as Palestine. In addition to conflict, the region is facing serious challenges in terms of food and water security, especially due to water scarcity, land degradation and climate change.

The 21st meeting of the RCM held at the UN-House in Beirut on 20–21 November 2017 came two years after the adoption of the 2030 Agenda for Sustainable Development, at a time when Arab countries were (and still are) facing complex and pressing challenges, thus making it imperative to accelerate the pace of SDG implementation. The 23rd meeting of the RCM focussed on identifying entry points for an integrated, cross-sectoral approach to policy making in the context of the 2030 Agenda and reviewed ways of engaging with the SDG's



Reform Agenda (United Nation Economic and Social Commission for Western Asia (UN-ESCWA), 2017).

Jessica Brandt and Bruce Katz have explained that the number of people forced from their homes is escalating more rapidly than at any other time in recent history. Globally more than 60 million people have been displaced, among them are 21 million refugees, two-thirds of whom live in urban areas. The local authorities are responsible for welcoming new arrivals, providing them with adequate conditions like housing, education and training, and ultimately integrating individuals from different backgrounds and cultures, while maintaining public order and safety. Yet municipal and humanitarian agencies are often unprepared. In many cities all over Europe, the consequences of ineffective management of these challenges have been evident (Brandt & Katz, 2017).

Existing stresses on city systems and services, as well as social tension between newcomers and existing residents, have been noted in Macedonia, Serbia, Croatia, Hungary and other countries on the so-called Western Balkan migrant route. Ineffective management of new populations can exacerbate existing stresses and lead to disruptions of a city's interdependent systems and services (100 Resilient Cities Initiative, 2017).

This issue was discussed in the World Migration Report 2015, which sought adequate migration management, including the economic development of the cities themselves. This also included specific urban planning aspects and some situations faced by cities in developing countries, both modestly sized or megacities. Many cities in developing countries face the challenges of slums, which, by their nature, are unplanned. Slums are not only places of poverty; they also lack basic services, including drinkable water, sanitation, electricity and public transportation. They may include areas unreachable by motor vehicles (including ambulances) and may also be

considered ungovernable and beyond the reach of planning initiatives (Duncan & Popp, 2017).

Public and green spaces, so important for the health and quality of life of all city dwellers, are often threatened by migration to cities (Target 11.7: ‘By 2030, provide universal access to safe, inclusive and accessible, green and public spaces, in particular for women and children, older persons and persons with disabilities’.) Those spaces previously converted into residential and commercial areas are under pressure from migrants who do not want to be settled in migrant centres (this is particularly the case around bus and railway stations because they sleep in nearby parks). Food security and safety is also a specific issue for countries in the West Balkan region, especially for Serbia (Radović, Keković, & Agić, 2014).

SDG11: ‘Make cities inclusive, safe, resilient and sustainable’, lays out 10 targets including the following areas: accessible housing, services for all, public transportation, participatory human settlement planning, safeguarding cultural and natural heritage, inclusive and accessible green and public spaces, resource efficiency and environmental protection, mitigation and adaptation to climate change, disaster risk management and building and utilising local materials. While SDG11 and its targets make no specific reference to migration, mobility and migration are explicitly referred to elsewhere in the 2030 Agenda (United Nations Educational, Scientific and Cultural Organisation (UNESCO), 2016).

Migrants living in cities are also linked to previous targets, including targets 11.3: ‘By 2030, enhance inclusive and sustainable urbanisation and capacity for participatory, integrated and sustainable human settlement planning and management in all countries’ and 11.b. Issues to be considered in future actions include urban migration governance, social risks, resilience building, diversity and social inclusion and basic services provision (community stabilisation, land and property support

shelter and non-food items). (11.b: 'By 2020, substantially increase the number of cities and human settlements adopting and implementing integrated policies and plans towards inclusion, resource efficiency, mitigation and adaptation to climate change, resilience to disasters, and develop and implement, in line with the Sendai Framework for Disaster Risk Reduction 2015–2030, holistic disaster risk management at all levels'.)

Despite all efforts, the current migrant crisis shows the weaknesses in the entire system of migration management in the European Union in general (European Commission (EC), 2015). Bearing in mind the negative aspects of climatic changes, the increase of the number of natural and technological catastrophes worldwide, as well as the wars in Africa and in the Near East, a large number of migrants have appeared who struggle to get to wealthy West European countries searching for safety and a better life. According to studies by both international organisations and scientific circles related to climatic changes, which suggest that the negative effects of climatic changes will be even more pronounced in the future, the problem of migration and/or environmental refugees will become even more significant (Domazet & Radović, 2016). Therefore, the International Organisation for Migration (IOM) addressed how migration and environmental change in the SDGs are important for SDG11. Migration and health in SDG11 correspond to a number of targets and are not limited to 11.1 and 11.5. Issues to be considered include migrants' health risks and needs, maternal and child health, risk prevention and the right to health and well-being. There is also the question of climate change and environmental degradation as drivers of migration, the concept of environmental migrants and migration as a coping and adaptation strategy (International Organisation for Migration, 2018).

Karoline Popp, Regional Liaison and Policy Officer at the IOM, has presented the migration-related goals and targets in

the SDG framework. She indicated that target 10.7: ‘Facilitate orderly, safe, regular and responsible migration and mobility of people, including through the implementation of planned and well-managed migration policies’, was the main target on international migration, but that SDG4 (on quality education), SDG5 (gender equality), SDG8 (decent work and economic growth), SDG16 (peace and justice) and SDG17 (partnership) all made reference to international migration in one or more of their targets; while SDG1 (poverty), SDG11 (sustainable cities and communities) and SDG13 (action on climate change) included targets which indirectly affected international migration (UN-ESCWA, 2016).

In response to the call to ‘leave no one behind’ which is at the core of the UN humanitarian and development Agenda 2030, actors should integrate the needs of migrants into global and national plans, policies and strategies across sectors and across borders in accordance with SDG11 and its respective targets. In the Agenda, governments pledged to ‘facilitate orderly, safe, regular and responsible migration and mobility of people, including through the implementation of planned and well-managed migration policies’ (SDG target 10.7).

There are numerous avenues for providing for migrant needs through the implementation of the SDGs; all of those avenues highlight the multispectral nature of the framework required. In an effort to address large movements of refugees and migrants, on 19 September 2016, the General Assembly adopted the New York Declaration for Refugees and Migrants, calling for the development of two global compacts in 2018. Follow-up, review and implementation of the migration-related commitments of the 2030 Agenda is critical for achieving the development goals.

The Department of Economic and Social Affairs of the United Nations prepares, at regular intervals, estimates of the

number of international migrants disaggregated by age, sex, country of destination and country of origin for all countries and areas of the world, as well as analytical reports to assess the current state of international migrants and migration in the world. The annex to this publication provides the estimates of the number of international migrants for 2000 and 2017, the percentage of migrants in the total population, the percentage of female migrants and the median age of migrants for 232 countries or areas of the world.

In the Republic of Serbia, the percentage of international migrants in the total population was 9.0% in 2000, rising slightly to 9.1% in 2017. The proportion of women of all ages among all international migrants increased from 55.2% in 2000 to 56.0% in 2017. This issue is important because in Serbia, even before the migrant crises, contingency plans and programmes were not developed with gender sensitivities. The main stakeholders neglected this issue and it was only the Serbian Red Cross that took action over DRR and gender perspectives (Serbian National Progress Report on the HFA, 2016). In 2017, the median age of international migrants was 56.5 years, a significant increase from 48.4 years in 2000. For this reason, SDG5: Gender equality ('achieve gender equality and empower all women and girls') is significant for policy makers in the RS (United Nations, Department of Economic and Social Affairs, Population Division, 2017).

UNESCO and Canadian Commission for UNESCO (CCUNESCO) also contribute to the implementation of Agenda 2030's cross-cutting priorities of gender equality, human rights and poverty eradication as prerequisites for sustainable development. To contribute to Agenda 2030, UNESCO and CCUNESCO focus on inclusion in cities and the elimination of discrimination in order to address the following SDGs: SDG10: 'Reduce inequality within and among

countries’, SDG11: ‘Make cities and human settlements inclusive, safe, resilient and sustainable’ and SDG16: ‘Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels’ (UNESCO, 2016).

It is necessary here to illustrate the specific matrix for ensuring attention is paid to migrants, refugees and displaced persons – internal and international – in the implementation of the 2030 Sustainable Development Agenda. This can be used as a resource guide in advocating and establishing specific actions and measurement indicators for local, national and international implementation of the Agenda. The relevant target for SDG11, Implementation Actions, Realisation Measurement Indicators and Rationales for Inclusion are presented in [Table 2](#).

Cities have a very important role to play in improving human security. Among the SDGs, SDG11 embraces urban security in many spheres of regional and international cooperation, human rights and environmental protection, which are all components of human security. There is a need for SDG11 to be a wide area of multidisciplinary research. Biologists and other scientists have an important role in the prevention of environmental pollution, for example, air pollution, by using the specific methods and innovative approaches to mitigate the consequences for citizens’ health in the most polluted urban areas (Morina et al., 2017). Furthermore, Riffat, Powel, and Aydim (2016) have stated:

the future cities topic employs a multidisciplinary approach to address the urban development challenges facing emerging cities. This can integrate environmental technologies, comprehensive urban development, fiscal sustainability and good governance, to provide emerging cities with a set of tools in order to improve the quality of life globally.

Table 2. Matrix for SDG11 (Taran, 2016).<sup>2</sup>

SDG/Target	Explicit Action Reference to Migrants/Migration	Relevant Indicators	Notes/Rationale
SDG11, Make cities and human settlements inclusive, safe, resilient and sustainable	<p>General: establish and implement at city level legislation, policy and administrative practice addressing migrants, including regarding basic services, employment, social protection, integration, housing, etc.</p> <p>A) number and proportion of migrant/immigrant/refugee population in cities</p> <p>B) Existence and nature/extent of city policy and administrative practices addressing migrant populations.</p> <p>C) Accessibility, equity of treatment and impact of city policy and practice regarding migrant residents. Ensure that reducing the number of deaths and number of people affected and decreasing the economic losses following disasters includes the protection of displaced persons, as well as other vulnerable migrants and mobile populations who may not have been included in DRR plans. Disasters, by default, trigger large scale displacement</p>	<p>Indicators to identify and assess:</p> <p>A) number and proportion of migrant/immigrant/refugee population in cities</p> <p>B) Existence and nature/extent of city policy and administrative practices addressing migrant populations.</p> <p>C) Accessibility, equity of treatment and impact of city policy and practice regarding migrant residents. Ensure that reducing the number of deaths and number of people affected and decreasing the economic losses following disasters includes the protection of displaced persons, as well as other vulnerable migrants and mobile populations who may not have been included in DRR plans. Disasters, by default, trigger large scale displacement</p>	<p>Most migrants reside in urban areas.</p> <p>Most major cities worldwide have large migrant/immigrant populations.</p> <p>Thus urban and human settlement governance requires taking migrants and migration into account in all relevant policies and administrative entities</p>

11.1 By 2030, ensure access for all to adequate, safe and affordable housing and basic services and upgrade slums	Include addressing needs of migrant populations specifically, explicitly and equitably in policy and programmes to provide affordable housing, basic services and improve conditions in and/or replace slums with decent housing	<p>Indicators to identify and assess:</p> <p>A) Population and housing situations of migrant/immigrant/refugee and residents</p> <p>B) Existence and nature/extent of migrant inclusion in policy and measures addressing safe, adequate and affordable housing</p> <p>C) Impact of policy and practice addressing migrant housing</p>	Due to recent arrival, low incomes and absence of access, immigrants tend to be concentrated in areas of substandard housing, absent or deficient public services
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Ultimately, all crosscutting themes included in SDG11 can be summarised in the Kuching Statement:

cities have to adopt an eco-social approach, placing both the health of people and planet at the centre of urban planning and governance. The hallmark of successful 21st century cities will be an understanding of urban development in terms of the complex interconnections between the ecological, economic and social foundations of human development and health. (United Nations University International Institute for Global Health, 2018)

### 3. MEASURING SDG11 PROGRESS

The Inter-Agency and Expert Group on SDG Indicators (IAEG-SDGs) developed and agreed on the global indicator framework as a practical starting point at the 47th session of the UN Statistical Commission held in March 2016. The report of the Commission, which included the global indicator framework, was then noted by ECOSOC at its 70th session in June 2016 (Sustainable Development Knowledge Platform, 2016).

The 17 SDGs and 169 targets apply to all countries (developed and developing). Having goals and targets is meaningless unless we have a way of measuring progress. Therefore, indicators have therefore been identified for each target that can be measured at a global level. Measuring progress requires reporting at various governance levels such as the UN and national and local levels. Therefore, it is essential to address the issue of capacity and resources across the globe, to include all member states. For example, some countries cannot collect data, others collect incorrect data; some

cannot analyse the data they collect, while others lack systems for reporting.

According to the UN (2015b), reporting on the SDGs and their targets and indicators at all levels will be guided by the following nine principles:

1. They will be voluntary and country-led, will take into account different national realities, capacities and levels of development and will respect policy space and priorities. As national ownership is key to achieving sustainable development, the outcome from national level processes will be the foundation for reviews at regional and global levels, given that the global review will be primarily based on national official data sources.
2. They will track progress in implementing the universal Goals and targets, including the means of implementation, in all countries in a manner which respects their universal, integrated and interrelated nature and the three dimensions of sustainable development.
3. They will maintain a longer-term orientation, identify achievements, challenges, gaps and critical success factors and support countries in making informed policy choices. They will help mobilise the necessary means of implementation and partnerships, support the identification of solutions and best practices and promote coordination and effectiveness of the international development system.
4. They will be open, inclusive, participatory and transparent for all people and will support the reporting by all relevant stakeholders.
5. They will be people-centred, gender-sensitive, respect human rights and have a particular focus on the poorest, most vulnerable and those furthest behind.

6. They will build on existing platforms and processes, where these exist, avoid duplication and respond to national circumstances, capacities, needs and priorities. They will evolve over time, taking into account emerging issues and the development of new methodologies, and will minimise the reporting burden on national administrations.
7. They will be rigorous and based on evidence, informed by country-led evaluations and data which is high-quality, accessible, timely, reliable and disaggregated by income, sex, age, race, ethnicity, migration status, disability and geographic location and other characteristics relevant in national contexts.
8. They will require enhanced capacity-building support for developing countries, including the strengthening of national data systems and evaluation programmes, particularly in African countries, Less Development Countries (LDCs), Small Island Developing States (SIDS) and Landlocked Developing Countries (LLDCs) and Middle-Income Countries.
9. They will benefit from the active support of the UN system and other multilateral institutions.

For SDG11, 10 global targets and 15 global indicators have been identified, as illustrated in [Table 3](#). These targets and indicators will be complemented by a set of indicators at regional and national levels, to be developed by each state with relevance to its national circumstances and priorities. For example, each country has different governance structures, approaches, visions, models and mechanisms, as tools available for reporting on progress in achieving sustainable development.

These indicators so far represent the best methodology for measuring the progress of SDG11; however, many need to be further developed or perhaps changed in order to effectively measure the global progress of SDG11.

**Table 3.** SDG11 Targets and Indicators (UN, 2015b).

Targets	Indicators
11.1 By 2030, ensure access for all to adequate, safe and affordable housing and basic services and upgrade slums	11.1.1 Proportion of urban population living in slums, informal settlements or inadequate housing
11.2 By 2030, provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons	11.2.1 Proportion of population that has convenient access to public transport, by sex, age and persons with disabilities
11.3 By 2030, enhance inclusive and sustainable urbanisation and capacity for participatory, integrated and sustainable human settlement planning and management in all countries	11.3.1 Ratio of land consumption rate to population growth rate 11.3.2 Proportion of cities with a direct participation structure of civil society in urban planning and management that operate regularly and democratically

Table 3. (Continued)

Targets	Indicators
11.4 Strengthen efforts to protect and safeguard the world's cultural and natural heritage	<p>11.4.1 Total expenditure (public and private) per capita spent on the preservation, protection and conservation of all cultural and natural heritage, by type of heritage (cultural, natural, mixed and World Heritage Centre designation), level of government (national, regional and local/municipal), type of expenditure (operating expenditure/investment) and type of private funding (donations in kind, private non-profit sector and sponsorship)</p>
11.5 By 2030, significantly reduce the number of deaths and the number of people affected and substantially decrease the direct economic losses relative to global gross domestic product caused by disasters, including water-related disasters, with a focus on protecting the poor and people in vulnerable situations	<p>11.5.1 Number of deaths, missing persons and persons affected by disaster per 100,000 people</p> <p>11.5.2 Direct disaster economic loss in relation to global GDP, including disaster damage to critical infrastructure and disruption of basic services</p>
11.6 By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management	<p>11.6.1 Proportion of urban solid waste regularly collected and with adequate final discharge out of total urban solid waste generated, by cities</p> <p>11.6.2 Annual mean levels of fine particulate matter (e.g. PM2.5 and PM10) in cities (population weighted)</p>

<p><i>11.7</i> By 2030, provide universal access to safe, inclusive and accessible, green and public spaces, in particular for women and children, older persons and persons with disabilities</p>	<p><i>11.7.1</i> Average share of the built-up area of cities that is open space for public use for all, by sex, age and persons with disabilities</p> <p><i>11.7.2</i> Proportion of persons victim of physical or sexual harassment, by sex, age, disability status and place of occurrence, in the previous 12 months</p>
<p><i>11.A</i> Support positive economic, social and environmental links between urban, peri-urban and rural areas by strengthening national and regional development planning</p>	<p><i>11.A.1</i> Proportion of population living in cities that implement urban and regional development plans integrating population projections and resource needs, by size of city</p>
<p><i>11.B</i> By 2020, substantially increase the number of cities and human settlements adopting and implementing integrated policies and plans towards inclusion, resource efficiency, mitigation and adaptation to climate change, resilience to disasters and develop and implement, in line with the SFDRR, holistic disaster risk management at all levels</p>	<p><i>11.B.1</i> Proportion of local governments that adopt and implement local DRR strategies in line with the SFDRR</p> <p><i>11.B.2</i> Number of countries with national and local DRR strategies</p>
<p><i>11.C</i> Support least developed countries, including through financial and technical assistance, in building sustainable and resilient buildings utilising local materials</p>	<p><i>11.C.1</i> Proportion of financial support to the least developed countries that is allocated to the construction and retrofitting of sustainable, resilient and resource-efficient buildings utilising local materials</p>

The United Nations in 2015 emphasised in its agenda *Transforming Our World: The 2030 Agenda for Sustainable Development* its support for developing countries (African countries, Least Developed Countries, etc.) in strengthening their national statistical offices by building their capacity and data systems 'to ensure access to high quality, timely reliable and disaggregated data' (UN, 2015b).

It is particularly important for SDG11 development plans to ensure transparent, neutral and reliable data collection, analysis and reporting. With the establishment of more and more sustainable development-focussed initiatives around the world, it is necessary to apply transparent but not necessarily homogenous reporting standards, so that it is possible to be able to compare different countries with different challenges and contexts at the international level. Conducting a regular follow-up and review of progress at local and national levels in producing national reports will allow assessments of progress, identify success stories, point out the challenges and gaps to be addressed, alongside recommendations for follow-up at various levels.

Measuring SDG11 progress should be an integral part of cities' implementation plans. A clear framework, process and procedures for measuring progress should be considered as early as possible. A transparent and comprehensive follow-up and review of SDG11 needs:

- Leadership at both the national, sub-national and organisational levels with a sense of shared responsibility towards the attainment of the SDG11. Leaders must understand the need for collective, coordinated and comprehensive efforts at all levels and be willing to learn and finally exhibit and promote ethical behaviour and standards.

- Grounding the SDG11 targets and indicators in cities' urban plans to generate new insights and solutions to complex problems.
- Clear reporting governance structure (who is doing what, when data to be collected, who will analyse data, what reliable data collection mechanisms and tools to be used, etc.).
- Baseline data according to each country.
- Meaningful, measurable, realistic indicators for each target.
- Coordination across national and sub-national levels (vertical and horizontal) is therefore essential if governments wish to meet their SDGs and address the integration concerns without undermining the sustainability of natural resources and ecosystems.
- Cross-sectoral approach to integrate the SDG11 into the urban planning process.
- Engage community in design urban plans all relevant stakeholders (vertical and horizontal).
- Education, training programmes, interactive initiatives and the media, among other means.
- Transparent communication strategy with all communities and stakeholders.

However, it is not an easy task to meaningfully measure progress of the ambitious SDG11. The follow-up and review process all over the world, particularly in the developing countries, will be accompanied by, for example, the following challenges:



- SDG11-related baselines data do not yet exist in most countries; therefore, there is a need to consider the reality of what the countries' existing data, data collection systems and analyses are in place.
- Cross-sectoral nature of SDG11 and associated challenges to identify who (institution) is accountable for each target and/or indicator. For example, each sector has its own dynamics and heterogeneous relationships between its elements (actors, challenges, etc.) The degree to which local and national governments will succeed in monitoring progress has to do in large part with the institutional structure they create to drive forward the SDG11 reporting process.
- Mobilisation of resources from a variety of sources and institutions, including financial and human resources, technology, capacity, etc. It is vital to secure financial and technical assistance to report on SDG11 progress.

As part of its follow-up and review mechanisms, the 2030 Agenda for Sustainable Development encourages regular and inclusive country-led and country-driven reviews of progress at the national and sub-national levels. Tracking and reporting on SDG implementation progress is a voluntary action and should be perceived as a collaborative effort where national governments prepare their voluntary national reviews (VNRs) to be presented at the annual high-level political forum (HLPF). VNRs are a significant national exercise in helping countries to track their national targets, measure their progress and report back to their citizens and to the wider world. Furthermore, they give opportunities to governments, UN agencies and all stakeholders to share data and best practice and discuss associated challenges and perspectives on SDG implementation. At the national level,

stakeholder engagement has indeed a vital role to play in compiling national SDG country reports that contain more depth and detail of progress. Sixty-four VNRs were presented to the HLPF in 2016 and 2017.

#### 4. COMMUNICATING THE SDGS TO A WIDER AUDIENCE

Communication has existed in various forms since the beginning of human civilisation, and its development means, at the same time, development of human society within different historical periods, from cave drawings to modern information communication technology (ICT). Therefore, it was not surprising when, more than a decade ago, the first World Congress on Communication for Development sought to provide evidence and make the argument for placing Communication for Development much closer to the centre of development policy and practice. The Congress was held between 25 and 27 October 2006, at the Food and Agriculture Organisation (FAO) of the United Nations in Rome, Italy. It was organised by the World Bank, the FAO and the Communication Initiative, after a series of regional meetings with a specific focus on sustainable development. These meetings identified the main challenges for communication for sustainable development and looked at the lessons learned from the past and the challenges for the future. Organisers and participants confirmed that Communication and Development as a field, as a process and as an approach to development is essential for achieving the MDGs, and for meeting the many development challenges and decisions that await us over the coming years (World Bank, 2007).

This Congress was a milestone for Communication for Development, but like all milestones it was only a marker on a longer road. We are still walking down that road. Mefalopoulos (2005) has explained that the answer to

the question of how communication can be used to aid development efforts could be found by presenting a basic typology composed of three cases. Communication can be mainly used to: exchange information and build consensus around specific issues; support the achievement of projects' objectives; and assist in identifying and defining projects' objectives. (p. 252)

In a specific survey in 2013, Eurobarometer covered six special topics, one of which was development aid. The development aid section includes questions on the importance of helping developing countries, the MDGs, future focus of development policy and the practicality of achieving development goals. Relatively few Europeans (6%) are familiar with the MDGs and know what they are. Around one in six respondents (16%) have heard or read about the Goals and know what they are. Three quarters of respondents 77% have not heard or read about them at all. In two EU Member States more than a 10th of respondents have heard or read about the MDGs and know what they are: the Netherlands 18% and Belgium 11% (EC, 2013, p. 40). Notwithstanding the data presented above, the level of awareness of European citizens regarding the 2030 Agenda and its 17 SDGs increased three months after it was agreed on at the UN. In December 2015, to the specific question QA10: 'Have you ever heard or read about the SDG agreed by the international community?' more than one third (36%) had heard of the SDGs, although only one in ten knew what they were, while 26% had heard of them but did not really know what they were. The majority, 63%, had never heard or read about them (EC, 2016a, p. 64).

Advocacy and communication – at global, regional and national levels – are critical. They bring in new partners, help maintain interest, build momentum and link

strategically to broader initiatives (United Nations Development Programme & World Bank, 2016). Some obstacles in the communication process have been recognised during the development of the concept of sustainability in modern society.

Newig et al. conducted research comparing sustainability related communication in different social subsystems as well as exploring interlinkages. They proposed that:

within sustainability communication two distinct perspectives can be taken: communication about sustainability (CaS) and communication of sustainability (CoS). Both differ in at least three aspects: the direction/mode of information flow, the function of communication, and the measures of effectiveness or quality of communication.

Communication about sustainability refers to processes in which information, interpretations and opinions regarding sustainability issues are exchanged and debated. Communication of sustainability, by contrast, is instrumental or managerial, since the concept of communication for sustainability shifts emphasis to the normative aspect of sustainable development. In this sense, communication is not just about providing sustainability-related information and raising awareness for sustainability issues; its objective is to facilitate societal transformation towards the normative goals of sustainable development (Newig et al., 2013).

An explanation of the role of communication about SDGs cannot be considered without addressing a specific kind of communication which has elicited significant discussion in many past and current disasters and crises, namely, risk communication. Risk communication is the subject of social science theories and models proposed to explain how people think, reason and make choices in emergency situations. Some of these theories concern social learning, group decision

making, decision analysis, etc. (Radović & Mercantini, 2015, chapter 3).

There are many definitions of risk communication, as well as many new scientific concepts regarding the different circumstances in which it is to be applied. For the purpose of this chapter, the authors have chosen the definition from the Joint Project of the WHO and the Organisation for Economic Cooperation and Development. This defines risk communication as the interactive exchange of information about (health or environmental) risks among risk assessors, managers, news media, interested groups and the general public (World Health Organisation, 2004). Peter Sandman, a noted risk communication expert, who has advised companies and governments on various communication crises, explained in one of his best-known articles the new theory of risk communication. He explained:

For years I have focused on two paradigms of risk communication: 'Watch out' – appropriate for the high-hazard low-outrage risk; and 'Calm down' – appropriate for the low-hazard high-outrage risk. When hazard and outrage are both low and both high, I said, there are few risk communication challenges. Then came September 11, 2001, an obviously high-hazard high-outrage risk with substantial communication challenges. In the wake of 9/11, it now seems to me that there are four kinds of risk communication, not two. (Sandman, 2003)

In many non-European countries, like the Republic of Serbia, there is an urgent need to initiate wider public discussion about the way new risk communication techniques can offer a real opportunity in achieving an adequate level of risk communication. The concept of Crises and Emergency Risk Communication (CERC), a new scientific concept of communication which explains the psychology of a crisis and

its impact, appears to provide valuable tools to prepare for and respond to communication challenges in times of emergency. It is a recognised field of communication study that differs from health-risk and risk communication; hence it is a new field of communication recognised by academia and the broader scientific community. CERC had initial successful practical implications in the United States with different actors, but today it is used in the work of many influential international organisations (Radović & Čurčić, 2012).

In communicating about SDGs it is useful to learn from others and follow good practice. In doing this, the work of highly expert institutions, such as those engaged in statistical analysis, are invaluable, especially at a national level. All interested parties should understand their role in implementing Agenda 2030 and how they can plan their activities for SDG11 and the other SDGs. For this purpose, the authors present here a slightly modified section on communication from the German Federal Statistical Office's Strategy and Programme Plan for the period 2017–2021, as illustrated in [Table 4](#) (Federal Statistical Office of the Republic of Germany, 2017).

While the official 2030 Agenda may not explicitly mention communication and awareness raising strategies for the SDGs in the actual text, it is well established that effective communication is essential for bringing success to an adopted policy. At the same time, we need to be clear that this does not mean that the UN itself is responsible for undertaking communication and awareness raising activities. Numerous actions for better communication of Agenda 2030 and SDG11 have been planned and conducted at all hierarchical levels. Communication and awareness raising activities for the 2030 Agenda for sustainable development have happened at the UN level, in partnership with the UN, as well as at national, sub-national and stakeholder levels (Mulholland, Bernardo, & Berger, 2017).

*Table 4.* German's Strategy and Programme Plan, 2017–2021.

Planned Activity	Actions
1. Strengthening the brand of 'official statistics'	<ul style="list-style-type: none"> <li>• Strive to further raise the profile of official statistics;</li> <li>• Reinforce trust in official statistics, emphasise our quality standard and quality management; and</li> <li>• Promote the re-use of official data by third parties in accordance with the principles of the Open-Data-Charter</li> </ul>
2. Easier access	<ul style="list-style-type: none"> <li>• Continuously improve the accessibility of information (the results of official statistics at federal and regional level) through a central statistical information system (GENESIS-Online);</li> <li>• Make data available through readily accessible interfaces (open data);</li> <li>• Digital information has to be presented in a media-friendly format to support a variety of devices and be easily accessed by popular search engines; and</li> <li>• Information is offered on platforms used by the specific target groups of users</li> </ul>

3. Meeting the needs of target groups
  - Provide high-quality data on social, economic and ecological issues to the general public, policy makers and administration, the media, businesses and associations, the scientific and research communities, as well as students and respondents;
  - Perform modern market observation and monitoring instruments for analysis; and
  - Use a range of different communication channels to reach target users and provide them with a response from competent staff available to answer questions and provide advice
4. Broadening the dialogue
  - Use forums and social media to communicate with our target users
5. Improving comprehensibility
  - Provide information in clear and comprehensible language;
  - Use innovative forms of visualisation; and
  - Offer comprehensive information about the statistical methods and techniques applied

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*Source:* Federal Statistical Office of the Republic of Germany.



Since language is very important for communication, the language of communication has to be consistent with the six UN languages (Arabic, Chinese, English, French, Russian and Spanish). SDG11 is also illustrated as a brightly designed goal with a brief heading, descriptor and a single image, as for each Global Goal. The goal has also been translated into over 50 languages, from Czech to Indonesian (Bahasa Indonesian), and the number is growing. During the translation process, all activities were carried out to a high level of quality, as applies to all designed communication materials.

The UN Department of Public Information is the organisation's entity tasked with informing the wider world about SDGs and ensuring that the 17 goals are known and understood. The UN Sustainable Development Action Campaign, furthermore, is an initiative of the Secretary General, with the mission of ensuring that everyone has the support, encouragement and capability to advocate and act to ensure that the SDG agenda is realised. The Sustainable Development Action Campaign is committed to:

1. Engaging stakeholders and individuals to support member states and UN Country Teams in the implementation of the SDGs through people's direct engagement.
2. Encouraging public ownership of the SDGs in every country through creative and innovative communications, campaigning and policy advocacy.
3. Sponsoring people-driven processes to strengthen accountability mechanisms and monitor SDG progress through the generation and collection of data, evidence and sentiment about the impact of the SDGs (UN SDG Action Campaign Sustainable Development Action Campaign, 2018).

The Global Festival of Action for Sustainable Development is the world's most inspiring SDG event to celebrate, empower and connect the global community driving Action for the SDGs. The Global Festival of Ideas for Sustainable Development was held at the World Conference Centre in Bonn, Germany in March 2017, as the first in a series of annual forums, hosted by the UN SDG Action Campaign in partnership with the Overseas Development Institute with the support of the German Government. The festival brought together the global community taking action to make the SDGs a reality (UN, 2017). In 2018, the UN SDG is organising an Action Campaign with the support of the German Federal Ministry for Economic Cooperation and Development and the German Federal Foreign Office, bringing together the global community acting to make the SDGs a reality. This event provides a dynamic and interactive space to showcase the latest innovations, tools and approaches to SDG implementation and to connect organisations and individuals from different sectors and regions to exchange, build partnerships and propose solutions that make a significantly positive impact.

The 2018 Festival focussed on five core themes (The Global Festival of Action for Sustainable Development, 2018):

- Innovation approaches.
- Citizen engagement.
- Communicating the SDGs.
- Mobilising action.
- Multi-stakeholder engagement.

The United Nations Environment Programme (UNEP) is very active in the area of promoting communication on sustainability issues. One project is the first international online

database: *The Creative Gallery on Sustainability*, where information on corporate and public advertising campaigns specifically dedicated to sustainability issues and classified by sustainability themes can be found (United Nations Environment Programme, 2018). The success of the UNEP is visible from one among many outcomes, namely the specific results of a UNEP partnership with UNESCO, the UN Decade of Education for Sustainable Development and the International Association of Universities, with financial support from the Ministry of Environment of Sweden. In 2007, a CD-ROM entitled *Sustainability Communications – A Toolkit for Marketing and Advertising Courses* was presented to the audience.

Success in promoting sustainable development with the public and decision makers has had major implications for social communication in its different forms, from public communication activities aimed at reaching citizens/users to marketing tools developed by businesses for consumers. This material was useful for the academic community, public and private sectors and all interested parties, because sustainability issues are also recognised as education and communication issues. From marketing to public awareness campaigns, sustainability messages are embodied in practices that are increasingly well-established in this CD-ROM.

For example, the implementation of any vision of sustainable development in corporate systems needs to direct education on environmental protection towards more effective problem-solving and actions. Hence, as a result of the global recognition of sustainable development, many companies are becoming aware that they have to align their businesses with the global trends. Therefore, they have realised the need for environmental education, training and awareness to all employees, to enable them to design and implement environmental-friendly processes, programmes and projects which

will reduce impact on cities' ecosystems, built environment and populations (Nikolic, Vasovic, Galjak, & Radović, 2013).

In reality, the commitment of business managers to corporate social responsibility (CSR) varies considerably and is guided by different motives ranging from the traditional view of CSR as a means to secure financial gains (or protect the financial losses that might arise as the result of public criticism of corporate practice) to seeing CSR as an essential component of a company's own sustainable development or even as the key to future organisational success (Bendell, 2000). Given the existing challenges, academic and research institutions have created a new concept which raises awareness about responsible behaviour of organisations in the global arena. This new concept of corporate sustainability and responsibility (CSR2.0) thereby engages the business community to become more socially and environmentally responsible 'citizens' in their profit-making activities (Camilleri, 2015). The rationale behind CSR2.0 could be very evident in the many examples of business community actions in the area of DRR (Radović, 2017, chapter 8).

Education and communication are equally important in achieving SDG11 and the other SDGs, bearing in mind that everyone can contribute. There is no one specific target group, because the plan is to carry it out without leaving anyone behind. Nevertheless, there is ample scope for creating appropriate forms of communication to reach people who are not yet aware of Agenda 2030, and to begin to devise national and local ways of communicating SDG11. Implementation of the SDGs has to be understood as a transformation process; transformation requires effective communication and engagement with all stakeholders and all citizens (Hemmati & Rogers, 2015). In some countries a focus on human settlements (SDG11) is not a specific objective, like in Nordic countries. However,

the urban dimension is referred to in some places, particularly in relation to viable ecosystems, urban demographics or municipal waste management. SDG11 is more focussed on safety and security and emphasises community cohesion, perhaps showing that this is largely taken for granted as a central pillar of the welfare state and not perceived to be a priority in the Nordic strategy. For example, transport is explicitly excluded from the Nordic strategy because it is not an area of Nordic co-operation. (Halonen et al., 2017, p. 71)

The issue of how to communicate SDG11 at different levels of its application and to a wider audience still represents a real challenge for all stakeholders. Global communication in the twenty-first century has changed dramatically. Not only because of tremendous changes in information and communication technologies (ICTs), but also because of changes in international, regional and national relations in the global arena. What has not changed is the fact that the fields of communication and cognitive science share many characteristics. By building theoretically driven, empirically tested structures of cognitive processes, cognitive scientists seek both to increase our understanding of the mind, as well as to build systems that are able to understand, predict and generate human thought and action (information processing) (Radović & Mercantini, 2015, chapter 3). Therefore, in these new circumstances, we need to keep up with these progressive trends in areas pertaining to our future, such as SDG11: 'Make cities and human settlements inclusive, safe, resilient and sustainable'.

A powerful new trend has been developing in recent years under the worldwide impact of new ICTs. Acting under the slogan 'e-mail for all' or 'Internet for all', many governments,

multinational corporations and international development agencies have teamed up to provide ‘access’ to computers and the Internet to every community in the world (Dagron, 2008, p. 76). The International Telecommunications Union and the UN Economic Commission for Europe launched the United for Smart Sustainable Cities in May 2016 in response to SDG11 (International Telecommunication Union (ITU), 2018). The United for Smart Sustainable Cities collaborative initiative has published several reports and provided expert guidance for the transition to more efficient, sustainable urban environments while advancing the SDGs, in particular SDG11 (sustainable cities and communities). The UN initiative advocates for public policy to encourage the use of ICTs to facilitate the transition to smart sustainable cities (ITU, 2017). We need to address the importance of using ICT for managing urban risks, for this remains a significant challenge for developing countries bearing in mind the so-called digital divide. Many countries do not have the opportunity to use ICTs for a variety of factors, such as the high costs of technologies, regional shortages in a skilled labour pool to support deployment, poor physical security, etc. (Radović, Vujić, & Lečić, 2013). Others that have incorporated ICTs into their actions plan for urban development have benefitted, for example, in Newcastle in the United Kingdom and Antwerp in Belgium (Firmino, 2005).

Efficient communication of SDG11 needs to be recognised as a core activity in regional and local government activities. This is a reason why Mulholland et al. have highlighted the role of Local Governments for Sustainability (ICLEI) and the Global Taskforce of Local and Regional Government in supporting cities in their engagement with the SDGs. ICLEI – Local Governments for Sustainability – is the leading global network of more than 1,500 cities, towns and regions committed to building a sustainable future; with its

actions it impacts on over 25% of the global urban population. In undertaking appropriate activities for Agenda 2030, the ICLEI Network reaffirmed its commitment to reach 30% of the global urban population by 2030 and 50% by 2050 (ICLEI, 2016). Since the 1990s, ICLEI has been helping local governments of all sizes worldwide to build more sustainable cities and communities through the themes of urban development, urban governance, Eco-City and Green City, eco-budgeting and sustainable procurement. ICLEI provides training guides, case studies, regional updates on activities and information services to build capacity, share knowledge and support local government in building more sustainable cities (ICLEI, 2018).

The Global Taskforce of Local and Regional Governments is a coordination and consultation mechanism that brings together the major international networks of local governments to undertake joint advocacy work relating to global policy processes. It was set up in 2013 to bring the perspectives of local and regional governments to the SDGs, climate change agenda and New Urban Agenda in particular (Global Taskforce of Local and Regional Governments, 2018).

Specific action has been taken to create a reference guide for mainstreaming the 2030 Agenda for sustainable development by the United Nations Development Group (UNDG). *The United Nations' Mainstreaming the 2030 Agenda for Sustainable Development Interim Reference Guide* is a contribution of the UNDG to assisting UN Country Teams in helping Member States adapt the global SDGs to national contexts. It features a possible sequence of actions to be taken, examples of how some countries have begun both to develop targeted tools and to involve an increasingly broader spectrum of stakeholders in raising awareness and building support for the 2030 Agenda (United Nations Development Group (UNDG), 2017).

Another similar guide entitled *Fulfilling the Promise. A Practical Guide for UN Advocacy to Promote Implementation of the 2030 Agenda* pointed out that ‘at advocacy’s heart is effective communication’. It is communication that can interest and inspire and also communication that can persuade officials and institutions to take action. Before UN agencies begin their SDG advocacy work in earnest, it is important to develop the clear and compelling messages they will use as they speak of the 2030 Agenda, with all the different audiences they will engage (UNDG, 2017).

Communicating about achieving SDG11 is a permanent process with many actors. Achieving the SDGs needs a specific kind of engagement by all stakeholders. Multi-Stakeholder Engagement and Communication (MSEC) is now widely acknowledged as an imperative in driving sustainability forward. Especially at the national level, MSEC has become an indispensable part of the way in which we take action and implement initiatives on sustainable development and other agreed development goals and it includes a whole range of potential activities – from one-off hearings and specific dialogue events through regular dialogues to collaborative action and joint review, as explained by Hammati in her work.

In the process of communicating this important SDG, it would be useful to follow recommendations by one of the most influential academics in this area, George Lakoff. In his theory he explained that reframing is needed if we want to successfully reframe public discourses and change the way the public sees the world. He wrote that:

reframing is not easy or simple. It is not a matter of finding some magic words. Frames are ideas, not slogans. Reframing is more a matter of accessing what we and like-minded others already believe unconsciously, making it conscious, and repeating



it till it enters normal public discourse. It doesn't happen overnight. It is ongoing process. It requires repetition and focus and dedication. To achieve social change, reframing requires a change in public discourse, and that requires a communication system. (Lakoff, 2014)

## 5. URBAN SECURITY

The Asian Development Bank's Urbanisation Strategy 2020 states that 'liveable cities' in future will be fostered through support for infrastructure, with programmes that focus on water supply, sanitation, waste management and urban transport, as well as urban shelter programmes of slum upgrading, land development, housing and housing finance (Weiser & Beswick, 2008). Urbanisation must become an increasingly important part of the foreign and security policy discussion (Engelke, 2013), because it intersects with multiple issues within the environmental security arena, including food security, energy security, climate change, fresh water use, public health and disease and natural disaster planning and relief.

The issue of urban security is extremely important for the sustainable development of the LDCs. One of those countries is Serbia. Based on the OSAC report for 2016, the high crime rate primarily reflects the activities of organised crime (OC), as Serbia is a main trafficking route from the east to Europe. Rival OC gangs target each other in a competitive market resulting in many acts of violence (assassination by firearms and explosives). Belgrade (and Novi Sad) was the setting for the murders of several OC affiliates in 2016. Media and police report the cause as an ongoing turf war over drug distribution rights. In 2016, there were at least nine ambush-style, aggravated murders

directly connected to OC elements. There is a risk of collateral damage to the general population as a result of these attacks.

In the Republic of Serbia political parties have enormous influence on work of the security services. For example, some of the larger cities in Serbia, for example, Nis and Novi Sad, have remained, despite a number of protests, particularly in Novi Sad where the crime rate is twice that of Nis and Belgrade. From being a peaceful city in the Pannonian Plain, Novi Sad is now recognised as the least safe city in Serbia. As there is almost no effective opposition in the country, the question of decentralising police work is not at the forefront of policy makers' priorities. The parties which govern the country do not recognise that the need for decentralisation derives from the nature of prevention, which requires actions by all actors in order to be implemented. They appear to reject Mockus' (2008) view presented in the Wanderschueren article that:

a central government, by definition is distant from the reality of cities and of their various neighbourhoods, does not know its territory and therefore cannot guide an alliance with local actors necessary for effective prevention policies. It is the responsibility of the local authority to encourage and direct as well as to implement and evaluate the prevention policies. Local governments can be closer to citizen's needs ... The local leader is supposed to know, and even more importantly, is prepared to better understand his municipality and what is going on within it. Proximity is not only political. It is cognitive.

Facing this changing reality, cities are becoming territories of conflict and criminality; therefore, the authorities cannot shirk their responsibility to provide urban security through strategic local management. The current challenge is tackling these issues within the framework of an articulated process

of co-production of security with a coalition of local actors, in collaboration with the police and in alliance with central governments. Indeed, this is what is set forward by the Global Network on Safer Cities, launched in 2012 by UN-HABITAT (Wanderschueren, 2013). We also refer to previous efforts made in 2005 when the ISDR Inter-Agency Task Force recommended that the 2010–2011 global awareness campaign should focus on urban risk issues and ‘Making Cities Resilient’. Coaffee, Wood, and Rogers (2009) stated that:

resilient cities are constructed to be strong and flexible rather than brittle and fragile ... their lifeline systems of roads, utilities and other support facilities are designed to continue functioning in the face of rising water, high winds, shaking ground and terrorist attacks. (p. 2)

These activities became more intense after the 9/11 attack in New York, which changed the attitude of security services towards urban security. The political importance of providing protective security to crowded urban spaces was increased in the United Kingdom by a series of terrorist incidents in London and Glasgow in the summer of 2007 and after that in other terrorist attacks in cities all over the world. The work of intelligence services is of paramount importance in this protection process. The intelligence community all over the world today has to function in a radically changed environment as an important part of the national security system. Threats to national security in any country are more diverse, interconnected and more complex than at any time in history. Terrorism is the most threatening issue in the world and it endangers the lives of millions of people and their environment. There are well-known ambiguities in defining ‘terrorism’ and specifically environmental terrorism. Environmental

terrorism can be defined as the unlawful use of force against *in situ* environmental resources so as to deprive populations of their benefit(s) and/or destroy other property. Environmental terrorism, such as a threat to any part of the environment (lithosphere, hydrosphere, atmosphere and biosphere) has to be seriously considered as a threat to various parts of critical infrastructure. Hence, the intelligence community all over the world conducts counter-terrorism activities to protect general and environmental security in urban areas. Numerous agencies have performed activities in environmental security, including the Australian Secret Intelligence Service, the Canadian Security Intelligence Services, the Secret Service of Great Britain MI5 and Military Secret Service MI6 and other European intelligence agencies (Radović & Andrejević, 2015). The intelligence community is therefore involved in every aspect of safeguarding national interest; it has many new tasks: monitoring shifts in human geography, climate, disease and competition for natural resources, as these fuel tensions and conflicts (United States Intelligence Community, 2013).

In security theory in general, it is a well-known fact that intelligence operations in urban areas are more restricted in operational terms than operations elsewhere. Members of the intelligence community have to collect information about urban areas with sufficient knowledge about cultural, political, social, economic, ethnic and religious factors which impact on security issues. This action is crucial for the results, which can only be achieved through constant monitoring, assessment and analyses. Cities are heterogeneous and the challenges and solutions in one area of a city may differ greatly from those in other areas of the city. Environmental risks and consequences of those risks will vary based on the unique urban environments of a particular city, for example, geographic position, climate conditions, density, sanitation, etc.

Urban security is seriously at risk from increasing numbers of informal settlements. In most cities in low- and middle-income nations, a large part of the growth in their populations over recent decades has been in informal settlements. Local governments or national utilities often refuse to provide infrastructure and services to these, or they are prevented by law from doing so. It is common for cities to have 30–60% of their population in informal settlements – and some have even higher percentages. This helps explain the very large deficits in provision in urban areas for key infrastructure. The specific action Local Economic Development (LED) which brings together different partners in a local area to work together and harness local resources for economic growth could be very helpful in mitigating urban risks. LED contributes to strengthening social trust and cohesion, helping to build societies that are more stable and resilient to growing, complex and widespread risks, preventing conflict and ensuring sustainable development (Satterthwaite, 2016).

Riffat et al. (2016) note that:

innovative visions are needed in emerging cities to reduce the impact on the environment while creating places that increase social cohesion, or accelerating human interaction in education, health and employment to improve the quality of life for an ever greater percentage of our world population. The technological advancements should be fully utilised to realise these visions and goals. (p. 5)

They explain that future urban configurations should concentrate on efficient use of resources and opportunities that could help to achieve prosperity and citizen well-being in five dimensions, as defined below (Riffat et al., 2016, p. 19):

1. Contribute to economic growth through productivity, generating the income and employment that afford adequate living standards for the whole population.
2. Deploy the infrastructure, physical assets and amenities – adequate water, sanitation, power supply, road network, information and communications technology etc. – required to sustain both the population and the economy.
3. Provide the social services – education, health, recreation, safety and security etc. – required for improved living standards, enabling the population to maximise individual potential and lead fulfilling lives.
4. Minimise poverty, inequalities and segments of the population living in abject poverty and deprivation.
5. Protect the environment and preserve natural assets for the sake of sustainable urbanisation.

The UN-HABITAT's *State of the World's Cities Report* (2012) defined urban prosperity as a

social construct that materialises in the realm of human actions. It builds deliberately and conscientiously on the objective conditions prevailing in a city at any time, wherever located and however large or small. It is a broader, wide-ranging notion that has to do with well-balanced, harmonious development in an environment of fairness and justice.

Government institutions, relevant laws and urban planning should take into consideration the interactions between productivity, environmental sustainability, infrastructure, quality of life and equity and social inclusion to achieve urban prosperity.

The route towards urban resilience is a never-ending journey given the complexity and fluidity of today's cities, but it remains as a metaphor of choice for politicians of all hues to articulate their vision for the future metropolis and its neighbourhoods (Jon, 2013).

## 6. CONCLUSION

While localising SDG11 is a relatively new field, there is a significant body of literature on the broader field of environmental policy integration that can inform how intersectoral integration for sustainable development measures could be achieved (Serrao-Neumann et al., 2013). Natural resources and related sectors are closely linked at different levels and scales; the use, governance and management of each of these resources affect the demand for others and affect cities' efforts to respond to social, economic and environmental challenges. However, most national sustainable development plans still lack the multi-layered institutional arrangements that extend beyond traditional government players to include the private sector, NGOs (non-governmental organisations) and civil society. In order to adequately address and respond to the rising impacts of climate change, urbanisation, etc., at a city level, we recommend moving from sector 'silos' to adopt an 'intersectoral approach' while planning for a sustainable urban future.

The new SDG11's targets and indicators came into effect on 1 January 2016. These targets and indicators will guide the decisions we take over the period (2015–2030). All countries will invest resources and work to implement SDG11 in alignment with their local context, taking into account different national realities, development challenges, capacities and levels of development and respecting national policies and

priorities to facilitate the effective translation of sustainable development policies into concrete action at national and local levels. Furthermore, they will acknowledge the importance and interconnectivity of the regional and sub-regional dimensions in any national and local sustainable development plans. Whilst respecting national and regional contexts is necessary during SDG11 implementation, consistency with relevant international rules and commitments is a must for each nation.

Education has played a major role in the development of human civilisation and also is crucial for the achievement of sustainable development. UNESCO (2017) explain:

A key feature of the 2030 Agenda for Sustainable Development is its universality and indivisibility. It addresses all countries – from the Global South and the Global North – as target countries and numerous influential international organisations. To achieve sustainable development, all countries subscribing to the 2030 Agenda must align their own development efforts with the aim to promote prosperity while protecting the planet. Thus, with respect to the SDGs, all countries can be considered as developing and all countries need to take urgent action. (p. 6)

The achievement of sustainable development is observed as a cyclical relationship with planning, implementation and monitoring of the strategies as key responsibilities of the leader. Ultimately, strong leadership, a coherent implementation plan and engagement of all government departments and diverse stakeholders are necessary to ensure that the SDGs are achieved at national and international levels (Iftakhar & Bahauddin, 2018).



## NOTES

1. The term MDBs includes three institutions of the World Bank Group (the International Bank for Reconstruction and Development, International Development Association, International Finance Corporation and four regional banks: Asian Development Bank, African Development Bank, the European Bank for Reconstruction and Development and Inter-American Development Bank.
2. An initial identification of SDG11 and target directly relevant to migrants and migration, showing:
  - Column 1: the SDG goals and targets that concern migrants and migration;
  - Column 2: relevant actions to achieve these goals and targets regarding migrants, potential migrants, returning migrants and in some cases refugees and internally displaced persons, as well as conditions compelling migration and situations in migrant/refugee host countries;
  - Column 3: measurement indicators and/or factors that require measurement to demonstrate baseline situations, extent of existing relevant law, policy and/or practice; change over time in situation and/or conditions; and
  - Column 4: the rationale for the migration connection with the goal or target.

# 3

## MAPPING SDG STORIES

This chapter explores SDG stories and reflects on policies and strategies from various cities, countries and regions – the Middle East (Amman City) and Europe (Serbia) – that include actions integrating SDGs into local, national, regional plans to improve natural resources management, reduce GHG emissions and develop urban adaptation and resilience strategies to help decision makers, planners and practitioners in achieving SDG11. Furthermore, they promote an enabling environment, methodology, tools and mechanisms, which can be adapted to different contexts to help achieve sustainable development.

### 1. JORDAN'S PATH TO THE SUSTAINABLE DEVELOPMENT AGENDA 2030 – AMMAN CITY

Jordan has high ambitious development plans but faces a number of social, geopolitical (regional instability), economic and environmental challenges in achieving its sustainable development objectives. Most notably, these have included relatively high public debt and unemployment; instability

throughout the region and the spillover effects on investment, trade and tourism; climate change impact; scarcity of natural resources; and the enormous impact of the Syria crisis and resulting population growth, which have impacted upon overall development gains in Jordan (Ministry of Planning and International Communication (MOPIC), 2015).

Prior to 2015, Jordan was actively engaged in global consultations as the Agenda 2030 announcement was approaching. The consultations in Jordan fed into a national Report *Jordan's Way to Sustainable Development First National Voluntary Review on the Implementation of the 2030 Agenda* that will shape Jordan's post-2015 sustainable development agenda. As part of the SDG process, Jordan was one of the first countries in the Middle East North Africa Region to produce the VNR in 2015, alongside Egypt (2016), Morocco (2016) and Qatar, presented in July 2017. Building on lessons learned from the MDGs, Jordan's priorities were the four main areas that emerged as critical for Jordanians in the upcoming period (MOPIC, 2015):

1. strengthening the link between education and the labour market and supporting entrepreneurship to reduce unemployment and ensure decent work;
2. combating stereotypes to achieve gender equality and decrease geographical disparities, reducing poverty and ensuring equal access to social services;
3. enhancing accountability, respecting human rights and contributing to regional stability; and
4. enhancing awareness on environmental issues, promoting renewable energy and addressing water scarcity.

Jordan's VNR aims to facilitate the sharing of experiences, including successes, challenges and lessons learned on

implementing the SDGs, with the aim of accelerating the implementation of the 2030 Agenda.

The process of preparing the voluntary review was led by the MOPIC, as the focal point for SDG implementation, with support from the United Nations Country Team in Jordan, including non-resident and regional agencies. The Higher National Committee on Sustainable Development provided overall strategic guidance and supervision. To construct the First VNR on a solid foundation, the same guiding principles (ownership, previous experience, recognition, interconnectedness, innovation and participatory process) adopted to strengthen ownership of the SDGs were employed.

The VNR was considered to be a national roadmap for SDG implementation. It emphasises mainstreaming the SDGs into national/sub-national planning, budgetary and monitoring frameworks and institutional mechanisms put in place to secure the coordination of SDG realisation. In 2015, Jordan adopted the 2030 Agenda and the accompanying SDGs, renewing its commitment to other cross-cutting global agendas such as the Universal Declaration for Human Rights, and the outcomes and declarations of all conferences and summits convened by the UN including the Rio Declaration on Environment and Development, the World Summit on Sustainable Development, the Programme of Action of the International Conference on Population and Development, the Beijing Platform for Action, the UNCSDG and, more recently, the Paris Agreement, the Sendai Framework, the New Urban Agenda, the UN's Third International Conference on Financing for Development, held in Addis Ababa, Ethiopia, as well as the Paris Climate Change Summit, etc.

These commitments come within a challenging landscape and increased population pressures which continue to put severe strains on Jordan's limited resources. Jordan has been coping with the repercussions of the Syria crisis and regional

instabilities and conflicts with support from the international community, in recognition of the global public good that the country has been providing. Yet, the protracted crisis in Syria and throughout the wider region, entering its seventh year, represents a serious threat to national resilience and impacts negatively, if not disrupting Jordan's ability as a host country to achieve SDGs.

Despite the numerous challenges Jordan is currently facing, the country has embarked on implementing the 2030 Agenda for Sustainable Development and achieving the SDGs. Jordan remains determined to safeguard recent development achievements while ensuring a more resilient, prosperous and inclusive economy going forward, and according to the roadmap laid out in the opening statement above.

## 2. LOCALIZING SDGS IN AMMAN CITY, JORDAN

The capital Amman was selected as it hosts up to 40% of Jordan's population and faces major challenges that hinder its development plans and growth. Examples of these challenges are high population growth and migration (regional instability), water scarcity, food insecurity, climate change, inadequate infrastructure and public transportation, etc. Added to these challenges is energy insecurity. Amman's energy supply relies almost entirely on hydrocarbons in a country dependent upon imports from neighbours for 98% of its needs (Ministry of Energy and Mineral Resources, 2014). This leaves the city exposed to price volatility and insecurity of supply.

However, the city has been trying to develop and improve its built environment, infrastructures, services and institutional capacities to meet three-fold challenges: (1) providing a larger urban population with access to basic services and vital

resources, (2) sustaining continuous socio-economic development and (3) utilising and managing resources within Jordan's limitations while addressing the challenges of climate change adaptation and mitigation (Al-Zu'bi, 2017).

As Amman city grows, demands on natural resources and the built environment also increase, its contribution to GHG emissions grows and the impact of climate change becomes obvious with more natural disasters (e.g. floods) witnessed, and more challenges hinder the sustainable urban agenda. Accordingly, Amman has invested resources to understand the connection between sustainable urban development, climate change impact and global threats from a local perspective and within the framework of local constraints that challenge transition to sustainable urban environment. Some of these efforts are as follows:

- In 2010 the city launched a new programme called the Amman Green Growth Programme (AGGP), entailing several energy projects. The programme promoted low-carbon investments and policies to sustain economic growth in Amman with a special focus on the four sectors waste, energy, transport, forestry and related activities. The programme encompasses some ongoing projects (compact growth and public transportation) and new components related to sustainable development (solid waste management, energy savings and lighting programme and recycling of used water), as illustrated in [Fig. 2](#). The AGGP was also partly inspired by the World Bank as part of a global strategy called the City Wide Strategy (Verdeil, 2014).
- In December 2014, Amman was selected to join the second cohort of the 100 Resilient Cities (100RC). As a member of the 100RC Network, Amman receives technical support and resources from the 100RC to

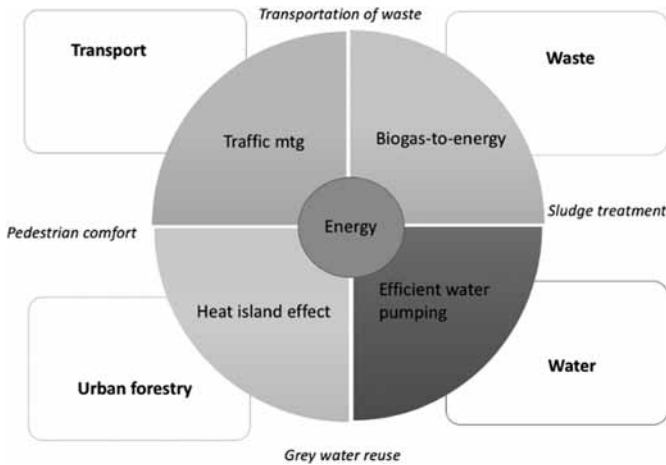


Fig. 2. Amman Green Growth Programme.  
*Source:* Adapted from Spors and Ranade (2011).

develop and implement a City Resilience Strategy. Later in 2017, Amman city released its 'Resilience Strategy'. This strategy sets out the vision for a resilient Amman and the pillars, goals and actions that will help the city to achieve it. The strategy aimed at understanding the present resilience status of the city, through assessments of its shocks, stresses and potential scenarios affecting the city's assets, and most importantly through engagement with the city's stakeholders, including the private-sector, NGOs, universities, youth organisations, etc.

- In 2017, in collaboration with the Global Green Growth Institute (GGGI) Jordan endorsed its National Green Economic Growth Plan. Amman city was a major player in the plan which will be leading Jordan into a sustainable economy that creates more jobs and achieves social inclusion while leaving the least negative impact

on the environment. The National Green Growth Plan lists 24 projects in 6 sectors including energy, water use, transport, waste management, agriculture and food and sustainable tourism. These sectors were envisioned where the potential for implementing green investments is feasible, while at the same time addressing barriers to the implementation of green projects. Currently, the GGGI is supporting Jordan in developing the Green Economic Growth Action Plan 2019–2030, which will include detailed targets (baselines and indicators), actions to be taken (policies and project programmes) and implementation plan (timeline, roles and responsibilities) and a full monitoring and reporting process.

### 3. THE REPUBLIC OF SERBIA AND SDG 11

In the Republic of Serbia there is an obvious need to bridge the existing gap between policy makers, the wider public and the scientific community. Innovation starts taking on a magical quality and some expect increasing innovation to solve the current economic problems in society. The scientific and academic community lacks the favourable conditions to ensure that it will happen in the near future. The prerequisite for a better state would be a different legal framework and an increased amount in the state budget for this purpose, but this action is missing despite all declarations by the government. As a result, many young researchers are leaving the country and Serbia is characterised as one of the countries with the highest brain drain in South East Europe.

Nevertheless, at Belgrade University, the Institute for Multidisciplinary Research (IMSI) manages to continue its research activities and is trying to overcome all obstacles as it looks forward. The IMSI was founded by the Republic of



Serbia in 1970 and is one of the leading research/academic institutions in the state and the third largest institute at the University of Belgrade with 100 researchers, 60 with PhDs and 40 PhD students. It has a high level of research excellence and productivity and has taken part in many international collaborations. It has a truly multidisciplinary profile, gathering together scientists with expertise in 13 different areas.

In the last two years, IMSI has put additional efforts into increasing its presence in the market place in search of additional finance. The main efforts are visible in the area of linkage research for the specific needs of different organisations. Furthermore, the Green Technology Centre of Excellence has been established and it is expected that IMSI will be more engaged in the area of solving ongoing issues linked to the environment situation in the Republic of Serbia, which is far from what one would wish for.

Efficiency starts to be important. Since environmental concerns in Serbia have been neglected for decades, researchers have put effort into designing project proposals to increase the level of environmental and urban security. Environmental health issues put the population at risk in the capital of the Republic of Serbia, Belgrade and Smederevo city, as well as in many other cities in the country. In Smederevo, the state of the environment in some aspects is not even recognised because monitoring does not take place (e.g. in the area of air protection). Furthermore, recently the Chinese steel giant 'HeSteel' Company took over the management of the Smederevo Steel Mill factory in Serbia and increased production. Serbia in the twenty-first century faces significant energy security challenges, which should be met by increasing energy independence by stimulating and diversifying the production of biofuels. For Serbia, renewable energy sources are essential for increasing energy independence and mitigating and preventing the challenges of climate change. This is due to the potential

carbon neutrality of renewable energy and thereby the reduction in GHG emissions. The IMSI has developed its role, mandate and research areas based on current global challenges and the Serbian context.

In 2017, IMSI had the opportunity of implementing a specific multiyear project financed by the NATO Science for Peace and Security Programme entitled the 'Photo-Bionuclear Reactor'. The development and production of biofuels is of particular importance to replace petroleum fuels and meet the dual goals of improving energy and environmental security. The use of microalgae for industrial biotechnology is growing both globally and within the EU where it represents a strong strategic opportunity. In this area too, IMSI supports research into using microalgae for renewable energy and at the same time helping the economy improve and producing clear and beneficial environmental impacts.

In 2018, IMSI applied for a UNDP-Serbia call for proposal. This was an appeal for innovative and cost-effective ideas for the reduction of GHG emission created by public services and facilities, while simultaneously providing social, economic and environmental benefits for the community and its citizens. It was the first Public Call within the Climate Smart Urban Development Challenge project and brought 111 innovative ideas on how to reduce GHG emissions and strengthen the climate change resilience of cities and municipalities in Serbia. The largest number of innovative proposals came from individuals (43), civil society organisations (20), local self-governments (16), research and educational institutions (14), followed by private companies (12) and public utility companies (6).

The IMSI team were rewarded for its innovation proposal. The LIQUID3 project is aimed at developing, optimising and building the first photo-bioreactor in Serbia (LIQUID3). LIQUID3 represents an innovative photo bioreactor-based

concept for air cleaning in highly polluted urban micro-environments (zones near heating plants, heavy-traffic roads and industrial and densely populated areas) via CO<sub>2</sub> (the main GHG) fixation and O<sub>2</sub> release. This will benefit the quality and sustainability of the living environment in urban communities. The attractive LIQUID3 design will help to promote public awareness on the importance of innovative technologies in implementing SDG11 and SDG13.

#### 4. COMMUNICATING SDG11 WITHIN THE EUROPEAN UNION

Kiernan pointed out that ‘sustainability’ issues are simply a shorthand for some key environmental and social issues, both of which typically also have profound economic impacts and implications (Kiernan, 2009). The European Union and its Member States accepted a strategic blueprint, outlining the future of European development policy on 7 June 2017. This *New European Consensus on Development: Our World, Our Dignity, Our Future* represents a new collective vision and plan of action to eradicate poverty and achieve sustainable development. This consensus is the cornerstone of the EU’s development policy, which is part of the overall EU response to the UN 2030 Agenda for sustainable development. It sets out the main principles which will guide the approach of the EU and the Member States to cooperating with developing countries over the next 15 years, as well as a strategy for reaching the SDGs (EC, 2017).

The EU is fully committed to be a frontrunner in implementing the 2030 Agenda. The *Commission Communication on Next Steps for a Sustainable European Future*, the EU’s answer to the 2013 Agenda, will include two works streams, as follows (EC, 2016a):

- The first works stream presented is to fully integrate the SDGs into the European policy framework and current Commission priorities, assessing where the EU stands, and identifying the most relevant sustainable concerns.
- A second track will launch reflection work on further developing of longer term vision and the focus of sectoral policies after 2020, preparing for the long-term implementation of the SDG.

Cities and local authorities have a particular role in 2030 Agenda implementation with a specific dedicated goal (SDG11), as well as the other urban related targets through the 2030 Agenda. Europe's urban areas are home to over two-thirds of the EU's population, they account for about 80% of energy use and generate up to 85% of Europe's gross domestic product (GDP). These urban areas are the engines of the European economy and act as catalysts for creativity and innovation throughout the Union. However, they are also places where problems, such as unemployment, segregation, poverty and pollution are at their most severe (EC, 2018). Following these efforts, mapping specific policies which contribute to the SDGs has been carried out, identifying some of the main action within the EU. As regards SDG11: 'Make cities and human settlements inclusive, safe, resilient and sustainable' ranking the sustainability of cities is needed.

Arcadis produces a specific annual report called the *Sustainable Cities Index* (Arcadis, 2018); the last report confirmed that, by region, European cities most consistently rank the highest, occupying seven of the top 10 spots. Zurich, Paris and Prague are the highest placed European cities, ranking second, third and fourth, respectively, benefitting from strong scores in the Planet and Profit sub-indices due to established infrastructure, efficient metro systems and commitment to

green technology. Zurich takes first place in the Profit sub-index (Arcadis, 2017). Similar results were published in the 2016 report. Based on data for 2016, the Arcadis *Sustainable Cities Index* ranks 100 global cities on three dimensions of sustainability: people, the planet and profit. Well established, European cities come top of the overall rankings, with Frankfurt in first place, followed by London, Copenhagen, Amsterdam and Rotterdam (Arcadis, 2016).

The European Union is committed to many actions in coordination with external partners bilaterally and at global level to achieve further progress in the EU and in developing countries, where many challenges to meeting the SDGs persist. The most important Commission priorities contributing to SDG11 are jobs, growth and investment; a digital single market; energy and climate; and stronger global action. All of these are enumerated in detail in a special communication by the EC (2016b).

The Urban Agenda for the EU adopted in 2016 represents a holistic way for stakeholders to cover all aspects of sustainable development; it also contributes to the implementation of the global 'UN New Urban Agenda' adopted in October 2016 at Quito during the UN Habitat III conference. The Urban Agenda for the European Union is a joint effort of the Commission, Member States and European cities, to strengthen the urban dimension of European and national policies. In line with the New Urban Agenda, the EU strengthens the resilience of urban settings through prevention of disaster and climate related risks. In the funding period 2014–2020, for example, more than EUR 100 billion from the European Regional Development Fund (ERDF) was planned for investment in cities to create better opportunities for sustainable urban mobility, energy efficiency, urban renewal, research and innovation capacity and the economic and social regeneration of deprived communities. The Urban Agenda for the EU should lead to better

regulation (more effective, more efficient and implemented at a lower cost), better funding (more adapted to needs, simpler access and more integrated) and better knowledge (data, good practice/projects and exchange of experience). The Commission will have a central role in the implementation of the Urban Agenda for the EU, keeping in mind the diversity of cities and their responsibilities and interactions with the wider territory, providing expertise, implementing actions and facilitating the multilevel governance process (EC, 2016c).

A new website has been launched to communicate with a wider audience. The EU Urban Agenda, which enables all stakeholders to contribute to it, invites all interested parties to join in this action and thereby contribute actively and make their views known (EC, 2018).

The European Union is committed to engage in cooperation and exchange of experience between cities with a number of carefully created initiatives. Some of the most recognised are as follows:

1. URBACT, a European exchange and learning programme promoting sustainable urban development, which integrates economic, social and environmental dimensions. It enables cities to work together to develop new, pragmatic and sustainable solutions to major urban challenges, reaffirming the key role they play in facing increasingly complex societal changes. So far 7,000 people from 500 cities, in 29 countries, have participated in the URBACT programme (URBACT, 2018).
2. The Urban Development Network (2018) is made up of more than 500 cities/urban areas across the EU responsible for implementing integrated actions based on Sustainable Urban Development strategies financed by the ERDF in the 2014–2020 period.

International Urban Cooperation (IUC) is a three-year programme (2016–2019) to promote international urban cooperation launched by the European Union. To support this action, a specific knowledge platform has been created which provides a space for IUC cities to connect virtually with their partner city, access resources on sustainable development and share their own experience. The main idea is to encourage European cities to link up, build and share knowledge and solutions with other cities and regions around the globe. It is part of a long-term strategy by the European Union to foster sustainable urban development in cooperation with both the public and private sectors.

In this first phase of a long-term strategy of fostering urban diplomacy – a vehicle of EU external relations – the IUC boosts sectoral, transversal and international urban cooperation and exchange with key city partners (public and private) in Asia, Latin America, the Caribbean and North America. With a budget of over EUR 20 million, IUC activities support Habitat III goals as well as the Paris COP 21 declaration and the SDGs.

The IUC is separated into three distinct components:

1. city-to-city cooperation on sustainable urban development;
2. sub-national action under the Global Covenant of Mayors initiative; and
3. inter-regional cooperation on innovation for local and regional development (International Urban Cooperation (IUC), 2018a).

Starting a city-to-city cooperation programme on sustainable urban development depends on local leaders being able to connect and gain new perspectives on pressing sustainable development issues. Representatives from each city take part

in study tours, staff exchanges, trainings and seminars, etc. and develop jointly a local action plan to drive sustainable urban development in the chosen area (IUC, 2018b).

Communication about SDG11, as with all other SDGs, is important for the national governments of EU Member States because of the necessity of sharing with everyone what obligations they are undertaking on behalf of their citizenry. Hemmati and Rogers (2015) considered that it is important when governments sign up to the SDGs to understand how to communicate the 2030 Development Agenda, the goals and targets to all citizens, underlining the universality and the transformative nature of the agenda, and how important it is for everybody to engage in the process of implementing it.

Every country in the EU has to find particular activities effective in communicating about SDG11, as well as all the other SDGs, through a permanent process of exchanging information, knowledge and experiences regarding this goal. In a specific report, Mulholland et al. presented case studies from six European countries – Belgium, Estonia, Finland, Germany, Sweden and Switzerland – carried out in the period after the adoption of Agenda 2030. A part of this report is devoted to stakeholders' activities in the communication arena (CSOs/NGs, research community, business and local authorities; Mulholland et al., 2017).

Regional cooperation in implementing the SDGs is of paramount importance. Hence, Nordic cooperation is recognised as one of the world's most extensive forms of regional collaboration, involving Denmark, Finland, Iceland, Norway, Sweden, the Faroe Islands, Greenland and Åland. The Nordic Strategy for Sustainable Development was the first macro-regional strategy of its kind, although sustainable development has been a core aspect of Nordic cooperation for many years. It has strong traditions in politics, the economy and culture and plays an important role in European and



international collaboration; it aims at creating a strong Nordic community in a strong Europe. The Nordic Council of Ministers recognised the importance of communicating the SDGs widely; this is also highlighted by all of the Nordic countries. The results of the mapping exercise, however, show that the availability of strategies and action plans for communication, as well as of communication channels, differs often quite markedly between countries. Communication should take place not only after actions have been taken, but also before and during programmes, in order to include and motivate all stakeholders. The results indicate the need for a Nordic SDG communication strategy to support joint SDG actions, both in the Nordic region and in international forums (Halonen et al., 2017). Many European and non-European countries are working on this task, as well as on many others needed to provide adequate communication needed for SDG11 and other goals in the complex process of implementation.

# CONCLUSION

On a global level, the SDGs and other environmental frameworks (SFDRR, Paris Agreement and Urban Agenda) support common policies, legal and regulatory frameworks and reform. Furthermore, they all call for decentralised actions, mainstreaming environmental sustainability into local development plans, encouraging public participation, awareness and education, establishing new partnerships and mobilising resources.

Previous discourses on sustainability have discussed the action required and, related to the city level, have tended to be centralised, with limited integration between the people, built environment, ecosystems and related sectors. Furthermore, policy makers have neglected the local level (city), which is the most appropriate policy and political jurisdiction for bringing about crucial demand reduction and efficient use of resources, given that this level touches the majority of the population and is where most energy and food are consumed.

Despite the disparities between cities all over the world (e.g. socio-economic conditions, climatic conditions, urbanisation levels and population growth), most cities – particularly in developing countries – share similar environmental challenges, a top-down governance structure, a lack of climate change policy, limited public participation, limited resources, etc. Therefore, cities should be located as the focal point of

intervention for SDG projects and programmes, where governments should explore the potential for bottom-up community engagement in policy formulation and adoption that can be applied in cities in developing countries (still struggling with centralisation and undemocratic regimes) to respond effectively to climate change and disasters and to effectively achieve the SDG targets.

International, regional, sub-regional and trans-boundary cooperation remains pivotal in supporting the efforts of national governments, their local authorities as well as communities and businesses, integrate the SDGs into national policies, particularly SDG11 at the city level. Existing policy frameworks, coordination and financial mechanisms may require strengthening in order to provide effective support and achieve better implementation of SDG11. Developing countries face specific and common challenges; therefore, they need special attention and support to augment domestic resources and capabilities through bilateral and multilateral channels to ensure adequate, sustainable and timely means of SDG11 implementation through capacity-building, financial and technical assistance and technology transfer, in accordance with international commitments.

Systematic research, assessment and a database drawing on scientific knowledge concerning the urban impact of climate change and related hazards, the exposure and vulnerability of the population and infrastructure and assets are necessary for designing effective policy and measures. The role of research, science, innovation and technology, finance and capacity building in providing evidence for policy is gaining prominence, with growing demand for multidisciplinary enquiry to address the complex and inter-related problems of climate change, urbanisation, disasters and sustainable development.

Public finance and policies to support SDG11 research and technological development are crucially important.

Public funding should be considered to enable critical projects to remain in the public domain. Governments have to demonstrate a willingness to increase finance for SDG11 projects, particularly through the mobilisation of domestic resources in the context of the national budget. Furthermore, strong public–private partnerships drive and promote SDG11 implementation at the local and national level. Private sector and other stakeholders can contribute greatly to SDG11-relevant decision-making processes at all levels. It is also vital to strengthen national capacities for effectively accessing, mobilising and using finance available at the international level which can contribute to increasing developing countries resilience capacity, for example, the Green Climate Fund, the Climate Investment Fund, the Global Environmental Facility and the Adaptation Funds. Moreover, the available funding sources through the United Nations Agencies (UNDP, UNISDR, etc.), multilateral (e.g. World Bank, European Investment bank, etc.) and bilateral (e.g. Japan International Cooperation Agency [JICA], The United States Agency for International Development [USAID], German Corporation for International Cooperation GmbH [GIZ], The Swedish International Development Cooperation Agency [SIDA], Agence Française de Développement [AFD], etc.), should be explored and other means of cooperation were found to provide the required technical and financial support to developing countries to ensure effective implementation of the SDGs.

The ‘development of capacities’ as a cross-cutting activity should be considered while implementing any SDG actions. For capacity development, it is important to know which capacities are to be built or developed further and for whom. In general, capacity development is required for individuals, organisations and institutions. It could be technical or financial (including incentives, insurance policies, as well as mobilising public and private funds).

National governments should take a leading role in raising public awareness about SDG11 and ways to reduce vulnerability and risks at a local level. Emphasis should be placed on generating an understanding of the basic concepts of vulnerability and resilience, which will help form a favourable environment for the development of a culture of promoting sustainable development and the implementation of national and local policies, strategies and guidelines for mainstreaming SDG11. Building resilience requires knowledge, advocacy, research, training and transparency by making information accessible to the public and all stakeholders through educational material, curricula, public awareness and advocacy campaigns and by developing national and local data management systems and networks, together with effective mechanisms for dissemination.

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