

# TOWARDS AN URBAN RENAISSANCE IN BAHRAIN: REGENERATION OF WATERFRONTS IN CITIES

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## **Abstract**

*Waterfront areas have always been an important part of the urban settings in providing public access to the waterfronts while there are also that cities try to preserve for the best use and practice. Many cities have failed many successful experiences in attempting to regenerate the seashores for public. In Bahrain, the developments that have taken place in the past ten years have affected the public access to the seas. A rapid growth has taken place leading to a massive amount of reclaimed lands around the main island. Unfortunately, these have separated the main cities, which used to be on the shore from the direct contact of the sea. Bahrain being an island, the citizens were fully dependent on the sea in their daily life for centuries. The sea was the grace that god had blessed them with, therefore, most people have spent their lives in the sea or adjacent to it. People of the island today confess sadly that they forget that they are living on an island. Studies have shown access for public to the water edge in Bahrainis no more than 8% of the total islands' shoreline. Due to the rapid growth and infrastructure development, the government intended to reclaim lands to meet people's needs. Unfortunately, this has created more barriers and has enlarged the gap between the cities and the water edge .Inevitably; People have got disconnected from the sea.*

*The main intention of this paper is to view the practice of waterfront urban development in Bahrain generally and particularly its effect on Hidd. This paper examines the city of Hidd as the area of focus and as a practical example to similar cases in Bahrain. The objectives of this paper are to evaluate the effectiveness of regeneration of the waterfront in the area and how to apply them to cater to people's needs . Moreover, the study will develop an understanding of waterfront development, urban settlement and growth in the context of Bahrain. The paper offers some solution to the problem in order to create a better living environment that has a stronger connection to the city and the waterfront at the same time.*

**Keywords:** Bahrain, Hidd, waterfront, Regeneration, Connection, Development

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## 1. Introduction

### 1.1 Defining Urban waterfronts in general

Recently, waterfront regeneration has received attention as one of the main urban issues in cities adjacent to water around the world. However, there is no single accepted definition of urban waterfronts, For example, Breen in trying to define the waterfronts goes on to say, "by definition consider the bay, canal, lake, pond, and river, including man-made, under the generic term 'waterfront'" (Breen, 1994).

Wrenn ,(1983), defines waterfronts as " the interface between land and water" . He goes on to say no matter how similar or different the characteristics of the cities are, so too are their waterfronts, the same definition applies once water is adjacent to the area. Waterfronts vary enormously in type and character as well as in size and age. Wrenn argues that while the term "urban waterfront" customarily applies to the port areas of a large metropolitan city, it also refers to a small resort town with active harbours, commercial fishing villages, and many medium-sized industrial cities located along navigable waters (1983).

### 1.2 The History of waterfront in Bahrain

The story of the man and sea in Bahrain is ancient. Historians like Geoffrey Bibby and other archaeologists from the Prehistoric Museum in Aarhus, Denmark had chronicled the fascinating history of the ancient Sumerian city of Nippur near the Euphrates founded 4000 years ago called Dilmun the island of paradise (Lowes, 1984). Gilgamesh, the epic hero, and the fifth king of Uruk, modern day Iraq and Kuwait, dives into the sea of Dilmun with stones attached to his feet and brings up the "Flower of Immortality" To the favour of that incident, the island of Bahrain has become the site of the lost paradise of Dilmun.

Bahrain's geographical location as an archipelago located in the midway of the Arabian Sea gave it its importance and made it a focal point for enemies and trade. For many centuries, people had a varying relationship with the sea. It was the source of their living and entertainment, and sometimes ... their final resting place. Other than that, the sea has formed a significant element of the social form of the Bahrain society and has contributed in the formulation of people. Moreover, Not only men were devoted to work in the sea for almost half of the year, women had also taken the initiative to work with men in sea and had played an essential role in different locations to help in the worst conditions and most difficult ones, especially when men had to be absent in their long pearl seeking journeys. (Figure 1)



**Fig 1 :** A woman working collecting fish from fishing nets called ( Hathrah)  
Source: Northern Governorate, Bahrain

Overall, Sea shore was extremely busy with workers during the year, never was the shore an in active place or left with no use; It was often occupied by sea workers, divers, or by families who spent their entire summer on the beach. "the seafronts were dominated by sea-related activities and objects such as fishing boats, fish drying areas, coral stone drying yards, fishing nets and traps." (Al Ansari, 2010). Therefore, people have decided to settle near the sea considering it the best place to live, work and entertain.

Sea to Bahrainis upheld its importance for thousands of years till the late 1920s when the oil was first discovered in Bahrain. Oil was found specifically in 1932 in Jabal Al Dukhan .The discovery of oil formed an essential shift that affected the whole society, not only the diving economy and finishing which started decreasing. Along with the decrement of the sea workers, changes have occurred in some parts of the lands, with the diversion of peoples directions. Consequently, this indicates that all prospects turned in land, away from sea. Therefore, this was the start of the end for the sea based culture era in the island. The black gold (Oil) provided the country with an independent source of income, which enabled Bahrain to take the benefit and develop swiftly before the neighbours, as the huge incomes helped in building a modern state rapidly, and establishing a strategically and commercially strong base country (Mitchell, 2010).

### **1.3 The urban waterfront morphology and land use change of Muharraq**

While understanding the urban waterfronts in Bahrain, it is useful to look at MUharraq more closely. Muharraq, as many other traditional Islamic cities in the world was influenced by the characteristics of the Islamic architecture and urban context. Its traditional features are a clear reflection of social, cultural, religious, spiritual, economical and physical aspects that the city went through by time. Therefore, a strong unity was established between all the previous aspects and was reflected on many intangible symbols of the city.

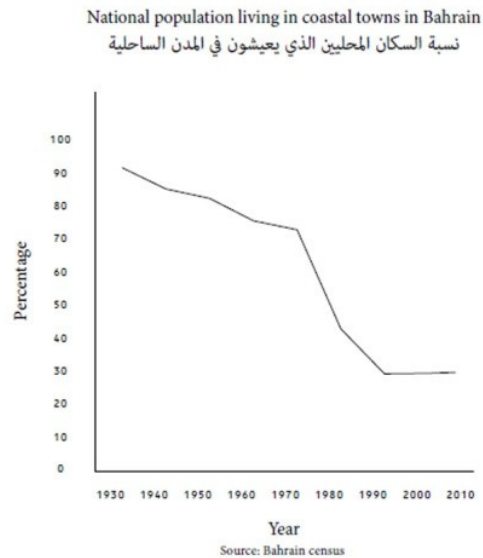
Since weather is harsh in Bahrain , especially in summer times, houses were mostly built along the seashore perpendicularly, leaving the alleys open with different widths to enhance the movement of the northern wind in between the narrow streets . Different types of dwellings were built along the seashore. Some were made out of palm leaves called (Baraste) others were made out of mud and sea stones " Cities of Manama and Muharraq were two models of Arab coastal cities, as houses were built of rock extracted from the sea ... and a few of them were composed of two floors or more" (Belgrave, 1926, 1957) (figure2)



**Fig2:** Barasti houses along the waterfront in Manama  
Source: RAF Muharraq Bahrain pictures

These places were used as accommodations and as recreation places where citizens, especially men, met and sang special sea songs during the night, enjoying the calmness and the beautiful reflection of moon on the water (Figure 3 ). Such a strong attachment with the sea in the lifestyle caused an essential impact on the city settlement and has affected the urban morphology of the area. With time, this fact has changed gradually with the discovery of oil which caused a turning point in the urban context of Muharraq as well as many other cities in Bahrain.

In fact, land use in Muharraq has changed during the past 70 years due to the urban growth of the country. The changing eras have happened either pre-oil excavations or post-oil excavations. Before the discovery of oil, most of the lands were dominant by settlements which were scattered around the island of Muharraq, mostly along the coastline . Between 1950s and 1960s, more urban developments were established in the area adding many extra lands for future expansions (Figure 4).



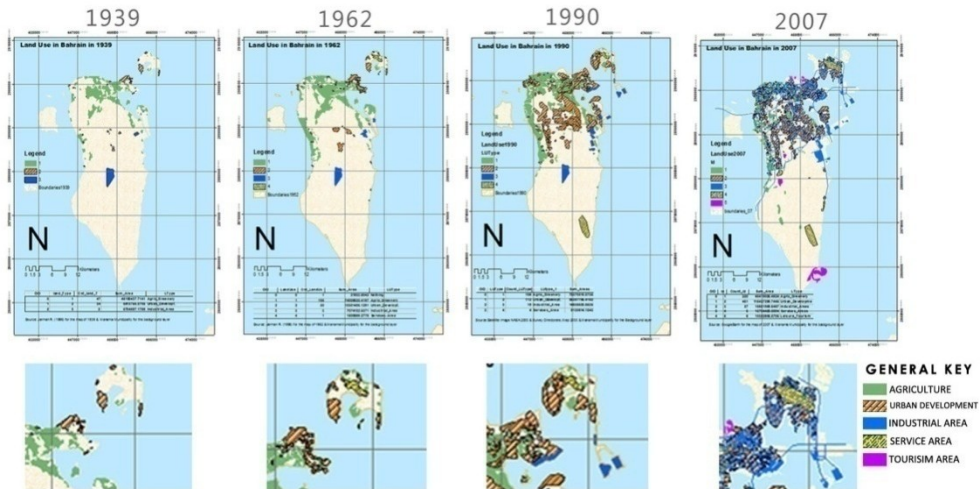
**Fig 3:** A graph showing the population living on coastal towns in Bahrain  
 Source: Reclaim , Bahrain



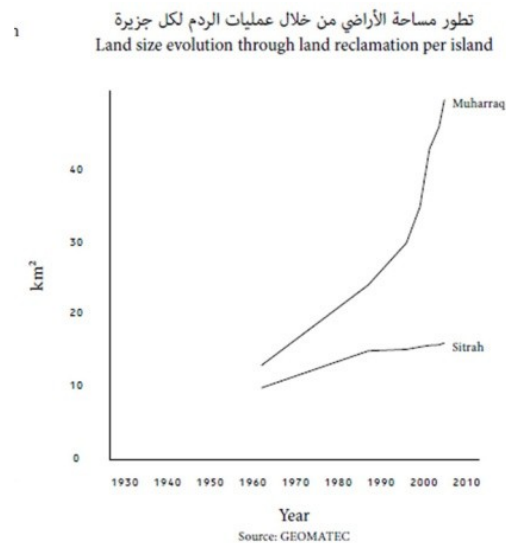
**Fig 4:** growth of Muharraq island  
 Source : Maritime atlas of Bahrain

It was important to follow the change and start building new roads network that links island of Muharraq with -its new redaimed urban areas to the growing capital of Manama. Certainly-, the island continued its growth and the redaim process was rapid in the early 21st century adding up hectares of extra land around the main original island (Ben Hamouche, 2010) (Figure 5, 6). In addition, the emergence of new cities which were built on reclaimed land such as Amwaj

islands, Diyar Al Muharraq , Dilmonia and East Hidd city have all helped in moving the main city towards the inside away from the waterfront .



**Fig 5:** Maps of Land use changes in Bahrain  
 Source: GIS Maps ,Author



**Fig6:** A graph showing the of reclamation Muharraq  
 Source: Reclaim , Bahrain

## 2. Literature Review

Living on an island doesn't necessarily mean that Bahrainis are able to access the waterfront without restrictions. Many aspects limit the direct interaction of people with the seafront especially in the case of people with average incomes, and this makes it an issue to be considered.

Studies show that the percentage of public sea front is very limited. According to statistics, it ranges between 3.5 to 5% of the entire Bahraini coastline (Ronald and Zainal, 2007). The rest are used either as private beaches for the new cities emerging around the island or as military bases and other facilities.

In his study, (Al Ansari, 2010) states that not only oil discovery was the main reason of weakening the ties to the sea, but many other factors also took part in the reshaping of the coastal town. Between the early 40s up to the late 90s, a number of changes took place including a change of the demography of the country beginning with the oil excavations and product exporting which was done through the main two ports in Bahrain; one in Manama and the other one in Mina Salman. In the late 90s, these two harbours were removed and replaced with massive highways and high-rise buildings. This massive change had a huge impact on Bahraini's sea culture, villages and towns lying on the seafront were then shifted kilometres away from the sea due to land reclamation .

Unfortunately Bahraini's preferred to move to the newly built cities which offered better infrastructure and roads that made movement easier especially with the ownership of cars, neglecting bad master planning that didn't pay any attention to the existence of water. It inadvertently separate people from the sea by placing the highways on the seashore (AlGhatam, 2009). Al Jabal writes that "Many of the country's villages lack access to the shore, despite the fact that they used to face the sea, 'this village used to face the sea around 20 years ago and now all it is surrounded by land and there is no public beach.' (Al Jabal, 2010 cited from Gulf Daily News).

(Al Ansari,2010) adds that " this continuous process, which proceeded without any overarching master plan, has also had a negative impact on the architectural response to the presence of the sea: overall, the cities of Bahrain have continued to grow with disregard to the value of the sea. Besides physically reshaping the coastline, land redamation transformed its functional uses: the sea is now something one merely looks at from a distance mostly from the vantage-point of private land"

Although the government has well-developed strategies to accomplish by 2030 of an overall vision for the regeneration of coastlines and network connections (Bahrain Economic Development Board,2011), it is worth questioning if this vision will meet people's ambitions and needs, or will it create further segregation between the city and the coastal lines. This paper is, therefore, focusing on Hidd city as a good example to examine a city which is no more lying on the sea as it used to be.

### **3.Methodology**

This research has used multiple research methodologies in order to collect data as follows

#### **3 a. Data Collection**

To get a better understanding of change due to the waterfront development, data was collected from literature. In order to illustrate this change on the map of Bahrain, different maps were produced using AutoCAD and GIS.

#### **3. b. Literature Review**

Literature review helped to get a thorough understanding of the subject generally and assisted to compile the theoretical base for the study of waterfront developments in Bahrain.

#### **3. c. Public Survey**

A public survey was conducted to explore the people's point of view about how the new waterfront development effected on their life style with regard to the sea. For this purpose, thirty questionnaires were distributed to ascertain public opinion.

#### **3.d. Interviews with the Local People**

It is essential to hear the public voice about the proposed alternative solution as they were used to spend their life with the waterfront in their houses attached. This new proposal brought the idea of shacks to spend temporary time with the waterfront only.

### **3.2 Limitations**

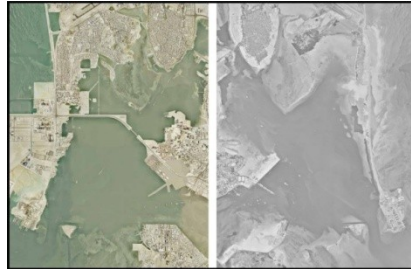
The methodologies adopted in this research, while provide sufficient data suffered from inherent limitations as follows.

1. Lack of information available at the Municipality of Muharraq and the Urban Planning Affairs regarding the area and the future development
2. Limited knowledge and lack understanding of the real problem
3. The new generations had hardly any awareness about the sea front culture. Hence, it was difficult to regenerate the historic interest.

### **4. Study emphasis**

Muharraq, the second largest city in Bahrain after Manama the capital, is located in the northeast of the mother island. The city has a very special spirit and is famous for its narrow alleys, traditional architecture, old-style coffee shops, and diverse cultural and religious activities. In terms of the overall urban context, it includes many suburban areas and villages, which either rest along the coast or are placed in the middle of the city, which mostly have changed in shape and uses during the time under external pressures (Figure 7) . Due to the increasing number of cars in the city, it was requested to develop the infrastructure by building extra roads and highways, in addition to land plots for accommodations and other uses, which helped in the process of expansion of the island by time. More than four new private islands

were reclaimed around the eastern part of the main island of Muharraq. These factors were putting extra pressure on the city which forced the changes to happen by time.



**Fig 7:** Two aerial photos of the city of Muharraq of different periods of time  
Source: Reclaim Bahrain, Ministry of culture

#### 4.1 Hidd

Hidd is a relatively small town located in the south western of Muharraq island. Originally, Hidd was a rectangular sand strip with one kilometre in length, and between 200 to 300 meters in width. The land gets narrower towards the south till it reaches to approximately 100 meters wide as a total (Figure: 8a,8b,8c, & 8d,). The location of the city made it important for being the hub of fishermen as the sea surrounds it from the three sides having a unique characteristic that makes it the only city in Bahrain which has this prime location. By the time, Hidd was chosen as a location for ASRY (Arab Shipbuilding and Repair Yard Company) which was built in 1977 in the dry dock area in Hidd and went through various expansions through years. In the past few years, Mina Salman (the main port of Bahrain was shifted from its original place to the newly reclaimed industrial area known as Khalifa Bin Salman Port.



**Fig 8a:** Edges of Hidd adjacent to the water, Source: Bernard Gerard, 1974  
**Fig 8b:** High way to the industrial area in Hidd, Source: Abdulla Al Khan, 1992  
**Fig 8c:** High way to the industrial area in Hidd, Source: Abdulla Al Khan, 1996  
**Fig 8d:** Hidd, Alexander John, Source: 2002  
**Fig 8e:** Hidd reclaimed lands, Source: Author 2016  
**Fig 8f:** Hidd reclaimed lands, Source: Author 2016



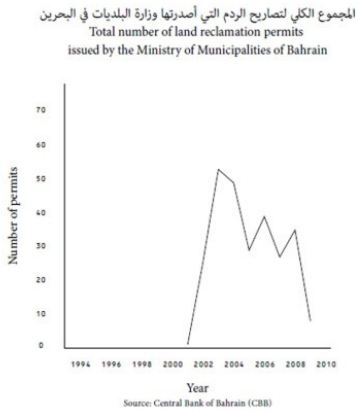
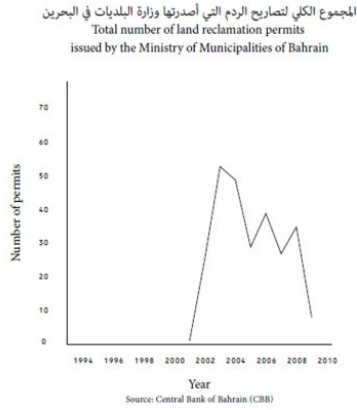
Historically, Hidd had only one main street built in the middle of the town, which has divided the whole area into east and west parts, with the number of minor streets emerging from the main streets leading to the coasts. Until the 1960s, the number of houses was very limited and did not exceed 1460 units, this grew by time as more lands were reclaimed around the town (Figure 9).



**Fig 9:** Changes of Land size of the city of Hidd  
Source: Reclaim , Bahrain

In the early 20th century, the government was optimistic to start developing the country with those ambitious projects in order to catch up with the boom which had already started by that time in neighbouring countries such as UAE and Qatar. Thus, the government started selling parcels of lands to private investors, reclaimed other parcels and made more deals without taking into consideration the consequences of that action. (Bagaeen ,2007). Soon, more than 11 artificial islands started to emerge around the main island. Four of the manmade islands took place in Muharraq very close to Hidd-, some are already created and others are still in the progress of reclamation. Most of these reclaimed artificial islands are generated on the edge creating new private coastlines on the original public land especially on the northern edges, which has the biggest populations on the island. Literally, these lands have increased the distance between the original residents and the sea, where the majority could not now have a public sea front at all. It became noticeable when investors showed their willingness to invest in the country when the income of petrol was at its peak by building new cities, which offered incredible benefits and incomes in a short time. In fact, investors showed their eagerness to offer best residential, economic and social projects that will bring more money and offer job opportunities to the local Bahrainis through these investments.

This confirms that the amount of increased land from 1968 to 1998 was 45 km<sup>2</sup>, while the extension reached its peak between years 1999 to 2006 to 23 km<sup>2</sup>. The above figure shows clearly the difference between the two eras for increment of reclaimed land in the past 10 years due to the private alleged investments (figure10). Those massive changes created a vast distance between the current centre of the city – which used to be on the boundary- and the new edges. (Ronald and Zainal, 2007). Today, the massive highways and the excessive infrastructure spread along the whole edge of the town and is creating a serious barrier between the city and the waterfront, in addition to the reclaimed lands that are used for private projects with no intention to provide access to the sea



**Fig 10:** number of land reclamation permits  
Source: Reclaim , Bahrain

Here comes the problem that this paper is examining. The current reclaiming actions and the segregation between the city and sea are the main problem that needs a solution as, in principles, it is the right of any citizen to access the sea easily with no obstructions. It elaborates on how important it is to have water around us, but with no good appreciation or appropriate access for users. (Figure 11)



**Fig 11:** The existence of infrastructure along the seashore  
Source: Maps: Municipality of Muharraq.

## 5. Understanding of Design Principles for Urban Waterfront development

In order to establish a high quality of waterfront urban development area in Hidd, it is important to set out the principles of the design to ease the design process and have a successful outcome when it gets implemented. A research of waterfront urban design principles was important to meet the correct needs of such an area, in addition to the interpretations from the author who is familiar with the site and its conditions. These principles are collated from different reliable documents and are grouped under a set of 14 points. (Waltham forest Council ,\_2007), (CABE ,2006). The key plan principles and guidelines are as following:

- Diverse planning, zones, and land use
  - Physical connectivity and continuity
  - Ease of transportations options and movement directions
  - Encourage street level activity
  - Introduce walkability and cycling
  - Build a meaningful Heritage, character, and context
  - Encourage Diversity and public art
  - A dramatic gateway or landmarks
  - Create high-density enclosures in the neighbourhoods
  - Re-introduce a finer ,more human scale grain
  - Safety and security
  - Legible , Reliable design
  - Adaptability
  - Sustainable developments
- a) Environmental  
b) Economic  
c) Social

### 5.1 Analysis of area

Following the CABE understanding, the area of Hidd was analyzed with this reference. In order to maintain the proper connection to the water as it is a legal right of all people living on the island to have Figure 12 explains the street type and nodes in and around the city, while Figure 13 shows the land use which seems to be mostly residential in addition to schools, hospitals, mosques and un built lands. Having the two analysis combined emerges the problem clearly as the main highway is creating a real barrier towards the waterfront. (Figure 14)



**Fig 12:** Road analysis  
Source: Author

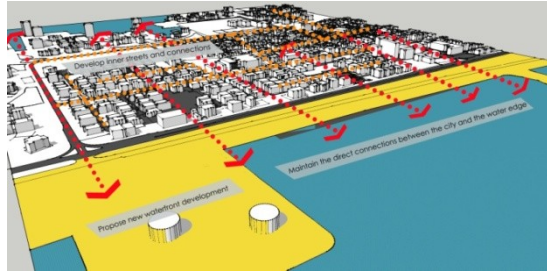


**Fig 13 :** Land use analysis  
Source: Author



**Fig 14:** General analysis  
Source: Author

Having the site analysed, the paper proposes to create a strong connection between the existing city and the waterfront by building a new development on the shore which is intended to act as a transitional area between the old city and the waterfront (Figure 15).



**Fig 15:** illustration of the concept of connection between city and the waterfront  
Source: Author

## 5.2 New Water Front proposal for Hidd

It proposes a new design in the area adjacent to the sea by creating a new urban waterfront generation which will offer more varieties of activities that are safe for public to use. These will be such as new housing units that will solve the problem of the high density of population in the old city, and commercial buildings which will offer spaces for new businesses. In addition, recreational and social areas scattered in between the housing units will encourage people to visit and enjoy the new development and the sea. It also has to ensure that the inner spaces of the city are well connected to the seafront with no physical barriers that prevent people's access making sure to maintain the sense of place and the spirit of the old town. These will revive the relationship between the city and the waterfront. Such a new development is expected to create a gate for public towards a new presentable waterfront. (Figure 16)



**Fig 16:** proposal of a new development  
Source: Author

## 6. Conclusions

This paper has attempted to find the best ways of reviving the relationship of the existing inner city and the seashore. As the practices differ in their geographical locations or their environmental circumstances, however, the main idea of waterfront regeneration is constant and could be applied in any practice with some modification according to the context it's taking place in.

Land use of the island has changed during the past 70 years due to urban growth which has occurred after the discovery of oil. In addition to that population of the island has increased during the past years due to the improvement of the health care levels putting Bahrain on the list of highest population densities in the world. It is clear that the future will have more demand on land plots. Hence, it is time to set up a planning policy for land distribution to accommodate the future needs and make the best use of the available scattered discarded lands in different parts of the island, rather than depending on reclaiming lands to provide the needs of private investors, which are mostly used for developments with high restrictions on public access.

This study first has investigated the context of the island and the strong relationship the local people used to have with the sea. It showed the benefits of the sea to the people and how it took part on effecting the urban settlement and growth of cities. By examining these aspects, it was established that the connection was interrupted by time and it was caused by different factors during a time which all needs to be overcome to retain the connection to the city with the seafront again and open to the public.

Unfortunately, this fact no longer exists, as the reclaim process has taken place in the country and as the planners decided to build massive motorways which took place along the water edge. However, the urban waterfront was critically affected. It was left neglected for years. Some were not reachable while some others are reachable once but are no longer pleasant places to use.

There is hardly any research done on this aspect related to Hidd. but some other studies focused on other waterfronts in Muharraq island. a water regeneration project was recently launched as one of the first public kind of project which has a direct access to the sea. Saada, which is a translation of happiness in Arabic is a project located in Muharraq seafront and it connects the old market with the water through a massive pedestrian bridge that crosses the main highway. Another waterfront private development is being built in Diyar al Muharraq, which is a fully reclaimed land, called Marasi al Bahrain. This project consists of commercial buildings and restaurants that overlook the sea.

It is a good sign to have such projects emerging gradually to cater to people's needs, but no specific studies are mentioned for Hidd city waterfront regeneration. Therefore, in this paper, Hidd was taken as an example of neglected cities in Bahrain. This paper having focused on the reasons that caused the problem proposes an initial solution. in the case of Hidd the paper suggests applying a well-designed context with interesting public waterfront activities and spaces to attract people and regenerate that lost attachment towards the sea which was forgotten through years. It is based on the premise that good urban design practices play a significant role in regenerating a good waterfront area. It requires the use of a good set of design principles, as well as taking into consideration the other parts of the city in the development process to create a harmony between all spaces and have a unified spirit in the whole area.

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