CULTURAL KNOWLEDGE PARK
Maysan I. Mamoun¹, Abdel-moniem El Shorbagy²

¹²College of Architecture and Design, Effat University, Qasr Khuzam St., Kilo.2, Old Mecca Road. P.O.BOX 34689, Jeddah 21478, Saudi Arabia
E-mail: ¹mmamoun@effatuniversity.edu.sa, ²aelshorbagy@effatuniversity.edu.sa

Received: 15.04.2020 Revised: 18.05.2020 Accepted: 12.06.2020

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 entertainment 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 emphasises 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, Entrainment, Public Place

© 2020 by Advance Scientific Research. This is an open-access article under the CC BY license (http://creativecommons.org/licenses/by/4.0/)
DOI: http://dx.doi.org/10.31838/jcr.07.0

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 “Kutta” [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 first 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 Husain 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 is dedicated to the transmission of today’s architecture, in all its forms (Figure 1). Conveniently, it is located in the Beaubourg 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 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 (Gutat 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 Príncepe 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.

Table 1. Project site area information

<table>
<thead>
<tr>
<th>Component</th>
<th>Project site area information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total project site area</td>
<td>32,000 m²</td>
</tr>
<tr>
<td>Buildable area</td>
<td>9,600 m² (30%)</td>
</tr>
<tr>
<td>Unbuildable area</td>
<td>22,400 m² (70%)</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Space Program</th>
<th>Component</th>
<th>Expected users at the one time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Buildable</td>
<td>Public Library</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>Children Learning Center</td>
<td>90</td>
</tr>
<tr>
<td></td>
<td>Main Building of Social and Art Activities Auditorium Services</td>
<td>Maximum 1000</td>
</tr>
<tr>
<td></td>
<td></td>
<td>200</td>
</tr>
<tr>
<td>Unbuildable</td>
<td>Landscape and parking</td>
<td>-</td>
</tr>
</tbody>
</table>

Total number of expected users: 1490 users

Number of expected users in the year (open 6dx52w=312 days): Approximately 50000 users
The urban area of Jeddah is 63,847 km² (74,762 km² if the Jeddah total area). The urban area is bounded on the west by main streets while to the south by Al Andalus Mall and a vacant land. The location is a premeditated zone between the modern, commercial areas of Jeddah, the Historic Core, the Waterfront Area, the proposed Khuzam development, the active Medinah and Maklah 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 coordinated strategic plan.

Jeddah City has several prominent neighbourhoods such as Historical Core, Waterfront, King Abdul Aziz Airport, Uhoub 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 site analysis serves as an input for the design 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 perspective 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 Maklah province of Saudi Arabia. It comprises an area, 74,762 km² that is 3% of Saudi Arabia total area, 22,500,000 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.
CULTURAL KNOWLEDGE PARK

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.

REFERENCES

16. Google Maps [Internet]. Google Maps. 2019 [cited 2 July 2019]. Available from: https://www.google.com/maps/place/21°C2%B030'34.3%22N+39°C2%B012'46.1%22E/@21.509524,39.2106203,694m/data=!3m2!1e3!4m14!1m7!3m6!1s0x15c3d01f3b1!8m2!3d21.485811!4d39.1925048!3m5!1s0x0:0x0!7e2!8m2!3d21.5095187!4d39.2128086