المعهد العربي لإنماء المدن
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SECOND ISSUE
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STEMMING THE TIDE:
ARAB CITIES FACING CLIMATE CHANGE

THE INTERVIEW
Dr. Youssef Al Shawarbeh talks about Amman's experience in dealing with the challenges of climate change

URBAN INSIGHTS
Toolkits For Integrating Climate Into Urban Policy and Planning

CITIES IN ACTION
Projects and Actions for Arab Cities to confront Climate Change

MUDUNUNA

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SECOND ISSUE

ARAB CITIES FACING CLIMATE CHANGE

Front Cover

TOPSHOT-LIBYA-WEATHER-FLOODS, ©AFP, 2023

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EDITORIAL

A DIFFERENT CLIMATE SENSITIVE URBANISM IS NEEDED IN ARAB CITIES

By Dr. Jihad Farah - Editor in Chief

In March 2023, the Intergovernmental Panel on Climate Change (IPCC) released its latest report; an 8000 page document drawing on the work of more than 700 scientists. It comes to assert what many have been saying for years: climate change is here and it is a game changer, not the least for cities.

Arab cities in particular are heavily affected by climate change, with impacts on their quality of life, their services, and their economic prosperity. The heat island effect in some neighborhoods makes outdoor life unbearable and possibly dangerous during heat waves. Droughts cause the breakdown of urban water systems while perturbance to importation could lead to soaring food and energy prices, both with heavy social and political consequences. Flash floods destroy properties and endanger lives, while seawater rise threatens waterfronts and the tourist economy dependent on them.

All these destabilizing events also exacerbate existing challenges: limited housing supply, overstressed urban services systems, traffic, pollution, low-performing urban economies, socioeconomic inequalities, etc.

Dealing with climate change impacts calls for a major reorientation in urban development practices in the Arab region. Modernist car-based urbanism models that have been dominating Arab cities' development in the last hundred years are clearly inadequate to deal with climate change challenges. A shift in the mobility paradigm towards soft mobility, walkability, efficient public transportation, and integrated multi-modal systems is urgent. Water-sensitive planning and design should become integral to all urban development processes.

A different urban form, considering wind circulation, increased shading, bioclimatic architecture and building energy performance, should be encouraged. More importantly, resilience should be at the front and center of urban development strategies, by embracing redundancy in infrastructure planning and establishing emergency response processes. Urban policy should focus on service provision to reduce the impact of climate change on a growing and highly vulnerable urban population. Moving in this direction requires substantial effort and investment on the part of cities. It also requires them to be open to learning and experimentation. In fact, though there are many successful practices that have been tried by cities around the world and are advocated by international organizations, it is crucial to identify what works in the local context, and where adaptation is needed.

This issue of Mudununa likes to contribute to these efforts by focusing on climate change mitigation and adaptation in Arab cities. The interview section includes a conversation with Dr. Youssef AlShawarbeh who is presently the mayor of Amman, a city that is invested on this front and has already developed a Climate Action Plan. The Urban Insights section consists of an article by Mr. Salim Rouhana, sector leader at the World Bank, where he shares his views about climate-related efforts of Arab cities. This section also provides an overview of a number of toolkits developed by international organizations, to help cities address various aspects of urban climate action. The Cities in Action section discusses a large number of projects and initiatives implemented by cities around the region to respond to climate-related challenges. In addition to the thematic content, the issue provides an overview of the activities AUDI has engaged in over the last two months, including meetings with different Arab mayors, establishment of new partnership agreements, and attendance at the COP28 event. It also gives insight into some of our upcoming activities for 2024, including the Participatory Greening of Neighbourhoods in Arab Cities an Urban Living Lab project funded by the Arab Fund for Social and Economic Development, as well as AUDI's Training Center and its courses and workshops schedule for 2024.

INTERVIEWS

MAYOR OF GREATER AMMAN MUNICIPALITY

DR. YOUSSEF AL SHAWARBEH

Amman's experience in dealing with the challenges of climate change

His Excellency Dr. Yousef Shawarbeh, Mayor of Amman since 2017 and Chairman of the Board of Amman Vision for Investment and Development

Over a span of 15 years, Mayor Shawarbeh has held numerous positions including Minister of Political Development and Parliamentary Affairs, Deputy Mayor of Amman, Deputy Chairman of the Investment Committee and Chairman of the Tenders Committee in the Municipality, Chairman of the Board of Al-Dustour newspaper, Deputy Chairman of the Board of Directors at Tawfeek Transport and Investment Company, Deputy Chairman of the Board of Directors at Integrated Transport Company, and a member of the committee preparing the Decentralization

Photo: HE. Dr. Yousef Al Shawarbeh

The experience of Greater Amman Municipality is considered a unique one in the Arab world, as it has prioritized early the issue of climate change and acted to mitigate its impacts on society and urban development. To gain insight into the city's experience in this field, 'Mudununa' conducted an interview with its Mayor.

The section below provides highlights of the key points discussed.

Please share with us the journey of Greater Amman Municipality in addressing the impacts of climate change. What led the municipality to prioritize the issue of climate change?

In the last fifteen to twenty years, discussions and debates about climate change, its dangers, and the potentially devastating impacts it may have on countries, cities, and humanity as a whole have been all around. Recently however, the effects of climate change have accelerated and worsened significantly, becoming apparent to the naked eye. There is no longer a need for evidence and proof to demonstrate it, with the reality of its impacts now clearer than ever.

"We find ourselves today at the heart of a major battle"

The effects of climate change are evident in the rise in temperatures and the increasing drought that affects wide regions of the planet, accompanied by a noticeable decline in water resource levels. Additionally, these impacts manifest in the emergence of new patterns of migration and displacement, which were not as prominent in previous years.

Certainly, Jordan is affected by climate change despite marginally contributing to it. There is now a noticeable change in climate, such as delayed and intense rainfall within short periods during the season. This pattern leads to surface flooding, especially in urban areas. Additionally, there are changes in snowfall, with it either ceasing

Photo: Jordan - Amman, ©2023

altogether or suddenly falling in significant amounts. Moreover, there is a clear rise in temperatures, deviating from the norm in both winter and summer.

It is crucial to understand that climate change is the result of complex global interactions with multiple effects. Therefore, adapting to this change and taking measures to mitigate its impacts is essential, regardless of each country's individual contribution to this phenomenon. This has become evident in the city of Amman, where climate change poses significant risks. Flooding is the primary threat due to Amman's hilly topography, the presence of populated valleys, and the concentration of commercial activities. Floods impact the safety, lives, and properties of residents. On the other hand, reduced rainfall poses another risk, affecting green areas and gardens in the city.

In summary, these are the two main direct threats facing the city, in addition to the various indirect risks mentioned earlier. The Municipality of Amman has shown early interest in climate change and was among the first Arab cities, if not the first, to present its initial voluntary report on achieving Sustainable Development Goals at a United Nations meeting. The Amman Municipality has also taken a leading role in creating the Amman Resilience Strategy, aiming to enhance the city's resilience to crises and climate change.

Could you please provide us with an overview of the key points of Amman's climate action plan? What are the most prominent initiatives and projects undertaken by the municipality regarding adaptation to the impacts of climate change?

The strategy of Amman for the period 2022-2026 directly focuses on climate change, aligning with national and global sustainable development goals. The objectives include enhancing the efficiency of services and infrastructure, improving urban transportation, diversifying investment sources, and expanding green spaces to contribute to the mitigation of climate change impacts.

Given Amman's mountainous terrain, opening all roads during snowfall or floods can be challenging, affecting service provision to citizens. Access to some areas may be difficult for specialized equipment,

necessitating the swift identification of such areas for manual service delivery. The municipality's responsiveness to citizens' needs is crucial for improving the quality of services provided.

In 2018, Amman experienced heavy rainfall with significant negative impacts, leading to fatalities and significant disruptions to businesses. Sustainable solutions were required, emphasizing rational and systematic approaches. Geo-hydrological and engineering studies were conducted to understand flood realities, identify infrastructure issues, and test their capacity to handle rainfall. Subsequently, radical solutions were implemented, particularly in the city center, expanding rainwater drainage paths and adding new channels. Since then, there have been no reported issues related to water drainage in that area.

Significant improvements were made for infrastructure efficiency, allowing excavation and rescue equipment to easily access large underground passages in the city center. An initiative was also undertaken to reduce the speed of water flow towards the city center. This involved creating a project in a hilly area with funding from the Japanese government, collecting surface water in a tank near a park to slow down water and utilize it for irrigation. The goal is to replicate this system in multiple areas of Amman, reducing the flow and quantity of water reaching the city center.

Additionally, the city aims to plant at least a million square meters of greenery annually, successfully achieving this target in the current year. Despite a notable decrease in rainfall, the commitment to tree planting and increasing green spaces continues, targeting lands under Amman Municipality and government ownership. Efforts are made to secure new lands for planting trees annually.

In some instances, expropriation into private lands is necessary to create urban spaces, such as parks and playgrounds. For example, in the dense neighborhoods of East Amman and Jabal Al-Jofeh, efforts were made to utilize some lands for creating gardens, urban spaces for children, playgrounds, and increasing green areas. We believe that though these projects represent considerable funds today, they are necessary for maintaining the livability of our city tomorrow.

Moreover, effective communication and engagement with the local community are essential. Creating an active communication system, listening to the community, and raising awareness about climate change are crucial aspects of the strategy.

On the national and international levels, who are the main partners with whom you collaborate to address climate issues?

At the level of state institutions, there is a National Committee for Climate Change chaired by the Ministry of Environment. Amman Municipality is member of its executive committee. At the national level, we maintain strong ties with the Ministry of Planning and International Cooperation that serves as the gateway for communication with international institutions, and through which we receive support from various international organizations.

Internationally, we take pride in our relationships, primarily with the United Nations and all its agencies, especially those working in the fields of cities, sustainable development, and climate change. We also collaborate with numerous organizations at the Arab, regional, Islamic, and international levels, positioning ourselves as partners for all. We consistently prioritize and focus on climate-related issues, presenting projects that can secure funding through various means, including grants, loans, or investments, depending on the nature of the project. Moreover, we are proud of our presence in international institutions. For example, we actively participate in the C40 network, which directly addresses climate change.

We have established important partnerships with our counterparts to benefit from their experiences. Of course, each city or country has its unique characteristics and is differently vulnerable to climate change and its impacts. This depends on geographical location, specific climate conditions, population size, population density, proximity to seas, the presence of deserts, natural regions, climate diversity, and more. As a result, different measures, plans, and programs are adopted by different countries and cities, and we can greatly benefit from collaboration and learning from others.

Photo: Jordan - Amman, ©2023

Many consider climate issues to be complex and challenging to address, especially from the perspective of local administrations. How do you work on developing your knowledge base and building capacities in this field?

At the Municipality of Amman, we believe that the issue of climate change should be an integral part of the work of all departments and sectors of the institution. This begins with the Urban Observatory, which functions as an information bank, collecting and analyzing data. This data is utilized in the preparation of executive plans for climate change and monitoring its effects. The relevant departments of the municipality involved in planning, studies, project implementation, and community awareness, deal with various climate change issues. The Sustainable Development Unit plays a critical role regarding climate change by linking the different programs and ensuring that ambitions translate into executed projects.

In the end, there is no standalone project called "Climate Change Project." Instead, addressing climate change should be an integral part of the work of all departments at the Municipality. Every project, action, or decision within the Municipality should fall within the framework of dealing with climate change. Examples span from purchasing electric vehicles, to waste management, green construction, building insulation, heating and cooling systems, lighting in buildings and streets, providing suitable sidewalks for pedestrians, planting trees in public spaces and homes, and developing legislation regulating relevant practices.

In conclusion, do you have any final words you would like to share with us and our readers?

I would like to emphasize the importance of cities for the future and the necessity of empowering them financially, technically, and legislatively to fulfill their roles properly. When I speak about the city

municipality, I mean the institution responsible for managing and serving the city, its land, and the individuals who live in it.

In reality, the institution responsible for city management must be equipped with competencies, financial capacity, and executive capabilities. It should be acknowledged that local institutions and municipalities bear the greatest responsibility in development, being the closest to the citizens and their needs. They play a significant role in bringing a change in culture and behavior within the city.

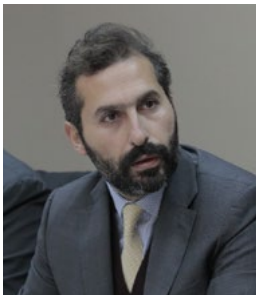
Climate change remains a significant threat to our Arab cities, which compels us to make important decisions and undertake projects that we have the capacity to implement. Adapting to climate changes and mitigating their negative effects on cities is crucial. Our cities should be environmentally, economically, and socially sustainable. Municipalities must work on developing policies and programs that promote sustainability and address environmental challenges, such as air and water pollution, and waste management.

"The future belongs to cities, and therefore cities must be financially, technically, and legislatively empowered to fulfill their roles properly"

URBAN INSIGHTS

External Article

CHANGING LENS AND TOOLS FOR CITIES AND CLIMATE ACTION



Salim Rouhana

Program Leader for Sustainable Development Sectors covering MENA Mashreq Countries at the World Bank Group. Salim is also the Mashreq focal point on Climate Change and is working on the broader whole-economy Green-Recovery efforts. Salim Holds a BA in Architecture, and Master Degrees in Architecture, Political Science focused on International Affairs and Diplomacy, Urban Planning and Development, and an Executive Master in Business Administration.

For far too long, we've assessed the consequences of disasters and climate change through a narrow lens, fixating on their physical impacts. We have focused on issues ranging from the vulnerability of assets and infrastructure to floods, heatwaves, and sandstorms, without realizing that the impact goes way beyond that. Today, it is imperative that governments broaden their perspective with regard to city planning, incorporating a multifaceted climate dimension into their policies and investments. The goal is not just to fortify the cities' resilience against climate shocks or reduce emissions, but to harness the climate momentum as a catalyst for crafting cities that not only weather the storms but also nurture opportunities and jobs for the future.

Afterall, cities are more than just a collection of buildings and roads. They are the beating hearts of economic activity, sociocultural exchange, and centers for political discourse and citizen engagement. To create cities of the future, we must delve into the intricacies between climate and these pillars of urbanism. The challenge of addressing climate change in our cities necessitates aligning our efforts with these intertwined facets. It is important to acknowledge that these pillars are not isolated; they are interconnected elements that form the foundation of our urban landscape. In this brief note, we'll set aside the detailed examination of the nature and scale of climate shocks, which is well-documented in the extensive literature available

today. Instead, I invite you to explore the rich insights within the Country Climate and Development Reports, prepared by the World Bank and other similar reports, which provide clear insights and information to pave the way for a climate-resilient and sustainable urban future.

I've chosen six essential elements that, in my view, can encourage a comprehensive approach to climate action, enabling today's cities to address one of their most significant challenges.

Physical Resilience:
The first concern is climate-related shocks. Urban areas in MENA face an increased risk of floods, heatwaves, sandstorms, and rising sea levels. These environmental factors pose threats to physical assets, including roads, homes, and essential infrastructure. MENA cities must reevaluate their preparedness for such shocks and consider retrofitting existing infrastructure.

Service Sustainability:
Investing in renewable energy sources for household and utility consumption makes sense from both a developmental and climate perspective. Recent World Bank analyses in MENA demonstrate a direct correlation between a higher proportion of renewables in the energy mix and lower costs over the next decade. Additionally, the access, availability, and quality of water in MENA cities are at risk due to inefficiencies in service delivery, population growth, and urbanization.

Economic Adaptation:
Cities are hubs of opportunity, drawing people in search of better jobs, especially in MENA countries, where cities concentrate firms, jobs, and a significant portion of the GDP. Many industries in MENA are directly exposed to climate impacts, and most are high polluters. As trade policies and agreements shift towards green and climate-conscious products, MENA firms must prepare for this transition to continue expanding, exporting, and creating new opportunities.

Human Capital Development:
Despite having the world's largest youth population, MENA countries must focus on building a skilled urban workforce to navigate the climate transition. It's crucial for MENA cities to not only become consumers of green technology but also contributors to innovation and industries related to green tech. Achieving this requires investments in education and skills development, as well as the creation of programs and spaces for green innovation through clusters, universities, research centers, and collaboration with industries and the private sector.

Social Readiness:
Although the MENA region is budding with climate-centered grassroots movements and advocacy groups, a nation-wide behavioral change is currently farfetched. Encouraging comprehensive climate action by raising public awareness, fostering community collaboration, promoting social equity is essential to ensure societal awareness is achieved. Considering the perpetual turmoil flooding the region, achieving significant social awareness is no easy feat. It is important to ensure these movements are well organized and well-founded to allow for a wider reach with perceived climate-related advancements in cities.

Governance:
Effective governance is instrumental in fostering a comprehensive approach to climate action in cities. It involves establishing policies, regulations, and incentives, coordinating efforts, and engaging the public. However, in the MENA region, proper governance is lacking, and to ensure climate-resilience, there is a critical need for enhanced governance mechanisms that prioritize climate action. This can be achieved through strengthening policy frameworks, fostering international cooperation, enhancing transparency, and engaging with local communities to develop and implement effective climate strategies.

Our exploration into the intricate relationship between cities and climate reveals a pressing need for a paradigm shift in urban development strategies. Beyond safeguarding against climate shocks, our cities must evolve into resilient, sustainable hubs that leverage climate challenges as catalysts for positive transformation. The six identified elements provide a holistic framework for comprehensive climate action in the MENA region. Embracing this multifaceted approach ensures that cities not only endure environmental challenges but thrive as dynamic centers of innovation, opportunity, and societal well-being. The path forward demands a collaborative effort involving governments, communities, and global partners.

TOOLKITS FOR INTEGRATING CLIMATE RESPONSIVENESS INTO URBAN POLICY, PLANNING, AND DESIGN

Municipalities are becoming increasingly aware of the challenges of climate change and their implications on their cities. However, knowing how to integrate climate issues into their work and the steps they need to take to do so are still major concerns for most municipalities in the Arab region. In the following, MUDUNUNA introduces a number of toolkits produced by international organizations and specialized centers that can help municipalities with this journey. These tools are varied in their focus and touch on different aspects and issues related to climate and cities. Some focus on the strategic level while others tackle regulatory issues, urban design practices, infrastructure, or informal settlements. Some choose to provide case studies while others go into the step-by-step details of holding community participation sessions on climate responsive planning and design, discuss the modalities of cooperation between different needed expertise, or provide tools that can help with stakeholders' negotiations on climate policies in an urban context.

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Integrating Climate Adaptation

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Toolkit 2:
Planning for Climate Change: A Strategic Toolkit for Urban Planners

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Climate Proofing Toolkit for Basic Urban Infrastructure, with a focus on Water and Sanitation

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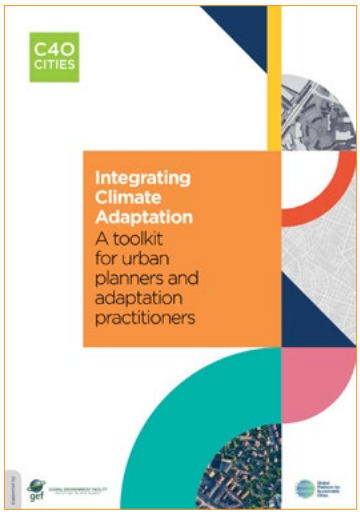
Nature-Based Solutions for Urban Resilience



C40 Knowledge Hub, ©2020

https://www.c40knowledgehub.org/s/article/Integrating-Climate-Adaptation-A-toolkit-for-urban-planners-and-adaptation-practitioners?language=en_US

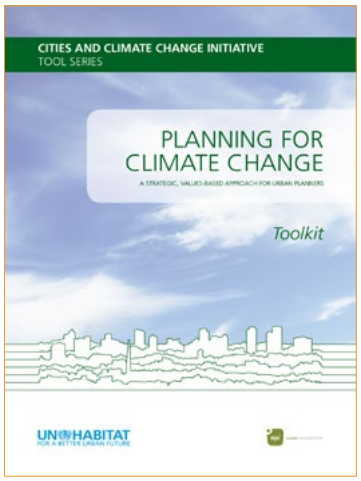
Toolkit 1:
Integrating Climate Adaptation

As the world becomes increasingly urbanized, cities are significantly contributing to climate change, and in doing so have become the most vulnerable to its impacts. In an effort to address this challenge, this toolkit is designed as a guideline for urban planners and adaptation specialists to help them integrate climate adaptation principles into urban planning practices.

This toolkit consists of 3 important parts:

1. Understanding Climate Change's Impact on Cities which assesses the effect of climate change and allows for a comprehensive overview of the challenges faced by climate change to be provided.
2. Optimising Urban Planning for Climate Adaptation as it offers guidance on how urban planning policies can be integrated to adapt to climate change. It showcases how urban planning can be a powerful tool for building climate-resilient cities.
3. Case Studies are provided for further collaboration, showing 10 successful cases for climate adaptation and Urban Planning that have been efficiently integrated. For more practical insights.

The toolkit also includes resources for workshops to help staff and city planners when trying to initiate the integration of adaptation into urban planning policies.



UN-Habitat, ©2014

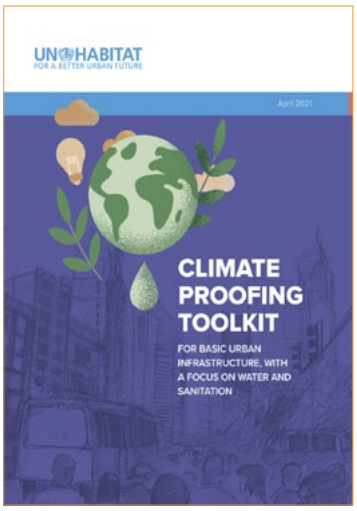
https://unhabitat.org/planning-for-climate-change-a-strategic-values-based-approach-for-urban-planners-toolkit

Toolkit 2:
Planning for Climate Change: A Strategic Toolkit for Urban Planners

This toolkit serves as an extension to the main guide that offers tools and guidance for city planners and professionals to address climate change at the local level. It continues the work done on the participatory, community-based methodology for climate planning.

The toolkit and main guide are structured around a four-module strategic planning approach with 4 main questions: "What is happening?", "What matters most?", "What can we do about it?", and "Are we doing it?" These questions walk the users through nine planning steps that are supported by specific tools and templates, making sure it is adaptable to diverse city contexts and needs.

Recognizing that cities' contexts vary in climate planning stages, purposes, structures, resources, and capacities, the toolkit offers flexible tools. It can be tailored to each city to support specific tasks like stakeholder identification, vulnerability assessment, objective setting, and action evaluation; and ensure that cities are able to navigate their individual climate planning challenges.



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https://unhabitat.org/climate-proofing-toolkit-for-basic-urban-infrastructure-with-a-focus-on-water-and-sanitation

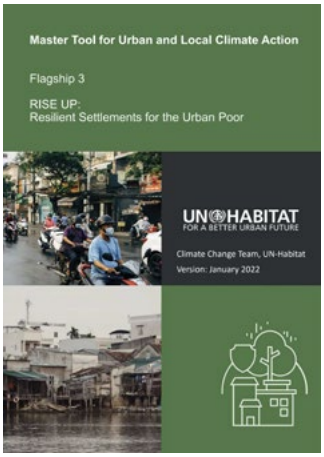
Toolkit 3:
Climate Proofing Toolkit for Basic Urban Infrastructure, with a focus on Water and Sanitation

This toolkit was developed to guide policymakers, planners, practitioners, engineers, and utility managers in incorporating climate change considerations into the planning, construction and operation of the basic infrastructure with a focus on water and sanitation. It's not a one-size-fits-all solution toolkit, it is more of a set of steps, tasks, and tools that can be adapted to diverse contexts.

This toolkit encourages the use of historical meteorological data to enable the adaptability of infrastructure investments to the variability of climate in an effort to increase climate resilience. Furthermore, the toolkit integrates various metrics for assessing exposure, sensitivity, adaptive capacity, and vulnerability. It relies on engagement with stakeholders who contribute information and data during assessment and decision-making processes.

The instruments in this toolkit include policies, planning, and programming at all levels. It is more effective especially when implemented during the project planning stage, ensuring that climate change impacts are considered, relevant tools are applied, and risks are reduced to acceptable levels. As a result, sustainable and resilient changes that are economically viable and socially acceptable can be implemented and integrated into the project cycle's planning and design. Moreover, users are encouraged to adapt the toolkit to their unique circumstances and requirements with a clear understanding of the climate-proofing initiatives for developing proposals.

This toolkit supports the need for collaboration between a wide diversity of professionals with varied disciplinary backgrounds: climatology, demography, disaster risk sciences, environmental sciences, geography, informatics, urban planning, economics, ecology, architecture, anthropology, statistics, etc.



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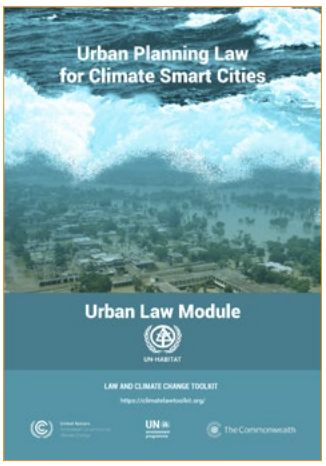
https://unhabitat.org/master-tool-on-climate-change-flagship-3-rise-up-resilient-settlements-for-the-urban-poor

Toolkit 4:
Master Tool for Urban and Local Climate Action RISE UP: Resilient Settlements for the Urban Poor

This tool is a dynamic, regularly updated document that integrates guides and tools related to the Resilient Settlements for the Urban Poor (RISE UP) program. Moreover, it offers an easy-to-use format, starting with curated information for each tool, followed by gap analysis and instruction on tool application.

Gives the flexibility for users to engage with the toolkit from the outset or directly access specific sections to meet their unique needs. It fits diverse requirements as well, suited for both urban planners and policymakers.

Furthermore, the toolkit is designed to adjust to specific target groups, phases, and geographical areas, the toolkit acknowledges the limitations exerted by resource constraints and calls for additional support to fill critical gaps. The guide empowers cities to address long-term climate change impacts and urban development challenges through strategic "quick win" activities.



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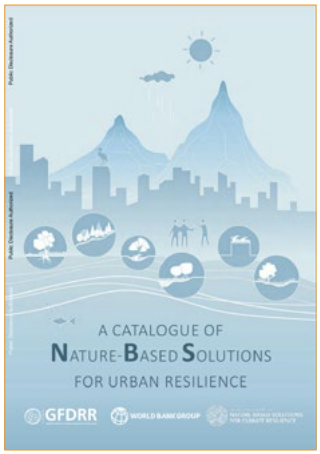
https://unhabitat.org/urban-planning-law-for-climate-smart-cities-the-urban-law-module-of-the-law-and-climate-change

Toolkit 5:
Urban Planning Law for Climate Smart Cities

There is a need for guidance to support in building a coordinated response from both state and non-state actors in the process of the domestic implementation of the Paris Agreement within the Nationally Determined Contributions (NDCs) and the subsequent monitoring and reporting of actions. The Law and Climate Change toolkit emerges as an important instrument that serves in this regard by supporting climate action by providing a comprehensive legal framework.

Strong comprehensive laws play a pivotal role in setting legally binding obligations for greenhouse gas emissions reduction targets and adaptation goals. Additionally, they establish oversight bodies and coordination mechanisms to clarify responsibilities across different levels of government. Legislative frameworks also mandate the integration of climate change action into national and sub-national plans. Moreover, they can create specialized funds and budgets, facilitate monitoring and reporting obligations, and incorporate democratic elements such as the right to public participation, access to information, and access to justice. This toolkit stands out as a non-prescriptive tool designed to adapt to the unique circumstances of each country. It empowers users to work within the scope of their country's specific needs, obtaining specific results for each country.

It is an online tool intended for the use of government policymakers, technical and legal drafters, international organizations, experts, as well as academic and research institutions. Its functionalities include searching existing climate-related legislation, undertaking assessments of selected countries' legislation, and providing climate change statistics and information for all countries.



World Bank, ©2021

https://openknowledge.worldbank.org/entities/publication/c33e226c-2fbb-5e11-8c21-7b711ec-bc725

Toolkit 6:
Nature-Based Solutions for Urban Resilience

This toolkit/catalog serves as an important reference for identifying potential investments in nature-based solutions (NBS) to address urban challenges. It targets mainly policy makers, project developers, urban planners, and engineers, providing them with insights on the performance and benefits of 14 NBS typologies.

Two questions have been addressed: What are the targeted benefits of the NBS? Is the NBS suitable for the location?

The toolkit offers technical descriptions, visualizations, and examples to assess NBS potential in urban areas. It also provides cost estimates and benefits to evaluate economic viability, along with considerations for the suitability of allocating the NBS. While the toolkit primarily focuses on flood and heat risk management, it also offers insights into other social and environmental benefits of NBS. It complements existing knowledge products on NBS-developed and supports the integration of NBS into investment projects.

CITIES IN ACTION

Project 1

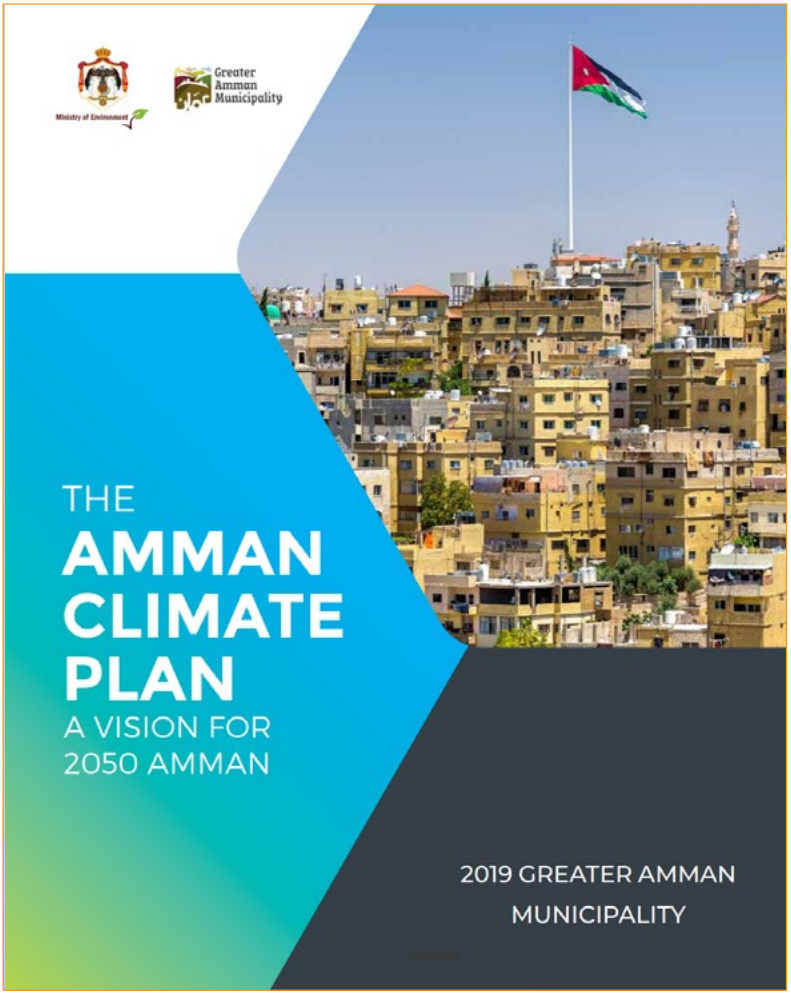


Photo: Amman City Action Plan

First Movers of Climate Action Plans in the Arab Region

Amman's Journey Towards an Effective City Climate Action Plan

With a target to halve GHG emissions by 2030 and net zero emissions by 2050, the 2015 Paris Agreement has set a high bar for countries. However, these targets are only achievable with concrete action on the part of cities, as they contribute to the biggest share of Greenhouse Gas Emissions (GHG) worldwide. In light of this, Climate Action Plans (CAP) are useful strategic tools to help cities not only organize their climate-related actions but also maximize their potential impact.

CAPs vary between cities as there is no one-fits-all solution for developing content and formulating plans. Each city is unique with its own historical mandate, per capita emissions, institutional capacities, and motivations behind the implementation of CAPs. Furthermore, while some cities present their plan through a singular output, others comprise a series of connected plans and strategies.

Cities in the Arab region have been slow in developing CAPs. However, there have been some first movers. One of these is the city of Dubai in the UAE with its introduction of the Carbon Abatement Strategy, a dedicated plan designed to combat climate change. Additionally, cities such as Abasan Al-Kabira in Palestine and Chefchaouen in Morocco have seamlessly integrated the climate goals into their macro development plans. However, at the forefront of this movement is the city ofAmman in Jordan, proudly presenting its open and community-driven second Climate Action Plan.

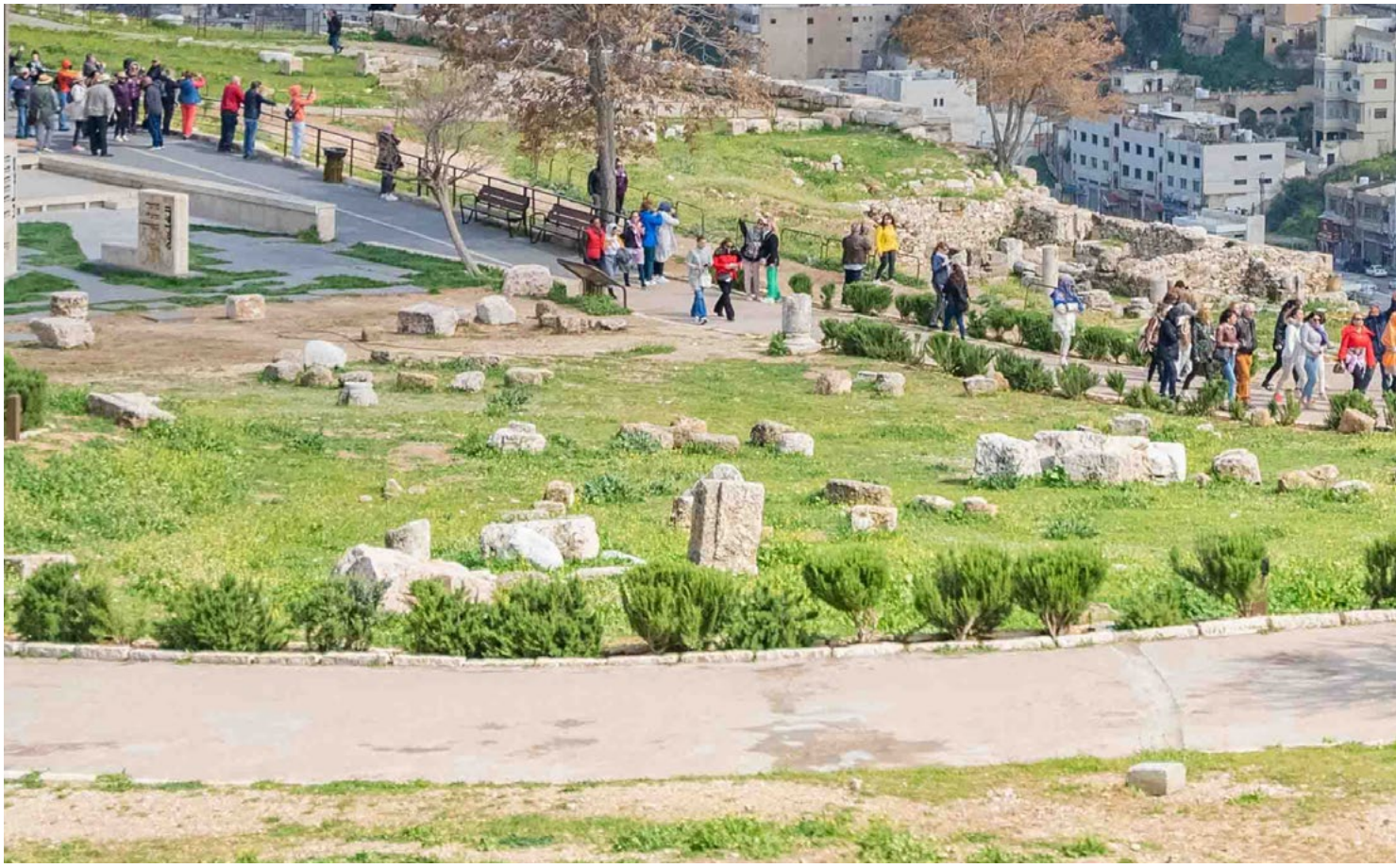


Photo: Amman - Jordan, ©2023

In 2015, Amman decided to integrate the climate objectives into its existing planning processes, creating an alignment between efforts to reduce emissions, adapt to change, and ensure access to energy. The United Nations' "Guiding Principles for Climate Action Planning" serves as its main guide, emphasizing ambition, inclusivity and fairness, as well as stressing the need for evidence-based decision-making processes. In 2019, the Greater Amman Municipality (GAM) launched the Green City Action Plan (GCAP). This plan has enabled the city "to identify, prioritize, and address the city's climate and environmental challenges".

Amman's GCAP covers everything from improving air quality to managing waste, energy-efficient street lighting, urban makeovers, sustainable energy initiatives etc. The plan also introduces the use of Information and Communications Technology (ICT) in several mitigation and adaptation initiatives. The plan's document provides clear priorities, measurable goals, allocated budgets, well-defined timelines, and pathways for public involvement. Some of the results of this plan are already evident. As can be seen on the website of the Carbon Disclosure Project (CDP), GAM has introduced adaptation and mitigation plans within every sector in an integrated action plan report.

The plan is structured so as to clearly align proposed activities with the macro-issues that require attention. For example, to address the need for efficient and resilient energy systems, the plan proposes the integration of LED systems in municipal street lights. For accessible, diverse, and low-carbon mobility systems, it proposes the expansion of the city's bus network and low-emission bus fleet. All recommended activities are proposed in integration with the local governance systems and technical capacities.

The GCAP also includes online campaigns to showcase existing green practices and raise awareness regarding the benefits of applying these practices in one's daily lifestyle. Some of these campaigns focus on green building practices that seek to build a relationship between the building and its surrounding environment, including identifying elements specific to the context of buildings in Amman. Other campaigns highlighted green roof practices for residential buildings, and green transportation models encouraging greater pedestrian activity and use of non-motorised transport modes.

While plans are important in charting a clear path for cities to deal with climate challenges, they remain

ineffective without comprehensive citizen and stakeholder engagement. Such engagement enables the placement of climate issues at the heart of the public debate and policy agenda. For this reason, an important initiative in the Amman GCAP is the organization of city-wide engagement activities, where GAM, through public engagement platforms, involves citizens in decision-making processes by encouraging dialogues and debates. Citizen engagement is also done through knowledge building, where the municipality has developed interactive courses and workshops, using experiential techniques for learning and training.

In order to clarify its own institutional prerogatives, GAM conducted an assessment of climate change legislation, policy, and relevant governing institutions. It identified four sectors where it has the most autonomy in terms of policy development and investment decisions. These include building renovation, land use, transportation, and solid waste. In addition to this, GAM also identified priority areas in the domain of environmental challenges; air quality, (pressure on land), and desertification (need for green spaces).

To foster integration and avoid duplication of efforts, GAM also mapped the key ongoing plans and projects in the city, such as the Amman resilience strategy (plan), Amman bus rapid transit network (project), Amman Climate Change Action Plan (plan), National Green Growth Action Plan (Plan), Green Infrastructure Project (Project).

Moreover, GAM engaged in further analysis related to the environmental challenges that need to be prioritized: airquality, pressure on land, desertification, the need for green spaces, and climate-related hydrological changes. Furthermore, GAM mapped key existing plans and projects in Amman and reflected on the way to bridge them and make them more complementary.

Developing Climate Action Plans within the Arab region is a step in the right direction. They allow cities to rethink their governance and planning processes, to increase their resilience and capacity to deal with climate challenges and to fast-track their transition towards greater sustainable development.

Project 3

Photo: Alexandria seen from Fort Qaitbey | Dan Diffendale | Flickr, ©2023

Dealing with Sea Level Rise in Egypt

Mitigation efforts in Alexandria and Reed Fencing in Kafr Elsheikh

Egypt, located in the northeast of the African continent and home to the Nile Delta, faces critical challenges due to sea level rise resulting from climate change. 40% of the population lives in the coastal areas, and Egypt falls in the top five countries most impacted by sea level rise in the world. Since 2012, there has been an annual sea level increase of 3.2mm, causing floods and erosion along the shore and increasing the concentration of salt in groundwater. This continues to negatively impact agricultural activity in a country that is already heavily dependent on imported food. Furthermore, the sea level rise-related challenges manifest across multiple sectors, including the environment, economy, food security and the built environment.

The city of Alexandria, in particular, is most vulnerable to climate change-induced sea-level rise, as it is surrounded on three sides by the Mediterranean Sea. The United Nations Intergovernmental Panel on Climate Change (IPCC) predicts a global sea-level rise of 68 cm by 2050 which threatens to flood parts of Alexandria, causing salination of farmland as well as damage to buildings, subsequently triggering displacement and loss of livelihood. A study conducted through the University of Alexandria in 1999 indicated that if no actions are taken to address the impacts of sea-level rise, 30% of the city will be lost due to flooding, 195,000 jobs will be affected and a total economic blow of $3.5 billion will be felt, over the course of this century.

In the face of these alarming scenarios, multiple mitigating measures have been implemented in and planned for Alexandria over a period of decades. Physical interventions include inlet lagoons, harbor jetties, groins, seawalls, detached breakwaters, revetment, and beach nourishment. Policy-level measures include development regulations, integrated coastal zone management (ICZM), and land use reforms.

Of these, beach nourishment has been a preferred measure with several projects completed between 1987 and 1995. These include El Shatby, Stanley, Sidi Bishr, El Asfara, and El Mandra, which were nourished using soil from a desert near Cairo. In addition to the beach nourishment, a notable project is that of a vertical concrete seawall built in the early twentieth century to protect the coastal highway. However, it suffered from erosion and overtopping, following which layers of concrete cubes have been added seaward of the wall over time. In 2021 the Irrigation Ministry announced a LE75 million (USD 2.4 million) which included the restoration of the seawall among other interventions. The aim was to protect the city's historical assets and secure its future against the impact of rising sea levels.

In addition to physical infrastructure, it is essential for vulnerable cities to develop integrated strategies and plans, guiding policy and development in affected areas. In 2010, the World Bank approved a grant for the development of an Alexandria Coastal Zone Management Project, with the aim of improving the institutional capacity of the city for sustainable coastal zone management. With three primary components, including prior planning, capacity development, and monitoring strengthening, the ICZM also encompasses a comprehensive stakeholder engagement process, in particular with the local fishermen communities. The project's success is dependent on two key indicators, the first is its adoption within the government’s institutional mechanism, and the second is a decrease of 5% in the volume of pollution ejected into the Mediterranean by Lake Mariout.

Alexandria is not alone in its fight against sea level rise, the city of Kafr El Sheikh is facing similar challenges. The latter is also threatened by food security; it is estimated that 8.35% of the governorate's agricultural area will be flooded as a result of global sea level rise. Some of the methods adopted in Kafr El Sheikh, however, present an interesting alternative to the mitigation measures observed in Alexandria.

Historically, local farmers in the Delta have constructed reed fences to extract sand from the wind, which then aggregates to create mounds and act as a natural barrier to floods. Observing these practices in Kafr El Sheikh, a project by the UNDP and Green Environment Fund (GEF), began experimentation with various prototypes of dike structures, using nature-based materials and techniques. An amalgamation of these iterations was then piloted in the city, and proved effective against the winter storms. Based on the success of this pilot, in 2018, the Government of Egypt secured a grant for the installation of 69 km of sand dune dikes along 5 vulnerable hotspots in the Nile Delta, namely Kafr El-Sheikh, Port Said, Behira, Damiette, and Dakahlia. In addition to building coastal defense structures, the grant also focuses on the production of integrated coastal management plans for the North coast of Egypt, one of which is the Alexandria ICZM.

These initiatives in Alexandria and Kafr El Sheikh underscore Egypt's multifaceted strategies in confronting sea level rise. Alexandria's ICZM and seawall project, with its significant financial investment, aims to protect the city's heritage and future. Meanwhile, Kafr El Sheikh's reed fencing initiative showcases community-driven efforts rooted in traditional knowledge to address climate challenges. These examples serve as potential models for other vulnerable regions grappling with similar environmental threats.

Photo: Reed Fencing - Kafr El Sheikh UN-Habitat, ©2022

Project 4

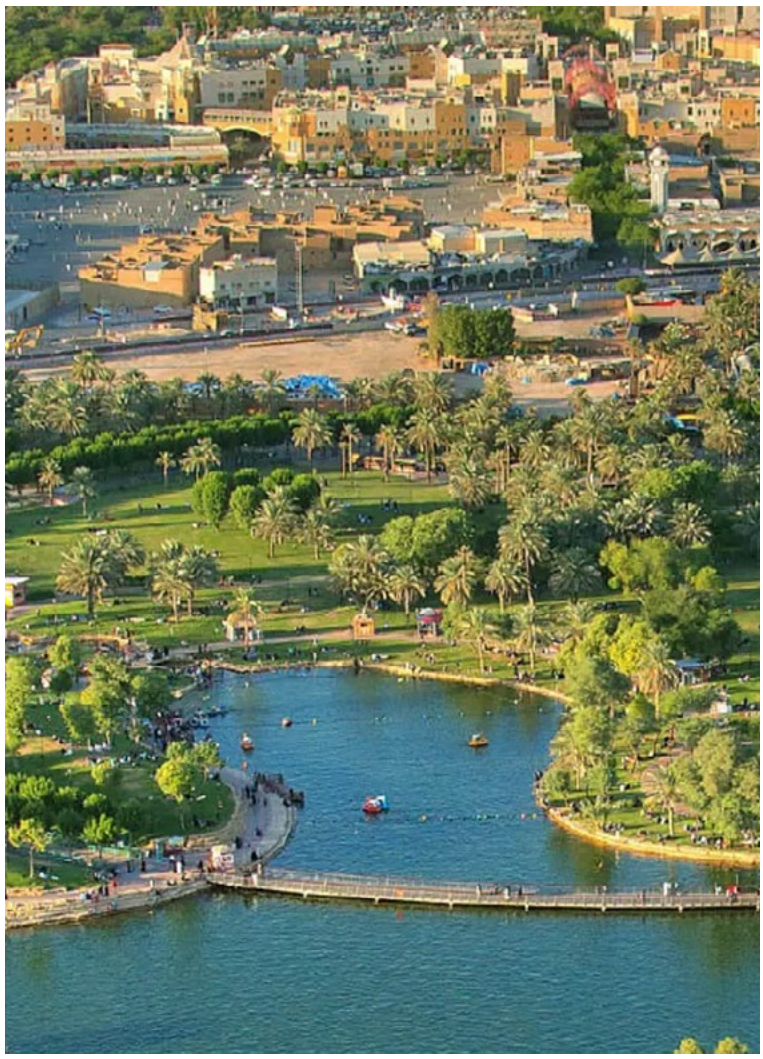


Photo: Green Riyadh Project, ©2023

Pouring Greenery in the Heart of Cities Afforestation in Manama and Green Project in Riyadh

The presence of green spaces in cities plays an important role in minimizing the extent to which people are affected by the impact of climate change. It contributes to cooling urban temperatures and decreasing flood risks. This is particularly significant in Gulf cities where temperatures are among the highest worldwide. Two cities in the region, Riyadh and Manama, stand out as a result of the extensive efforts they have undertaken towards the greening of their cities.

Riyadh, the capital city of Saudi Arabia, is currently implementing its most ambitious forestation project, titled 'Green Riyadh'. By 2030, it seeks to transform the city into an urban oasis through the plantation of 7.5 million trees and development of 3,000 parks. Also known as the city's 'new green heart', the project is designed to enhance the city's livability, maximize access to green spaces, and improve the well-being of the city's residents. The principal aim is to improve air quality and reduce temperatures in the city, thereby encouraging citizens to adopt a healthy lifestyle, making the project a key element of the Saudi Vision 2030.

The project focuses primarily on afforestation across 120 neighborhoods, in an effort to meet its target of increasing the per capita share of green space from 1.7 square meters to 28 square meters, as well as to reduce temperatures by up to 2°C.

The trees are to be planted in a variety of locations, including gardens and parks, educational institutes, healthcare facilities, public buildings, mosques, and vacant land, as well as along valleys, streets, and roads. Around 72 types of native species, that have adequate canopy size for shade, will be planted. A number of enablers are proposed to sustain the plantation. This includes the development of a new water treatment network for irrigation, with a daily capacity of 1 million cubic meters. The project is also setting up plant nurseries to serve the demand for saplings.

On a policy level, the project is developing urban regulations to enable and enhance afforestation in public and private spaces, as well as running awareness campaigns to encourage community participation. In terms of quality of life, the project encourages increased use of public spaces thereby contributing to the social and psychological well-being of residents. In addition to this, the project also has economic benefits due to its potential to reduce the rate at which electricity is consumed, increase property values, and create new investment opportunities in the horticulture, landscaping, and irrigation sectors. In April 2022, the project officially launched in neighborhoods in Riyadh, Al-Aziziyah, Al-Naseem, Al-Jazeera, Al-Araija, Qurtuba, Al-Ghadir, and Al-Nakhil neighborhoods.

Similarly, in a significant move towards a greener and more sustainable future, Bahrain has taken the initiative to launch the Forever Green Campaign, a national afforestation project. This effort, led by the Ministry of Municipalities Affairs and Agriculture reflects the nation's commitment to doubling its tree population to 3.6 million by 2035 and achieving carbon neutrality by 2060. The project focuses on planting large evergreen trees that are well-suited to Bahrain's climate, ensuring responsible water usage. Currently in its third phase, the campaign has successfully planted over 140,000 trees across public parks, walkways, public transport stations, health centers, schools, parking lots, waterfronts, and public streets in the country.

In the city of Manama itself, five sites are part of the Forever Green Campaign. The interventions include greening of large public spaces, tree-lining of boulevards, as well as afforestation in commercial spaces. One of these sites, the Al Fateh corniche,

Photo: Manama Project, ©2022

underwent a "landscape makeover" in 2022, with support from the Gulf International Bank (GIB). 180 poinciana, acacia, neem, ficus, and jatropha trees were planted at the eastern part of the corniche.

Another intervention in Manama, consisting of plantation and greening at Al Farouq junction was completed in 2022, involved the installation of an automatic irrigation network, water fountains, as well as approximately 800 trees and 1,500 evergreen plants. The aim of this intervention was to reduce temperatures and preserve local flora. On the same principles, plantation was also done along the Zallaq Highway and King Faisal Highway.

Afforestation of the Central Market was done using selected trees with large canopies for shade and protection against dust and sand storms. Similarly, for the greening of the Umm Al Hassam walkway, 23 hibiscus and 22 neem trees were planted, specifically targeted at providing comfort for children and the elderly.

These afforestation projects in Riyadh and Manama highlight an important aspect of greening in the Arab region, that is, the need to intervene at the scale of the neighborhood. As the effects of climate change continue to intensify, greater efforts of this nature are required across the Arab region.The outcomes of both Manama's campaign, and Riyadh's afforestation project, will present as a great learning opportunity for other cities working in the domain of urban greening.

Project 5

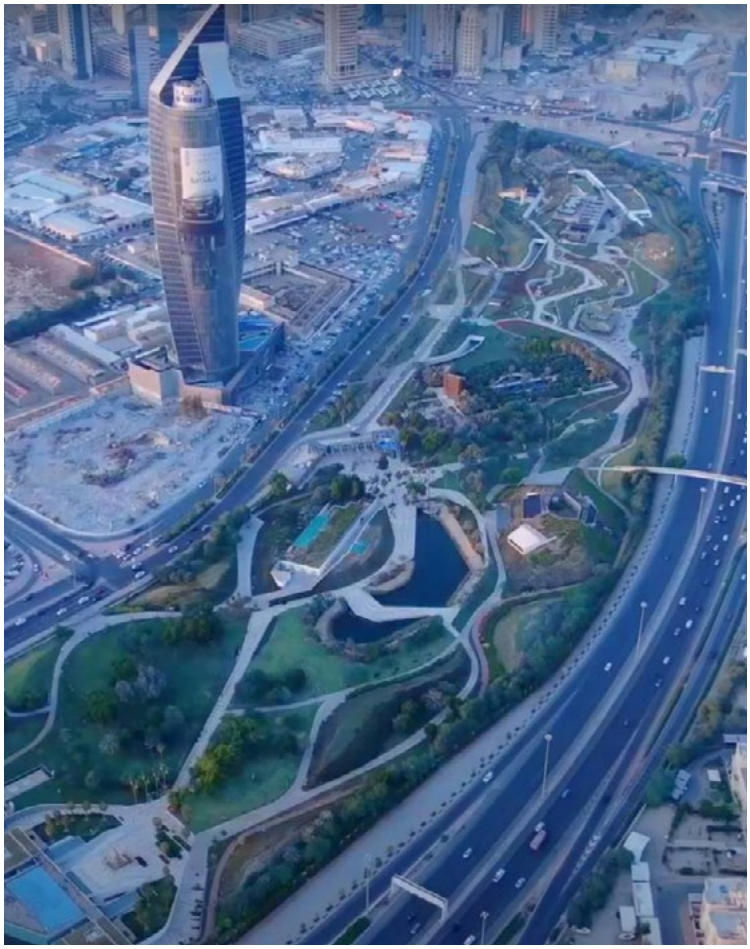


Photo: Al Shaheed Park, ©2022

Large Open Spaces to Respond to Flooding and Thermal Challenges in Amman and Kuwait City

As the effects of climate change continue to pose greater threats to cities, their priorities and ambitions need to evolve to better combat these threats. While the Arab region's contribution to greenhouse gas emissions is minimal, it is one of the regions that is most vulnerable to the effects of climate change. Whereas in some cities these effects manifest through high levels of heat and subsequently desertification, others are faced with haphazard and extreme precipitation, leading to issues of food security, infrastructural degradation, and water depletion and contamination.

Jordan, for example, faces significant problems due to flash floods and their impact on its urban infrastructure. To address the risk of damage in its capital city of Amman, a project led by the Greater Amman Municipality and UN-HABITAT in 2020 aimed to strengthen the government and communities' capacities in the management of flash floods. The project included four key components: flood risk assessment and flood hazard mapping of downtown Amman, developing of a participatory City Resilient Action Planning tool, capacity development of communities and officials, and the installation of green infrastructure pilot projects.

One of these pilots is the Al-Zohour Green Triangle project, demonstrating how nature-based solutions manifest as efficient solutions in the face of climate change induced risks. Spanning an area of 2,300 square meters, the triangle is engineered to mimic nature in the way it handles water; collecting it, purifying it, and then gently reintroducing it into the stormwater system. It is based on the principles of Sustainable Urban Drainage Systems (SUDS), and

works through two primary components, bioretention, and stormwater detention. It features a series of bioswale areas to enhance ground permeability and facilitate the natural water cycle. The efforts put into the landscape design of the triangle makes it a vibrant public space in the neighborhood.

The project was executed in collaboration with the community, engaging them through awareness campaigns and empowering them through capacity development sessions on flash flood resilience. With potentially 120 other similar sites mapped by the project and where this innovative approach could be massively and easily replicated, the Al-Zohour Green Triangle is a blueprint for effective resilience in the face of floods.

The other major climate change induced threat faced by Arab cities is that of desertification, adversely affecting both biodiversity and urban quality of life. One of the cities largely affected by this is Kuwait, where frequent sandstorms impact air quality in the city. In light of this, an ambitious project in the city of Kuwait, Al Shaheed Park, has claimed the stage as the largest green roof project in the Arab region. Envisioned in 2012, it demonstrates the value of large scale urban parks in addressing impacts of climate change as well as enhancing a city's livability.

The name Al Shaheed Park, which translates to "Park of the Martyr", is part of the new Kuwait National Cultural District, a $1.25 billion cultural infrastructure project encompassing a cultural center, museums, theater, conference facilities, libraries, parks, and green buildings. Covering an area of almost 20 hectares, Al Shaheed park is a conversion of the historic Green Belt Park of 1961. The intent for the new design of the park was twofold, to narrate the story of the land and present its historical and cultural significance, as well as to protect the city from the effects of sandstorms and air pollution. In total, it encompasses 200,000 square meters of greenery, making it the largest urban park in the country. Vegetation in the park comprises exclusively of native plants suited to the city's subtropical climate, including date trees, lemon trees, desert rose shrub, rosemary, and saint Augustine grasses.

The park consists of a central fountain which effectively combats high temperatures during the summer, while mist sprays aligned along the running track help keep its visitors comfortable. It also houses eco-friendly buildings with green roofs, a lake, and other natural features incorporated throughout its landscape. The expansive green roofs make it one of the "largest over structure green roofs in the world", with a surface area of 75,000 square meters. More than just enhancing the aesthetic quality of the park, the green roofs serve as nature's armor, shielding the park and the city from harsh desert elements.

Today the park serves as a place of recreation and tourism for both residents and visitors alike. It offers learning opportunities through its museums and fosters well-being through its expansive greenery and a variety of open air activities. The park's size enables it to reduce air pollution, and serve as a protection against sandstorms. The park is set to undergo further expansion, involving an additional 30,000 square meters of green roofs, making it a remarkable urban park project in the Arab region.

Kuwait's Al Shaheed Park and Amman's Al Zohour triangle symbolize the commitment of Arab cities in the face of growing climate change risks. However, greater measures need to be taken to facilitate this process in other cities, as well build the capacities of municipalities so they are able to drive local climate responsive interventions and projects in their cities.

Photo: Al Zohour Triangle, ©2022

Project 6

Photo: Al Husn Camp, ©2019

Retrofitting Green Roofs in Informal Settlements and Refugee Camps: Cases from Cairo and AlHusn

In dense urban settlements, particularly areas predominantly inhabited by refugees, there is little opportunity to experience open green spaces. This not only affects the environmental quality of the space, but it also limits people's opportunities to socialize and create a meaningful relationship with their neighborhood. Rooftop farming emerges as an effective urban greening solution in a context such as this, that can simultaneously combat the challenges of climate change and elevate the quality of life in densely populated urban areas.

In the city of Cairo in Egypt, which is marked by rapid urbanization and sprawling informal settlements, a creative solution is taking shape to address pressing environmental and societal challenges. This involves the retrofitting of roofs in informal settlements to create spaces for urban gardening and agriculture. One of these informal settlements, Helwan, is a low-income district with dense urban fabric and minimal green or open spaces. The rooftops of buildings are often cluttered in old trash. In 2018, a local company named Schaduf initiated an urban agriculture project in Helwan and its surrounding informal settlements, with the aim of enhancing not only the environmental quality of the neighborhood but also for socio-economic benefits.

The project consisted of the establishment of 500 urban farms on roofs as well as training services for the community in order to facilitate the urban gardening process. The plantation technique was

based on hydroponics, a method that enables above ground plantation, requires minimal water and no soil, and is applicable in the case of rooftop gardening. The most commonly used plants were Molokhia, a local spinach widely cultivated in Egypt, as well as lettuce and other leafy greens. Each family was provided with 2 roof garden setups, that is, a total of 420 plants. Each setup cost close to $700, however, families were only expected to contribute around $20. Training services for this project were provided to 850 families, most of which included girls between the ages of 9 and 15. Training also equipped residents with the knowledge on how to set up the mechanism for successful seed germination; once matured, the residents were able to harvest twice a month.

Similarly, in Jordan, where the impacts of climate change are acutely felt, innovative rooftop farming initiatives are gaining momentum in Palestinian refugee camps. Originally conceived as temporary housing solutions, these camps have evolved into densely populated urban centers with minimal green spaces. Local organizations and NGOs are transforming these rooftops into vibrant oases, cultivating fruits and vegetables year-round in purpose-built greenhouses. This initiative not only promotes self-sufficiency but also empowers local communities and raises awareness about the importance of healthy, locally sourced food.

Officially known as Martyr Azmi Al-Mufti camp, Al-Husn camp is one of the emergency camps established in 1968 for Palestinian refugees. The approximate population of the camp in 2023 was over 28,000. Whereas initially, the camp consisted of green cover with a variety of produce and herbs, the expansion of houses led to a significant reduction of such spaces.

Introduced in 2016, the rooftop farming project for Al-Husn camp had multiple aims, the first being to "reintroduce vegetation into the camp". For the local community-based organization managing this project, the aim was to "create possibilities of self-sufficiency and activate the roof as a productive space". Lastly, the donors intended for the project to cultivate environmental and cultural benefits within the camp. The project itself originates from the result of a Camp Improvement Plan (CIP) which provided Community Based Organizations (CBO) the opportunity to develop their projects.

In total 34 greenhouses for rooftop farming were developed throughout the project cycle on both private residences as well as public buildings. The interventions for public buildings extended beyond the boundaries of the camp in an attempt to integrate the "inside and outside of the camp". To support implementation, relevant training sessions and lectures were also conducted for participant families.

The technical specifications of the greenhouses were designed keeping in consideration the structural and climatic concerns of the site. The CBO employed the use of a steel frame enveloped in a plastic sheet in a "flexible plug system", as opposed to previously welded structures, for ease and convenience. Additionally, the use of recycled materials such as discarded water containers and jerrycans was adopted.

For watering, an automated drip system was installed, but the community relies primarily on manual watering as the automation is susceptible to soil clogging. Excess water is diverted to a collection tank. The local soil due to its density and impermeability is unsuitable for use in roofs, therefore it is often mixed with peat moss to reduce weight from moisture. Alternatively, the soil is imported from Finland. However, this makes the process costly and subsequently impacts its sustainability. The total cost of materials for each house was approximately 600-800 Jordanian dinars (845-1125 USD). The project was conceived and implemented between 2016 and 2017 by an existing local football club, Al Karmel, that acted as a CBO for this initiative and operates under the umbrella of the Higher Council for Youth.

Both these projects emphasize the importance of developing greening interventions at the local scale, where the residents are able to directly experience and interact with the intervention. Additionally, working on a micro-scale facilitates participation, ensuring longevity of the project and greater sense of ownership from the community. However, the process of implementing rooftop farming in informal areas is not without its hurdles. Currently, there are no established guidelines or mechanisms for managing and formalizing rooftop food production on a district scale, necessitating further research and strategic planning.

OUR NEWS

Online Meeting

AUDI MEETING ARAB CITIES

In the context of engaging with Arab cities to introduce the 2025 strategy, the institute met with several mayors and heads of municipalities of major Arab cities in November and December 2023. During these meetings, the strategy was presented and discussed, exploring the possibility of cities participating in various institute activities, including the 'Arab-European City Dialogue 2024,' Training Programs, Urban Living Lab, and other initiatives.

Municipality of Irbid:

09/11/23

AUDI met with Dr. Nabil Al-Kofahi, the mayor of Greater Irbid Municipality in Jordan and his team.

Djibouti Municipality:

20/11/23

AUDI met with the Mayor of Djibouti, Mr. Said Daoud Mohamed, and his team.

Alexandria Governorate:

05/12/23

AUDI met with His Excellency the Governor of Alexandria, Major General Mohamed Taher Al-Sharif.

Tunis Municipality:

15/11/23

AUDI met with Mr. Slimane Al-Qalii, mayor of Tunis Municipality and his team.

Nouakchott Municipality:

23/11/23

AUDI met with the President of the Nouakchott Region, Mrs. Fatima Abdelmalik and her team.

Baghdad Governorate:

21/12/23

AUDI met with His Excellency the Mayor of Baghdad, Eng. Ammar Musa Kazim, and his team.

Rabat Municipality

14/11/23

AUDI met with Her Excellency Dr. Asmaa Aglalou, Mayor of Rabat, Morocco.

Marrakech Municipality:

15/11/23

AUDI met with Marrakech Municipality in Morocco.

PARTNERSHIPS

CONNECTIVE CITIES Agreement

The signing of a Memorandum of Understanding between the Arab Urban Development Institute and the "Connective Cities" Program

'Connective Cities' is a joint program between the German Agency for International Development (GIZ) and the German Engagement Global Foundation. Connective Cities defines itself as an international platform for practitioners working in the field of sustainable urban development. Operating on all five continents, Connective Cities collaborates with cities and local institutions to share expertise and unique experiences in the field of urban development and promote more sustainable urban practices.

Given the significant overlap in the goals and activities of the institute and "Connective Cities", it was agreed to formalize cooperation between the two parties and seek integration, particularly in the following areas:

- Facilitating the transfer of expertise and knowledge between Arab cities and others worldwide regarding successful practices in the fields of sustainable, smart, and just cities.
- Providing the necessary environment and mechanisms for cities to support and benefit each other in implementing the Sustainable Development Goals 2015 on the urban agenda.
- Enhancing the capabilities of municipalities in finding effective solutions related to urban issues.
- Encouraging Arab cities to adopt local strategies to address energy and climate change issues.
- Building knowledge and sharing it through urban innovation laboratories.

As a result, in November 2023, the institute, represented by its Director General, Dr. Anas Al-Mughairy, and the Regional Officer for the Connective Cities program, Dr. Mona Shaalan representing the program director Ricarda Miesner, signed a memorandum of understanding between the two parties.

COMPETITION "CAPTURE YOUR CITY"

FOR PHOTOGRAPHERS **PROFESSIONALS AND ENTHUSIASTS**

CAPTURE YOUR CITY

The Arab Institute for Urban Development invited professional photographers from around the Arab region to participate in the "Capture Your City" competition. The competition aims to showcase the distinctive landmarks and daily life of Arab cities. More than 700 photographers from 20 Arab countries participated in the competition, and the number of submitted photos exceeded 2000.

On January 3, 2024, the jury, consisting of a distinguished group of professional photographers, announced the winning photos in three categories: Street Life, Old City, and Modern City.

Mr. Abdullah Al-Juhdali won the grand prize, while:

- **Mr. Amar Al-Sayyid** won in the Modern City category.
- **Mr. Ahmed Mustafa** won in the Street Life category.
- **Mr. Fares Tayaran** won in the Old City category.

AUDI'S PARTICIPATION IN THE 28TH CONFERENCE OF PARTIES (COP28) IN THE UNITED ARAB EMIRATES

Photo: AUDI's participation in the 28th (COP28)

Hosted by the United Arab Emirates (UAE) at Dubai Expo City, COP28 took place from November 30th to December 12th, 2023. The conference drew over 10,000+ attendees from around the globe and featured strategic, principal, and industry partners. The event included government officials, industry leaders, scientists, and advocates to discuss and implement climate policies and solutions. Several issues discussed are of importance to cities.

In her keynote speech Diana Urge-Vorsatz, Chair of the IPCC says that cities generate 80% of the global GDP and are the hotspotshot spots of economic growth thus providing dynamic opportunities for climate resilience development and innovation. Adding that urban blue and green infrastructure including street trees, permeable surfaces, and ponds mitigates climate change and adapts to its impacts by sequestering carbon, reducing heat islands, cooling neighborhoods, and reducing energy and water demands. She emphasizes 3 broad strategies that are needed for cities to achieve net-zero emissions. These strategies include; reducing urban energy and material consumption across all sectors, electrification and switching to net zero emission resources, and enhancing Urban Carbon Act taking and stocks.

During COP27 in Egypt, the first ministerial meeting on Urbanization and Climate Change was held. This year the same meeting was held with the objective of making sure "that finance reaches the local level for a resilient just sustainable future for all". Recognizing the importance of cities and sub-national governments in facing Climate Change challenges.

On the 1st of December, there was an announcement for the creation(?) of the Coalition for the High Ambition multi-level Partnership for Climate Action (CHAMP) recognizing and valuing the contributions from cities, states, and regions. CHAMP has been endorsed by 65 countries covering 27% of the global population, 53% of global GDP, and 32% of global emissions.

With the announcement of CHAMP, cities can now align and streamline the various initiatives; such as the 2030 breakthroughs, the Sharm El-Sheikh adaptation agenda, and surge with other sub-national agendas. CHAMP is a product for consultations of national and subnational leaders to find new inclusive and ambitious approaches to updating nationally determined contributions through stronger collaborations among all levels of governance. It positions local governments as active participants in climate action and not just as beneficiaries.

Finally, With 792 million dollars secured, this year's main heading at COP28 was the "Operationalisation of the Loss and Damage Fund" on the first day. A fund that vulnerable and developing countries have been asking for. This is of importance for cities that are facing critical destruction of their urban environment due to climate change. Although there are many questions regarding the adequacy and accessibility of this fund, it is a huge milestone that needs a further push and needs to include non-economic losses and damages as well as part of the equation.

By acknowledging the importance of COP, AUDI attended the event. The main aim was to report on the negotiations and the activities and understand the implications for cities. Moreover, the conference facilitated networking with professionals, policymakers, and experts actively engaged in climate-related discussions which allowed us to build connections, share insights, and potentially collaborate with individuals and organizations interested in the intersection of cities and climate change in the Arab region.

> "We recognize that sub-national governments are the primary implementers of localized actions and the first respondents to the disasters associated with Climate change"
>
> H.E. Razan Al Mubarak - UN Climate Champion for COP28

For COP29, next year the host was announced to be Azerbaijan, and for COP30 is Brazil. As the COP goes from one country to another circulating the globe, our collective and individual actions remain crucial to achieve a just and equitable transition for our future generations.

ANNUAL PLAN FOR TRAINING PROGRAMS 2024

AUDI offers a range of specialized training programmes through a network of experts in urban development and management. The programmes focus on institutional development and capacity building in order to increase competencies and contribute on leadership development.

Training plan for 2024 covers the most prominent issues in municipal sector. These courses are held in Riyadh and other foreign cities that provide study cases in training subjects.

Examples of training manuals

Development of municipal work strategies in cities

Developing institutional strategy stages with the participation of all internal departments and beneficiary partners, through KPIs and follow-up reports and their periodic review.

Target group: Mayors, directors of sectors and departments.

February
Riyadh

Subscription **fees** SAR 4500
(3 days) $1200

Asset Management and Municipal Investment Opportunities

Municipal assets are a sustainable source of income if well managed, therefore comes the need to develop municipalities investment methodologies and practices.

Target group: Investment agency or similar roles.

May
Riyadh

Subscription **fees** SAR 4500
(3 days) $1200

New trends in urban planning

Many recent trends have emerged in urban planning to meet the changing needs of cities, these trends are translated through the city's planning, development and management.

Target group: Urban planning agencies and departments, Department of Urban Studies.

August
Stockholm/
Amsterdam

Subscription **fees** SAR 10000
(5 days) $2650

Community Engagement

Developing community participation practices in municipal development projects by introducing participation tools and their impact on developing work outputs.

Target group: Mayors, departments directors, Department of Community Participation.

September
Riyadh

Subscription **fees** SAR 4500
(3 days) $1200

Digital Transformation Strategies and Techniques

Design an institutional digital transformation strategy by leveraging on emerging technologies, such as blockchain, cloud computing, and process automation.

Targeted audience: Department managers, digital transformation management, smart cities.

October
Munich/
Copenhagen

Subscription **fees** SAR 10000
(5 days) $2650

Public-Private Partnerships (PPP)

PPPs contributes to improving the quality of services provided, as advanced practices in privatization of municipal services and asset investment are reviewed.

Targeted audience: Directors of departments, nvestment agency or similar roles.

November
Riyadh

Subscription **fees** SAR 4500
(3 days) $1200

Built Environment Term of Reference and Contract Management (SCO + CRM)

Gain experience in how to prepare specifications to facilitate contracting processes and identify modern regulations and requirements from the accredited authorities in the city.

Targeted audience: Heads of departments, engineers working in studies and project management.

December
Riyadh

Subscription **fees** SAR 4500
(3 days) $1200

- Training programs are offered in cooperation with King Saud University.
- Interested parties are contacted to clarify the mechanism of payment of fees.
- Seat reservation is on a first-come, first-served basis.
- Seats are limited.

For more information

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SCAN & REGISTER

URBAN LIVING LAB

Participatory Greening in Arab Neighborhoods

AUDI INITIATIVES

AUDI is pleased to announce the launch of its first Arab Cities Urban Living Lab, the theme of which is Participatory Greening of Neighborhoods in Arab Cities. This project is in partnership with Greater Amman Municipality (Jordan), Fes-Meknes Region (Morocco), Port Said Governorate (Egypt), Tunis Capital Municipality (Tunisia), and several Arab universities. This project is funded by the arab fund.

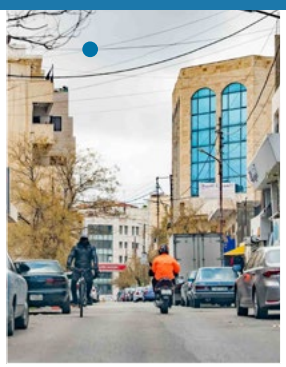
The Urban Living Lab methodology involves creating an alliance of cities, universities, associations, and the private sector to implement pilot projects in different sites of participating cities. The projects are then reviewed to extract lessons learned and improve tools and methodologies.

PORT SAID

TUNIS

FES

AMMAN



PROJECT ACTIVITIES

01 Neighborhood Green Lung

Transforming a small open space (up to 500 m2) into a green public space. This involves various interventions, including planting local plants that require minimal water and maintenance, urban agriculture on rooftops and facades of adjacent buildings, converting ground surfaces to increase rainwater absorption, rainwater harvesting, drip irrigation techniques, solar panels, and composting. Interventions may vary between neighborhoods, and these projects are conducted in collaboration with residents, local associations, and even the private sector.

02 Tactical interventions

Tactical green interventions focusing on working with residents and associations to drive plantation in multiple small vacant spaces in neighborhoods. These areas may be planted as "Myawaki forests," an intensive planting method for trees and plants that do not require constant maintenance, or they may take the form of a "Green Drive," utilizing sidewalks, house facades, and other protrusions facing the street for planting and maintenance by residents.

03 Training and Learning

These include training materials and sessions for municipal staff on the technical and administrative mechanisms for developing and implementing these projects. After project implementation, this package includes preparing dialogue tables with stakeholders to evaluate and learn from the experience. Based on this, the partners will prepare recommendations and guidelines that other cities can benefit from later.

MUDUNUNA

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