

CULTURAL AND RECREATIONAL COMPLEX

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Abstract

Saudi Arabia lacks places to encourage social activities to be embraced in a healthy environment. Jeddah is one of Saudi Arabia's major cities, full of culture and has the opportunity to be an international destination due to its economic value, location and history. Thus, this work proposes the development of a waterfront based cultural and recreational complex at Jeddah, Saudi Arabia. In this work, 3 case studies were scrutinized and the design aspect for the complex were evaluated. Thus based on the case studies, the estimated area for the proposed development is 50000 m². Furthermore, the estimated gross floor area is 27500 m² and it consist of several zone such as administration zone, cultural zone, recreational zone, commercial zone and service zone. Furthermore, 3 sites were proposed for the recreational complex. Based on the site evaluation analysis, site 1 which is located at located in Sharm Obhur was selected as the construction site. The proposed recreational and cultural complex was designed to create a transfer zone between the old development of Jeddah City and the newly built region by offering physical and verbal links while maximizing ocean perspective. This complex is expected to enhance Jeddah's tourism industry and contribute to its economy.

Keywords--tourism, recreational center, cultural center, Saudi Arabia, architecture

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INTRODUCTION

Tourism is one of the world's biggest sectors. The previous two decades have experienced a rise in the commercialisation of tourist locations around the globe [1]. Everything including ancient landmarks to exciting holiday resorts has been reworked and bundled to accommodate the demand of the tourism community [2].

According to the United Nation World Tourism Organization (UNWTO), almost 1,138 billion tourists traveled abroad in 2014 [3]. Each region showed an increase in the number of tourists, as the Middle East showed an increase of 4 percent of international tourists [3]. It has been reported that Saudi Arabia is the 16th most visited country in the world, with about 17.5 million visitors, mostly religious pilgrims [4].

Furthermore, Saudi Arabia has the perfect combination of natural beauty and rich heritage. The country's overall economic plan seeks to improve tourism and enhance the entertainment sector more than ever [5]. One way to encourage local tourism in the country is to organize a number of events and activities. The government of Saudi Arabia has been initiating festivals of different activities such as cultural, social and recreational in various parts of the country. One of the focal points is Jeddah, which has the potential to be a gateway to international tourism due to its significant location and relationship with the religious cities of Makkah and Madinah [6].

Thus having a tourist destination in Jeddah that promotes local and international visitors while celebrating the city's heritage in a modern way is very important in enhancing the country's economy [7]. Waterfront is well known to be major focal points for many cities [8]. Waterfronts have emerged as transportation, commercial, industrial and tourist destinations [8]. The development of these sites has become a very important matter to be recognized around the world [8].

Furthermore, incorporating having cultural recreational complex within the contemporary waterfront will enrich the city as it will include commercial and residential zones, social spaces,

entertainment, and sports. Therefore, this work proposes the development of a waterfront based cultural and recreational

complex at Jeddah, Saudi Arabia. This project will create a significant destination in Jeddah, a destination that will invite all members of the community to come together and practice different activities.

CASE STUDIES

For this work, three case studies have been referred. Following are the details of the referred case studies.

- Heavenly Water Service Center of International Horticultural Exposition
- SESC Jundiaf
- Chicago Navy Pier

Heavenly Water Service Center of International Horticultural Exposition

Heavenly Water Service Center of International Horticultural Exposition is located at Shandong, China (Figure 1). This center was designed by architects HHD FUN. The site area of this center is 23000 m². The buildings contain multiple functions such as activity centres, restaurants, traffic hubs, recreational landscapes, cultural communication and exhibition area. The design concept is about creating a multifunctional space that takes into account three aspects, which is architecture, environment and users.

Heavenly Center of Cultural Exposition is divided into the following zones, which are cultural zone, recreational zone, commercial zone, service and administration. The cultural zone includes seminar rooms, a small library, an exhibition and a cultural center.

The recreational zone includes outdoor recreational spaces. The commercial zone has shops and restaurants. The structure is designed with a combination of curved and rigid lines. On the other hand, pedestrian circulation and integration between indoor and outdoor environments is done to enhance the experience of visitors.



Figure 1. Heavenly Water Center of International Cultural Exposition

SESC Jundiaí

SESC Jundiaí is located at Brazil (Figure 2). This structure was designed by architect Teuba Arquitetura e Urbanismo. This site has an area of 19,752.92 m². This center was developed be a multifunctional complex. SESC's activities for citizens include leisure activities, integrating the various manifestations of culture: sports, arts, reading and health, without hierarchies or barriers. SESC was build in an area with special features: long and narrow, near the Jundiaí River and Botanical Garden. To ensure cross ventilation with permanent natural air exchange without the need for energy equipment and expenses, the ground floor and first floor have openings that cause air renewal with chimney effect with a hot air outlet upwards. Furthermore, the site falls within a rainforest in which the project was perfectly integrated with it via visual and physical accessibility. In addition, it has strong connection to the city's through three major roads. SESC Jundiaí is comprised of several zones, such as cultural zone, recreational zone, commercial zone, service and administration. The cultural zone includes a public library, information technology workshop, theater, and exhibition spaces outdoor and indoor. The recreational zone includes outdoor sports areas, play room, physical activity areas, multipurpose gym, pools, terrace with gardens, as well as a living and leisure spaces. The commercial zone includes retail spaces, cafes and restaurants.



Figure 2. SESC Jundiaí

Chicago Navy Pier

Chicago Navy Pier is located at Chicago, United States of America (USA) (Figure 3). It was designed by architects HOK and Urban Lab. The site area consists of 38 019 m². Navy Pier is prominently located along Lake Michigan and the Great Lakes. The largest destination in Illinois and the longest pier in the world, and a centrepiece of Daniel Burnham's forward-thinking grand plan, this was a much-loved piece of Chicago history. This site is located on a major road and it is visible from the city. Furthermore, it is accessible through the train station. Chicago Navy Pier is divided into several zones, such as cultural zone, recreational zone, commercial zone, service and administration. The cultural zone includes the children museum, theatre, festival hall, meeting rooms, sculptural plaza, and a grand ballroom. The recreational zone includes ferries wheel, arcades, entertainment stages, cinema, tour boats and outdoor interactive park. The commercial zone includes shops, cafes and a food court. The unique characteristic of this center is it has integration between indoor and outdoor spaces for a better user experience. In addition, it provides different activities that would suit the users. On the other hand, it has adapted good design considerations in terms of clear circulation, adequate natural light, functional hierarchy, building coordination and interactive outdoor spaces.



Figure 3. Chicago Navy Pier

PROGRAM ASSUMPTION AND SPACE DETAILS

For the proposed waterfront based cultural and recreational complex, the estimated site area is 50000m². Based on Table 1, the total estimated gross floor area is 27500 m². The overall project data assumptions and details of the net area and foot print area are shown in Table 1.

Table 1. Overall project data assumptions

Item	Measurement (m ²)
Gross floor area (GFA)	27500
Net Area	20625
Foot Print Area (30 %)	15000
Un-Built Area (70 %)	35000
Site Area Assumptions	50000
Expected number of visitors	1200 people

For this work, the cultural and recreational complex will comprise of several zone such as administration zone, cultural zone, recreational zone, commercial zone and service zone. The details of each zone and net area allocation is shown in Table 2. The total net area of this center will be 20625 m².

Table 2. Major zones estimations

Zone	Percentage (%)	GFA (m ²)	Net (m ²)	Area
Administration	3	1283	962	
Cultural	38	11500	8600	
Recreational	35	9357	7018	
Commercial	18	3500	2760	
Service	6	1701	1276	
Total	100	27500	20625	

PROPOSED SITE

Proposed site: Site 1

For Site 1 (Figure 4), This site is located in Sharm Obhur next to the expected Obhur Bridge that will link South Jeddah to its north. It is also near the Kingdom Tower and the King Abdullah Sport City. This site has an estimated area of 50000 m².

Proposed site: Site 2

For Site 2 (Figure 5), it's located in South Cornish. It faces the resort of Park Hayatt and overlooks Jeddah Fountain. It is close to Jeddah old fish market. This site has an area of 69000 m².

Proposed site: Site 3

For Site 3 (Figure 6), the location of this site is around al-Arba'in Lake. It is adjacent to al-Jaffali Mosque, al-Bai'a Roundabout and close to al-Balad. This site has an area of 50000m².



Figure 4. Site 1



Figure 5. Site 2



Figure 6. Site 3

SITE EVALUATION AND ANALYSIS

In this work, 3 sites for development were proposed. Thus, site evaluation was done to select the most suitable site. Site evaluation was done using weighting factors (WF), where 1 = not very important, 2 = slightly more important, and 3 = important. Table 3 shows the site evaluation for site 1, site 2 and site 3. Based on Table 3, site 1 has attained the highest evaluation score of 90, compared to site 2, with score of 81 and site 3 with evaluation score of 78. Thus, site 1 was selected as the proposed site. The site is located in Obhur al-Shmaliya, in Sharm Obhur adjacent to the expected Obhur Bridge that will link South Jeddah with its North. So this site acts as a transition point between old Jeddah and new Jeddah. The site is highly accessible as 4 major roads goes around it. In addition to the expected Obhur bridges that will link north Obhur with south Obhur. The site is located in a recreational area that consists of resorts, commercial shops and recreational facilities. The site has important landmarks that add value to the site. Some of those landmarks are, Kingdom Tower, Kingdom City, Jeddah International Airport, Fish Lake and Obhur Bridges. Most of the site views are good due to the surroundings. From the north the project overlooks Kingdom City and Kingdom Tower, which is considered to be a good view. From the west and east the site looks into resorts. The best view is from the south, as the site overlooks Sharam Obhur. The site has high visibility, as it will be visually accessible from Prince al-Waleed Tower, Obhur Bridge, as well as from the major roads which are al-Malik road and North Obhur road. Figure 7 shows the proposed zoning for the selected site. The zoning of the site comprised of cultural zone, commercial zone and recreational zone.

Table 3. Site evaluation

Site criteria	WF	Site 1	Site 2	Site 3
Accessibility	3	15	9	9
Demographic patterns	3	12	12	15
Future development plans	3	15	9	12
Noise	1	4	4	4
Physiographic elements	1	4	5	3
Surroundings	2	8	8	8
Security and safety	2	8	8	6
Utilities infrastructure	1	4	4	4
Visibility	3	12	12	9
Visual Quality	2	8	10	8
Total		90	81	78

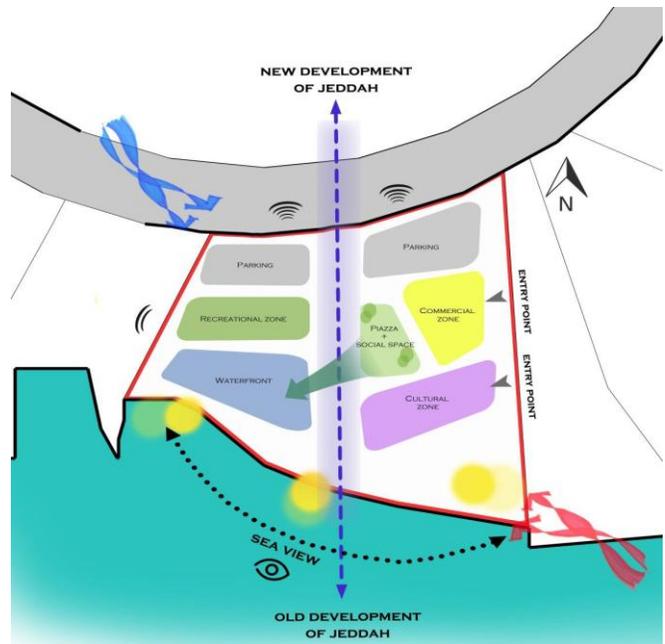


Figure 6. Project Zoning within the Site

PROJECT DESIGN

The main concept of the project is to create a transition zone between the old development of Jeddah city and the new developed area by providing physical and visual connections, while maximizing the sea view and taking into consideration the site variables. This structure has few zones. For the administration zone, it comprises of administration office and amenities. For the cultural zone, it comprises of exhibition room, library, event hall, workshop area and amenities. For the recreational zone, it comprises of entertainment center, water activity center and amenities. For the commercial zone, it contains retails stores, restaurants and amenities. Figure 7 shows the top view of the proposed design. In addition, based on Figure 8, the structure is designed with sustainable features such as rain water collection and usage, ventilation and air flow passage and solar energy usage. Figure 9 shows the overall 3D view of the proposed recreational center.



Figure 7. Top view of the site

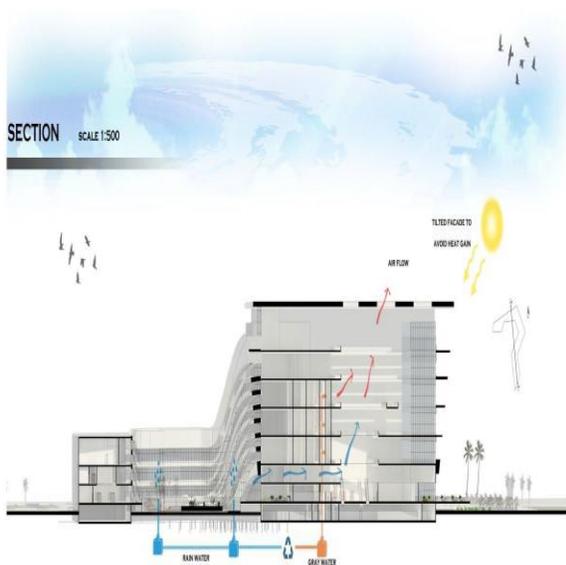


Figure 8. Side view

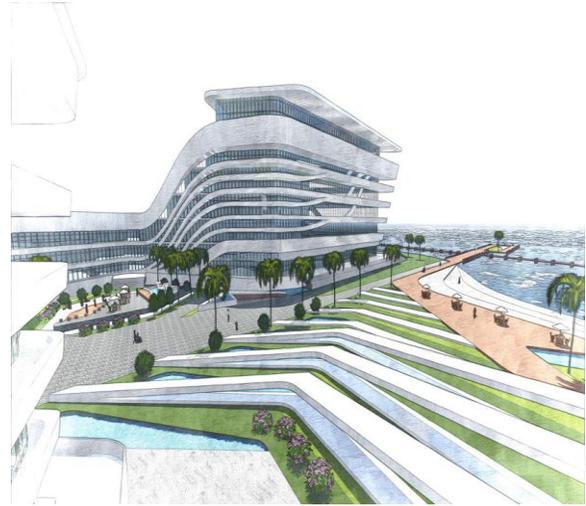


Figure 9. 3D view of recreational center

CONCLUSION

This work has proposed the development of a waterfront based cultural and recreational complex at Jeddah, Saudi Arabia. The proposed site is located at in Sharm Obhur, Jeddah, Saudi Arabia. The proposed cultural and recreational complex requires an estimated area of site area is 50000 m², with gross floor area of 27500 m². The development of this proposed cultural and recreational complex will act as a tourist destination in Jeddah that promotes local and international visitors and will modernize the city's heritage and contribute to the country's economy.

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