The modern orientation of kindergarten garden design

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Abstract

Outdoor spaces in kindergartens are distinguished by characteristics that distinguish them from other types of spaces in terms of their multiple functions and uses. As it helps the child to discover the world that surrounds him and to acquire a lot of information and facts about things in the environment in which he lives. Because of the lack of a clear and comprehensive conception of the design indicators and the local standards that must be met in the outdoor spaces of the kindergarten. Therefore, the thesis aimed to develop a theoretical basis and design indicators based on to design these spaces, the research was designed by selecting several kindergartens in the city of Baghdad for the purposes of scientific study, information on research samples was obtained according to five tools for collecting information, namely on-site observation during the field visit to the sites of study samples, personal interview, and the preparation of kindergarten distribution maps according to systems. Geographical information, analyzing architectural plans, and a questionnaire was adopted and distributed to a random sample of teachers, and after collecting it, the data was unloaded using the Microsoft Office Excel program. A dimension analysis was conducted on the results obtained from the questionnaire using the Complete Linkage Method, which is one of the most important methods. Hierarchical Agglomerative Method using a computer based on the statistical program SPSS, and the results of the study showed the convergence of the topics , and the parameters clarified the goal of using external spaces to gain experiences and love of nature and learn new skills such as planting flowers of various kinds, how to pick and care for them, and their isolation from the topic in which it called for introducing the child to the shadow in the outer space through trees and shrubs, climbers, and hanging baskets, and their preference for highs and lows as elements of excitement in the child's space, play and entertainment among the activities that you find suitable for the child in the outer space. It found that the closest topics to each other that the teachers called for developing educational ideas for children through the existence of a dedicated space where children can draw in colors on holders with fixed papers in the space as well as a dedicated area of sand, natural shapes and carvings of various shapes, sizes and seashells, and counting it as a means of attracting the child's attention by the colors of birds, fish, as well as the availability of space for the child to play with sand while they are in the outer space. As for the most important activities that the teacher finds suitable for her practice by children in the outer space is watching nature and reading stories with the presence of green spaces, and children get used to order, work and cooperation with their peers as well as scientific views to develop the child's scientific and practical experiences

Keywords: design, external spaces, modern orientation, kindergarten

INTRODUCTION

sensory elements of sensory excitement to create an enjoyable educational environment as well as adopting the environmental, economic, and social aspects of membership and sustainability (5). The organic design of

Contemporary kindergartens have featured several concepts, including: Learning through Environment, Design with Children, although different concepts, it combines that a child is the focus of the design process by employing

into a sustainable life, represented by (gardens, squares, play spaces, seating, social spaces). It adopts the techniques of proper afforestation, natural shading, natural oxy materials, and mechanisms for conservation of environmental, energy and material recycling (7). The awareness and application of green design in kindergartens has become a concern for most developed countries, and the use of natural elements such as falling trees and plants can preserve the environmental quality of kindergartens, where plants act as a filter of direct sunlight. It maintains a temperature and table (1-1) that shows green design implementation based on the comfort factors (6). The World Commission for Environment and Development (GODP) defined sustainability as meeting the needs of the present without neglecting the requirements of the future (1).

kindergartens is a philosophy that seeks harmony and harmony between nature and structure, as it increases children's motivation and knowledge of the elements of nature from water, air, wind, rain, animals, plants and the sun (2). Frank Lloyd defined it as the design in the way it builds nature (8). While both (4) the organic design takes into account the child's psychosocial tendency to curved and organic lines more than straight, based on the fact that many of these organic lines enhance the child's sense of safety as a mother's embrace of the child. Sustainability calls for the use of natural resources, in a way that can be reused without affecting future generations (3). It is defined as space with a message aimed at promoting the engagement of children in their environment, improving the learning process by making nature a source of it, and transforming life in the educational institution

Table 1. Implementation of green design based on comfort factors

Comfort factors	**Green design application**
Air and thermal	**Natural elements** - Vegetation influenced microclimate surrounding - Green structure: covering vegetation, isolated trees, groves and lines of trees - Indoor plants - Passive design: natural ventilation, courtyard **Integrated design and technology** Rooftop garden and living wall
Light	**Natural elements** - Matured tree: shading and solar filtration **Integrated design and technology** - Solar energy system - Skylight
Space, visual and aesthetic	**Natural elements** - Landscape design: plants arrangement - Biophilic design **Integrated design and technology** Eco building material : timber, double glass façade solar, light steel structure
Acoustic	**Natural elements** Plants: reduce pollution and become barrier for noise

Observation

Selected kindergartens sites have been visited several times per sample Try to study the design of its outer space and collect complete observations about it, It was observed that there were large areas dedicated to creating gardens but not invested, and that gardens had not been built since its inception. So far, there is no interest in this vital aspect Moreover, these spaces lack the most basic types of synthetic ingredients

Analysis of Architectural Plans

The plans for the kindergarten outer spaces have been drawn as a case-by-case and proposed They are not available in the Department of Education and to achieve the educational goal as well Jamali used AutoCAD 2019 - English in a mode These plans are based on the on-site observation during the field visit The theoretical aspect and based on an educational questionnaire The concepts, skills and values that the child should learn at this stage were divided into scientific, environmental and recreational concepts, while individual recreational skills included running, jumping, musk, pushing and balance, as well as technical and music skills, and the values to be learned in kindergarten gardens were divided into (Learn agriculture, the nature of plant growth, color growth, and other concepts), and social values included (collaboration, system, self-reliance, hygiene) The proposals of the kindergarten educational owners were taken into account. All the proposed designs included four main areas (each with educational, educational or recreational functions), following the contemporary trends in the distribution of these units for this type of garden and the total area of the kindergarten varied. We will deal in detail with the four of them

Results and discussion

By analyzing and evaluating the planned kindergarten architectural plans that are in the direction of (North, South, East, and West) as

Materials and work method

-Choice of the study site: 18 kindergartens were elected in the city of Baghdad as research samples and Figure (1-1) shows the kindergarten numbers distributed according to the education directorates and the selected samples as in Figure (2-1) It was chosen based on the following considerations;

-There are six general directorates of education in Baghdad, three of which are affiliated to Al Karkh Education Directorate (first, second and third) and the other three are affiliated to Al Rusafa Education Directorate (first, second and third)

-The selected areas in Baghdad are different in terms of their economic, cultural and social level.

The questionnaire

To measure the accuracy of the information collected from the sources of data collection and studies related to the aim of the study, the questionnaire designed a set of various and related questions and carried out scientifically and linguistically from specialists in (the field of education, kindergarten, psychology, gardening, ornamental plants, gardening engineering, engineering Architectural) to appear in a way that achieves its goal, the questionnaire was distributed to a random sample of 102 people distributed between 18 kindergartens on both sides of Al-Karkh and Al-Rusafa. The sample included each kindergarten, a kindergarten principal , one of the assistants and number of teacher s, and it was manually emptied using the Microsoft Office Excel program. The dimension analysis was conducted on the results obtained from the questionnaire using the Complete Linkage Method Figure (3-1) , which is one of the most important methods of hierarchical agglomerative method ,to simplify the data by grouping the axes in cluster groups according to the similarity of the response pattern and based on the Pythagorean equation using a computer based on the statistical program SPSS version 20.

crop and make a shaping as well as select the park and isolate it from the street Main

-Plantations of falling leaf trees (e.g. Albizzia lebbeck) On the fence and individually from the eastern and southern side to give a shadow Vertically in the morning and afternoon add to provide the shade of heat Summer is intense and the sun is in winter

- The outer space provides some toys for children such as the sand area, which is a rectangular square (8 m* 5 m) with wooden edges and a rectangular sandbowl from the north west.

- A deep water pool (50 cm) arises. Kids love to play in the water with safety and protection During the emphasis, on safety conditions and enhanced observation, surveillance and surveillance opportunities By professionals

- Recently, a small part of outer space is left for children and is on the northeast side of the side garden with a scale of 8.94 m *7.1m and isolated from the rest of the parts, some of which provide them with fast seeds, small seedlings and seedlings, as well as some other connections, where agricultural processes are considered to be very popular hobbies for children.

- Recently, a small part of outer space is left to children and their imaginations, isolated from the rest of the parts of the side garden on the right side with a tree falling down (Albizzia lebbeck). To provide the shade of the intense summer heat and benefit from the sun's rays in winter with seating beneath it to read stories and learn drawing from the children's-loved hobbies.

- variations in outer-space earth forms encourage children to Move and run through hills and flat terrain

- Plant planting of herbal plants for the beauty of their colors and the smell from Northwestern side until the smell moves with the wind

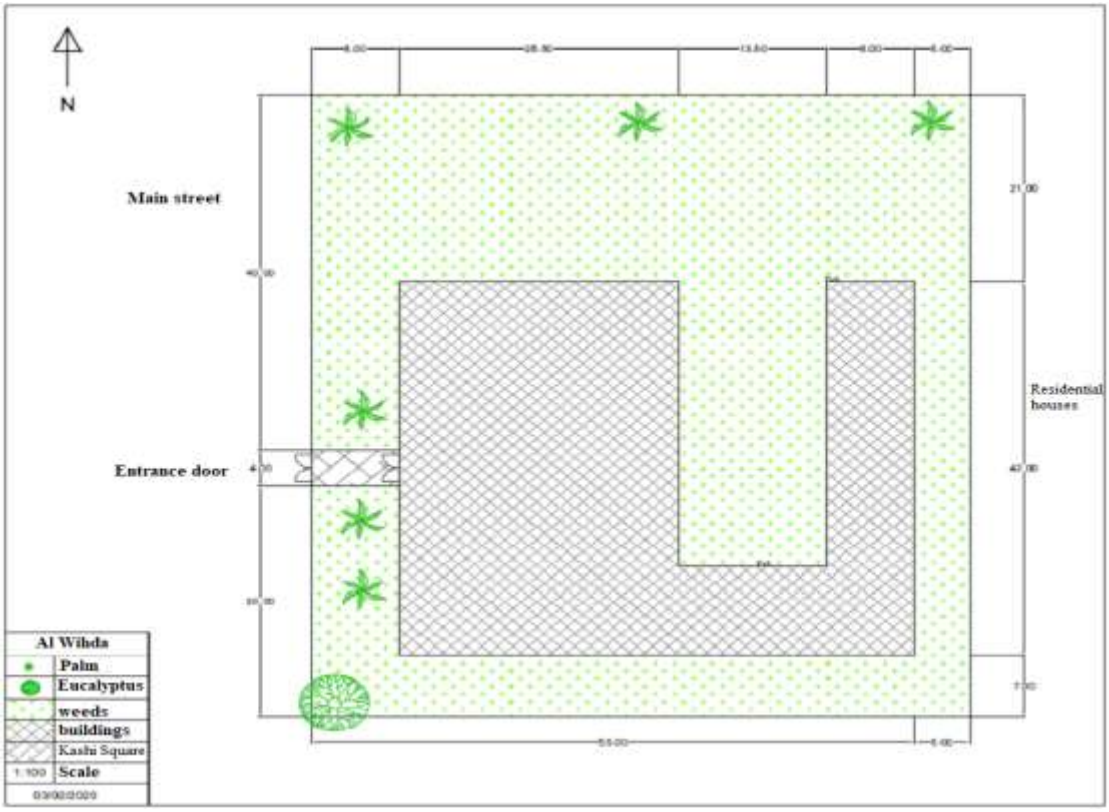
outlined in the architectural plans in which the total outer space is from 1012 - 3683.286 m², we note that the basic design criteria are not met in terms of not following any design model, The random distribution of plants is the dominant and the service and sustainability processes are poor, and the lack of diversity is added to this. It also shows that plant growing sites were often wrong and that this was apparent on neglected plants, especially trees, and their intersections with electricity lines because of their sawing and high rise, which was left unclutted and uncared, and the tangled shrubs and branches of shrubs were also observed because they were not trimmed. In addition, there is a high level of jungle, and we also note that there are no complementary components except for the swing and a 22.22% of the milk in a few numbers, although the space allows this , In terms of outer space, it was clear from the results of the analysis of the plans that the rectangle and square are the two forms of outer space, the ratio of rectangular and square gardens was 77.78%, the irregular figures were 22.22%, and the areas were distributed in front, rear and side gardens.

Proposed for the kindergarten (Al Wihda, Al Zohour , Al khadraa , Al Junbuda)

-In order to improve the situation, there are a number of issues that need to be taken into account in the design of outer space in this Riyadh. Accordingly, the proposals have been formulated as follows:

- To re-maintain outer spaces by removing dead trees, cutting dead branches, removing and cultivating jungles, peat, modification and replanting gels.

- Planting a belt of permanent trees, for example (The Ficus nitida) About outer space is suitable for the conditions of the region and for the beauty of its leaves and the future To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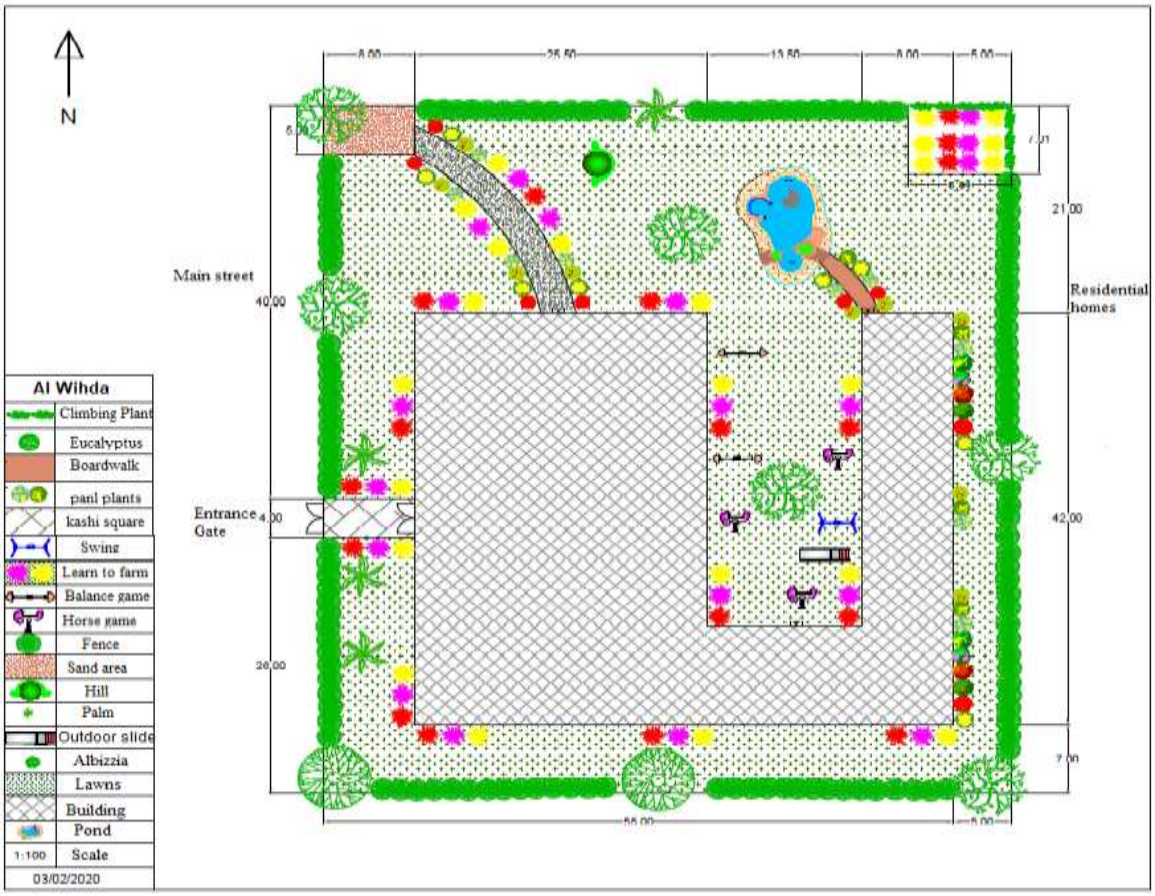
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Horse game
Fence
Sand area
Hill
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Lawns
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1:100 Scale
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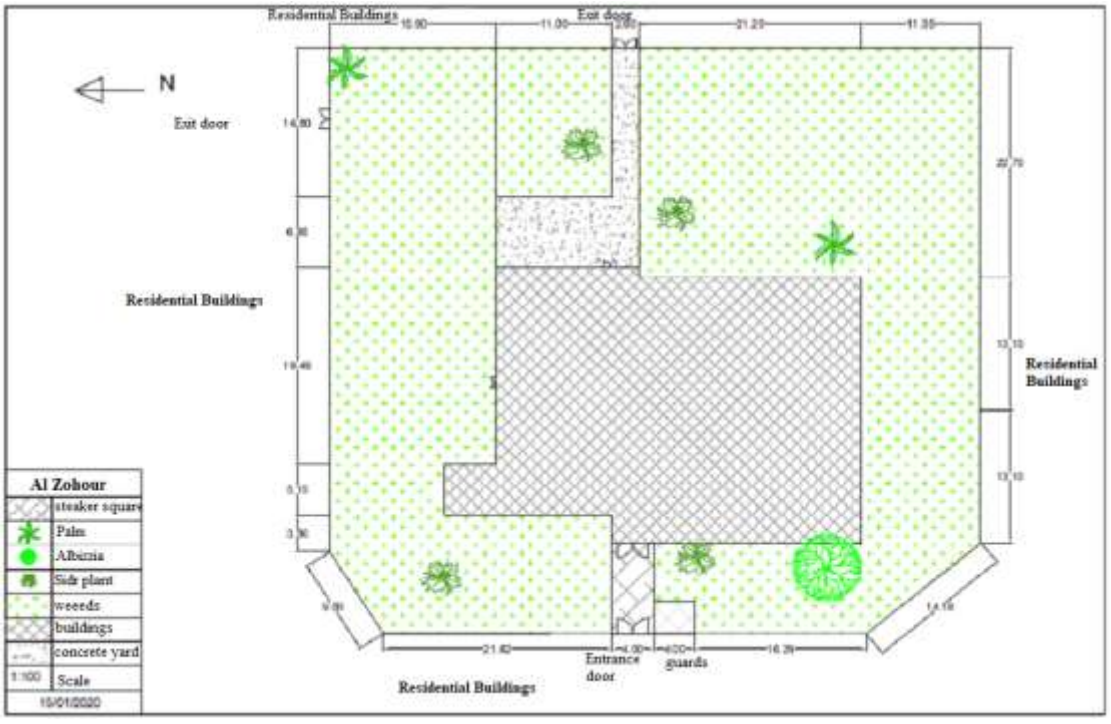
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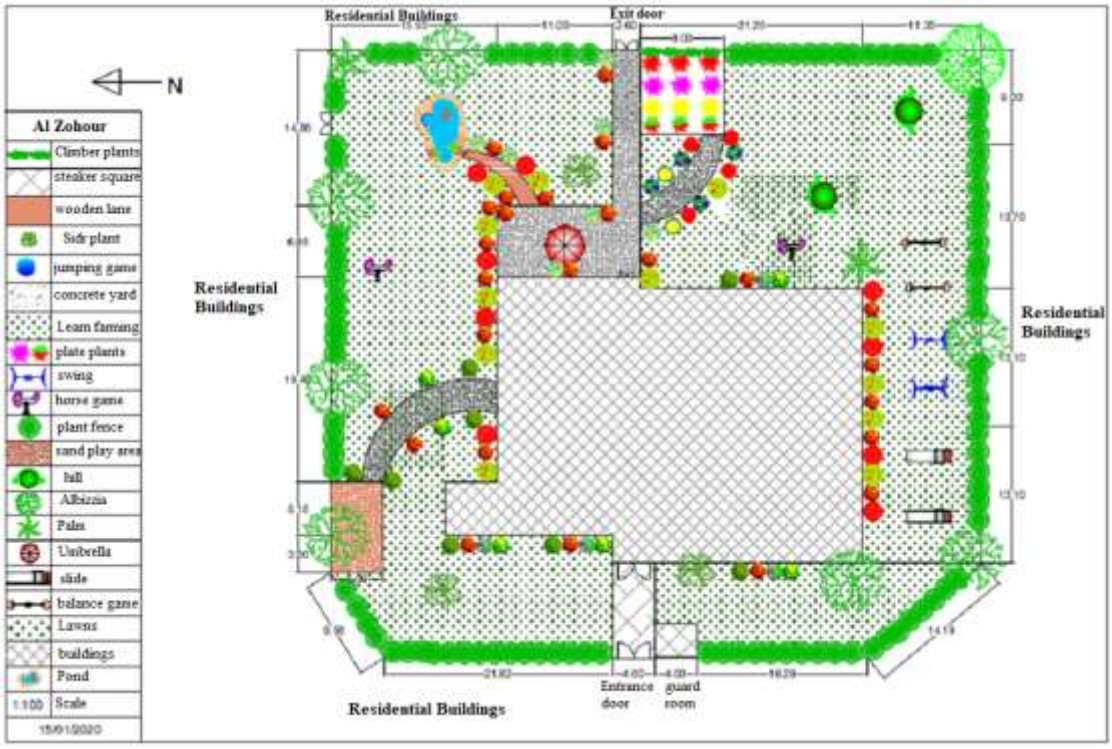
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Learn farming
plate plants
swing
horse game
plant fence
sand play area
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Albizzia
Palm
Umbrella
slide
balance game
Lawns
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Residential Buildings
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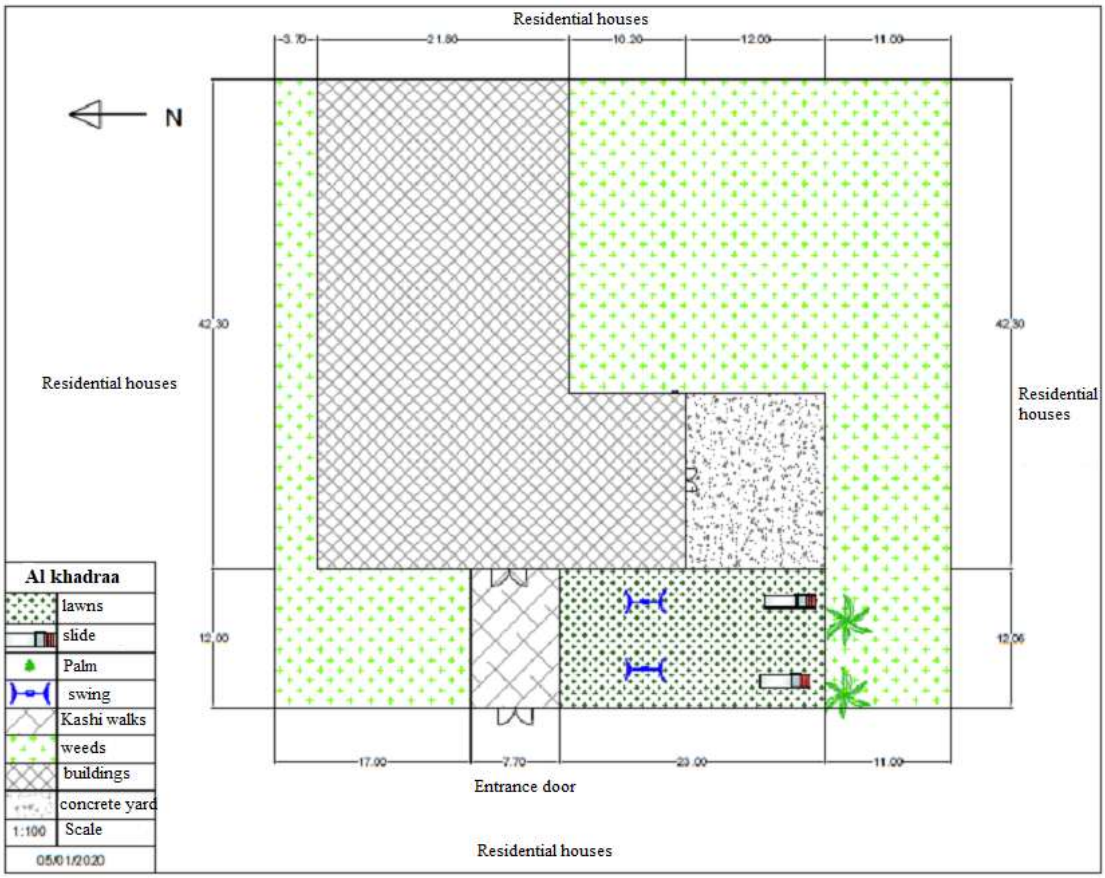
Entrance door
guard room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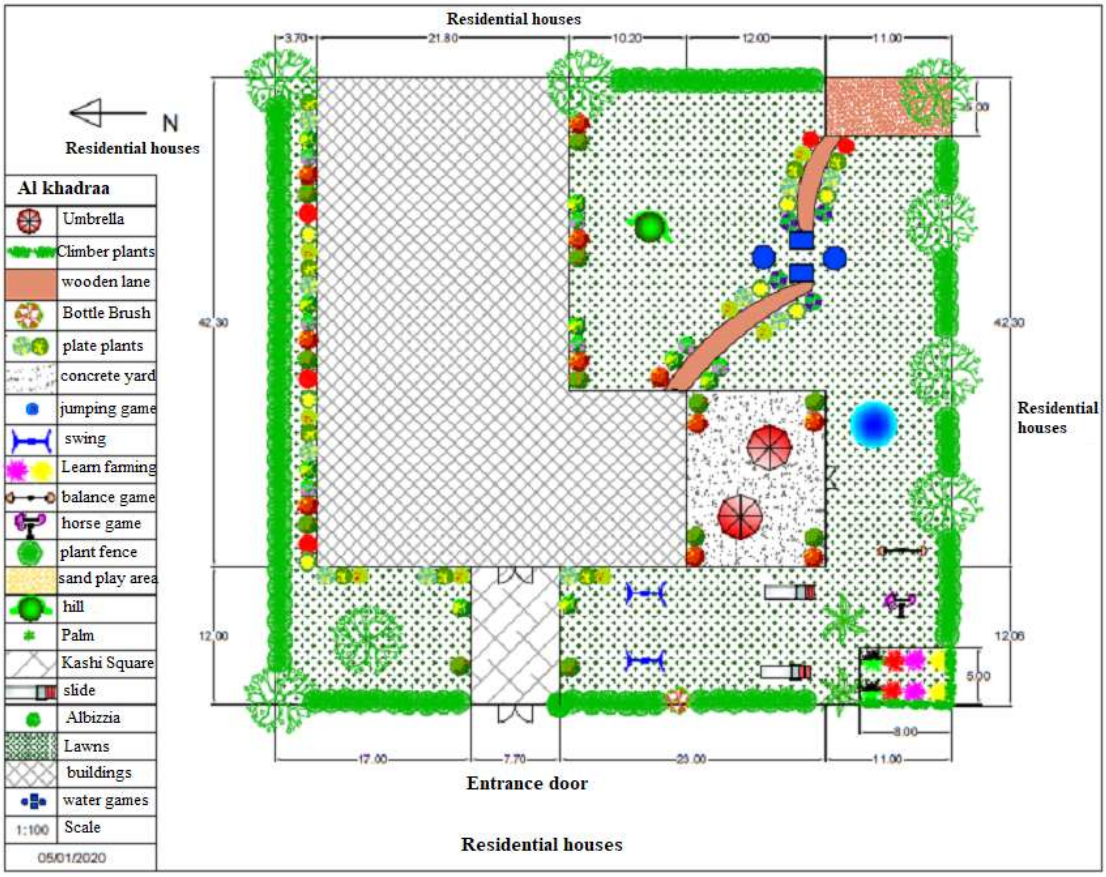
Residential houses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Bottle Brush
plate plants
concrete yard
jumping game
swing
Learn farming
balance game
horse game
plant fence
sand play area
hill
Palm
Kashi Square
slide
Albizzia
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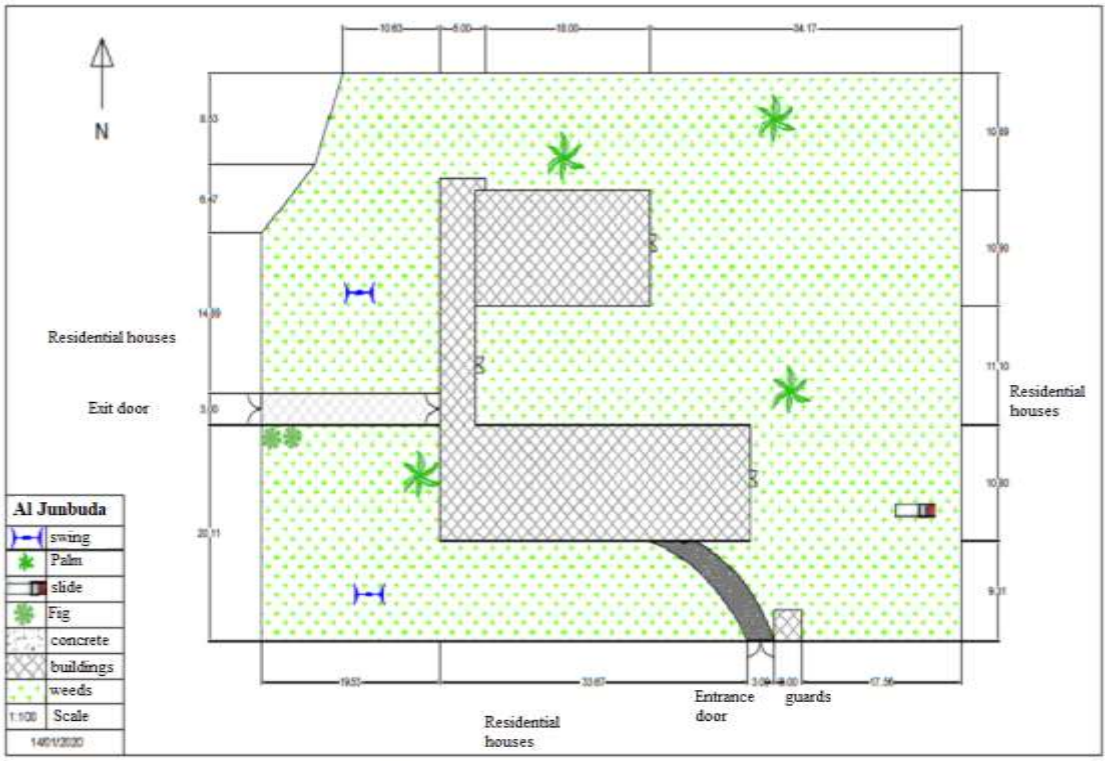
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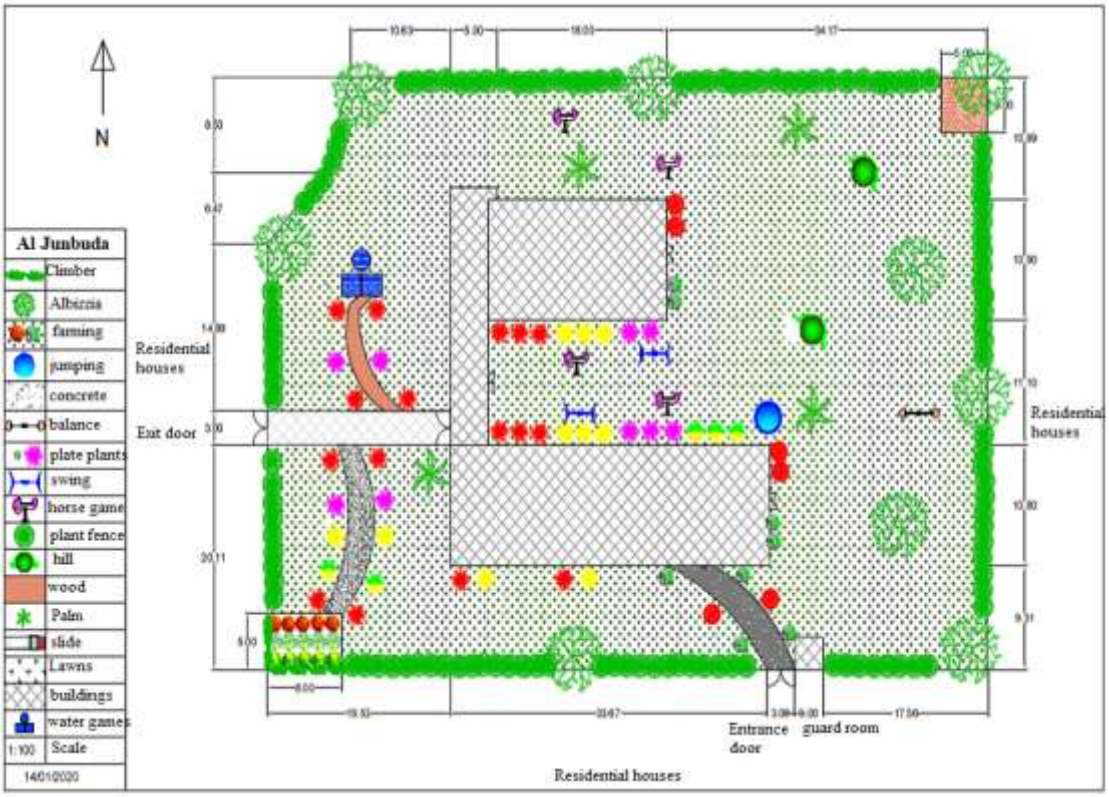
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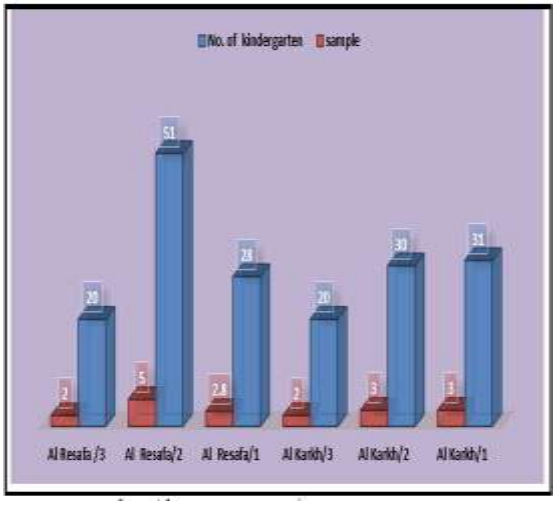

Fig. 1.1 Kindergartens numbers according to the directorates of education in the city of Baghdad

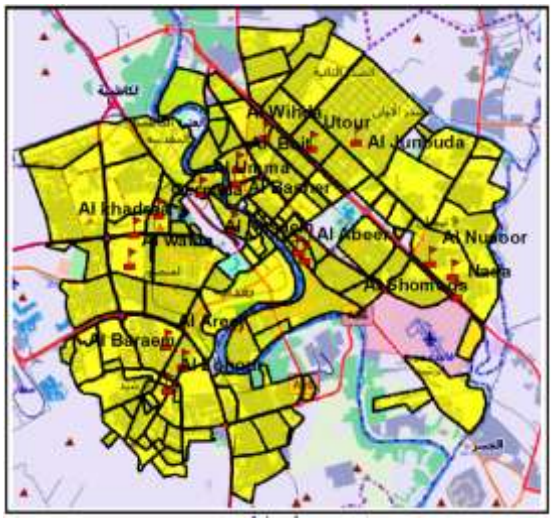

Fig. 2-1 Administrative divisions of the city of Baghdad and the distribution of selected samples

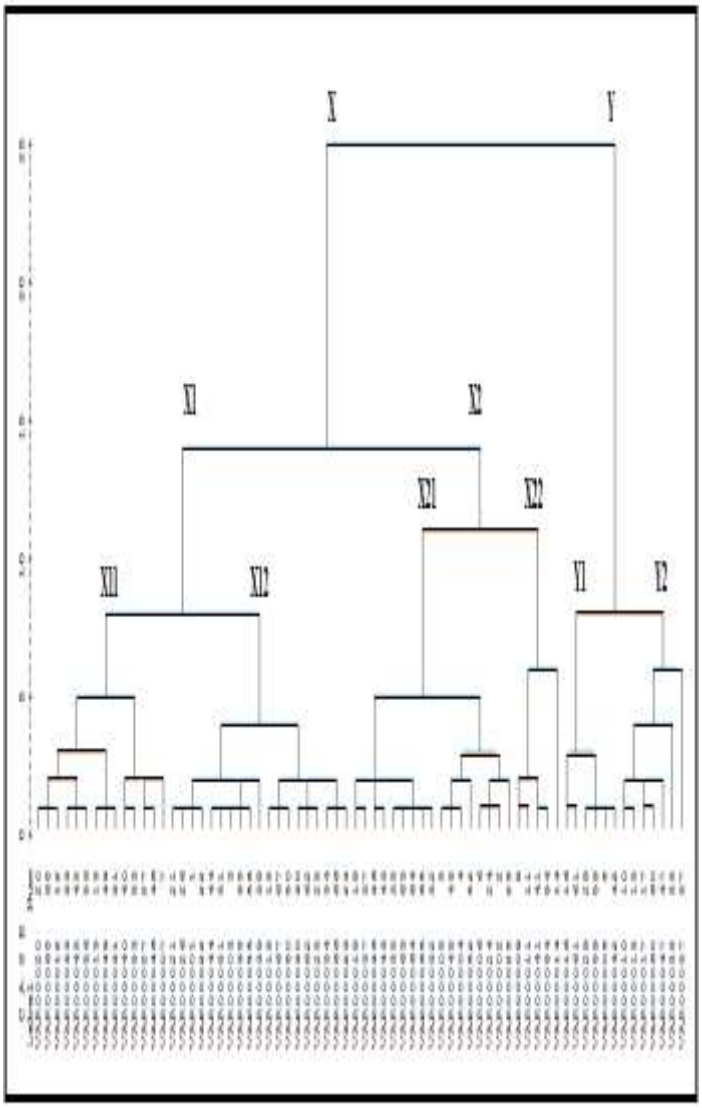

Fig. 3-1 Cluster analysis chart of the axes of the questionnaire using the complete link method

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