Ministry of Tourism
Republic of Maldives

Island Scoping Study of Islands Announced for 3rd Phase of Bidding 2021

Islands Included:

1. Medhafushi, Haa Alif
2. Alidhuffarufinolhu, Haa Alif
3. Kudafarufasgan'du, Haa Dhaalu
4. Kudalhaimendhoo, Shaviyani
5. Eh'thigili, Raa
6. Jinnathugau, Faafu
7. En'bulufushi, Faafu
8. Seedhihuraa / Seedhihuraa Veligan'du, Meemu
9. Olhufushi / Olhufushifinolhu, Thaa
10. Kaaddoo, Thaa
11. Bodu Mun'gnafushi, Laamu
12. Kashidhoo, Laamu
13. Funadhooviligilla, Gaaf Alif
14. Maarehaa, Gaaf Alif
15. Fereytha Viligilla, Koderataa, Gaaf Dhaalu
16. Kan'dahalagalaa, Gaaf Dhaalu

3 Medhafushi, Haa Alif

3.1 Island Profile

Medhafushi Island is located in the centre of *Haa Alif* Atoll. The island is located at approximately 72° 56' 3.001" E, 7° 0' 38.621" N. *Medhafushi* reef system is a mid-atoll faro, formed as a separate reef system. Table below summarises basic information about *Medhafushi*.

Table 3.1: Basic information about Medhafushi

Island Name	*Medhafushi*
Location	72° 56' 3.001" E; 7° 0' 38.621" N
Island Area	
Within Vegetation Line	6.91 Ha
Within Low Tide Line	11.62 Ha
Est. Mean tide (sq. m)	10.48 Ha
Length	*~ 500 m*
Width at the widest point	*~ 400 m*
Distance to Hanimaadhoo Airport	*~ 38.2 km*
Distance to nearest domestic Airport	*~ 5.80 km*
Distance to Male' City	*~ 319.65 km*
Distance to nearest resort	*~ 1.2 km to JA Manafaru*

3.2 Terrestrial Environment

The following table summarizes key findings of the rapid assessment of the terrestrial environment associated with *Medhafushi* on 14th September 2019.

Table 3.2: Terrestrial environment of Medhafushi

Parameter	Description
Air Quality	- Overall ambient air quality on the island was good.
Floral observations	- Littoral edge scrubland: densest parts of the island were observed more towards the north-western half of the island and were dominated by *Boakashikeyo, Magoo, Dhigga, Funa* and *Uni.* Observed mainly as patches no larger than 0.2ha. - Coastal strand vegetation: observed along the shorelines, including inland around the eastern and southern half of the island, dominated by *Boakashikeyo*, *Kuredhi*, *Boashi* and *Magoo*. - Large parts of the island are open areas with easy accessibility throughout the island. Despite the size of the island, less than 60 palm trees were counted throughout the island.
Faunal observations	- Birds: Observed on the island include *Koveli, Dhandifulhudhooni, Kirudhooni, Maakanaa* and *Findhana*. - Reptiles & Mammals: None were observed on the island but according to locals, *Vaa, Musalhu, Garahitha* and *Bondu* are likely to be found on the island. - Crustaceans and Amphibians: *Kirukakuni*, *Bodu-Kirukakuni* and *Baraveli* were the only crustaceans spotted on land with no amphibian spotting throughout the field period.
Pest and Diseases, Invasive species	- *Rukumadi* was the most notable insect pest on the island with clear signs of a severe infestation on the island. - *Madhiri* infestation was deemed as moderate on the island. - *Velanbuli,* the only notable invasive plant on the island was recorded in high numbers throughout the entire island.
Unique Habitats / Key species spotting	- A date palm tree (coordinates: 7.01011, 72.93478) - Several dug wells observed throughout the island - Possibility of being a roosting site for *Dhandifulhudhooni*
Overall impression	- 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 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 3.1: Date palm tree observed in the south-central part of the island

Figure 3.2: Palm trees are sparse and few on the island

Figure 3.3: Severe infestation of Velanbuli on the entire island

Figure 3.4: Boakashikeyo is the most dominant species on the island

Figure 3.5: A few dug wells were observed throughout the island

Figure 3.6: The south-western shoreline of the beach is the most eroded on the island

3.3 Marine Environment

The key observations of Medhafushi reef based on the rapid assessment are presented in the table below.

Table 3.3: Coral reef of Medhafushi

Parameter	Description
Reef features	- Reef measures over 79 ha. The reef flat makes up over 80% of the reef area. *Medhafushi* is the only island that is currently on the reef system. - The surrounding house reef is mainly comprised of rock and coral rubble.
Live coral	- Overall live coral coverage was poor along the top reef (~3 - 7% coverage). - Main coral type observed was massive type corals.
Fish life	- High abundance of *Redtoothed Triggerfishes* was observed around the reef. - Overall fish life on the reef was good.
Key species spotted	- Blacktip Reef Shark
Overall impression	- Mostly rocky terrain with occasional massive coral colonies where fishes are usually concentrated. This is not the most ideal snorkeling spot. - High abundance of *Crown-of-thorn Starfishes (COTS)* were observed feeding on remaining coral colonies of the reef. Active measures will be required to reduce COTS population.

Figure 3.7: Dead corals and rock covered in algae and sand

Figure 3.8: Crown-of-Thorn Starfish

Figure 3.9: Crown of Thron Starfish feeding on a massive coral colony

3.4 Coastal Environment

The key observations of the coastal environment is presented in the table below.

Table 3.4: Coastal environment of Medhafushi

Parameter	Description
Beach conditions	Southern side of the island was majorly eroded, and the vegetation line was exposed to the sea water in high tide. Long spit was formed on the north-eastern tip and a wide beach was on the eastern side of the island, approximately 90m from vegetation line to high tide line. Minor erosions were observed on the beach of northern side. The western side of the island were severely eroded.
Beach compositions	The island of Medhafushi beach consisted fine sand and coarse sand with a small area of coral pebbles.
Wave conditions	Wave energy was high from the south-western side of the island. It is the closest side to the atoll lagoon.
Overall Impression	Western and southern side of the island requires shore protection measures and beach nourishments to reduce erosion rate and wave strength. Northern side requires beach nourishment. Overall, the eastern and northern side of the island coast were in good condition.

Figure 3.10: Severe erosion on southern side

Figure 3.11: Wide beach on the eastern side

Figure 3.12: Northern side with minor erosion

Figure 3.13: Western side with severe erosion

3.5 Stakeholder Consultation

The Island Councils of *Hoarafushi* and *Ihavandhoo* and Haa Alif Atoll Council were consulted regarding *Medhafushi*. In addition, few people from both *Hoarafushi* and *Ihavandhoo* 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 3.5: Findings of stakeholder consultations regarding Medhafushi

Current use of the island	- As a picnic island mostly by the locals of *Hoarafushi*, *Ihavandhoo* and by the guesthouse in *Hoarafushi*. However, the guesthouse visits this island only occasionall. Mostly *Innafinolhu* and *Maafinolhu* are used by them. - The area around the island is also used by fishermen in the atoll for bait fishing. - *JA Manafaru* uses the area near *Medhafushi* for night fishing on an occasional basis.
Key features	- Turtle nesting site. - The atoll has fewer soft corals and more hard corals in comparison to other areas in the Maldives. - *Bilaiydhoo Thila* to the north of *Medhafushi* can be listed as one of the Top 10 dive sites in the country with Mantas, Sharks and Rays often spotted.
View on resort development	- There are nearby uninhabited islands in the area including *Innafinolhu*, *Huvahandhoo*, *Vagaaru* which can be used as picnic islands. Therefore, there were no reservations by the consulted locals about developing *Medhafushi* as a tourist resort.

3.6 Recommendations

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

- Medhafushi is a highly volatile island with periodic severe erosion. Hence extensive shore protection measures will be required to stabilize the island.
- The island's vegetation system is 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 resort operation. Furthermore major intervention is also required to control the invasive species problems and improve the overall health of the vegetation on the island.
- The islands reef is poor in terms of coral life and high abundance of COTS observed on the reef is likely to further reduce overall health of the reef in the long term. Management measures are required to control COTS population on the reef and also rejuvenate the reef.

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

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

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
Air Quality	- Overall ambient air quality on the sandbank was good.
Floral observations	- Beach pioneer halophytes: observed along or in between the strand vegetation, dominated by *Hai*, *Kuredhi, Boashi* and *Magoo*
Faunal observations	- Birds: Observed on the island include *Kirudhooni, Maakanaa* and *Findhana*. - No reptiles or mammals observed on the sandbank. - Crustaceans and Amphibians: *Kirukakuni*, *Bodu-Kirukakuni* and *Baraveli* were the only crustaceans spotted on the sandbank with no amphibian spotting throughout the field period.
Pest and Diseases, Invasive species	- None.
Unique Habitats / Key species spotting	- Signs of the sandbank being used as a picnic site was observed - Signs of sand mining was observed - Bird roosting site for *Kirudhooni*
Overall impression	- 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 44.1: 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
Reef features	- North and north eastern side of house reef comprised mainly of sandy terrain - Southern side of reef consisted of rock and mostly rubble
Live coral	- Overall live coral coverage was poor along the top reef though some areas had very good coverage (~3 - 30% coverage). - Dominant coral types observed were boulder corals.
Fish life	- Fish life was good, the reef provides for a variety of fish species. - Most abundant fish family observed was *Triggerfish* and *Fusiliers*.
Key species spotted	- Nurse Shark (adult, about 1m).
Sensitive site(s)	- Nil
Overall impression	- Mostly dead rock and sandy terrain, not very ideal for snorkeling.

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

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

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

7.2 Terrestrial Environment

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

Table 7.2: Terrestrial environment Kudafarufasgandu

Parameter	**Description**
Air Quality	- Overall ambient air quality on the sandbank was good.
Floral observations	- None.
Faunal observations	- 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: *Kirukakuni* was the only crustacean spotted on the sandbank.
Pest and Diseases, Invasive species	- None.
Unique Habitats / Key species spotting	- No notable features or spotting.
Overall impression	- 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 15th September 2019.

Table 7.3: Coral reef of Kudafarufasgandu

Parameter	Description
Reef features	- Reef measures over 35 ha. - Reef comprised of sandy terrain with western area of reef consisting of more than 50% sand.
Live coral	- Overall live coral coverage was poor along the top reef (~5 - 15% coverage). - Ocean ward reef edge and upper reef slopes are mainly rocky areas with very low live coral coverage.
Fish life	- Fish life was good, the reef provides for a variety of fish species. - Most abundant fish family observed was *Triggerfish*.
Key species spotted	- Nil
Sensitive site(s)	- Nil
Overall impression	- Visibility here is ideal for snorkeling and though live coral cover is low, stretches of dead table coral are quite a sight. - Lots of fish schools were sighted along the reef edge.

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

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

12 Kudalhaimendhoo, Shaviyani

12.1 Island Profile

Kudalhaimendhoo Island is located in Shaviyani Atoll. The island is located at approximately 73° 17' 45.463" E, 6° 0' 55.712" N. Table below summarises information about Kudalhaimendhoo Island.

Table 12.1: Basic information about Kudalhaimendhoo

Island Name	*Kudalhaimendhoo*
Location	73° 17' 45.463" E, 6° 0' 55.712" N
Island Area	
Within Vegetation Line	10.71 Ha
Within Low Tide Line	10.77 Ha
Est. Mean tide (sq. m)	11.45 Ha
Length	*About 600 m*
Width at the widest point	*About 200 m*
Distance to Malé International Airport	*About 238.40 km*
Distance to nearest domestic Airport	*About 16.04 km*
Distance to nearest resort	*About 13.20 km from Vagaru Island Resort*

12.2 Terrestrial Environment

The following table summarizes key findings of the rapid assessment of the terrestrial environment associated with *Kudalhaimendhoo* Island on 18th September 2019.

Table 12.2: Terrestrial environment of Kudalhaimendhoo

Parameter	Description
Air Quality	- Overall ambient air quality on the island was good.
Floral observations	- Littoral edge scrubland: observed along the shorelines, dominated by *Kuredhi, Boakashikeyo, Magoo, Dhigga, Funa, Dhakandha* and *Uni.* - Sub-littoral thicket: observed in the central-eastern half of the island, dominated by *Boakashikeyo, Dhigga, Funa, Nika, Midhili* and *Uni.* - Coconut grove: observed in the north-central as well as the eastern part of the island, dominated by *Ruh* and occasionally by *Funa* and *Midhili*. - Mangroves: Three separate mangrove ecosystems were observed on the island, the largest one being in the north and a relatively smaller one on the south-eastern tip of the island. The third one, which is a small patch, was observed near the eastern shoreline of the island. All mangrove ecosystems were dominated by *Kan'doo* along with *Kuredhi*. The two larger ones had a small water body in them but are likely to dry up during the warmer seasons.
Faunal observations	- Birds: Observed on the island include; *Kaalhu, Koveli, Maakanaa, Dhandifulhudhooni* and *Findhana*. According to

Parameter	Description
	locals *Kirudhooni, Gaadhooni, Ilholhi and Reyru* is also known to frequent the island. - Reptiles & Mammals: Observed on the island include *Vaa, Meedha, Hoanu, Fani, Garahitha, Bondu* and *Nannugathi.* - Crustaceans and Amphibians: *Kirukakuni*, *Bodu-Kirukakuni, Kulhi-kakuni, Thoshi-kakuni* and *Baraveli* were the only crustaceans spotted on land with no amphibian spotting throughout the field period.
Pest and Diseases, Invasive species	- *Meedha* was the most notable animal pest on the island due to large amounts of waste on the island. - *Rukumadi* was the most notable insect pest on the island with clear signs of a severe infestation on the island. - *Madhiri* was very high in number on the island along with *Sandflies* near the shoreline. - *Velanbuli,* the only notable invasive plant on the island was recorded in minimal numbers.
Unique Habitats / Key species spotting	- Several mangrove ecosystems
Overall impression	- The island appears to have a rich biodiversity due to its multiple ecosystems, and any viable resort development will require conservation of these areas. Heavy intervention will also be required to control the pest and disease issues on the island.

Figure 12.1: The small mangrove observed on the south-eastern tip of the island

Figure 12.2: Coconut grove observed in the central parts of the island

Figure 12.3: Southern shorelines are dominated by Kuredhi, Magoo, Uni and Boakashikeyo

Figure 12.4: Several footpaths are observed underneath the dense canopy of the island

Figure 12.5: The larger Kan'doo mangrove ecosystem found in the northern part of the island

Figure 12.6: The permanent water body observed in the mangrove ecosystem

12.3 Marine Environment

The following table summarizes key findings of the rapid assessment of the reef associated with *Kudalhaimendhoo* Island on 18th September 2019.

Table 12.3: Summary of key findings of Kudalhaimendhoo reef

Parameter	Description
Reef features	- Reef measures over 60 ha. - Rocky on the reef ward side. - This is the only island in this reef system.
Live coral	- Overall live coral coverage was poor along the top reef (~5 - 10% coverage). - Dominant coral types observed were massive corals. - Large boomies served as nurseries for juvenile schools of fishes
Fish life	- Fish life was good, the reef provides for a variety of fish species. - Most abundant fish family observed was *Triggerfish*.
Key species spotted	- Eagle Ray
Sensitive site(s)	- Nil
Overall impression	- Boomies are great snorkeling spots where schools of fish can be found.

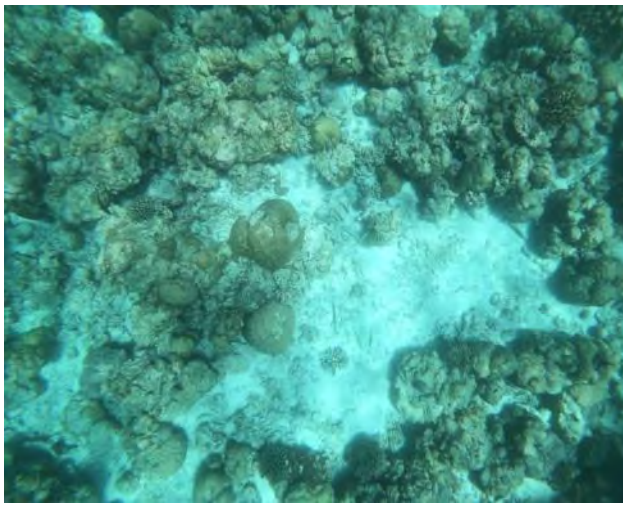

Figure 12.7: Overview of seabed composition

Figure 12.8: Overview of seabed composition

12.4 Coastal Environment

The following table summarizes key findings of the rapid assessment of the coastal environment of *Kudalhaimendhoo* Island on 18th September 2019.

Table 12.4: Coastal Environment of Kudalhaimendhoo reef

Parameter	Description
Beach conditions	The beach of southern side of shallow area was severely eroded and deep bay area beach was moderately eroded. There was no backshore dry beach on northern side of the island. There was no beach on southern end and the south-western end as well.
Beach compositions	Beach on the island's southern side covered granule and cobble rocks where the lagoon is shallow. Beach of the southern deep lagoon bay consisted of coarase and medium sand. The northern side of the island contained cobble and boulder rocks.
Wave conditions	Wave strength was high on the northern side and the north-eastern side of the island. This is due to the high energy wave from east Indian ocean. The distance between the shoreline and the reef wave break was approximately 155m. Moderate wave strength was observed on the south-western side and the south-eastern side.
Overall Impression	Island requires hard engineering measures on the northern side and the southern end to prevent soil erosion and to protect island vegetation. Southern side of the island was also moderately eroded due to sand mining and natural factors. Awareness and legal measures are required to protect the island.

Figure 12.9: Vegetation growth with no beach on south-eastern side

Figure 12.10: Wide beach on middle of southern side with coarse and medium sand

Figure 12.11: Severe eosion on south-western edge with granule rocks

Figure 12.12: Cobble and boulder rocks on northern side with no dry beach area

12.5 Stakeholder Consultation

The Island Councils of *Maaungoodhoo* and *Funadhoo* and Shaviyani Atoll Council were consulted regarding *Kudalhaimendhoo*. In addition, few people from both *Maaungoodhoo* and *Funadhoo* 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 12.5 Summary of findings from consultations regarding Kudalhaimendhoo

History of the island	- *Kudalhaimendhoo* was previously used for farming by the locals in *Maaungoodhoo.*
Current use of the island	- Locals in *Maaungoodhoo* mine sand from *Kudalhaimendhoo* extensively for construction purposes. - Used by the locals in *Maaungoodhoo* for collecting palm fronds to make thatch. - As a picnic island by the locals in *Maaungoodhoo.*
Key features	- There is a small mangrove. - Occasional turtle nesting site. - Whale Sharks and Manta occur to the west of *Kudalhaimendhoo.* - Good snorkelling points *Thila* to the north and south of *Kudalhaimendhoo*
View on resort development	- Locals in *Maaungoodhoo* are in favour of developing *Kudalhaimendhoo* as a resort.

12.6 Recommendations

It is recommended to develop a resort at this island taking into consideration the following limitations and issues.

Kudalhaimendhoo is a small Island with limited beach. The eastern side beach is predominantly composed of coral rubble and beach rock. This is affected by very strong waves and severe erosion. Enlarging the island, beach redevelopment and shore protections will be required to develop a typical tourist resort property on the island. In addition, the island possess a rich biodiversity due to multiple ecosystems, and any sustainable resort development will require conservation of these areas. Heavy intervention will also be required to control the pest and disease issues on the island.

15 Ehthigili, Raa

15.1 Island Profile

Ehthigili Island is located in Raa Atoll. The island is located at approximately 72° 56' 17.149" E, 5° 58' 43.964" N. Table below summarises information about Ehthigili Island.

Table 15.1: Basic information about Ehthigili

Island Name	*Ehthigili*
Location	72° 56' 17.149" E, 5° 58' 43.964" N
Island Area	
Within Vegetation Line	9.86 Ha
Within Low Tide Line	10.80 Ha
Est. Mean tide (sq. m)	10.39 Ha
Length	*About 615 m*
Width at the widest point	*About 298 m*
Distance to Malé International Airport	*About 208.30 km*
Distance to nearest domestic Airport	*About 31.00 km*
Distance to nearest resort	*About 31.56 km from Ifuru Transit Hotel*

15.2 Terrestrial Environment

The following table summarizes key findings of the rapid assessment of the terrestrial environment associated with *Ehthigili* Island on 20th September 2019.

Table 65.2: Terrestrial environment of Ehthigili

Parameter	Description
Air Quality	- Overall ambient air quality on the island was good.
Floral observations	- Littoral edge scrubland: observed along the western shorelines, dominated by *Kuredhi, Boakashikeyo, Magoo, Dhigga, Dhakandha* and *Uni.* - Mangrove area: observed in the center of the island, dominated by species such as *Kan'doo* and *Boda Vaki*, along with some species such as *Kuredhi* and *Thakafathi* in lesser numbers. - Coconut dominated forest: covering the entirety of the eastern half of the island as well as to the north and west of the mangrove area and is dominated by *Ruh*. - Open area: observed near the mangrove area, most likely due to deforestation by locals.
Faunal observations	- Birds: Observed on the island include *Kaalhu, Koveli, Dhandifulhudhooni, Reyru, Maakanaa* and *Findhana*. - Reptiles & Mammals: Observed on the island include *Vaa, Meedha, Hoanu, Fani, Garahitha, Bondu* and *Nannugathi.* - Crustaceans and Amphibians: *Kirukakuni*, *Bodu-Kirukakuni* and *Thoshi-kakuni* were the only crustaceans spotted on land. According to locals, amphibian species such as *Boh* can also be found on the island.
Pest and Diseases, Invasive species	- *Meedha* was the most notable animal pest on the island due to large amounts of waste on the island. - *Rukumadi* was the most notable insect pest on the island with clear signs of a severe infestation on the island. - *Madhiri* levels were also relatively high on the island - *Velanbuli,* the only notable invasive plant on the island was recorded in minimal numbers.
Unique Habitats / Key species spotted	- A diverse mangrove area
Overall impression	- The island's vegetation system appears to be very diverse in terms of flora and an important area for a large number of bird species. Severe intervention will be required to control the pest problems and improve the overall health of the vegetation on the island.

Figure 15.1: The island as seen from above.

Figure 15.1: The wetland area as seen from above.

Figure 15.3: Large areas of the mangrove have been cut down by locals in the past.

Figure 15.4: Young mangrove seedlings are observed throughout the area.

Figure 15.5: An old structure observed on the island.

Figure 15.6: Boakashikeyo is one of the more dominant species along the western shoreline of the island.

15.3 Marine Environment

The following table summarizes key findings of the rapid assessment of the reef associated with *Ehthigili* Island on 20th September 2019

Table 75.3: Coral reef of Ehthigili

Parameter	Description
Reef features	- Reef measures over 333 ha. - From the ocean - From the atoll ward side - This is the only island in this reef system
Live coral	- Overall live coral coverage was better than other islands visited on this survey (~5 - 25% coverage). - Eastern reef had relatively high abundance of live coral along the reef edge
Fish life	- Fish life was very good, the reef provides for a variety of fish species. - Large fish can be spotted on the eastern reef. - Most abundant fish families were *Surgeonfish* and *Triggerfish*.
Key species spotting's	- Green Turtle, four sightings, one was a juvenile
Sensitive site(s)	- Island has mangrove
Overall impression	- Eastern reef had variety of fish live as well as corals and overhangs and cave-like areas, making it very ideal for scuba diving. However, visibility was not the most optimal for snorkeling. - Western reef had high wave action and would not be suitable for snorkeling.

Figure 15.7: Reef edge of eastern side reef

Figure 15.8: Fish life along a shallower area of the reef

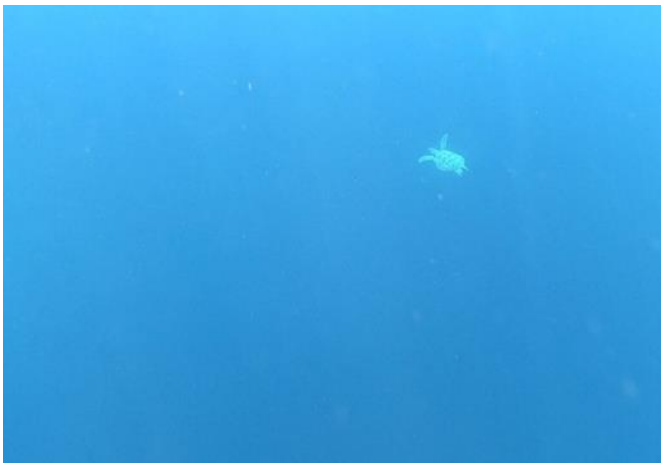

Figure 15.9: Sea Turtle

Figure 15.10: Western reef floor

15.4 Coastal Environment

The following table summarizes key findings of the rapid assessment of the coastal environment of *Ethigili* Island on 20th September 2019.

Table 15.4: Coastal environment of Ethigili

Parameter	Description
Beach conditions	There was only a dry backshore beach on both the southern side and the eastern tip of the island. All other sides did not have proper beach. The beaches around the island has severly eroded and approximately 95 percent of shoreline vegetation were exposed to saltwater on high tides.
Beach compositions	Fine sand was only observed on most north-eastern beach with coral pebbles. Southern side of the island covered cobble and bolder rocks. Beach rocks were formed on the northern side of the island to mid-point of southern area with cobble and bolder rocks. Very coarse sand was found on eastern tip of island.
Wave conditions	Wave strength was high on the northern and the western side of island. This is the ocean-ward side and was approximately 110m from the shoreline to the reef edge. The wave strength was moderate on all other sides of the island.
Overall Impression	Island requires hard engineering measures to prevent further erosion from strong oceanic waves. Moreover, there were no sandy beach area on the island. But the southern side of the island was covered with a cobble rock beach.

Figure 15.11: North-eastern beach with fine sand and pebble coral rocks

Figure 15.12: Severe erosion on northern side of island with granules and cobble rocks

Figure 15.13: Beach rocks on western side of island with coral reefs

Figure 15.14: Eastern edge of the island with coarse sand

15.5 Stakeholder Consultation

The Island Councils of *Alifushi* and Raa Atoll Council were consulted regarding *Ehthigili*. In addition, few people from *Alifushi* 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 155.5: Findings of stakeholder consultations regarding Ehthigili

Current use of the island	- Locals in *Alifushi* harvest palm fronds, coconut and firewood from *Ethigili*. - As a picnic island by the locals of *Alifushi.*
Key features	- *Ehthigili* has a rocky beach. - The island is recognised to have a lot of mosquitoes, especially during and after southwest monsoon. - Unique vegetation in *Ehthigili.* - Potential surfing spot in the island. - A bird roosting site including *Maakana, Bondhana, Bulhithunbu, Raabondhi, Findhana.*
View on resort development	- There was no reservation about developing *Kunnamalei* as a resort.

15.6 Recommendations

It is not recommended to develop a resort on this island considering the following issues.

- Contains a large (30-35% of the island) and diverse wetland with what appears to be high biodiversity and protected trees. No sandy beach around 60% of the shoreline. Rough wave conditions and strong currents around the island. Accessibility may be affected at times. Locals desperately wants to build a resort, but developers would find it difficult to construct and operate a typical resort at the site.

16 Jinnathugau, Faafu

16.1 Island Profile

Jinnathugau Island is located in Faafu Atoll. The island is located at approximately 72° 59' 53.196" E, 3° 12' 1.015" N. Table below summarises information about Jinnathugau Island.

Table 16.1: Basic information about Jinnathugau

Island Name	*Jinnathugau*
Location	72° 59' 53.196" E, 3° 12' 1.015" N
Island Area	
Within Vegetation Line	0.91 Ha
Within Low Tide Line	1.77 Ha
Est. Mean tide (sq. m)	1.47 Ha
Reef Area	
Overall area	*88.1 Ha (including deep lagoon)*
Within shallow reef	*61.41 Ha*
Length	*About 246.60 m*
Width at the widest point	*About 105 m*
Distance to nearest domestic Airport	*About 35.00 km*
Distance to Male' International Airport	*About 124.00 km*
Distance to nearest resort	*About 4 km to Filitheyo Island Resort*

16.2 Terrestrial Environment

The following table summarizes key findings of the rapid assessment of the terrestrial environment associated with *Jinnathugau* Island on 26th September 2019.

Table 16.2: Terrestrial environment of Jinnathugau

Parameter	Description
Air Quality	- Overall ambient air quality on the island was good.
Floral observations	- Littoral edge scrubland: observed along the entirety of the island, dominated by *Ruh* in the upper canopy while *Kuredhi, Magoo, Boakashikeyo, Boashi, Dhigga,* and *Uni* dominate the lower canopy. Observed as sparse pockets of vegetation. - Beach pioneer halophytes: observed in open areas, dominated by *Hai*, *Boashi, Kulhlhafilaa* and *Magoo*.
Faunal observations	- Birds: *Kaalhu, Kambili, Maakanaa* and *Findhana* were the only birds observed on the island. - Reptiles & Mammals: *Bondu* was the only one observed. - Crustaceans and Amphibians: *Kirukakuni* and *Baraveli* were the only crustaceans spotted on land.
Pest and Diseases, Invasive species	- *Rukumadi* was the most notable insect pest on the island with signs of a moderate infestation on the island. - *Madhiri* levels were relatively low on the island. - *Velanbuli,* the only notable invasive plant on the island was recorded in high numbers.

Parameter	Description
Unique Habitats / Key species spotting	- No notable features or spotting.
Overall impression	- A very small island that will require extensive reclamation and re-vegetation activities to develop a viable resort operation. Moderate intervention is required to control the existing pest problems and improve the overall health of the vegetation on the island.

Figure 16.1: Magoo is the most abundant species on the island, and velanbuli (invasive) numbers are also high

Figure 16.2: The island as seen from above

16.3 Marine Environment

The following table summarizes key findings of the rapid assessment of the reef associated with *Jinnathugau* Island in September 2019

Table 16.3: Summary of reef of Jinnathugau Island

Parameter	Description
Reef features	- Jinnathugau is located on an oval shaped reef with a short tail on the western end. The reef measures about 88.1 ha. - The length of the reef system is about 2 km and width at its widest point is about 0.6 km. - Jinnathugau is the only island on the reef system and is located on the eastern shallow reef flat. - The reef is characterized by gentle reef slopes on the northern side, and steep reef slopes on the eastern and southern half. - There is a distinctive embayment on the south western half of the reef forming a natural harbour, and a deep lagoon.
Live coral	- Overall live coral coverage was poor along the top reef and upper reef slope (~10%) - The top reef and upper reef slopes were dominated by dead corals covered in algae. Large clumps of *Halimeda* was observed across the reef. - Large Blue Coral colonies were observed on the south-western embayment area.
Sea grass	- No significant seagrass patches occurs within this reef system
Fish life	- The reef provides for a variety of fish species, and fish life observed was very good.
Key species spotted	- Nil.
Overall impression	- The reef appears to have undergone several episodes of stress (Coral Bleaching events). However, the reef provides many areas for exploration for snorkelers.

Figure 16.3: Reef edge on the atoll ward terminates to a sandy slope

Figure 16.4: Colonies of Pocillopora sp. growing on rocky bottom on the atoll ward side

Figure 16.5: Bed of sea grass (Thalassodendron ciliatum) on ocean ward reef flat

Figure 16.6: Ocean ward reef edge is mainly a rocky zone

16.4 Coastal Environment

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

Table 16.4: Coastal environment of Jinnathugau

Parameter	Description
Beach conditions	A wide sandy beach exists around the island; dry beach on the northern side was narrower. The beach would be very mobile throughout the year – west side will increase in size during NE monsoon due to deposition. Swells from the south during the SW monsoon is expected to cause accumulation on the western side as a narrow 'arm' of beach.
Beach compositions	Beach around the island was composed of fine sand; no rocks or shingles found on the beach
Wave conditions	Wind waves from north east are incident on the northern side; Expected to be rough during the NE monsoon.
Overall Impression	Land area of the island must be increased through reclamation for its development as a conventional tourist resort. Also, due to the mobile nature of the beach, shore protection measure have to be deployed once any offshore structures are built.

Figure 16.7: Northern Side Beach

Figure 16.8: Eastern Side Beach

Figure 16.9: Southern Side Beach

Figure 16.10: Western Side Beach

16.5 Stakeholder Consultation

The Island Councils of Bileidhoo, Magoodhoo and Faafu Atoll Council were consulted regarding Jinnathugau and En'bulufushi. 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 16.5: Findings of stakeholder consultations regarding Jinnathugau

Current use of the island	- The reef is used to catch grouper by Fishermen. - Filitheyo resort uses the island for excursions.
View on resort development	- Both Island councils and Atoll council did not point out any reservations about developing *Jinathugau* as a tourist resort.

16.6 Recommendations

It is not not recommended to develop a resort at this island due to the following issues.

- This island is very small and geomorphologically volatile and will require extensive shore protection to maintain shorelines.
- Furthermore it will require extensive land reclamation to develop the islan into a reasonably sized resort.
- As vegetation is low and extensuive re-vegetation will be required.
- Developing a resort at this location comes at very high environmental costs.

17 En'bulufushi, Faafu

17.1 Island Profile

En'bulufushi Island is located in Faafu Atoll. The island is located at approximately 73° 1' 6.391" E, 3° 8' 4.542" N. Table below summarises information about En'bulufushi Island.

Table 17.1: Basic information about En'bulufushi

Island Name	*En'bulufushi*
Location	73° 1' 6.391" E, 3° 8' 4.542" N
Island Area	
Within Vegetation Line	1.11 Ha
Within Low Tide Line	1.35 Ha
Est. Mean tide (sq. m)	1.60 Ha
Length	*About 180 m*
Width at the widest point	*About 113 m*
Distance to nearest domestic Airport	*About 43.00 km*
Distance to Male' International Airport	*About 129.60 km*
Distance to nearest resort	*About 8.88 km to Filitheyo Island Resort*

17.2 Terrestrial Environment

The following table summarizes key findings of the rapid assessment of the terrestrial environment associated with *En'bulufushi* Island on 26th September 2019.

Table 17.2: Terrestrial environment of En'bulufushi

Parameter	Description
Air Quality	- Overall ambient air quality on the island was good.
Floral observations	- Littoral edge scrubland: observed along the north-western half of the island, dominated by a few *Ruh* in the upper canopy while *Kuredhi, Magoo, Boakashikeyo,* and *Uni* dominate the lower canopy. Observed as sparse pockets of vegetation. - Beach pioneer halophytes: observed in the eastern half of the island, dominated by *Hai*, *Boashi, Kulhlhafilaa* and *Magoo*.
Faunal observations	- Birds: *Kaalhu, Kambili, Maakanaa* and *Findhana* were the only birds observed on the island. - Reptiles & Mammals: *Bondu* was the only one observed. - Crustaceans and Amphibians: *Kirukakuni* and *Baraveli* were the only crustaceans spotted on land.
Pest and Diseases, Invasive species	- *Rukumadi* was the most notable insect pest on the island with signs of a moderate infestation on the island. - *Madhiri* levels were relatively low on the island. - *Velanbuli,* the only notable invasive plant on the island was recorded in minimal numbers.
Unique Habitats / Key species spotting	- No notable features or spotting.
Overall impression	- A very small island that will require extensive reclamation and re-vegetation activities to develop a viable resort operation. Moderate intervention is required to control the existing pest problems and improve the overall health of the vegetation on the island.

Figure 17.1: Beach pioneer halophytes dominate the eastern half of the island

Figure 17.2: The island as seen from above

17.3 Marine Environment

The following table summarises the findings of the rapid reef assessment undertaken at En'bulufushi.

Table 17.3: Coral reef of En'bulufushi

Parameter	Description
Reef features	- En'bulufushi Island is located on a large reef with shallow reef flats surrounding distinctive deep lagoons. - En'bulufushi is the only island on the reef system and is located on the north eastern shallow reef flat.
Live coral	- Overall live coral coverage was good along the top reef and upper reef slope (~20%). - The top reef and upper reef slopes were dominated by rock covered in sand and turf algae. - Dominant coral families observed were *Poritidae* (mainly massive type corals) and *Pocilloporidae*.
Sea grass	- No significant seagrass patches occurs within this reef system.
Fish life	- The reef provides for a variety of fish species, and fish life observed was very good.
Key species spotted	- White tip Reef Shark
Overall impression	- The reef appears to show good live coral coverage and fish life, which would be interesting for snorkelers.

Figure 17.3: Boulder Shaped Corals

Figure 17.4: Corals colonies observed on the top reef

Figure 17.5: Fishes observed along the top reef

Figure 17.6: Coral colonies observed along the top reef

17.4 Coastal Environment

The following table summarizes key findings of the rapid assessment of the coastal environment of *En'bulufushi* Island.

Table 17.4: Coastal environment of En'bulufushi

Parameter	Description
Beach conditions	Sand bank on the South side; some degree of mobility of this peninsular beach during the transitional period between monsoons, but overall location appears to be constant.
Beach compositions	Fine sand around the island; patches of beach rock found on the north western side.
Wave conditions	Strong, high energy waves from the east as the island is on the eastern rim of the atoll and exposed to ocean swells; Calmer western side with easy access.
Overall Impression	Land area too small for conventional tourist resort development. It has to be reclaimed to some degree. Coastal protection measures will be needed to stabilize beach after development.

Figure 17.7: Eastern side

Figure 17.8: Northern side – erosion due to northeastern waves

Figure 17.9: South side

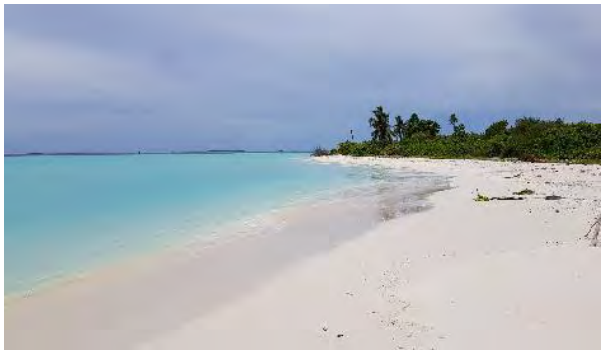

Figure 17.10: West side

17.5 Stakeholder Consultation

The Island Councils of Bileidhoo, Magoodhoo and Faafu Atoll Council were consulted regarding Jinnathugau and En'bulufushi. 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 17.5: Findings of stakeholder consultations regarding En'bulufushi

View on resort development	Both Island councils and Atoll council did not point out any reservations about developing *Enbulufushi.*

17.6 Recommendations

It is not not recommended to develop a resort at this island due to the following issues.

- This island is very small and geomorphologically volatile and will require extensive shore protection to maintain shorelines.
- Furthermore it will require extensive land reclamation to develop the islan into a reasonably sized resort.
- As vegetation is low and extensuive re-vegetation will be required.
- Developing a resort at this location comes at very high environmental costs.

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

Island Name	Seedhiybayhuraa & Seedhibayhuraa Veligandu
Location	73°33'15.06"E, 2°51'36.68"N
Island Area	
Within Vegetation Line	1.36 Ha
Within Low Tide Line	1.81 Ha
Length	*About 190 m*
Width at the widest point	*About 81 m*
Distance to Male' International Airport	*About 147.64 km*
Distance to nearest resort	*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 12th October 2019.

Table 20.10: Terrestrial environment of Seedhiybayhuraa & Seedhibayhuraa Veligandu

Parameter	**Description**
Air Quality	- Overall ambient air quality on both the islands were good.
Floral observations	- Seedhibayhuraa Veligandu consists of; o A small island with littoral edge scrubland dominated by dense bushes of *Kuredhi.* o A sandbank with small shrub vegetation along with beach pioneer halophytes dominated by species such as *Magoo*, *Kuredhi*, *Boashi* and *Hai*. - Seedhibayhuraa consists of; o A dense littoral edge scrubland dominated by species such as *Kauni, Hirundhu, Dhigga* and *Uni* more inland, and shrub species such as *Boakashikeyo, Boashi, Magoo and Kuredhi* dominating the shorelines. o Beach pioneer halophytes such as *Magoo*, *Kuredhi*, *Boashi* and *Hai* can also be observed along the northern and western beaches of the island. o A small built-up structure is also observed on the island.
Faunal observations	- Birds: *Kaalhu, Koveli, Kukulhu, Kambili, Kirudhooni, Maakanaa* and *Findhana* were the only birds observed on these islands. - Reptiles & Mammals: *Vaa, Meedha,* and *Bondu* were the only ones observed on the islands. However, according to locals, *Hoanu, Fani,* and *Garahitha* can also be commonly found on Seedhibayhuraa.

Parameter	Description
	- Crustaceans and Amphibians: *Kirukakuni, Bodu-Kirukakuni, Thoshi-Kakuni* and *Baraveli* were the only crustaceans spotted on these islands. According to locals, amphibian species such as *Boh* can also be found on Seedhibayhuraa.
Pest and Diseases, Invasive species	- *Meedha* was the most notable animal pest on the islands due to large amounts of waste on the islands. - *Madhiri* levels were also relatively high on both islands - *Velanbuli,* the only notable invasive plant on the islands was recorded in high numbers.
Unique Habitats / Key species spotted	- No notable features or species spotted.
Overall impression	- 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.

Figure 20.1: Seedhibayhuraa Veligandu as seen from above

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

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

Figure 20.4: Seedhibayhuraa island as seen from above

Figure 20.5: Several footpaths are observed on Seedhibayhuraa, 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
Live coral	-	Overall live coral coverage was good along the top reef.
Sea grass	-	No significant seagrass patches were observed within this reef system.
Fish life	-	The reef provides for a variety of fish species, and fish life observed was very good.
Key species spotted	-	Nil
Overall impression	-	The reef is good for snorkeling.

Figure 20.7: Large coral colony

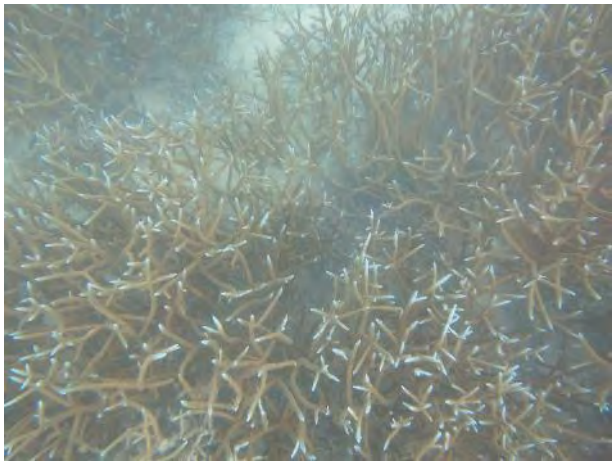

Figure 20.8: Strands of Acropora branching corals

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

Current use of the island	-	Both islands extensively used as a picnic island mostly by the locals and schools.
View on resort development	-	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

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

21.2 Terrestrial Environment

The following table summarizes key findings of the rapid assessment of the terrestrial environment associated with *Olhufushi* Island on 26th 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

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

Parameter	Description
	- *Madhiri* levels were relatively low on the island. - *Velanbuli,* the only notable invasive plant on the island was recorded in minimal numbers.
Unique Habitats / Key species spotting	- Several sandbanks in close proximity to the island. - Sparse palm trees, several meters higher than the lower canopy.
Overall impression	- 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.

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 26th September 2019.

Table 212.3: Coral reef of Olhufushi

Parameter	Description
Reef features	- Mostly sandy terrain with rocks and rubble and very low live coral coverage. - Surveyed along the eastern reef (atoll ward).
Live coral	- Overall live coral coverage was poor along the top reef (~5 - 20% coverage). - Most areas had very low (5%) live coral coverage with few areas having (10 – 20%) live coral cover.
Fish life	- Fish life was good. - Most abundant fish family observed was *Surgeonfish*.
Key species spotting's	- Stingray - Hawksbill Turtle - Manta Ray
Sensitive site(s)	- Nil
Overall impression	- Mostly sand with few live corals and very low visibility, making it unideal for snorkeling.

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

Current use of the island	- Used as a picnic island by the locals in *Kandoodhoo* and *Vandhoo.* - Used for mining sand.
Key features	- Occasional turtle nesting site - Good dive and snorkeling spots around the island with Manta, Whale Sharks, Black Corals. - Hammerhead Shark point west of Kandoodhoo. - Surf point '*Maafaagaa'* to the east of Hirilandhoo.
View on resort development	- The locals consulted are in strong favour of developing *Olhufushi* as a resort.

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

Island Name	Olhufushifinolhu
Location	72° 54' 30.585" E, 2° 22' 17.274" N
Island Area	
Within Vegetation Line	-
Within Low Tide Line	-
Est. Mean tide (sq. m)	-
Distance to Malé International Airport	-
Distance to nearest domestic Airport	-
Distance to nearest resort	*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 26th September 2019.

Table 22.2: Coral reef of Olhufushifinolhu

Parameter	Description
Reef features	- Mostly sandy terrain with rocks and rubble and very low live coral coverage. - Surveyed along the eastern reef (atoll ward).
Live coral	- Overall live coral coverage was poor along the top reef (~5 - 20% coverage). - Most areas had very low (5%) live coral coverage with few areas having (10 – 20%) live coral cover.
Fish life	- Fish life was satisfactory, the reef provides for some fish species. - Most abundant fish family observed was *Surgeonfish*.
Key species spotting's	- Stingray - Hawksbill Turtle - Manta Ray
Sensitive site(s)	- Nil
Overall impression	- Mostly sand with few live corals and very low visibility, making it unideal for snorkeling.

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

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

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

Island Name	Kaaddoo
Location	73° 15' 16.513" E, 2° 16' 54.329" N
Island Area	
Within Vegetation Line	2.94 Ha
Within Low Tide Line	3.29 Ha
Est. Mean tide (sq. m)	3.11 Ha
Distance to Malé International Airport	*About 213.00 km*
Distance to nearest domestic Airport	*About 14.87 km*
Distance to nearest resort	*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 25th September 2019.

Table 23.2: Terrestrial environment of Kaaddoo

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

Parameter	Description
Unique Habitats / Key species spotting	- Lack of lower canopy vegetation such as shrubs has created a very aesthetic coconut grove on the island to explore.
Overall impression	- 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: Dhiggaa, 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
Reef features	- Surveyed along atoll ward reef from north to west - Mostly white sand with coral patches scattered across western side.
Live coral	- Overall live coral coverage was poor along the top reef (~5 - 10% coverage). - Coral patches had Blue corals as well as Massive corals.
Fish life	- Fish life was present around isolated boomies and other coral patches. - Mostly juvenile fish present.
Key species spotting's	- Nil
Sensitive site(s)	- Nil
Overall impression	- Nothing much to see besides the coral patches. - Coral patches have schools of juvenile fish.

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

History of the island	- It is reported that *Kaaddoo* used to be an inhabited island in the past and the people in the island moved to *Gaadhiffushi*.
Current use of the island	- *Kaaddoo* is managed by a local in *Gaadhiffushi*. - Coconuts and palm fronds are harvested from *Kaaddoo* and they are sold in *Gaadhiffushi*. - There are existing infrastructures in the island including huts, mosque. - Used as a picnic island by the locals in *Gaadhiffushi*.
Key features	- The island has very salty groundwater lens. - Turtle nesting site. - Snorkelling point to the north of *Kaaddoo* where sharks, turtles and rays are common. - Diving spot '*Kandara Kanmathi'* to the south of Guraidhoo, where Sharks occur.
View on resort development	- The locals consulted have no reservations about developing *Kaaddoo* 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.

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

Island Name	Bodu Munganafushi
Location	73° 73° 18' 30.859" E, 1° 59' 20.494" N
Island Area	
Within Vegetation Line	1.80 Ha
Within Low Tide Line	3.13 Ha
Est. Mean tide (sq. m)	2.61 Ha
Length	*About 400 m*
Width at the widest point	*About 65 m*
Distance to Malé International Airport	*About 244.50 km*
Distance to nearest domestic Airport	*About 27.34 km*
Distance to nearest resort	*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 22nd September 2019.

Table 28.2: Terrestrial environment of Bodu Mungnafushi

Parameter	Description
Air Quality	- Overall ambient air quality on the island was good.
Floral observations	- Littoral edge scrubland: densest parts of the island observed more towards the western half of the island, dominated by *Boakashikeyo, Magoo, Dhigga, Funa* and *Uni.* - Coastal strand vegetation: observed along the shorelines, dominated by *Boakashikeyo*, *Kuredhi*, *Boashi* and *Magoo*. - Beach pioneer halophytes: observed along the open beach areas across the island, dominated by *Hai*, *Boashi* and *Magoo*. - 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.
Faunal observations	- Birds: *Kaalhu, Maakanaa* and *Findhana* were the only birds observed on the island. - Reptiles & Mammals: *Vaa* and *Bondu* were the only ones observed on the island. - Crustaceans and Amphibians: *Kirukakuni, Bodu-Kirukakuni, Thoshi-Kakuni* and *Baraveli* were the only crustaceans spotted on land.
Pest and Diseases, Invasive species	- *Madhiri* levels were relatively low on the island. - *Velanbuli,* the only notable invasive plant on the island was recorded in high numbers.

Parameter	Description
Unique Habitats / Key species spotted	- Long and elongated beaches.
Overall impression	- 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
Reef features	- Reef measures about 1450 ha. - The reef is located on the north-western rim of Laamu Atoll. - Four islands occur within the reef system, including *Bodumunganafushi*. The nearest island is *Hanhushi* located about 6.3 km southwest of *Bodumunganafushi*.
Live coral	- Overall live coral coverage was good along the top reef (~45%) - Large boulder shaped corals were observed across the survey area on the inner atoll reef edge.
Sea grass	- No significant seagrass patches occurs within this reef system
Fish life	- The reef provides for a variety of fish species, and fish life observed was very good.
Key species spotted	- Nil.
Overall impression	- 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. - The reef appears good, healthy and provides for a wide variety of fish species and marine organisms, which snorkelers can enjoy.

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
Beach conditions	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.
Beach compositions	Fine sand makes up the beach around the island.
Wave conditions	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
Overall Impression	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

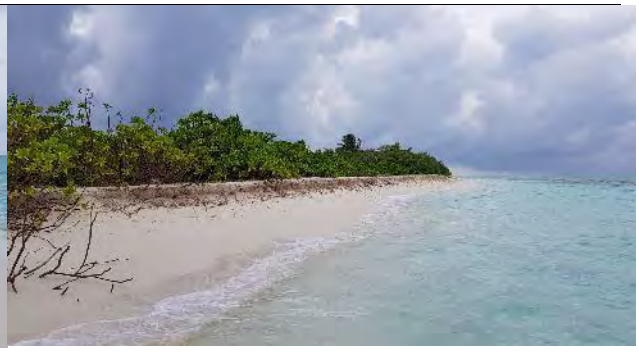

Figure 28.12: Western Side

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

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

Island Name	Kashidhoo
Location	73° 15' 12.726" E, 1° 55' 9.458" N
Island Area	
Within Vegetation Line	1.80 Ha
Within Low Tide Line	3.13 Ha
Est. Mean tide (sq. m)	2.61 Ha
Length	*About 230 m*
Width at the widest point	*About 95 m*
Distance to Malé International Airport	*About 244.50 km*
Distance to nearest domestic Airport	*About 27.34 km*
Distance to nearest resort	*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 29th September 2019.

Table 30.2: Terrestrial environment of Kashidhoo

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

Parameter	Description
	- *Rukumadi* was the most notable insect pest on the island with clear signs of a moderate infestation on the island. - *Madhiri* levels were also relatively high on the island. - *Velanbuli,* the only notable invasive plant on the island was recorded in minimal numbers.
Unique Habitats / Key species spotting	- No notable features or spotting.
Overall impression	- 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.

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
Reef features	- The island is located on a large reef measuring about 1450 ha. - This reef is located on the north-western rim of Laamu Atoll. - Four islands occur within the reef system including *Kashidhoo*. The nearest island is *Guraidhoo* located about 688 m south of *Kashidhoo*.
Live coral	- Overall live coral coverage was very good along the top reef (~50%). - Large boulder shaped corals were dominant coral type observed across the survey area on the inner atoll reef edge.
Sea grass	- No significant seagrass patches occur within this reef system. However small patches seen growing on the reef flat.
Fish life	- The reef provides for a variety of fish species, and high abundance of fishes observed.
Key species spotted	- Nil
Overall impression	- 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. - The reef appears good, healthy and provides for a wide variety of fish species and marine organisms, which snorkelers can enjoy.

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
Beach conditions	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.
Beach compositions	Sand on the western side tends to be course while the eastern beach is composed of fine sand. Linear rocky patches can be found on the south to western side.
Wave conditions	Strong swells from the west come through the channel between Kashidhoo and Maavah, 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
Overall Impression	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

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

Island Name	Funadhooviligilla
Location	73° 31' 12.151" E, 0° 34' 10.117" N
Island Area	
Within Vegetation Line	4.56 Ha
Within Low Tide Line	5.93 Ha
Est. Mean tide (sq. m)	5.50 Ha
Distance to Malé International Airport	*About 400.00 km*
Distance to nearest domestic Airport	*About 20.44 km*
Distance to nearest resort	*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 14th September 2019.

Table 313.2: Terrestrial environment of Funadhooviligilla

Parameter	Description
Air Quality	- Overall ambient air quality on the island was good.
Floral observations	- Sub-littoral thicket: observed as a thick forest in the center of the island, dominated by *Kauni, Hirundhu, Dhigga, Funa, Midhili* and *Uni* more inland, and shrub species such as *Boakashikeyo, Boashi, Magoo and Kuredhi* dominating the shorelines. Large banyan trees are observed throughout the forest. - Coastal strand vegetation: observed along the western and north-eastern beaches, dominated by species such as *Uni, Boashi, Magoo and Kuredhi.* - Beach pioneer halophytes: observed in the open beach areas around the coastal strand vegetation and is dominated by species such as *Magoo*, *Boashi*, *Kuredhi* and *Hai*. - Palm trees are observed as very few, with the largest number observed near the southern shorelines of the island.
Faunal observations	- Birds: *Kaalhu, Koveli, Kambili, Kirudhooni, Maakanaa* and *Findhana* were the only birds observed on the island. - Reptiles & Mammals: *Vaa, Meedha,* and *Bondu* were the only ones observed on the island. However, according to locals, *Hoanu, Fani, Garahitha* and *Nannugathi* can also be commonly found. - Crustaceans and Amphibians: *Kirukakuni, Bodu-Kirukakuni* and *Baraveli* were the only crustaceans spotted on land. According to locals, amphibian species such as *Boh* can also be found on the island.
Pest and Diseases, Invasive species	- *Meedha* was the most notable animal pest on the island due to large amounts of waste on the island. - *Rukumadi* was the most notable insect pest on the island with clear signs of a severe infestation on the island. - *Madhiri* levels were also relatively high on the island. - *Velanbuli,* the only notable invasive plant on the island was recorded in minimal numbers.
Unique Habitats / Key species spotting	- No notable features or spotting.
Overall impression	- 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

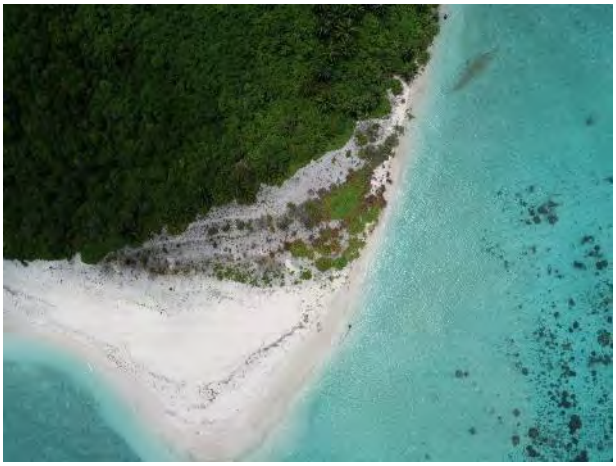

Figure 31.3: The beach pioneer halophytes observed on the western side of the island

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
Reef features	- The island is located on small reef measuring about 50 ha. - This reef is located on the eastern rim of Gaafu Alif Atoll. - Funadhooviligilla is the only island on this reef system
Live coral	- Overall live coral coverage was good along the top reef (~20%). - Large boulder shaped corals were dominant coral type observed across the survey area on the inner atoll reef edge. In addition, *Acropora* type digitate and branching corals were also observed on the top reef and upper reef slopes.
Sea grass	- No significant seagrass patches occur within this reef system.
Fish life	- The reef provides for a variety of fish species, and high abundance of fishes observed. Including a number of sharks.
Key species spotted	- Hawksbill Turtle - Green Turtle - Napoleon Wrasse - Whitetip Reef Shark - Grey Reef Shark
Overall impression	- The reef appears good, healthy and provides for a wide variety of fish species and marine organisms, which snorkelers can enjoy.

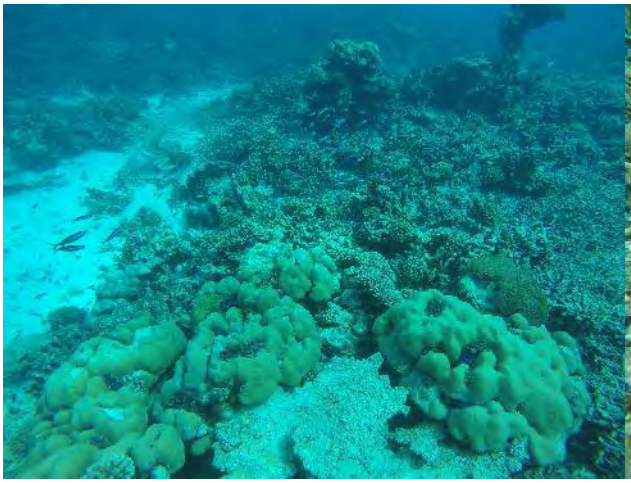

Figure 31.5: Boulder shaped coral colonies

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 course 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	- Island councils did not point out any reservations about developing Fonadhooviligilla as a resort. - 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.

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

Island Name	Maarehaa
Location	73° 33' 50.162" E, 0° 27' 41.256" N
Island Area	
Within Vegetation Line	14.44 Ha
Within Low Tide Line	15.63 Ha
Est. Mean tide (sq. m)	15.09 Ha
Length	*About 630 m*
Width at the widest point	*About 300 m*
Distance to Malé International Airport	*About 412.00 km*
Distance to nearest domestic Airport	*About 33.33 km*
Distance to nearest resort	*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 15th September 2019.

Table 32.2: Terrestrial environment of Maarehaa

Parameter	Description
Air Quality	- Overall ambient air quality on the island was good.
Floral observations	- The entirety of the island can be classified as a Sub-littoral thicket with very dense vegetation dominated by species such as *Kauni, Hirundhu, Dhigga,* and *Uni* in the understory, *Ruh*, *Funa* and *Midhili* dominating the upper canopy with the occasional *Nika*. The shorelines are dominated by shrub species such as *Boakashikeyo, Boashi, Magoo and Kuredhi.*
Faunal observations	- Birds: *Kaalhu, Koveli, Kambili, Dhandhifulhudhooni, Maakanaa* and *Findhana* were the only birds observed on the island. - Reptiles & Mammals: *Vaa, Meedha,* and *Bondu* were the only ones observed on the island. However, according to locals, *Hoanu, Fani, Garahitha* and *Nannugathi* can also be commonly found. - Crustaceans and Amphibians: *Kirukakuni, Bodu-Kirukakuni, Thoshi-Kakuni* and *Baraveli* were the only crustaceans spotted on land. According to locals, amphibian species such as *Boh* can also be found on the island.
Pest and Diseases, Invasive species	- *Meedha* was the most notable animal pest on the island due to large amounts of waste on the island. - *Rukumadi* was the most notable insect pest on the island with clear signs of a severe infestation on the island. - *Madhiri* levels were also relatively high on the island. - *Velanbuli,* the only notable invasive plant on the island was recorded in minimal numbers.
Unique Habitats / Key species spotting	- Number of large *Nika* and *Midhili* trees are high.
Overall impression	- 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
Reef features	- Reef measures over 530 ha. Three islands occur within the reef system including *Maarehaa*. The nearest island *Medhuhuttaa* is less than 150 m from the northern end of *Maarehaa*. - 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. - 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.
Live coral	- Overall live coral coverage was poor along the top reef (~5 - 10% coverage). - Dominant coral types observed were massive corals and sub-massive branching corals. - Ocean ward reef edge and upper reef slopes are mainly rocky areas with very low live coral coverage.
Sea grass	- The ocean ward reef flat supports an extensive seagrass bed that extends over from southern side of *Maaeheraa* to the north of *Dhiyadhoo* Island. Smaller seagrass patches also occur on the atoll ward side reef flat. - Seagrass bed provides habitat for juvenile fishes and smaller invertebrates. Seagrass beds also provide feeding ground for Turtles.
Fish life	- Fish life was good, the reef provides for a variety of fish species. - Dominant fish family observed were *Damselfishes*.
Key species spotted	- Eagle rays (Near threatened species, protected in Maldives) - Napoleon Wrasse (Endangered species, protected in Maldives) - Green Turtle (Endangered species, protected in Maldives) - Blacktip Reef Shark (Near threatened species, protected in Maldives) - Whitetip Reef Shark (Near threatened species, protected in Maldives)
Sensitive site(s)	- *Maaheraa Kan'du* located south of the island is a famous dive site due to sighting of Hammerhead Sharks, Tiger Sharks, other shark species, Marlins and Sailfish.

Parameter	Description
Overall impression	- 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. - However, the seagrass bed is accessible from the beach and provides an additional habitat for snorkelers to explore. - High abundance of Sharks, Rays and Turtles would be an attraction for tourists. - Close proximity to *Maarehaa Kan'du* can potentially be a unique selling point for the island.

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
Beach conditions	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.
Beach compositions	Beach composed of fine sand on all side with some course material on the southern side.
Wave conditions	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.
Overall Impression	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

View on resort development	-	Island councils did not point out any reservations about developing Maarehaa as a resort.

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 13th October 2019.

Table 34.1: Terrestrial environment of Koderataa

Parameter	Description
Air Quality	- Overall ambient air quality on the island was good.
Floral observations	- 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 *Kuredhi, Boakashikeyo, Magoo, Dhigga* and *Uni.* - Coastal strand vegetation: observed along the western shorelines of the island, dominated by *Uni*, *Kuredhi*, and *Magoo*. - Mangrove area: observed along the western shoreline of the island, where there is a slight depression in the topography, and is dominated by mainly *Kuredhi*. According to locals, a mangrove species locally named *Thoamaraa* is found here, but were not found by the field team. After showing images to locals, the species was later identified as *Maru-gas*. - Very few palm trees (~5) were observed on the entirety of the island.
Faunal observations	- Birds: Only *Findhana* was observed on the island. - Reptiles & Mammals: Only *Bondu* was observed on the island. - Crustaceans and Amphibians: *Kirukakuni, Thoshi-kakuni* and *Baraveli* were the only crustaceans spotted on land with no amphibian spotting throughout the field period.
Pest and Diseases, Invasive species	- *Madhiri* infestation was deemed as low on the island.
Unique Habitats / Key species spotting	- Mangrove area.
Overall impression	- 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 Dhiggaa

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
Reef features	- Mostly sandy terrain except for some coral patches
Live coral	- Live coral cover among coral patches are good, with a variety of corals
Fish life	- Overall fish life among the coral patches was good
Key species spotted	- Juvenile Blacktip Reef Shark spotted near beach
Overall impression	- 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.
- Kerematthi - 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 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.

- Kalehutaa 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 accesibiltiy 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 13th October 2019.

Table 35.1: Terrestrial environment of Fereytha Viligilla

Air Quality	- Overall ambient air quality on the island was good.
Floral observations	- Littoral edge scrubland: Covers the entirety of the island, except for the open areas. The littoral edge scrubland is dominated by *Kuredhi, Boakashikeyo, Magoo, Dhigga* and *Uni* along with the occasional *Funa* and *Ruh* dominating the top canopy. - 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. - Very few palm trees (~30) were observed on the entire the island.
Faunal observations	- Birds: Only *Kaalhu, Findhana* and *Maakanaa* were observed on the island. - Reptiles & Mammals: Only *Meedha, Hoanu* and *Bondu* was observed on the island. - Crustaceans and Amphibians: *Kirukakuni, Thoshi-kakuni* and *Baraveli* were the only crustaceans spotted on land with no amphibian spotting throughout the field period.
Pest and Diseases, Invasive species	- *Rukumadi* was the most notable insect pest on the island with clear signs of an infestation on the island. - *Madhiri* infestation was deemed as low on the island. - *Velanbuli,* the only notable invasive plant on the island was recorded in minimal numbers.
Unique Habitats / Key species spotting	- No notable features or spotting.
Overall impression	- 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
Reef features	- Mostly sandy terrain except for some coral patches.
Live coral	- Live coral cover among coral patches are good, with a variety of corals
Fish life	- Overall fish life among the coral patches was good
Key species spotted	- Juvenile Blacktip Reef Shark spotted near the beach while doing beach profiles.
Overall impression	- 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.

- Kalehutaa 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

Island Name	Kan'dahalagalaa
Location	73° 13' 0.196" E, 0° 13' 30.418" N
Island Area	
Within Vegetation Line	5.54 Ha
Within Low Tide Line	7.14 Ha
Est. Mean tide (sq. m)	6.54 Ha
Length	*About 390 m*
Width at the widest point	*About 190 m*
Distance to Malé International Airport	*About 440.00 km*
Distance to nearest domestic Airport	*About 4.20 km*
Distance to nearest resort	*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 17th September 2019.

Table 38.2: Terrestrial environment of Kan'dahalagalaa

Parameter	Description
Air Quality	- Overall ambient air quality on the island was good.
Floral observations	- 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. - Coconut dominated forest: observed in eastern half of the island, dominated by *Ruh*. - Coastal strand vegetation and Beach pioneer halophytes: observed on the north-western half of the island, dominated by shrub species such as *Magoo*, *Kuredhi*, *Boashi* and *Uni*, along with grass species such as *Hai*. - Built-up area: some structures are observed near the north-eastern shoreline of the island.
Faunal observations	- Birds: *Kaalhu, Koveli, Kambili, Maakanaa, Kirudhooni* and *Findhana* were the only birds observed on the island. - Reptiles & Mammals: *Vaa, Meedha,* and *Bondu* were the only ones observed on the island. However, according to locals, *Hoanu, Fani, Garahitha* and *Nannugathi* can also be commonly found. - Crustaceans and Amphibians: *Kirukakuni, Bodu-Kirukakuni, Thoshi-Kakuni* and *Baraveli* were the only crustaceans spotted on

Parameter	Description
	land. According to locals, amphibian species such as *Boh* can also be found on the island.
Pest and Diseases, Invasive species	- *Meedha* was the most notable animal pest on the island due to large amounts of waste on the island. - *Rukumadi* was the most notable insect pest on the island with clear signs of a severe infestation on the island. - *Madhiri* levels were also relatively high on the island - *Velanbuli,* the only notable invasive plant on the island was recorded in minimal numbers.
Unique Habitats / Key species spotting	- No notable features or spotting.
Overall impression	- 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	- Reef measures about 34 ha and is in triangular shape. Only *Kandahalagalaa* Island occurs in this reef system. - 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.
Live coral	- Overall live coral coverage was good along the top reef (~20 – 30%). - Large strands of branching type corals occur in this reef (fig. 5 & 6). In addition, large boulder shaped coral colonies were also observed.

Parameter	Description
Sea grass	- No significant seagrass patches occur within this reef system.
Fish life	- The reef provides for a variety of fish species, and fish life observed was very good. - Dominant fish families observed were *Fusiliers, Damselfishes,* and *Basslets.*
Key species spotted	- Hawksbill Turtle - Napoleon Wrasse.
Overall impression	- 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
Beach conditions	Wide sandy beach observed around the island with a sand bank on the western side.
Beach compositions	Beach is composed of fine sand and linear patches of beach rock on the north eastern side.
Wave conditions	Due to the wide reef around the island, waves would have their energy dissipated as they progress towards the island. The island is protetcted partially from the westerly swells from the island on the western rim of the atoll.
Overall Impression	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'dahalagala*. 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

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

38.6 Recommendations

It is recommended to develop a resort on this island.