

CULTURAL KNOWLEDGE PARK

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Abstract

Cultural Knowledge Park is a new formula of cultural centers in Saudi Arabia in general and Jeddah city in particular. It is a multi-venue public place that accommodates public library, children learning center, auditorium, art gallery and social facilities. It represents a chance for kids and youth generation to practice, experience and perform different activities of cultural, educational and enrichment activities. Several similar case studies were chosen for concept philosophy analysis. This study also proposed the space program, site location and site zoning for the project. This project emphasizes that Saudi society is concerned with the education, learning and dissemination of knowledge among young people. It also features on realizing a project that would raise the awareness of reading as well as extending the appreciation of cultural arts among Saudi's societies. "Cultural Knowledge Park" represents one of the most important projects that would contribute to bridge the gap between the society's education needs and the availability of public knowledge parks.

Keywords--Cultural Knowledge Park, Cultural, Educational, Enrichment, Public Place

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INTRODUCTION

At the beginning of 21st century, youth of Saudi Arabia is growing up in a period of remarkable expansion of economy and increase labour market expectations [1]. More than 50% of the inhabitants are categorized as "young". Thus their innate abilities and talents should be as fully developed as possible. Education is one of true methods to build the personality of society's members [2, 3]. Knowledge facilities such as public libraries, museums, exhibitions, research centers and others are also playing an important role in educating the society in general and the youths in specific.

The root of educational systems of Saudi Arabia goes deep to the long Islamic history and civilization in Arabian Peninsula [4]. A century ago just before the start of formal education in the Kingdom, education has been seen as a traditional teaching called "Kuttab" [5]. To meet the social and economic demands of the country, the educational system of Saudi Arabia is continuously developed to encounter not only the local but also the global demands and challenges [6, 7].

Although Jeddah is considered as the commercial capital of the Kingdom with population of over 3 million, national libraries, science centers and exhibitions are hardly noticed by the society's attention. For example, The Jeddah Science and Technology Center, Jeddah, 1990s and The King Fahad National Public Library, Jeddah, 2003 were overlooked by the public and they were consequently closed down [8, 9]. However, due to these challenges, cultural and knowledge facilities in Jeddah city need to be renovated with a new concept. "Cultural Knowledge Park" is a pioneering project and an attempt to raise the awareness of people and developing their sense of appreciating knowledge.

CASE STUDIES

Throughout the twentieth century and the beginning of twentieth century, lots of knowledge and cultural architecture became important themes in the creation of masterpieces in this modern era. Three outstanding case studies are being analysed with focusing on their concept, function and form, the Centre National D'Art et De Culture Georges Pompidou, 1977, The City of Arts and Science, 2005, and Al Hussain Public Park in Jordan, 2000. Each

case study has its own philosophy and situation, and they are considered as the models for Cultural Knowledge Park.

The Centre National D'Art et De Culture Georges Pompidou in Paris, France – R. Piano & R. Rogers (1971-1977, 1996-2000)

The Centre National D'Art et De Culture Georges Pompidou is dedicated to the transmission of today's architecture, in all its forms (Figure 1). Conveniently, it is located in the Buaubourg district at the heart of Paris and occupies an area of 100,000 m². The centre was designed by Renzo Piano and Richard Rogers in 1971, and features avant-garde forms and scales. The building height is 42 meters with 166 meters long and 60 meters wide. It consists of eight floors, including three underground ones. The centre hosts a large public library, theatres, cinemas and a musical research institute as well as one of the largest museums in the world which welcomes up to 25,000 visitors daily [10, 11]. The Centre Pompidou broke the mold with its "inside out" construction. The main concept is to expose all the functional parts outside the building. On the west façade a walkway is installed between the frames as well as an escalator on the outside of the framework. By placing all the walkway and functional system outside, the interior spaces have been freed. Each level of the five floors represents 7500 m² with no column, pipes, stairs and walls except for fire pipes for safety wise [10].

The City of Arts and Sciences in Valencia, Spain – S. Calatrava (1991-2005)

The City of Arts and Sciences (Ciutat de les Arts i de les Ciències) is Valencia's hi-tech quarter, designed by Santiago Calatrava in 1991 (Figure 2). It is a large-scale urban recreation centre for culture and science which also incorporates L'Oceanogràfic, an underwater city designed by the late Felix Candela. Set in the old dried-up river bed of the Turia, midway between the old city of Valencia and the coastal district of Nazaret, the City of Arts and Sciences covers an area of 350,000 m² [12]. The complex comprises five futuristic structures, including Opera house and performing arts centre (El Palau de les Arts Reina Sofia), Imax Cinema, Planetarium and Laserium (L'Hemisfèric), Walkway / Garden(L'Umbracle), Science museum (El Museu de les Ciències Príncipe Felipe), and Open-air oceanographic park (L'Oceanogràfic) [13].

The predominant inspiration for the project is nature, as mother and teacher. The city's five buildings are all based on biological forms, from the skeleton of a huge recumbent dinosaur that forms the science museum to the eye of the planetarium that observes the sky and, a petrified forest. The outstretched zoomorphic structures are reflected in the water that surrounds them, symbolizing the sea and doubling their already monumental dimensions [12].

Al Hussain Public Park in Amman, Jordan (2000)

Al Hussain Public Park in Amman, Jordan, which was created in memory of the Late King Hussein, covers 280,000 m² of a hillside (Figure 3). The Park provides cultural, educational and recreational places for public by accommodating a cultural village, sports fields, memorial building, historical passageway, decorated gardens, amphitheatre, circular yard, automobile museum, children museum, Traffic Park, walls and gates. The park aims at showcasing Jordan's cultural heritage presented in a contemporary way [14, 15].



Figure 1. The Centre National D'Art et De Culture Georges Pompidou in Paris, France [10]



Figure 2. The City of Arts and Sciences in Valencia, Spain [12]



Figure 3. Al Hussain Public Park in Amman, Jordan [15]

The examples achieved the four principles of fluidity, relevance, intensity and interest. Each one of them has its own character and situation. The Centre National D'Art et De Culture Georges Pompidou combined its components vertically and united four institutions in one place. It is a great example of space management with attention of achieving the maximum interaction of interior and exterior space. The building is liveable and linked to the city. Its concept of placing the main circulation and functional system outside the complex creates interesting dynamic feeling of live as well as provide sufficient solutions of

creating another liveable environment for the interior space. The centre successfully reflects and demonstrates its own identity and culture where people get attached to it for the last 20 years. While in The City of Arts and Sciences is a combination of cultural and science buildings distributed horizontally and integrated with the city landscape. It creates a visual interest by placing all the components in one diagonal line incorporating with the city circulation. The complex forms identify its uniqueness and using features like water and light to maximize its interest. Similarly, Al Hussain Public Park in Jordan represents a local example of extending the appreciation of cultural and heritage values among Arab youth by providing facilities such as cultural village and historical passageway. It also hosts a children museum as a place for interactive learning facilities. While the Centre Pampidou and the City of Arts and Sciences are inspirational concepts of form and function for the new Cultural Knowledge Park Project, Al Hussain Public Park represents a remarkable example of preserving the Arabian heritage and culture spirits.

SPACE PROGRAM

Space program of this project is divided into two areas as shown in Figure 4, which is buildable and unbuildable. The buildable area includes public library, children learning center, main building of social and arts activities, auditorium, and other services. The Unbuildable area contains landscape and parking. Table 1 tabulated the project site area information and expected target users.

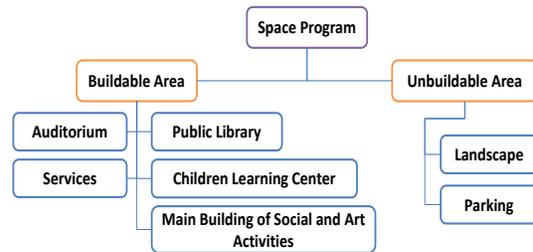


Figure 4. Space Program Divisions

Table 1. Project site area information

Project site area	
Total project site area	32,000 m ²
Buildable area	9,600 m ² (30%)
Unbuildable area	22,400 m ² (70%)
Expected target users depending on Jeddah population	
Jeddah population	3.02 millions
Educated adults	79.4%
Educated youth & children	95.9%

According to data in Table 1, the number of estimated users is 16.5% of city population which means 500,000 users are expected to use the facilities on a yearly basis (Table 2).

Table 2. Expected users calculation

Space Program	Component	Expected users at the one time
Buildable	Public Library	100
	Children Learning Center	90
	Main Building of Social and Art Activities	100
	Auditorium	Maximum 1000
Unbuildable	Services	200
	Landscape and parking	-
Total number of expected users		1490 users
Number of expected users in the year (open 6dx52w=312 days)		Approximately 50000 users

Buildable Area contains public library, children learning center, main building of social and art activities, auditorium and other services facilities. The expected area is 9,600 m² (30%). Table 3 shows each facility's area according to design capacity standards, estimated users, and total expected current area. The unbuildable Area contains landscape and parking space of total area 22,400 m² (70% of the whole site area). It includes circulation paths such as cars, golf cars and pedestrians, parking, golf car waiting stations, gates, fences, squares, vegetations and greenery zones. The area is intended to provide outdoor activity areas that have safe and appropriate surfaces for physical activities. It accommodates vehicle parking for all staff and users for a minimum of one-fourth of the user design capacity, or local code requirements. It provides a separation of golf car, car and pedestrian traffic.

Table 3. Space program

Facility	Standards	Users (n)	Total current area (m ²)
Public Library	1p/ 20m ²	2025	2025
Children Learning Center	1p/ 20m ²	1728	1728
Main Building of Social and Art Activities	Varies	1667	1667
Auditorium	1p/ 20m ²	2143	2143
Support and Services	Varies	2045	2045
Total Buildable Area		1490	9608

SITE SELECTION AND ANALYSIS

The site analysis serves as an input for the design and construction of Cultural Knowledge Park which occupies an area of 32,000 m². The analysis defines city context, neighbourhood context, and project context according to location, climate, size and zoning, circulations, natural physical features, man-made features, views, and human and cultural aspects.

Jeddah is the major urban center of western Saudi Arabia, the dominant commercial capital of the region, and the largest and most influential city on the Red Sea. Its long history as the key arrival port to the two Holy Cities has ensured to be a meeting and trading point locally and globally. The city contains the Kingdom's largest seaport and largest airport (by traffic volume) as well as forming a key centre for non-oil based industries. Due to this significance, Jeddah society has the prospective of exchanging different thoughts and cultures. Recently, Jeddah became a desirable place for many international forums and cultural exchange conferences. However, many opportunities are encouraged to develop cultural and business projects.

Jeddah is located at the middle of the eastern coast of the Red Sea in the Makkah province of Saudi Arabia. It comprises an area, 74,762 km² that is 3% of Saudi Arabia total area, 22,500,00 km². The urban area of Jeddah is 63,847 km² which indicates 85% of Jeddah total area. Also, Jeddah is surrounded by the Red Sea from the west, the Al-Sarawat Mountains from the east, Sharm of Salman (Also called Gulf of Salman) borders the city from the north, and Shuayiba village from the south. It has no rivers or valleys but it includes Sharm Ob'hur which connect the Red Sea to the other end of the city.

Climate is directly influenced by Jeddah's location. It has a tropical climate, mild in winter and hot and humid in summer. Summer lasts 8 to 10 months, with temperatures moderating in November. Winter is comparable to the spring and summer seasons of resorts on the Mediterranean Sea. As a coastal city, the humidity is high during the summer season when it is affected by humid and hot air coming from India. Humidity is reduced during winter as

the area is influenced by the effect of a moderate air mass coming from North Africa. Prevailing winds come from the North West and tend to be moderate, though can be more active when cold fronts occur during the winter season. Southern winds sometime blow during spring and autumn seasons as a result of the thermal depression of Sudan, and are often accompanied by thunderstorms and rains. Rain is very scarce, mostly light showers accompanied by thunderstorms, usually falling during winter and spring.

Jeddah City has several prominent neighbourhoods such as Historical Core, Waterfront, King Abdul Aziz Airport, Ubhour and Old Airport. According to the mentioned criteria of the site selection and potential opportunities, Old Airport neighbourhood is the appropriate site for Cultural Knowledge Park project. The neighbourhood comprises 12 km² of predominantly vacant land. The location is a premeditated zone between the modern, commercial areas of Jeddah, the Historic Core, the Waterfront Area, the proposed Khozam development, the active Medinah and Makkah Road corridor. Following the decommissioning of the airport in 1980, all development on the site has been on hold in recognition of the site's importance and the need for a co-ordinated strategic plan.

The old Airport neighbourhood provides prospective opportunities and benefits for the project context. Recently, the neighbourhood is considered as City Centre Megaproject zone, a strategic development in the centre of Jeddah City for the next 20 years which means compromising many chances includes a unique opportunity to create a significant and meaningful expansion of the urban fabric in the heart of the city. It also has the potential to play an important role in re-establishing Jeddah as the main tourist and commercial destination of the region. Secondly, due to the new developed fabric of residential, retail, educational and commercial programs, it will encourage the social interaction, which is a fundamental element of the traditional fabric of Jeddah. Next, the neighbourhood will act as a model for sustainable innovation in the Middle East. Besides that, the neighbourhood will fully integrate educational area into the city. By strategically locating cultural institutions adjacent to the educational area, they will serve as a link between the educational area and the commercial centre. This will help to make education as a socio-economic generator for Jeddah.

The project context block is located in the Old Airport neighbourhood (Figure 5). The block is bounded on the west by vacant land; on the east by King Abdul Aziz Square and King Abdul Aziz University; on the north by a vacant land and on the south by a residential zone. The project property is about 32,000 m² located at a corner lot, which is bounded on the north, east and west by main streets while to the south by Al-Andalus Mall and a vacant land. All required utilities are available, and both the views and human aspects are positive.

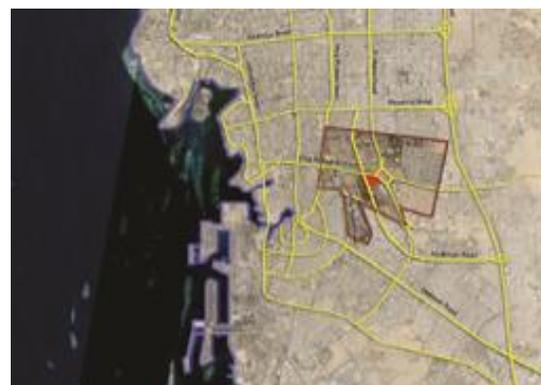


Figure 5. Proposed site location [16]

ZONING AND PROJECT DESIGN

The zoning analysis clarifies the project context zones as well as detailed zoning for each component. The zoning on the project context shows different types of buildings. Each building represents 4 main zones which are operational, administrative, service and circulation. Figure 6 illustrates the zoning analysis which would help in the design process and development

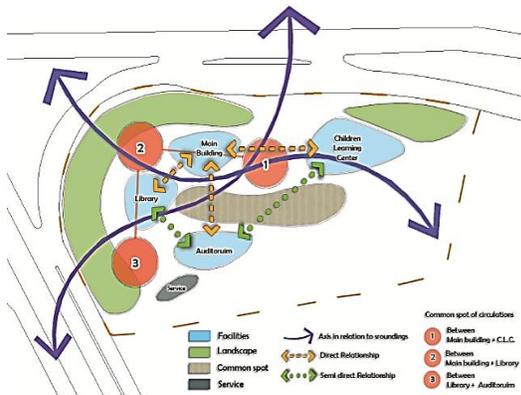


Figure 6. Project Context Zoning Analysis

In order to effectively add the value of Cultural Knowledge Park in the city and attract the people specially the youth, the project philosophy is based on the principles of interest, fluidity, relevance and intensity. Fluidity and relevance mean to be flexible enough for change and to cope with the society's concern for development. Intensity concept is the power and way of getting people attracted, as well as the way of designing, presenting and affording interested services. In order to make the project responds to these four principals, number of essential elements including, site location, flexible design, interesting theme and attractive services are considered in the following chapters. These four fundamental elements act as the main dimensions, which will support and achieve the objectives of the project. The main perspective diagram is shown in Figure 7.



Figure 7. Main perspective of the project

CONCLUSION

Saudi Arabia's transition from the classical education of the "Kutab" to the establishment of modern education system revealed its own deep concern and sincere endeavour for the development of cultural knowledge throughout the country. This new approach should not be mistaken as a sign of anti-traditional education, but as an attempt to cope with the growing interest of

cultural knowledge worldwide. Inevitably, education and knowledge approach can be seen as an important mean in increasing Saudi's understanding of their regional culture in new ways. The applications of realizing projects that strengthen this approach have met some successes and failures, but generally they represent a success at least as a model suggesting new possibilities of spreading knowledge and education. Undoubtedly, these attempts and views raised important questions and revealed that more projects are needed to establish the culture of knowledge within Saudi society. However, "Cultural Knowledge Park" project represents another serious attempt that would answer intellectual and conceptual questions and shed insights to the issue of cultural expression in Saudi Arabia. There is a hope that "Cultural Knowledge Park" project would not only establish a path to follow, but also create a successful dialogue, discussion and communication between all sectors of Saudi societies.

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