

The Sustainability Report

11 SUSTAINABLE CITIES AND COMMUNITIES



2024/2025

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Overview and Executive Summary

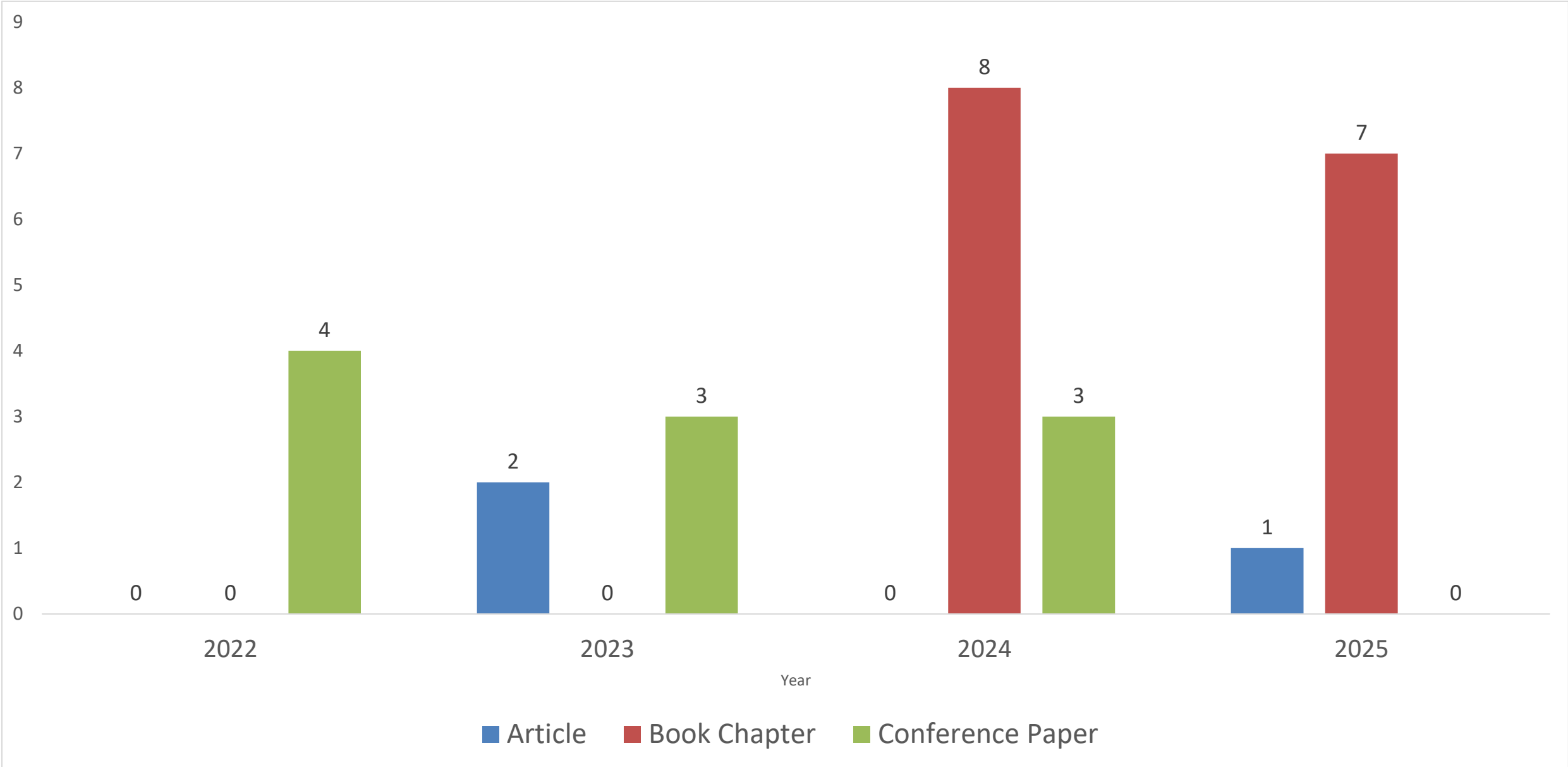
Sustainable Cities and Communities (SDG 11) lies at the heart of Gulf University’s sustainability framework. Through the efforts of the Sustainability and Development Makers Center (SDM-C) and the Community Engagement & Continuing Education Centre (CECEC), the university continues to build a more livable, inclusive, and resilient community—both within and beyond the campus.

During 2024–2025, GU expanded its smart infrastructure, community urban projects, and awareness programs on sustainable lifestyles. These efforts reflect Bahrain’s national vision of eco-friendly urbanization and the UN’s global commitment to sustainable communities.

Key highlights include:

- Launch of the Sustainable Engineering Hub (SHE as a living model of green infrastructure.
- Tree-planting, clean-up, and city-beautification drives in collaboration with the Southern Governorate.
- Research on urban planning, mobility, and sustainable housing.
- Integration of SDG 11 modules into architecture, engineering, and community courses

SDG11 Publications by Type & Year (2022-2025)



SDG 11 Articles in 2024-2025 (July)

Authors Name	Title	Journal / Book Series	Type	Year
Bala, S., Ulfat, T.J., Hossain, H.,...Ridzuan, A.R., Jaheer Mukthar, K.P.	From Energy Diversity to Environmental Resilience: The Role of Government Efficiency in Shaping Ecological Footprint in Bangladesh	International Journal of Energy Economics and Policy	Article	2025
Ateeq, A.A., Milhem, M., Alzoraiki, M.,...Al Meer, S., Ali, S.A.	The Rise of Smart Cities: Integrating Technology for Sustainable Urban Development	Studies in Systems Decision and Control	Book Chapter	2025
Al Meer, S., Almaamari, Q.A., Ateeq, A.A., Nagi, M.	The Impact of Psychological Empowerment on Job Creativity: A Study Applied to Employees of the Ministry of Works, Municipalities Affairs and Urban Planning in the Kingdom of Bahrain	Studies in Systems Decision and Control	Book Chapter	2025
Moharam, M.M.R., Allaymoun, M.H., Isa, A.N.H.	Can Social Media Save Lives? The Impact of Digital Awareness Campaigns on Bahrain's Drivers	Studies in Systems Decision and Control	Book Chapter	2025
Al-Balasmeh, H., Edwar, M.E.	Securing Location Data in Smart Cities: A Framework for Detecting GPS Spoofing Attacks	Studies in Systems Decision and Control	Book Chapter	2025
Abbas, F.H., Al-Rawi, O.Y.M., Ali, R.R.,...Alkhayyat, A.H.R., Hassan, M.H.	A Hybrid Bio-Inspired Optimization Based Enhanced Cluster Head Selection to Improve Communication in Vehicular Ad-Hoc Networks	Studies in Systems Decision and Control	Book Chapter	2025
Alhamadani, A., Abdullah, O.I., Tolephih, M.H.,...Nursultan, D., Alani, Z.N.	Evaluating and Analysis of Potential Establishing Solar Power Plant in the Modern City of Bismayah, Iraq	Studies in Systems Decision and Control	Book Chapter	2025
Job, S.R.A., Job, P.	Insights into Urban Landscapes: A Phenomenological Perspective	Studies in Systems Decision and Control	Book Chapter	2025
Hussein, M.F., Al-Ayash, A.A.	Smart Home as a Source of Clean Energy (KNX and IoT in Amman Residence as a Case Study)	Studies in Systems Decision and Control	Book Chapter	2024
Mohammed, M.N., Aljibori, H.S., Jameel al-Tamimi, A.N.,...Helmi, R.A.A., Ahmad, A.S.	Toward Sustainable Smart Cities in Bahrain: A Study on Power Generation Using Speed Breakers for Enhanced Energy Efficiency	2024 Arab ICT Conference AICTC 2024	Conference Paper	2024
Mohammed, M.N., Aljibori, H.S., al-Tamimi, A.N.J.,...Abdelgnei, M.A.H., Abdullah, O.I.	Bahrain's Urban Transformation: A Comprehensive Review of Smart City Development, Benefits, and Future Prospects	2024 Arab ICT Conference AICTC 2024	Conference Paper	2024
Mohammed, M.N., Aljibori, H.S., Jameel al-Tamimi, A.N.,...Abdullah, O.I., Ahmad, A.S.	Toward Sustainable Smart Cities in Bahrain: A Novel IoT-Based Smart School Bus Solution for Enhanced Children's Transportation Safety and Smart City Integration	2024 Arab ICT Conference AICTC 2024	Conference Paper	2024
Job, S.R.A., Ateeq, A.A.	Smart Cities Vision: A Prototype for Future Cities	Studies in Systems Decision and Control	Book Chapter	2024
Abdulrahim, H.M., Ateeq, A.A., Al Khalifa, F.A.,...Nagi, M., Al Astal, A.Y.M.	Qualitative Investigation of Green Building Rating System Development in Bahrain's Affordable Housing Industry	Studies in Systems Decision and Control	Book Chapter	2024

Abu Jamie, N.H., Abu-Jamie, T.N., Al-Absy, M.S.M.	Advances in AI and Their Effects on Finance and Economic Analysis	Studies in Systems Decision and Control	Book Chapter	2024
Hashim, N., Neo, T.G., Mohammed, M.N.,...Jameel al-Tamimi, A.N., Alfiras, M.I.I.	Toward Sustainable Smart Cities: A New Approach of Solar and Wind Renewable Energy in Agriculture Applications	Studies in Systems Decision and Control	Book Chapter	2024
Mohammed, M.N., Al-yousif, S.N., Alfiras, M.I.I.,...al-Tamimi, A.N.J., Sharif, A.	Toward Sustainable Smart Cities: Design and Development of Piezoelectric-Based Footstep Power Generation System	Studies in Systems Decision and Control	Book Chapter	2024
Teng, L.M., Yusoff, K.H., Mohammed, M.N.,...Md Sapari, N.M., Alfiras, M.I.I.	Toward Sustainable Smart Cities: Smart Water Quality Monitoring System Based on IoT Technology	Studies in Systems Decision and Control	Book Chapter	2024
Allaymoun, M.H., El-Astal, M., Al Astal, A.Y.M.,...Yaqoob, A., Ehsan, A.S.	Employing Applying Big Data Analytics Lifecycle in Uncovering the Factors that Relate to Causing Road Traffic Accidents to Reach Sustainable Smart Cities	Studies in Systems Decision and Control	Book Chapter	2024

Community Engagement and Urban Sustainability Activities

Sustainability Week 2024 served as the anchor event for SDG 11 actions. The following table highlights GU’s practical outreach and collaboration with municipalities, schools, and communities.

Initiative	Description	Date	Partners	Result
Green Campus & City Drive	Joint clean-up and greening initiative with Isa Town Municipality.	Oct 2024	CECEC, Municipality	300 trees planted; 2 tons waste collected.
Sustainable Mobility Day	Promoted cycling, car-pooling, and electric-vehicle awareness.	Nov 2024	SDM-C, Engineering Faculty	150 participants; local press coverage.
Smart City Seminar	Academic-industry panel on digital urban innovation.	Jan 2025	SDM-C, KPMG Bahrain	Strengthened academia-industry linkages.
Community Resilience Workshop	Addressed disaster-preparedness and urban risk management.	Mar 2025	CECEC, Civil Defense Bahrain	Enhanced community knowledge and preparedness.

Training, Innovation, and Collaborative Programs

GU introduced multiple interdisciplinary training initiatives bridging urban design, sustainability, and innovation.

Program	Objective	Participants	Key Outcome
Workshop: Urban Sustainability in Practice	Engage students in fieldwork on community spaces and green design.	90 students	Produced 5 community redesign proposals.
Smart Infrastructure Training	Equip faculty and students with tools to apply IoT in city management.	50 participants	Developed 3 demo projects integrated into GU labs.
Citizen Science Project	Involve residents and students in urban air-quality data collection.	70 volunteers	Created open data sets for Isa Town area.
Design Challenge: Sustainable Neighborhood 2030	Encourage innovation in housing, transport, and public spaces.	12 student teams	Winning ideas shared with local municipality.

WORKSHOP ON URBAN SUSTAINABILITY IN PRACTICE



Workshop on Green Architecture, urban planning, transportation and smart cities delivered by an expert from a local governmental organization.

Institutional Strategies and Sustainable Infrastructure Policies

To advance SDG 11, GU strengthened its campus operations and urban partnerships through these strategic measures:

- Smart Infrastructure Plan: Expanded solar lighting, smart sensors, and low-energy cooling systems.
- Green Building Standards: All new campus extensions comply with green design and energy-efficiency guidelines.
- Community–University Partnerships: Formal collaborations with municipal councils for city sustainability projects.
- Sustainability Curriculum Integration: Urban resilience and SDG themes embedded in architecture and engineering programs.
- Accessibility and Mobility Enhancements: Improved pedestrian pathways and public-transport connections for students.

These initiatives align with SDG Targets 11.3, 11.6, and 11.b – fostering inclusive urbanization, sustainable resource management, and community resilience.

Impact Highlights and Key Performance Indicators (KPIs)

Indicator	Impact Summary	Quantitative Results (2024–2025)
Community Participation	Participants engaged in urban sustainability events, workshops, and awareness campaigns.	600+ participants
Environmental Action	Tree planting drives and waste recycling initiatives promoting a cleaner environment.	300 trees planted; 2 tons of waste recycled
Research & Innovation	Academic and student-led outputs contributing to sustainable cities research.	5 research publications; 12 student design projects
Institutional Policy Development	Implementation of campus-wide sustainability and environmental management policy.	Green Campus Policy adopted university-wide

Key Performance Indicators

KPI	Indicator Description	2024–2025 Result	Status
KPI 1	Number of SDG 11-related publications	5	Achieved
KPI 2	Number of community sustainability initiatives	4	Achieved
KPI 3	Waste reduction achieved through recycling drives	2 tons	Exceeded
KPI 4	Number of participants in SDG 11 programs	600+	Achieved
KPI 5	Number of partnerships with local councils	3	On Track

Summary

The 2024–2025 academic year solidified Gulf University’s leadership in advancing SDG 11: Sustainable Cities and Communities. Through its educational programs, urban partnerships, and applied research, GU has contributed meaningfully to creating greener and more resilient urban spaces.

Action Plan and Commitments for 2025–2026:

- Strengthen collaboration with municipal councils to expand city-level sustainability projects.
- Launch “Urban Living Lab” for interdisciplinary research on community well-being.
- Introduce public workshops on energy-efficient housing and mobility design.
- Integrate student field projects into municipal sustainability plans.

Gulf University reaffirms its mission to nurture sustainable urban ecosystems—empowering future generations to shape inclusive, safe, resilient, and sustainable communities across Bahrain and the GCC region.

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