



SUSTAINABLE DEVELOPMENT GOALS · UNIVERSITY COMMITMENT

SDG 11: Sustainable Cities and Communities

SUSTAINABLE DEVELOPMENT GOAL

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Sustainable Cities and Communities

Make human settlements inclusive, safe, resilient and sustainable for all.

SUSTAINABLE CITIES
AND COMMUNITIES

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1. About Sustainable Development Goal 11

Goal 11 of the United Nations 2030 Agenda calls on the world to make cities and human settlements inclusive, safe, resilient, and sustainable. By the middle of this century roughly two thirds of humanity will live in urban areas, and the choices that institutions make today about how they build, move, learn, and consume will shape the quality of that urban life for generations. The goal is organised around a family of targets that range from affordable housing and accessible transport to participatory planning, the safeguarding of cultural heritage, cleaner air, less waste, and universal access to safe public and green space.

How Shatt Al-Arab University delivers SDG 11

A four-step approach

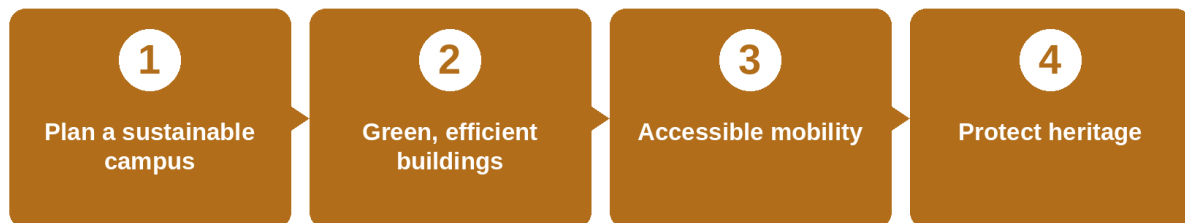


Figure 1. A four-step delivery approach.

SDG 11 framework at Shatt Al-Arab University



Figure 2. Institutional framework and reporting.

A university is, in effect, a small city. It has its own streets and gateways, its libraries and lecture halls, its gardens and gathering places, and a daily population of students, teachers, and staff who together form a working model of the wider community. Whatever habits and standards take root on a campus are carried outward by graduates into the towns and neighbourhoods where they will spend their lives. For this reason Shatt Al-Arab University treats Goal 11 not as a distant policy slogan but as a description of the environment it builds every day.

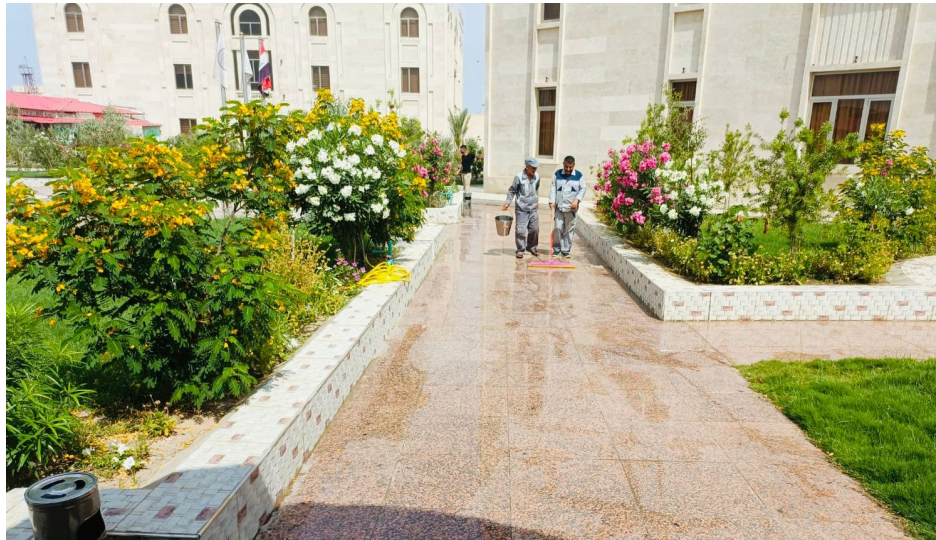
Goal 11 targets reflected in this report

Accessible buildings and services (11.1), safe and convenient movement (11.2), inclusive and well-planned development (11.3), protection of cultural heritage (11.4), reduced environmental impact (11.6), and universal access to green and public space (11.7).

2. Introduction

The approach adopted at Shatt Al-Arab University is designed to advance a coherent set of objectives for creating and developing sustainable cities and local communities. The campus itself functions as a community in miniature: within its walls a sizeable population of students, alongside academic, administrative, and service staff, lives out many of the same routines and shares many of the same needs as the society beyond the gate. What works here can be tested, refined, and then carried into the wider world.

At the centre of that community stands the student. The university therefore works to provide an environment in which sound academic study can flourish on firm foundations, while at the same time meeting the practical requirements of a sustainable society. In this way the institution's vision travels well beyond the lecture hall, because each graduate becomes a carrier of the habits, standards, and civic awareness cultivated during their years on campus.



Landscaped pedestrian walkways link the colleges across the campus.

3. Public Access to University Buildings

Shatt Al-Arab University keeps its buildings open to the public free of charge. Beyond serving its own students, the campus places its modern halls and facilities at the service of government institutions whenever a shared public need arises. A recurring example is the role the university plays during the ministerial examinations organised by the Ministry of Education, when its venues are made available to support the smooth running of a process that matters to families across the region.

Opening the campus in this way reflects the spirit of Target 11.1, which calls for access to adequate and well-equipped public facilities. By treating its premises as a shared civic resource rather than a closed enclosure, the university strengthens the link between the academic community and the public it ultimately serves.



University buildings and open grounds are accessible to the wider public.

4. Public Access to University Libraries

The university library is open to visitors on request, and graduate researchers in particular are welcomed to draw on its collections and to study in its reading room. The shelves hold a substantial body of reliable scientific sources, and the reading room offers the quiet, well-lit space that serious study requires. The library traces its origins to 1993, which places it among the longer-established academic libraries in Iraq.

Reading is also encouraged well beyond the library walls. Book fairs are held regularly along the university's corridors, turning everyday circulation space into an invitation to browse, discover, and read. These small, recurring events keep the culture of reading visible and accessible, and they extend the library's reach to every passer-by rather than only to those who seek it out.



The library reading room (left) and a corridor book fair (right) keep knowledge within easy reach.

5. Priority for Movement on Campus

Ease of movement is treated as a design priority rather than an afterthought. The university maintains wide, comfortable corridors and walkways that allow students and visitors to move freely and without congestion, whether they are hurrying between lectures or arriving at the campus for the first time. Generous circulation space reduces crowding at peak hours and makes the campus more welcoming to everyone, including visitors who do not know their way.

This attention to safe and convenient movement echoes Target 11.2, which concerns accessible and sustainable transport and circulation. On a campus scale, that translates into clear routes, unobstructed paths, and an environment in which getting from one place to another is effortless rather than stressful.



Wide, open routes allow free and comfortable movement across the campus.

6. Planning and Development: Standards for New Buildings

The university takes a deliberate interest in how its buildings are conceived and built. New construction follows a set of sustainable building standards covering thermal insulation, daylighting and artificial lighting, natural ventilation, and the use of materials chosen for their ability to withstand the local climate. These measures lower the energy needed to keep interiors comfortable through Basra's demanding summers and extend the working life of the buildings themselves.

Equally, the buildings are designed within a modern architectural language that is pleasant to inhabit. Comfortable, light-filled spaces support concentration and wellbeing, and a coherent design vocabulary gives the campus a sense of order and identity. This blend of environmental performance and considered design reflects the inclusive, well-planned development described in Target 11.3.



Modern, climate-conscious buildings (left) host academic and community events (right).

7. Rebuilding Abandoned Buildings

As part of its recent programme to modernise the campus, the university cleared several old and disused building sites and replaced them with modern structures suited to its current needs. Rather than letting derelict premises sit idle, the institution chose to regenerate the land they occupied, putting valuable space back into productive academic use.

Reusing and upgrading existing sites in this way is a practical expression of resource efficiency: it makes the most of land already within the campus footprint and aligns with the resilient, well-managed urban development that Goal 11 promotes.



Disused sites have been redeveloped into modern facilities that match the university's needs.

8. Providing Green Spaces

From its earliest days the university has set aside generous green space for the comfort of its students. Planted areas and shaded seating are distributed across the colleges, giving students places to rest, meet, and study in the open air. These gardens do more than soften the appearance of the campus; they cool the surroundings, improve the air, and lend a quiet elegance to the modern buildings they frame.

Universal access to safe, inclusive green and public space sits at the heart of Target 11.7, and the campus gardens answer that call directly. They are open to all who study and work here, and they turn ordinary stretches of ground into shared places of calm.



Illuminated courtyards and planted gardens provide shaded, restful public space across the campus.



Landscaped seating areas distributed throughout the colleges.

9. Heritage and Scientific Festivals

Since its founding the university has given steady attention to cultural and scientific life. It hosts heritage and scientific festivals on its own grounds and takes part in events held elsewhere, bringing students, staff, and visitors together around exhibitions, displays of traditional craft and calligraphy, and gatherings that celebrate local identity. Activities range from book and art displays to demonstrations of regional heritage such as traditional boat-building.

This commitment to safeguarding and celebrating cultural heritage mirrors Target 11.4. By keeping local traditions visible and giving them a place within academic life, the university helps pass them on to a younger generation and reinforces the cultural fabric of the community it belongs to.

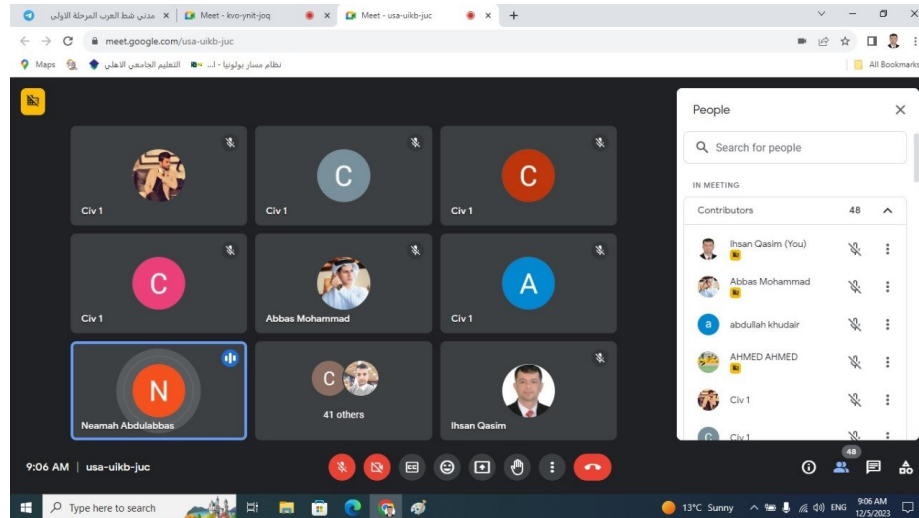


Heritage exhibitions, traditional crafts, calligraphy, and scientific displays held across the campus.

10. Remote Learning and Electronic Lectures

In line with the instructions of the Ministry of Higher Education and Scientific Research, and to meet the expectations of modern distance education, the university has embedded electronic lectures within the curriculum for every college and every stage of study. Staff and students can teach and learn remotely, so that study continues even when attendance on campus is not possible.

Remote teaching also lightens the load on physical movement and travel, allowing the university to reach students wherever they are. It is a flexible, resilient complement to classroom learning and a modern feature of a well-connected academic community.



Electronic lectures are delivered remotely across all colleges and stages of study.

11. Construction of New Buildings

Rising demand for places at the university, together with the opening of new departments, has prompted a programme of new construction. At its new site the university has built integrated facilities in a consistent modern architectural style, planned so that teaching, research, and student services sit together in a coherent whole rather than scattered across unrelated premises.

Planning growth in this deliberate way — expanding capacity while holding to a single design standard — supports the orderly, sustainable urbanisation that Goal 11 envisions, and ensures that expansion improves the campus rather than simply enlarging it.



New integrated facilities at the university's site (left) and ongoing site works (right).

12. Scientific Research on Sustainable Cities and Communities

The university's contribution to Goal 11 extends from its grounds into its scholarship. Researchers from across the colleges have studied questions that bear directly on the health and resilience of cities in southern Iraq, and two studies illustrate this focus particularly well.

Research — Siting of waste landfills

The first study examines how to select suitable sites for waste landfills using the analytical hierarchy process together with geographic information systems, applied as a case study in the Al-Zubair district of Basra. Choosing landfill sites well is a core urban-environment problem under Target 11.6, since a poorly placed site can contaminate water, harm health, and blight surrounding land. The study offers a structured, data-driven method for making that decision more soundly.



Landfill site selection using analytical hierarchy process and GIS: a case study in Al-Zubair district, Basrah, Iraq

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Abstract

Al-Zubair district is located in the southwestern part of Basrah governorate and is considered the largest region administratively. Due to the rapid urbanization, rapid population growth, high waste productivity, and inexistence of landfills in Al-Zubair district, a sanitary landfill is needed to accommodate the produced solid waste and avoid any potential environmental problems. Hence, this study has been conducted to propose the best location for the sanitary landfill in Al-Zubair district and solve the waste problem scientifically, thus, a total of nine influencing criteria were adopted (water surface, agricultural lands, residential area, soil types, slope, roads, railways, power lines, and the oil fields) then processed using the Geographical Information System (GIS) to generate the map of suitability index and find the most candidate sites for the landfill based on the weights of criteria that derived from the Analytical Hierarchy Process (AHP) method. This study expected that the cumulative volume of solid waste through (2025-2050) would be about 18658259 m³, requiring a landfill's area of at least 9.33 km² to accommodate this volume. The most suitable candidate site for landfill was identified in the middle of Al-Zubair district with an area of 124.63 km² in a way safe enough from the restricted zones of all criteria reducing the aesthetic destruction, physical pollution, travel time, construction cost and demonstrating the ability to accommodate the cumulative solid waste even after 2050 sustainability. The prior advantages of the proposed landfill's location would benefit the solid waste management in the study area effectively and efficiently.

Keywords: Al-Zubair district, Analytical Hierarchy Process (AHP), Geographic Information System (GIS), Multi-Criteria Decision Making (MCDM), Sanitary Landfill

1. Introduction

Globally, the disposal of solid waste from the municipal is becoming a serious problem causing dangerous effects on the public health and environmental field [1-2]. Nowadays, this problem has become worse, especially in the developing countries, due to increasing in the industrial activities, rapid population growth, socio-economic growth, and uncontrolled migration, all the previous factors caused unplanned rapid urbanization [3]. Thus, the produced solid waste amount globally reached up to 3 million tons per day [4], of which more than 70 % from the low and middle-income countries like Iraq [5]. The intelligent management of solid waste resources involves various treatment methods like waste reduction, reusing, use in energy generation, recycling, and waste incineration. Despite the efficiency of the above methods, the sanitary landfill is still the most common, simpler, easier, and cheaper than other methods, however, the residual of other methods still needs to be exposed revealing the importance of sanitary landfills in any way [1, 6].

It is considered very complicated and time-consuming when it comes to the right location of the landfill because the decision-making needs to be interconnected with various fields of knowledge represented by social, political, environmental, geological, topological, technical, economic, and engineering parameters defined by criteria, as well as, the decision making relies on the governmental regulations, funding, land availability, general awareness about the environmental policies, public health regulations, and the population density [5-7].

According to the diversity of criteria in the landfill site selection process, the Geographical Information System (GIS) is used to deal with the layers of criteria spatially because of its ability to manage a huge volume of data with time and cost-efficiency [5, 7]. Multi-Criteria problems require Multi-Criteria Decision Making (MCDM) processes to evaluate each available alternative and solve the problem based on the logical-mathematical concepts, the MCDM involves a lot of methods like the Analytical Network Process (ANP) [8], Best Worst Method (BWM) [9], Simple Multi-Attribute Rating Technique (SMART)

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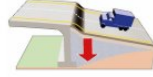
“Landfill site selection using analytical hierarchy process and GIS: a case study in Al-Zubair district, Basra, Iraq.”

Research — Settlement of bridge approaches in Basra

The second study investigates the causes of settlement at bridge approaches in Basra and the methods available to reduce it. The approach — where the road meets the bridge — is a recurring weak point in urban infrastructure, and uneven settlement there disrupts traffic, raises maintenance costs, and shortens the working life of the structure. By identifying causes and practical mitigation measures, the research supports the safe, durable transport infrastructure that a resilient city depends on.

هبوط مقتربات الجسور في البصرة الأسباب وطرق التخفيف

Settlement of Bridge Approaches in Basrah Causes and Mitigation Methods



دراسة مقدمة الى مديرية طرق وجسور البصرة

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2024

“Settlement of bridge approaches in Basra: causes and mitigation methods.”

13. Summary of Initiatives

The table below summarises the principal initiatives described in this report and confirms that each is actively pursued at Shatt Al-Arab University.

Initiative	SDG 11 target	Status
Public access to university buildings	11.1	✓
Public access to university libraries	11.1	✓
Priority for movement on campus	11.2	✓
Planning and development standards	11.3	✓
Rebuilding abandoned buildings	11.3	✓
Heritage and scientific festivals	11.4	✓
Providing green spaces	11.7	✓
Remote learning / electronic lectures	11.b	✓
Construction of new buildings	11.3	✓
Scientific research on cities	11.6	✓
Scientific study (infrastructure)	11.2	✓

14. Conclusion

Taken together, the measures set out in this report show that sustainability at Shatt Al-Arab University is woven into ordinary practice rather than confined to policy documents. Open buildings and libraries, easy movement, climate-conscious construction, the regeneration of disused sites, generous green space, a lively cultural calendar, remote learning, and research aimed at the real problems of southern Iraq's cities all pull in the same direction.

The campus will keep serving as a place to test and refine sustainable practice, and its graduates will continue to carry that outlook into the communities they join. In this sense the university's work on Goal 11 is never finished: it is a standing commitment to build, every day, the kind of inclusive, safe, and resilient community that the wider city deserves.

Research contributions (Scopus-indexed publications)

Shatt Al-Arab University's research is indexed in Scopus and mapped to the UN Sustainable Development Goals by Elsevier - the same data source the THE Impact Rankings use for their research metric. The university currently records 179 documents from 59 authors (Scopus ID 60109790; last updated May 2026). The chart below shows how this output is distributed across the goals.



Figure. Scopus-indexed publications by SDG (data source: Scopus).

The following publications are mapped to SDG 11 in the Elsevier/Scopus SDG dataset (4 documents):

#	Publication title	Source & year
1	IoT-deep learning framework for seismic damage assessment on liquefiable soils <i>Abdulmunem, A., Jameel, S.M., Sabry, A.H., et al.</i>	Engineering Analysis with Boundary Elements, 2026
2	Understanding retailers' intentions to use AI for product waste reduction in grocery supply chains: extending the technology acceptance model <i>Mouloudj, K., Amoriello, T., Almokdad, E., et al.</i>	Sustainability (Switzerland), 2026
3	Design and evaluation of secure software architectures for 5G-enabled vehicular driving system <i>Saare, M.A., Mattar, A.K., Sari, S.A., Wong, S.Y.</i>	Journal of Robotics and Control (JRC), 2025
4	Detection mechanisms for peer-to-peer botnets: a comparative study <i>Al-Shareeda, M.A., Manickam, S., Saare, M.A., Karuppayah, S., Alazzawi, M.A.</i>	ICCITM, 2022