



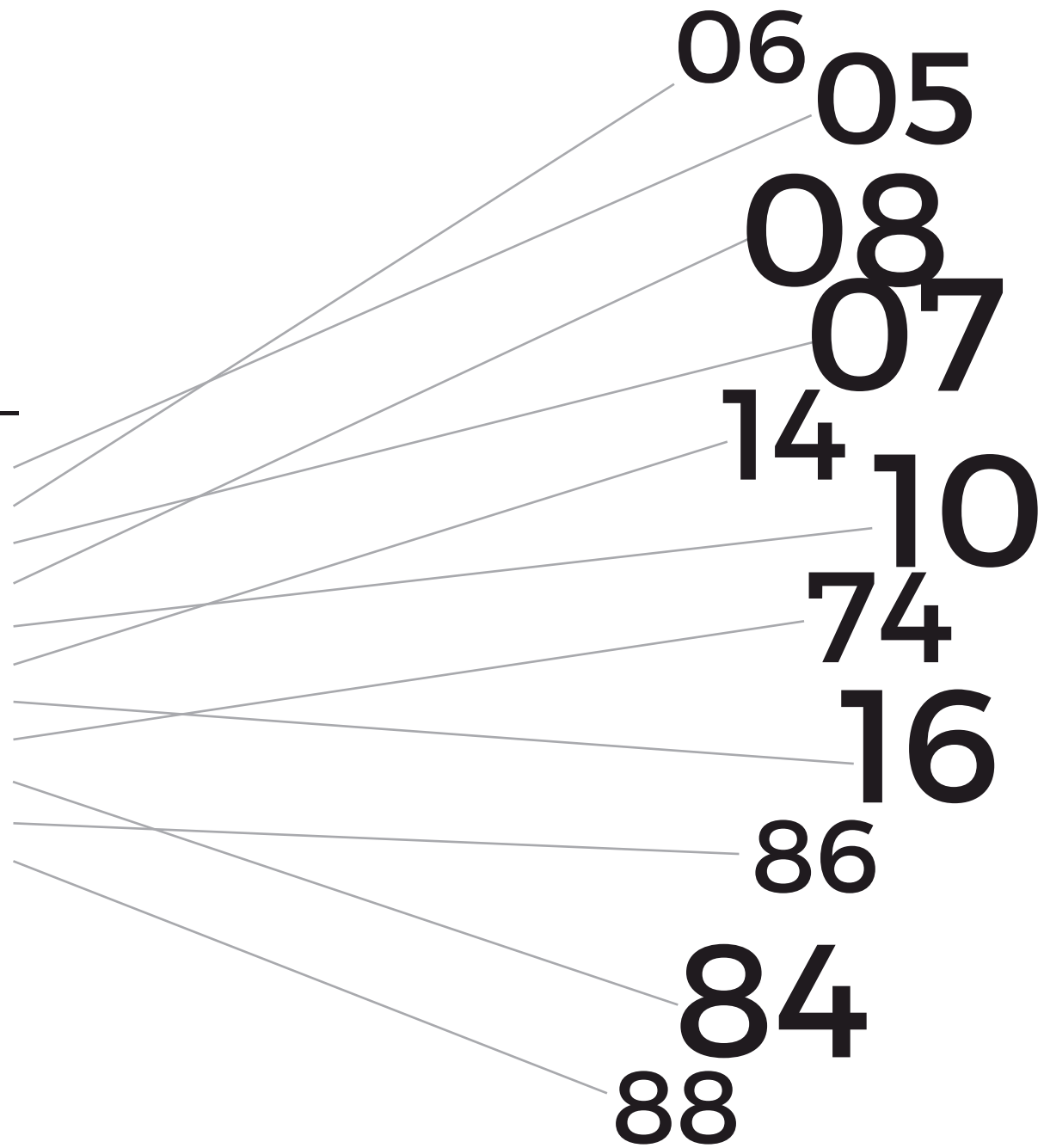
GDH. VADHOO

ISLAND STUDY
2017

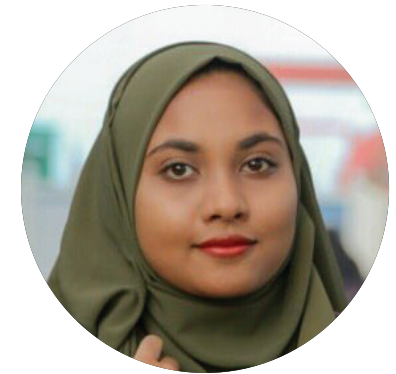
Faculty of Engineering Technology

TABLE OF CONTENTS

- Abstract
- Acknowledgement
- Vadhoo at a glance
- Location
- History of Vadhoo
- Existing Land Use Plan
- Local Profile
- Action Plan and Strategy
- Legal Framework
- Strategy Map
- References



GROUP DETAILS



ISLAND STUDY
GDH.VADHOO

STUDENTS INVOLVED

AHMED SUJEETH S05956
MOHAMED ILYAS S033554
AMINATH LAMHA JINAH S045557
SHAFRA AHMED FAZEEL S039688
MOHAMED ALTHOF S048062



ABSTRACT

The serene island

THIS STUDY WAS DONE BY A GROUP OF UNIVERSITY STUDENTS STUDYING IN SEMESTER 4 (2017) OF FACULTY OF ENGINEERING TECHNOLOGY, WHICH IS PART OF THE MALDIVES NATIONAL UNIVERSITY.

Located on the southern province of Gaafu Dhaalu Atoll is the island Vaadhoo. The island is reached by crossing the deep blue waters or by air from Male' and then by sea from Thinadhoo. From afar, the island appears to be a strip of greenery and is actually oval-like in shape. As you come closer, the greenery is more focused on and the lack of tall buildings can be noticed.

ACKNOWLEDGE

We would like to send our appreciation to everyone who helped us in completing this book. Special thanks to our lecturers- Nadheem and Fariz- for their guidance and feedback throughout the making of this book.

We would like to send our appreciation to the G.Dh. Vaadho Council and other members of the community for having us and giving us an opportunity in studying their island for our project. Also would like to give many thanks to the locals of the island for their hospitality during our stay.

VADHOO AT A GLANCE

Located on the southern province of Gaafu Dhaalu Atoll is the island Vaadhoo. The island is reached by crossing the deep blue waters or by air from Male' and then by sea from Thinadhoo. From afar, the island appears to be a strip of greenery and is actually oval-like in shape. As you come closer, the greenery is more focused on and the lack of tall buildings can be noticed.

THE NORTH HAVE A MORE MODERN ARCHITECTURAL STYLE

Upon entering the island, one is hard-pressed not to notice the grand access road- that is the main road. The roads are unpaved and unevenly distributed with depressions in certain areas which gets puddled up on rainy days.

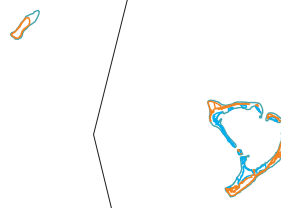
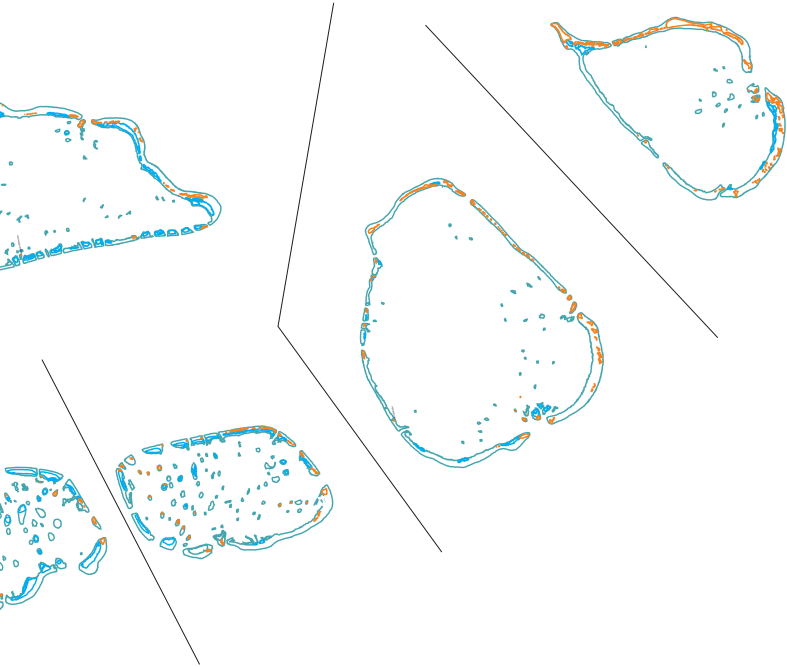
The houses are arranged in a grid pattern on both sides of the main road up until the old town area. From there, the rest of the houses are arranged in an irregular pattern. A comparison can be identified from the houses in the North and South of the island. Those in the North have a more modern architectural style wherea the ones in the South show more Traditional architectural styles.



LOCATION

Vaadhoo is located geographically at the bottom tip of G.Dh. Atoll, south of Maldives, situated between Faresmaathoda and Ayada Maldives resort. Two sea channels exist on either side of the island





0.2262° N
73.2736° E



HISTORY

Vaadhoo is an inhabited Island located in south Huvadhoon atoll. The size of the Island is 178 hectare and the total population is 1441. The Island itself is huge with lot of space and fertile soil. No one really knows in which part of the island the population started but it can be seen that it started in the southern side of the island which is now called the Old Town. According to the old people, islanders lived in different areas of the island because of diseases spreading. With that intention, the islanders built mosques in each area. Due to this, the island now has six mosques.

THE SIZE OF THE ISLAND IS 178 HECTARE
AND THE TOTAL POPULATION IS 1441.

The island is filled with different type of plants and vegetation. Major works done during the olden days were agriculture and fishing. These are still done in the island today. Back then, people used to grow 'Kudhi bai', 'Zuvaari', and 'Dhonalha'. Different plants like jack fruit tree, mango tree, sapodilla tree, bread fruit tree, palm tree and guava tree were also planted.

Vaadhoo has a long term history of education due to Vaadhoo Dhanna Kaleygefaanu. He was a famous teacher and a scholar, who spent most of his life educating people. He did his studies from abroad and taught in the Hukuru Miskiy as there was no specific school in the island then. Many people came to seek education from him.



GDH.VADHOO

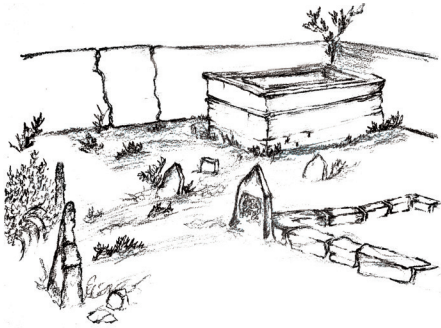
Old Tombstones



HISTORICAL PLACES

Historical places pointed out

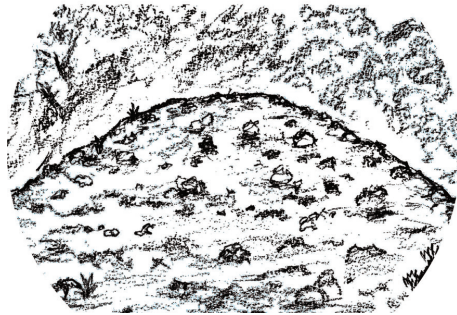
HISTORICAL PLACES IN GDH. VAADHOO



1

THUNDEY ZIYAARAI

The place is very cemetery located in the north east side of the “eedhegala” road. People used to visit there and clean the area and recite faathihaa near when the fishing is low.



2

KUDA HAVIHTHA

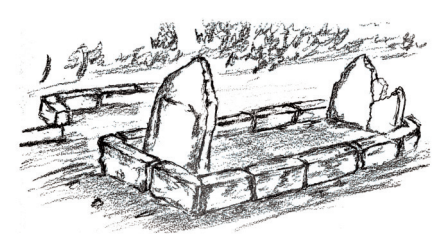
The place is where the Buddhist chaitya or stupa was located in before the Maldivians were converted to Islam.



3

BULHAHNAABU ZIYAARAI

This area is filled with tombstones of different families. People used to clean the area and put white sand near tombs, when the boats were late from arrival.

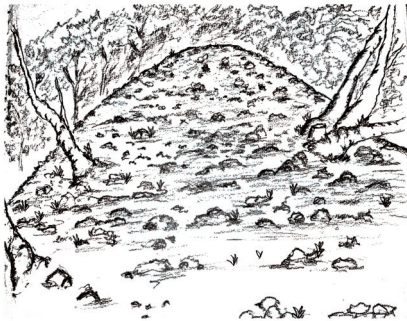


4

GALA MISKIY ZIYAARAI

Pregnant women used to visit there in their last trimester for a spiritual ritual. It is said that it will make their labor easier for the women.

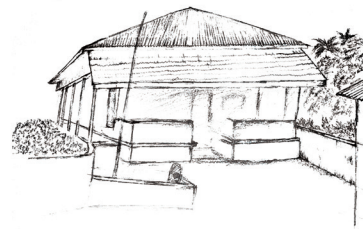
HISTORICAL PLACES IN GDH. VAADHOO



5

HAVIHTHA

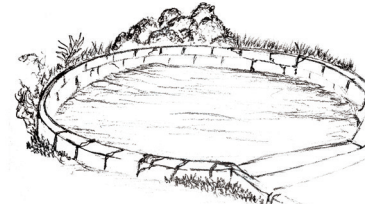
The place is where the Buddhist chaitya or stupa was located in before the Maldivians were converted to Islam.



6

JAMAALUDHIN ZIYAARAI & AASAAREE MISKIYY

It is the sepulchre of famous person Mohamed Jamaaludhin who was studied abroad and later came in Maldives and used to teach people in Vaadhoo hukuru miskiyy (aasaaree miskiyy).



7

VEVU

The place is used by the ancient civilization as a public bath area.



8

NIKAGAS

It is a banyan tree more than 400 years old located in north east side of the "eedhegala" road.

EXISTING LAND USE PLAN

The existing Land Use Plan shows the location of the currently existing places in the island. These include the housing units, commercial areas, infrastructure services and others. This plan also shows the vast plantation and the agricultural fields the island has.



GDH. VAADHOO LAND USE PLAN

AS OF AUG 2017

LOCAL PROFILE

1. PHYSICAL FEATURES, CLIMATE, NATURAL HERITAGE, NATURAL RESOURCE MANAGEMENT

2. POPULATION AND HOUSING

3. ECONOMY AND EMPLOYMENT

4. RETAIL AND COMMERCE

5. TOURISM AND VISITORS, ATTRACTION AND FACILITIES

6. RECREATION AND OPEN SPACE

7. COMMUNITY FACILITIES

8. URBAN DESIGN CHARACTER AND HERITAGE DESIGN

9. TRAFFIC, TRANSPORT AND INFRASTRUCTURE



PHYSICAL FEATURES, CLIMATE, NATURAL HERITAGE AND RESOURCE MANAGEMENT

1

TOPOGRAPHY

Soil depressions on the arterial roads and connecting roads exist due to the combination of rain water collecting, conversion of soil to muddy conditions and also due to the traffic on those roads. Additionally, the mud created prevents effective drainage of rainwater into the ground. These conditions lead to the difficulty for both pedestrians and vehicles to effectively move on those roads. No road system with drainage incorporated exists anywhere on the island.

Land use has been deliberately made to fit a grid pattern in recent history. Much of the old town remains with no pattern of division of plots and is very disorganized. Systematic planned landscaping is absent in the island with the abundance of vegetation all around.



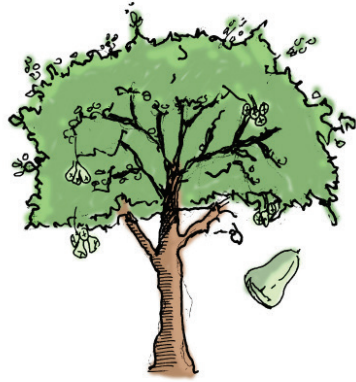


- BANYAN TREE
- PUDDLES

NATURAL HERITAGE

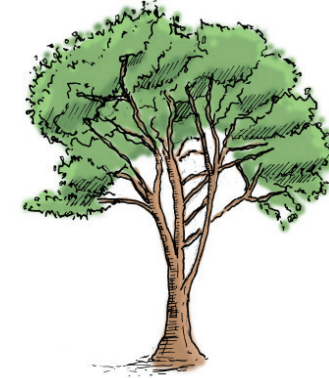
The oldest living tree of the island is a banyan tree estimated to be of 400 years old. The tree is located on the southwest side of the island and is not easily accessible since it is situated in the south dense vegetation area.





WATER APPLE

Water Apple is a plant species in the family Myrtaceae, native to an area that includes the Greater Sunda Islands, Malay Peninsula and the Andaman and Nicobar Islands, but introduced in prehistoric times to a wider area and now widely cultivated in the tropics.



NEEM

Neem is a tree in the mahogany family Meliaceae. It is one of two species in the genus *Azadirachta*, and is native to the Indian subcontinent, i.e. India, Nepal, Pakistan, Bangladesh, Sri Lanka, and Maldives. It typically is grown in tropical and semi-tropical regions.

SEA HIBISCUS

Hibiscus tiliaceus is a species of flowering tree in the mallow family, Malvaceae, that is native to the Old World tropics. *Hibiscus tiliaceus* reaches a height of 4–10 m (13–33 ft), with a trunk up to 15 cm (5.9 in) in diameter.

TYPES OF TREES FOUND IN VAADHOO

BREADFRUIT

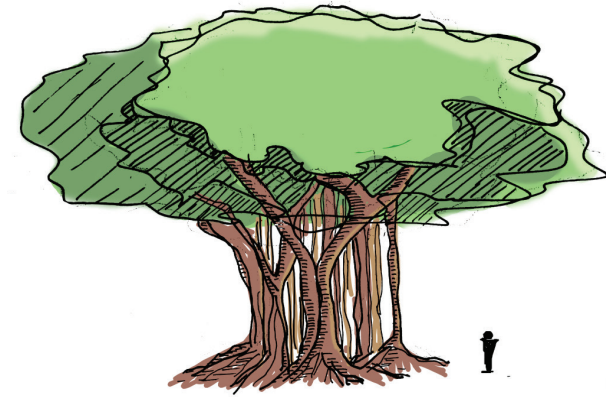
(*Artocarpus altilis*) is a species of flowering tree in the mulberry and jackfruit family (Moraceae) originating in the South Pacific and eventually spreading to the rest of Oceania. Breadfruit trees grow to a height of 26 m (85 ft).





COCONUT PALM

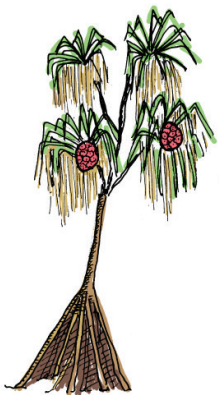
The coconut tree (*Cocos nucifera*) is a member of the family *Arecaceae* (palm family) and the only species of the genus *Cocos*. The term coconut can refer to the whole coconut palm or the seed, or the fruit, which, botanically, is a drupe, not a nut.



BANYAN TREE

SCREW PINE

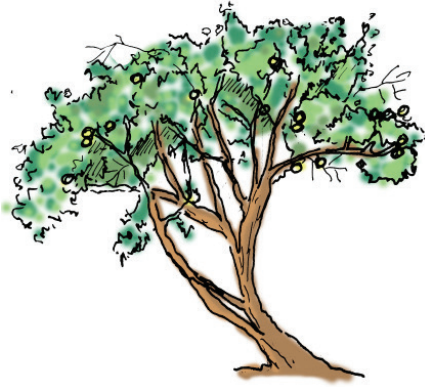
Screw pine is a genus of monocots with some 750 accepted species. They are palm-like, dioecious trees and shrubs native to the Old World tropics and subtropics. Often called pandanus palms, these plants are not closely related to palm trees.



MANGO

Mangifera indica, commonly known as mango, is a species of flowering plant in the sumac and poison ivy family *Anacardiaceae*.





GUAVA

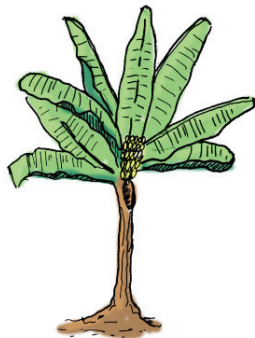
Widely cultivated in tropical and subtropical regions around the world, guava fruits can range in size from as small as an apricot to as large as a grapefruit.



PAPAYA

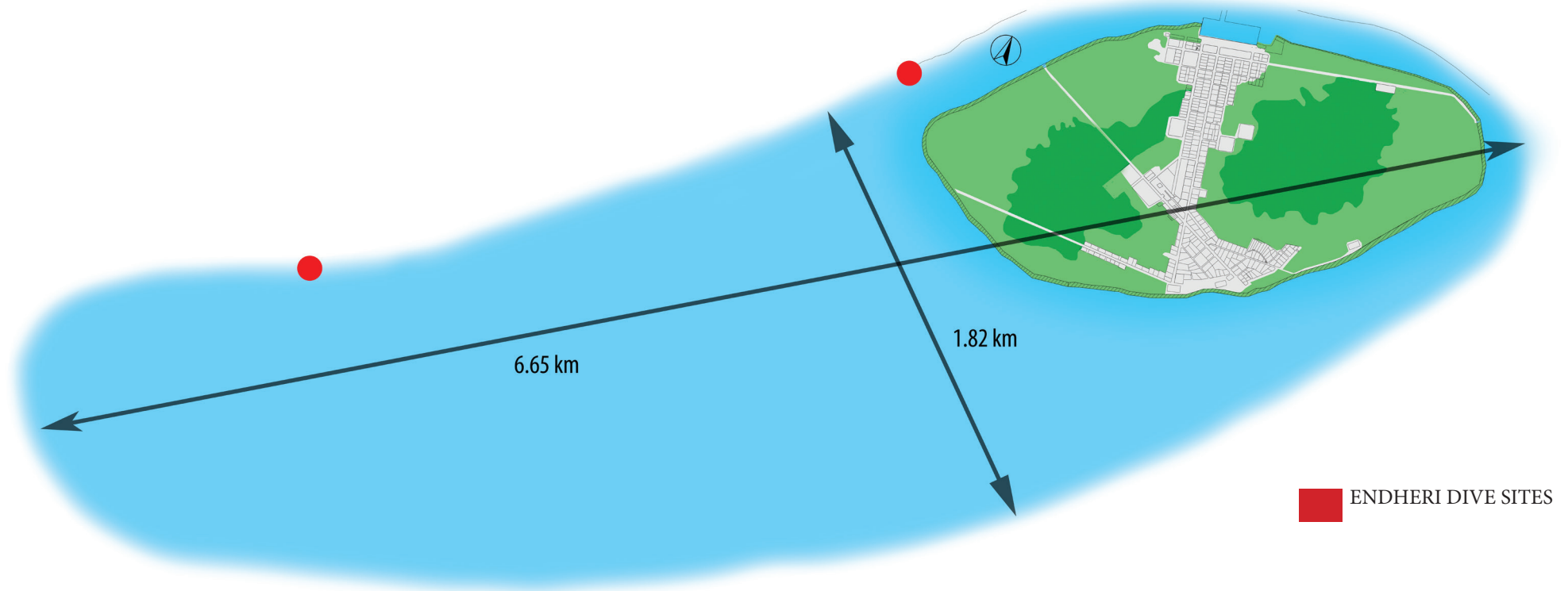
The papaya is a small, sparsely branched tree, usually with a single stem growing from 5 to 10 m (16 to 33 ft) tall, with spirally arranged leaves confined to the top of the trunk. The lower trunk is conspicuously scarred where leaves and fruit were borne.

TYPES OF TREES FOUND IN VAADHOO



BANANA

The banana plant is the largest herbaceous flowering plant. All the above-ground parts of a banana plant grow from a structure usually called a "corm".



REEF

Any efforts to monitor, use and protect the reef is not well managed. An evidence of this is the anchoring of various vessels that bring in tourist to the Blue Bowls Surf Point., A disruptive effective of anchoring is that the reefs are constantly under degradation.

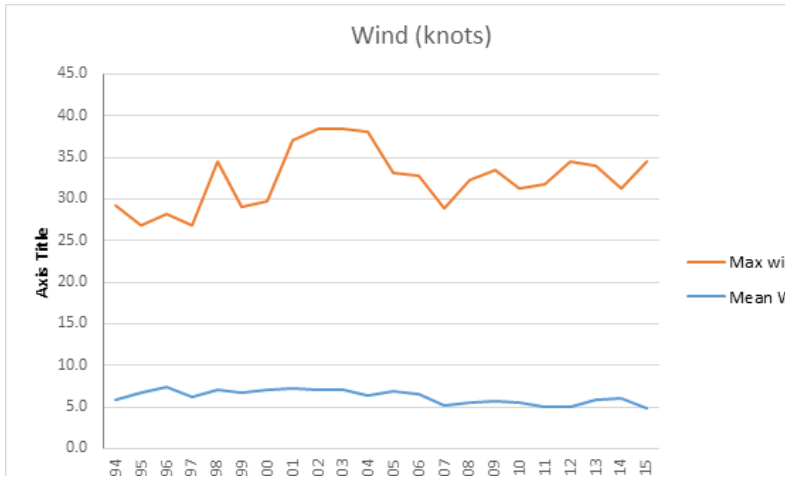
Reef area is rather large with 2 sea channels on the sides. It is these reefs that have the potential for a tourist dive site attraction since much of the northwest side is abundant with Red Coral, locally known as "Endheri"

A rather large reef exists around the island with naturally occurring corals such as black corals and red corals scientifically known as *Antipatharia* and *Corallium rubrum* respectively. These reefs can be potentially tourist attractions but as of to date, they have not been utilized at all.



SOIL EROSION

Soil erosion is prominent on the west side of the island as shown in figure 1.3. Much of the erosion is not as prominent as that of other nearby islands partly due to the fact that the shore line is fortified with trees of well adapted to salty waterline conditions.



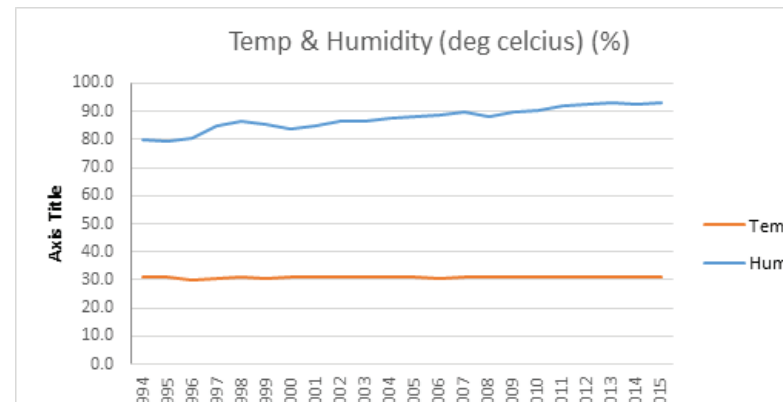
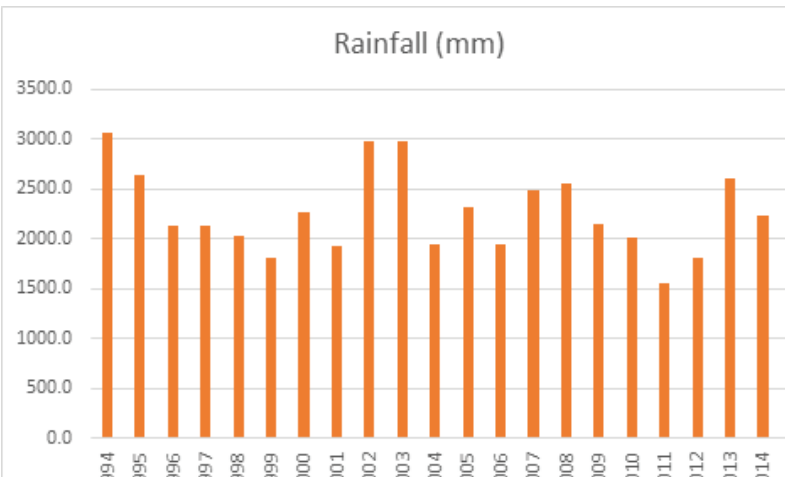
CLIMATE

Vaadhoo experiences dry and wet monsoon seasons, typical to that of Maldives. Wet season starts around June, peaks around end of July and ends around November.

The temperature is generally warm, with an average of 30 degrees Celsius observed on average yearly.

Humidity ranging from 80% to 93% with an average of 87%.

Winds range from 29 knots all the way to 38 knots with an average of 32 knots yearly.

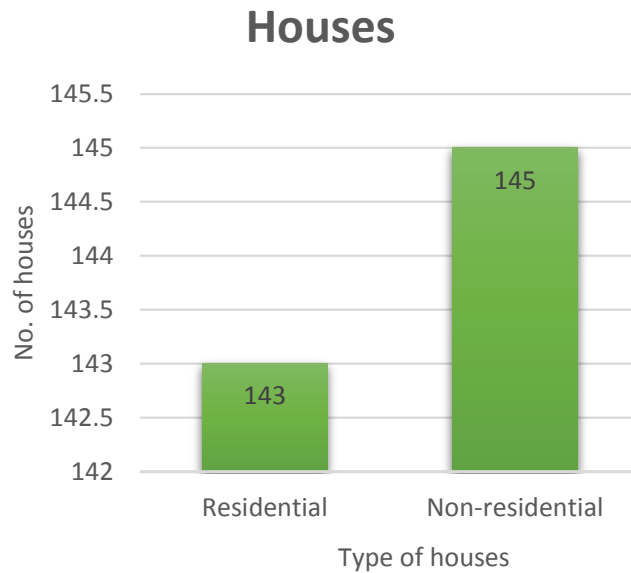




2

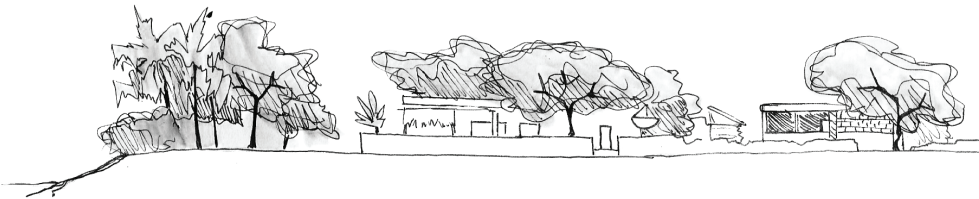
POPULATION AND HOUSING

Compared to the vast land size, i.e. 178 hectares, Vaadhoo has a small population of 661 locals and 51 foreigners (census, 2014). The annual population growth is -1.69. The island has a population density of 4 people/hectare. Since 2000, the islands population has decreased by 4%. Reasons like education and lack of job opportunities has caused this slight decrease.



HOUSING

Vaadhoo has 288 housing units in total, out of which 145 are abandoned houses. This is two houses more than the residential houses. Due to these houses being left abandoned, plants are seen growing inside. This makes them look attractive but them being abandoned for a long time causes people to throw garbage inside. This in turn becomes a breeding site for mosquitoes and cause problems in the long term.



EDUCATION IN THE ISLAND

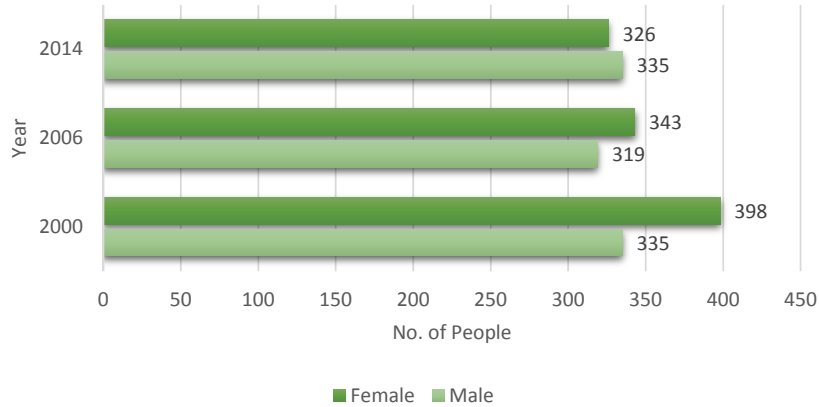
In Vaadhoo, The education provided is till the O'levels. After that, the students tend to move out of the island to attain higher education. This causes a decrease in the population of the island, especially the younger youth.

Table showing the differences found in the North and South of the island regarding population and housing

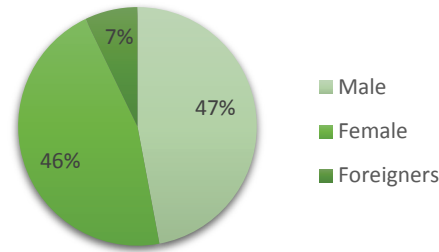
ARCHITECTURAL DETAILS	
<i>North</i>	<i>South</i>
Modern	Old
Cement blocks	Thehiga
High boundary walls	Low boundary walls
Height that of typical house	Height a bit lower than a typical house. Some have height raised up using cement blocks.
POPULATION AND HOUSING	
<i>North</i>	<i>South</i>
High population	Low population
Occupied houses more	Abandoned houses more



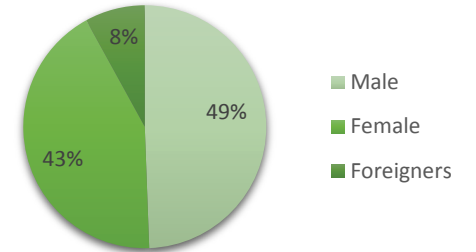
Population of Vaadhoo



G.Dh. Vaadhoo



Gaafu Dhaalu Atoll



FOREIGNERS PERCENTAGE IS HIGH

Vaadhoo has a living population of 712 people and 51 of them are foreigners. This is not much compared to the population but the number increases as more come to the island for different purposes like work. As foreigners increase in the island, The cultural values also seem to change as the island becomes more accustomed to their values and customs.

The population of the island is mostly concentrated on the North of the island. Very few people are seen living in the Old town area now. This can be due to the fact that the harbour is located near the Northern side and it is too far to walk all the way to the other end of the island. There are also no shops that are currently open in the old town area.



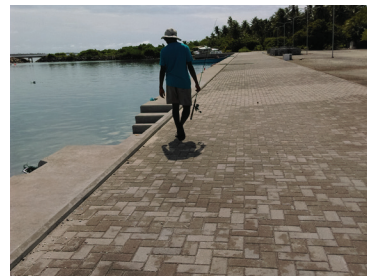
Population Distribution and Density

In the early days, people of Vaadhoo settled in the South of the island, which is now known as the Old Town. Over the years, people have moved to the North to the harbour side and now most of the population lies in this area. As a result, the relationship between the North and the South are becoming weak. Moreover, the shops in the south side do not profit due to the reason. The population of the island has been distributed mainly in the middle of the island where the main road lies. Houses lay beside the road.

3

ECONOMY AND EMPLOYMENT

The main economy of the island depends on farming. Though farming has been dominating the economy of the island, fishing and tourism are also to be considered. The employment rate is low due to lack of jobs available in the island.



FARMING

With the vast land and the good soil condition for farming the main economy of the island is agriculture. While 20% of the land is inhabited by people, the other 80% is full of vegetation. From the vegetation 33% of land is used for farming. Land used for farming is not managed well by the council and no income is generated to the council by these farms. These lands are open for farming for anybody with no limitation. 80% of the population depends on farming. However, the number of islanders who are physically involved in work are none and almost all the farm works are done by foreigners who are hired by them.

The techniques used in farming are rather old. So the plants are watered manually using buckets by the workers. A well is dug in each of the farms for watering the crops in the field.



FISHING

Even though farming is the main economy of the island, most of the young people tend to go fishing. There are total number of 2 fishing boats in the island. Due to the decreased no of fishing boats in the island, boats are taken from other islands for rent.

TOURISM

Most of the tourists who visit the island is for surfing as there is the worlds no 7 surfing point named blue balls near the island. The amount of visitors gradually has been increasing. However, the island has only one guest house named Serene Blue Balls Inn to accommodate the tourists. Due to increased number of occupancy over the years, one tourist guest house would not be enough to accomodate them in the future.



GOVERNMENT INSTITUTES



SCHOOL



HEALTH CENTRE



FENAKA



COUNCIL

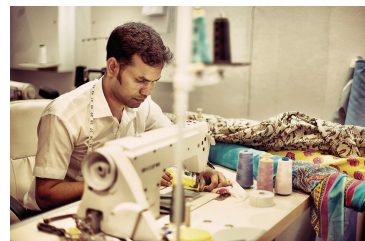
PRIVATE INSTITUTES



CARPENTRY



FARMING



TAILORS



WELDING



SHOPS



SEA CUCUMBER HARVESTING

Vaadhoo has the potential of harvesting 2 types of sea cucumbers. 1- 'Kari' is the type that inhabits in shallow waters, which is found in the Southern side of the island

2-'Butt' is the type which inhabits in muddy and deep areas which is found in the Northern side of the island.

Eventhough these are abundant and expensive, only a few individuals collect and sell them. Most of the sea cucumbers are being taken from other islanders and sold.

4

RETAIL AND COMMERCE



SHOPS

Vaadhoo has many shops but out of them only 11 are currently up and running. 9 of these shops sell general packed products, 2 of them sell hardware products and 1 of them sell clothes and beauty products.

However, there are no shops for tourists. Sometimes the tourists who visit the island have to go to nearby islands to buy souvenirs. This shows the need of souvenirs for the tourists. Moreover, in the island, there are people who possess the skill of arts and crafts for the manufacturing of souvenirs. This creates opportunities for islanders to be involved in a job and generate an income from it.



CASH FLOW

The island itself being an agricultural island, people tend to spend no money on daily required agricultural foods. The only thing that they buy from the shops are general consumer food. Due to unavailability of staple foods and the shops having fewer varieties of products, people tend to go to Thinadhoo for shopping which leads to loss of cash from the island. With the difference between the income generated in the island and cash flowing out, the island does not generate much revenue. Thus, the cash flowing within the island is low. Due to this, the islanders do not possess a sufficient capital to expand their businesses.



TRANSPORT

The retailers bring goods and other supplies either from Male' by air or from Thinadhoo by ferry and sometimes from Addu by hiring a boat. However, they are expensive due to cumulative expenses and the long route it takes.

The goods that are brought to the island are unloaded by hired people and transported using a three wheeled island pickup which can carry a limited amount of goods.



LOCAL TRADE

Vaadhoo is known for its vast agricultural lands. Farmers sell harvested goods from their farms to nearby islands and resorts to generate an income.

Even though Vaadhoo is famous for its farming, the island lacks a local market to sell the harvest. Neighboring islands of Vaadhoo also do not have a local market.



- ACTIVE SHOPS
- INACTIVE SHOPS
- HARDWARE STORES
- TAILOR SHOPS

5

TOURISM AND VISITORS, ATTRACTION AND FACILITIES

TOURISM DEVELOPMENT POTENTIAL

Potential sites such as the south and east of the island are isolated and ideal for such development for the tourism market.

Activities and facilities for tourists such as water sports and cafe's are non existent at the moment, hindering the potential of the island as a destination.

Another area lacking for tourists is a private beach or any beach altogether.



LOCAL TOURISM

Local tourism is next to non-existent at the moment. Only one guest house exists in the island by the name of Serene Blue Bowl Inn, which as the name suggests, is targeted for those tourists who come to surf at the famous Blue Bowls surf point.

What could be a significant industry especially with the prospect of natural resources such as lush reefs and great surfing areas nearby, is not well explored or made use of for the benefit of the island.

BLUE BOWLS SURFING POINT

Blue Bowls is the world's 7th ranking surfing point and is located on the east side of the island. By land, the surf point could be reached via the path leading from the harbor to the east end of the island.

During the months of March to October, when most consistent wave swells are observed (5-6ft waves), tourists do visit the island and settle in the only guest house available, that is Serene Blue Bowls Inn. During November to February, a sudden decline of tourist and visitors are recorded because generally in those months, favorable NW and NE winds get cut off from SW winds, killing off most potential wave breaks, resulting in swells only capable of 2-3ft high.

As of to date, majority of the tourist visit the spot either on excursions or from nearby resorts with no benefit being made to the island from those events seeing as the tourist do not set foot on Vaadhoo but spend all of the time in the water, being deprived of themselves from experiencing island life and its many heritage sites.

Surfing competitions are held few and far between as well, which if held regularly, could be a big attraction for the island.





6

RECREATION AND OPEN SPACE

In order to make healthier and enthused community, recreation activities are very important for each and every Island. The open space in urban environment provides many advantages such as preservation of natural environment, provision of green space, built relationship among the people of the community etc. This would improve the well being of the community.



PARKS AND OPEN SPACES IN RESIDENTIAL AREAS

There are no parks or open spaces in the island for communal gatherings within the residential area. The one open space and park in the island is located near the harbour. Like the childrens' park, this open space being on one side of the island makes it far for the people on the other side of the island.



OPEN SPACE IN HARBOR

There is one open space located in the harbour which gets unnoticed by many people. The place goes unnoticed as there isn't anything there except some benches. Even at night, the whole place is very dark as there are no lights there.

OPEN SPACES

Open spaces create gathering spaces within a community. In Vaadhoo, there aren't many open spaces used by the community. The open spaces which are used are near the harbour in the North of the island.

CHILDREN'S PARK

The childrens' park is located on one end of the island, that is in front of the harbour, making it far for the kids that live on the other side of the island. Thus, only the kids living near to this park are able to use this space most of the time.



SURFING

Surfing is one of the sports that is famous among the young youth in the island. Especially due to the fact that the Blue Bowls surf point is located near the island. It's a sport practiced by both the genders. Even tourists come to the island for this purpose every year.

SPORTS

Men and women of the island are very much involved in sport activities mostly during evening. There are 4 main sport activities in the island. They are football, volleyball, bashi and surfing. These spaces are in the South of the island and far from where most of the people live. There are no seating areas in any of the courts



BASHI

Bashi is a traditional game that has been played in the Maldives for a long time. This game is played by the women of the country. Bashi is played occasionally by the people of the island in the evening and tournaments are also held during occasions.



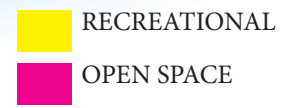
VOLLEY

Volleyball is another sport that is played in the island. It is not played as much as the other sports. But sometimes, there are volleyball matches held in the island.



FOOTBALL

The land for the football stadium is located next to Jamaludheen Madharusa. The land area allocated for the football stadium only enough for the pitch and its smaller than that can provide a seating area for the spectators.





7

COMMUNITY FACILITIES

Community facilities are public spaces that sees to the communities basic needs. These include schools, health centers, police stations and others. The island has the facilities to provide for the community but most of these places need an upgrade to fully provide for the people.



STAGE

The stage is located in the middle of the island near the old town. This space is an area of 24x21m. Combined with the space allocated to conduct the shows and the space for viewers, the stage area is not sufficient.



MOSQUES

The island has a total of six mosques. The prayer carpet is angled towards the northwest, so worshippers can face Mecca while they pray. One of these mosques is a cultural heritage known as "Hukuru Miskiy" or "Aasaaree Miskiy". It is one of the oldest places in Maldives.



HEALTH CENTER

Vaadhoo health center provides services from 8am to 2pm everyday. There are two wards with a total of 9 beds along with 1 emergency room, 1 labour room and a laboratory. This place operates with 1 medical doctor, 1 nurse, 2 local staff and 1 lab technician. Since there are very few equipments in the laboratory, the test samples done of patients have to be sent to Male'. There is no x-ray machine even in the center as it is quite expensive.



SCHOOL

Vaadhoo Jamaaluddin school started in 1967. This school provides education up to grade 10 and has no higher education options. There are a total of 157 students, 18 teachers and 31 staff members along with primary and secondary teaching. A total of 10 classrooms are there and no library, staffroom or laboratory. Different sport activities and educational competitions are held in the school.



OPEN SPACE IN HARBOUR

One important facility the island lacks is an emergency response team. The island does not have a fire station even. This might be because there are not many people living in the island.

When an emergency occurs, a response team is sent to the island from Thinadhoo. By the time they reach, it is too late since they are too far and not able to come on time.

A program was done to train the people in the island for an emergency response team but it was not successful.



POLICE STATION

The Police station is located near the harbor and has an area of 33x24m. The space is not enough to keep a four-wheeled vehicle inside. Only one vehicle, that is a motorcycle, is used by the policemen. Being located near the harbor, the station is a little far from the general population of the island. Thus, they are not able to reach on time when a situation arises.

LOCAL COUNCIL

Local council of the island has 9 councilors who administrate the island development projects and activities.

Megistrate court has been functioning since 1979. Has one senior megistrate, two administrative officers and one housekeeper. Common types of cases taken from 2015 to 2017 are murder cases, sex assaults and drug problems within the island.



EMERGENCY RESPONSE

One important facility the island lacks is an emergency response team. The island does not have a fire station even. This might be because there are not many people living in the island.

When an emergency occurs, a response team is sent to the island from Thinadhoo. By the time they reach, it is too late since they are too far and not able to come on time. A program was done to train the people in the island for an emergency response team but it was not successful.





8

URBAN DESIGN, CHARACTER AND HERITAGE



STREETS

Vaadhoo has two main roads and smaller roads branching out from the main road. These roads are unpaved and becomes muddy when it rains. This makes the roads difficult to walk in and makes them look quite dull and empty. There are no trees even found on the streets.



TRADITIONAL ACTIVITIES

Traditional activities play an important role in Maldives. Like every other island in the Maldives, Vaadhoo too celebrates occasions like Eid by performing traditional activities. Some activities played in the island include Bodu beru jhun and Dhandui jhun. Even some sport matches are played as it is part of the Maldivian tradition.



INADEQUATE LIGHT

Light posts with halogen lights are placed in some places of the island with a long distance in between. All the streets have single bay light posts except for the ones in the harbour area. These light posts are two bay posts. These posts are not enough for the island to provide sufficient lighting, making the streets dark at night.



POLICE STATION

The Police station is located near the harbour and has an area of 33x24m. The space is not enough to keep a four-wheeled vehicle inside. Only one vehicle, that is a motorcycle, is used by the policemen. Being located near the harbour, the station is a little far from the general population of the island. Thus, they are not able to reach on time when a situation arises.



AGRICULTURE AND VEGETATION

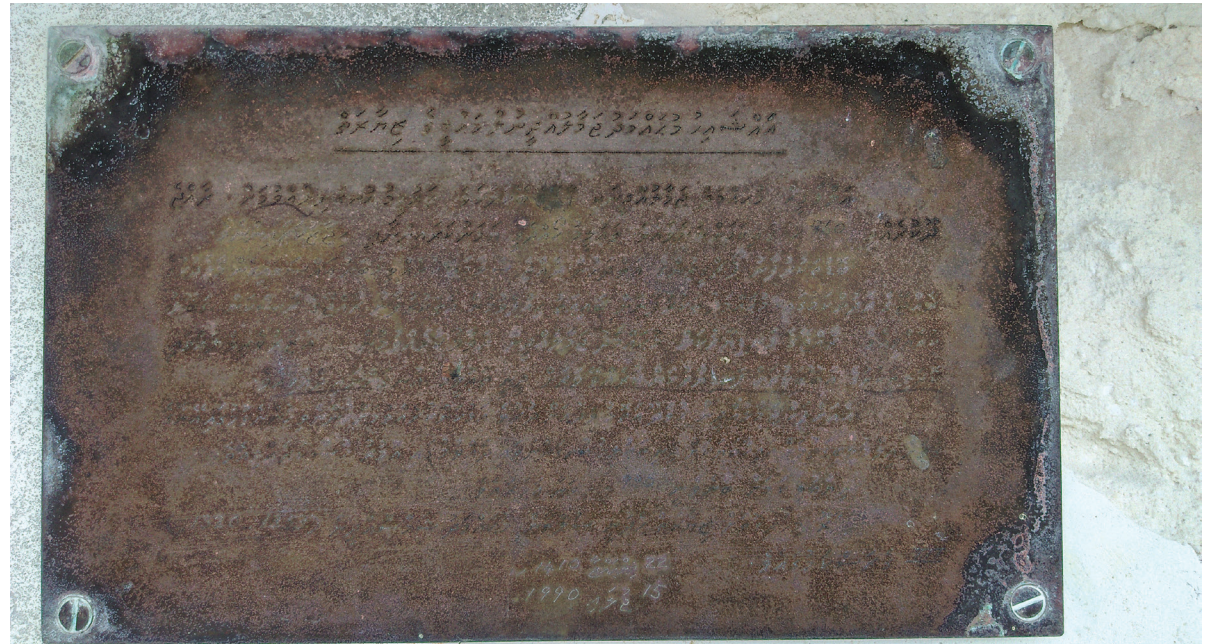
Different types and species of trees fills the island densely on two ends. The lands are also used for agricultural purposes due to the rich and fertile soil.



RICH HISTORY AND HERITAGE

Vaadhoo has many heritage sites and tombstones with ancient history. Some heritage sites are now in ruins like the two Haviththa. These are buddhist stupas which is now in ruins as they were demolished after embracing islam. Other sites include Gale Miskiy Ziyaarai, Bulhannaabu Ziyaarai, Jamaludheen Ziyaarai and Thundey Ziyaarai. These heritage sites used to be visited by the islanders for different rituals back then. There also is a 'Vevu', which is an ancient bathing area.

Vaadhoo's history is unknown to almost everyone that is not from the island. Even most of the country does not know about this ancient history and the heritage sites. Most people who know, only know of the Hukuru Miskiy, also known as the Aasaaree Miskiy.





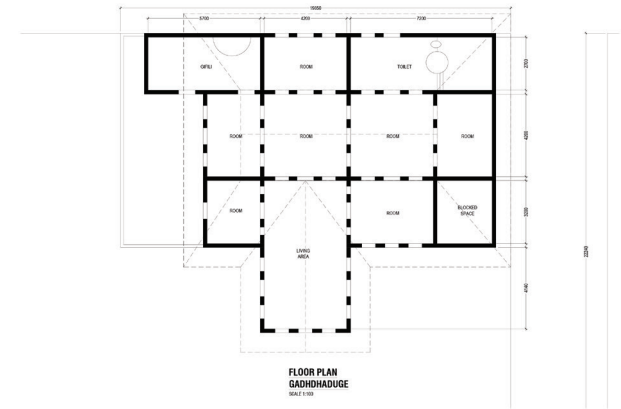


HUKURU MISKIY (AASAAREE MISKIY)

The Hukuru Miskiy in Vaadhoo is one of the most historical heritage site in the island. It was built in honour of Mohamed Jamaaludheen, most commonly known as Vaadhoo Dhanna Kaleyge Faanu.

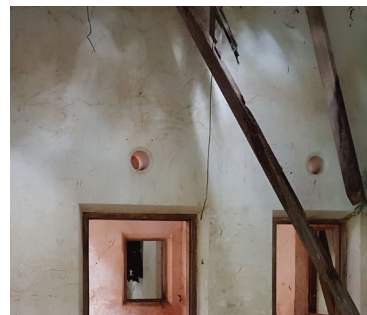
Mohamed Jamaaludheen is the first scolar to bring education into Maldives. He had his education done from Yemen. Back then a lot of people went to Vaadhoo to gain education from Jamaaludheen.

The Jamaludheen Ziyaarai is situated here. It is said that people used to visit his tomb to request assistance with their schoolwork.



GAHDHADUGE

Gahdhaduge is one famous abandoned house in the island. According to the islanders, an outsider came and bought the land. He is said to do Dhivehi medicine and sorcery. The house has its own unique layout unlike the other traditional styled houses in the island back then.



TRADITIONAL HOUSING STYLE

After comparing an old house and a contemporary house in the island, changes have been seen in the layout of the houses.

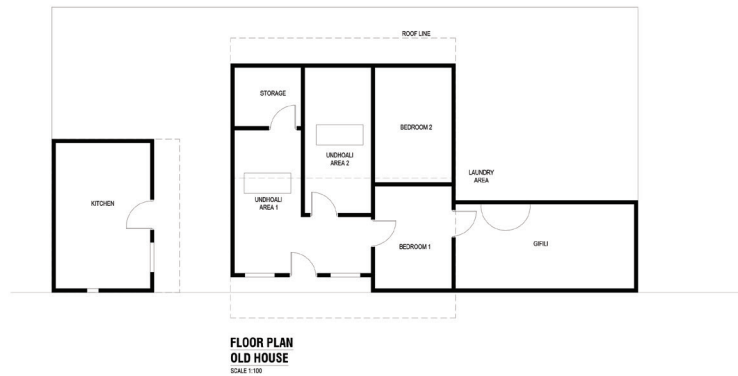
In the old house, the kitchen is separated from the main house. This is said to be done for safety reasons like in case of a fire and also because of the spreading of smell from the foods. A swing area is located at the entrance of the house which acts as a place for the guests who come to the house.

In the contemporary house, the kitchen is seen to be combined into the main house and no swing area is included.

The old house had a certain layout that was made to see to the safety of the people making it an important feature in the design of a house. Houses nowadays are losing these kind of important features.



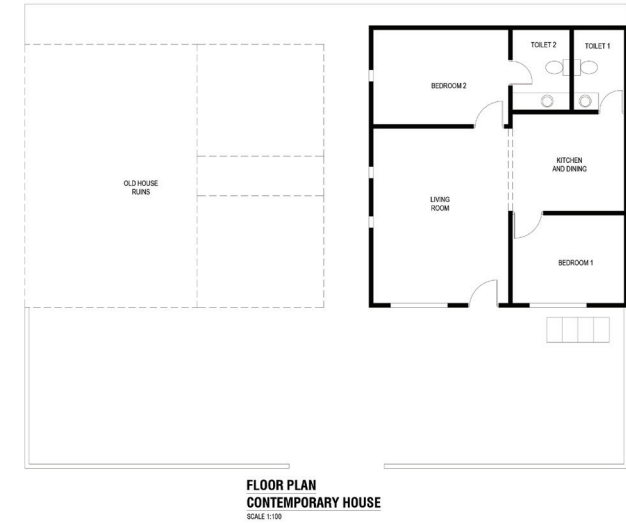




OLD HOUSE

The old house taken is from the Southern side of the island. This house has an irregular pattern in the layout. The kitchen is separated from the other areas of the house. The toilet in the house does not have a roof above it. The old roofing of the main house has been renovated and raised higher. Theliga is used for the construction of the house.





CONTEMPORARY HOUSE

This contemporary house is taken from the Southern side of the island. The ruins of the previous house in this land can be seen. This house contains all the spaces arranged in a rectangular shape under one roof.



9

TRAFFIC AND TRANSPORT AND INFRASTRUCTURE SERVICES

Infrastructure and facilities are underdeveloped in the island. The most immediate problem that require attention is the proper sewage network and disposal, which is lacking currently.



ACCESS ROUTE

Direct access to the island is currently via ferry and speed boat from the nearest airport at Kaadhedhoo or Thinadhoo island. While the ferry is operated by MTCC, speedboats are operated by individual service providers. Hence passenger transportation to and from the island is either very slow paced or expensive depending on the ferry or speedboat respectively.

Cargo delivery to and from the island is also rather difficult since no dedicated delivery methods are in place. Only small amounts of cargo are allowed to be delivered via the ferry. Docking and mooring of vessels are made at the 650 x 200 ft harbor and is easily manageable.

WASTE MANAGMENT

An isolated area in the southeast of the island is used for waste management and disposal. But no proper disposal method is practiced in here. The place being located in a secluded area, away from most of the population, makes it hard for disposing of waste.

SEWAGE

Septic tank system is implemented by the households where localized tanks made of concrete or cement blocks embedded underground next to the toilets. These are used as collecting systems for the sewage and require cleaning every 2 years or so to prevent overflow.

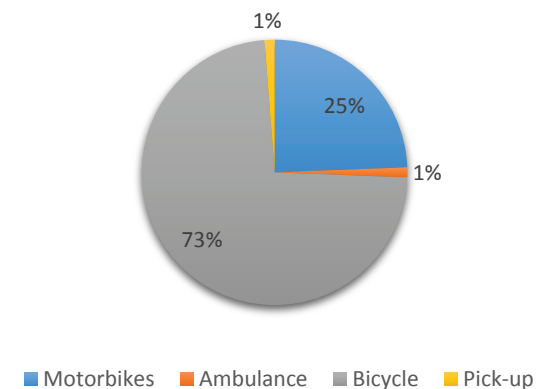


INTERNAL TRANSPORT

Land vehicles, predominantly motorcycles and small pickups are present but few in numbers. Pedestrians prefer to walk or use bicycles instead. Other necessities such as an ambulance and lorries are available.

Vaadhoo has two main roads and other smaller roads branching out. Out of these, only seven roads are mostly used by the islanders. These roads go through the populated areas of the island. On rainy days, almost all the roads become muddy and puddles are formed. Due to this, roads become uneven and is difficult to walk, ride and also access certain areas.

Chart Title





- UTILITIES
- INFRASTRUCTURE

ACTION AND STRATEGIES

1. PHYSICAL FEATURES, CLIMATE, NATURAL HERITAGE, NATURAL RESOURCE MANAGEMENT

2. POPULATION AND HOUSING

3. ECONOMY AND EMPLOYMENT

4. RETAIL AND COMMERCE

5. TOURISM AND VISITORS, ATTRACTION AND FACILITIES

6. RECREATION AND OPEN SPACE

7. COMMUNITY FACILITIES

8. URBAN DESIGN CHARACTER AND HERITAGE DESIGN

9. TRAFFIC, TRANSPORT AND INFRASTRUCTURE

1. PHYSICAL FEATURES, CLIMATE, NATURAL HERITAGE, NATURAL RESOURCE MANAGEMENT

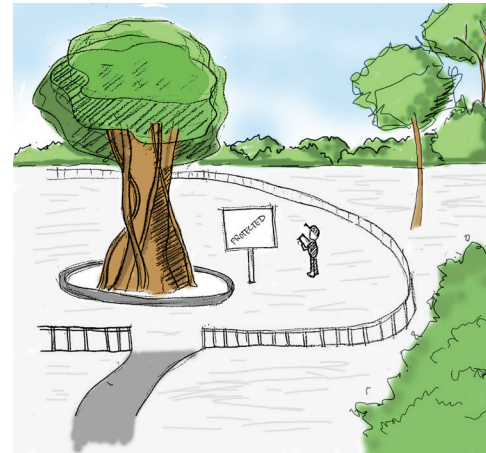


PROBLEM 1.A

Improper use of natural dive sites

STRATEGY 1.A

Allow for dive site exploration with the use of mooring or "faththiya" system.

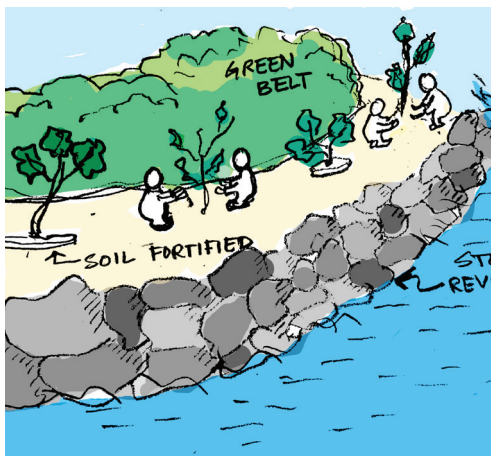


PROBLEM 1.B

Difficult to access locate the tree.

STRATEGY 1.B

Clear natural heritage banyan tree site of debris and vegetation, with clear path access from road.

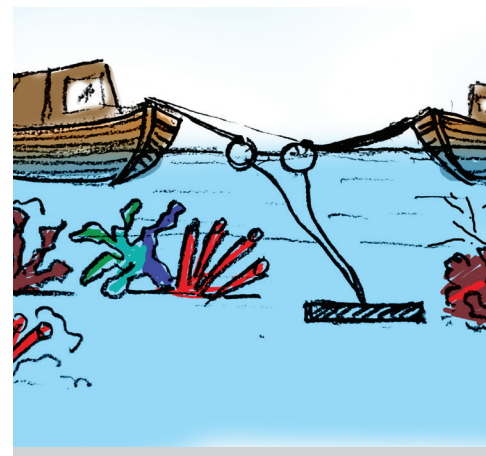


PROBLEM 1.C

Soil erosion on west side of the island

STRATEGY 1.C

Fortify the soil with green belt & sea wall with stone boulders



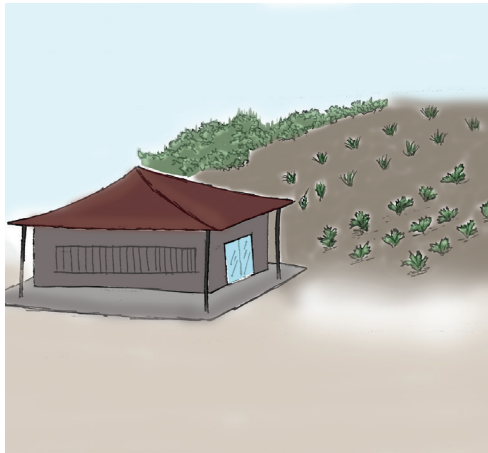
PROBLEM 1.D

Reef damage due to anchoring at Blue Bowls surf point

STRATEGY 1.D

Establish mooring or "faththiya" system and impose a fee for using it for the benefit of the island.

2. POPULATION AND HOUSING

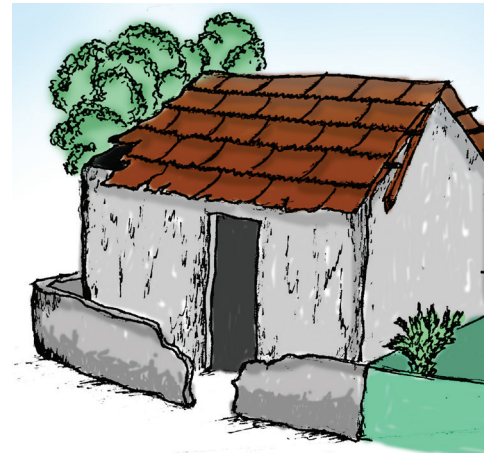


PROBLEM 2.A

Younger Youth leaving after O'Levels

STRATEGY 2.A

Introduce a program in the island for the youth. Propose an agricultural research center for the youth to innovate ideas and further the agricultural business in the island
Introduce an institute for higher education

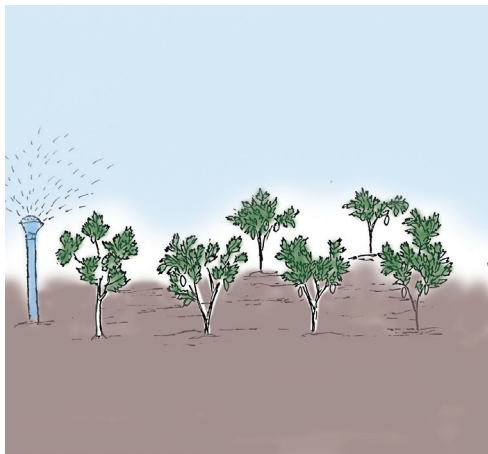


PROBLEM 2.B

Abandoned houses

STRATEGY 2.B

If abandoned for a certain period of time, change ownership
Have a caretaker
Sell lands to local nuclear families or to anyone who wants to buy them

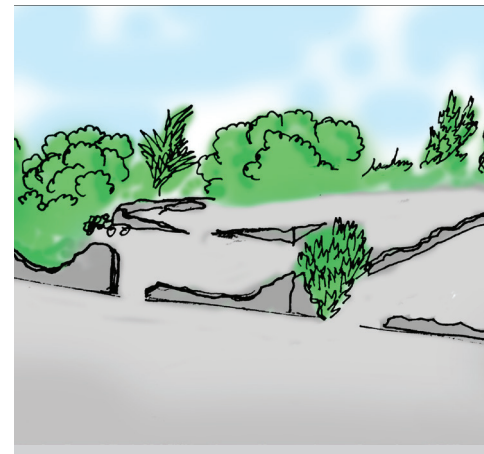


PROBLEM 2.C

Foreigners percentage is high

STRATEGY 2.C

Introduce new technology like the sprinkler system to reduce the foreign labour work



PROBLEM 2.D

Uneven distribution of population

STRATEGY 2.D

Mandate new housing plots to be given evenly throughout the island to evenly distribute population mass without concentrating it to one area.

3. ECONOMY AND EMPLOYMENT



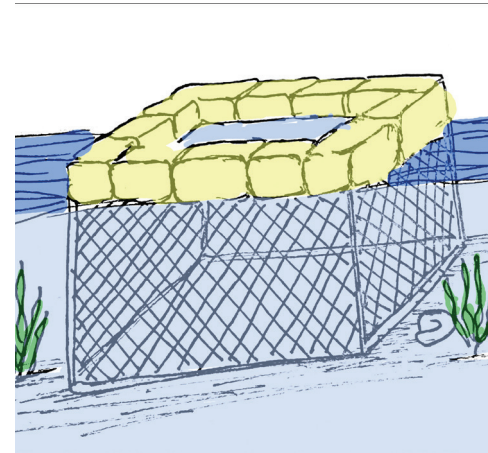
PROBLEM 3.A

Poor farming techniques

STRATEGY 3.A

Improving farming techniques along with a farming institute

Implementing modern techniques
Agriculture students field work

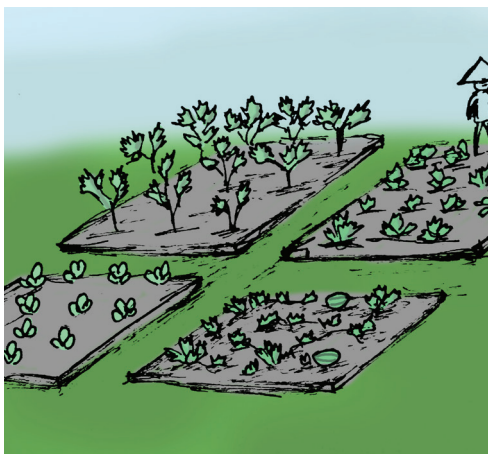


PROBLEM 3.B

Sea cucumbers being taken from other islanders

STRATEGY 3.B

Making provision for sea cucumber harvesting cages so that the economic benefits from the investment is directly made to the island.



PROBLEM 3.C

Farms not managed well

STRATEGY 3.C

Limiting the amount of area for each owner and collecting a fee from the farm lands.



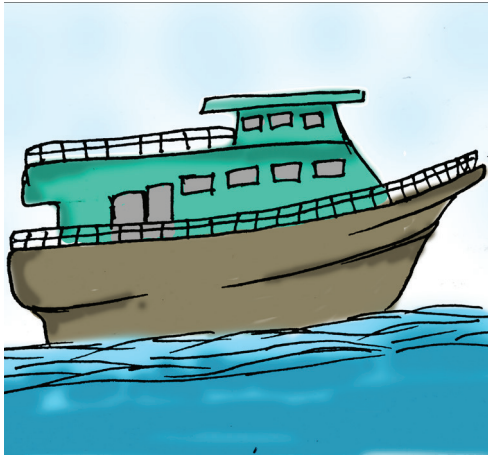
PROBLEM 3.D

Less places to accommodate tourists

STRATEGY 3.D

Development of a tourism sector to accommodate for the future accommodation and promoting it for more occupancy

4. RETAIL AND COMMERCE



PROBLEM 4.A

Goods are expensive

STRATEGY 4.A

Direct cargo boat to and from the island to alleviate cargo transport difficulties



PROBLEM 4.B

No shops for tourists

STRATEGY 4.B

Create souvenir shops for tourists to further the development of the sector by attracting tourists



PROBLEM 4.C

Low cashflow / capital in the island

STRATEGY 4.C

Promote the island to the investors



PROBLEM 4.D

No local market in the island or the islands near by

STRATEGY 4.D

Provide a local market and open to neighboring islands to promote farming industry in the island

5. TOURISM AND VISITORS, ATTRACTION AND FACILITIES



PROBLEM 5.A

No benefit to island from Blue Bowls surf point

STRATEGY 5.A

Impose a commission for using moorings to be established near surf point
Promote surfing competitions, hence promoting Vaadhoo as a destination

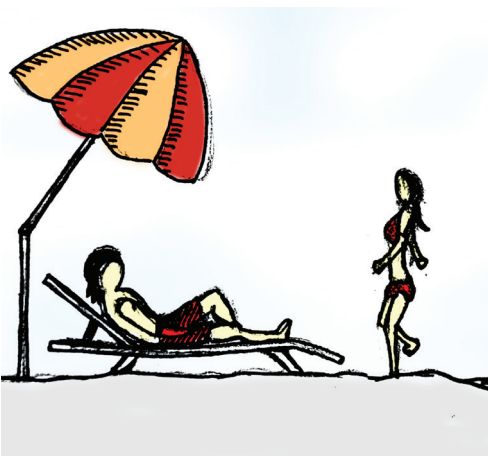


PROBLEM 5.B

Lack of water sports activities

STRATEGY 5.B

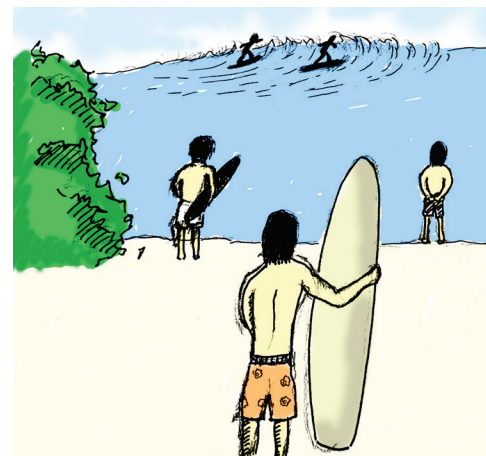
Establish a water sports center with provisions a variety of sports, marketed for both tourists and locals.



PROBLEM 5.C

Lack of private beach for tourists

STRATEGY 5.C



PROBLEM 5.D

Low tourist numbers in off season

STRATEGY 5.D

Open and promote blue bowls surf point for locals with special travel and accommodation packages

6. RECREATION AND OPEN SPACE

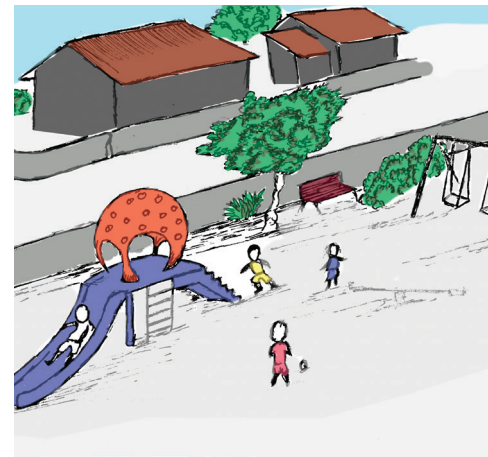


PROBLEM 6.A

Absence of parks and open space in residential areas.

STRATEGY 6.A

Allocate pocket parks in empty blocks of residential areas

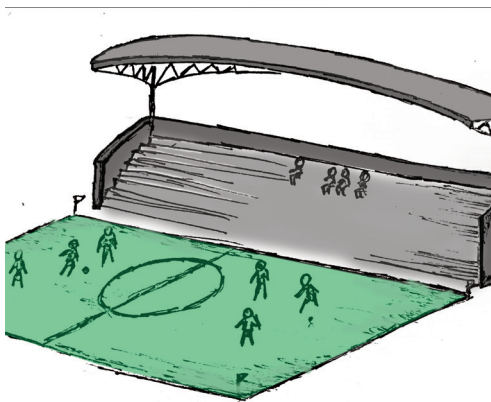


PROBLEM 6.B

Inappropriate location for Children's Park.

STRATEGY 6.B

Relocate children's park near to residential area



PROBLEM 6.C

Inadequate space of land for Foot Ball Stadium.

STRATEGY 6.C

Provide seating area
Allocate an area to provide facilities such as changing area/ toilets



PROBLEM 6.D

Open space in harbour is unnoticed

STRATEGY 6.D

Develop existing open space of harbor by allocating BBQ area with facilities

7. COMMUNITY FACILITIES



PROBLEM 7.A

Lack of facilities in health center

STRATEGY 7.A

Proposing to renovate the existing health center

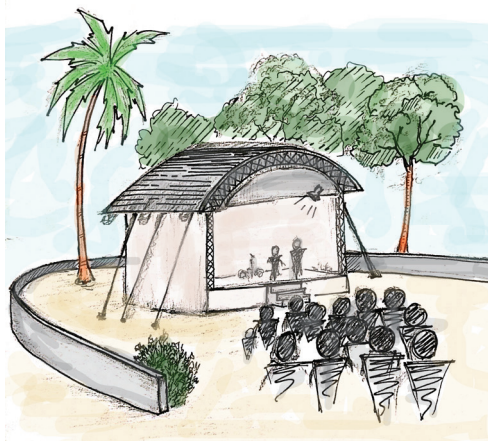


PROBLEM 7.B

Relocating Police station

STRATEGY 7.B

Moving to a new plot in the center with bigger space

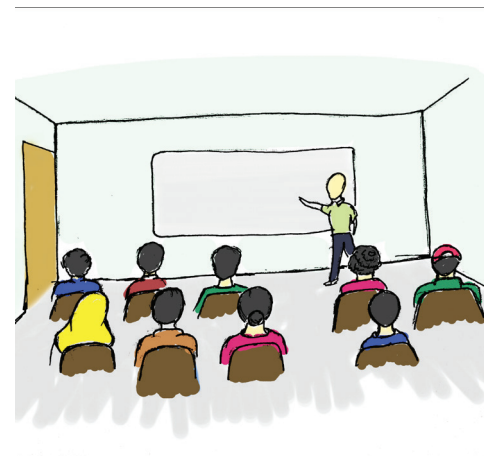


PROBLEM 7.C

Lack of space in stage area

STRATEGY 7.C

A place where people can carry out activities on occasions



PROBLEM 7.D

No emergency response team in the island

STRATEGY 7.D

Introducing a vocational training center in Vaadhoo

8. URBAN DESIGN, CHARACTER AND HERITAGE

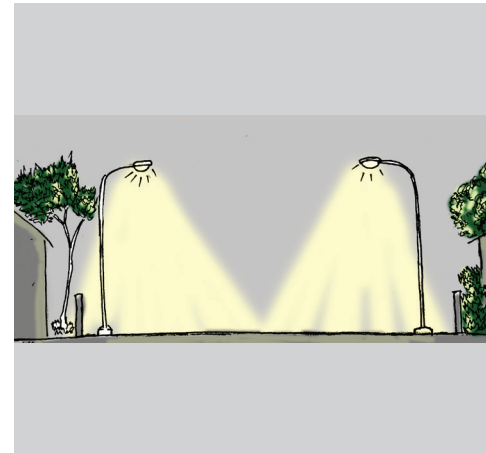


PROBLEM 8.A

Rich History and Heritage of the island unknown to outsiders.

STRATEGY 8.A

Appoint tour guides in the island to tell the historical stories to outsiders.
Keep a map of the island in the harbor area showing all the heritage sites
Make a guideline to preserve and protect the heritage sites



PROBLEM 8.B

Inadequate Lighting

STRATEGY 8.B

Provide sufficient lighting
Place light posts with two side lights in the middle of the street.
Use solar lighting system

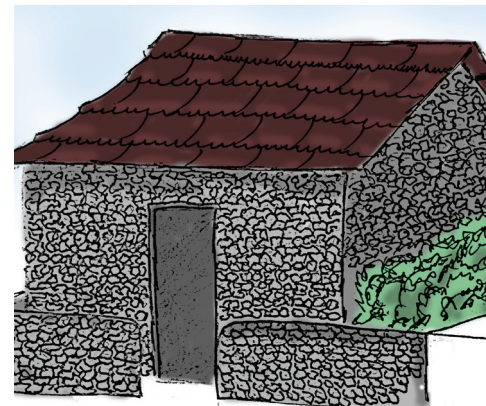


PROBLEM 8.C

Streets are empty and dull

STRATEGY 8.C

Improve the aesthetic view of the streets to make them lively
Plant trees on the sides and middle of the roads
Place seating areas



PROBLEM 8.D

Traditional architectural style lost

STRATEGY 8.D

Maintain the traditional styles
- Use usable key features of the traditional styles in the housing

9. TRAFFIC, TRANSPORT AND INFRASTRUCTURE

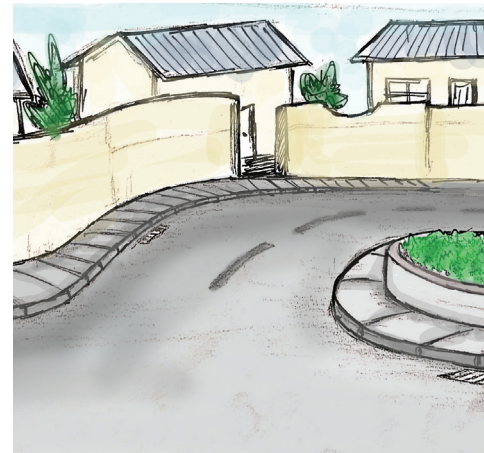


PROBLEM 9.A

Difficulty in transport to and from the island

STRATEGY 9.A

Proposing a direct ferry boat from the capital to Vaadhoo and making a transit to Vaadhoo by Gadhdhoo boat
Introducing sea ambulance to Vaadhoo



PROBLEM 9.B

Uneven roads

STRATEGY 9.B

Proposing asphalt roads for better road condition and ease of use for pedestrian



PROBLEM 9.C

Lack waste management system

STRATEGY 9.C

Providing recycling dustbins in every household to reduce waste in the island

Routes to dispose waste in the island



PROBLEM 9.D

Poor sewer and drainage system in the island

STRATEGY 9.D

Proposing a drainage and a sewerage system in the island

LEGAL FRAMEWORK

STRATEGIC ACTION 1B, 8A

- Department of Heritage: Under the heritage protection plans of the department:.
- Plan and help local council to evaluate heritage sites and propose action plans to protect them.

STRATEGIC ACTION 1C, 5D

- Shore protection plans and regulations: Ministry of Housing and Infrastructure, Environmental Protection Agency
- Plan for shore protection evaluation and proposal in accordance to EPA's governing regulations.
- Regulations governing planting trees

STRATEGIC ACTION 1A, 5B, 3B

- Maldives Tourism Act 2/99, Dive regulations 2003
- Under the section 29 to 30 of tourism act, regulations impose for dive centers and proper registrations to be made.
- Safety measures imposed in dive regulations.

STRATEGIC ACTION 5A

- Maldives Tourism Act 2/99, Environmental impact assessment regulations
- Regulations mandating assessment criteria for any developments or redesign of a shore line and its surroundings.

STRATEGIC ACTION 2A, 2B, 3A

- Ministry of Fisheries and Agriculture
- Legal framework and guidelines in establishing a institute or center to monitor and research agricultural and farm related crops and plants.

**STRATEGIC ACTION
2C**

- Male' Planning regulation, Amendments 1, 2, 3
- Nullify the agreed plot handover agreement as per regulation and re-assign to potential owners.

**STRATEGIC ACTION
3C**

- Local council land distribution plans, Maldives land ownership and leasing regulations
- As per regulations, lease and monitor the land for specific purposes.

**STRATEGIC ACTION
5D**


- Maldives Tourism Act 2/99, Tourism regulation 2015/R-157, Tourism regulation Land leasing for tourism purposes, Guest house regulations
- Resort, guest house and hotel development rules and regulations in accordance to Housing regulations.


STRATEGIC MAP

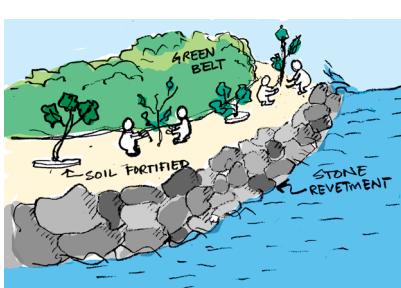
After studying and weighing the pros and cons of the island, a strategic map is developed. This map shows the changes that have been proposed for the development of the island. This include, changes in locations, introducing new places and improving the conditions of a current place.

Strategy Map G.Dh Vaadhoo


ZONE 1


1.A  Allow for dive site exploration with the use of mooring or "fahthiya" system.

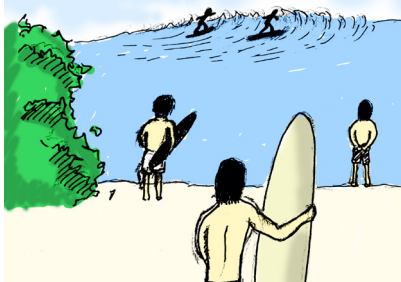
1.B  Clear natural heritage banyan tree site of debris and vegetation, with clear path access from road.

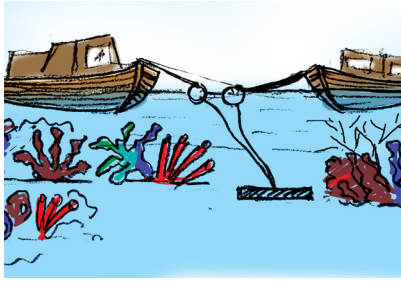
1.C  Fortify the soil with green belt & sea wall with stone boulders

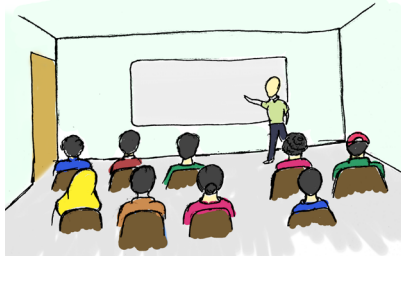
ZONE 4

5.A  Promote surfing competitions, hence promoting Vaadhoo as a destination. Impose a commission for using moorings to be established near surf point

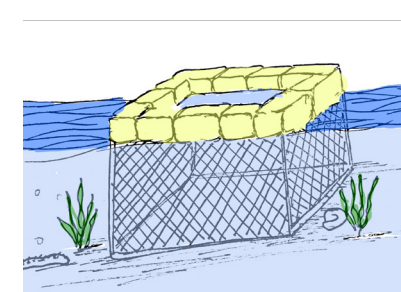
5.C  Develop a beach area separate for tourists in sight of Blue Bowls surf point

5.D  Open and promote blue bowls surf point for locals with special travel and accommodation packages


1.D  Establish mooring or "fahthiya" system and impose a fee for using it for the benefit of the island.


7.D  Train local individuals in the event of emergency situations.

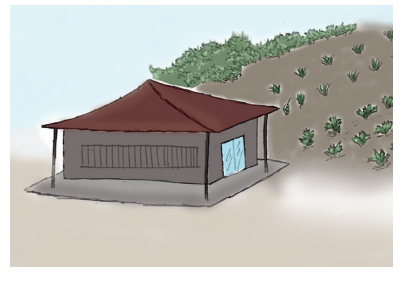
ZONE 8

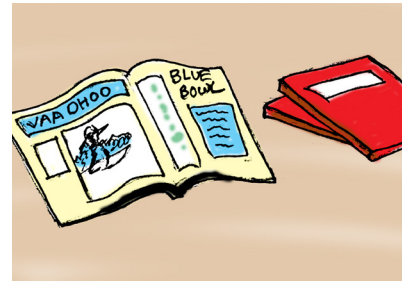
3.B  Making provision for sea cucumber harvesting cages so that the economic benefits from the investment is directly made to the island.


ZONE 2


6.D  Develop existing open space of harbor by allocating BBQ area with facilities to encourage more social interaction among people of the society.

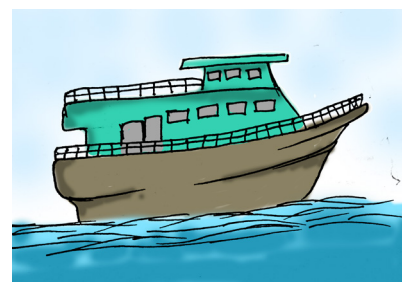
5.B  Establish a water sports center with provisions a variety of sports, marketed for both tourists and locals.


2.A  Propose an agricultural research center for the youth to innovate ideas and further the agricultural business in the island


3.D  Advertisement of the island to further allow for the development of the tourism sector

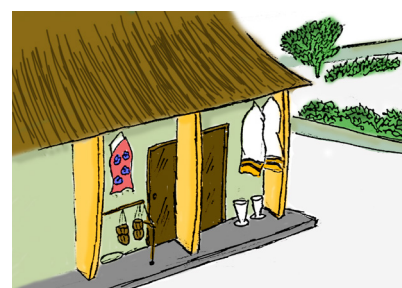
4.D  Provide a local market and open to neighboring islands to promote farming industry in the island


7.C  Provision for a stage area where people can carry out activities on occasions

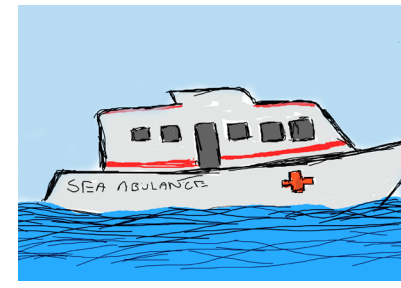
4.A  Direct cargo boat to and from the island to alleviate cargo transport difficulties

5.B  Establish a water sports center with provisions a variety of sports, marketed for both tourists and locals.


8.A  Appoint tour guides in the island to tell the historical stories to outsiders. Keep a map of the island in the harbor area showing all the heritage sites. Make a guideline to preserve and protect the heritage sites

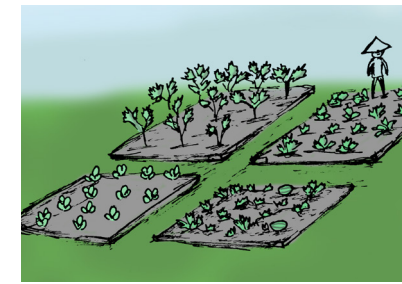
4.B  Create souvenir shops for tourists to further the development of the sector by attracting tourists

7.A  Renovate the existing health center to allow for addition of facilities and services with collaboration from the health ministry

9.A  Proposing a direct ferry boat from the capital to Vaadhoo and making a transit to Vaadhoo by Gadhdhoo boat. Introducing sea ambulance to Vaadhoo for emergencies

ZONE 3

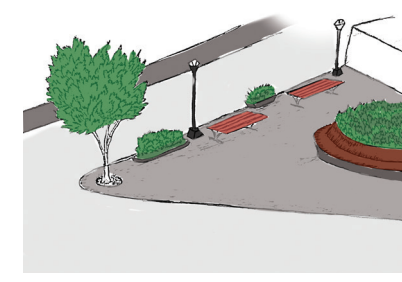
2.B  Introduce new technology like the sprinkler system to reduce the dependency on foreign labor work

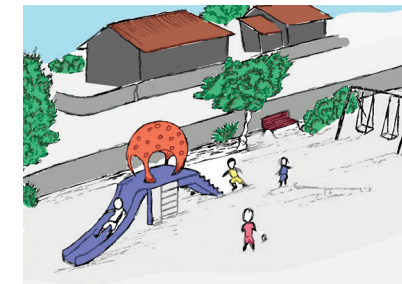
3.C  Limiting the amount of farm area for each owner and collecting a fee from additional farm lands purchased by them

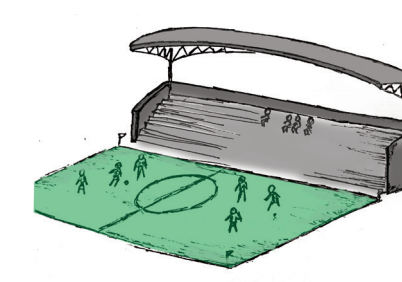
ZONE 5


3.A  Implementing modern farming techniques. Allow for agricultural students field work to

ZONE 6

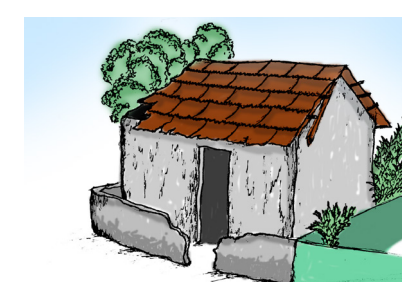
6.A  Allocate pocket parks in empty blocks of residential areas for the betterment of social bonding

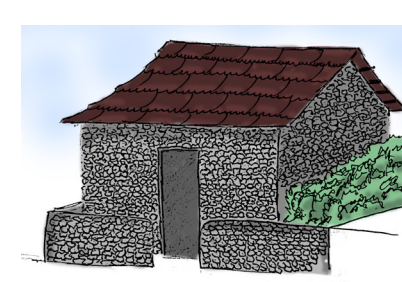
6.B  Relocate children's park near to residential area for an optimal use of the park

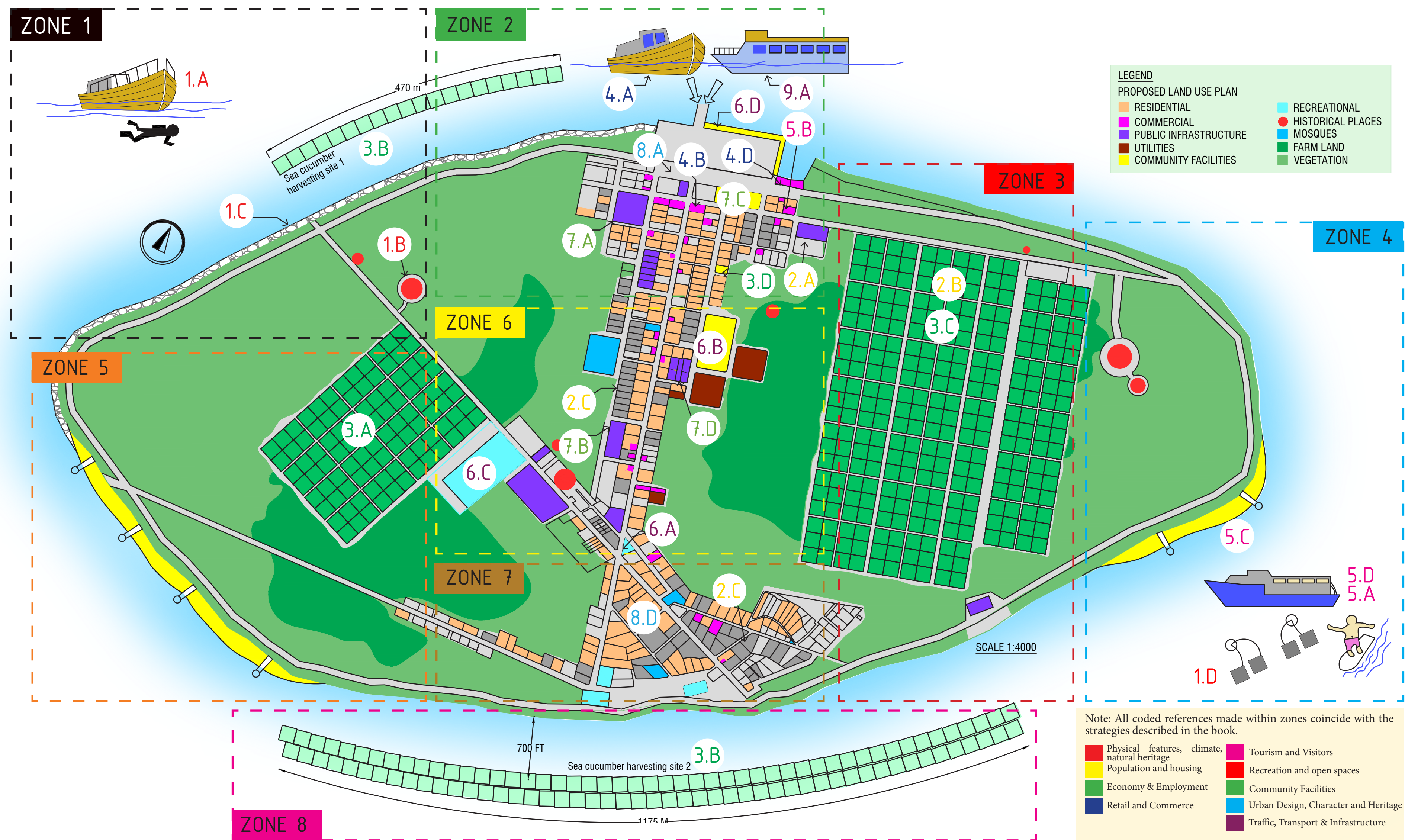
6.C  Provide seating area. Allocate an area to provide facilities such as changing area/ toilets

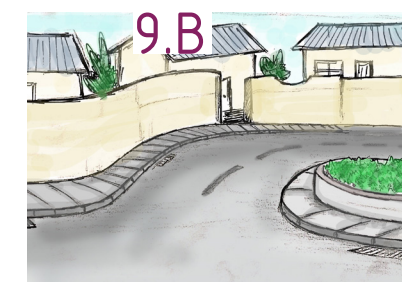
7.B  Moving to a new plot in the center with bigger space to allow for better policing of the island


ZONE 7


2.C  If abandoned for a certain period of time, change ownership. Have a caretaker. Sell lands to local nuclear families or to anyone who wants to buy them

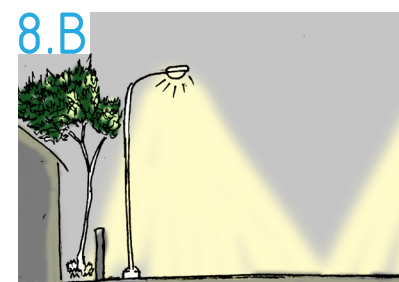
8.D  Maintain the traditional styles. Use usable key features of the traditional styles in the housing

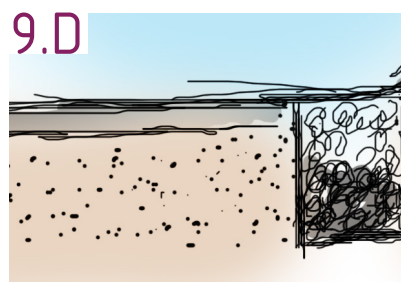


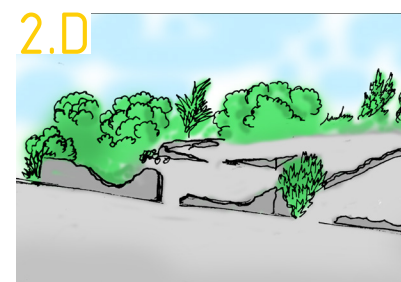
9.B  Proposing asphalt roads for better road conditions and ease of use for pedestrians

9.C  Providing recycling dustbins in every household to reduce waste in the island. Routes to dispose waste in the island

8.C  Improve the aesthetically view of the streets to make them lively. Plant trees on the sides and middle of the roads. Place seating areas

8.B  Provide sufficient lighting. Place light posts with two side lights in the middle of the street. Use solar lighting system

9.D  Proposing a sewer and drainage system in the island to alleviate sewer disposal issues and constant puddles being made on the road

2.D  Mandate new housing plots to be given evenly throughout the island to evenly distribute population mass without concentrating it to one area.

REFERENCES

- *THE CONCEPT OF A TOURIST AREA CYCLE OF EVOLUTION: IMPLICATIONS FOR MANAGEMENT OF RESOURCES* R.W. BUTLER University of Western Ontario
- *introduction to the Western Australian Planning System, Case study*
- *Form Based Codes: A Guide for Planners, Urban Designers, Municipalities, and Developers*, Daniel G. Parolek, AIA, Karen Parolek, Paul C. Crawford, FAICP
- *Local Planning Manual*, Western Australian Planning Commission, 2010
- *Sustainable Urban Planning Tipping the Balance*, Robert Riddell, 2004
- *Planning and development of Towns*, R.G Gupta,
- Anonymous. (2010). Retrieved from Roblox: <https://forum.roblox.com/Forum/ShowPost.aspx?PostID=93945153>
- Anonymous. (n.d.). Coconut. Retrieved from <https://en.wikipedia.org/wiki/Coconut>
- Anonymous. (n.d.). Hibiscus tiliaceus. Retrieved from Wikipedia: https://en.wikipedia.org/wiki/Hibiscus_tiliaceus
- Anonymous. (n.d.). Mangifera Indica. Retrieved from https://en.wikipedia.org/wiki/Mangifera_indica
- Hai, H. D. (2016). Artocarpus altilis. Retrieved from <http://www.worldwidefruits.com/artocarpus-altilis-breadfruit.html>
- Lane, A. (2017). Plant profile: Neem tree. Retrieved from <https://www.thenational.ae/arts-culture/plant-profile-neem-tree-1.42051>
- Mia, A. B. (2016). Papaya. Retrieved from <http://dncrop.bsmrau.net/caricaceae/>
- Ministry of Planning and National Development. (n.d.). South Huvadhu Atoll(Gaafu Dhaalu). Retrieved from http://planning.gov.mv/en/images/stories/publications/atoll_graphs/gdh/Pop.html
- National Bureau of Statistics. (2015). Population and Housing Census 2014. Retrieved from <http://statisticsmaldives.gov.mv/nbs/wp-content/uploads/2015/10/Census-Summary-Tables1.pdf>
- Sharma, R. (n.d.). Pandanus. Retrieved from <https://alchetron.com/Pandanus-3992756-W>
- Valentine Floral Creations. (2016). Java Apple - Syzygium samarangense. Retrieved from <http://www.valentine.gr/linkOfTheMonth-july2016.php>

