

PLANNING AND DESIGNING THE GREEN LANDSCAPE OF THE COLLEGE OF AGRICULTURE (NEW LOCATION), UNIVERSITY OF BASRAH, KARMA ALI LOCATION

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Abstract: The landscapes of university educational institutions are an expression of the environmental and natural urban landscape of universities, so we see an increasing interest in studying university landscapes. Where the university buildings and their external landscapes a great development in the planning and design process, which were characterized by advantages that achieved comfort for the users of university spaces and increased social communication between them. This led to an increase in the interaction between the university environment groups on the one hand, and between those groups and the university landscapes on the other hand, by designing these spaces and achieving aesthetic, functional and environmental benefits as they represent the open landscapes of the campus environment. The site of the College of Agriculture (the new site) was chosen as an elected urban sample for the purposes of the practical study, and information was collected based on the methodology of the field survey of the study site and the adoption of site observations through field visits and personal interviews. The questionnaire was approved, which was distributed to the study sample community groups (professors - students - employees). After collecting information from the questionnaire, the data was transcribed into an electronic calculator using the "Microsoft Office Excel" program. The results were analyzed statistically using Statistical Package For Social Sciences (SPSS V.11) using Chi-square. The results of the study indicated that 50% of the respondents agreed that the roads leading to the gardens of the study site were wide and acceptable, while 47% had their opinions regarding parking spaces inappropriate, and 42% were dissatisfied with the design of the garden entrances and 43% of respondents agreed that they were not satisfied with the seating positions, and 47% preferred that those seats be made of wood because of its many traits 83% agreed on choosing natural plants to define the paths in the garden, while 36% indicated the lack of green landscapes in the college, and 60% of the sample preferred to add fountains in the design of the garden.

Keyword: design, green landscapes, employees, natural plants

1. Introduction

Landscapes in universities take the image of the natural landscape of the university urban environment, and it must be characterized by environmental characteristics that work to achieve human comfort and renewal of vitality and work to enhance social interaction between the users of these Landscapes ¹ and recent trends in the field of planning and designing Landscape Architecture of the university campus showed a trend towards the reconstruction of landscapes in the campus buildings, as well as linking with the natural landscape of the city, in addition to the diversity of using campus environments to increase spending time in the university and encourage social interaction ²

The landscapes of the university campus represent a painting of the natural landscape of the general urban environment of the university. The buildings reflect the closed part, while the gardens and landscapes represent the open space of the campus environment. As the person is directly in the interface of the landscapes, before he is exposed to the internal spaces, and therefore these spaces had to appear in an environmental and aesthetic methods aimed at creating comfort and safety and renewing the vitality and feeling of the person ³This science has become taught today in the universities of the world to combine agricultural, engineering and fine arts sciences because gardens and their design have important recreational effects that cannot be seen as mere secondary activities, but have become of great importance in the life of contemporary societies after the social, psychological and cultural functions and objectives have been confirmed and the political and economic that these activities achieve for the individual and society ⁴ Recently, there has been a tendency to pay attention to gardens and urban parks, where they are one of the basic and important components towards the qualitative development of urban life within cities, through environmental importance and stimulation of social interaction and exchange in cultures in addition to the importance of entertainment. In this regard, the faculties have developed greatly in planning and design, which kept pace with the development that took place in learning methods and scientific progress, as well as the communication and informatics revolution, which was accompanied by an increase in awareness of interest in gardens and landscapes of universities, as they represent the integration of the open space of the campus environment, where calm, psychological comfort and exchange of culture, In addition to giving people the opportunity to reflect on the nature that surrounds them with many benefits, including aesthetic, environmental and architectural, as the coordination, design and beautification of gardens is one of the developmental goals in urban development. As the study of the design of green areas and what they contain of spaces and pedestrian paths, the choice of seating places, the foundations of knowledge and selection of plants and their suitability for the environment, all of this works to create a suitable and appropriate environment to create a comfortable study atmosphere for students ⁵

2- Theoretical aspect of the study

2-1 Definition of Campus Landscape Architecture:

It represents how Campus Landscape Architecture and its multiple and interaction layers, which are the basis for creating a green environment, visually affect its users, affiliates and visitors of universities, and through Campus Landscape can give perceptions, information and ideas on how to do planning and design for the green environment that is located inside university buildings. It can be imagined that the Campus Landscape are a green area on which university buildings are distributed, or they are connected and extended gatherings to achieve the concept of open landscapes in the design of buildings in order to please the viewer, create integration between them and plants, and form an architectural decoration that reflects the beauty of nature. ⁶ The components of the Campus Landscape can be divided into:

- The lower horizontal layer: it means the floor of the outer space on which the university buildings line up with each other, and it acts as a connecting element between the buildings when there is an openness of the buildings to the outer space, directly or indirectly.

- The upper horizontal layer: represents the sky of the landscapes and is usually above the level of the beholder. It works to provide shelter and environmental protection, as well as to give a variety of features in the outer space and create a kind of excitement through the manipulation of shadow and light. Its heights can also be manipulated to create a variety of landscapes.
- The vertical layer: It represents the borders and edges of the space, which are usually designed to raise the efficiency of use, surround the space, achieve privacy, and hide unwanted elements in the location in order to give a positive sense of the place. It also works to direct movement and attention towards specific aims. These edges differ from each other in terms of In terms of size and scale.

Space furniture: It includes seating, lighting poles, plants, and movement barriers.

- Human: It is a special element referred to by some studies, and it plays an essential role, without which space would become a mere void devoid of the features of life, so the other elements are linked with all their features to the human being as an element of benefiting from the components of space together. Therefore, landscapes must be dealt with on the basis of their relationship with humans, and the extent of their interaction with them through space formations, whether at the level of a single space or a group of landscapes together. ⁷

2-2 University Landscape Classification

Educational landscapes: landscapes in which the student receives knowledge from professors within his course.

- help landscapes are divided into:
- Educational assistance It is a complement to general educational landscapes such as the library and educational workshops.

Landscapes are general assistance, and they are landscapes that meet the needs of other students in the university, in addition to receiving knowledge, such as the student club, the main hall, a health center, the post office, the bank, and the sports halls ⁸

2.2.1. Residential landscapes:

They are landscapes that meet the needs of housing for teachers, staff and students, and include the services attached to it that are used within the residential complex ⁹

2.2.2. Administrative landscapes:

They are landscapes specialized in managing the various university affairs, including university administration, deanships, registration, etc ¹⁰

2.2.3. Landscapes utility:

It includes technical services such as the power station, the postal system, water liquefaction, waste disposal, and sewage, in addition to the fire extinguishing station, the printing press, general stores, and repair garages ¹¹

2.2.4. Open landscapes:

It includes all landscapes (squares, streets, pedestrian traffic axes, parking lots, landscapes for future expansion ¹² Some of them are complementary to educational landscapes and public, service or residential landscapes, being landscapes that serve the rest of the landscapes in the university ¹³

2-3 The spatial location of universities:

2.3.1. University institutions are classified spatially into:

The first category: is the university type.

Which includes all university activities such as academic, social and residential matters, which are within the framework of one location that brings them together. This classification is characterized by the fact that it guarantees freedom of planning and design for its activities and events, as well as this category is not found in city centers, but rather in its outskirts and suburbs due to the difficulty of providing full spaces for it in city centers¹⁵

The second category: is the integrated type.

This description is characterized by the fact that it is intertwined and linked with the city in which it is located, and the university here provides academic facilities mainly while it relies, in part, on the social, residential and service facilities provided by the city (Al-Alwan, 1988). Accordingly, the study location is located within the college complex of Karma Ali location, which is considered within the fabric of the Basrah city .

3- The practical side of the study

3.1. Determine the location of the study (the research sample):

The College of Agriculture (new location) / University of Basra was chosen, as the College of Agriculture is one of the colleges of the University of Basra, which is located within the location of Karma Ali Colleges. The college was established in 1971 in the Al-Tanuma region, and after a series of events that occurred in Iraq during the Iran-Iraq war, it moved to the current location in Karmat Ali and allocated an area of 86,336 square meters for the College of Agriculture with its deanship and departments, which is considered the new location for the college, which was designed by a civil engineering office. In the south of the location of Karma Ali colleges near the dome vault to the eastern side.



Figure (1) shows the new location of the College of Agriculture, the location of Karma Ali



Figure (3) College of Agriculture building (new location), source / prepared by the researcher

3.3. schematic aspect

Although the architectural facilities of the study sample have not been completed so far, the researcher, through his field visits to the research location and personal observation, in addition to conducting interviews, It turned out that there is a difference from what was planned for the location (the deanship of the college) within the basic plan and what is on the ground through the landscapes of the architectural facilities as well as the roads and corridors .As for the rest of the architectural facilities, they are still not completed, and therefore it is not possible to give an idea of whether they differed from what was planned or not.

3.4. environmental factors

The study location is located within the administrative borders of the city of Basra, which is known climatically for extremely hot conditions, an increase in the number of hours of solar brightness in the summer, and a lack of rain in the winter, which requires the designer to work on selecting the appropriate plant elements and placing them within the design, and helping to reduce the negative effects To the extreme environmental conditions and work to soften the atmosphere of the study location.

3.5. Architectural Requirements

3.5.1. Building Style

The style of the university buildings of the study location took modernity in the architectural construction and was characterized by geometric shapes, and it seems that the designer wanted to highlight the engineering aspect in the style he used, and the facades of the deanship building and the departments were covered with alexbond, which gave a beautiful view of the architectural building, and here comes the role of the garden designer to connect landscapes with these buildings.

3.5.2. The degree of closure between the university buildings under study and their external spaces

The degree of closure between buildings and their external spaces can be determined by means of architectural plans as well as field visits and visual observation, through which the researcher

concluded that the external space of the study location was open, as there was sufficient space for the use of many natural and artificial components in the garden¹⁶

3.5.3 fit into landscapes (sense of scale)

It can be calculated by calculating the ratio between the height of the buildings surrounding the space to the width of that space.

3.5.3. users of university landscapes

Universities are based on three main categories that use landscapes, and they are (professors - students - employees). Students are the category that most uses these spaces because they are the most numerous among the other categories.

3.5.4. Efficiency of use

The nature of the situation in the use of university landscapes includes many activities, whether cultural or social, or using them in roaming, sitting and resting, but when the researcher made location visits and recorded visual observation, he found almost no use of landscapes for the study location in any activity. And when we randomly asked a number of the included groups (professors - students - employees) about the reason for this, it turned out that the matter is due to the harsh environmental conditions that characterize the city of Basra most months of the year, as well as not taking into account the provision of natural and artificial components and furnishing those spaces, which makes their use more appropriate under these environmental conditions.

3.5.5. Planning requirements for the study location.

The field visits carried out by the researcher to the study location, as well as viewing the location's photographs and architectural plans of the location, showed that they were not taken into consideration the planning requirements of the external spaces of the study location, as the natural and artificial components were not taken into account, neither in terms of their numbers nor in terms of their locations within the landscapes.

3.5.6. Questionnaire

Questionnaires are one of the important methods in design studies because they ensure clarity in answering the questions posed, provided that the designer takes into consideration the specialists that the questionnaire questions are consistent with the social reality of the city that includes the study location, as well as that they are consistent with the environmental conditions of that city. In addition to the field visits that the researcher makes to the study location and viewing the architectural plans, so that these questions contribute to the development and improvement of the study location in a way that suits the aspirations of the target groups. A questionnaire form for the included categories (professors - students - employees) was prepared, and it was evaluated linguistically and scientifically by a group of experts and specialists from the faculties (Agriculture - Engineering - Basic Education - Fine Arts) and it was finalized. The questionnaire was circulated electronically to the target groups, where it was circulated to the college professors and students (except for the students of the first stage) by the presidency of the Department of Horticulture and Landscape Engineering through the

Council of the College of Agriculture, and for the college employees, the questionnaire was circulated by the Associate Dean for Administrative Affairs, after that it was The responses began to be received electronically, and the responses were completed after two months of the circular. The responses received amounted to 205 responses, which constituted 17% of the total number of target groups in the study (Table 1). The data were manually dumped into Microsoft Excel 2010 and then analyzed statistically using the Chi-Square test form to extract the results in an accurate scientific way by means of the statistical program. For Social Sciences (SPSS V.11) Statical package social science.

Table 1. The number of target groups

numbers	categories
280	The number of professors
753	The number of students
166	Number of Employees

(Human Resources - College of Agriculture - University of Basra)

3. Results and Discussion

It is noted from Table (2) that there are significant differences after conducting the statistical analysis using chi-square under the probability level (0.05), where the results about sex showed the percentage of males, which amounted to 60% compared to the percentage of females, which was 40%, which are relatively close percentages, and as a result it is seen The researcher found that the sexes have an important role in the activity that takes place in the university landscapes, whether it is cultural or social activities.

Table (2) data on the number and percentage of the studied groups by gender and according to the questionnaire

(%)	number	gender
%60	123	males
%40	82	females
%100	205	total
2		values) Chi-Square
p<0.05		

From table (3), the results of the percentages of participants from the target groups amounted to (54%) for students, (14%) for employees and (32%) for professors. These results are consistent with what Rahim (2012) found in his study, in which he indicated that the university It consists of

individuals who are active in the use of external university spaces, and thus they are one of the influences in the design process for those university spaces, and the researcher believes that this result came from the fact that students represent the largest group among the other groups present on campus.

Table (3) data on the number and percentage of the studied groups by occupation and according to the questionnaire

(%)	number	Occupation
%32	65	teacher
%14	29	employee
%54	111	Student
%100	205	total
24.33		values) Chi-Square(
P< 0.01		

From table (4), the results of the questionnaire indicated that 50% of the respondents agreed that the roads leading to the gardens of the College of Agriculture were wide, (6%) agreed that they were too narrow, and (25%) thought that they were insufficient, while others agreed that they were (16%) are of the opinion that it is narrow and the last opinion (3%) is that it is too wide. The researcher believes that (50%) of the respondents agree that the roads were wide, as a result of the fact that the study location (College of Agriculture / the new location) is located in the heart of the main internal roads of the complex, and the main streets surround the location on three sides.

Table (4) Data of the number and percentage of the studied groups according to the preference of the methods and according to the questionnaire

(%)	number	preference
%50	103	wide
%6	13	too narrow
%25	51	Not all
%16	32	cramped
%3	6	very wide

%100	205	total
71.3		values) Chi-Square(
P< 0.01		

The results according to Table (5) showed agreement by a percentage of (47%) that private parking spaces are not suitable, while (10%) agreed that they are not very appropriate, while (38%) indicated that they are appropriate and (2%) it is very convenient, The researcher believes that the preference of the opinions indicated that they are inappropriate because the cars are parked on both sides of an unpaved road, which may expose road users to danger, in addition to the fact that the road is not designated and not sufficient for parking.

Table (5) Data of the number and percentage of the studied groups according to the preference of the parking lots and according to the questionnaire

(%)	number	preference
%47	96	non suitable
%10	21	very non suitable
%2	5	I do not know
%38	78	suitable
%2	5	very suitable
%100	205	total
90.05		values) Chi-Square(
P< 0.01		

The studied groups agreed with a percentage of (42%) in Table (6) that they are not satisfied with the garden entrances to the study site. Space and sand, in addition to parking on both sides, As for the garden of the new divisions, it also lacks the presence of car parks, which leaves room for parking on both sides of the road. With (Neuman, 2013), where he pointed out the need for these entrances to take on a high design value that suits the status of the college or university in which they are located.

Table (6) data on the number and percentage of the studied groups about their satisfaction at the entrances to the park, according to the questionnaire

(%)	number	preference
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%15	31	Not very satisfied
%42	87	Not satisfied
%20	42	Little satisfied
%18	36	Averagely satisfied
%4	9	very satisfied
%100	205	total
38.45		values) Chi-Square(
p<0.01		

The results of the questionnaire showed in Table (7) that (43%) of the respondents agreed that seating locations are not preferred, and there was a significant relationship in the statistical analysis of preferences for seating locations. The researcher believes that the previous result came from the small number of seats allocated for seating, in addition to the fact that the existing ones are dilapidated and not useful even in their use, and they were not placed in places that take into account the design objective of it. Its design purpose was to be near the points of attraction in the garden or around flower beds or fountains, if any ¹⁷

Table (7) data on the number and percentage of the studied groups for their preference for seating, according to the questionnaire

(%)	number	preference
%2	4	very favourite
%18	36	little favourite
%19	38	favourites
%43	88	not preferred
%19	39	Not very preferred
%100	205	total
42.95		values) Chi-Square(
P< 0.01		

Among the results of table (8), the preference indicated by (47%) of the surveyed groups was significantly superior to the fact that their preferred choice is for the type of seating to be of the wooden type. The researcher believes that the preference for this option came from the specifications that characterize wood, its ease of formation, its soft texture, thermal insulation, poor absorption and heat storage ¹⁸ and these characteristics are very appropriate for the climatic conditions that characterize the city of Basra, where the study is located.

Table (8) data on the number and percentage of the studied groups for preference for the type of seating, according to the questionnaire

(%)	number	preference
%7	15	plastic
%2	5	iron
%47	97	wooden
%6	13	Concrete
%37	75	miscellaneous
%100	205	total
85.35		values) Chi-Square(
P< 0.01		

And with regard to the nature of the material used in defining the paths of the college garden, where (83%) agreed, as in Table (9), of the identified groups, to prefer that the natural plants be used in defining the paths in the garden. The researcher believes that this result is consistent with ¹⁹ considering that plants are elements of affirmation and definition in landscapes and have a role in guiding movement, as it agreed with what ²⁰ concluded in his study on developing the reality of landscapes at the University of Kufa.

Table (9) data on the number and percentage of the studied groups for their preference for the type of fences in the garden, according to the questionnaire

(%)	number	Type
%3	7	Iron fences
%83	170	Natural plants

%14	28	miscellaneous
%100	205	total
113.97		values) Chi-Square(
P< 0.01		

With regard to the adequacy of green spaces or not in the study site, the result was, and from Table (10), that (36%) of the respondents agreed that the green spaces for agriculture are insufficient. The researcher noticed, through on-site observations and field visits, that large areas of the lands of the College of Agriculture were abandoned and were not included in agricultural and rehabilitation work, while there are small green areas that are not commensurate with the number of (professors - students = employees).²¹ indicated that the environmental importance of green spaces requires work to increase these areas to reach the global scale (10-20 m) of green spaces per capita, but we see that most of the governorates of Iraq did not even reach the national scale, which indicates the provision of its amount (5.6 m) per capita of green areas ⁷,The interest in green spaces and how they are used in university spaces is one of the factors affecting the daily life of students in universities and leads to the acquisition of information and works to increase and strengthen the harmony between students and social communication and to know the role that green spaces play in rest, calm and relaxation ⁸

Table (10) Data of the number and percentage of the studied groups about the green spaces in the study site and according to the questionnaire

(%)	number	preference
%16	33	very enough
%14	28	enough sufficient
%36	74	not enough
%29	60	very no enough
%5	10	I do not know
%100	205	total
30.7		values) Chi-Square(
P< 0.01		

From table (11), the result indicated that (60%) of the respondents agreed on the option of "fountains" as the best element that can be added to the gardens of the study site, and the option of

"water basins" came in second place, with a percentage of (33%).The researcher believes that the agreement of most of the respondents on the introduction of the water element - whether in the form of fountains or water basins - came from several aspects, including that water is a vital aesthetic element and through its movement gives a sensory and visual impression that gives joy to the users of those gardens.In addition, the water element works to soften the atmosphere, especially since the climate of the study site is considered one of the hot and dry climates. Cooling hot weather.

Table (11) The number and percentage of the sample included in the questionnaire, according to the elements preferred to be added to the college gardens, and according to the questionnaire

(%)	number	preference
%60	124	Fountains
%7	14	Statues
%33	67	Aquariums
%100	205	total
42.58		values) Chi-Square(
p<0.01		

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