



Research Article

An Applied Study of the Sustainable Sites Assessment Site V2 for Some Iraqi Universities

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Abstract | The sustainable sites initiative has developed a rating system that identifies and advances best practices for landscape design, The SITES v2 Rating System was produced through a multi-year iterative process and incentives sustainable landscape practices by using an ecosystem services framework. To illustrate the practice and potential of SITES v2 for sustainable landscape design, this research is primarily a literature review with the specific context of the SITES certified project, for three Iraqi universities, The research aims to establish principles for achieving sustainability in site coordination, by shedding light on the first system approved in the United States of America to evaluate the processes of designing and maintaining sustainable sites, Sites V2, and evaluating the environmental performance of the open space model for some Iraqi universities as a site coordination model, reaching the most important considerations that must be taken into account to enhance sustainability efforts in the coordination of these sites, and then developing visions that help develop in this direction in the future. The results show that SITES v2 is an important tool for transforming theory into the implementation of ecosystem services and guiding design decisions towards sustainable outcomes. It also promotes the entire project's accountability to a higher standard of best practices and results in a more sustainable site. It is clear from the evaluation for each of the universities under study that the Universities of Baghdad and Diyala, according to the evaluation points, did not achieve the number of points that would qualify them for any level of qualification for sites V2 system, as the University of Baghdad achieved 64 points and the University of Diyala achieved 48 points, while the American University in Baghdad achieved 109 points received gold, means it has qualified to be certified within the sites V2 system.

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Introduction

As the world's population grows, so does the space of urbanization and development, impacts

ecological systems as well as the health, safety, and welfare of our communities, however, landscapes, infrastructure, and buildings are designed without regard to their harmful impacts on scarce resources,

underlying ecological systems, and quality of life in the community, systematic comprehensive set of guidelines and a rating system is needed to define sustainable sites, measure their performance, and ultimately elevate the value of landscapes (Tyagi *et al.*, 2023). Cities have increasingly tough issues in developing efficient transportation systems, mitigating urban heat island effects, and meeting the ever-increasing demand for clean water and air open space, parks, and species habitats. Sustainable development, as an approach toward development based on the mutual coordination and co-development of society, economy, population, resources, and the environment, is widely recognized around the world to alleviate these pressures and also has influenced landscape design (Steiner, 2020). Sustainable landscape can optimally be developed in such a way that it does not prohibit natural functions and be designed and maintained to avoid, even reverse the frequently deleterious impacts of development, its also responsive to avhive a healthy community (Pieranunzi *et al.*, 2017; Lin *et al.*, 2024; Sundus *et al.*, 2024).

The Sustainable Sites Initiative™ (SITES™) is a program based on the understanding that land is a crucial component of the built environment and can be planned, designed, developed, and maintained to avoid detrimental impacts, Sustainable landscapes create ecologically resilient communities better able to withstand and recover droughts, landscapes and green infrastructure have the capacity to protect and even regenerate natural systems, thereby increasing the ecosystem services they provide, such as sequestering carbon, filtering air and water, and regulating climate (Ragab *et al.*, 2017; Ashinze *et al.*, 2024).

Sustainable site assessment site v2 includes 18 prerequisites and 48 optional credits in 10 sections, the value or number of points allocated to each credit is determined by its potential efficacy in achieving the objectives including, soil conservation, efficient energy usage, air and water pollution reduction, and enhancement to human health and well-being. The rating system itself is a 200-point system with four certification levels depending the score of the site, bonus points are awarded for innovative and exemplary performance outside the 200-point system. A total of 70 points are required to be certified, 85 points to receive silver, 100 points for gold, and finally, 135 for platinum certification (Jin and Wang, 2023; Mansor *et al.*, 2023).

Among the universities that used the SITES v2 environmental sustainability assessment system is the University of Texas UTEP, one of the highest-ranked universities in America, with an area of 11 thousand square meter The university's sustainability was assessed using the SITES v2 assessment system in 2016. After considering the considerations that must be taken for sustainability, the university administration converted a group of parking lots on campus into outdoor spaces with a distinctive natural landscape, seating areas, and holding events and activities for students, encouraging cognitive abilities, increasing opportunities for meeting between campus users, increasing the percentage of vegetation cover by 60%, emphasizing the cultivation of native plants and increasing their percentage, and recycling materials in the landfill on the university site. In July 2016, the CTP received SITES Silver, and became the first project certified under v2 of the SITES Rating System (Konbar *et al.*, 2023; Arafat *et al.*, 2023). Among the examples of Arab universities is Kafr El-Sheikh University in Egypt, with an area of 449,400 square meters. After being assessed using the SITES v2 system, the university obtained 67 points, and thus did not obtain any level of qualification. Therefore, the University tried to develop the environmental performance of some of its projects, but they were not implemented according to the standards that qualify them to enter this system (Ragab *et al.*, 2017; Ma, 2024).

The objectives of using the SITES v2 framework for landscape assessment include, enhancing metrics for environmental quality, biodiversity analysis, and habitat evaluation. Research gaps often revolve around the applicability of these metrics in diverse geographical contexts, such as adaptation in regions and how effectively they can measure various ecological aspects across different landscape projects, The framework promotes a systematic approach to assessing landscapes, ensuring better integration of ecological and human factors in planning.

The research aims to establish principles for achieving sustainability in site coordination, by shedding light on the first system approved in the United States of America to evaluate the processes of designing and maintaining sustainable sites, Sites V2, and evaluating the environmental performance of the open space model for some Iraqi universities as a site coordination model, reaching the most important

considerations that must be taken into account to enhance sustainability efforts in the coordination of these sites, and then developing visions that help develop in this direction in the future.

Materials and Methods

Sites of Universities

Baghdad university-site: University of Baghdad is located in Al-Al-Jadriyah near the Tigris River in Baghdad City, Iraq. It lays according to coordinate's 33°16'12"N 44°22'54"E. Baghdad city experiences a hot and arid climate in the summer, while the winter season is cool and humid. Despite their short duration, spring and autumn bring about pleasant weather conditions, the average temperature from May to September reaches 40°C, with the highest temperatures recorded in July and August. Winter temperatures average around 10°C during the day and occasionally drop below freezing. Rainfall is observed from December to April, with an average annual precipitation of 150 mm. The northwest wind during spring and early summer gives rise to sandstorms, University area identified through on-site inspections and utilizing the Global Positioning System (GPS) device, which operates on a satellite network to ascertain the precise geographical coordinates of the user, offering the latitude, longitude, and elevation details of a given location (Kusay and Muntaha, 2015). Baghdad campus includes two universities which consider the largest universities in Iraq, the largest scientific institution in Iraq, the Baghdad campus, was established in 1957 AD (Ramadan and Hassan, 2018). With an enrollment capacity exceeding 80,000 undergraduate students and over 10,000 postgraduate students. The total area of the Baghdad campus is 325 hectares (Mehdi and Jasim, 2023; Jasim and Al-Fatlawi, 2023).

Diyala university site-2

The study area "University of Diyala" is located to the east of Baghdad and away from the city of Baqubah, the capital of Diyala province, around 11 km to the northeast, with an area of 1654774 square meters, the university's location is on the outskirts of the city near the Diyala River basin and the palm and orange groves, in addition to its location on an international road linking the northern governorates and the capital Baghdad, which gave it a semi-urban importance and a natural scene, the university includes eight colleges and many research centers and presidency of the

University (Al-Zuhairi and Jasim, 2021; Fadhil and Waheeb, 2021).

American university in Baghdad AUIB– site

The AUIB is located on Airport Road, Baghdad, Baghdad Governorate, and Iraq. The total area is 26.7 hectare. It is noted that the university aims to provide a beautiful and comfortable campus to enhance the study and intellectual development experiences, and to prepare international leaders by adhering to rich traditions of knowledge and human understanding while engaging with contemporary intellectual challenges. It was officially established in 2018 and began operations in January 2021. and aims to create a thriving educational community with a distinguished faculty and international partnerships. The university is located on a site that was originally intended by Saddam Hussein for a grand resort project (<https://auib.edu.iq/ar>).

The researchers relied on a set of sources to collect and analyze information to evaluate the campuses of the three universities under study, namely: The website of each university, personal interviews with engineers from the engineering consulting center, agricultural and irrigation engineers, and officials of the agricultural and horticultural departments, field visits, and observations during those visits. This research is primarily a literature review based on the scorecard of SITES certification, public documents, reports, and articles with the specific context of three Iraqi universities, was chosen to present an example of a landscape design site with the profile of being sustainable and certified within the SITES v2 rating system. The systematic literature review was conducted, the first with the review of the history, principles, and purposes of SITES v2 a strategic search for three Iraqi universities was first launched around, how to use SITES v2 as the guidance to operate in the project toward sustainable outcomes, Then, we were deeply involved with the components and final result of the scorecard for these universities, Specifically, according to the scores of each credit, this paper analyzed the innovation points, the strategies adopted, and how to solve the multi-objective project tasks, such as design evaluation and planning, water resources, soil and vegetation, material selection, public education, and monitoring. Then, we singled out the scorecard criteria which can be improved at the site and made suggestions for techniques and systems to better these. The second stage provided

Table 1: Sustainable features of university sites under consideration according to the sustainable sites rating system sites.

American university	Diyala university	Baghdad university	Site
251.75hectare	108.6 hectare	87.5 hectare	Total Area
2021	1999	1957	Establishment date
2024	2024	2024	Evaluation date
It is located in Al-Radwanayah area, which is one of the green belt areas surrounding the city of Baghdad. It overlooks the Tigris River and is far from the noise sources in the city.	The university land is located on agricultural land due to its proximity to the Diyala River, and the surrounding areas are planted with agricultural crops for local production	Quiet agricultural area away from traffic congestion and close to the Tigris River	Site selection
The design team is Iraqi, consisting of architects, planners, engineers and workers. There is a team of engineers with different specializations to complete the implementation of the remaining engineering projects.	The university design went through two phases, the first supervised by the Iraqi architectural consultant, Muam-mal Abdul Aziz, and the second phase supervised by the university's engineering consulting office.	An integrated design team led by architect Walter Gropius and a team of planners, designers and engineering consultants in the Engineering Division headed by the university.	Site planning and design
It gets its water from the Tigris River in the form of large lakes within the site.	Dependence on the branches of the Tigris River	Dependence on the Tigris River	Water
The soil is a mixture of the shoulder of the Tigris River in very large sizes to reclaim soil that has been subjected to compression and tamping. It is suitable for agriculture and productivity of various types of vegetation cover.	The soil is not suitable for agriculture and needs a comprehensive repair process, including drainage systems and materials that reduce the basicity of the soil due to the high level of salts and the nature of the soil, and the high level of groundwater due to the university's low location and its proximity to agricultural lands that consume large amounts of water, as the water moves under the surface of the soil to the lowest area. This is the reason for the decrease in the level of green vegetation cover within the university campus.	The soil is from the shoulder of the Tigris River and is very suitable for agriculture, producing edible vegetables and fruits, medicinal plants, and planting local trees and shrubs adapted to the environment and soil of the site. Spreading natural soil cover plants and leaving them to grow and spread to reduce maintenance and permanence.	Soil andvegetation
Local stone was used in its buildings, local building materials in the added buildings. The materials used in the construction of the site are a mixture of local and imported from international sources, especially Italian marble, which is of high quality and relatively expensive in the flooring of roads, walkways and furniture.	All materials used in construction are local except for some interior finishes and the materials used in the exterior spaces are local and sustainable of medium to poor quality and sometimes construction waste used to create pathways	In its early construction, concrete and gravel from the non-local environment were used in its buildings, which are characterized by their high durability and low maintenance. As for the newly constructed buildings, their materials are local.	Materials
It is characterized by its vast green spaces designed with a modern design system for green spaces Reliance on clean energy sources in student transportation and the transportation of agricultural engineers working in the implementation and maintenance of green spaces and bicycles for the transportation of university faculty Ease of safe movement on site to perform various activities, there is a visual connection between green spaces, movement paths and paved spaces while maintaining the aspect of calm as a result of using clean transportation free of noise and exhaust pollution	There are places of communication between the interior and exterior, and seating areas and outdoor areas at acceptable levels to the minimum to help interaction between students. As for professors and employees, the campus lacks a policy of integrating them with campus users due to the weakness of the infrastructure and the culture of integration and interaction between the different educational levels. The campus lacks green spaces in the open air designated for reading or relaxation, and the type of furniture used is concrete or plastic, which makes it difficult to sit on for a long time.	Providing indoor-outdoor connectivity, including outdoor seating to help students, faculty, staff and students interact, providing safe access to the site. Providing outdoor classrooms, reading and dining areas. Visual and physical connectivity to courtyards and diverse vegetation. These courtyards are located on the edge or outside of main pedestrian walkways to reduce noise and disturbance.	Health andwellbeing

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American university	Diyala university	Baghdad university	Site
Conserve demolition materials by developing a waste management plan, collecting, sorting and then recycling for reuse.	50% of demolition and construction materials are used to rehabilitate other sites within the campus.	Use of demolition materials and collect them for reuse and recycling	Building and construction
Continuously monitor and control the systems used to ensure functional performance.	The university does not commit to carbon neutrality, and metal and plastic waste is not recycled. It is transported outside the campus to sanitary landfill sites or burned, and diesel generator operating emissions constitute the largest sources of pollution near university buildings and spaces.	The university's commitment to a zero-waste policy away from landfills and incinerators, collecting, recycling and reusing it, the presence of a maintenance team and a long-term site management and maintenance plan.	Maintenance

<http://www.sustainablesites.org/projects> SITES V.

an example of how to use SITE v2 to continue development at an already certified site by enhancing sustainability further. In the context of contemporary landscape design, further thinking of the potential and future evolution of SITES v2 is presented in the discussion part, Table 1 showed Sustainable features of university sites according to the sustainable sites rating system sites.

Results and Discussion

The SITES team embraced ecosystem services and the concept of resilience as the foundation. The original definition of “Ecosystem Services” has been expanded to include the ecosystem services of designed landscapes in addition to constructed landscapes (Woodruff and BenDor, 2016). SITES v2 provides an active and valuable exchange mechanism for creating sustainable landscapes and meeting long-term sustainability goals. The system encourages early engagement with the local community, which can improve the understanding of the project and its surrounding area, and helps ensure that the undertaking meets the needs of the community. SITES projects could gain up to 11 certification points based on their capacity to educate the public about the importance of sustainable landscapes- (Jin and Wang, 2023). In addition, SITES v2 requires project teams to work with contractors and maintenance professionals for better coordination of design with construction and maintenance. Adaptive management and performance monitoring are highly recommended as a way to create a feedback loop for understanding how the site performs over time and collecting facts to support the case.

Site context

It is clear from Tables 2, 3, 4 that the University of Baghdad and the American University achieved (7/13) due to the site location is linked to transportation networks and movement routes, which is an advanced educational site, while Diyala campus achieved (10/13) because the site evolved into a university after it was a camp, in addition to same two pre-requests.

Pre-design assessment + planning

In this section AUIB and Diyala campus achieved (3/3) due to the planning team's ability to engage users and stakeholders in the pre-design and planning part of the project.

Site design water

AUIB campus achieved (15/23) because it relies on fresh lake water from the fresh Tigris River to irrigate the green spaces within the site and does not rely on any external water, large lakes collect rainwater and reuse it to irrigate green spaces, Baghdad campus scored (6/23) points in this axis due to the relying on the Tigris River water from which the water channel inside the university is derived, in addition to a number of small lakes and sub-canals, Diyala campus scored (4/23), there were basins for collecting water and storing it for irrigation purposes

Site design soil + vegetation

Regarding the soil and vegetation of the SITE V2 system, the AUIB scored 26/40, followed Baghdad campus 24/40, and Diyala campus achieved 13/40. AUB campus, maintain native plants, to adopt sustainable practices that promote ecological health, focusing on preserving biodiversity by selecting plants suited for the local environment, avoiding invasive species, implementing conservation strategies to create

Table 2: *Evaluation of the Baghdad campus according to the sustainable sites assessment system–SITES V2.*

Points of project	Site V2 points	Assessment of baghdad campus	Pre-requests	Section
No	Mandatory	The university land is located on agricultural land due to its proximity to the Tigris River, and the surrounding areas are planted with agricultural crops for local production, the land where the Baghdad campus could be considered a transgression against agricultural land. Regulations indicate that alterations to land use, including converting agricultural areas for educational or residential purposes may violate environmental protection guidelines. However, specific case details can vary.	Limit encroachment on agricultural land	Site context
Yes	Mandatory	The university site has an aquatic ecosystem that originates from the Tigris River adjacent to the university site; The preservation of the aquatic ecosystem at the Baghdad campus involves several key initiatives. The university aims to reduce water usage through efficient water management programs and by employing piping systems to conserve water. Additionally, there is a focus on supporting research activities and biodiversity measures within the campus and its surrounding areas. Effective management of wastewater is also critical to prevent pollutants from entering the Tigris River, addressing both liquid and solid waste.	Maintaining the aquatic ecosystem	
yes	Mandatory	The site includes a plant diversity of different types of indigenous plants adapted to the site's environment	Maintaining natural life	
Zero	3-6	From the beginning, the site was intended to be a university	Was the university site designated for waste or a development project	
4	4-4	The university is located in the city of Baghdad, which is an advanced educational site.	The university's site is one of the advanced existing sites.	
3	2-3	There is a public and private transportation network for university users.	The university's location is linked to transportation networks and movement routes.	
7	13			Total points
yes	Mandatory	An integrated design team led by architect Walter Gropius and currently a team of planners, designers and engineering consultants in the Engineering Division headed by the university.	Develop a comprehensive design plan for the project.	Prepdesign assesement: planing
yes	Mandatory	Conduct site condition assessment prior to design and explore different options to achieve sustainable outcomes.	Design evaluation before implementation	
yes	Mandatory	The soil is mixed from the shoulder of the Tigris River and is suitable for growing various types of plants on the site, including trees, shrubs, herbs, and producing various crops.	Choosing suitable plants and protecting the soil	
zero	3	Site users and stakeholders were not involved during the design process, but rather relied on specialized institutions	User and stakeholder engagement	
Zero	3			Total points
yes	Mandatory	The university uses the water of the Tigris River, which surrounds the university's borders and is considered fresh water suitable for irrigation.	Reduce water use in irrigation	Site design – water
6	4-6	Relying on the Tigris River water from which the water channel inside the university is derived, in addition to a number of small lakes and sub-canal.	Reduce external water use from off-site Reduce off-site water use Do not use any water from outside the site.	
zero	4-6	The university's water channel, in addition to some lakes and sub-channels, constitutes 10% of the university's total area.	Restore the aquatic ecosystem: - 30% of the site area of the site area 60% 90% of the site area	

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Points of project	Site V2 points	Assessment of baghdad campus	Pre-requests	Section
Zero	4-6	There is no rainwater management system inside the university, there are only pipes to drain rainwater from the tops of the buildings on campus, and use rainwater in the winter to irrigate green spaces, and reduce irrigation from fresh water of Tigris river, with a water channel surrounding the academic area of the university + a lake in the middle of the Faculty of Political Science at the university	Managing rainfall on site to the permissible limit Managing 80% of rainwater 90% of rainwater management 95% of rainwater management	
Zero	4-5	No systems were used to collect or utilize rainwater for services within the university campus.	Design of functional elements for the use of rainwater in services Use 50% of rainwater in services Use 100% of rainwater in services	
6	23			Total points
yes	mandatory	The original soil of the university is from the Tigris River. It is a healthy soil suitable for the growth of healthy plants that are suitable for environmental conditions.	Develop a soil management plan	Site design-soil; vegetation
yes	mandatory	The university monitors invasive and alien plants	Invasive Plant Monitoring and Management.	
yes	mandatory	The university uses plants suitable for the soil, including indigenous and adapted plants.	Use appropriate plants	
4	4-6	The university campus contains healthy soil, in which fertilizers and pesticides are not used except when necessary. - The area allocated for green use within the university is about 43%.	Maintain soil health and use appropriate vegetation cover. The percentage of cultivated area on the site is 50%. The percentage of cultivated area on the site is 75% The percentage of cultivated area on the site is 100%	
4	4	There are plants of a special nature in the gardens of the Faculties of Science and Education for Girls.	Preserving plants of special nature	
6	3-6	All plants used on campus are 100% native.	Use and preserve native plants	
6	4-6	The local plant communities within the university are 100%	Conserve and restore native plant communities Percentage of local plant communities 20% Percentage of local plant communities 40% Percentage of local plant communities 60%	
Zero	1-6	There is no such procedure at the university.	Improving biomass efficiency : - Achieve minimum - Low percentage Medium percentage - High percentage	
2	4	The effect of heat islands is reduced by: increasing the density of vegetation and green spaces, the cultivated area? Vegetation with its various densities comprises 43% of the total area	Reduce the effect of heat islands	

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Points of project	Site V2 points	Assessment of baghdad campus	Pre-requests	Section
2	1-4	The campus has a variety of vegetation such as trees, palm trees, etc. The main purpose of which is to provide shade in open spaces, The buildings are designed with a compact fabric system .The university does not measure the percentage of energy consumption or the energy that is saved, There are windbreaks surrounding some sides of campus with different trees and shrubs.	Using plants to reduce energy used in construction: Reducing energy used by 5% Reducing energy used by 7% Providing shade by 30% Providing shade by 60% Single row windbreaks Two or more row windbreaks	
Zero	4	The university site is not threatened by fires.	Reducing the risk of forest fires	
24	40			Total points
No	mandatory	There are no endangered trees on the site.	Eliminate the use of wood from endangered trees	Site design- Material selection
4	2-4	The paved area of pedestrian paths, tracks, parking lots and sports fields is 7.27% M ² of the total area of the site	Maintaining the site structure and paving:- Paved area 10% of the total area Paved area 20% of the total area Paved area 30% of the total area	
Zero	3-4	The university does not do these	Design for Adaptation:- Ratio excluding plants, stones and soil 30% material use 60%material use	
Zero	3-4	There is no application for reusing materials at the university, but it seeks to provide some plastic containers of different sizes and colors to collect waste in some university facilities for recycling.	Reuse of materials and plants: 10% of total materials excluding soil 20% of total materials excluding soil	
Zero	3-4	The university does not use any recycled materials on campus.	Use of recycled materials: - 20% of total materials, excluding soil and plants 40% of total materials, excluding soil and plants	
3	3-5	Most of the university buildings were built from regional materials since its establishment, and the smaller percentage is from local materials	Use of regional materials: - 30% of total materials used 60% of total materials used 90% of total materials used	
Zero	1-5	The university does not support the extraction of raw materials.	Supporting responsible suppliers of raw materials: Advocating for sustainable raw materials extraction Supporting suppliers to disclose environmental data Supporting responsible suppliers of raw materials	
Zero	1-5	The university has a pesticide residue assessment laboratory and a fungicide bio-evaluation laboratory in the College of Agricultural Engineering. The university also encourages the use of safe chemistry, supporting environmental education and research to provide information on the materials used, their life cycle and the hazards resulting from their use on site.	Support the use of safer materials: Advocate for the use of safe chemistry Support officials in disclosing chemical data Support officials in assessing environmental risks	

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Points of project	Site V2 points	Assessment of baghdad campus	Pre-requests	Section
zero	1-5	The university does not support these practices.	Supporting Sustainability in Materials Manufacturing: Advocating for Sustainable Materials Manufacturing Supporting Officials to Disclosure Sustainability Practices Supporting Officials to Achieve Sustainability Practices	
1	1-5	The university supports the achievement of sustainability in plant production, the use of suitable plants, and the recycling and use of agricultural waste as soil fertilizer. There are: Tissue culture laboratory and strain derivation for wheat and rice Laboratory for the development, improvement and evaluation of environmental products	Supporting Sustainability in Plant Production Advocating for Sustainability in Plant Production - Supporting Officials to Disclosure Sustainability Practices in Plant Production- Supporting officials to Disclosure Sustainability Practices - Supporting Officials to Achieve Sustainability Practices	
8	41			Total points
Zero	2-3	The site is not adjacent to any area of historical or cultural nature.	Protection and maintenance of Site design heritage and cultural sites: The project should not be located in cultural or historical sites Preservation of cultural heritage in buildings Preservation of cultural heritage in site coordination	-Human health and well-being
2	2	The site has signage and lighting poles for easy access and safety.	Provide easy access, safety and security on site.	
2	2	The university campus is used by the public for public events or occasions.	Promote fair use of the site	
2	2	The campus is characterized by its wide spaces that provide visual and physical contact with the external areas, helping students to hold various social activities.	Support to restore morale	
2	2	The university has open fields where sports such as football, volleyball.	Support physical activity	
2	2	The university campus's spaces courtyards and multiple outdoor seating areas provide gathering places for students.	Community Outreach Support	
2	4	There are no treatments to reduce light pollution, as artificial lighting is used at night, not LED bulbs.	reduce light pollution	
zero	3-4	The university campus has agricultural areas for the production of vegetables and agricultural crops at the level of graduate students' projects and observation fields for undergraduate students.	Providing food production on site: Providing food production on site Providing food production and regular distribution	
zero	4	None	Encouraging fuel efficiency and multi-modal transportation	

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Points of project	Site V2 points	Assessment of baghdad campus	Pre-requests	Section
zero	3	The university supports crop production at the research level for graduate students and other researchers.	Support the local economy	
12	30			Total points
No	Mandatory	There are no sustainability practices in all stages of construction, but the university seeks to achieve sustainability standards during operation.	Communicating and verifying sustainable construction practices	Construction
No	Mandatory	The university does not collect construction waste for reuse.	Control and retention of construction waste	
No	Mandatory	The university does not do this.	Restoration of soil damaged during construction	
2	3-5	The university does not restore soil damaged by any previous development, but rather transfer's soil from construction areas first before starting the construction process to areas designated for crops.	Restoration of soil damaged by previous development Low , Medium , High	
Zero	3-4	The university did not dispose of construction and demolition materials, nor did they reuse them in roads and other areas.	Non-disposal of construction and demolition materials: Non-disposal of 50% of construction and demolition materials Non-disposal of 75% of construction and demolition materials	
zero	3-4	The University does not support a zero waste policy for soil and plants and they are kept for reuse on site.	Do not dispose of reusable plants, rocks, and soil: Keep materials 50 miles away for reuse Keep materials on-site for reuse	
Zero	2-4	The university does not use special or low-emission construction equipment to protect air quality during the construction process.	Protecting air quality during construction	
2	17			Total points of section
No	Mandatory	Non.	Having a sustainable site maintenance plan	Maintenance and operations
No	Mandatory	There is no plan for the university to provide places to collect disposable materials.	Storage and collection of recyclable materials	
Zero	3-5	The university does not take this action.	Organic Material Recycling: 100% of agricultural waste is recycled and used as fertilizer within 50 miles of the site 100% of agricultural waste is recycled and used as fertilizer in the soil of the site project	
2	4-5	The university uses organic plant fertilizers from the university's plant waste, and chemical fertilizers are used when necessary to obtain healthy plants.	Reduce the use of fertilizers and pesticides Have a plan to obtain healthy plants Good practices and management to obtain healthy plants	
Zero	2-4	The university does not have any practices to reduce energy consumption in open areas, but the university's focus has been on reducing consumption inside buildings.	Reduce energy consumption in open areas Reduce outdoor energy consumption by 30% Reduce outdoor energy consumption by 60% Reduce outdoor energy consumption by 90%	

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Points of project	Site V2 points	Assessment of baghdad campus	Pre-requests	Section
Zero	3-4	The university does not use renewable energy sources to meet the site's electricity, but rather uses solar energy.	Use of renewable energy to meet site electricity 50% of site electricity from renewable energy sources 100% of site electricity from renewable energy sources	
Zero	2-4	The university does not have any measures to protect air quality during site maintenance, but there is a plan to take care of this in the future.	Protecting air quality during site maintenance: Use low-emission maintenance equipment Use manual or electric maintenance equipment	
2	22			Total points
3	3-4	The university holds conferences and workshops that emphasize the importance of sustainability, in addition to updating the curricula in the faculties of engineering with regard to sustainability in its various departments	Promoting sustainability awareness and education	Education and performance monitoring
zero	3	The university did not study projects classified according to the SITES evaluation system as a case study.	Case study development and dissemination	
zero	4	The university does not have any plan to monitor the performance of the site.	Develop a plan to monitor site performance.	
3	11			Total points
zero	3-9	The project did not demonstrate a performance higher than that stipulated in the SITES V2 terms	Achieving Optimal Performance Innovation about SITES V2	Innovation
zero	9			Total points
64	209			Total points Baghdad campus

Table 3: *Evaluation of Diyala campus according to the sustainable sites assessment system – SITES V2.*

Points of project	Site V2 Points	Assessment of Diyala campus	Pre-requests	Section
Yes	mandatory	The university land is located on agricultural land due to its proximity to the Diyala River, and the surrounding areas are planted with agricultural crops for local production.	Limit encroachment on agricultural land	Site
Yes	mandatory	The university site has an aquatic ecosystem that originates from the Diyala River and the Othmaniya River, which are adjacent to the university site.	Maintaining the aquatic ecosystem	
Yes	mandatory	The site includes a plant diversity of different types of indigenous plants adapted to the site's environment.	Maintaining natural life	
3	3-6	The site evolved into a university after it was a camp	Was the university site designated for waste or a development project	
4	4-4	The university is located on the borders of the municipality of Baqubah city, as it is a developed educational site.	The university's site is one of the advanced existing sites	
3	2-3	There is a public and private transportation network for university users.	The university's location is linked to transportation networks and movement routes.	
10	13			Total points

Table continues on next pages.....

Points of Site V2 project	Points	Assessment of Diyala campus	Pre-requests	Section
Yes	mandatory	The university was designed by an integrated design team, the university's engineering consulting office, and a team of planners, designers and engineering consultants in the engineering division headed by the university.	Develop a comprehensive design plan for the project.	Planning before designing the project
No	mandatory	No site conditions assessment was conducted prior to the design process and different options were explored to achieve sustainable outcomes.	Design evaluation before implementation	
No	mandatory	The site's soil suffers from salinity and high groundwater levels due to the lack of a reclamation plan and the university's land being lower than the Othmania River. The soil is not suitable for growing various types of plants on the site, including trees, shrubs, herbs, and producing various crops.	Choosing suitable plants and protecting the soil	
3	3	Involving site users and stakeholders during the design process, but relying on specialized institutions	User and stakeholder engagement	
3	3			Total points
Yes	mandatory	The university follows two systems to reduce water use in irrigation: - The flood irrigation system, which is lifted by pumps and pipes that deliver water to the nearest point to the plants, then irrigation channels are opened. - The sprinkler irrigation system from the same source, but its efficiency is low and it is subject to malfunction and neglect.	Reduce water use in irrigation	Water
4	4-6	Relying on the waters of the Othmania River derived from the Tigris River using a drip irrigation system	Reduce external water use from off-site Reduce off-site water use Do not use any water from outside the site.	
Zero	4-6	There is no water system inside the campus except for some basins for collecting water and storing it for irrigation purposes.	Restore the aquatic ecosystem: - 30% of the site area 60% of the site area 90% of the site area	
Zero	4-6	There is no rainwater management system within the university. There are only pipes to drain rainwater from the tops of buildings on campus, and rainwater is used in the winter to irrigate green spaces.	Managing rainfall on site to the permissible limit Managing 80% of rainwater 90% of rainwater management 95% of rainwater management	
Zero	4-5	No systems were used to collect or utilize rainwater for services within the university campus.	Design of functional elements for the use of rainwater in services Use 50% of rainwater in services Use 100% of rainwater in services	
4	23			Total points
No	mandatory	The soil health conditions are very poor and need to be reclaimed, lifted and replaced in some locations due to the accumulation of salts and waste.	Develop a soil management plan	Soil and vegetation
Yes	mandatory	The university monitors invasive and alien plants.	Invasive Plant Monitoring and Management.	
Yes	mandatory	The university uses plants suitable for the soil, including indigenous and adapted plant	Use appropriate plants	

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Points of Site V2 project	Points	Assessment of Diyala campus	Pre-requests	Section
Zero	4-6	The campus contains healthy soil, in which fertilizers and pesticides are not used except when necessary. The area allocated for green use within the university is approximately 30.7 5% m2..	Maintain soil health and use appropriate vegetation cover. The percentage of cultivated area on the site is 50%. The percentage of cultivated area on the site is 75% The percentage of cultivated area on the site is 100%	
Zero	4	There are no plants of a special nature on campus.	Preserving plants of special nature	
6	3-6	All plants used on campus are native plants.	Use and preserve native plants	
6	4-6	The local plant communities within the university are 100%	Conserve and restore native plant communities Percentage of local plant communities 20% Percentage of local plant communities 40% Percentage of local plant communities 60%	
Zero	1-6	There is no such procedure at the university.	Improving biomass efficiency: - Achieve minimum - Low percentage- Medium percentage - High percentage	
Zero	4	the percentage of vegetation cover reaches...%, i.e. more than 50%, depending on the point of the percentage of cultivated area	Reduce the effect of heat islands	
1	1-4	There is a variety of vegetation on campus, such as trees, palm trees, etc., the main purpose of which is to provide shade in open spaces. The buildings at the university are designed with a compact fabric system, and there is no vegetation around the buildings, which reduces energy consumption. The university does not measure the percentage of energy consumption or the energy that is saved. There are no windbreaks.	Using plants to reduce energy used in construction: Reducing energy used by 5% Reducing energy used by 7% Providing shade by 30% Providing shade by 60% Single row windbreaks Two or more row windbreaks	
Zero	4	The site is not located in a forest fire risk area.	Reducing the risk of forest fires	
13	40			Total points
No	mandatory	There are no endangered trees on the site.	Eliminate the use of wood from endangered trees	Material selection
4	2-4	The paved area of pedestrian paths, tracks, parking lots and sports fields is 6.85% M ² .	Maintaining the site structure and paving:- Paved area 10% of the total area Paved area 20% of the total area Paved area 30% of the total area	
Zero	3-4	The university greatly reduces the amount of waste, as the remaining construction, demolition and restoration materials are used in the construction of roads and movement paths in the university. Old stones are not used in paving the university corridors.	Design for Adaptation:- Ratio excluding plants, stones and soil: 30% material use 60% material use	

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Points of Site V2 project	Points	Assessment of Diyala campus	Pre-requests	Section
Zero	3-4	There is no application for reusing materials at the university, but it seeks to provide some plastic containers of different sizes and colors to collect waste in some university facilities for recycling.	Reuse of materials and plants: - 10% of total materials excluding soil 20% of total materials excluding soil	
Zero	3-4	The university does not use any recycled materials on campus.	Use of recycled materials: - 20% of total materials, excluding soil and plants 40% of total materials, excluding soil and plants	
3	3-5	The university uses 40% regional materials in construction.	Use of regional materials: - 30% of total materials used 60% of total materials used 90% of total materials used	
Zero	1-5	The university does not support the extraction of raw materials.	Supporting responsible suppliers of raw materials: Advocating for sustainable raw materials extraction Supporting suppliers to disclose environmental data Supporting responsible suppliers of raw materials	
1	1-5	The university does not have a clear policy regarding the use of safer materials due to the failure to apply these standards when building or constructing facilities and other things, and environmental research to provide information about the materials used, their life cycle, and the risks resulting from their use on the site.	Support the use of safer materials: Advocate for the use of safe chemistry Support officials in disclosing chemical data Support officials in assessing environmental risks	
1	1-5	There is no clear support for achieving sustainability in the university in its three aspects: environmental, economic and social, and there is no functional structure that follows up on the work steps, except for some initial attempts.	Supporting Sustainability in Materials Manufacturing: Advocating for Sustainable Materials Manufacturing Supporting Officials to Disclosure Sustainability Practices Supporting Officials to Achieve sustainability practices	
1	1-5	The university supports the achievement of sustainability in plant production, the use of suitable plants, and the recycling and use of agricultural waste as soil fertilizer. There are: Tissue culture laboratory and strain derivation for wheat and rice laboratory for the development, improvement and evaluation of environmental products	Supporting Sustainability in Plant Production Advocating for Sustainability in Plant Production - Supporting Officials to Disclosure Sustainability Practices in Plant Production - Supporting officials to Disclosure Sustainability Practices - Supporting Officials to Achieve Sustainability Practices	
10	41			Total points

Table continues on next pages.....

Points of Site V2 project	Points	Assessment of Diyala campus	Pre-requests	Section
Zero	2-3	The site is not adjacent to any area of historical or cultural nature.	Protection and maintenance of heritage and cultural sites The project should not be located in cultural or historical sites Preservation of cultural heritage in buildings Preservation of cultural heritage in site coordination	Human health and well being
Zero	2	The site has signage and lighting poles for easy access and safety.	Provide easy access, safety and security on site.	
Zero	2	The university campus is not used for public events or occasions.	Promote fair use of the site	
1	2	The campus is characterized by its wide spaces that provide visual and physical contact with the external areas, helping students to hold various social activities.	Support to restore morale	
2	2	The university has open fields where sports such as football, volleyball...etc.	Support physical activity	
Zero	2	The university campus's spacious courtyards and multiple outdoor seating areas provide gathering places for students.	Community Outreach Support	
Zero	4	There are no treatments to reduce light pollution, as artificial lighting is used at night, not LED bulbs.	reduce light pollution	
Zero	3-4	The university campus offers the cultivation of many crops, including vegetables, but at the research level, not the production level.	Providing food production on site: Providing food production on site Providing food production and regular distribution	
Zero	4	None	Encouraging fuel efficiency and multi-modal transportation	
Zero	1-2	There are no smoking areas on campus, and smoking is not prohibited.	Reducing exposure to smoking: Providing smoking areas within the site Prohibiting smoking within the project	
Zero	3	. The university supports crop production at the research level for graduate students and other researchers	Support the local economy	
3	30			Total points of section
No	Mandatory	There are no sustainability practices in all stages of construction, but the university seeks to achieve sustainability standards during operation.	Communicating and verifying sustainable construction practices	Construction
Yes	Mandatory	The university collects construction waste to reuse it again in paving roads and squares, as well as landscaping the site and sidewalks.	Control and retention of construction waste	
No	Mandatory	The university transfers soil from the construction site before starting the construction process to the site designated for agriculture, and also restores damaged soil by adding amendments and organic fertilizers.	Restoration of soil damaged during construction	
Zero	3-5	The university does not restore soil health due to construction and the campus soil suffers from high levels of salts and groundwater and is not suitable for agriculture.	Restoration of soil damaged by previous development Low , Medium , High	

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Points of project	Site V2 Points	Assessment of Diyala campus	Pre-requests	Sec- tion
3	3-4	The university disposes of construction and demolition materials and reuses them in roads and other places or throws them outside.	Non-disposal of construction and demolition materials Non-disposal of 50% of construction and demolition materials Non-disposal of 75% of construction and demolition materials	
Zero	3-4	There are not enough tree wastes at the university to be reused again and the vegetation cover is very poor.	Do not dispose of reusable plants, rocks, and soil Keep materials 50 miles away for reuse Keep materials on-site for reuse	
Zero	2-4	The university does not use special or low-emission construction equipment to protect air quality during the construction process.	Protecting air quality during construction	
3	17			Total points of section
Yes	mandatory	There is an afforestation and agriculture unit and a maintenance division at the university to follow up on the maintenance operations of the yards and green spaces.	Having a sustainable site maintenance plan	Main- te- nance opera- tions
No	mandatory	The university has a plan to provide places to collect recyclable materials.	Storage and collection of recyclable materials	
Zero	3-5	The university does not use plant waste as fertilizer in the site soil.	Organic Material Recycling: 100% of agricultural waste is recycled and used as fertilizer within 50 miles of the site 100% of agricultural waste is recycled and used as fertilizer in the soil of the site project	
Zero	4-5	The university does not adhere to this standard.	Reduce the use of fertilizers and pesticides Have a plan to obtain healthy plants Good practices and management to obtain healthy plants	
Zero	2-4	The university does not have any practices to reduce energy consumption in open areas, but the university's focus has been on reducing consumption inside buildings.	Reduce energy consumption in open areas Reduce outdoor energy consumption by 30% Reduce outdoor energy consumption by 60% Reduce outdoor energy consumption by 90%	
Zero	3-4	The university does not use renewable energy sources to meet the site's electricity, but rather uses solar energy.	Use of renewable energy to meet site electricity 50% of site electricity from renewable energy sources 100% of site electricity from renewable energy sources	
Zero	2-4	The university does not have any measures to protect air quality during site maintenance, but there is a plan to take care of this in the future.	Protecting air quality during site maintenance Use low-emission maintenance equipment Use manual or electric maintenance equipment	
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Points of project	Site V2 Points	Assessment of Diyala campus	Pre-requests	Section
Zero	22			Total points
Zero	3	The university did not study projects classified according to the SITES evaluation system as a case study.	Case study development and dissemination	Education and performance monitoring
2	3-4	The university holds conferences and workshops that emphasize the importance of sustainability, in addition to updating the curricula in the faculties of engineering with regard to sustainability in its various departments	Promoting sustainability awareness and education	
Zero	4	The university does not have any plan to monitor the performance of the site.	Develop a plan to monitor site performance.	
2	11			Total points
Zero	3-9	The project did not demonstrate a performance higher than that stipulated in the SITES V2 terms.	Achieving optimal performance Innovation about SITES V2	Innovation
Zero	9			
48	209			Total points Diyala campus

Table 4: *Evaluation of the AUIB campus according to the sustainable sites assessment system – SITES V2.*

Points of project	Site V2 points	Assessment of American campus	Pre-requests	Section
No	Mandatory	Yes, the American University has been reported to have taken over agricultural land, specifically acquiring 251.75 hectare which has raised concerns about encroachment on agricultural spaces. This action aligns with broader issues of land use change in Iraq post-2003, where agricultural areas have been significantly affected	Limit encroachment on agricultural land	Site
Yes	Mandatory	The AUIB campus emphasizes environmental sustainability, including water resources. It's characterized by an aquatic ecosystem that draws its water from the Tigris River adjacent to the site in the form of large lakes.	Maintaining the aquatic ecosystem	
Yes	Mandatory	The AUIB campus fosters a connection to nature by promoting awareness of environmental issues and encouraging sustainable practices among students and families. Initiatives like reducing single-use plastic, particularly water bottles, are part of a broader effort to maintain a healthy ecological balance within the campus environment. This is integrated into the liberal arts education, alongside co-curricular activities and student development programs which aim to create a holistic and inclusive learning atmosphere. The university is distinguished by a unique landscape scene in terms of the diverse vegetation that is in harmony with the nature of the site, in addition to the aquatic environment that includes a diversity of plants, fish and local water birds.	Maintaining natural life	
Zero	3-6	The site of AUIB was involved in the cleanup and removal of existing structures and debris, which included addressing issues related to waste disposal and industrial waste management. It indicates that there was a proactive approach to developing the area by clearing it of illegal constructions and addressing the problems of waste management	Was the university site designated for waste or a development project	

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Points of project	Site V2 points	Assessment of American campus	Pre-requests	Section
4	4-4	Yes, the AUIB considered part of an emerging and developing educational landscape in Iraq, established in 2018 and officially opened in January 2021. It aims to provide a high-quality education and create innovative solutions despite the challenges in the region	The university's site is one of the advanced existing sites.	
3	2-3	The AUIB is connected by a transportation network that includes pedestrian pathways, cycling routes, and public transport to facilitate access for students and staff	The university's location is linked to transportation networks and movement routes.	
7	13			Total points by site
YES	mandatory	Creating a comprehensive design plan for the AUIB would involve several key components: Campus Layout: Define the areas for academic buildings, administration, student housing, and recreational facilities. Infrastructure: Plan for roads, walkways, parking lots, and transportation access to ensure smooth movement within the campus. Green Spaces: Incorporate parks and garden areas to enhance the campus environment and provide relaxation spots for students and staff. Building Design: Focus on modern architectural styles with classrooms, laboratories, libraries, and common areas designed for functionality and aesthetics. Technology Integration: Ensure that the campus infrastructure supports modern technology, including high-speed internet and smart classrooms. Sustainability: Include eco-friendly practices in design, such as energy-efficient buildings and responsible water management	Develop a comprehensive design plan for the project.	Planning before de-signing the project
NO	mandatory	There is no specific information available regarding whether the design of the AUIB was formally evaluated before its implementation. However, the university emerged from the vision of influential figures from various sectors who aimed to establish a new educational institution, indicating that careful consideration was likely a part of its planning process.	Design evaluation before implementation	
YES	mandatory	The site's soil is a river mixture from the shoulder of the Tigris River, suitable for the growth of various plant species, which are usually local and adapted to the site's soil. the university is engaged in efforts to restore ecosystems and combat desertification, which indicates a general focus on environmental sustainability	Choosing suitable plants and protecting the soil	
3	3	Yes, the establishment of the AUIB involved significant input from various stakeholders, including influential individuals in business, government, and academia in both Iraq and the United States. The vision was to create a global institution that fosters an educational community characterized by excellent faculty, international partnerships, and a strong commitment to the future	User and stakeholder engagement	
3	3			Total points of section
YES	mandatory	Yes, the AUIB is involved in efforts to improve water management and reduce water usage in plant irrigation, as highlighted in discussions around agricultural practices and the efficiency of water usage in the region.	Reduce water use in irrigation	Water
6	4-6	The university relies on fresh lake water from the fresh Tigris River to irrigate the green spaces within the site and does not rely on any external water. , it is likely that the university may be engaging in sustainable water management practices	Reduce external water use from off-site Reduce off-site water use Do not use any water from outside the site.	

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Points of project	Site V2 points	Assessment of American campus	Pre-requests	Section
4	4-6	The lakes at the university account for 40% of the total area of the site The AUIB is engaged in efforts related to the restoration of aquatic ecosystems, critical for addressing water scarcity and environmental degradation. These initiatives focus on enhancing sustainable water management and combating desertification as part of broader ecological restoration projects.	Restore the aquatic ecosystem: - 30% of the site area 60% of the site area 90% of the site area	
5	4-6	Large lakes collect rainwater and reuse it to irrigate green spaces. Water Security, and Environmental Sustainability. This center supports research, education, and policy development addressing various environmental challenges, which may include aspects related to rainfall and water management	Managing rainfall on site to the permissible limit Managing 80% of rainwater 90% of rainwater management 95% of rainwater management	
ZERO	4-5	The presence of lakes in a large area of the university site, in addition to taking into account the slope and incline in the movement paths to ensure the flow of rainwater towards the lakes, and then using sprinkler and drip irrigation systems and employing rainwater to water the plants. The AUIB can implement functional design elements for rainwater harvesting by integrating systems that collect, store, and utilize rainwater within its campus infrastructure. This could involve the installation of rainwater cisterns, green roofs, permeable pavements, and rain gardens. These design elements can enhance water conservation, support sustainability initiatives, and provide educational opportunities regarding environmental management, particularly as water scarcity and climate change challenges increase in the region	Design of functional elements for the use of rainwater in services Use 50% of rainwater in services Use 100% of rainwater in services	
15	23			Total points of section
YES	mandatory	The AUIB, through its Center for Climate Change and Water Security, focuses on addressing environmental challenges, including soil management. A comprehensive plan for soil management should include educating students on agricultural practices related to soil and water, developing sustainable land-use policies, and integrating research with local farming communities to implement effective soil conservation techniques.	Develop a soil management plan	Soil and vegetation
YES	mandatory	The AUIB is focusing on using suitable plants for their agricultural and environmental programs, particularly highlighting the importance of flowering plants for decorative purposes. The university aims to incorporate flower cultivation into its curriculum in the future agricultural and environmental sciences college	Invasive Plant Monitoring and Management.	
YES	mandatory	The specific percentage of green space in land use isn't directly available from the provided information. However, it does mention the importance of greenery for environmental sustainability and human well-being in the university's context	Use appropriate plants	
6	4-6	To maintain native plants at the AUIB, it's essential to adopt sustainable practices that promote ecological health. Efforts should focus on preserving biodiversity by selecting plants suited for the local environment, avoiding invasive species, and implementing conservation strategies to create a natural habitat that supports the local ecosystem.	Maintain soil health and use appropriate vegetation cover. The percentage of cultivated area on the site is 50%. The percentage of cultivated area on the site is 75%	

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Points of project	Site V2 points	Assessment of American campus	Pre-requests	Section
			The percentage of cultivated area on the site is 100%	
4	4	Emphasizes the use of local plants and their conservation efforts, aligning with broader environmental protection initiatives. These efforts are part of a commitment to address the social and ecological impacts of climate change in Iraq, engages in research related to local biodiversity and promotes the study of native flora, which supports sustainability and environmental awareness in the region.	Preserving plants of special nature	
6	3-6	All plants are native and adaptive being addressed through various environmental initiatives, as indicated by student participation in projects related to environmental awareness. The university's "Environment Club" has been active in discussing and promoting sustainable practices and possibly participating in reforestation efforts.	Use and preserve native plants	
6	4-6	uses river shoulder soil with good specifications and uses organic and bio-fertilizers to maintain soil properties and plant growth. percentage of local plant communities 60%. The campus established a vibrant educational community and is likely engaged in various initiatives related to local plants and sustainability, particularly highlighted through their agricultural projects, as mentioned during Earth Day celebrations. However, specific information on the percentage of native plants found at their campus is not directly available in the snippets.	Conserve and restore native plant communities Percentage of local plant communities 20% Percentage of local plant communities 40% Percentage of local plant communities 60%	
1	1-6	AUB could involve several strategies, including optimizing the use of local agricultural residues, enhancing anaerobic digestion processes, and implementing innovative energy recovery technologies. Such measures would not only contribute to environmental sustainability but also enhance the education and practical training of students in relevant fields	Improving biomass efficiency : - Achieve minimum - Low percentage - Medium percentage - High percentage	
2	4	The spread of vegetation and lakes in a large proportion of the university site has a significant impact on reducing the effects of urban heat islands. Enjoy the shade of the balconies overlooking the lakes, addressing the impacts of urban heat islands. Recent initiatives include organizing seminars and workshops to explore the social effects of climate change, including phenomena like heat islands, and examining strategies for their mitigation.	Reduce the effect of heat islands	
1	1-4	The university does not measure energy consumption. The vegetation is characterized by dense trees represented by thousands of palm trees, <i>Albizia</i> and <i>Ziziphus</i> trees to provide shade of less than 30% and two rows of trees to block the wind. increased energy efficiency in new building constructions by using renewable and sustainable materials, along with installing effective heating and cooling systems. While specific details on the use of plants for energy reduction were not mentioned, integrating green roofs or vertical gardens can provide natural insulation, reduce the need for artificial cooling, and contribute to energy saving focuses on creating an aesthetic and functional environment, which includes the strategic use of plants to provide shade in outdoor spaces. This contributes to both the beauty and comfort of the campus.	Using plants to reduce energy used in construction: Reducing energy used by 5% Reducing energy used by 7% Providing shade by 30% Providing shade by 60% Single row wind-breaks Two or more row windbreaks	

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Points of project	Site V2 points	Assessment of American campus	Pre-requests	Section
Zero	4	There is no risk of forest trees in site of campus	Reducing the risk of forest fires	Total points of section
26	40			
No	mandatory	There is no endangered trees in campus site	Eliminate the use of wood from endangered trees	Material selection
4	2-4	The paved area of the university is estimated at 10% of the total area. AUB is designed to foster a vibrant academic community, it emphasizes its integration into the community and infrastructure. It's likely that the university incorporates modern landscaping and paving to enhance its environment	Maintaining the site structure and paving:- Paved area 10% of the total area Paved area 20% of the total area Paved area 30% of the total area	
Zero	3-4	AUB has initiatives focused on sustainability, including the recycling of plant waste and construction materials.	Design for Adaptation Ratio excluding plants, stones and soil 30% material use 60% material use	
3	3-4	Emphasizes the importance of recycling and reusing materials, advocating for the recycling of 10% to 20% of total materials, excluding soil. This practice not only supports sustainable development efforts but also helps diversify the economy and protect the environment by reducing pollution and waste.	Reuse of materials and plants: - 10% of total materials excluding soil 20 % of total materials excluding soil	
Zero	3-4	AUB employs a strategy of using recycled materials, aiming for 20% and 40% of total materials used, excluding soil and plants. This reflects a commitment to support broader state policies aimed at enhancing the use of recycled materials in construction, infrastructure, and reducing greenhouse gas emissions.	Use of recycled materials 20% of total materials, excluding soil and plants 40 % of total materials, excluding soil and plants	
5	3-5	All materials used in the site layout are 90% local.emphasizes using regional materials, with varying percentages such as 30%, 60%, and 90% of the total materials used in its programs. These percentages reflect the university's commitment to incorporating local resources and perspectives in its curriculum.	Use of regional materials: - 30% of total materials used 60% of total materials used 90% of total materials used	
1	1-5	AUB has been involved in initiatives that encourage the extraction of sustainable raw materials and the support of responsible suppliers in managing environmental data. These efforts aim to foster interdisciplinary collaboration, sustainable practices, and community empowerment, contributing to climate resilience and sustainable resource management.	Supporting responsible suppliers of raw materials: Advocating for sustainable raw materials extraction	

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Points of project	Site V2 points	Assessment of American campus	Pre-requests	Section
			Supporting suppliers to disclose environmental data Supporting re-sponsible suppliers of raw materials	
1	1-5	Promoting the use of safer chemical materials and advocating for safe chemistry practices are essential steps in ensuring environmental protection and health. This involves supporting authorities in disclosing chemical data and evaluating environmental risks associated with those chemicals. Institutions like AUB can play a pivotal role in disseminating safety culture and awareness among students, researchers, and laboratory workers for the optimal and safe handling of chemicals	Support the use of safer materials: Advocate for the use of safe chemistry Support officials in disclosing chemical data Support officials in assessing environmental risks	
1	1-5	AUB is actively engaging in sustainability practices through initiatives led by its Center for Climate Change and Water Security. They offer scholarships aimed at empowering female students in sustainability-related fields, helping to foster a new generation equipped with knowledge and skills for future leadership in environmental stewardship	Supporting Sustainability in Materials Manufacturing: Advocating for Sustainable Materials Manufacturing Supporting Officials to Disclose Sustainability Practices Supporting Officials to Achieve Sustainability Practices	
1	1-5	The university produces plants and animals according to the principles of sustainable production and clean organic agriculture, which meets the needs of university users in particular. AUB has been actively involved in promoting sustainability in agricultural production. This includes initiatives aimed at balancing economic growth with equitable wealth distribution and social challenges. The university participates in various programs that align with broader goals for sustainable development, which may include research, workshops, and collaborative projects designed to enhance sustainable farming practices	Supporting sustainability in plant production advocating for sustainability in plant production - supporting officials to disclosure sustainability practices in plant production- supporting officials to disclosure sustainability practices - supporting officials to achieve sustainability practices	
16	41			Total points of section

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Points of project	Site V2 points	Assessment of American campus	Pre-requests	Section
3	2-3	The preservation of cultural heritage in buildings and site design at the American University in Baghdad involves utilizing scientific methods to maintain the artistic elements of historic structures. This is aligned with international agreements such as the 1972 World Heritage Convention, which defines cultural heritage comprehensively and underscores the importance of protecting historical places. Collaboration with entities that focus on cultural heritage can also enhance the competency in such preservation efforts	Protection and maintenance of heritage and cultural sites: The project should not be located in cultural or historical sites Preservation of cultural heritage in buildings Preservation of cultural heritage in site coordination	Human health and well being
2	2	AUB prioritizes accessibility, safety, and security on its campus. They focus on creating a safe working environment where everyone understands expected behavior and the nature of their work. Moreover, the university's facilities include recreational areas, dining options offering diverse cuisines, and housing facilities, contributing to a secure and welcoming campus life	Provide easy access, safety and security on site.	
2	2	AUB encourages fair use of its facilities and resources by providing guidelines and policies that ensure compliance with regulations, promote fair decision-making, and support a neutral application of rules. This enhances the educational experience for students and enables innovative approaches to learning.	Promote fair use of the site	
2	2	AUB, support for students is prioritized, ensuring they have the necessary resources to succeed and thrive. The university emphasizes mental well-being through various initiatives aimed at enhancing morale, such as providing positive motivational resources and opportunities for academic and social engagement	Support to restore morale	
2	2	AUB actively supports physical activity among its students by promoting sports as a means to build community and enhance teamwork. They have initiated the first phase of a sports program that includes the construction of outdoor sports facilities for basketball and soccer, with plans for additional sports venues in the future.	Support physical activity	
2	2	AUB provides community support through its Marketing and Communications Department, which offers assistance in strategic communications, media relations consulting, and development of community engagement initiatives. This support helps foster a connected and informed university community	Community Outreach Support	
4	4	To reduce light pollution at the AUB several strategies can be implemented. These include using shielded outdoor lighting fixtures that direct light downward, employing lower-intensity lighting in non-essential areas, and utilizing timers or sensors to minimize unnecessary lighting during off-hours. Additionally, promoting awareness among the university community about the impacts of light pollution and encouraging participation in initiatives aimed at preserving the night sky can be effective	Reduce light pollution	
3	3-4	AUB aims to provide food production and regular distribution on campus as part of its commitment to creating a thriving educational community. This initiative resonates with the broader challenges facing Iraq regarding food security, particularly amid economic, political, and environmental changes.	Providing food production on site: Providing food production on site Providing food production and regular distribution	
4	4	. AUB emphasizes fuel efficiency and multi-modal transportation options to enhance student success and sustainability. By promoting better transportation practices, the university aims to create a more efficient campus experience while contributing to environmental stewardship. Students are encouraged to utilize various transport means, which can help reduce congestion and fuel consumption on campus	Encouraging fuel efficiency and multi-modal transportation	

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Points of project	Site V2 points	Assessment of American campus	Pre-requests	Section
2	1-2	To reduce exposure to smoking at theAUB, it is essential to implement a comprehensive smoke-free policy that prohibits smoking within all buildings, including classrooms, laboratories, and offices, as outlined by public health laws. Providing designated smoking areas outside of the main facilities may help to manage smoking without compromising public health. However, compliance with health regulations must be strictly enforced to ensure a smoke-free environment.	Reducing exposure to smoking: Providing smoking areas within the site Prohibiting smoking within the project	
3	3	Yes AUB, supports the local economy by empowering future generations through education. It focuses on equipping young leaders with knowledge and skills essential for contributing positively to society. Additionally, being a non-profit institution, it competes in providing quality education, which can enhance the local workforce's capabilities and drive economic growth	Support the local economy	
29	30			Total points of section
YES	Mandatory	Yes, AUB is committed to sustainable construction and building practices. The university focuses on research and education related to environmental sustainability, as evidenced by its establishment of the Climate Change and Environmental Security Center. This initiative aims to address pressing environmental challenges and is aligned with the Sustainable Development Goals for 2030	Communicating and verifying sustainable construction practices	Construction
NO	Mandatory	AUB does not directly control construction waste; rather, it may have sustainable practices in place for managing materials used in building projects. For instance, a sustainable system developed at a university includes using metal and clay-based materials, which suggests interest in environmentally friendly building practices	Control and retention of construction waste	
YES	Mandatory	The response regarding whether the AUB is restoring soil damaged during construction isn't explicitly mentioned in the available snippets. However, environmental management practices and soil integrity are crucial in construction projects, indicating that universities often implement strategies to mitigate damage. It's advisable to consult official university sources for specific policies	Restoration of soil damaged during construction	
3	3-5	Restoring damaged soil after previous development projects at UBA would likely involve techniques for remediating contaminated land, such as phytoremediation (using plants to absorb pollutants) and soil amendment to enhance fertility. These methods can turn contaminated soils, such as oil-polluted areas, into valuable land for future use, although specific local practices may vary. It's essential to consult with environmental experts and follow regulatory guidelines to ensure safe and effective restoration. The university replaced some of the soil in the damaged areas after 2003 and added large quantities of healthy mixed soil suitable for agriculture.	Restoration of soil damaged by previous development Low Medium High	
ZERO	3-4	There is no specific information available regarding the disposal of construction waste at the AUB Generally, universities follow regulations and best practices for managing waste from construction activities,	Non-disposal of construction and demolition materials Non-disposal of 50% of construction and demolition materials Non-disposal of 75% of construction and demolition materials	

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Points of project	Site V2 points	Assessment of American campus	Pre-requests	Section
ZERO	3-4	There is no specific information available regarding the disposal of construction waste at the AUB Generally, universities follow regulations and best practices for managing waste from construction activities	Do not dispose of reusable plants, rocks, and soil:- Keep materials 50 miles away for reuse Keep materials on-site for reuse	
ZERO	2-4	To protect air quality during construction at AUB, it is essential to implement several measures. These include dust control techniques such as using water sprays or dust suppressants on work sites, ensuring proper waste management to minimize harmful emissions, and monitoring air quality consistently using installed sensors. Establishing a schedule for construction activities that minimizes disruption during peak air quality hours can also be beneficial. Engaging with the local community to inform them of potential air quality impacts and mitigation measures is crucial for fostering cooperation. It's recommended to stay updated on any local regulations regarding air quality during construction and continuously assess the environment to adapt strategies as necessary.	Protecting air quality during construction	
3	17			
YES	mandatory	The AUB sustainable site maintenance plan likely focuses on minimizing environmental impact, utilizing local resources efficiently, and adhering to sustainable architectural design principles. Their initiatives may involve regular assessments and strategies aimed at enhancing sustainability in relation to the surrounding environment	Having a sustainable site maintenance plan	Total points of section
YES	mandatory	The AUB is establishing recycling programs and facilities to promote the separation and recycling of waste materials. This initiative aims to encourage students and staff to properly store and aggregate recyclable materials, thus supporting sustainability efforts on campus	Storage and collection of recyclable materials	Main-tenance operations
1	3-5	Recycling organic materials, such as plant waste, to create compost is a beneficial practice for universities like the AUB. This process not only reduces waste but also produces nutrient-rich fertilizer that can be used in landscaping and agricultural practices on campus. The environmental and economic benefits of reusing organic waste are significant, as it promotes sustainability and reduces the reliance on chemical fertilizers	Organic Material Recycling: 100% of agricultural waste is recycled and used as fertilizer within 50 miles of the site 100% of agricultural waste is recycled and used as fertilizer in the soil of the site project	
ZERO	4-5	To reduce the use of fertilizers and pesticides at AUB, it's essential to implement practices that promote the health of plants. This can include developing a comprehensive plan for establishing healthy plants through integrated pest management (IPM) techniques, which focus on prevention and careful monitoring to minimize chemical interventions. Additionally, producing organic fertilizers can enhance soil quality and provide necessary nutrients without the associated downsides of synthetic fertilizers.	Reduce the use of fertilizers and pesticides: Have a plan to obtain healthy plants Good practices and management to obtain healthy plants	

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Points of project	Site V2 points	Assessment of American campus	Pre-requests	Section
ZERO	2-4	To reduce external energy consumption in open areas such as the AUB, several measures can be implemented. Strategies to achieve a 30%, 60%, or even 90% reduction could include optimizing street lighting efficiency, utilizing renewable energy sources, implementing smart technologies for energy management, and promoting energy conservation practices among students and staff. Increasing the efficiency of outdoor lighting can lead to a minimum energy saving of 30%, as noted in recent studies.	Reduce energy consumption in open areas Reduce outdoor energy consumption by 30% Reduce outdoor energy consumption by 60% Reduce outdoor energy consumption by 90%	
ZERO	3-4	The AUB , is utilizing renewable energy to meet its electricity needs, with significant projects such as the installation of a biomass boiler, which has a capacity of 60 MW and works alongside a heating project of 70 MW that began installation in June 2023. This effort is part of a broader strategy to integrate both traditional and renewable energy systems to optimize energy consumption	Use of renewable energy to meet site electricity 50% of site electricity from renewable energy sources 100% of site electricity from renewable energy sources	
ZERO	2-4	To protect air quality during site maintenance, it is crucial to use low-emission maintenance equipment and tools. Opting for manual or electric tools helps minimize harmful emissions, thus ensuring compliance with environmental standards. This approach is particularly important in places like AUB , where maintaining a clean air environment is essential for the health and safety of all individuals on campus	Protecting air quality during site maintenance: Use low-emission maintenance equipment Use manual or electric maintenance equipment	
1	22			Total points
3	3-4	AUIBis dedicated to promoting sustainability awareness and education as part of its academic mission. AUIB integrates sustainable practices in its curriculum and initiatives, focusing on creating an entrepreneurial mindset through its Entrepreneurship and Sustainable Development Center (ESDC). This commitment aligns with the institution's goal of contributing positively to the community in Baghdad and Iraq as a whole.	Promoting sustainability awareness and education	
ZERO	3	The development and generalization of a case study on the American Sustainable Site Evaluation system at AUB could provide valuable insights into sustainable practices within educational institutions. This could involve assessing the university's practices in terms of sustainability, analyzing the benefits and challenges, and potentially developing metrics for evaluating similar institutions in the region. Additionally, such a study could enhance students' experiences and preparedness for future leadership roles by integrating sustainability into their academic journey.	Case study development and dissemination	Education and performance monitoring
4	4	To monitor the performance of the AUB , we develop a comprehensive plan that includes the following steps:- Data Collection: Gather quantitative and qualitative data from various departments, including student satisfaction surveys, academic performance metrics, and faculty evaluations. Performance Indicators: Establish key performance indicators (KPIs) that reflect both academic and administrative performance, such as graduation rates, employment rates of graduates, faculty research output, and student enrollment numbers. Regular Reviews: Schedule periodic performance reviews to assess the data against the established KPIs. This can involve stakeholder meetings with faculty, administration, and student representatives to discuss findings and gather feedback. Action Plans: Based on the review outcomes, create action plans for	Develop a plan to monitor site performance.	

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Points of project	Site V2 points	Assessment of American campus	Pre-requests	Section
		improvement in areas identified as weak. These should address underlying issues and outline specific steps and resources needed for enhancements. Training and Development: Implement training programs and professional development for staff and faculty based on the feedback received to foster continuous improvement. Reporting: Develop a reporting system to communicate findings and progress to all stakeholders, ensuring transparency and collaborative efforts in improving performance. Feedback Mechanism: Create a mechanism for receiving ongoing feedback from students and faculty on the effectiveness of initiatives aimed at improving performance. By following these steps, the university can ensure a structured approach to monitoring and enhancing its performance across various dimensions.		
7	11			Total points
3	.3-9	The innovation at the AUIB , is reflected through various programs offered at the Center for Excellence in Innovation and Development, which includes a focus on developing skills in critical thinking, effective communication, and lifelong learning. The institution emphasizes professional training and development, preparing individuals to become competent professionals in a rapidly changing environment	Achieving Optimal Performance Innovation about SITES V2	Innovation
3	9			Total points
109	209			Total points AUIB campus

a natural habitat that supports the local ecosystem, engages in research related to local biodiversity and promotes the study of native flora, which supports sustainability and environmental awareness in the region, using river shoulder soil with good specifications and uses organic and bio-fertilizers to maintain soil properties and plant growth, AUIB has established a vibrant educational community and is likely engaged in various initiatives related to local plants and sustainability, particularly highlighted through their agricultural projects, as mentioned during earth day celebrations. However, specific information on the percentage of native plants found at their campus is not directly available, but through the site observation of campus, most of the vegetation is local and adapted to the environment and soil and is growing excellently. Baghdad campus contains healthy soil, in which fertilizers and pesticides are not used except when necessary. The area allocated for green use within the university is about 43% (Jasim and Kamel 2017; Jasim and Al-Fatlawi, 2023) ,There are plants of a special nature in the gardens. All plants used on campus are 100% native. The local plant communities within the university are 100%. The effect of heat islands is reduced by increasing the density of vegetation and green spaces, the cultivated

area, vegetation with its various densities comprises 43% of the total area, The campus has a variety of vegetation such as trees, palm trees, etc. The main purpose of which is to provide shade in open spaces, the are designed with a compact fabric system, The university does not measure the percentage of energy consumption or the energy that is saved. There are windbreaks surrounding some sides of campus with different trees and shrubs. For Diyala campus, all plants used on campus are native plants, the local plant communities within the university are 100%.

Site design materials selection

As for the material selection section within the SITEs v2 evaluation system, the AUIB campus achieved 16/41, Baghdad campus 8/41, and Diyala campus 10/41. The paved area of pedestrian paths, tracks, parking lots and sports fields is 7.27% M² of the total area of the site of Baghdad campus. Most of the campus buildings were built from regional materials since its establishment, and the smaller percentage is from local materials, for Diyala campus paved area of pedestrian paths, tracks, parking lots and sports fields is 6.85% M², using 40% regional materials in construction. AUIB campus, paved area is estimated at 10% of the total area is designed to

foster a vibrant academic community; it emphasizes its integration into the community and infrastructure. It's likely that the university incorporates modern landscaping and paving to enhance its environment, emphasizes the importance of recycling and reusing materials, advocating for the recycling of 10% to 20% of total materials, excluding soil. This practice not only supports sustainable development efforts but also helps diversify the economy and protect the environment by reducing pollution and waste. All materials used in the site layout are 90% local; these percentages reflect the university's commitment to incorporating local resources and perspectives in its curriculum.

Site design human health and well-being

In terms of health and wellbeing, according to the site 2 evaluation system, the AUIB achieved first place with 29/30, compared to the Baghdad and Diyala campuses, which achieved 12/30 and 3/30, respectively. AUIB campus, preservation of cultural heritage in buildings and site design at the AUIB involves utilizing scientific methods to maintain the artistic elements of historic structures. This is aligned with international agreements such as the 1972 World Heritage Convention, which defines cultural heritage comprehensively and underscores the importance of protecting historical places. Collaboration with entities that focus on cultural heritage can also enhance the competency in such preservation efforts. The AUIB prioritizes accessibility, safety, and security on its campus. They focus on creating a safe working environment where everyone understands expected behavior and the nature of their work. Moreover, the university's facilities include recreational areas, dining options offering diverse cuisines, and housing facilities, contributing to a secure and welcoming campus life, the AUIB encourages fair use of its facilities and resources by providing guidelines and policies that ensure compliance with regulations, promote fair decision-making, and support a neutral application of rules, this enhances the educational experience for students and enables innovative approaches to learning, supporting students is prioritized, ensuring they have the necessary resources to succeed and thrive, emphasizes mental well-being through various initiatives aimed at enhancing morale, such as providing positive motivational resources and opportunities for academic and social engagement, supports physical activity among its students by promoting sports as a means to build community and

enhance teamwork. They have initiated the first phase of a sports program that includes the construction of outdoor sports facilities for basketball and soccer, with plans for additional sports venues in the future. The AUIB provides community support through its marketing and communications department, which offers assistance in strategic communications, media relations consulting, and development of community engagement initiatives. This support helps foster a connected and informed university community, to reduce light pollution at AUIB, several strategies can be implemented, include using shielded outdoor lighting fixtures that direct light downward, employing lower-intensity lighting in non-essential areas, and utilizing timers or sensors to minimize unnecessary lighting during off-hours. Additionally, promoting awareness among the university community about the impacts of light pollution and encouraging participation in initiatives aimed at preserving the night sky can be effective. The AUIB aims to provide food production and regular distribution on campus as part of its commitment to creating a thriving educational community. This initiative resonates with the broader challenges facing Iraq regarding food security, particularly amid economic, political, and environmental changes, emphasizes fuel efficiency and multi-modal transportation options to enhance student success and sustainability. By promoting better transportation practices, the university aims to create a more efficient campus experience while contributing to environmental stewardship. Students are encouraged to utilize various transport means, which can help reduce congestion and fuel consumption on campus. To reduce exposure to smoking at the campus, it is essential to implement a comprehensive smoke-free policy that prohibits smoking within all buildings, including classrooms, laboratories, and offices, as outlined by public health laws. Providing designated smoking areas outside of the main facilities may help to manage smoking without compromising public health. However, compliance with health regulations must be strictly enforced to ensure a smoke-free environment. The AUIB supports the local economy by empowering future generations through education. It focuses on equipping young leaders with knowledge and skills essential for contributing positively to society. Additionally, being a non-profit institution, it competes in providing quality education, which can enhance the local workforce's capabilities and drive economic growth. Baghdad campus site has signage and lighting poles for easy access and safety,

used by the public for public events or occasions, it is characterized by its wide spaces that provide visual and physical contact with the external areas, helping students to hold various social activities, it has open fields where sports such as football, volleyball, campus's spaces courtyards and multiple outdoor seating areas provide gathering places for students. Diyala campus has open fields where sports such as football, volleyball etc., and the campus is characterized by its wide spaces that provide visual and physical contact with the external areas, helping students to hold various social activities.

Construction

As for the construction section, the points achieved by the universities under study were close, with Diyala University and America University scoring 3/17 and Baghdad University scoring 2/17. Baghdad campus, does not restore soil damaged by any previous development, but rather transfers soil from construction areas first before starting the construction process to areas designated for crop, Diyala campus, disposes of construction and demolition materials and reuses them in roads and other places or throws them outside. American campus, restoring damaged soil after previous development projects at the American University in Baghdad would likely involve techniques for remediating contaminated land, such as phytoremediation (using plants to absorb pollutants) and soil amendment to enhance fertility. These methods can turn contaminated soils, such as oil-polluted areas, into valuable land for future use, although specific local practices may vary. It's essential to consult with environmental experts and follow regulatory guidelines to ensure safe and effective restoration. The university replaced some of the soil in the damaged areas after 2003 and added large quantities of healthy mixed soil suitable for agriculture.

Maintenance and operations

It is very clear that the maintenance and operation section, in terms of the evaluation of the universities under study, was below standard, as the universities obtained 2, 1 and 0/17. Baghdad campus, uses organic plant fertilizers from the university's plant waste, and chemical fertilizers are used when necessary to obtain healthy plants (2/22). American campus, recycling organic materials, such as plant waste, to create compost is a beneficial practice for universities like the American University. This process not only reduces

waste but also produces nutrient-rich fertilizer that can be used in landscaping and agricultural practices on campus. The environmental and economic benefits of reusing organic waste are significant, as it promotes sustainability and reduces the reliance on chemical fertilizers.

Education and performance monitoring

First, the interests of the community and public in a sustainable Landscape are inspired by clearly and successfully demonstrating the Summary of such a SITE v2 certified project. During the evaluation of the sites according to the sites V2, it was found that the AUIB achieved 7, followed by the Baghdad campus 3, and lastly Diyala campus 2/11.

AUIB campus develops a comprehensive plan that includes the following steps: Data collection: Gather quantitative and qualitative data from various departments, including student satisfaction surveys, academic performance metrics, and faculty evaluations. Performance Indicators: Establish key performance indicators (KPIs) that reflect both academic and administrative performance, such as graduation rates, employment rates of graduates, faculty research output, and student enrollment numbers. Regular Reviews: Schedule periodic performance reviews to assess the data against the established KPIs. This can involve stakeholder meetings with faculty, administration, and student representatives to discuss findings and gather feedback. Action Plans: Based on the review outcomes, create action plans for improvement in areas identified as weak. These should address underlying issues and outline specific steps and resources needed for enhancements. Training and development: Implement training programs and professional development for staff and faculty based on the feedback received to foster continuous improvement. Reporting: Develop a reporting system to communicate findings and progress to all stakeholders, ensuring transparency and collaborative efforts in improving performance. Feedback mechanism: Create a mechanism for receiving ongoing feedback from students and faculty on the effectiveness of initiatives aimed at improving performance. By following these steps, the university can ensure a structured approach to monitoring and enhancing its performance across various dimensions

Innovation

For Baghdad and Diyala campus, the project did

not demonstrate a performance higher than that stipulated in the SITES V2 terms, (zero/9), AUIB campus innovation reflected through various programs offered at the Center for Excellence in Innovation and Development, which includes a focus on developing skills in critical thinking, effective communication, and lifelong learning, emphasize professional training and development, preparing individuals to become competent professionals in a rapidly changing environment (3/9). It is clear from the evaluation tables for each of the universities under study that the Universities of Baghdad and Diyala, according to the evaluation points, did not achieve the number of points that would qualify them for any level of qualification for sites V2 system, as the University of Baghdad achieved 64 points and the University of Diyala achieved 48 points, while the American University in Baghdad achieved 109 points received gold, means it has qualified to be certified within the sites V2 system.

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Novelty Statement

This research focuses on assessing the sustainability of Iraqi universities using the Sustainable Sites (Sites V2) framework. The novelty lies in applying this specific framework to the context of Iraqi universities, which can help create a model tailored for assessing sustainability. Our research is the first applied attempt at the level of higher education institutions - examples of Iraqi public and private universities for the sustainability axes of open sites according to the American sustainability system, in an attempt to raise the level of sustainability assessment in them in the future.

Author's Contribution

Sada Nasif Jasim: Evaluation of the University of Baghdad and the American University according to the American Sustainable Assessment System, with

analysis and writing of the results, conclusions and recommendations.

Raad W. Alzuhairi: Evaluation of the University of Diyala according to the American Sustainable Assessment System, with analysis, writing of results, conclusions and recommendations.

Conflict of interest

The authors have declared no conflict of interest.

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