

## Realizing Sustainable Development Goal 11 in Public Realm Designs through Regional Landscaping

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### Abstract

With the current rise in population trends and the complex concerns this imposes on the environment and its resources, the skill sets of landscape architects enable them to contribute to proposing solutions to such challenges. In that sense, sustainability becomes a core value that landscape architects adhere to when addressing the current climate and social challenges. Nowadays, 55% of the world's population is living in cities. It is expected that this percentage would increase to 68% in 2050. In this sense, the question of how to make our cities resilient and sustainable against future challenges already signaled for today becomes imperative. Landscape architecture, or public realm design, is positioned in this paper as a potential agent that advances sustainable development in the built environment by promoting liveliness and providing safety and inclusivity for the community. It is central to the role of landscape designers to consider merging art culture and functionality to bring life to a specific urban space, planning its land use, drawing its lines, and promoting its liveliness. The paper discusses the intersection between landscape/public realm design and Sustainable Development Goals, focusing mainly on interlinkages that achieve UN SDG 11 (sustainable cities and communities). It also uses global case studies to showcase the vital role regional-oriented design plays in ensuring the advancement of the goal within a specific context.

**Keywords:** Sustainability, public realm design, SDG 11, urban regeneration, regional landscape, landscape architecture

### I. Introduction

The current increase in population has multifaceted effects on the environment and its resources. In 2021, the global population was 7.9 billion, and it is projected to reach 9.7 billion by 2050 (United Nations, 2021). This rapid population growth, along with urbanization, industrialization, and increased consumption, places immense strain on the Earth's natural resources, such as land, water, and energy (Rockström et al., 2009). This mounting demand for resources can result in environmental degradation, water scarcity, and climate change, which can negatively impact human health, food security, and economic progress (United Nations, 2019). Moreover, population growth has broader implications for social and ethical concerns. For instance, it can exacerbate poverty, inequity, and political instability (Cohen, 2003). Furthermore, the growing demand for resources can lead to disputes over resource access, which can cause social and environmental injustice (Gómez-Baggethun, et al., 2013). Addressing the current surge in population trends is a complex issue that demands immediate attention and action. It is crucial to adopt sustainable development practices that balance economic growth, social progress, and environmental conservation to ensure a sustainable future for everyone.

The aim of this research is to develop a micro-scale design-oriented framework that interconnects landscape/public realm design to SDG 11 in the urban environment. To achieve this objective, the research draws on lessons learned from global case studies and relevant literature that explore the significance of landscape architecture in promoting sustainable development in the built environment, the importance of sustainability as a core value for landscape architects, UN SDG 11: *Sustainable Cities and Communities*, and sustainable regional landscaping. While previous literature has defined regional landscape design in a broader sense, this paper focuses on defining a framework that sheds light on the means that advance SDG 11 through regional landscape design. In doing so, the paper identifies three key pillars for sustainable regional landscape spatial character and provides a prototype study of how these key pillars can be achieved through public realm design. The methodology builds upon these findings by defining key design domains of regional landscape design based on case studies analysis. The paper then investigates the relationship between these regional landscape design domains and SDG 11 ten key targets as a framework of study to explore the most effective/prominent design domains that advance SDG 11 through regional landscape/public realm design. The paper concludes by providing a “4-step regional landscape design domains” framework that can guide landscape architects in creating sustainable urban environments that support human well-being and contribute to the achievement of SDG 11.

## **II. Literature Review**

### *Significance of Landscape Architecture in Promoting Sustainable Development in the Built Environment*

Maintaining a balance between economic growth, social development, and environmental protection is a crucial aspect of sustainability for landscape architects. Achieving this balance requires taking a holistic approach that acknowledges the long-term consequences of design decisions and recognizes the interconnectedness of natural systems (American Society of Landscape Architects, n.d.). Promoting resilience and adaptability in the face of environmental changes is another critical aspect of sustainability for landscape architects. Climate change, natural disasters, and other environmental challenges demand that landscape architects design spaces that can withstand and even thrive in changing conditions (United States Green Building Council, n.d.). Prioritizing sustainability is important for landscape architects as it reflects their commitment to ethical and accountable design. By doing so, landscape architects ensure that their work benefits not only their clients but also the broader community and the natural environment (American Society of Landscape Architects, n.d.). Such an approach promotes social equity, environmental justice, and the long-term health and well-being of people and the planet (Wright, 2015).

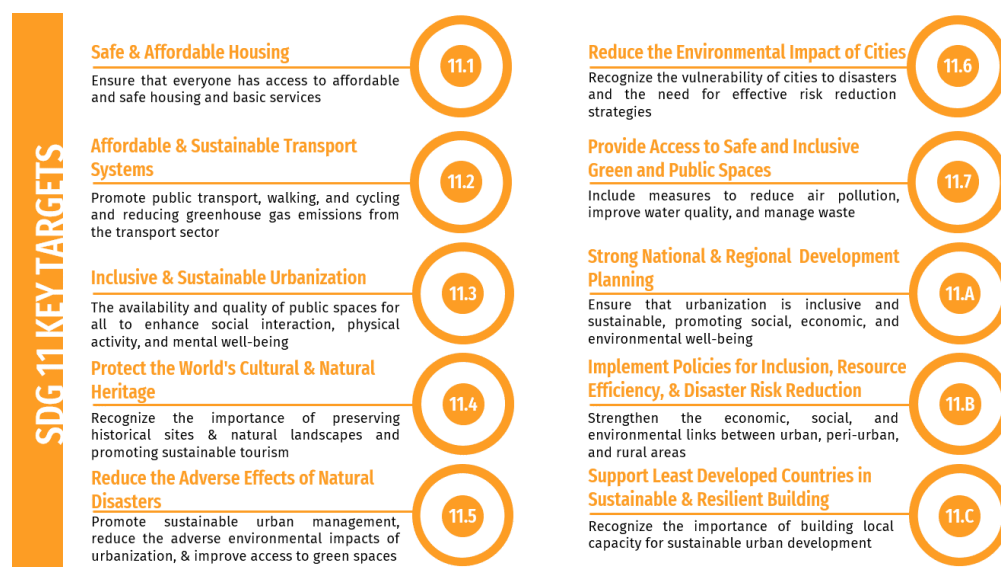
### *Importance of Sustainability as a Core Value for Landscape Architects*

Landscape architects are uniquely equipped to address the complex challenges of population growth and sustainable development. The American Society of Landscape Architects (ASLA) notes that landscape architects' specialized knowledge enables them to design and manage built and natural environments that balance economic growth, social development, and environmental protection ("Sustainability and Landscape Architecture," n.d.). By incorporating sustainable design principles into their work, landscape architects can promote sustainable development. Sustainable design aims to

reduce the built environment's impact on the natural environment by using energy-efficient materials and systems, promoting renewable energy, and designing for energy efficiency. The United States Green Building Council (USGBC) notes that sustainable design can help minimize greenhouse gas emissions and encourage sustainable development (USGBC, n.d.). Landscape architects can include sustainable design principles in their work by employing locally sourced materials, integrating renewable energy systems, and designing for energy efficiency (ASLA, n.d.). In essence, sustainability is a critical value for landscape architects due to their close connection to the natural environment. Landscape architects design and manage outdoor spaces that impact the environment and communities. To ensure that their projects are attractive, environmentally responsible, and socially equitable, landscape architects must prioritize sustainability as a guiding principle.

### *UN SDG 11: Sustainable Cities and Communities*

Incorporating sustainable urban landscaping practices is important for achieving SDG 11, which seeks to make cities safe, inclusive, resilient, and sustainable. Landscape architects can promote biodiversity by including native plants, trees, and other natural features into urban spaces, creating habitats for wildlife, and enhancing air and water quality (American Society of Landscape Architects, n.d.). They can also design public spaces that encourage physical activity, social interaction, and community engagement, which can improve social capital, promote mental and physical health, and create economic opportunities (United Nations, 2019). Achieving SDG 11 is critical for promoting social equity, economic development, and environmental sustainability in urban areas. Landscape architects can promote sustainable urban landscaping practices that enhance social, economic, and environmental sustainability in urban areas, thereby making cities more resilient to climate change and other environmental challenges. Regional landscape design can also be used to achieve the targets of SDG 11 through a comprehensive approach that considers various design elements (Beatly, 2011).



*Figure 1: The ten SDG 11 key targets summary (United Nations, 2015)*

## *Sustainable Regional Landscaping*

Sustainable regional landscaping is an approach in landscape architecture that promotes ecological, social, and economic sustainability, recognizing the interconnectedness of natural systems and human societies (Nassauer and Opdam, 2008). Wu (2013) introduced the concept of landscape sustainability science, which emphasizes the integration of ecosystem services and human well-being in changing landscapes. The concept highlights the significance of interdisciplinary collaboration and stakeholder engagement in promoting sustainable regional landscaping. Sustainable regional landscaping can help address pressing environmental and social challenges such as climate change, biodiversity loss, and urbanization. A key component of sustainable regional landscaping is green infrastructure, which involves the integration of natural and engineered systems to manage stormwater, improve air quality, and provide other ecological benefits (Benedict and McMahon (2006). Kowarik (2011) discusses the concept of “novel urban ecosystems”, which highlights that sustainable regional landscaping involves designing adaptive and resilient landscapes to changing environmental conditions, considering ecological and cultural contexts of the landscape, and engaging multiple stakeholders in the design process. Landscape architecture plays a vital role in promoting sustainable development through regional landscaping by designing and implementing regional landscapes that enhance ecological and cultural values while supporting local economies (Nassauer and Opdam, 2008). To achieve the key targets of SDG 11 through regional landscape design, a comprehensive approach is necessary, considering various design elements. Spatial organization, safe streets, human-scale structures, economic opportunities, public facilities, inclusive urban public spaces, native green spaces, preserved natural environments and resources, and local building codes are all important considerations (Beatly, 2011; Gehl, 2010; Carmona, et al., 2003).

### *Lessons Learned from Review of Literature.*

By incorporating ecological responsibility, cultural awareness, and human-centric features into regional landscape design, landscape architects can help create sustainable and resilient urban environments that enhance human well-being and preserve natural resources. The spatial character of regional landscape design is driven by these three key pillars, as illustrated in Figure 2. A design prototype, as shown in Figure 3, has been developed to combine the frameworks of SDG 11 key targets and regional landscape spatial character, which can guide decision-making when designing sustainable and regional public realm environments that aim to advance SDG 11 in their specific contexts. The literature also helped put together a set of 10 regional landscape design domains that will be used in the paper method.



*Figure 2: Regional landscape pillars and key drivers*



Figure 3: Design prototype that entails SDG 11 key targets and regional landscape key drivers/pillars on a broader urban scale.

Table 1: Regional Landscape design domains and their respective definitions






Regional Landscape Design Domain	Definition
<b>Green Infrastructure</b>	The integration of natural and engineered systems, like rain gardens, bioswales, and green roofs, is used to manage stormwater, enhance air quality, and mitigate the urban heat island effect (Benedict and McMahon, 2006).
<b>Ecological Restoration</b>	The restoration of degraded ecosystems like wetlands, forests, and grasslands promotes biodiversity, enhances ecosystem services, and increases the landscape's resilience to climate change (Kowarik, 2011).
<b>Cultural Heritage Preservation</b>	Including traditional land use practices, historic buildings, and cultural landscapes that preserve cultural identity and promote social sustainability. (Nassauer and Opdam, 2008).
<b>Sustainable Agriculture</b>	The promotion of sustainable agricultural practices, such as agroforestry, organic farming, and community-supported agriculture, supports local economies and enhances ecological and social functions (Wu, 2013).
<b>Tourism &amp; Recreation</b>	Designing and managing landscapes for tourism and recreation, such as hiking, camping, and wildlife watching, promotes economic development and enhances the quality of life (Benedict and McMahon, 2006).
<b>Stakeholder Engagement</b>	Involving community members, NGOs, and government agencies, in the planning and design process ensures that their voices are heard, and their needs are addressed. (Nassauer and Opdam, 2008).
<b>Interdisciplinary Collaboration</b>	with experts from diverse fields, such to ensure that the landscape design is informed by current scientific research and best practices (Wu, 2013).
<b>Adaptive Management</b>	Employing adaptive management strategies, including monitoring and evaluation, to ensure that the design remains adaptable to changing environmental and social conditions, promoting sustainable development over time. (Kowarik, 2011).
<b>Climate Resilience</b>	Including features such as passive cooling, natural drainage systems, and drought-tolerant plants in designs can decrease the risks of flooding, erosion, and heat waves, and enhance the resilience of the landscape (Kabisch et al., 2016).
<b>Health &amp; Well-being</b>	Including features like walking and biking trails, fitness equipment, and community gardens to enhance and promote physical activity, social interaction, and healthy eating. (Thompson et al., 2013).






### III. Methodology

The method involves examining global case studies of recognized landscape designs to identify practical interlinkages between the design domains and landscape design projects. The analysis of ten case studies is presented in a table, based on selection criteria, as per Figure 3. These case studies were analyzed to determine the most **prominent regional landscape design domains** that contributed to advancing SDG11 within their respective contexts.



Table 2: Regional landscape case studies overview

No.	Project Name	Description	Imagery	Prominent Regional Landscape Design Domain
1	Philadelphia Green Streets Program	<p>The Green Stormwater Infrastructure program was launched in 2011 in Philadelphia, USA, to reduce stormwater runoff and improve water quality by installing GSI practices along public areas. The program has been successful in achieving its goals and has provided additional benefits such as improved air quality, reduced urban heat island effect, and enhanced aesthetic value. (Fitzgerald, and Laufe, 2016).</p> <p><b>Key Strength:</b> More than 1,100 acres of impervious surfaces have been converted into green infrastructure, resulting in enhanced air quality, decreased heat island effect, and increased public access to green spaces.</p>	 <p>Photo courtesy of Community Design Collaborative [1]</p>	Green Infrastructure
2	Jubail Mangrove Park	<p>The Jubail Mangrove Park is a new park in Abu Dhabi that has been developed to revive the mangrove forest ecosystem. The park's boardwalk and wastewater treatment system have been designed to protect the forest and maintain water quality. It also provides habitat for various plant and animal species and offers educational programs and interpretive signages to raise awareness about the importance of mangroves and encourage visitors to advocate for environmental conservation. (El Amrousi, et al., 2021).</p> <p><b>Key Strength:</b> It encourages the restoration and conservation of natural ecosystems, which aids in conserving biodiversity, mitigating climate change, and providing opportunities for education, recreation, and cultural enrichment.</p>	 <p>Photo courtesy of Antonie Robertson [2]</p>	Ecological Restoration
3	Qinghai Lake Wetland National Nature Reserve	<p>The Qinghai Lake Wetland National Nature Reserves is a protected area in the northwestern part of China that spans over 233,000 hectares. It includes Qinghai Lake, the largest saltwater lake in China, and the surrounding vegetation. UNESCO has recognized the site as a Biosphere Reserve, a World Heritage Site, and a Ramsar Wetland of International Importance. (UNESCO, 2017).</p> <p><b>Key Strength:</b> The project integrates traditional Tibetan land use practices and has implemented eco-tourism programs that generate economic benefits for local communities.</p>	 <p>Photo courtesy of Yang Bin [3]</p>	Cultural Heritage Preservation
4	The Green Belt Movement	<p>The Green Belt Movement is an environmental and social justice organization established by Wangari Maathai in Kenya in 1977. The organization's primary objective is to promote environmental conservation and sustainable development through community-based tree planting initiatives. It works with women's groups, schools, and other community organizations to plant trees and encourage sustainable land use practices, while also advocating for environmental policy reform at the national and international levels. (Hunt, 2014).</p> <p><b>Key Strength:</b> It promotes sustainable agriculture and environmental conservation through tree planting, involving local communities to establish tree nurseries to be used to plant trees in degraded landscapes. Planting trees in areas such as deforested areas, riverbanks, and roadsides provides benefits such as soil conservation, water retention, and carbon sequestration.</p>	 <p>Photo courtesy of Life of Wangari Mathai [4]</p>	Sustainable Agriculture
5	The Adirondack Park in New York	<p>The Adirondack Park in New York is a protected area that spans over six million acres of land and water and was created in 1892 and renovated in 2021. The park is a UNESCO Biosphere Reserve and is home to a wide range of wildlife and ecosystems. The primary goal is to promote sustainable tourism by finding a balance between economic benefits and conservation of natural and cultural resources. By collaborating with local communities and businesses, the park supports the local economy while also preserving the park's ecosystems for the long term. (Regalado, and Kelting, 2015).</p> <p><b>Key Strength:</b> The project includes sustainable tourism and recreation practices, such as hiking, camping, and wildlife watching, while promoting the protection of biodiversity and natural resources.</p>	 <p>Photo courtesy of Adirondack Regional Tourism Council [5]</p>	Tourism & Recreation

6	The Detroit Future City project	<p>The Detroit Future City Strategic Framework Plan was created in 2010 as a comprehensive approach to revive Detroit, Michigan. The plan acknowledges the significance of green infrastructure, urban agriculture, parks and open spaces, and tree canopy in supporting the city's ecosystems' long-term health and productivity, while also enhancing the quality of life for residents. The plan's effective implementation requires collaboration with different stakeholders to ensure it promotes landscape sustainability in Detroit. (Detroit Future City, 2021).</p> <p><b>Key Strength:</b> Over 100,000 residents, community organizations, and government agencies were involved in the planning process to create a comprehensive framework for sustainable urban development.</p>	 <p>Photo courtesy of Michael Van Valkenberg [6]</p>	Stakeholder Engagement
7	Wadi Hanifah Restoration Project	<p>The Wadi Hanifah Restoration Project is a 120-km ecological region in Riyadh, Saudi Arabia, that was created to restore the environmental balance of the Wadi Hanifah corridor. The project involved various components such as an Environmental Appraisal, a Water Resources Management Plan, a Land Use Plan, and a 10-year implementation program. The project is noteworthy for its interdisciplinary collaboration between landscape architects, planners, and engineers, as well as its collaboration with local communities and organizations. (Alrabe, 2012).</p> <p><b>Key Strength:</b> It involves collaboration between ecologists, hydrologists, engineers, and urban planners, restoring natural wetlands, creating green corridors, and implementing stormwater management systems.</p>	 <p>Photo courtesy of Arriyadh Development Authority [7]</p>	Interdisciplinary Collaboration
8	The Restoration Ecology Research Group	<p>The project is dedicated to researching and implementing landscape restoration and adaptive management techniques at the University of Waterloo. The focus is on restoring ecosystems, considering environmental changes, community involvement, and scientific research. The goal is to restore degraded landscapes effectively and sustainably, which involves researching and studying different restoration techniques and monitoring their effectiveness to develop best practices for landscape restoration (Cray, 2015).</p> <p><b>Key Strength:</b> It applies adaptive management strategies, such as experimental monitoring and evaluation, to assess the effectiveness of ecological restoration projects and use the results to guide future restoration efforts.</p>	 <p>Photo courtesy of University of Waterloo [8]</p>	Adaptive Management
9	The Bishan-Ang Mo Kio Park	<p>It is a park in Singapore, completed in 2012, is praised for its sustainable and resilient design. The park uses bioengineering measures and includes various green features such as wetlands to manage stormwater and prevent flooding. A naturalized river improves water quality and enhances biodiversity, while a network of waterways and ponds serves as a natural cooling mechanism. The park's design includes native planting selections tailored to the local climate and promotes a resilient landscape intervention. (An, et al., 2020).</p> <p><b>Key Strength:</b> The park includes sustainable features, such as rain gardens, bio-retention swales, wetlands, native plants, and walking and cycling trails, promoting sustainable transportation, and reducing greenhouse gas emissions.</p>	 <p>Photo courtesy of Ramboll Studio Dreiseitl Singapore [9]</p>	Climate Resilience
10	Atlanta BeltLine	<p>This project covers 35 km and aims to transform an old railway corridor into a network of parks, trails, and transit options. The project encourages alternative transportation modes, providing extensive recreational opportunities for physical activities. These activities promote physical and mental health, social interaction, community engagement, and economic development. The project also connects neighborhoods through various events, festivals, and markets, creating job opportunities (Roy, 2015).</p> <p><b>Key Strength:</b> It is a multi-use trail and greenspace that promotes community engagement, active living, and economic development in the surrounding neighborhoods.</p>	 <p>Photo courtesy of Amy Meadows [10]</p>	Health & Well-being

[1] Fisher, Christine. "TEDxPhiladelphia: Workshopping Green Stormwater Infrastructure." WHY, March 25, 2014. <https://why.org/articles/tedxphiladelphia-workshopping-green-stormwater-infrastructure/>.

[2] Rodrigues, Janice. "Jubail Mangrove Park in Abu Dhabi: All You Need to Know" The National. Accessed July 29, 2023. <https://www.thenationalnews.com/lifestyle/things-to-do/2022/02/10/jubail-mangrove-park-in-abu-dhabi-all-you-need-to-know-from-ticket-price-to-location/>.

[3] "Wetlands Protection Reaps Rich Rewards." Chinadaily.com.cn. Accessed July 29, 2023. <https://www.chinadaily.com.cn/a/202112/09/WS61b13da0a310cdd39bc7a321.html>.

[4] The Gender Security Project. "The Green Belt Movement." GSP, May 18, 2021. <https://www.gendersecurityproject.com/post/the-green-belt-movement>.

[5] "Winter Is at Its Best in the Adirondacks." Winter In New York – Explore the Adirondacks. Accessed July 29, 2023. <https://visitadirondacks.com/winter>.

[6] Eidt, Jack. "Detroit Future: Landscape Urbanism, Antidote to Industrial Blight." WilderUtopia, June 25, 2018. <https://wilderutopia.com/sustainability/land/detroit-future-landscape-urbanism-antidote-to-industrial-blight/>.

[7] "Wadi Hanifah Comprehensive Development Plan." Landscape Performance Series, June 12, 2023. <https://www.landscapeperformance.org/case-study-briefs/wadi-hanifah-comprehensive-development-plan>.

[8] Mapp, Karis. "University of Waterloo Staff and Students Clean up Local Wetland." Kitchener, November 9, 2022. <https://kitchener.ctvnews.ca/university-of-waterloo-staff-and-students-clean-up-local-wetland-1.6146441>.

[9] "Bishan Ang Mo Kio Park." GANSW. Accessed July 29, 2023. <https://www.governmentarchitect.nsw.gov.au/resources/case-studies/2017/11/bishan-ang-mo-kio-park>.

[10] "Meadows, Amy. "The Atlanta Beltline Progresses Forward: Knowatlanta - Atlanta's Relocation Guide." knowatlanta.com. Accessed July 29, 2023. <https://www.knowatlanta.com/features/the-atlanta-beltline>.

Afterwards, the study used a matrix to illustrate the relationship between the regional landscape domains and the 10 targets of SDG 11, indicating the intensity of the linkage between the domains and targets based on three levels: positive, "reinforcing," 0, "no connection," and negative, "trade-off." The matrix also includes a column showing the total target achieved positively by each design domain. Such classification is used to analyze the effectiveness of each regional landscape domain in advancing SDG 11 targets. In the following study, a matrix, shown in Figure 4, the linkage between the domains and targets is based on an intensity gradient of 3 levels, positive, "reinforcing", 0, "no connection", and negative, "trade-off". The last column of the matrix includes a total target that was positively achieved by each design domain.

SDG 11 TARGETS		11.1: Safe & Affordable Housing	11.2: Affordable & Sustainable Transport Systems	11.3: Inclusive & Sustainable Urbanization	11.4: Protect the World's Cultural & Natural Heritage	11.5: Reduce the Adverse Effects of Natural Disasters	11.6: Reduce the Environmental Impact of Cities	11.7: Provide Access to Safe and Inclusive Green and Public Spaces	11.A: Strong National & Regional Development Planning	11.B: Implement Policies for Inclusion, Resource Efficiency, & Disaster Risk Reduction	11.C: Support Least Developed Countries in Sustainable & Resilient Building	Total Targets Positively Achieved
REGIONAL LANDSCAPE DOMAINS	Green Infrastructure	0	+	+	+	+	+	0	-	-	0	5
	Ecological Restoration	-	-	-	0	+	+	-	-	-	0	2
	Cultural Heritage Preservation	-	-	-	+	-	-	-	0	-	-	1
	Sustainable Agriculture	0	-	+	+	0	+	0	-	-	+	3
	Tourism & Recreation	-	-	0	-	-	-	0	+	+	-	3
	Stakeholder Engagement	0	+	+	+	0	-	+	+	0	0	5
	Interdisciplinary Collaboration	+	+	+	+	+	+	+	0	+	+	9
	Adaptive Management	-	+	0	+	+	0	0	-	0	0	3
	Climate Resilience	+	+	+	+	+	+	0	-	0	+	6
	Health and Well-being	+	+	+	-	0	+	+	-	-	+	5

INTENSITY GRADIENT LEVEL:	
Reinforcing	positive (+)
No connection	zero (0)
Trade-off	negative (-)

Figure 4: The matrix above shows the relationship between the regional landscaping domains and the ten targets of SDG 11.

#### IV. Results & Discussion

The results of the study, shown in Figure 5, suggest that interdisciplinary collaboration and climate resilience are the most prominent regional landscape domains that contributed the most to advancing SDG 11. Up next are stakeholder engagement, health and well-being, green infrastructure, and adaptive management. The overriding level of these domains were positive, "reinforcing" in their relevance to the 10 targets of SDG 11. This finding suggests that interdisciplinary collaboration, climate resilience, stakeholder engagement, green infrastructure, health and well-being, and adaptive management are crucial factors that should be considered when designing policies or interventions to advance SDG 11 in the urban environment.

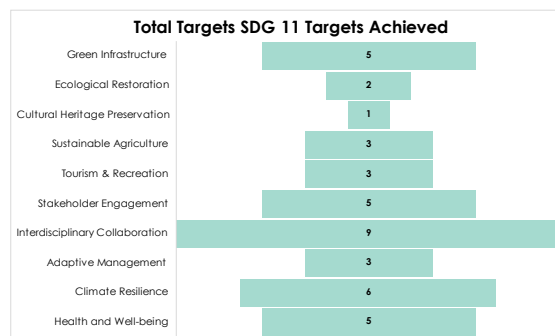


Figure 5: A graph showing the total SDG 11 Targets achieved for each domain, being reinforcing- positive, according to figure 4 to determine which regional landscape domains were the most prominent.



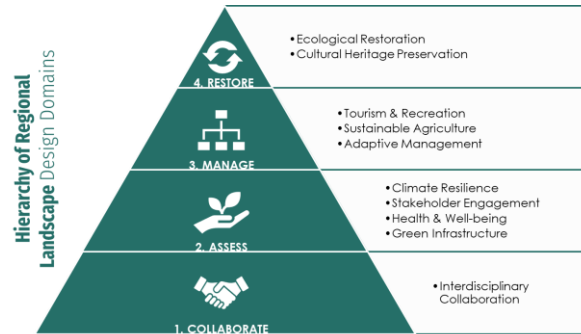


Figure 6: The 4-step framework that showcase the hierarchy of regional landscape design domains as a design process tool to advance SDG 11 in public realm designs.

## V. Conclusion

In conclusion, the paper discusses the role of landscape architecture in promoting sustainability and resilience in cities, with a focus on achieving SDG 11. It highlights the importance of regional-oriented design and the integration of art, culture, and functionality in urban spaces. The paper has presented an exploratory study that identifies and discusses the interlinkages and priorities of regional landscape design domains that contribute to the realization of SDG 11 and its ten key targets. However, it is important to acknowledge that the findings of the paper are limited by the fact that they still require validation from experts and professionals in the landscape field. As such, further research is needed to confirm the hierarchy of these domains and to fully understand their interdependencies. This validation process is essential in establishing a guiding outcome that can be formally studied and reviewed, ultimately leading to the integration of these findings into practice. Therefore, it is imperative that future studies build on the insights presented in this paper by engaging with relevant stakeholders in the landscape field to validate and refine the interlinkages and priorities of regional landscape design domains that contribute to advancing SDG 11 in the public realm designs.

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