

# Island Scoping Study of Islands Announced for Bidding 2021



## **Islands Included:**

- 1. Alidhuffarufinolhu, Haa Alif**
- 2. Seedhihuraa / Seedhihuraa Veligan'du, Meemu**
- 3. Olhufushi / Olhufushifinolhu, Thaa**
- 4. Kaaddoo, Thaa**
- 5. Kanimeedhoo, Thaa**
- 6. Bodu Mun'gnafushi, Laamu**
- 7. Kashidhoo, Laamu**
- 8. Funadhooviligilla, Gaaf Alif**
- 9. Maarehaa, Gaaf Alif**
- 10. Fereytha Viligilla, Koderataa, Gaaf Dhaalu**
- 11. Kan'dahalagalaa, Gaaf Dhaalu**

## 4 Alidhuffarufinolhu, Haa Alif

### 4.1 Island Profile

*Alidhuffarufinolhu* is a sand bank located on the eastern rim of *Haa Alif* Atoll, facing *Gallandhoo Kan'du*. The sand bank is located at approximately 73° 6' 12.406" E, 6° 51' 41.501" N. Table below summarises information about *Alidhuffarufinolhu*.

**Table 4.1: Summary of basic information about Alidhuffarufinolhu Island**

<i>Island Name</i>	<i>Alidhuffarufinolhu</i>
<i>Location</i>	73° 6' 12.406" E, 6° 51' 41.501" N
<i>Island Area</i>	
<i>Within Vegetation Line</i>	-
<i>Within Low Tide Line</i>	2.13 Ha
<i>Est. Mean tide (sq. m)</i>	1.60 Ha
<i>Reef Area</i>	
<i>Overall area</i>	423.87 Ha
<i>Within shallow reef</i>	421.74 Ha
<i>Length</i>	~ 380 m
<i>Width at the widest point</i>	~ 82 m
<i>Distance to Malé International Airport</i>	~ 299.20 km
<i>Distance to nearest domestic Airport</i>	~ 14.00 km
<i>Distance to nearest resort</i>	~ 5.70 km from <i>Hideaway Beach &amp; Spa</i>

## 4.2 Terrestrial Environment

The following table summarizes key findings from the rapid assessment of the terrestrial environment associated with Alidhuffarufinolhu sandbank on 13th September 2013.

**Table 4.2: Terrestrial environment of Alidhuffarufinolhu**

Parameter	Description
<i>Air Quality</i>	- Overall ambient air quality on the sandbank was good.
<i>Floral observations</i>	- Beach pioneer halophytes: observed along or in between the strand vegetation, dominated by <i>Hai</i> , <i>Kuredhi</i> , <i>Boashi</i> and <i>Magoo</i>
<i>Faunal observations</i>	- Birds: Observed on the island include <i>Kirudhooni</i> , <i>Maakanaa</i> and <i>Findhana</i> . - No reptiles or mammals observed on the sandbank. - Crustaceans and Amphibians: <i>Kirukakuni</i> , <i>Bodu-Kirukakuni</i> and <i>Baraveli</i> were the only crustaceans spotted on the sandbank with no amphibian spotting throughout the field period.
<i>Pest and Diseases, Invasive species</i>	- None.
<i>Unique Habitats / Key species spotting</i>	- Signs of the sandbank being used as a picnic site was observed - Signs of sand mining was observed - Bird roosting site for <i>Kirudhooni</i>
<i>Overall impression</i>	- With no natural vegetation system on the sandbank and due to its relatively small size, the island would require extensive land reclamation along with extensive landscaping activities to make resort operation viable here. Additionally, a small bird island may need to be developed within the lagoon to mitigate any potential loss of habitats.



**Figure 4.1: Relatively small sandbank with no tall standing trees or shrubs**



**Figure 4.2: Hai was the most dominant beach pioneer species on the island**

### 4.3 Marine Environment

Key information regarding reef system of Alidhuffarufinolhu is provided in the table below.

**Table 4.3: Coral reef of Alidhuffarufinolhu**

Parameter	Description
<i>Reef features</i>	<ul style="list-style-type: none"> <li>- North and north eastern side of house reef comprised mainly of sandy terrain</li> <li>- Southern side of reef consisted of rock and mostly rubble</li> </ul>
<i>Live coral</i>	<ul style="list-style-type: none"> <li>- Overall live coral coverage was poor along the top reef though some areas had very good coverage (~3 - 30% coverage).</li> <li>- Dominant coral types observed were boulder corals.</li> </ul>
<i>Fish life</i>	<ul style="list-style-type: none"> <li>- Fish life was good, the reef provides for a variety of fish species.</li> <li>- Most abundant fish family observed was <i>Triggerfish</i> and <i>Fusiliers</i>.</li> </ul>
<i>Key species spotted</i>	<ul style="list-style-type: none"> <li>- Nurse Shark (adult, about 1m).</li> </ul>
<i>Sensitive site(s)</i>	<ul style="list-style-type: none"> <li>- Nil</li> </ul>
<i>Overall impression</i>	<ul style="list-style-type: none"> <li>- Mostly dead rock and sandy terrain, not very ideal for snorkeling.</li> </ul>



**Figure 4.3: Blue coral colony**



**Figure 4.4: Massive type coral colonies**



**Figure 4.5: Blue coral colonies**

#### 4.4 Coastal Environment

This is a small bank, no notable coastal features observed.

#### 4.5 Stakeholder Consultation

The Island Councils of *Utheemu* and *Dhidhdhoo* as well as Haa Alif Atoll Council were consulted regarding *Alidhuffarufinolhu*. In addition, few people from both *Utheemu* and *Dhidhdhoo* were also consulted. During each consultation, information about the island including the nature of the island, history, current use and key features of the island were discussed. A summary of the findings from the consultation are given in the table below. List of people consulted are attached in Appendix B.

**Table 4.4: Findings of stakeholder consultation regarding *Alidhuffarufinolhu***

<i>Current use of the island</i>	- As a picnic island mostly by the locals of <i>Utheemu</i> and by Hideaway Beach Resort and Spa.
<i>Key features</i>	- Turtle nesting site.
<i>View on resort development</i>	- There were no reservations about developing <i>Alidhuffarufinolhu</i> as a resort.

#### 4.6 Recommendations

The island is recommended for tourist resort development taking into consideration the following limitations and issues.

- Due to the small size of the sand bank, it would require extensive reclamation to develop a suitable size island for a resort.
- In addition extensive landscaping will be required including the importation of a large number of palm trees to make this island viable for resort operation.
- As this is one of the two major sand banks in the region, loss of this sand bank will affect bird roosting and may cause the loss of a potential future picnic spot for locals and tourists.
- The coral reef around the island is poor, hence is not ideal for snorkeling.

## 7 Kudafarufasgandu, Haa Dhaalu

### 7.1 Island Profile

Kudafarufasgandu Island is located in Haa Dhaalu Atoll. The island is located at approximately 72° 55' 30.882" E, 6° 42' 44.669" N. Table below summarises information about Kudafarufasgandu Island.

**Table 7.1: Basic information about Kudafarufasgandu**

<i>Island Name</i>	<i>Kudafarufasgandu</i>
<i>Location</i>	72° 55' 30.882" E, 6° 42' 44.669" N
<i>Island Area</i>	
<i>Within Vegetation Line</i>	-
<i>Within Low Tide Line</i>	0.17 Ha
<i>Est. Mean tide (sq. m)</i>	0.10 Ha
<i>Length</i>	<i>About 380 m</i>
<i>Width at the widest point</i>	<i>About 82 m</i>
<i>Distance to Malé International Airport</i>	<i>About 287.00 km</i>
<i>Distance to nearest domestic Airport</i>	<i>About 27.42 km</i>
<i>Distance to nearest resort</i>	<i>About 19.92 km from Hideaway Beach Resort &amp; Spa</i>

### 7.2 Terrestrial Environment

Table 7.2 summarizes key findings of the rapid assessment of the terrestrial environment associated with *Kudafarufasgandu* sandbank on 15<sup>th</sup> September 2019.

**Table 7.2: Terrestrial environment Kudafarufasgandu**

<b>Parameter</b>	<b>Description</b>
<i>Air Quality</i>	- Overall ambient air quality on the sandbank was good.
<i>Floral observations</i>	- None.
<i>Faunal observations</i>	- Birds: Due to the relatively small size of the sandbank (during high tide), it is unlikely that the place is a bird habitat. - No reptiles or mammals observed on the sandbank. - Crustaceans and Amphibians: <i>Kirukakuni</i> was the only crustacean spotted on the sandbank.
<i>Pest and Diseases, Invasive species</i>	- None.
<i>Unique Habitats / Key species spotting</i>	- No notable features or spotting.
<i>Overall impression</i>	- According to locals, heavy mining for sand has significantly reduced the size of the sandbank over the years. A very small patch of the

Parameter	Description
	sandbank is visible during high tide, with no flora and little to no fauna present.



*Figure 7.1: A relatively small sandbank during high tide*



*Figure 7.2: Severe sand mining has reduced the size of the sandbank significantly*



### 7.3 Marine Environment

The following table summarizes key findings of the rapid assessment of the reef associated with *Kudafarufasgandu* on 15<sup>th</sup> September 2019.

**Table 7.3: Coral reef of *Kudafarufasgandu***

Parameter	Description
<i>Reef features</i>	<ul style="list-style-type: none"> <li>- Reef measures over 35 ha.</li> <li>- Reef comprised of sandy terrain with western area of reef consisting of more than 50% sand.</li> </ul>
<i>Live coral</i>	<ul style="list-style-type: none"> <li>- Overall live coral coverage was poor along the top reef (~5 - 15% coverage).</li> <li>- Ocean ward reef edge and upper reef slopes are mainly rocky areas with very low live coral coverage.</li> </ul>
<i>Fish life</i>	<ul style="list-style-type: none"> <li>- Fish life was good, the reef provides for a variety of fish species.</li> <li>- Most abundant fish family observed was <i>Triggerfish</i>.</li> </ul>
<i>Key species spotted</i>	- Nil
<i>Sensitive site(s)</i>	- Nil
<i>Overall impression</i>	<ul style="list-style-type: none"> <li>- Visibility here is ideal for snorkeling and though live coral cover is low, stretches of dead table coral are quite a sight.</li> <li>- Lots of fish schools were sighted along the reef edge.</li> </ul>



Figure 7.3: Massive boulder shaped coral colony



Figure 7.4: Massive coral colony



Figure 7.5: Crown of thorn seastar



Figure 7.6: Sandy edge

## 7.4 Coastal Environment

This is an intertidal sand bank.

## 7.5 Stakeholder Consultation

The Island Councils of *Naivaadhoo* and *Nellaidhoo* as well as Haa Dhaalu Atoll Council were consulted regarding *Kudafarufasgandu*. In addition, few people from both *Naivaadhoo* and *Nellaidhoo* were also consulted. During each consultation, information about the island including the nature of the island, history, current use and key features of the island were discussed. A summary of the findings from the consultation are given in the table below. List of people consulted are attached in Appendix B.

**Table 7.4: Findings of stakeholder consultations regarding Kudafarufasgandu**

<i>History of the island</i>	- <i>Kudafarufasgandu</i> used to be a small sized island in the past which underwent severe erosion and evolved to a sand bank
<i>Current use of the island</i>	- As a sand mining site, mostly by locals from <i>Kulhudhufushi</i> .
<i>Key features</i>	- Dive spot to the south of <i>Nellaidhoo</i> where Bow-mouth Guitarfish occur.
<i>View on resort development</i>	- There were no reservations about developing <i>Kudafarufasgandu</i> as a resort.

## 7.6 Recommendations

The island not not recommended for typical tourism product offered in the Maldives due to the following issues.

- *Kudafarufasgandu* is a small bank which would require extensive land reclamation to create an island of a suitable size for resort development. However the reef does not have sufficient space for extensive reclamation.

## 20 Seedhibayhuraa and Seedhibayhuraa Veligandu, Meemu

### 20.1 Island Profile

Seedhibayhuraa and Seedhibayhuraa Veligandu (alternative name: Alibehuraa) is located in Meemu Atoll. The island is located at approximately 73°33'15.06"E, 2°51'36.68"N. Table below summarises information about Alibehuraa Island.

**Table 20.1: Basic information about Seedhiybayhuraa & Seedhibayhuraa Veligandu**

<i>Island Name</i>	Seedhiybayhuraa & Seedhibayhuraa Veligandu
<i>Location</i>	73°33'15.06"E, 2°51'36.68"N
<i>Island Area</i>	
<i>Within Vegetation Line</i>	1.36 Ha
<i>Within Low Tide Line</i>	1.81 Ha
<i>Length</i>	About 190 m
<i>Width at the widest point</i>	About 81 m
<i>Distance to Male' International Airport</i>	About 147.64 km
<i>Distance to nearest resort</i>	About 1.86 km to Cinnamon Hakuraa Huraa Maldives

### 20.2 Terrestrial Environment

The following table summarizes key findings of the rapid assessment of the terrestrial environment associated with *Seedhibayhuraa & Seedhibayhuraa Veligandu* Island on 12<sup>th</sup> October 2019.

**Table 20.10: Terrestrial environment of Seedhiybayhuraa & Seedhibayhuraa Veligandu**

<b>Parameter</b>	<b>Description</b>
<i>Air Quality</i>	- Overall ambient air quality on both the islands were good.
<i>Floral observations</i>	- Seedhibayhuraa Veligandu consists of; <ul style="list-style-type: none"> <li>○ A small island with littoral edge scrubland dominated by dense bushes of <i>Kuredhi</i>.</li> <li>○ A sandbank with small shrub vegetation along with beach pioneer halophytes dominated by species such as <i>Magoo</i>, <i>Kuredhi</i>, <i>Boashi</i> and <i>Hai</i>.</li> </ul> - Seedhibayhuraa consists of; <ul style="list-style-type: none"> <li>○ A dense littoral edge scrubland dominated by species such as <i>Kauni</i>, <i>Hirundhu</i>, <i>Dhigga</i> and <i>Uni</i> more inland, and shrub species such as <i>Boakashikeyo</i>, <i>Boashi</i>, <i>Magoo</i> and <i>Kuredhi</i> dominating the shorelines.</li> <li>○ Beach pioneer halophytes such as <i>Magoo</i>, <i>Kuredhi</i>, <i>Boashi</i> and <i>Hai</i> can also be observed along the northern and western beaches of the island.</li> <li>○ A small built-up structure is also observed on the island.</li> </ul>
<i>Faunal observations</i>	- Birds: <i>Kaalhu</i> , <i>Koveli</i> , <i>Kukulhu</i> , <i>Kambili</i> , <i>Kirudhooni</i> , <i>Maakanaa</i> and <i>Findhana</i> were the only birds observed on these islands. - Reptiles & Mammals: <i>Vaa</i> , <i>Meedha</i> , and <i>Bondu</i> were the only ones observed on the islands. However, according to locals, <i>Hoanu</i> , <i>Fani</i> , and <i>Garahitha</i> can also be commonly found on Seedhibayhuraa.

Parameter	Description
	<ul style="list-style-type: none"> <li>- Crustaceans and Amphibians: <i>Kirukakuni</i>, <i>Bodu-Kirukakuni</i>, <i>Thoshi-Kakuni</i> and <i>Baraveli</i> were the only crustaceans spotted on these islands. According to locals, amphibian species such as <i>Boh</i> can also be found on Seedhibayhuraa.</li> </ul>
<i>Pest and Diseases, Invasive species</i>	<ul style="list-style-type: none"> <li>- <i>Meedha</i> was the most notable animal pest on the islands due to large amounts of waste on the islands.</li> <li>- <i>Madhiri</i> levels were also relatively high on both islands</li> <li>- <i>Velanbuli</i>, the only notable invasive plant on the islands was recorded in high numbers.</li> </ul>
<i>Unique Habitats / Key species spotted</i>	<ul style="list-style-type: none"> <li>- No notable features or species spotted.</li> </ul>
<i>Overall impression</i>	<ul style="list-style-type: none"> <li>- Both islands are relatively small and in very close proximity to each other. Any viable resort development will require extensive reclamation as well as landscaping activities, including the importation of Palm trees. Moderate intervention is required to control the pest problems and improve the overall health of the vegetation on the island.</li> </ul>



Figure 20.1: Seedhibayuraa Veligandu as seen from above



Figure 20.2: Beach pioneer halophytes observed on the sandbank at Seedhibayuraa Veligandu



Figure 20.3: Dense Kuredhi vegetation with no beaches on Seedhibayuraa Veligandu



Figure 20.4: Seedhibayuraa island as seen from above



Figure 20.5: Several footpaths are observed on Seedhibayuraa, allowing easy access to all parts of the island



Figure 20.6: Velanbuli was the only notable invasive plant species on the island.

### 20.3 Marine Environment

The following table summarizes the findings of the rapid marine assessment undertaken at Alibehuraa.

**Table 20.3: Coral reef of Seedhiybayhuraa & Seedhibayhuraa Veligandu**

Parameter	Description
<i>Live coral</i>	- Overall live coral coverage was good along the top reef.
<i>Sea grass</i>	- No significant seagrass patches were observed within this reef system.
<i>Fish life</i>	- The reef provides for a variety of fish species, and fish life observed was very good.
<i>Key species spotted</i>	- Nil
<i>Overall impression</i>	- The reef is good for snorkeling.



Figure 20.7: Large coral colony

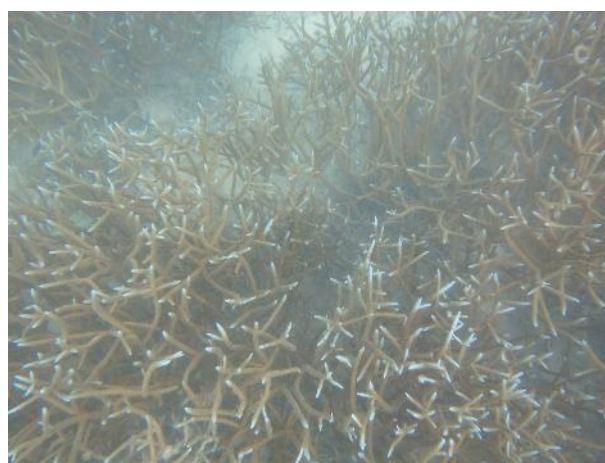


Figure 20.8: Strands of Acropora branching corals

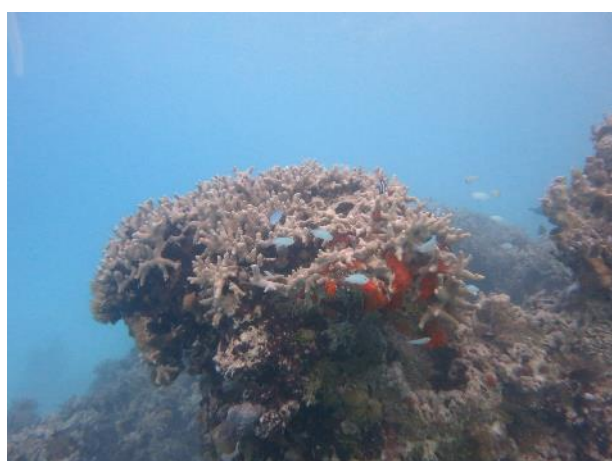


Figure 20.9: Dead coral covered in algae



Figure 20.10: Massive coral colony

## 20.4 Stakeholder Consultations

The Island Councils of Kolhufushi, Muli and Naalaafushi including Meemu Atoll Council were consulted regarding Thuvaru, Alibeyhuraa and Boahuraa. No residents in these islands were consulted. During each consultation, information about the island including the nature of the island, history, current use and key features of the island were discussed. A summary of the findings from the consultation are given in the table below. List of people consulted are attached in Appendix B.

**Table 20.4: Findings of stakeholder consultations regarding Seedhiybayhuraa & Seedhibayhuraa Veligandu**

<i>Current use of the island</i>	- Both islands extensively used as a picnic island mostly by the locals and schools.
<i>View on resort development</i>	- Island councils and Atoll council did not point out any reservations for developing these two islands as tourist resorts.

## 20.5 Recommendations

It is not recommended to develop a resort on this location due to the small size of the islands with highly mobile beaches. Developing a resort at this location will require extensive land reclamation with significant adverse impacts on the reef system.



## 21 Olhufushi, Thaa

### 21.1 Island Profile

Olhufushi Island (Locals refer to this island as *Olhufushifinolhu*) is located in Thaa Atoll. The island is located at approximately 72° 54' 31.728" E, 2° 21' 57.622" N. Table below summarises information about Medhafushi Island.

**Table 21.1: Basic information about Olhufushi Island**

<i>Island Name</i>	<i>Olhufushi</i>
<i>Location</i>	72° 54' 31.728" E, 2° 21' 57.622" N
<i>Island Area</i>	
<i>Within Vegetation Line</i>	0.99 Ha
<i>Within Low Tide Line</i>	2.45 Ha
<i>Est. Mean tide (sq. m)</i>	1.92 Ha
<i>Length</i>	<i>About 280m</i>
<i>Width at the widest point</i>	<i>About 60 m</i>
<i>Distance to Malé International Airport</i>	<i>About 213.00 km</i>
<i>Distance to nearest domestic Airport</i>	<i>About 31.86 km</i>
<i>Distance to nearest resort</i>	<i>About 41.65 km from Gran Melia Huravee</i>

### 21.2 Terrestrial Environment

The following table summarizes key findings of the rapid assessment of the terrestrial environment associated with *Olhufushi* Island on 26<sup>th</sup> September 2019.

The island of *Olhufushifinolhu* (locals refer to it as *Olhufushi*) (to the north) no longer exists, and only a rocky substrate is observed.

**Table 211.2: Terrestrial environment of Olhufushi**

<b>Parameter</b>	<b>Description</b>
<i>Air Quality</i>	- Overall ambient air quality on the island was good.
<i>Floral observations</i>	- Coastal strand vegetation: observed along the southern shorelines of the island, dominated by <i>Boakashikeyo</i> , <i>Kuredhi</i> , <i>Boashi</i> and <i>Magoo</i> . - Littoral edge scrubland: Observed throughout the entirety of the island, dominated by <i>Boakashikeyo</i> , <i>Kuredhi</i> , <i>Funa</i> , <i>Magoo</i> , <i>Dhigga</i> and <i>Uni</i> . The upper canopy is dominated by <i>Ruh</i> in a very sparse manner. - Beach pioneer halophytes: observed along or in between the strand vegetation, dominated by <i>Hai</i> , <i>Kulhlhafilaa</i> , <i>Boashi</i> and <i>Magoo</i> .
<i>Faunal observations</i>	- Birds: <i>Kaalhu</i> , <i>Maakanaa</i> and <i>Findhana</i> were the only birds observed on the island. - Reptiles & Mammals: <i>Vaa</i> and <i>Bondu</i> were the only ones observed on the island. - Crustaceans and Amphibians: <i>Kirukakuni</i> , <i>Bodu-Kirukakuni</i> and <i>Baraveli</i> were the only crustaceans spotted on land.
<i>Pest and Diseases, Invasive species</i>	- <i>Rukumadi</i> was the most notable insect pest on the island with some signs of a moderate infestation on the island.

Parameter	Description
	<ul style="list-style-type: none"> <li>- <i>Madhiri</i> levels were relatively low on the island.</li> <li>- <i>Velanbuli</i>, the only notable invasive plant on the island was recorded in minimal numbers.</li> </ul>
<i>Unique Habitats / Key species spotting</i>	<ul style="list-style-type: none"> <li>- Several sandbanks in close proximity to the island.</li> <li>- Sparse palm trees, several meters higher than the lower canopy.</li> </ul>
<i>Overall impression</i>	<ul style="list-style-type: none"> <li>- A relatively small and narrow island that will require some reclamation as well as re-vegetation works to develop a viable resort operation on the island. Moderate intervention is required to control the pest problems and improve the overall health of the vegetation on the island.</li> </ul>



*Figure 21.1: The island of Olhufushi as seen from above*



*Figure 21.2: Sparsely distributed tall palm trees dominate the upper canopy of the island*



*Figure 21.3: Rukumadi is seen as the most notable pest insect, with clear signs of infestation on the island*



*Figure 21.4: Boashi, Magoo and Boakashikeyo are the dominant species along the shoreline*



*Figure 21.5: Hai, Kulhlhafilaa, Magoo and Boashi are the most common beach pioneer halophytes*

### 21.3 Marine Environment

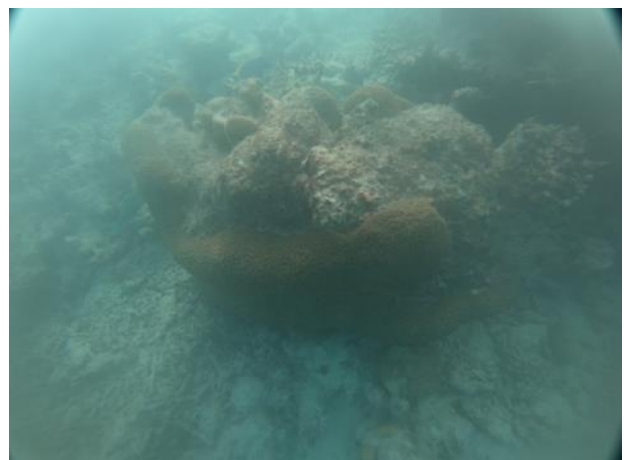
The following table summarizes key findings of the rapid assessment of the reef associated with *Olhufushi* on 26<sup>th</sup> September 2019.

**Table 212.3: Coral reef of *Olhufushi***

Parameter	Description
<i>Reef features</i>	<ul style="list-style-type: none"> <li>- Mostly sandy terrain with rocks and rubble and very low live coral coverage.</li> <li>- Surveyed along the eastern reef (atoll ward).</li> </ul>
<i>Live coral</i>	<ul style="list-style-type: none"> <li>- Overall live coral coverage was poor along the top reef (~5 - 20% coverage).</li> <li>- Most areas had very low (5%) live coral coverage with few areas having (10 – 20%) live coral cover.</li> </ul>
<i>Fish life</i>	<ul style="list-style-type: none"> <li>- Fish life was good.</li> <li>- Most abundant fish family observed was <i>Surgeonfish</i>.</li> </ul>
<i>Key species spotting's</i>	<ul style="list-style-type: none"> <li>- Stingray</li> <li>- Hawksbill Turtle</li> <li>- Manta Ray</li> </ul>
<i>Sensitive site(s)</i>	<ul style="list-style-type: none"> <li>- Nil</li> </ul>
<i>Overall impression</i>	<ul style="list-style-type: none"> <li>- Mostly sand with few live corals and very low visibility, making it unideal for snorkeling.</li> </ul>



**Figure 21.6: Massive coral heads observed**



**Figure 21.7: Massive coral colonies observed**

## 21.4 Stakeholder Consultation

The Island Councils of *Vandhoo* and *Kandoodhoo* and Thaa Atoll Council were consulted regarding *Olhufushi*. In addition, few people from both *Vandhoo* and *Kandoodhoo* were also consulted. During each consultation, information about the island including the nature of the island, history, current use and key features of the island were discussed. A summary of the findings from the consultation are given in the table below. List of people consulted are attached in Appendix.

**Table 21.4: Findings of stakeholder consultations regarding *Olhufushi***

<i>Current use of the island</i>	<ul style="list-style-type: none"> <li>- Used as a picnic island by the locals in <i>Kandoodhoo</i> and <i>Vandhoo</i>.</li> <li>- Used for mining sand.</li> </ul>
<i>Key features</i>	<ul style="list-style-type: none"> <li>- Occasional turtle nesting site</li> <li>- Good dive and snorkeling spots around the island with Manta, Whale Sharks, Black Corals.</li> <li>- Hammerhead Shark point west of <i>Kandoodhoo</i>.</li> <li>- Surf point '<i>Maafaagaa</i>' to the east of <i>Hirilandhoo</i>.</li> </ul>
<i>View on resort development</i>	<ul style="list-style-type: none"> <li>- The locals consulted are in strong favour of developing <i>Olhufushi</i> as a resort.</li> </ul>

## 21.5 Recommendations

This is a small narrow island (25 – 50 m) with very good beach, subject to periodic geomorphological instability and severe erosion. Vegetation generally low with sparse coconut palms.

To make this island suitable for a typical resort development, land reclamation and shore protection measures will be required to maintain the beaches.

## 22 Olhufushifinolhu, Thaa

### 22.1 Island Profile

Olhufushifinolhu (locals refer to this as Olhufushi) is located in Thaa Atoll. The island is located at approximately 72° 54' 30.585" E, 2° 22' 17.274" N. Table below summarises information about Olhufushifinolhu.

*Table 22.1: Basic information about Olhufushifinolhu*

<i>Island Name</i>	Olhufushifinolhu
<i>Location</i>	72° 54' 30.585" E, 2° 22' 17.274" N
<i>Island Area</i>	
<i>Within Vegetation Line</i>	-
<i>Within Low Tide Line</i>	-
<i>Est. Mean tide (sq. m)</i>	-
<i>Distance to Malé International Airport</i>	-
<i>Distance to nearest domestic Airport</i>	-
<i>Distance to nearest resort</i>	About 43.76 km from Maalifushi by Como

### 22.2 Terrestrial Environment

The island no longer exists.



*Figure 22.1: The island of Olhufushifinolhu no longer exists, and only a rocky substrate is observed there*

## 22.3 Marine Environment

The following table summarizes key findings of the rapid assessment of the reef associated with *Olhufushifinolhu* on 26<sup>th</sup> September 2019.

**Table 22.2: Coral reef of *Olhufushifinolhu***

Parameter	Description
<i>Reef features</i>	<ul style="list-style-type: none"> <li>- Mostly sandy terrain with rocks and rubble and very low live coral coverage.</li> <li>- Surveyed along the eastern reef (atoll ward).</li> </ul>
<i>Live coral</i>	<ul style="list-style-type: none"> <li>- Overall live coral coverage was poor along the top reef (~5 - 20% coverage).</li> <li>- Most areas had very low (5%) live coral coverage with few areas having (10 – 20%) live coral cover.</li> </ul>
<i>Fish life</i>	<ul style="list-style-type: none"> <li>- Fish life was satisfactory, the reef provides for some fish species.</li> <li>- Most abundant fish family observed was <i>Surgeonfish</i>.</li> </ul>
<i>Key species spotting's</i>	<ul style="list-style-type: none"> <li>- Stingray</li> <li>- Hawksbill Turtle</li> <li>- Manta Ray</li> </ul>
<i>Sensitive site(s)</i>	<ul style="list-style-type: none"> <li>- Nil</li> </ul>
<i>Overall impression</i>	<ul style="list-style-type: none"> <li>- Mostly sand with few live corals and very low visibility, making it unideal for snorkeling.</li> </ul>



*Figure 22.2: Sandy bottom with low visibility*



*Figure 22.3: Dead coral remains covered in sediment*

## 22.4 Coastal Environment

The island no longer exists.

## 22.5 Stakeholder Consultation

The Island Councils of *Vandhoo* and *Kandoodhoo* and Thaa Atoll Council were consulted regarding *Olhufushifinolhu*. In addition, few people from both *Vandhoo* and *Kandoodhoo* were also consulted. During each consultation, information about the island including the nature of the island, history, current use and key features of the island were discussed. A summary of the

findings from the consultation are given in the table below. List of people consulted are attached in Appendix B.

**Table 2222.3: Findings of stakeholder consultations regarding Olhufushifinolhu**

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<i>History of the island</i>	-	Previously a bigger island with vegetation.
<i>Current use of the island</i>	-	The island has eroded and is now a stretch of sandbanks.
<i>Key features</i>	-	There is a boat wreck to the north, which will be a good snorkelling point.

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## **22.6 Recommendations**

Extensive reclamation is required to create an island at this site, which will result in severe adverse impact on the surrounding reef system. Hence it is not recommended to develop a resort at this site.



## 23 Kaaddoo, Thaa

### 23.1 Island Profile

Kaaddoo Island is located in Thaa Atoll. The island is located at approximately 73° 15' 16.513" E, 2° 16' 54.329" N. Table below summarises information about Kaaddoo Island.

**Table 23.1: Basic information about Kaaddoo Island**

<i>Island Name</i>	Kaaddoo
<i>Location</i>	73° 15' 16.513" E, 2° 16' 54.329" N
<i>Island Area</i>	
<i>Within Vegetation Line</i>	2.94 Ha
<i>Within Low Tide Line</i>	3.29 Ha
<i>Est. Mean tide (sq. m)</i>	3.11 Ha
<i>Distance to Malé International Airport</i>	About 213.00 km
<i>Distance to nearest domestic Airport</i>	About 14.87 km
<i>Distance to nearest resort</i>	About 2.80 km from Gran Melia Huravee

### 23.2 Terrestrial Environment

The following table summarizes key findings of the rapid assessment of the terrestrial environment associated with *Kaaddoo* Island on 25<sup>th</sup> September 2019.

**Table 23.2: Terrestrial environment of Kaaddoo**

<b>Parameter</b>	<b>Description</b>
<i>Air Quality</i>	- Overall ambient air quality on the island was good.
<i>Floral observations</i>	- Littoral Edge Scrubland: observed along the shorelines, dominated by <i>Kuredhi</i> , <i>Boakashikeyo</i> , <i>Dhiggaa</i> , <i>Uni</i> and <i>Magoo</i> . - Coconut dominated forest: covering almost the entire island, dominated by <i>Ruh</i> and occasionally by <i>Funa</i> , <i>Nika</i> and <i>Midhili</i> . The lower canopy is void of most shrub vegetation. - Additionally, there are 2 smaller islands in close proximity to Kaaddoo; one to the east, dominated by <i>Ruh</i> , and the other to the south-east, dominated by <i>Kuredhi</i> .
<i>Faunal observations</i>	- Birds: <i>Kaalhu</i> , <i>Koveli</i> , <i>Kambili</i> , <i>Maakanaa</i> and <i>Findhana</i> were the only birds observed on the island. - Reptiles & Mammals: <i>Vaa</i> , <i>Meedha</i> , and <i>Bondu</i> were the only ones observed on the island. However, according to locals, <i>Hoanu</i> , <i>Fani</i> , and <i>Garahitha</i> can also be commonly found. - Crustaceans and Amphibians: <i>Kirukakuni</i> , <i>Bodu-Kirukakuni</i> , <i>Thoshi-Kakuni</i> and <i>Baraveli</i> were the only crustaceans spotted on land. According to locals, amphibian species such as <i>Boh</i> can also be found on the island.
<i>Pest and Diseases, Invasive species</i>	- <i>Meedha</i> was the most notable animal pest on the island. - <i>Rukumadi</i> was the most notable insect pest on the island. - <i>Madhiri</i> levels were relatively low on the island. - <i>Velanbuli</i> , the only notable invasive plant on the island was recorded in minimal numbers.

<b>Parameter</b>	<b>Description</b>
<i>Unique Habitats / Key species spotting</i>	- Lack of lower canopy vegetation such as shrubs has created a very aesthetic coconut grove on the island to explore.
<i>Overall impression</i>	- The island is very well maintained by current caretakers, and the lack of shrub vegetation in the center of the island is very aesthetic. Densest parts are observed along the southern shorelines of the island. Moderate intervention is required to control the pest problems and improve the overall health of the vegetation on the island. Some reclamation activities may also be required for this island.



*Figure 23.1: Palm trees are the most dominant species on the island*



*Figure 23.2: The island as seen from above*



*Figure 23.3: Several roads and footpaths exist across the island, allowing easy access to all parts of it*



*Figure 23.4: A small shelter is observed on the western side of the island*



*Figure 23.5: Little to no undergrowth is observed below the palm trees*



*Figure 23.6: Dhigga, Kuredhi, Magoo and Uni were the most dominant species along the shoreline*

### 23.3 Marine Environment

The following table summarises key information regarding Kaaddoo Reef.

*Table 23.3: Coral reef of Kaaddoo*

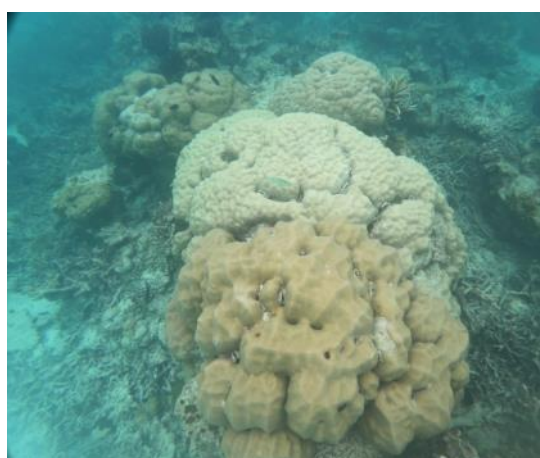
Parameter	Description
<i>Reef features</i>	<ul style="list-style-type: none"> <li>- Surveyed along atoll ward reef from north to west</li> <li>- Mostly white sand with coral patches scattered across western side.</li> </ul>
<i>Live coral</i>	<ul style="list-style-type: none"> <li>- Overall live coral coverage was poor along the top reef (~5 - 10% coverage).</li> <li>- Coral patches had Blue corals as well as Massive corals.</li> </ul>
<i>Fish life</i>	<ul style="list-style-type: none"> <li>- Fish life was present around isolated boomies and other coral patches.</li> <li>- Mostly juvenile fish present.</li> </ul>
<i>Key species spotting's</i>	<ul style="list-style-type: none"> <li>- Nil</li> </ul>
<i>Sensitive site(s)</i>	<ul style="list-style-type: none"> <li>- Nil</li> </ul>
<i>Overall impression</i>	<ul style="list-style-type: none"> <li>- Nothing much to see besides the coral patches.</li> <li>- Coral patches have schools of juvenile fish.</li> </ul>



*Figure 23.7: Coral patch*



*Figure 23.8: Blue corals*



*Figure 23.9: Massive corals*



*Figure 23.10: School of Snappers*

### 23.4 Stakeholder Consultation

The Island Councils of Gaadhiffushi and Guraidhoo and Thaa Atoll Council were consulted regarding Kaaddoo. In addition, few people from both Gaadhiffushi and Guraidhoo were also consulted. During each consultation, information about the island including the nature of the island, history, current use and key features of the island were discussed. A summary of the findings from the consultation are given in the table below. List of people consulted are attached in Appendix B.

**Table 233.4: Findings of stakeholder consultations regarding Kaaddoo**

<i>History of the island</i>	- It is reported that <i>Kaaddoo</i> used to be an inhabited island in the past and the people in the island moved to <i>Gaadhiffushi</i> .
<i>Current use of the island</i>	<ul style="list-style-type: none"> <li>- <i>Kaaddoo</i> is managed by a local in <i>Gaadhiffushi</i>.</li> <li>- Coconuts and palm fronds are harvested from <i>Kaaddoo</i> and they are sold in <i>Gaadhiffushi</i>.</li> <li>- There are existing infrastructures in the island including huts, mosque.</li> <li>- Used as a picnic island by the locals in <i>Gaadhiffushi</i>.</li> </ul>
<i>Key features</i>	<ul style="list-style-type: none"> <li>- The island has very salty groundwater lens.</li> <li>- Turtle nesting site.</li> <li>- Snorkelling point to the north of <i>Kaaddoo</i> where sharks, turtles and rays are common.</li> <li>- Diving spot '<i>Kandara Kanmathi</i>' to the south of Guraidhoo, where Sharks occur.</li> </ul>
<i>View on resort development</i>	- The locals consulted have no reservations about developing <i>Kaaddoo</i> as a resort.

### 23.5 Recommendations

It is recommended to develop a resort at this island, taking into account the following reservations.

This is a small island used for forestry. Dominated by coconut palms with limited undergrowth vegetation. Limited beach. Extensive beach rock, coarse beach and strong wave conditions on the eastern side. It would require enlarging the island, beach redevelopment, extensive shore protection measures to to develop it into a tourist resort.

## 24 Kanimeedhoo, Thaa

### 24.1 Island Profile

Kanimendhoo Island is located in Shaviyani Atoll. The island is located at approximately 73° 6' 41.807" E, 2° 11' 42.857" N. Table below summarises information about Kanimendhoo Island.

**Table 24.1: Basic information about Kanimendhoo**

<i>Island Name</i>	Kanimendhoo
<i>Location</i>	73° 6' 41.807" E, 2° 11' 42.857" N
<i>Island Area</i>	
<i>Within Vegetation Line</i>	63.47 Ha
<i>Within Low Tide Line</i>	66.23 Ha
<i>Est. Mean tide (sq. m)</i>	64.98 Ha
<i>Length</i>	About 1800 m
<i>Width at the widest point</i>	About 440 m
<i>Distance to Malé International Airport</i>	About 225.00 km
<i>Distance to nearest domestic Airport</i>	About 3.70 km
<i>Distance to nearest resort</i>	About 21.42 km from Gran Melia Huravee

### 24.2 Terrestrial Environment

The following table summarizes key findings of the rapid assessment of the terrestrial environment associated with *Kanimeedhoo* Island on 26<sup>th</sup> September 2019.

**Table 24.2: Terrestrial environment of Kanimeedhoo**

Parameter	Description
<i>Air Quality</i>	- Overall ambient air quality on the island was good.
<i>Floral observations</i>	<ul style="list-style-type: none"> <li>- Sub-littoral thicket: observed as a thick forest along the shorelines of the entire island, dominated by <i>Kauni</i>, <i>Hirundhu</i>, <i>Dhigga</i>, <i>Funa</i>, <i>Midhili</i> and <i>Uni</i> more inland, and shrub species such as <i>Boakashikeyo</i>, <i>Boashi</i>, <i>Magoo</i> and <i>Kuredhi</i> dominating the shorelines. Large banyan trees are observed throughout the forest.</li> <li>- Coconut dominated forest: observed towards the center of the island, behind the sub-littoral thicket, dominated by <i>Ruh</i> and occasionally by <i>Funa</i>, <i>Nika</i> and <i>Midhili</i>. This is the densest part of the island with no easy accessibility.</li> <li>- Grasslands: observed along the central parts of the island, dominated by pioneer species such as grasses. Based on historical imagery, these were lands that were used for agricultural farms in the past.</li> <li>- Open areas: observed towards the north-eastern shoreline, where some structures along with cleared lands are found.</li> </ul>
<i>Faunal observations</i>	<ul style="list-style-type: none"> <li>- Birds: <i>Kaalhu</i>, <i>Koveli</i>, <i>Kambili</i>, <i>Kirudhooni</i>, <i>Dhandifulhu-dhooni</i>, <i>Maakanaa</i> and <i>Findhana</i> were the only birds observed on the island.</li> <li>- Reptiles &amp; Mammals: <i>Vaa</i>, <i>Meedha</i>, and <i>Bondu</i> were the only ones observed on the island. However, according to locals, <i>Hoanu</i>, <i>Fani</i>, <i>Garahitha</i> and <i>Nannugathi</i> can also be commonly found.</li> <li>- Crustaceans and Amphibians: <i>Kirukakuni</i>, <i>Bodu-Kirukakuni</i>, <i>Thoshi-Kakuni</i> and <i>Baraveli</i> were the only crustaceans spotted on</li> </ul>

Parameter	Description
	land. According to locals, amphibian species such as <i>Boh</i> can also be found on the island.
<i>Pest and Diseases, Invasive species</i>	<ul style="list-style-type: none"> <li>- <i>Meedha</i> was the most notable animal pest on the island due to large amounts of waste on the island.</li> <li>- <i>Rukumadi</i> was the most notable insect pest on the island with clear signs of a severe infestation on the island.</li> <li>- <i>Madhiri</i> levels were also relatively high on the island.</li> <li>- <i>Velanbuli</i>, the only notable invasive plant on the island was recorded in minimal numbers.</li> </ul>
<i>Unique Habitats / Key species spotting</i>	<ul style="list-style-type: none"> <li>- A small mangrove area observed near the south-eastern shoreline of the island.</li> <li>- Several large <i>Nika</i> and <i>Midhili</i> trees.</li> </ul>
<i>Overall impression</i>	- Some parts of the islands vegetation system have been heavily modified during past agricultural activities. Moderate intervention is required to control the pest problems and improve the overall health of the vegetation on the island.



*Figure 24.1: The island is very densely vegetated with palm trees and other large woody species dominating the canopy*



*Figure 24.2: Some built-up structures and cleared lands are observed on the north-eastern half of the island*



*Figure 24.3: Grasslands with pioneer species such as Hai are commonly observed in the central parts of the island*



*Figure 24.4: The small mangrove area observed on south-eastern half of the island*



*Figure 24.5: Large amounts of urban waste is observed throughout the island*



*Figure 24.6: A single footpath allows crossing from the east to the western side of the island. The rest of the island remains inaccessible*



### 24.3 Marine Environment

The following table summarizes key findings of the rapid assessment of the reef associated with *Kanimeedhoo* Island on 26<sup>th</sup> September 2019.

**Table 24.3: Coral reef of *Kanimeedhoo***

Parameter	Description
<i>Reef features</i>	<ul style="list-style-type: none"> <li>- Reef measures over 120 ha.</li> <li>- Steep slopes on northern reef with mostly rocky terrain.</li> <li>- This is the only island in this reef system.</li> </ul>
<i>Live coral</i>	<ul style="list-style-type: none"> <li>- Overall live coral coverage was poor along the top reef (~5 - 20% coverage).</li> <li>- Midnight corals were present along northern reef, growing even on the reef slopes.</li> </ul>
<i>Fish life</i>	<ul style="list-style-type: none"> <li>- Fish life was good, the reef provides for a variety of fish species.</li> <li>- Dominant fish family observed was <i>Surgeonfish</i>.</li> </ul>
<i>Key species spotted</i>	<ul style="list-style-type: none"> <li>- Green Turtle</li> <li>- Juvenile Eagle Ray</li> </ul>
<i>Sensitive site(s)</i>	<ul style="list-style-type: none"> <li>- Nil</li> </ul>
<i>Overall impression</i>	<ul style="list-style-type: none"> <li>- High wave activity made this area difficult to snorkel.</li> </ul>



Figure 24.7: Steep slopes along Northern reef edge



Figure 24.8: Rocky terrain along Northwestern reef



Figure 24.9: Rubble around Northwestern reef

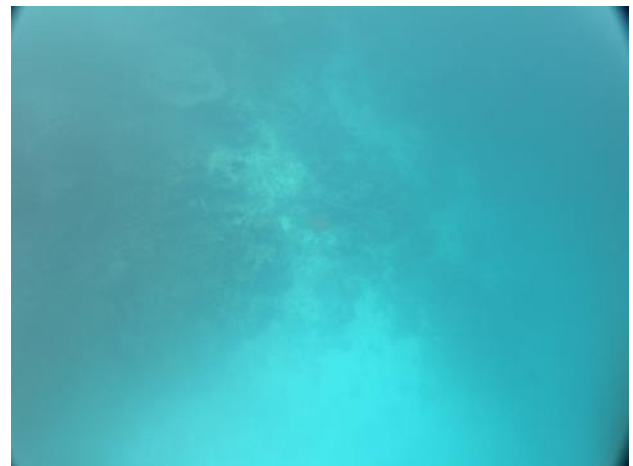


Figure 24.10: Juvenile Eagle ray

## 24.4 Stakeholder Consultation

The Island Councils of *Thimarafushi* and *Veymandoo* and Thaa Atoll Council were consulted regarding *Kanimeedhoo*. In addition, few people from both *Thimarafushi* and *Veymandoo* were also consulted. During each consultation, information about the island including the nature of the island, history, current use and key features of the island were discussed. A summary of the findings from the consultation are given in the table below. List of people consulted are attached in Appendix B.

**Table 24.4: Findings of stakeholder consultations regarding *Kanimeedhoo***

<i>History of the island</i>	<ul style="list-style-type: none"> <li>- <i>Kanimeedhoo</i> used to be an inhabited island a long time ago. It was reported that people in <i>Kanimeedhoo</i> moved to <i>Thimarafushi</i> and <i>Veymandoo</i> following a disease outbreak.</li> <li>- Previously leased for agriculture to a company in Male’.</li> </ul>
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<i>Current use of the island</i>	<ul style="list-style-type: none"><li>- Used as a picnic island by the locals in Thimarafushi and Veymandoo.</li><li>- Safaris and resorts visit the famous surf point ‘Mikado’ to the east of Kanimeedhoo.</li></ul>
<i>Key features</i>	<ul style="list-style-type: none"><li>- A famous surf-point</li><li>- Turtle nesting site</li></ul>
<i>View on resort development</i>	<ul style="list-style-type: none"><li>- The locals consulted from nearby islands were in favour of developing half of <i>Kanimeedhoo</i> as a resort and keeping the other half for agricultural purposes.</li></ul>

### **24.5 Recommendations**

Large Island that is good for resort development. Limited beach in most areas. Known as a good surfing point. Used for agriculture and forestry in the past. Limited agricultural activity at present. Island accessible from many points. Northern end is the best location to develop for tourism activities.

## 28 Bodu Munganafushi, Laamu

### 28.1 Island Profile

Bodu Munganafushi Island is located in Laamu Atoll. The island is located at approximately 73° 73° 18' 30.859" E, 1° 59' 20.494" N. Table below summarises information about Bodu Munganafushi Island.

**Table 28.1: Basic information about Bodu Munganafushi**

<i>Island Name</i>	Bodu Munganafushi
<i>Location</i>	73° 73° 18' 30.859" E, 1° 59' 20.494" N
<i>Island Area</i>	
<i>Within Vegetation Line</i>	1.80 Ha
<i>Within Low Tide Line</i>	3.13 Ha
<i>Est. Mean tide (sq. m)</i>	2.61 Ha
<i>Length</i>	About 400 m
<i>Width at the widest point</i>	About 65 m
<i>Distance to Malé International Airport</i>	About 244.50 km
<i>Distance to nearest domestic Airport</i>	About 27.34 km
<i>Distance to nearest resort</i>	About 21.93 km from Six Senses Laamu

### 28.2 Terrestrial Environment

The following table summarizes key findings of the rapid assessment of the terrestrial environment associated with *Bodu Mungnafushi* Island on 22<sup>nd</sup> September 2019.

**Table 28.2: Terrestrial environment of Bodu Mungnafushi**

Parameter	Description
<i>Air Quality</i>	- Overall ambient air quality on the island was good.
<i>Floral observations</i>	<ul style="list-style-type: none"> <li>- Littoral edge scrubland: densest parts of the island observed more towards the western half of the island, dominated by <i>Boakashikeyo</i>, <i>Magoo</i>, <i>Dhigga</i>, <i>Funa</i> and <i>Uni</i>.</li> <li>- Coastal strand vegetation: observed along the shorelines, dominated by <i>Boakashikeyo</i>, <i>Kuredhi</i>, <i>Boashi</i> and <i>Magoo</i>.</li> <li>- Beach pioneer halophytes: observed along the open beach areas across the island, dominated by <i>Hai</i>, <i>Boashi</i> and <i>Magoo</i>.</li> <li>- Large parts of the island are open areas with easy accessibility throughout the island. Despite the size of the island, less than 20 palm trees were counted throughout the island.</li> </ul>
<i>Faunal observations</i>	<ul style="list-style-type: none"> <li>- Birds: <i>Kaalhu</i>, <i>Maakanaa</i> and <i>Findhana</i> were the only birds observed on the island.</li> <li>- Reptiles &amp; Mammals: <i>Vaa</i> and <i>Bondu</i> were the only ones observed on the island.</li> <li>- Crustaceans and Amphibians: <i>Kirukakuni</i>, <i>Bodu-Kirukakuni</i>, <i>Thoshi-Kakuni</i> and <i>Baraveli</i> were the only crustaceans spotted on land.</li> </ul>
<i>Pest and Diseases, Invasive species</i>	<ul style="list-style-type: none"> <li>- <i>Madhiri</i> levels were relatively low on the island.</li> <li>- <i>Velanbuli</i>, the only notable invasive plant on the island was recorded in high numbers.</li> </ul>

<b>Parameter</b>	<b>Description</b>
<i>Unique Habitats / Key species spotted</i>	- Long and elongated beaches.
<i>Overall impression</i>	- The island's vegetation system appears to be very sparse with minimal diversity in the terrestrial environment. Heavy landscaping will be required, including the importation of a large number of palm trees to make this island viable for a resort operation. Major intervention is also required to control the invasive species problems and improve the overall health of the vegetation on the island.



*Figure 28.1: The island as seen from above, located on the north-western rim of laamu atoll*



*Figure 28.2: The densest vegetation is observed on the south-western half of the island*



*Figure 28.3: Coastal strand vegetation is observed on the north-eastern half of the island*



*Figure 28.4: Some built-up structures for picnic goers is observed on the northern half of the island*



*Figure 28.5: Velanbuli (invasive) infestation is recorded as high on the island.*



*Figure 28.6: The most dominant species along the shorelines include Magoo, Kuredhi, Boashi, Uni and Boakashikeyo*

### 28.3 Marine Environment

The following table summarises the key information from the rapid reef assessment of Bodu Munganafushi.

**Table 28.3: Coral reef of Bodu Munganafushi**

Parameter	Description
<i>Reef features</i>	<ul style="list-style-type: none"> <li>- Reef measures about 1450 ha.</li> <li>- The reef is located on the north-western rim of Laamu Atoll.</li> <li>- Four islands occur within the reef system, including <i>Bodumunganafushi</i>. The nearest island is <i>Hanhushi</i> located about 6.3 km southwest of <i>Bodumunganafushi</i>.</li> </ul>
<i>Live coral</i>	<ul style="list-style-type: none"> <li>- Overall live coral coverage was good along the top reef (~45%)</li> <li>- Large boulder shaped corals were observed across the survey area on the inner atoll reef edge.</li> </ul>
<i>Sea grass</i>	<ul style="list-style-type: none"> <li>- No significant seagrass patches occurs within this reef system</li> </ul>
<i>Fish life</i>	<ul style="list-style-type: none"> <li>- The reef provides for a variety of fish species, and fish life observed was very good.</li> </ul>
<i>Key species spotted</i>	<ul style="list-style-type: none"> <li>- Nil.</li> </ul>
Overall impression	<ul style="list-style-type: none"> <li>- The reef is located about 180 m from the shoreline, hence would require an overwater walkway from the island connected to the reef for easy reach. Alternatively, small boats can be used to reach this reef.</li> <li>- The reef appears good, healthy and provides for a wide variety of fish species and marine organisms, which snorkelers can enjoy.</li> </ul>



Figure 28.7: Boulder shaped coral colonies



Figure 28.8: Sea anemone



Figure 28.9: Boulder shaped corals colonies

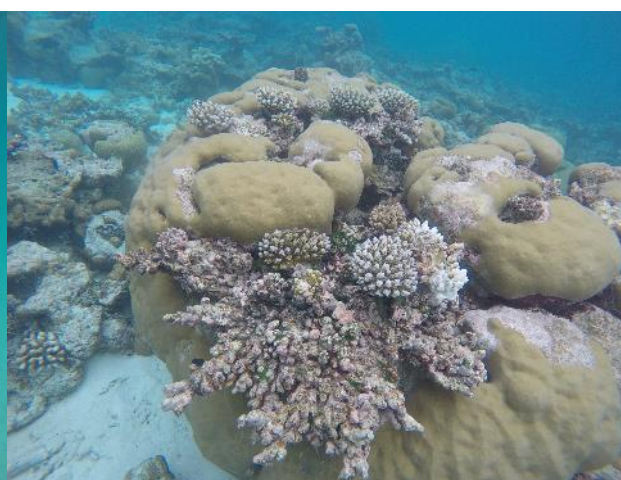


Figure 28.10: Boulder shaped coral colony

## 28.4 Coastal Environment

The following table summarizes key findings of the rapid assessment of the coastal environment of *Bodu Munganafushi* Island

Table 28.4: Coastal environment of *Bodumunganafushi*

Parameter	Description
<i>Beach conditions</i>	Sandy beach present around the island with a long sandy tail on the southern end. North tip also has a wide beach. Slight erosion on the eastern side due to windwaves from the atoll. Heavier erosion on the western side. Western side has formed a dune profile, indicating that strong waves break here.
<i>Beach compositions</i>	Fine sand makes up the beach around the island.
<i>Wave conditions</i>	High energy waves from the western side break on the island given the location of the island in the atoll rim. Island is directly exposed to ocean swells from the west. Windwaves generated inside the atoll will be incident on the eastern side of the island. These are expected to be strong due to the long fetch of the atoll, but some protection is provided by the wide shallow lagoon.



Parameter	Description
<i>Overall Impression</i>	Fine sand and aesthetically pleasing shape. Land area may need to be supplemented by further reclamation. Shore protection measures may be needed after development, given the mobile sand around the island. Island is accessible from the south eastern side.



Figure 28.11: Northside sand bank



Figure 28.12: Western Side



Figure 28.13: South sandbank



Figure 28.14: East side

## 28.5 Stakeholder Consultations

The Island Councils of *Mundhoo*, *Maabaidhoo*, *Maavashu* and *Laamu Atoll Council* were consulted regarding *Bodu Mungnafushi*. During each consultation, information about the island including the nature of the island, history, current use and key features of the island were discussed. A summary of the findings from the consultation are given in the table below. List of people consulted are attached in Appendix B.

**Table 28.5: Findings of stakeholder consultations regarding *Bodu Munganafushi***

<i>Current use of the island</i>	- <i>Bodu Munganafushi</i> used by Six Senses <i>Laamu</i> for excursions.
<i>View on resort development</i>	- Island councils and Atoll council did not point out any reservations about developing <i>Bodu Munganafushi</i> as a resort.

## 28.6 Recommendations

It is recommended to develop this island as a resort taking into consideration the following factors.

- Small Island with a good beach. Subject to periodic geomorphological instability and severe erosion. Will require shore protection. Narrow width (50-60m). Vegetation generally low with few coconut palms. Access to good reef. Seagrass forming and likely to overtake the lagoon seabed in the next 5 years.

## 30 Kashidhoo, Laamu

### 30.1 Island Profile

Kashidhoo Island is located in Laamu Atoll. The island is located at approximately 73° 15' 12.726" E, 1° 55' 9.458" N. Table below summarises information about Kashidhoo Island.

**Table 30.1: Basic information about Kashidhoo**

<i>Island Name</i>	Kashidhoo
<i>Location</i>	73° 15' 12.726" E, 1° 55' 9.458" N
<i>Island Area</i>	
<i>Within Vegetation Line</i>	1.80 Ha
<i>Within Low Tide Line</i>	3.13 Ha
<i>Est. Mean tide (sq. m)</i>	2.61 Ha
<i>Length</i>	About 230 m
<i>Width at the widest point</i>	About 95 m
<i>Distance to Malé International Airport</i>	About 244.50 km
<i>Distance to nearest domestic Airport</i>	About 27.34 km
<i>Distance to nearest resort</i>	About 20.31 km from Six Senses Laamu

### 30.2 Terrestrial Environment

The following table summarizes key findings of the rapid assessment of the terrestrial environment associated with *Kashidhoo* Island on 29<sup>th</sup> September 2019.

**Table 30.2: Terrestrial environment of Kashidhoo**

Parameter	Description
<i>Air Quality</i>	- Overall ambient air quality on the island was good.
<i>Floral observations</i>	- Sub-littoral thicket: observed as a thick forest on the northern half of the island, dominated by <i>Kauni</i> , <i>Hirundhu</i> , <i>Dhigga</i> , <i>Boakashikeyo</i> and <i>Uni</i> more inland, and shrub species such as <i>Boashi</i> , <i>Magoo</i> and <i>Kuredhi</i> dominating the shorelines. This is the densest part of the island. - Littoral edge scrubland: observed along the shorelines of the southern half of the island, dominated by species such as <i>Kuredhi</i> , <i>Uni</i> and <i>Magoo</i> . - Coconut groves: observed along the littoral edge scrubland. Open areas are observed on the south-eastern half of the island.
<i>Faunal observations</i>	- Birds: <i>Kaalhu</i> , <i>Koveli</i> , <i>Maakanaa</i> and <i>Findhana</i> were the only birds observed on the island. - Reptiles & Mammals: <i>Vaa</i> , <i>Meedha</i> , and <i>Bondu</i> were the only ones observed on the island. However, according to locals, <i>Hoanu</i> , <i>Fani</i> , and <i>Garahitha</i> can also be commonly found. - Crustaceans and Amphibians: <i>Kirukakuni</i> , <i>Bodu-Kirukakuni</i> , <i>Thoshi-Kakuni</i> and <i>Baraveli</i> were the only crustaceans spotted on land.
<i>Pest and Diseases, Invasive species</i>	- <i>Meedha</i> was the most notable animal pest on the island due to large amounts of waste on the island.

Parameter	Description
	<ul style="list-style-type: none"> <li>- <i>Rukumadi</i> was the most notable insect pest on the island with clear signs of a moderate infestation on the island.</li> <li>- <i>Madhiri</i> levels were also relatively high on the island.</li> <li>- <i>Velanbuli</i>, the only notable invasive plant on the island was recorded in minimal numbers.</li> </ul>
<i>Unique Habitats / Key species spotting</i>	<ul style="list-style-type: none"> <li>- No notable features or spotting.</li> </ul>
<i>Overall impression</i>	<ul style="list-style-type: none"> <li>- The island would require some land reclamation, especially to develop its beaches, along with some amount of landscaping activities to make any viable resort operation. Moderate intervention is required to control the pest problems and improve the overall health of the vegetation on the island.</li> </ul>



Figure 30.1: The island as seen from above



Figure 30.2: Large open areas are observed underneath the coconut groves



Figure 30.3: *Magoo* is one of the more dominant species along the shorelines



Figure 30.4: Several footpaths are observed across the island.

### 30.3 Marine Environment

The following table summarizes key information gathered via the rapid reef assessment of Kashidhoo.

**Table 30.3: Coral reef of Kashidhoo**

Parameter	Description
<i>Reef features</i>	<ul style="list-style-type: none"> <li>- The island is located on a large reef measuring about 1450 ha.</li> <li>- This reef is located on the north-western rim of Laamu Atoll.</li> <li>- Four islands occur within the reef system including <i>Kashidhoo</i>. The nearest island is <i>Guraidhoo</i> located about 688 m south of <i>Kashidhoo</i>.</li> </ul>
<i>Live coral</i>	<ul style="list-style-type: none"> <li>- Overall live coral coverage was very good along the top reef (~50%).</li> <li>- Large boulder shaped corals were dominant coral type observed across the survey area on the inner atoll reef edge.</li> </ul>
<i>Sea grass</i>	<ul style="list-style-type: none"> <li>- No significant seagrass patches occur within this reef system. However small patches seen growing on the reef flat.</li> </ul>
<i>Fish life</i>	<ul style="list-style-type: none"> <li>- The reef provides for a variety of fish species, and high abundance of fishes observed.</li> </ul>
<i>Key species spotted</i>	<ul style="list-style-type: none"> <li>- Nil</li> </ul>
<i>Overall impression</i>	<ul style="list-style-type: none"> <li>- The reef is located about 280 m from the shoreline, hence would require an overwater walkway from the island connected to the reef for easy access. Alternatively, small boats can be used to access this reef.</li> <li>- The reef appears good, healthy and provides for a wide variety of fish species and marine organisms, which snorkelers can enjoy.</li> </ul>

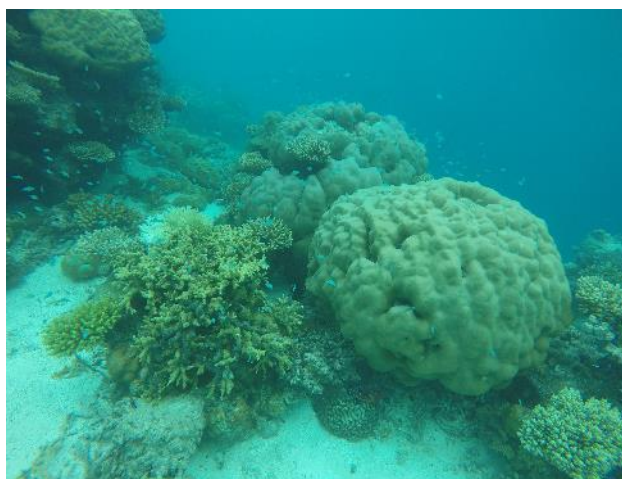


Figure 30.5: Boulder shaped coral colony



Figure 30.6: Patches of Acropora type corals around massive coral colony



Figure 30.7: Boulder shaped corals colonies



Figure 30.8: Juvenile fishes taking refuge within coral colonies

### 30.4 Coastal Environment

The following table summarizes key findings of the rapid assessment of the coastal environment of *Kashidhoo* Island

Table 30.4: Coastal environment of *Kashidhoo*

Parameter	Description
<i>Beach conditions</i>	Wide beach on the eastern side with a considerable berm width while on the western side, little or no dry beach is present. The southern sand bank juts out towards north east most likely due to waves induced by south-western waves.
<i>Beach compositions</i>	Sand on the western side tends to be coarse while the eastern beach is composed of fine sand. Linear rocky patches can be found on the south to western side.
<i>Wave conditions</i>	Strong swells from the west come through the channel between <i>Kashidhoo</i> and <i>Maavah</i> , hence high energy waves are incident on the western side of the island. Eastern side is calmer and is the ideal access pathway but will likely be susceptible to easterly windwaves.

Parameter	Description
<i>Overall Impression</i>	Shore protection measures needed on the western side to maintain a beach. Long access jetty or channel needs to be constructed on the eastern side.



Figure 30.9: Eastern side



Figure 30.10: West - North Sandbank



Figure 30.11: Western side - patchy beach rock

### 30.5 Stakeholder Consultation

The Island Councils of *Mundhoo*, *Maabaidhoo*, *Maavashu* and *Laamu Atoll Council* were consulted regarding *Kashidhoo*. During each consultation, information about the island, including the nature of the island, history, current use and key features of the island were discussed. A summary of the findings from the consultation are given in the table below. List of people consulted are attached in Appendix B.

Table 30.5: Findings of stakeholder consultations regarding *Kashidhoo*

<i>Current use of the island</i>	- <i>Kashidhoo</i> used as a picnic island mostly by the locals of <i>Maavashu</i> .
<i>View on resort development</i>	- Island councils and Atoll council did not point out any reservations about developing <i>Kashidhoo</i> as a resort.

### 30.6 Recommendations

It is recommended to develop a tourist resort at this location, taking into account the following reservations.

This is a small island with easy access to a good reef. Western shoreline is composed of coral rubble and extensive beach rock. Island is affected by very strong waves on one side.

Enlarging the island, beach redevelopment and shore protection would be required to develop a typical tourist resort property on this island.

Furthermore, the small seagrass patches are likely to grow and overtake the lagoon seabed in the next 5 years.



## 31 Funadhooviligilla, Gaafu Alif

### 31.1 Island Profile

Funadhooviligilla Island is located in Gaafu Alif Atoll. The island is located at approximately 73° 31' 12.151" E, 0° 34' 10.117" N. Table below summarises information about Funadhooviligilla Island.

*Table 31.1: Basic information about Funadhooviligilla Island*

<i>Island Name</i>	Funadhooviligilla
<i>Location</i>	73° 31' 12.151" E, 0° 34' 10.117" N
<i>Island Area</i>	
<i>Within Vegetation Line</i>	4.56 Ha
<i>Within Low Tide Line</i>	5.93 Ha
<i>Est. Mean tide (sq. m)</i>	5.50 Ha
<i>Distance to Malé International Airport</i>	About 400.00 km
<i>Distance to nearest domestic Airport</i>	About 20.44 km
<i>Distance to nearest resort</i>	About 10.23 km from Park Hyatt Maldives, Hadahaa

### 31.2 Terrestrial Environment

The following table summarizes key findings of the rapid assessment of the terrestrial environment associated with *Funadhooviligilla* Island on 14<sup>th</sup> September 2019.

**Table 313.2: Terrestrial environment of *Funadhooviligilla***

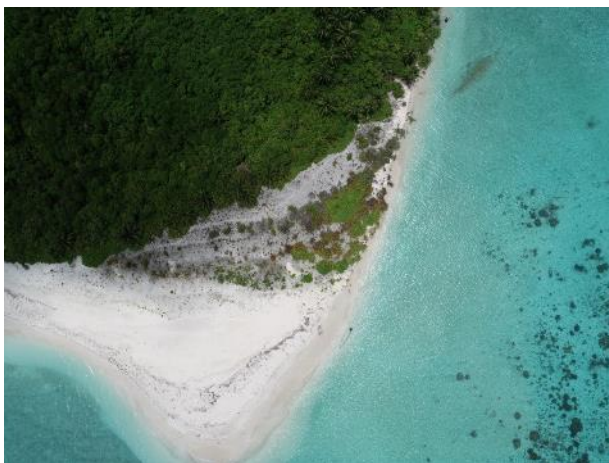
Parameter	Description
<i>Air Quality</i>	- Overall ambient air quality on the island was good.
<i>Floral observations</i>	<ul style="list-style-type: none"> <li>- Sub-littoral thicket: observed as a thick forest in the center of the island, dominated by <i>Kauni</i>, <i>Hirundhu</i>, <i>Dhigga</i>, <i>Funa</i>, <i>Midhili</i> and <i>Uni</i> more inland, and shrub species such as <i>Boakashikeyo</i>, <i>Boashi</i>, <i>Magoo</i> and <i>Kuredhi</i> dominating the shorelines. Large banyan trees are observed throughout the forest.</li> <li>- Coastal strand vegetation: observed along the western and north-eastern beaches, dominated by species such as <i>Uni</i>, <i>Boashi</i>, <i>Magoo</i> and <i>Kuredhi</i>.</li> <li>- Beach pioneer halophytes: observed in the open beach areas around the coastal strand vegetation and is dominated by species such as <i>Magoo</i>, <i>Boashi</i>, <i>Kuredhi</i> and <i>Hai</i>.</li> <li>- Palm trees are observed as very few, with the largest number observed near the southern shorelines of the island.</li> </ul>
<i>Faunal observations</i>	<ul style="list-style-type: none"> <li>- Birds: <i>Kaalhu</i>, <i>Koveli</i>, <i>Kambili</i>, <i>Kirudhooni</i>, <i>Maakanaa</i> and <i>Findhana</i> were the only birds observed on the island.</li> <li>- Reptiles &amp; Mammals: <i>Vaa</i>, <i>Meedha</i>, and <i>Bondu</i> were the only ones observed on the island. However, according to locals, <i>Hoanu</i>, <i>Fani</i>, <i>Garahitha</i> and <i>Nannugathi</i> can also be commonly found.</li> <li>- Crustaceans and Amphibians: <i>Kirukakuni</i>, <i>Bodu-Kirukakuni</i> and <i>Baraveli</i> were the only crustaceans spotted on land. According to locals, amphibian species such as <i>Boh</i> can also be found on the island.</li> </ul>
<i>Pest and Diseases, Invasive species</i>	<ul style="list-style-type: none"> <li>- <i>Meedha</i> was the most notable animal pest on the island due to large amounts of waste on the island.</li> <li>- <i>Rukumadi</i> was the most notable insect pest on the island with clear signs of a severe infestation on the island.</li> <li>- <i>Madhiri</i> levels were also relatively high on the island.</li> <li>- <i>Velanbuli</i>, the only notable invasive plant on the island was recorded in minimal numbers.</li> </ul>
<i>Unique Habitats / Key species spotting</i>	- No notable features or spotting.
<i>Overall impression</i>	- The island would require some land reclamation, especially to develop its beaches on the southern shorelines, along with some amount of landscaping activities to introduce palm trees, in order to make any viable resort operation. Moderate intervention is required to control the pest problems and improve the overall health of the vegetation on the island.



*Figure 31.1: The island as seen from above*



*Figure 31.2: The coastal strand vegetation observed on the north-eastern side of the island*



*Figure 31.3: The beach pioneer halophytes observed on the western side of the island*



*Figure 31.4: Velanbuli was the only notable invasive plant species on the island.*

### 31.3 Marine Environment

The following table summarizes key information gathered via the rapid reef assessment of Funadhooviligilla.

**Table 31.3: Coral reef of Funadhooviligilla Island**

Parameter	Description
<i>Reef features</i>	<ul style="list-style-type: none"> <li>- The island is located on small reef measuring about 50 ha.</li> <li>- This reef is located on the eastern rim of Gaafu Alif Atoll.</li> <li>- Funadhooviligilla is the only island on this reef system</li> </ul>
<i>Live coral</i>	<ul style="list-style-type: none"> <li>- Overall live coral coverage was good along the top reef (~20%).</li> <li>- Large boulder shaped corals were dominant coral type observed across the survey area on the inner atoll reef edge. In addition, <i>Acropora</i> type digitate and branching corals were also observed on the top reef and upper reef slopes.</li> </ul>
<i>Sea grass</i>	<ul style="list-style-type: none"> <li>- No significant seagrass patches occur within this reef system.</li> </ul>
<i>Fish life</i>	<ul style="list-style-type: none"> <li>- The reef provides for a variety of fish species, and high abundance of fishes observed. Including a number of sharks.</li> </ul>
<i>Key species spotted</i>	<ul style="list-style-type: none"> <li>- Hawksbill Turtle</li> <li>- Green Turtle</li> <li>- Napoleon Wrasse</li> <li>- Whitetip Reef Shark</li> <li>- Grey Reef Shark</li> </ul>
<i>Overall impression</i>	<ul style="list-style-type: none"> <li>- The reef appears good, healthy and provides for a wide variety of fish species and marine organisms, which snorkelers can enjoy.</li> </ul>



Figure 31.5: Boulder shaped coral colonies



Figure 31.6: Patches of Acropora type corals



Figure 31.7: Overview of reef edge



Figure 31.8: Overview of top reef (rocky)

### 31.4 Coastal Environment

The following table summarizes key findings of the rapid assessment of the coastal environment of Funadhooviligilla Island

Table 31.4: Coastal environment of Funadhooviligila

Parameter	Description
Beach conditions	Sandy beach present on the eastern side of the island. This length of the beach runs from the north east to the western side. The shoreline has a dune like character further towards the east due to the high energy waves that come in from the eastern side. There is a sandbank on the north western side. Erosion is heaviest on the south east towards the south side because of ocean swells entering through the channel.
Beach compositions	Beach composed of fine sand on the east to north sides although some coarse sand was observed at the western sand bank.
Wave conditions	Island exposed to ocean swells from the east due to being on the eastern edge of the atoll. Significant scouring on the eastern side has occurred, and accumulation on the western side as a sandbank.

Parameter	Description
Overall Impression	Offshore breakwater structures are required to provide safe berthing or access to the island. Access to the island is easy from the north western side.



Figure 31.9: North side



Figure 31.10: South side

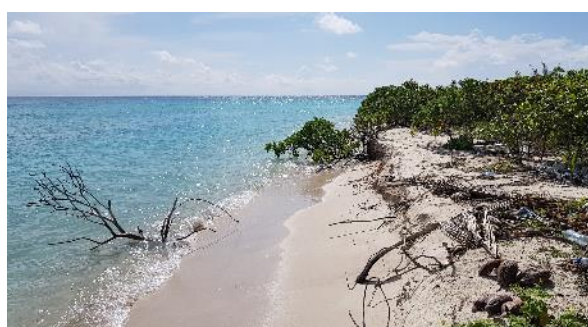


Figure 31.11: Eastern side



Figure 31.12: Western side

### 31.5 Stakeholder Consultation

The Island Councils of *Dhaandhoo*, *Kondey* and *Gemanafushi* and Gaaf Alif Atoll Council were consulted regarding *Fonadhooviligilla*, and *Maarehaa*. During each consultation, information about the island including the nature of the island, history, current use and key features of the island were discussed. A summary of the findings from the consultation are given in the table below. List of people consulted are attached in Appendix B.

**Table 31.5: Findings of stakeholder consultations regarding Funadhooviligilla**

View on resort development	<ul style="list-style-type: none"> <li>- Island councils did not point out any reservations about developing Fonadhooviligilla as a resort.</li> <li>- Atoll council is in view that all the uninhabited islands of the Atoll should not be allocated to develop resorts. A natural picnic island for the resident population is required with easy access.</li> </ul>
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### **31.6 Recommendations**

Funadhooviligilla is a medium sized island with sandy beach. The island receives strong waves from one side. Severe beach erosion is observed on the south and the island is subject to periodic geomorphological instability.

Shore protection measures will be required. Access to island may be difficult if the swell rises from the north east.

## 32 Maarehaa, Gaafu Alif

### 32.1 Island Profile

Maarehaa Island is located in Gaafu Alif Atoll. The island is located at approximately 73° 33' 50.162" E, 0° 27' 41.256" N. Table below summarises information about Maarehaa Island.

*Table 32.1: Basic information about Maarehaa Island*

<i>Island Name</i>	Maarehaa
<i>Location</i>	73° 33' 50.162" E, 0° 27' 41.256" N
<i>Island Area</i>	
<i>Within Vegetation Line</i>	14.44 Ha
<i>Within Low Tide Line</i>	15.63 Ha
<i>Est. Mean tide (sq. m)</i>	15.09 Ha
<i>Length</i>	About 630 m
<i>Width at the widest point</i>	About 300 m
<i>Distance to Malé International Airport</i>	About 412.00 km
<i>Distance to nearest domestic Airport</i>	About 33.33 km
<i>Distance to nearest resort</i>	About 13.22 km from Park Hyatt Maldives



## 32.2 Terrestrial Environment

The following table summarizes key findings of the rapid assessment of the terrestrial environment associated with *Maarehaa* Island on 15<sup>th</sup> September 2019.

**Table 32.2: Terrestrial environment of *Maarehaa***

Parameter	Description
<i>Air Quality</i>	- Overall ambient air quality on the island was good.
<i>Floral observations</i>	- The entirety of the island can be classified as a Sub-littoral thicket with very dense vegetation dominated by species such as <i>Kauni</i> , <i>Hirundhu</i> , <i>Dhigga</i> , and <i>Uni</i> in the understory, <i>Ruh</i> , <i>Funa</i> and <i>Midhili</i> dominating the upper canopy with the occasional <i>Nika</i> . The shorelines are dominated by shrub species such as <i>Boakashikeyo</i> , <i>Boashi</i> , <i>Magoo</i> and <i>Kuredhi</i> .
<i>Faunal observations</i>	- Birds: <i>Kaalhu</i> , <i>Koveli</i> , <i>Kambili</i> , <i>Dhandhifulhudhooni</i> , <i>Maakanaa</i> and <i>Findhana</i> were the only birds observed on the island. - Reptiles & Mammals: <i>Vaa</i> , <i>Meedha</i> , and <i>Bondu</i> were the only ones observed on the island. However, according to locals, <i>Hoanu</i> , <i>Fani</i> , <i>Garahitha</i> and <i>Nannugathi</i> can also be commonly found. - Crustaceans and Amphibians: <i>Kirukakuni</i> , <i>Bodu-Kirukakuni</i> , <i>Thoshi-Kakuni</i> and <i>Baraveli</i> were the only crustaceans spotted on land. According to locals, amphibian species such as <i>Boh</i> can also be found on the island.
<i>Pest and Diseases, Invasive species</i>	- <i>Meedha</i> was the most notable animal pest on the island due to large amounts of waste on the island. - <i>Rukumadi</i> was the most notable insect pest on the island with clear signs of a severe infestation on the island. - <i>Madhiri</i> levels were also relatively high on the island. - <i>Velanbuli</i> , the only notable invasive plant on the island was recorded in minimal numbers.
<i>Unique Habitats / Key species spotting</i>	- Number of large <i>Nika</i> and <i>Midhili</i> trees are high.
<i>Overall impression</i>	- A relatively large island, with a dense vegetation system that does not require much revegetation. Moderate intervention is required to control the pest problems and improve the overall health of the vegetation on the island.



*Figure 32.1: The island as seen from above*



*Figure 32.2: The dense sub-littoral thicket observed on the island*



*Figure 32.3: Magoo and Boakashikeyo are some of the more dominant species along the shorelines*



*Figure 32.4: Dense vegetation of boakashikeyo observed further inland*

### 32.3 Marine Environment

The following table summarizes findings of the rapid marine assessment undertaken at Maarehaa.

**Table 32.3: Coral reef of Maarehaa Island**

Parameter	Description
<i>Reef features</i>	<ul style="list-style-type: none"> <li>- Reef measures over 530 ha. Three islands occur within the reef system including <i>Maarehaa</i>. The nearest island <i>Medhuhuttaa</i> is less than 150 m from the northern end of <i>Maarehaa</i>.</li> <li>- From the ocean side the reef is composed of outer reef edge and drop-off, lower and upper reef slope, reef crest that includes spur and groove formations and an intertidal reef flat that terminates at the island.</li> <li>- From the atoll ward side, the reef is composed of an intertidal reef slope, followed by an intertidal lagoon and reef edge, and an intertidal reef flat that terminates at the island.</li> </ul>
<i>Live coral</i>	<ul style="list-style-type: none"> <li>- Overall live coral coverage was poor along the top reef (~5 - 10% coverage).</li> <li>- Dominant coral types observed were massive corals and sub-massive branching corals.</li> <li>- Ocean ward reef edge and upper reef slopes are mainly rocky areas with very low live coral coverage.</li> </ul>
<i>Sea grass</i>	<ul style="list-style-type: none"> <li>- The ocean ward reef flat supports an extensive seagrass bed that extends over from southern side of <i>Maaheeraa</i> to the north of <i>Dhiyadhoo</i> Island. Smaller seagrass patches also occur on the atoll ward side reef flat.</li> <li>- Seagrass bed provides habitat for juvenile fishes and smaller invertebrates. Seagrass beds also provide feeding ground for Turtles.</li> </ul>
<i>Fish life</i>	<ul style="list-style-type: none"> <li>- Fish life was good, the reef provides for a variety of fish species.</li> <li>- Dominant fish family observed were <i>Damsel</i>fishes.</li> </ul>
<i>Key species spotted</i>	<ul style="list-style-type: none"> <li>- Eagle rays (Near threatened species, protected in Maldives)</li> <li>- Napoleon Wrasse (Endangered species, protected in Maldives)</li> <li>- Green Turtle (Endangered species, protected in Maldives)</li> <li>- Blacktip Reef Shark (Near threatened species, protected in Maldives)</li> <li>- Whitetip Reef Shark (Near threatened species, protected in Maldives)</li> </ul>
<i>Sensitive site(s)</i>	<ul style="list-style-type: none"> <li>- <i>Maaheraa Kan'du</i> located south of the island is a famous dive site due to sighting of Hammerhead Sharks, Tiger Sharks, other shark species, Marlins and Sailfish.</li> </ul>

Parameter	Description
<i>Overall impression</i>	<ul style="list-style-type: none"> <li>- The reef on the atoll ward side is located about 290 m from the shoreline. Would require a boat or an overwater walkway extending from the island to safely reach the reef for snorkeling.</li> <li>- However, the seagrass bed is accessible from the beach and provides an additional habitat for snorkelers to explore.</li> <li>- High abundance of Sharks, Rays and Turtles would be an attraction for tourists.</li> <li>- Close proximity to <i>Maarehaa Kan'du</i> can potentially be a unique selling point for the island.</li> </ul>



Figure 32.5: Reef edge on the atoll ward terminates to a sandy slope



Figure 32.6: Colonies of *Pocillopora* sp. growing on rocky bottom on the atoll ward side



Figure 32.7: Bed of sea grass (*Thalassodendron ciliatum*) on ocean ward reef flat



Figure 32.8: Ocean ward reef edge is mainly a rocky zone

### 32.4 Coastal Environment

The following table summarizes key findings of the rapid assessment of the coastal environment of *Maarehaa* Island

**Table 32.4: Coastal environment of *Maarehaa***

Parameter	Description
<i>Beach conditions</i>	Narrow beach found around the island. Small wet sandbanks are found on the northern and southern sides of the islands. High tide line inside the vegetation line in all areas of the beach.
<i>Beach compositions</i>	Beach composed of fine sand on all side with some course material on the southern side.
<i>Wave conditions</i>	Strong waves break on the shore from the atoll. This is due to the long fetch of the atoll. East and southeast side are exposed to the ocean swells of from the Indian Ocean.
<i>Overall Impression</i>	Extensive shore protection will be required to ease the access to the island. This island is larger than islands currently used for conventional tourism.



*Figure 32.9: Eastern side*



*Figure 32.10: Western Side*



*Figure 32.11: North Side*



*Figure 32.12: South side*

### 32.5 Stakeholder Consultation

The Island Councils of *Dhaandhoo, Kondey and Gemanafushi Island Council* were consulted and Gaaf Alif Atoll Council were consulted regarding *Maarehaa*. During each consultation, information about the island including the nature of the island, history, current use and key features of the island were discussed. A summary of the findings from the consultation are given in the table below. List of people consulted are attached in Appendix B.

*Table 32.5: Findings of stakeholder consultations regarding Maarehaa*

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<i>View on resort development</i>	- Island councils did not point out any reservations about developing Maarehaa as a resort.
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### 32.6 Recommendations

It is recommended to develop a tourist resort with extensive shore protection measures for ease of access.

## 34 Koderataa, Gaafu Dhaalu

### 34.1 Island Profile

Koderataa Island is located in Gaafu Dhaalu Atoll.

### 34.2 Terrestrial Environment

The following table summarizes key findings of the rapid assessment of the terrestrial environment associated with *Koderataa* Island on 13<sup>th</sup> October 2019.

*Table 34.1: Terrestrial environment of Koderataa*

Parameter	Description
<i>Air Quality</i>	- Overall ambient air quality on the island was good.
<i>Floral observations</i>	<ul style="list-style-type: none"> <li>- Littoral edge scrubland: Covers almost the entirety of the island, except for the mangrove area and coastal strand vegetation observed on the western side of the island. The littoral edge scrubland is dominated by <i>Kuredhi</i>, <i>Boakashikeyo</i>, <i>Magoo</i>, <i>Dhigga</i> and <i>Uni</i>.</li> <li>- Coastal strand vegetation: observed along the western shorelines of the island, dominated by <i>Uni</i>, <i>Kuredhi</i>, and <i>Magoo</i>.</li> <li>- Mangrove area: observed along the western shoreline of the island, where there is a slight depression in the topography, and is dominated by mainly <i>Kuredhi</i>. According to locals, a mangrove species locally named <i>Thoamaraa</i> is found here, but were not found by the field team. After showing images to locals, the species was later identified as <i>Maru-gas</i>.</li> <li>- Very few palm trees (~5) were observed on the entirety of the island.</li> </ul>
<i>Faunal observations</i>	<ul style="list-style-type: none"> <li>- Birds: Only <i>Findhana</i> was observed on the island.</li> <li>- Reptiles &amp; Mammals: Only <i>Bondu</i> was observed on the island.</li> <li>- Crustaceans and Amphibians: <i>Kirukakuni</i>, <i>Thoshi-kakuni</i> and <i>Baraveli</i> were the only crustaceans spotted on land with no amphibian spotting throughout the field period.</li> </ul>
<i>Pest and Diseases, Invasive species</i>	- <i>Madhiri</i> infestation was deemed as low on the island.
<i>Unique Habitats / Key species spotting</i>	- Mangrove area.
<i>Overall impression</i>	- The island is a very small island with dense vegetation. A lot of reclamation activities (connecting with the neighboring islands) will be required to develop an operational resort on the island, including large scale importation of large trees and palms.



*Figure 34.1: Of the 4 islands close together that were surveyed, Koderataa is the northern-most island*



*Figure 34.2: It is a relatively small island with very dense shrub vegetation*



*Figure 34.3: The mangrove system is observed to the west of the island*



*Figure 34.4: The northern shoreline is dominated by Dhigga*



*Figure 34.5: The southern shoreline is dominated by Magoo, Kuredhi and Uni*



*Figure 34.6: The north-eastern shoreline is dominated by Magoo and Kuredhi*



### 34.3 Marine Environment

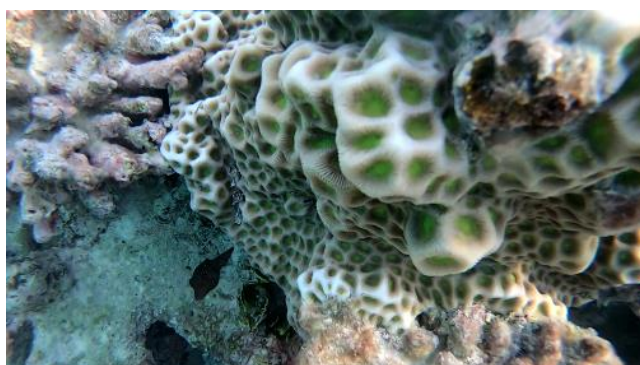
The key observations of the reef is presented in the table below.

*Table 34.2: Coral reef of Koderataa*

Parameter	Description
<i>Reef features</i>	- Mostly sandy terrain except for some coral patches
<i>Live coral</i>	- Live coral cover among coral patches are good, with a variety of corals
<i>Fish life</i>	- Overall fish life among the coral patches was good
<i>Key species spotted</i>	- Juvenile Blacktip Reef Shark spotted near beach
<i>Overall impression</i>	- Coral patches had a wide variety of live corals and fish, making it very ideal for snorkeling. - The second survey spot, which was the shallowest between Kan'dhefala and Thin thinehutta had live coral but the strong currents made this area unsuitable for snorkeling.



*Figure 34.7: Blue coral amongst a coral patch in sandy terrain, nearly 500m northeast of Koderataa*



*Figure 34.8: Corals at a coral patch nearly 300m east of Koderataa*

### 34.4 Stakeholder Consultation

#### a) Gdh Atoll Council

**Date:** 14 October 2019

**Participants:**

Mohamed Nasih	President	GDh. Atoll Council	7781571
Mohamed Rizan	Vice President	GDh. Atoll Council	7781672

- These 4 islands are not special compared to the other islands of the atoll
- We have made a list of 10 islands we recommend for tourism development and shared with tourism ministry also, none of the islands surveyed are islands from the list.
- We recommend islands closer to the inhabited islands to promote youth employment and easier for travel from islands

2 of the 4 islands in list are islands given for varuvaa

- Fereytha viligilla: Thinadhoo person. Given for 10 years. 8 years left. Plan to start chicken farm and sea cucumber farm. According to council, some group of people, vandalised and destroyed infrastructure worth 0.5million rufiyaa.
- Kandhefala: Also given varuvaa to a Maldivian living in Ukraine. Managed by Hoadedhdhoo person.

**Environment:**

- Turtles nest in all 4 islands
- Reef is nice
- No special birds

#### b) Hoadedhdhoo Island Council

**Date:** 12 October 2019

**Participants:**

Mohamed Ayaz	Council President	GDh. Hoadedhdhoo Council	7747161
Mohamed Ashraaf	Council VP	GDh. Hoadedhdhoo Council	7862186
Inaayath Abdul Sattar	Director	GDh. Hoadedhdhoo Council	7915501

Council:

- Economic minister manages all the islands. Would be easier if councils were asked to manage.
- We used to use the islands when atoll office used to manage (varuvaa ah dheefa). Some of the uses include agriculture, raa nagan.
- Keremathi - inside - dive spot. Good area for diving
- Not used for fishing. Bait fishing is done mostly inside the atoll
- Turtles on all islands. No island special. Most goes to KDM
- No special birds. Maakana, findhana, ilolhi
- Good to have resorts near for employment
- These islands aren't particularly special for island communities.
- Coconut palms will be less now

**Hoadedhdhoo Council recommends:**

- Kandevaraaha (island south of Hoadedhdhoo) - under tourism ministry
- Dhigereha (Second Island south of Hoadedhdhoo). These 2 islands are closer to airport
  - Nice reefs
  - Better beach
- also recommend Kalhehuttaa

**Island identification:**

Kauti hulhedhuvaa - very good for coconuts, used for picnic as well, has rooms also

**c) Nadella Council**

**Date:** 13 October 2019

**Participants:**

Faisal Najeeb	President	GDh. Nadella Council	7783004
Shahmadhu Azees	Vice President	GDh. Nadella Council	7569555
Ahmed Firaaz	Admin Officer	GDh. Nadella Council	7961434

**Council Recommends:**

- Maahuttaa
- Kude ehivakaa

Both these islands also good for resort development. Guests like beach.

These 2 island have nice beach, nice lagoon. Good for snorkleing – reef is nice.

- Kalehuttaa and Neimaa hutaa

About the 4 islands:

- All these islands are ussed for reef fishing
- Turtle nesting observed on 2 islands.
- Handhi, raiy mas, faana, giyolhu

### **34.5 Recommendations**

It is not recommended to develop due to the unavailability of a significant beach, and accessibility issues.

## 35 Fereytha Viligila, Gaafu Dhaalu

### 35.1 Island Profile

Fereytha Viligila Island is located in Gaafu Dhaalu Atoll.

### 35.2 Terrestrial Environment

The following table summarizes key findings of the rapid assessment of the terrestrial environment associated with *Fereytha Viligilla* Island on 13<sup>th</sup> October 2019.

**Table 35.1: Terrestrial environment of Fereytha Viligilla**

<i>Air Quality</i>	- Overall ambient air quality on the island was good.
<i>Floral observations</i>	<ul style="list-style-type: none"> <li>- Littoral edge scrubland: Covers the entirety of the island, except for the open areas. The littoral edge scrubland is dominated by <i>Kuredhi</i>, <i>Boakashikeyo</i>, <i>Magoo</i>, <i>Dhigga</i> and <i>Uni</i> along with the occasional <i>Funa</i> and <i>Ruh</i> dominating the top canopy.</li> <li>- Open areas: A small section of the eastern half of the island has been cleared for some basic infrastructures. However, these buildings have been heavily vandalized and is not in a usable state at the moment.</li> <li>- Very few palm trees (~30) were observed on the entire the island.</li> </ul>
<i>Faunal observations</i>	<ul style="list-style-type: none"> <li>- Birds: Only <i>Kaalhu</i>, <i>Findhana</i> and <i>Maakanaa</i> were observed on the island.</li> <li>- Reptiles &amp; Mammals: Only <i>Meedha</i>, <i>Hoanu</i> and <i>Bondu</i> was observed on the island.</li> <li>- Crustaceans and Amphibians: <i>Kirukakuni</i>, <i>Thoshi-kakuni</i> and <i>Baraveli</i> were the only crustaceans spotted on land with no amphibian spotting throughout the field period.</li> </ul>
<i>Pest and Diseases, Invasive species</i>	<ul style="list-style-type: none"> <li>- <i>Rukumadi</i> was the most notable insect pest on the island with clear signs of an infestation on the island.</li> <li>- <i>Madhiri</i> infestation was deemed as low on the island.</li> <li>- <i>Velanbuli</i>, the only notable invasive plant on the island was recorded in minimal numbers.</li> </ul>
<i>Unique Habitats / Key species spotting</i>	- No notable features or spotting.
<i>Overall impression</i>	- The island is a very small island with minimal infrastructure and very dense vegetation. A lot of reclamation activities (connecting with the neighboring islands) will be required to develop an operational resort on the island, including large scale importation of large trees and palms.



*Figure 35.1: Of the 4 islands close together that were surveyed, Feryetha-Viligilaa is second from the north*



*Figure 35.2: It is a relatively small island with dense shrub vegetation*



*Figure 35.3: A small development area is observed on the east side of the island*



*Figure 35.4: The buildings found at the site have been vandalized over the years and are not in a usable state*



*Figure 35.5: The south-eastern shoreline is dominated by Magoo, Kuredhi and Uni*



*Figure 35.6: The north-eastern shoreline is dominated by Kuredhi*

### 35.3 Marine Environment

The key observations of the reef is presented in the table below.

*Table 35.2: Coral reef of Fereythaviligilla*

Parameter	Description
<i>Reef features</i>	- Mostly sandy terrain except for some coral patches.
<i>Live coral</i>	- Live coral cover among coral patches are good, with a variety of corals
<i>Fish life</i>	- Overall fish life among the coral patches was good
<i>Key species spotted</i>	- Juvenile Blacktip Reef Shark spotted near the beach while doing beach profiles.
<i>Overall impression</i>	- Coral patches had a wide variety of live corals and fish, making it very ideal for snorkeling - The second survey spot, which was the shallows between Kandhefala and Thin Thinehutta had live coral but the strong currents made this area unsuitable for snorkeling.



*Figure 35.7: Partially bleached corals at a coral patch nearly 400m east of Fereytha Viligilla*

### 35.4 Stakeholder Consultation

#### a) Gdh Atoll Council

**Date:** 14 October 2019

**Participants:**

Mohamed Nasih	President	GDh. Atoll Council	7781571
Mohamed Rizan	Vice President	GDh. Atoll Council	7781672

- These 4 islands are not special compared to the other islands of the atoll

- We have made a list of 10 islands we recommend for tourism development and shared with tourism ministry also, none of the islands surveyed are islands from the list.
- We recommend islands closer to the inhabited islands to promote youth employment and easier for travel from islands

2 of the 4 islands in list are islands given for varuvaa

- Fereytha viligilla: Thinadhoo person. Given for 10 years. 8 years left. Plan to start chicken farm and sea cucumber farm. According to council, some group of people, vandalised and destroyed infrastructure worth 0.5million rufiyaa.
- Kandhefala: Also given varuvaa ah to a Maldivian living in Ukraine. Managed by Hoadedhdhoo person.

**Environment:**

- Turtles nest in all 4 islands
- Reef is nice
- No special birds

**b) Hoadedhdhoo Island Council**

**Date:** 12 October 2019

**Participants:**

Mohamed Ayaz	Council President	GDh. Hoadedhdhoo Council	7747161
Mohamed Ashraaf	Council VP	GDh. Hoadedhdhoo Council	7862186
Inaayath Abdul Sattar	Director	GDh. Hoadedhdhoo Council	7915501

**Council:**

- Economic minister manages all the islands. Would be easier if councils were asked to manage.
- We used to use the islands when atoll office used to manage (varuvaa ah dheefa). Some of the uses include agriculture, raa nagan.
  - Keremathi - inside - dive spot. Good area for diving
  - Not used for fishing. Bait fishing is done mostly inside the atoll
  - Turtles on all islands. No island special. Most goes to KDM
  - No special birds. Maakana, findhana, ilolhi
  - Good to have resorts near for employment
  - These islands aren't particularly special for island communities.
  - Coconut palms will be less now

**Hoadedhdhoo Council recommends:**

- Kandevareha (island south of HGoadedhdhoo) - under tourism ministry



- Dhigereha (Second Island south of Hoadedhdhoo). These 2 islands are closer to airport
  - Nice reefs
  - Better beach
- also recommend Kalhehuttaa

**Island identification:**

Kauti hulhedhuvaa - very good for coconuts, used for picnic as well, has rooms also

**c) Nadella Council**

**Date:** 13 October 2019

**Participants:**

Faisal Najeeb	President	GDh. Nadella Council	7783004
Shahmadhu Azees	Vice President	GDh. Nadella Council	7569555
Ahmed Firaaz	Admin Officer	GDh. Nadella Council	7961434

**Council Recommends:**

- Maahuttaa
- Kude ehivakaa

Both these islands also good for resort development. Guests like beach.

These 2 island have nice beach, nice lagoon. Good for snorkleing – reef is nice.

- Kalehuttaa and Neimaa hutaa

About the 4 islands:

- All these islands are ussed for reef fishing
- Turtle nesting observed on 2 islands.
- Handhi, raiy mas, faana, giyolhu

### **35.5 Recommendations**

It is not recommended to develop a resort at this location.

## 38 Kan'dahalagalaa, Gaafu Dhaalu

### 38.1 Island Profile

Kan'dahalagalaa Island is located in Gaafu Dhaalu Atoll. The island is located at approximately 73° 13' 0.196" E, 0° 13' 30.418" N. Table below summarises information about Kan'dahalagalaa Island.

**Table 38.1: Basic information about Kan'dahalagalaa Island**

<i>Island Name</i>	Kan'dahalagalaa
<i>Location</i>	73° 13' 0.196" E, 0° 13' 30.418" N
<i>Island Area</i>	
<i>Within Vegetation Line</i>	5.54 Ha
<i>Within Low Tide Line</i>	7.14 Ha
<i>Est. Mean tide (sq. m)</i>	6.54 Ha
<i>Length</i>	About 390 m
<i>Width at the widest point</i>	About 190 m
<i>Distance to Malé International Airport</i>	About 440.00 km
<i>Distance to nearest domestic Airport</i>	About 4.20 km
<i>Distance to nearest resort</i>	About 16.67 km from Ayada Maldives

### 38.2 Terrestrial Environment

The following table summarizes key findings of the rapid assessment of the terrestrial environment associated with Kan'dahalagalaa Island on 17<sup>th</sup> September 2019.

**Table 38.2: Terrestrial environment of Kan'dahalagalaa**

<b>Parameter</b>	<b>Description</b>
<i>Air Quality</i>	- Overall ambient air quality on the island was good.
<i>Floral observations</i>	<ul style="list-style-type: none"> <li>- Littoral edge scrubland: observed in the central parts of the island, including the northern and southern shorelines, dominated by species such as Boakashikeyo, Uni and Dhiggaa with Ruh and Midhili dominating the upper canopy.</li> <li>- Coconut dominated forest: observed in eastern half of the island, dominated by <i>Ruh</i>.</li> <li>- Coastal strand vegetation and Beach pioneer halophytes: observed on the north-western half of the island, dominated by shrub species such as <i>Magoo</i>, <i>Kuredhi</i>, <i>Boashi</i> and <i>Uni</i>, along with grass species such as <i>Hai</i>.</li> <li>- Built-up area: some structures are observed near the north-eastern shoreline of the island.</li> </ul>
<i>Faunal observations</i>	<ul style="list-style-type: none"> <li>- Birds: <i>Kaalhu</i>, <i>Koveli</i>, <i>Kambili</i>, <i>Maakanaa</i>, <i>Kirudhooni</i> and <i>Findhana</i> were the only birds observed on the island.</li> <li>- Reptiles &amp; Mammals: <i>Vaa</i>, <i>Meedha</i>, and <i>Bondu</i> were the only ones observed on the island. However, according to locals, <i>Hoanu</i>, <i>Fani</i>, <i>Garahitha</i> and <i>Nannugathi</i> can also be commonly found.</li> <li>- Crustaceans and Amphibians: <i>Kirukakuni</i>, <i>Bodu-Kirukakuni</i>, <i>Thoshi-Kakuni</i> and <i>Baraveli</i> were the only crustaceans spotted on</li> </ul>

<b>Parameter</b>	<b>Description</b>
	land. According to locals, amphibian species such as <i>Boh</i> can also be found on the island.
<i>Pest and Diseases, Invasive species</i>	<ul style="list-style-type: none"> <li>- <i>Meedha</i> was the most notable animal pest on the island due to large amounts of waste on the island.</li> <li>- <i>Rukumadi</i> was the most notable insect pest on the island with clear signs of a severe infestation on the island.</li> <li>- <i>Madhiri</i> levels were also relatively high on the island</li> <li>- <i>Velanbuli</i>, the only notable invasive plant on the island was recorded in minimal numbers.</li> </ul>
<i>Unique Habitats / Key species spotting</i>	- No notable features or spotting.
<i>Overall impression</i>	- The island would require some land reclamation, especially to develop its beaches, along with some amount of landscaping activities to introduce palm trees, in order to make any viable resort operation. Moderate intervention is required to control the pest problems and improve the overall health of the vegetation on the island.



Figure 38.1: The island as seen from above.



Figure 38.2: Some built-up structures are observed along the north-eastern shorelines.

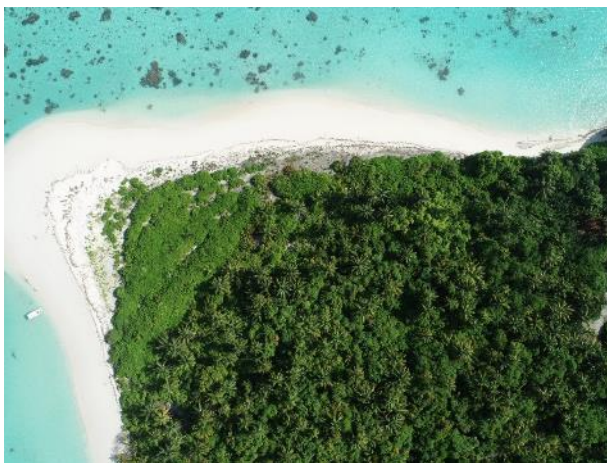


Figure 38.3: Coastal strand vegetation observed along the north-western shorelines.



Figure 38.4: Velanbuli was the only notable invasive plant species on the island.

### 38.3 Marine Environment

The following table summarises key findings of the rapid assessment of Kan’halagalaa Island Reef.

Table 38.3: Coral reef of Kan’dahalagalaa Island

Parameter	Description
Reef features	<ul style="list-style-type: none"> <li>- Reef measures about 34 ha and is in triangular shape. Only <i>Kandahalagalaa</i> Island occurs in this reef system.</li> <li>- The reef is located within the atoll, and is composed of upper and lower reef slope, followed by a reef edge, and an intertidal reef flat that terminates at the island.</li> </ul>
Live coral	<ul style="list-style-type: none"> <li>- Overall live coral coverage was good along the top reef (~20 – 30%).</li> <li>- Large strands of branching type corals occur in this reef (fig. 5 &amp; 6). In addition, large boulder shaped coral colonies were also observed.</li> </ul>

Parameter	Description
<i>Sea grass</i>	- No significant seagrass patches occur within this reef system.
<i>Fish life</i>	- The reef provides for a variety of fish species, and fish life observed was very good. - Dominant fish families observed were <i>Fusiliers</i> , <i>Damselfishes</i> , and <i>Basslets</i> .
<i>Key species spotted</i>	- Hawksbill Turtle - Napoleon Wrasse.
<i>Overall impression</i>	- The reef is located about 80 m from the shoreline, hence can be accessed easily without a boat or overwater platforms by snorkelers. - The reef appears good, healthy and provides for a wide variety of fish species and marine organisms which snorkelers can enjoy. - The reef is located about 7 km from the famous surfing point named “Blue Bowls” which will be good selling point especially for surfers.



Figure 38.5: Strand of branching type corals



Figure 38.6: Colonies of branching type corals



Figure 38.7: Large boulder shaped coral colonies



Figure 38.8: Hawksbill turtle cruising along the reef

### 38.4 Coastal Environment

The following table summarizes key findings of the rapid assessment of the coastal environment of Kan'dahalagalaa Island

Table 38.4: Coastal environment of Kan'dahalagalaa

Parameter	Description
<i>Beach conditions</i>	Wide sandy beach observed around the island with a sand bank on the western side.
<i>Beach compositions</i>	Beach is composed of fine sand and linear patches of beach rock on the north eastern side.
<i>Wave conditions</i>	Due to the wide reef around the island, waves would have their energy dissipated as they progress towards the island. The island is protected partially from the westerly swells from the island on the western rim of the atoll.
<i>Overall Impression</i>	Access to island is relatively easy. Seas around the island is expected to be generally calm and jetties on alternate sides could facilitate access

Parameter	Description
	during rough weather. Shore protection measures may need to be deployed on the north-eastern side to mitigate erosion.



Figure 38.9: Western side sand bank



Figure 38.10: Northern side at low tide



Figure 38.11: Eastern side - heavy erosion



Figure 38.12: Southern side

### 38.5 Stakeholder Consultation

The Island Councils of *Faresmaathodhaa*, *Vaadhoo*, *Haodhehdhoo*, *Nadehlaa* and *Gaaf Dhaalu Atoll Council* were consulted regarding *Bodurehaa* and *Kan'dahalagalaa*. During each consultation, information about the island including the nature of the island, history, current use and key features of the island were discussed. A summary of the findings from the consultation are given in the table below. List of people consulted are attached in Appendix B.

Table 38.5: Findings of stakeholder consultations regarding *Kan'dahalagalaa*

<i>History of the island</i>	Kan'dahalagalaa used to be an island where oil was sold to fishing boats
<i>Current use of the island</i>	- Kan'dahalagalaa is used by a guest house in Faresmaathodhaa Island
<i>View on resort development</i>	- Island and Atoll councils did not point out any reservations about developing <i>Kan'dahalagalaa</i> as a resort.

### 38.6 Recommendations

It is recommended to develop a resort on this island.