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EAST COAST IDENTITY OF KUANTAN: TAMAN GELORA AS A RECREATIONAL COASTAL PARK

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ABSTRACT

This project aims to transform the Taman Gelora site in Kuantan into a coastal park in order to promote Kuantan's east coast identity. As a result, it is proposed that this project include the beach as an extension of Taman Gelora in order to create a coastal recreational park. The project is in the state of Pahang, east of Kuantan, and faces the South China Sea. The park is designated as a local park and is open to the public for recreation. The park, which covers approximately 28 hectares, was established in the 1980s. Taman Gelora is made up of a number of man-made lakes and other recreational amenities. Some of the issues identified include a disjointed shore, deteriorating water quality, and ineffective facilities. There are several entrances to the area, but the park itself is located on a slightly hidden edge of Kuantan, making it less visible to unknowing eyes. Based on these situations, the project has aimed at addressing the identified issues while also successfully promoting Taman Gelora as a recreational coastal park that can be the pride of Kuantan as an important east coast city.

Keywords: *Costal park, Beach morphology, Active design, Recreational park and Recreational coastal park*
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INTRODUCTION

The project's goal is to incorporate the beach as an extension of Taman Gelora in order to create a recreational coastal park. This is due to the fact that Taman Gelora's shore is separated from the park as a result of accretion. A successful coastal park must have access to the beach and the sea. For that matter, the project's goals are established as follows:

1. To incorporate more marine design elements to create a seamless transition between the park and the sea.
2. To use phytoremediation to improve overall water quality.
3. To plan a smooth transition between active and passive recreation.



Figure 1: Key and location plan of Taman Gelora
(Source: mpk.gov.my, 2020)

LITERATURE REVIEW

Culture of East Coast Malaysia

Geographically, it is a coastal area facing the South China Sea. Beaches, waterfront, and seafood-based cuisines are popular tourist attractions. Due to this, the fishing industry is a major economic activity. Kuantan's cultural cuisine is primarily composed of seafood. The monsoon has also had a significant impact on the climate of Kuantan.

Beach Morphology

Longshore drift current shapes the beach morphology. Swashes first hit the shore diagonally, depending on the wind direction. Backwashes then pull the water perpendicular to the shoreline (Moss, 1994). As a result, sediments are constantly moving in the direction of the swash causing natural coastal erosion and accretion occurs (Mustapa et al., 2015).

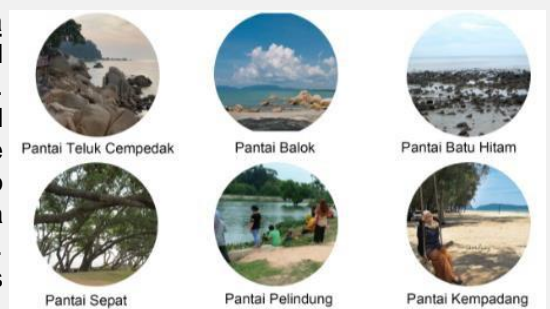


Figure 2: Prominent beaches at Kuantan.
(Source: google images, 2020)

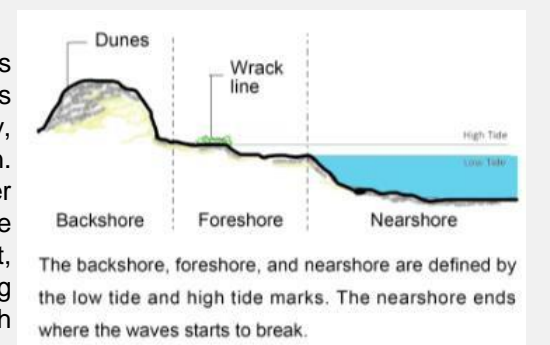


Figure 3: Cross-section of a beach.
(Source: google image, 2020)

Coastal Park

The term "coast" refers to the area of land that is adjacent to or near the sea (Bowen et al., 2006). A big public garden or area of land used for recreation

is referred to as a park (Kenchington, 1993). In relation to this, a coastal park is defined as public land utilised for enjoyment near the sea (Pittman et al., 2019). A coastal park has five basic characteristics as listed below:

1. Long-range views of landscapes and seascapes
2. Rhythmical sound of waves meeting the shore
3. Constant change of the rise and fall of the tide
4. Fresh air
5. Natural light



Figure 4: Main activities at a coastal park (Source: google images, 2020)

Active Design

Active Design is an evidenced-based approach to the development of buildings, streets, and neighborhoods that uses architecture and urban design to make physical activity and healthy foods more accessible and inviting (Marieke Lacasse, 2015).



Figure 5: Key concepts of Active Design (Source: Marieke Lacasse, 2015)

METHOD / PROCEDURE

Checklist and Observation

The checklist for site inventory and observation method are used to execute the data collection methodology, which involves mapping the present site condition and photographing it.

SITE INVENTORY AND ANALYSIS

Total Population of Mukim Kuala Kuantan in 2020 is 449,521



1. Site Context

Currently, the majority of Taman Gelora's visitors are in the youth and are Bumiputera.

In terms of location, Jalan Dato Mahmud and Jalan Teluk Cempedak connect the majority of Kuantan's landmarks. Teluk Cempedak, Royal Pahang Golf Club, Mini Zoo Teruntum, and Esplanade Tanjung Api are among the identified landmarks. Taman Gelora, on the other hand, is well hidden from the landmarks. At the moment, the junctions that lead to Taman Gelora provide no information about Taman Gelora. As a result, some signs, such as signboards, hardscape, or softscape, must be added to direct users to Taman Gelora.

Figure 6: Demographic data of Taman Gelora.



Figure 7: Landuse map of Taman Gelora surrounding area.

Taman Gelora is also surrounded by various institutions and residential areas, which are populated by people in the B40 and T20 age groups, making it an important social platform.

2. Accessibility

The majority of the main spaces are well-connected, and the different type of pavement defines the activities. Since the community is connected to almost all spaces in Taman Gelora, the community activity area has the potential to be a central gathering place. The community activity area has the potential to become the focal point. There is currently no access to the beach area. To establish a coastal park, a direct connection to the sea must be established. Through sea kayaking, the beach area itself can encourage connections with other beaches in Kuantan.

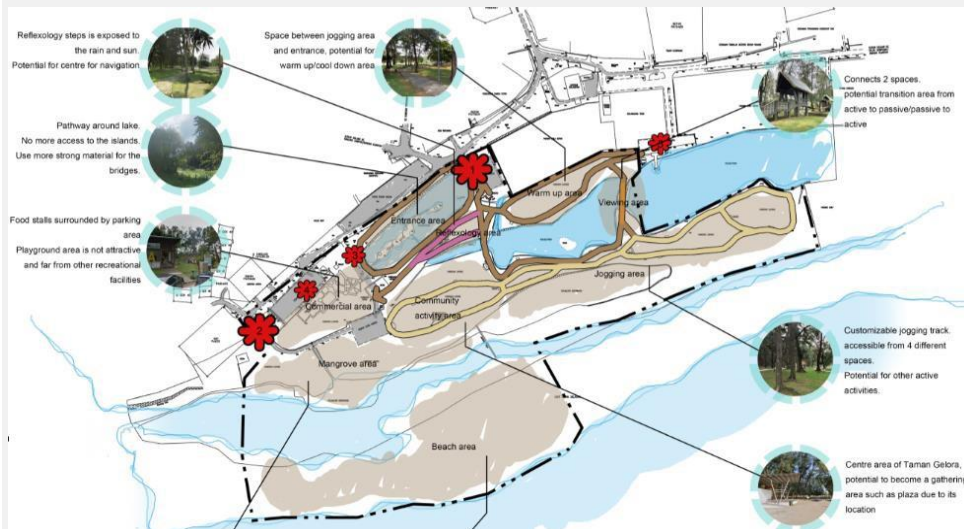


Figure 8: Accessibility point

3. Climate

Taman Gelora faces the Southeast China Sea, so it is heavily influenced by the monsoon seasons. Strong winds blow from the sea towards Taman Gelora from May to September, but the vegetation acts as a wind buffer, protecting Taman Gelora. Exposed areas, such as the beach, have the potential for activities such as kite flying. In relation to that, Taman Gelora is also lacking a solid shelter, making it inoperable from November to March.

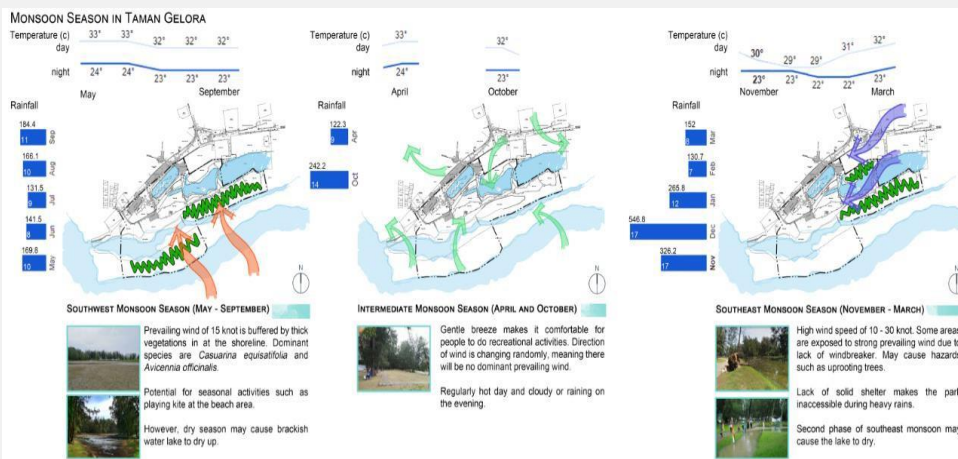


Figure 9: Wind direction maps of Taman Gelora during 3 different monsoons

4. Hydrology

Taman Gelora is primarily made up of four bodies of water. The tides have an impact on three bodies of water. One major impact is the transformation of a freshwater lake into a brackish water lake as a result of Taman Gelora's drainage system connecting the lake to the seawater. Thus, any plants proposed should be able to adapt to the brackish water lake ecosystem. Taman Gelora's drainage system is comprised of a single channel. As a result, municipal wastewater from nearby restaurants pollutes the lake before it enters the sea. However, because most water flows through the same area, this can also be a potential for a phytoremediation system.

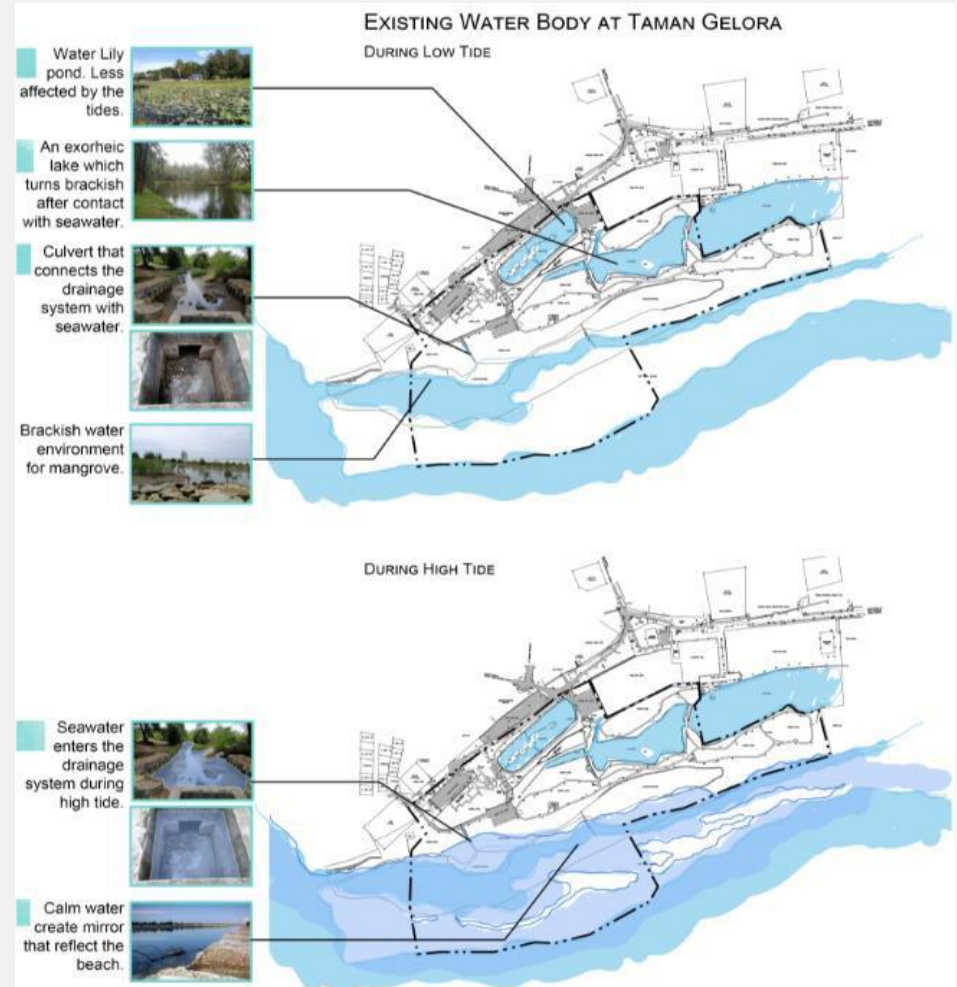


Figure 10: Low tide and high tide comparison at Taman Gelora.

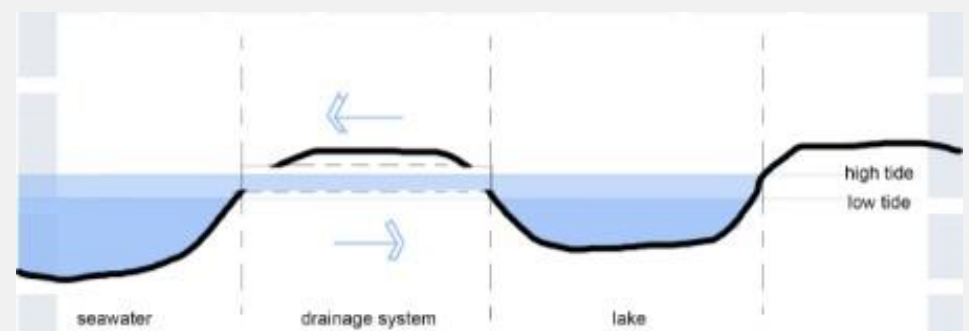


Figure 11: Cross section showing how the changing tides affect the lake of Taman Gelora.

5. Vegetation

Casuarina equisetifolia is a dominant tree at Taman Gelora. The primary function of this species is to provide windbreak and to create a scenic beach forest landscape. *Avicennia officinalis* and *Cocos nucifera* are two other trees with similar characteristics. The others are only there to help with transitions. Taman Gelora, on the other hand, is lacking in shrubs. Shrubs can help Taman Gelora define its spaces in order to cater to its various activities.

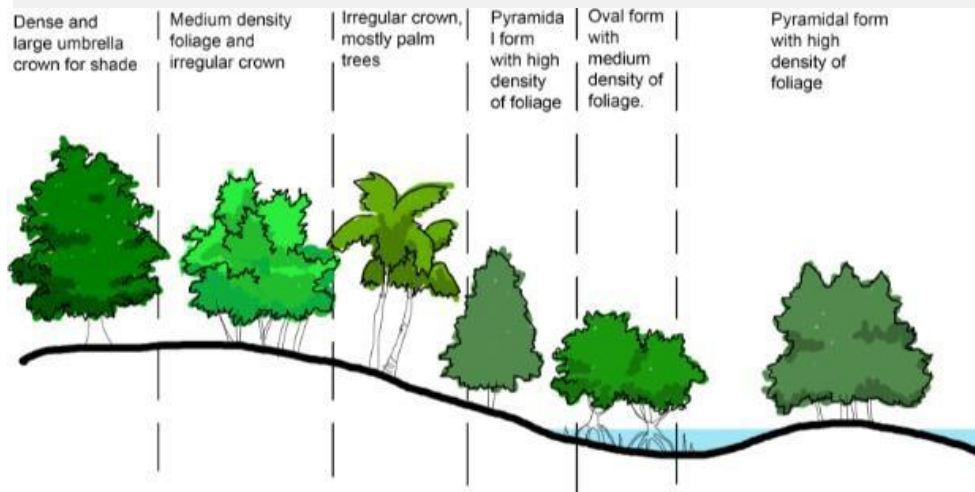


Figure 12: Transition of trees at Taman Gelora.

6. Landscape Character Assessment

Taman Gelora's overall landscape character is that of a beach forest landscape. This is aided by the dominant casuarinas. The long view over the sea, as well as the strong wind, also contribute to this. Because of the visual quality, these landscapes provide a calm and serene experience for users. However, some environmental issues, such as an unpleasant odour near the lake, disrupt the peaceful and serene atmosphere. The mangrove and beach areas, which can provide a more direct interaction with the sea, have significant potential. However, accessibility remains a problem.



Figure 13: Photo collage of sceneries at Taman Gelora

7. Spaces and Activities

One of the most popular activities in Taman Gelora is jogging, but there is no jogging track nearby. Taman Gelora has the potential to be a dedicated transitional zone from active to passive or vice versa. This is due to the space's proximity to the entrance and its connection to both active and passive areas. Mangrove and beach areas are also underutilised resources that, if properly equipped, can support activities such as nature walks.



Figure 14: Map of activities at Taman Gelora.

8. Cultural and Architectural Values

In the 1980s Taman Gelora used to have structures with traditional Melayu style rooftop. Some structures, such as the pavilion and food court, have been updated to a more modern design. Therefore, a consistent style of structure should be implemented at Taman Gelora.



Figure 15: Collage of dominant cultural and architectural characteristics at Taman Gelora.

SITE SYNTHESIS

The circulation system, the phytoremediation system, the scenic landscape character, and the transition of active and passive activities are some of the important components that can be synthesised based on the analysis. A phytoremediation system should be installed between the lakes and Taman Gelora's drainage system.

Typha domingensis is an example of a suitable plant or others such as *Acacia mangium*, *Aquilaria malaccensis*, *Cyperus rotundus*, *Dyera costulata*, *Hibiscus cannabinus* and *Dipterocarpus verrucosus*. Following that, a transitional area should be created to assist people in warming up and cooling down before and after exercise. Seating areas may be one of the example of development.

Furthermore, because of its location, Taman Gelora should implement a centralised circulation system because the gathering area in the form of a plaza or square has the potential to connect all spaces, including the beach area. Taman Gelora also has a distinct coastal landscape character with numerous good views; therefore, it is preferable if the views are more accessible.

If proper facilities are installed, the mangrove ecosystem can provide new experiences and passive activities. Finally, minor developments such as a mini concrete barrier to define the foreshore and backshore may be considered and installed due to the sensitive nature of the beach.

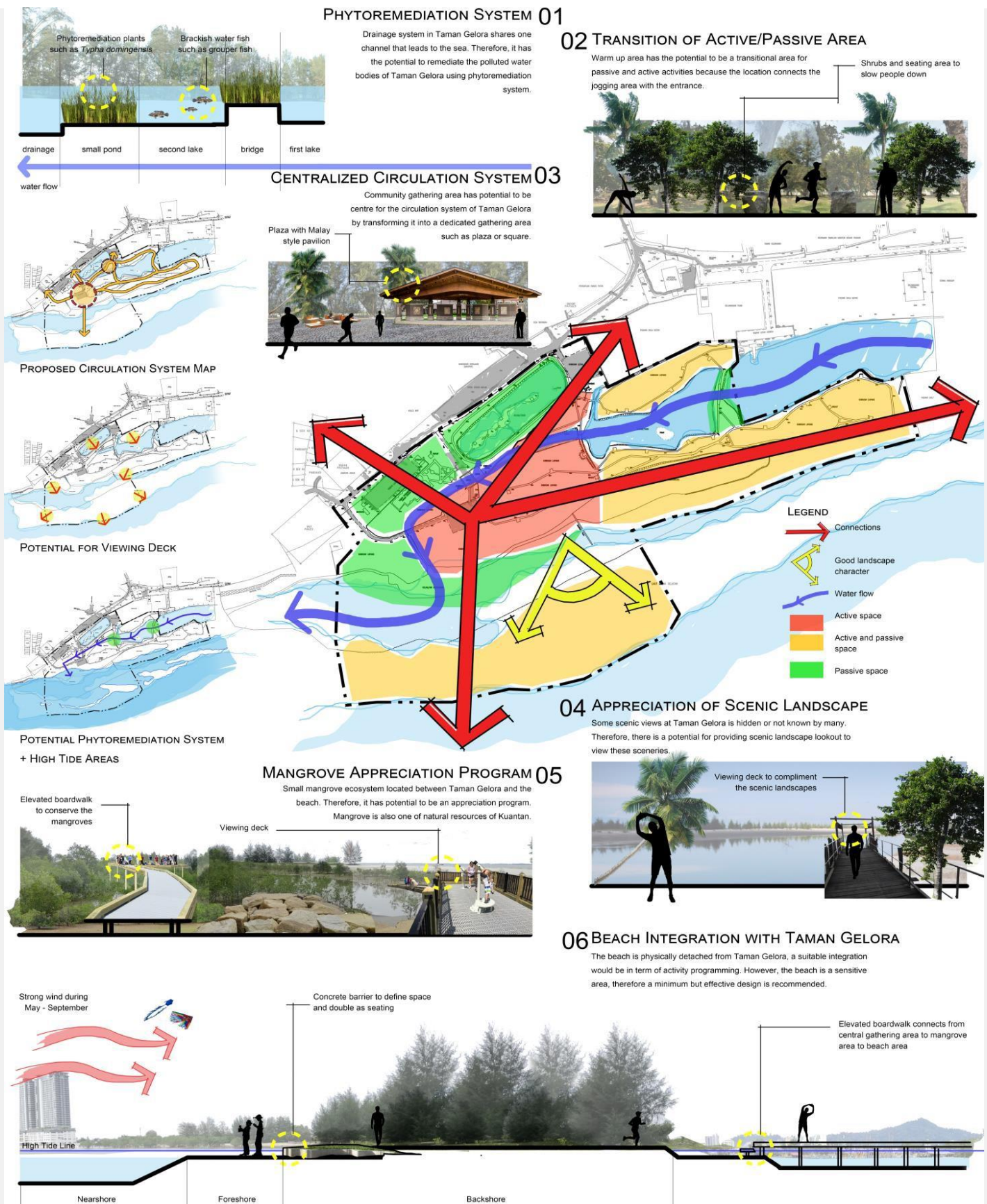


Figure 16: Synthesis map and strategies for Taman Gelora.

DESIGN DEVELOPMENT

Design Concept

The proposed design concept for the project is Green Drift. Green Drift refers to the movement of people toward the sea through environmentally friendly design. It is a haven for city dwellers looking for peace of mind and stimulating park experiences.



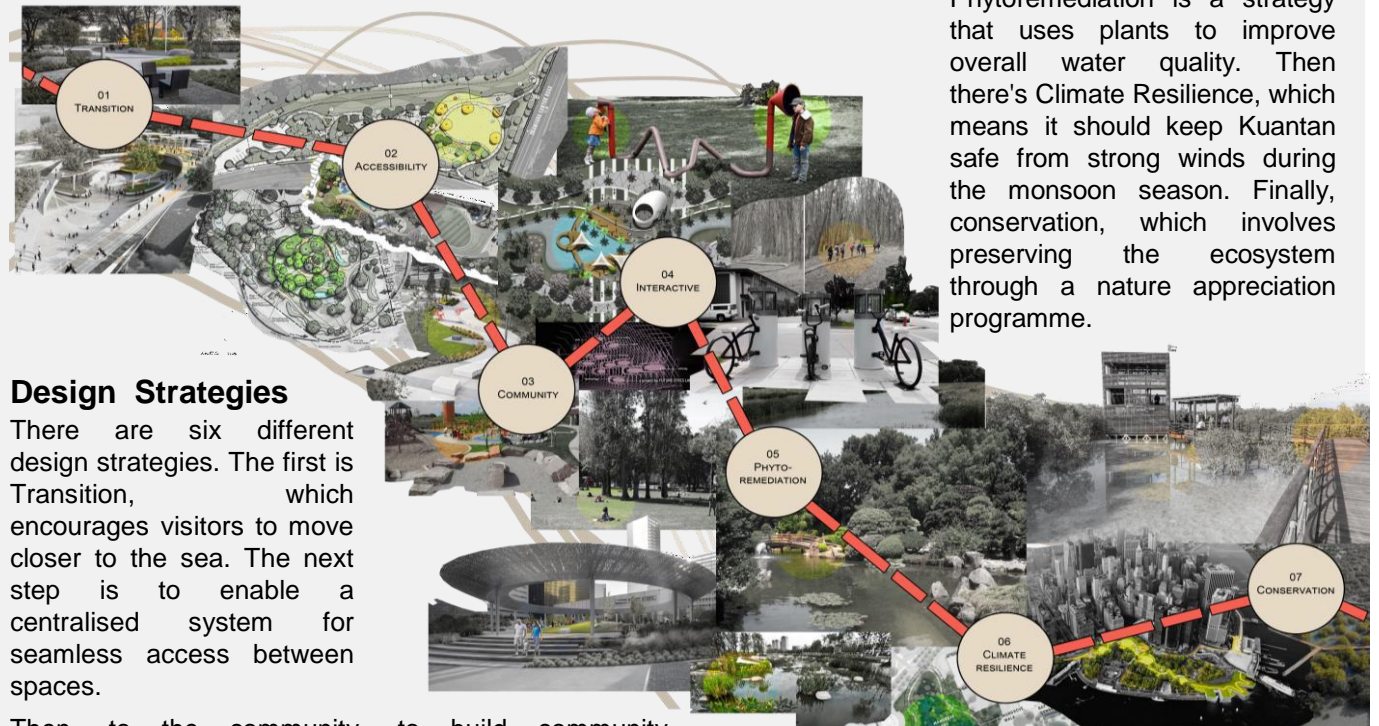
Figure 17: Design concept

Space Programming

According to the design strategies, the space programming will divide Taman Gelora into three main spaces. The purpose of the spaces in the Entrance Area is to provide users with information and utilities. The Transitional Area will then lead them to the Central Area, which has numerous gathering areas and recreational opportunities. After that, another Transitional Area will lead visitors to the Seberang Beach Area, where they can have direct contact with the sea for a more coastal experience.

Functional Diagrams

The functional diagrams show that the site is divided into three sections. It is then linked to meandering circulation. The gathering areas will be located where the majority of junctions intersect. The natural coastal barrier should then be preserved and reinforced. Finally, phytoremediation areas will be located at lake chokepoints because all water passes through there before being released into the sea.



Design Strategies

There are six different design strategies. The first is Transition, which encourages visitors to move closer to the sea. The next step is to enable a centralised system for seamless access between spaces.

Then, to the community, to build community engagement. The fourth strategy is interactive, which is designed to attract and connect people to the spaces.

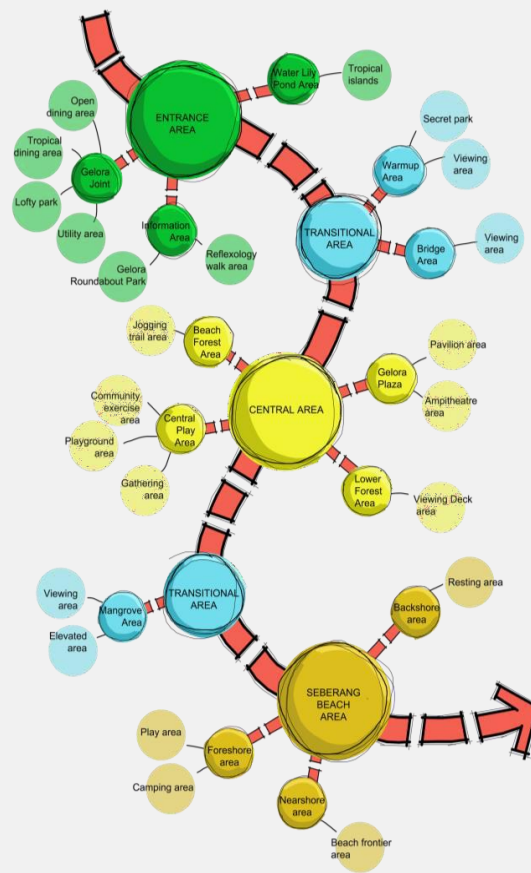


Figure 18: Space programming

Phytoremediation is a strategy that uses plants to improve overall water quality. Then there's Climate Resilience, which means it should keep Kuantan safe from strong winds during the monsoon season. Finally, conservation, which involves preserving the ecosystem through a nature appreciation programme.

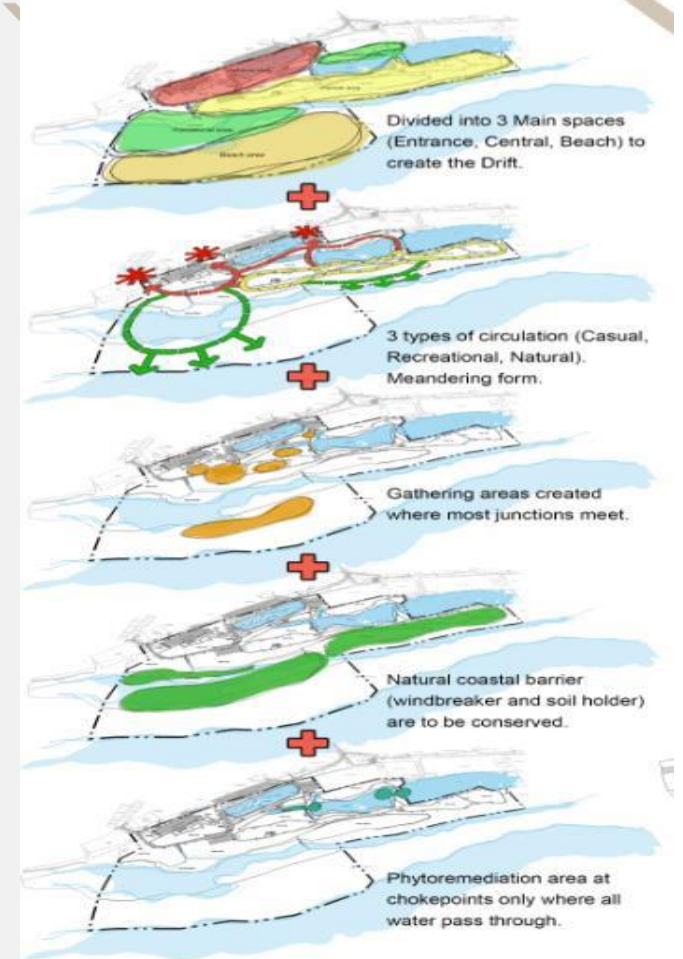


Figure 19: Design strategies

Schematic Plan

There are a total of 22 spaces proposed at the site, as shown in the Schematic plan. The entrance area must first provide information in order to direct people from the entrance to the sea. Gelora Roundabout Park, for example, provides navigational information, while Coral Drift Park leads visitors to the Beach Forest Area. Then they can get to the Seberang Beach Area via the Mini Mangrove Area's Stranded Galley.



Figure 21: Schematic plan of Taman Gelora.

Planting Concept

The Great Barrier Reef is the concept that has been adopted for planting. Taman Gelora will have four main characteristics: shore protection, shelter, versatility, and a unique shape and texture. Natural windbreakers, such as *casuarina equisetifolia*, should be used to protect the shore. Shrubs and small trees, such as *syzygium spp.* and *mangifera indica*, can provide shelter and make visitors feel at ease. Tree adaptability is critical when transitioning from beach tree species to more urban tree species. Finally, unique tree shapes and textures can be fleshed out through clumped or individual planting.

FINDINGS

Masterplan

Gelora Plaza is the central gathering place to which all spaces are linked. It is also located in the centre of a spine formed by Coral Drift Park and Stranded Galley. Since the park is large, visitors can rent a bicycle from the Bicycle Joint, which is located next to Gelora Plaza. Stranded Galley also offers activities like mangrove viewing and photography, which help to connect the disjointed shore with Taman Gelora.

In addition to this, coastal and marine design elements such as Jong Playground smoothen the landscape scenery to complement the coastal setting. The Phytoremediation Area then not only improves overall water quality but also adds texture and character to the lake. Furthermore, through a series of Secret Parks, Bayu Park allows visitors to warm up or cool down before or after their recreation at the Beach Forest Area.

Perspective Drawings

The planting, structure, and activities of spaces define their character in the perspective drawings. Gelora Roundabout Park educates visitors through interactive sculptures. Secret Parks offer tranquillity through seclusion and fragrance. Visitors are drawn in by interactive tunnelled walkways that lead them to Gelora Plaza. Gelora Plaza is the main gathering place and venue for events. Gelora Joint offers an outdoor dining experience with a tropical vibe and local cuisine. Finally, there is the beach front that provides various beach activities.



Figure 22: Masterplan and perspectives of Taman Gelora.

Sections and Elevations

The first elevation depicts a slight difference in tree density between Beach Forest Area and Jong Playground. Jogging, playing, strolling, viewing, and resting are some of the activities available. Bayu Park Area has more shrubs and small trees for screening on the second elevation, whereas Coral Drift Park has more groundcover and palm trees to guide visitors. The first section then depicts the interaction between Gelora Plaza and its surroundings. When reaching Gelora Plaza, a tunnelled walkway can have a greater impact. The second section depicts various types of activities that can be found on Seberang Beach. Picnics, sand play, cycling, viewing and fishing are among the activities available.

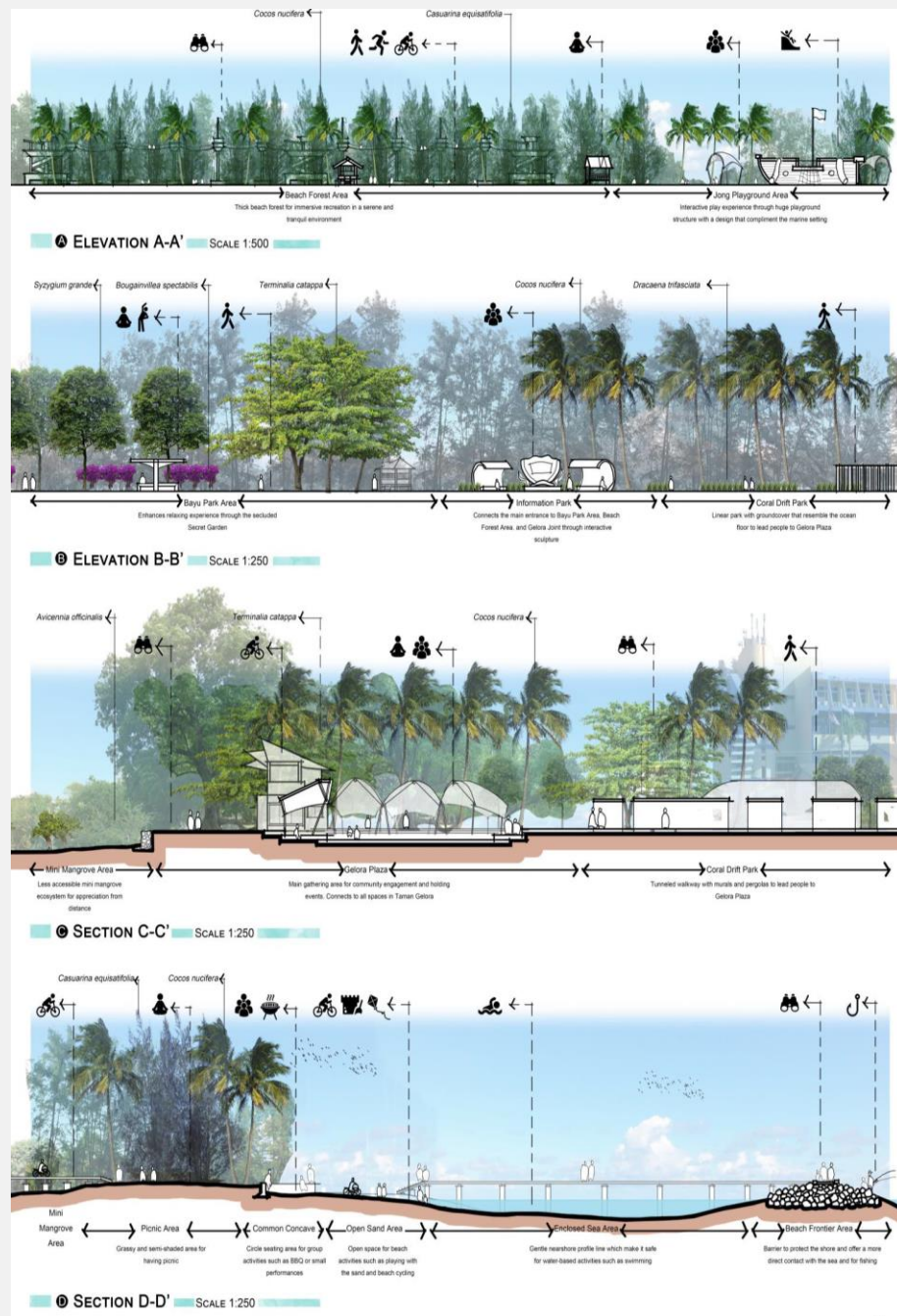


Figure 23: Sections and elevations

Detail Development Plan

Overall, there are three main areas: Gelora Plaza, the Boardwalk Area, and Pentas Gelora 2. The main feature of Gelora Plaza is its Plaza Darul Makmur, which is a community area where people can do guided aerobics in the morning, water jets in the afternoon, and leisure activities in the evening. Because of Pentas Gelora 1 and Layar Lebar, it can host both large and small events. The Boardwalk Area then connects Gelora Plaza to the next main space, Pentas Gelora 2. Walking, cycling, and boating are all options for getting around the boardwalk area. The meandering boardwalk surrounded by *Avicennia officinalis* is the main feature of Boardwalk Area.

The following main space is Pentas Gelora 2. The Pentas Gelora 2 is a two-story structure built on mangrove waters. Pentas Gelora 2's main function is to encourage people to visit the beach in front of it by offering activities such as the Mangrove Gallery and nature appreciation.



Figure 24: Detail Development Plan.

Perspectives

These views depict the strategic layout of Gelora Plaza, which allows for gatherings and events due to its concentric layout. Open spaces are proposed in order to invite and welcome visitors to use the area. Taman Gelora, surrounded by nature, retains its uniqueness, which may become the identity of Kuantan city and beyond, for example, as a tourist destination. Taman Gelora has the potential to expand and maximise its purpose, as evidenced by the images.



Figure 25: Views of the proposed spaces of at Gelora Plaza.

CONCLUSION

Taman Gelora has the potential to be a strong image and landmark for the city of Kuantan as an east coast Malaysian city. This project strengthens it by resolving Taman Gelora's issues and improving its spaces and activities. The local community will play an important role in the project's success. Taman Gelora's existing facilities and activities are being improved in order to promote it as a recreational coastal park. Some of the spaces are also redesigned based on their intended use. As a result, visitors should be able to connect with Taman Gelora as well as the previously separated shore. Hopefully, the project will have a positive impact on the city of Kuantan.

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