

CONSTRUCTION PRACTICES IN LAAMU ATOLL

Baseline Assessment Report

Baseline Assessment Report – Construction Practices in Laamu Atoll *Prepared by Enhancing National Development through Environmentally Resilient Islands (ENDhERI) Project for the Ministry of Tourism and Environment.*

Copyright © 2025, Ministry of Tourism and Environment
5th Floor, Velaanaage, 20096, Ameeru Ahmed Magu, Male', Maldives

Author: Epoch Associates Pvt Ltd

Contributing Authors: ENDhERI Project team:

Mariyam Fazna
Mariyam Rifga
Lisama Sabry

Layout and cover page: Ali Nizar

Table of Contents

List of Tables.....2

List of Figures2

List of Abbreviations3

Executive Summary4

1. Introduction5

2. Aim and Objective7

3. Scope and Study Area.....8

4. Methodology9

5. Institutional, Legal Framework, Plans and Policies of Construction Industry10

6. Construction Practices in Laamu Atoll13

7. Challenges in Construction Practices19

8. Conclusions and Recommendations.....20

9. References22

10. Annex 1 – Questionnaire for Local Contractors23

List of Tables

Table 6-1: Land area of inhabited islands in Laamu Atoll (OneMap, 2025) 13

Table 6-2: Number of active contractors on each island..... 14

Table 6-3: Ongoing/ Recent Construction Projects 14

Table 6-4: Awareness of Regulations 15

Table 6-5: Construction Waste Management Methods 16

Table 6-6: Health and Safety Monitoring Measures17

Table 7-1: Challenges in Construction Practices 19

List of Figures

Figure 1-1: Percentage of contribution by construction to GDP (Source: Maldives Monetary Authority, 2025)5

Figure 1-2: Import of Construction Related Items (Source: Maldives Monetary Authority, 2025)6

Figure 3-1: Map of Laamu Atoll with Inhabited Islands and Islands for Resort Development.....8

Figure 6-1: Land Area of Inhabited islands in Laamu Atoll (Data from OneMap, 2025) 13

List of Abbreviations

EIA	Environmental Impact Assessment
ENDhERI	Enhancing National Development through Environmentally Resilient Islands
EPA	Environmental Protection Agency
EPPA	Environmental Protection and Preservation Act
GEF	Global Environment Facility
GDP	Gross Domestic Product
GIS	Geographical Information Systems
LUP	Land Use Plan
MBS	Maldives Bureau of Statistics
MCCEE	Ministry of Climate Change, Environment and Energy, reclassified as Ministry of Tourism and Environment, effective from 01/02/2025
MMA	Maldives Monetary Authority
MNACI	Maldives National Association of Construction Industry
MoCI	Ministry of Construction and Infrastructure
MoTE	Ministry of Tourism and Environment
NGO	Non-governmental Organization
PPP	Public-Private Partnerships
TOR	Terms of Reference
WAMCO	Waste management Corporation Limited

Executive Summary

This baseline assessment provides an analysis of the current construction practices in Laamu Atoll, highlighting key challenges, gaps, and opportunities for promoting sustainable development. This assessment was conducted by Epoch Associates (Epoch), as part of the "Enhancing National Development through Environmentally Resilient Islands" (ENDhERI) project. The study supports the overarching goal of enhancing reef ecosystem integrity and reducing environmental impacts while facilitating sustainable construction practices.

The construction sector is a vital contributor to the Maldives' socio-economic development, consistently ranking as one of the top contributors to GDP. However, the industry faces several challenges, including dependency on imported materials, reliance on expatriate labour, and vulnerability to global market fluctuations. This assessment focuses on construction practices across the inhabited islands of Laamu Atoll, with particular attention to environmental compliance, waste management, and regulatory adherence.

The findings reveal significant variations in construction practices across the islands. While some councils exhibit awareness of and compliance with regulations, others face capacity constraints, particularly due to a lack of technical personnel and resources. Waste management practices also vary widely, with some islands effectively reusing materials such as rock waste for erosion control, whereas others lack designated systems for handling construction debris. Health and safety measures are inconsistently applied, and monitoring is limited, further exacerbating these challenges. Additionally, centralized decision-making processes hinder island councils' ability to approve and initiate projects efficiently, causing delays and impeding local development efforts.

To address these challenges, the report underscores the importance of capacity building, policy enhancement, and infrastructure development. Targeted training programs are essential to equip local councils and contractors with the skills needed to adopt sustainable practices. Advocacy for greater decentralization in decision-making can empower island councils to manage construction activities more effectively. Establishing standardized waste management systems across all islands will help minimize environmental impacts, while the development of consistent health and safety guidelines, supported by technical personnel for monitoring, will ensure safer and more sustainable practices. By introducing systematic reporting frameworks, the construction sector in Laamu Atoll can achieve better compliance and transparency, ultimately supporting the long-term sustainability of the region's ecosystems and communities.

This baseline assessment serves as a critical reference point for prioritizing activities under the ENDhERI project. By addressing the identified challenges and building on the opportunities presented, the project has the potential to transform construction practices in Laamu Atoll, fostering a model for sustainable development that can be replicated across the Maldives.

1. Introduction

The construction sector of the Maldives is a vital and increasingly dynamic sector of the economy. The industry plays a key role in providing essential infrastructure required for socio-economic growth and national development. Subsectors of construction in the Maldives include construction of roads, causeways, harbours, water and sewerage systems, and residential and commercial building.

The industry consistently ranks as a significant GDP contributor, holding the second or third position, and is a fast-growing industry in the Maldives. However, recent years have seen a marked slowdown. The sector’s contribution to GDP has fluctuated from an average of 4.9% in 2014, reaching an all-time high of 8.5% in 2018, and then declining steadily from that point to 4.6% in 2023. These figures are reflected in Figure 1-1.

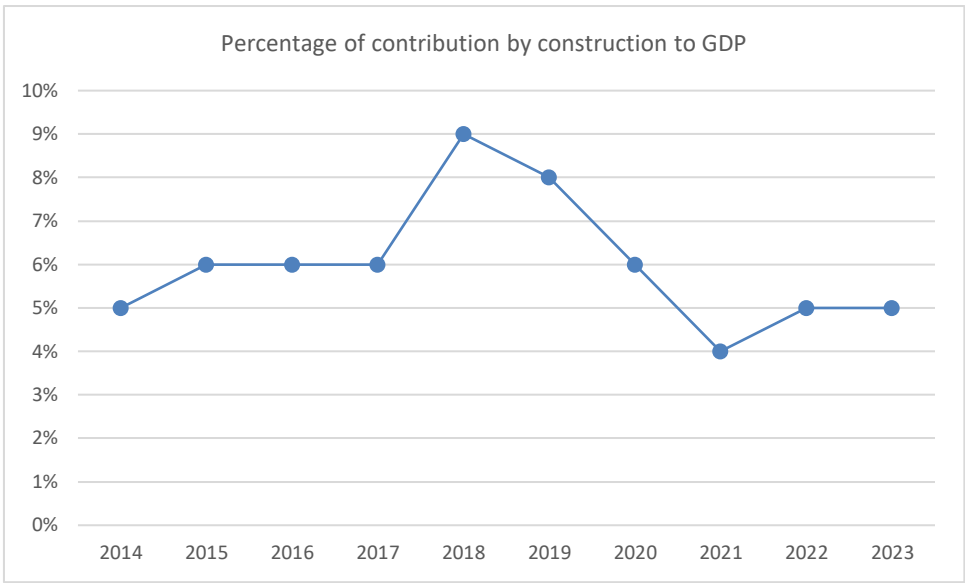


Figure 1-1: Percentage of contribution by construction to GDP (Source: Maldives Monetary Authority, 2025)

The construction industry in the Maldives is highly susceptible to government infrastructure spending and developments in the tourism sector. The industry depends on foreign labour for both unskilled and skilled services, including professional roles. In 2020, the Maldives National Association of Construction Industry (MNACI) reported an approximate workforce of 5000 to 7000 locals and 40,000 to 50,000 expatriates engaged in various aspects of the construction industry, spanning both direct construction activities and roles within the broader distribution channels of the construction supply chain (First National Finance Corporation, 2024).

The construction industry is also significantly dependent on the import of construction materials including wood, aggregates, metal and cement. This reliance exposes the industry to the influence of global market inflation, fluctuations in global commodity prices and exchange rates. The monetary value of import of construction related items are shown in Figure 1-2.

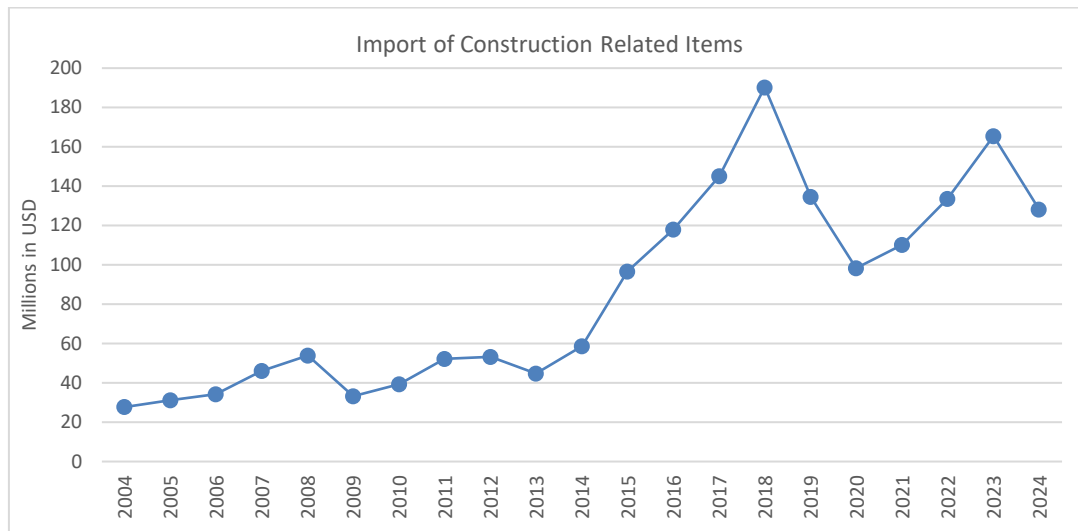


Figure 1-2: Import of Construction Related Items (Source: Maldives Monetary Authority, 2025)

The Baseline Assessment on Construction Practices was conducted by Epoch Associates (Epoch) for the consultancy service for Sustainable Development for Tourism Development and Construction Practices in Laamu Atoll. The project client, formerly known as the Ministry of Climate Change, Environment and Energy (MCCEE), was reclassified and will be referred to as Ministry of Tourism and Environment (MoTE) effective from February 1, 2025. The project is financed by Global Environment Facility (GEF) and assisted by United Nations Environment Program (UNEP) under the Enhancing National Development through Environmentally Resilient Islands (ENDhERI) project. The main objective of ENDhERI project is to enhance reef ecosystem integrity and resilience through sustainable management, reducing development impacts in a selected project site the Maldives, enabled for replication nationally through public awareness and integrating the values of marine biodiversity and other natural capital accounting into national planning.

The construction components of the ENDhERI project include:

- Output 1.2.3: Partnership, policy and implementation standards for Green Growth established with the Atoll Council, national construction firms and tourism operators on Laamu Atoll, and registered nationally

This report highlights the main approach proposed by the consultant to create a baseline of tourism development and construction practices in Laamu atoll, Institutional Legal Framework, Plans and Policies of Construction Industry, Construction Practices in Laamu Atoll, Challenges in Construction Practices, and future recommendations.

The report is based on quantitative data, existing published literature and accounts from stakeholder consultation with relevant authorities.

The main aim of this baseline report is to understand the current status of construction practices in Laamu atoll to facilitate prioritization of activities of the project related to construction sector.

2. Aim and Objective

The purpose of the baseline assessment is to understand the baseline condition of the construction practices in Laamu Atoll. The results of the baseline assessment will establish the reference point for status of construction practices in Laamu Atoll, which in turn will be used to identify the areas of need to support the local community under the construction components of the project. In the future, the baseline assessment will serve as the basis of comparison whether the project has satisfied its main objective of building capacity of local community towards sustainable construction practices.

The main objectives of the assessment are to:

- Identify potential health and environmental risks of existing construction practices
- Identify needs of community to shift towards sustainable construction
- Promote sustainable use of natural resources such as land and water

3. Scope and Study Area

The selected project site is Laamu Atoll also known as Haddhunmathi Atoll. Laamu Atoll is located south of the capital city Male' and consists of 72 islands, 11 of which are residential islands. The atoll has a population of around 14,699 in 2022 (Maldives Bureau of Statistics, 2022). Although several islands have been leased for tourism development, there are currently only one operating resort in the atoll. A map of Laamu Atoll with the residential islands and islands leased for tourism development is presented in Figure 3-1. The scope of the assessment is to identify the baseline construction practices in the inhabited islands, with general status of construction in Laamu Atoll.

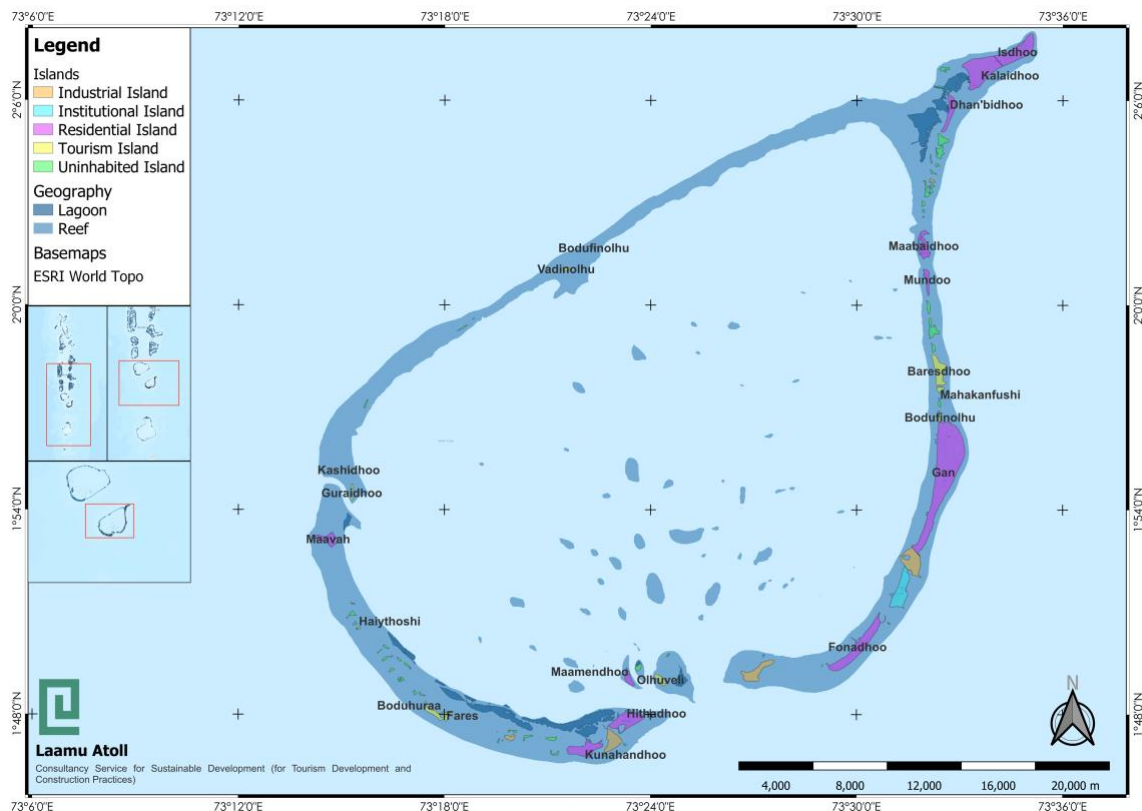


Figure 3-1: Map of Laamu Atoll with Inhabited Islands and Islands for Resort Development

4. Methodology

The baseline assessment report on construction practices is based on quantitative data, existing published literature and accounts from stakeholder consultation with relevant authorities.

Literature Review: Published literature was reviewed to establish a background for the assessment. The published literature is significantly based on general construction practices in the Maldives. The literature includes journal articles, published reports and documents by government, and statistical data from agencies such as Maldives Bureau of Statistics (MBS) and Maldives Monetary Authority (MMA).

Quantitative Data: Statistical data available on public domain was utilized. Through in-person stakeholder consultation sessions, data was gathered on number of contractors on each island.

Qualitative data: The qualitative data and information about local contractors' current practices and activities was gathered. Online questionnaires, which were prepared in Dhivehi language were forwarded to contractors from 11 islands. This questionnaire is attached to Annex 1. A significant limitation that should be noted is that response to this form was received only from 2 contractors from L. Maabaidhoo.

Stakeholder Consultations: The information gathered on local construction practices, gaps and area of needs, recent construction projects on islands, types of construction projects and construction waste management in Laamu atoll. The following stakeholders participated in the meetings, Island Councils, Women's Development Committee, and local NGO's.

5. Institutional, Legal Framework, Plans and Policies of Construction Industry

The Maldives' legal framework for construction operations is made up of a number of important laws, rules, and guidelines intended to ensure environmentally conscious, sustainable, and safe building methods.

A new Construction Act (Law Number 4/2017) was issued in 2017. The Ministry of Construction, Housing and Infrastructure (MCHI) has an extensive mandate that includes ownership of the Construction Act and associated regulations, national strategic planning, social housing, real estate management, housing projects and infrastructure projects. The mandate of land-use planning and national strategic planning comes under the Ministry of Finance and Planning. The following statutory instruments are associated with the Construction Act:

- Construction Administrative Regulation (Regulation Number 2019/R-1004)
- Building Code (Regulation Number 2019/R-1020)
- Construction Industry Practitioners Regulation (Regulation Number 2019/R-1010)
- Construction Contractors Regulation (Regulation Number 2019/R-1019)
- Construction Site Health and Safety Regulation (Regulation Number 2019/R-156)
- Regulation of Construction Materials and Materials Testing Facilities (Regulation Number 2019/R-1018)
- Academic Regulation on Construction Sector Professional and Technical Programs (Regulation Number 2019/R-1016)
- Construction Industry Technical Association Regulation (Regulation Number 2019/R-1005)
- Regulation on submitting an appeal for a decision made under the Act (Regulation Number 2019/R-1014)
- Material Testing Regulation (Regulation Number 2019/R-1015)
- Material Import and Production Control Regulation (Regulation Number 2019/R-1017)
- Construction Regulation for Islands and Lagoons with no Planning Regulation (Regulation Number 2019/R-1002)
- Regulation on registration of Building Consent Authorities (Regulation Number 2019/R-999)

A Guideline has also been issued on Electronic Submission for permits required under Construction Administrative Regulation.

The Environmental Protection and Preservation Act of the Maldives (EPPA) (Law No. 4/93), enacted in 1993, established the guidelines and standards for environmental protection in the Maldives. The Act assigns responsibility for environmental protection to the Ministry of Planning, Human Resources, and Environment. This law focuses on the protection of the Maldives' natural environment and establishes regulations for sustainable construction practices. Statutory instruments associated, related or made under the Act include:

- Regulation on the protection and maintenance of forestry in the Maldives rural areas (Regulation Number 2022/R-92)
- Presidential Decree no. 9/2021 to ban the production and sales of single-use plastic products
- The Natural Resources and Naturally Protected Species Regulations (Regulation Number 2021/R-25)
- Protected Areas Regulation (Regulation Number 2018/R-78)
- Waste Management Regulations (Regulation Number 2013/R-58)
- Regulation on the Preparation of Environmental Impact Assessment Report 2012 (Regulation Number 2012/R-27)

- Environmental Impact Assessment Regulations, 2007

Land Acquisition and Zoning Laws

- **Purpose:** These laws regulate the allocation of land for construction and urban development.
- **Key Provisions:**
 - Zoning laws specify land-use classifications, determining where different types of construction can occur (residential, commercial, industrial, etc.).
 - Regulations for the leasing of land for development projects.
 - Guidelines for the conversion of public land to private use (Land Act (Law No. 1/2002)).

Maldives National Housing Policy

- **Purpose:** This policy focuses on affordable housing, ensuring that the country's growing population has access to adequate shelter.
- **Key factors:**
 - The policy sets out guidelines for the development of affordable housing projects.
 - Emphasizes the need for environmentally sustainable construction practices in housing development.
 - Supports the development of mixed-use communities and improved urban planning (MNPPI, 2021).

Procurement Guidelines and Public-Private Partnerships (PPP)

- **Purpose:** The Maldives has established procurement regulations that govern how public construction projects are funded and managed.
- **Key Provisions:**
 - Tendering processes for public construction projects.
 - Regulations for contracting, bidding, and dispute resolution in public infrastructure projects.
 - Guidelines for financing and managing public-private partnerships (PPPs) for large infrastructure and construction projects (Ministry of Finance, 2020)

6. Construction Practices in Laamu Atoll

Laamu atoll is home to a diverse collection of coral reefs, mangroves, and a diverse marine ecosystem. The atoll has a total surface area of 884.63 km² and 56 reefs with an area of 203.70 km² (Ministry of Environment, Climate Change and Technology, 2024). The atoll consists of a total of 99 islands of which 11 islands are now inhabited. The inhabited islands are Maavah, Kunahandhoo, Hithadhoo, Maamendhoo, Fonadhoo, Gan, Mundoo, Maabaidhoo, Dhanbidhoo and Isdhoo and Kalaidhoo. The administrative capital of Laamu atoll is Fonadhoo island interconnected by link-road with Kahdhoo, Maandhoo and Gan islands.

Laamu Atoll has a land area of 231 km² on 77 islands (Ministry of Environment Climate Change and Technology, 2023). The total land area of inhabited islands of Laamu Atoll is 1530 hectares (OneMap, 2025). The following table and figure indicate the land area of each inhabited islands in Laamu Atoll.

Table 6-1: Land area of inhabited islands in Laamu Atoll (OneMap, 2025)

Island	Land Area (Hectares)
Dhanbidhoo	53.9
Fonadhoo	171.6
Gan	608.7
Hithadhoo	105.3
Isdhoo	147.1
Kunahandhoo	92.3
Maabaidhoo	52.8
Maamendhoo	22.4
Maavah	39.9
Mundoo	24.2
Kalaidhoo	213.4

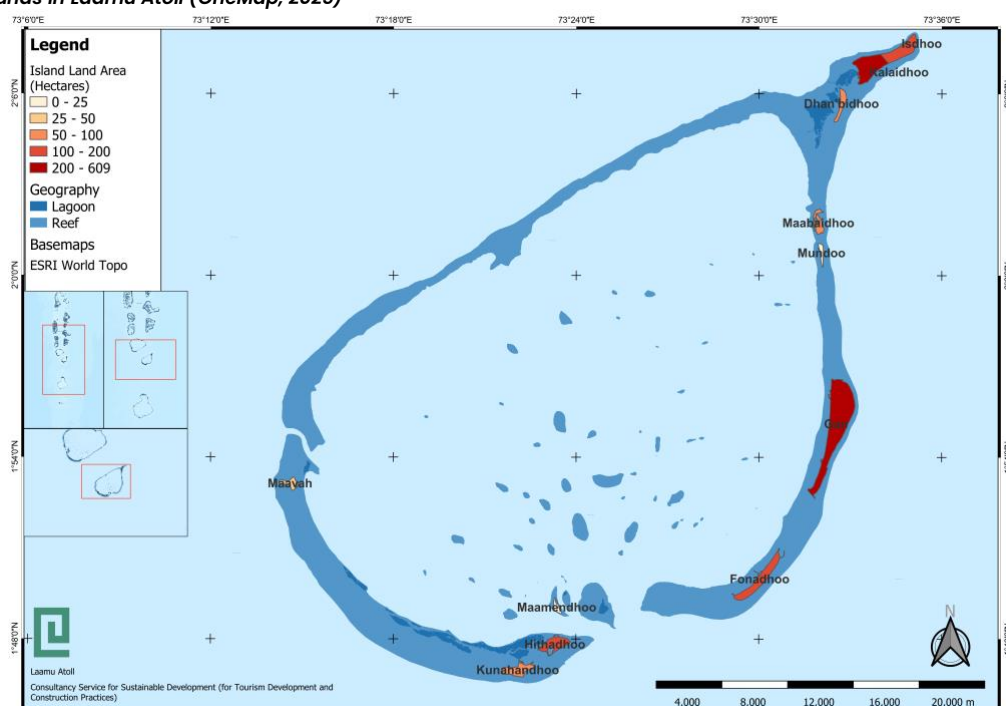


Figure 6-1: Land Area of Inhabited islands in Laamu Atoll (Data from OneMap, 2025)

6.1 Active Contractors

On majority of the islands, there is no formal registry of the number of registered or active contractors on the island. However, majority of the contractors present and active on islands are registered under the Ministry of Economic Development & Trade. The approximate number of active contractors on each island as per stakeholder consultation with island councils, is given in Table 6-2.

Table 6-2: Number of active contractors on each island

Dhanbidhoo	Unidentified by council
Fonadhoo	3-4
Gan	4-5
Hithadhoo	3
Isdhoo	3
Kunahandhoo	4
Maabaidhoo	2
Maamendhoo	4-5
Maavah	3
Mundoo	6
Kalaidhoo	5

6.2 Ongoing/ Recent Construction Projects

As per the island council, ongoing construction projects on the island are listed in Table 6-3. Most residential and commercial buildings on islands are concrete and reinforced steel structures.

Table 6-3: Ongoing/ Recent Construction Projects

Maavah	Council Projects include construction of badminton court, changing the turf on the futsal court and upgrading works at the youth center. Private Projects include two residential building construction projects.
Kunahandhoo	Around 36 construction projects were initiated in the past 3 years, most government projects have halted due to funding difficulties.
Hithadhoo	School, water and sewerage network infrastructure, Fenaka office and several residential building construction projects
Fonadhoo	Road development project and construction of new mosque
Kalaidhoo	Unidentified by council
Isdhoo	Unidentified by council
Dhanbidhoo	Unidentified by council
Mundoo	25 bed city hotel is under construction, due to be finished by December 2024
Maabaidhoo	Council stated that the water and sewerage system built was the largest project which includes the Fenaka office and powerhouse. Other projects include the futsal ground and outdoor gym.
Maamendhoo	Fenaka office, water plant and other individual works on the island.
Gan	Major construction project is the construction of 100 housing units.

6.3 Awareness of Regulations

The awareness and understanding of current regulations and guidelines published by MCHI was understood as shown in Table 6-4. The councils in all islands state that they are aware of and follow all relevant regulations and guidelines related to construction on the islands. One contractor from L. Maabaidhoo indicates that they fully understand relevant regulations and guidelines while another from the same island indicates that they somewhat understand the relevant guidelines and regulations. Most island councils and local contractors expressed frustration about regulatory changes that occur without systematic planning, especially during presidential transitions. They highlighted a significant communication gap, noting that they often aren't informed when new regulations and guidelines are introduced or when existing ones are modified.

Table 6-4: Awareness of Regulations

Maavah	-
Kunahandhoo	Construction parties are aware of the guidelines and regulations such as providing the drawings and information of a building to the council before construction begins.
Hithadhoo	Council stated that they believe under the decentralization act, councils should have the authority and flexibility to amend and propose guidelines that are beneficial for the island community instead of the central government passing laws and publishing guidelines that are general and common for all councils. However, they believe that certain laws and regulations that relate to good governance and environmental preservation can be imposed by the central government.
Fonadhoo	Council stated there are no guidelines issued by them specifically and they follow the guidelines published by the central government and the ministry.
Kalaidhoo	Council stated they haven't experienced any issues from activities related to construction so further guidelines are not made.
Isdhoo	-
Dhanbidhoo	There are no specific guidelines created by the council and follow the guidelines set by the government.
Mundoo	Council confirmed compliance with all regulations and guidelines from the central government. Council does not have their own regulations.
Maabaidhoo	Council confirmed compliance with all laws and regulations by the government.
Maamendhoo	There are no guidelines created by the council. Council provides a permit to allow construction work.
Gan	Council stated that they are aware of and follow all relevant regulations and guidelines.

6.4 Construction Waste Management

With regards to how construction waste is managed, different islands have differing methods as described in Table 6-5. Out of 11 inhabited islands, 6 islands have implemented construction waste reuse methods (e.g., reuse of rock waste to prevent erosion) while other islands stockpile construction waste at island waste management centres. While one contractor hands over construction waste to the client or project proponent, the other contractor hands over the waste to the island council.

Table 6-5: Construction Waste Management Methods

Maavah	Concrete waste is not thrown but is instead stored so that it can be used for other purposes. All other waste is taken towards the waste area.
Kunahandhoo	Disposable waste is burned, and materials such as glass, steel etc are separated and kept in the waste area.
Hithadhoo	Construction waste is not an issue. Rock waste (<i>"Gaa Kundi"</i>) from construction sites is usually disposed near the harbour area that are prone to erosion.
Fonadhoo	Waste management is carried out by WAMCO.
Kalaidhoo	Council stated that they do not produce a lot of construction waste on the island and any rock waste created is usually used by people to fill the muddy roads. However, they further explained that they have a rule for contractors that construction waste needs to be taken to the designated area during site clearance. A fee of 5000-1000MVR is taken depending on the size of the site.
Isdhoo	They noted that after project completion, construction waste such as timber and concrete often remain on-site, making it challenging for the council to clear.
Dhanbidhoo	Waste on the island is managed by the council
Mundoo	Council manages all waste accumulated on the island and do so by separating steel and glass. Construction waste is not dumped anywhere else except the designated waste disposal area.
Maabaidhoo	Council stated they handle it the same way all waste is handled on the island, however some rock waste is taken to parts of the island that are being affected by erosion.
Maamendhoo	Rock waste is taken to parts of the island that are being affected by erosion. The Island Waste and Resource Management Center at Maamendhoo was upgraded with the project reaching completion in September 2024. However, the center is only partially operational due to island's electricity network being insufficient for the operations of the additional equipment installed. However, FENAKA is currently upgrading the network, and the center is expected to be fully operational once the issue is resolved.
Gan	The contractor is responsible for removing the waste from the construction site to the designated area at the island's waste management center. Rock waste is sometimes dumped near areas where the island is prone to erosion.

6.5 Health and Safety

The different health and safety measures in construction projects ensured by councils in islands were understood as part of the baseline assessment and is described in Table 6-6.

Table 6-6: Health and Safety Monitoring Measures

Maavah	Island specific measures were not identified by council
Kunahandhoo	A sign board indicating a construction zone will usually be in place.
Hithadhoo	Council is unable to monitor projects due to the unavailability of technical personnel (engineers) on the island. There are existing guidelines which are followed by the workers and they have not had any complaints in the past.
Fonadhoo	The council has a dedicated staff member overseeing a project during construction based on the scale of the project.
Kalaidhoo	Island specific measures were not identified by council
Isdhoo	The council stated that they have not received any complaints so far. Council stated they have a project officer assigned for major activities on the island as per the government regulations. They mentioned that it is the project officer's duty to monitor the project from the beginning until completion.
Dhanbidhoo	No complaints from the residents regarding any construction activities.
Mundoo	Council stated that except for private residential projects all government or council projects will be monitored by someone selected from the council.
Maabaidhoo	Council explained there were no complaints that they are aware of that were made to a construction project regarding damage to the environment.
Maamendhoo	Island specific measures were not identified by council
Gan	Council indicated that previous housing projects carried out by the government after the 2004 tsunami are of poor construction quality and currently deteriorating.

6.6 Sustainable Practices

Feedback from stakeholder consultations with island councils indicated that sustainable methods are not followed in most construction projects. This is primarily due to two factors: construction activities typically proceed without supervision (except for major projects or government/council-led initiatives), and project developers are generally unwilling to bear the additional costs associated with sustainable practices.

However, local contractors indicate that whenever possible, they design and construct projects keeping in mind climate change impacts and the potential damage these impacts may cause. The following are some sustainable measures followed by contractors:

- Sorting construction waste at site, and reusing any materials possible
- Using sustainable materials
- Using recyclable materials
- Recycling Materials
- Reduce Waste
- Using the exact amount needed to reduce waste
- Using renewable sources of energy such as solar panels

- Designing structure and orientation in the most energy efficient manner
- Using low flow fixtures to conserve water usage
- Design landscaping to reduce water usage
- Harvesting and using rainwater
- Managing the amount of CO₂ released from construction sites
- Encouraging workers to utilize eco-friendly methods
- Carrying out construction works in line with detailed designs provided

As per the local contractors, challenges associated with following sustainable principles include:

- Not receiving enough support from the government to follow sustainable principles
- Not having enough resources, particularly technological resources
- Project Developers or clients not having the financial means to implement sustainable measures indicated in design drawings

6.7 Resource Usage and Efficiency

Based on stakeholder responses, contractors in Laamu Atoll primarily source construction materials from the capital city, Malé. While exact procurement methods and efficiency measures were not specified, contractors indicated that efforts are made to minimize resource consumption, including water, fuel, and electricity, during construction activities. Groundwater is commonly used on-site for construction purposes, reflecting a reliance on local renewable resources.

A notable practice among contractors is the reuse of leftover materials from one construction project in subsequent projects. Commonly reused materials include wood, plywood, fine and coarse aggregates, and burlap sacks. This practice not only reduces material wastage but also contributes to cost savings and resource efficiency.

6.8 Environmental Compliance

Environmental compliance among contractors shows variability in understanding and implementation. While one contractor reported a full understanding of the regulations and guidelines related to environmentally protected and conserved areas, another indicated only partial familiarity with these requirements. A similar pattern was observed regarding the Environmental Impact Assessment (EIA) process, with one contractor claiming full comprehension and another indicating only a limited understanding.

To minimize environmental impacts, contractors commonly discuss project plans with clients to avoid unnecessary removal of vegetation from project sites. This approach suggests an awareness of the need to preserve natural ecosystems, though its consistency and adherence to formal guidelines remain unclear. These findings underline the need for improved training and capacity building to ensure contractors are equipped with the knowledge and tools to fully comply with environmental regulations and integrate sustainability into their practices.

7. Challenges in Construction Practices

The construction sector in Laamu Atoll faces numerous challenges that hinder its ability to operate sustainably and efficiently. These challenges stem from a combination of local constraints, such as limited technical expertise and land availability, and systemic issues, including centralized decision-making and delays in project approvals. Additionally, the lack of standardized waste management systems and inconsistent enforcement of health and safety measures exacerbate the environmental and social impacts of construction activities. This section examines the key challenges identified through stakeholder consultations and data analysis, shedding light on the barriers that must be addressed to promote sustainable and resilient construction practices in Laamu Atoll. Island specific challenges in construction practices are presented in Table 7-1.

Table 7-1: Challenges in Construction Practices

Maavah	Island specific challenges were not identified by council
Kunahandhoo	Island specific challenges were not identified by council
Hithadhoo	Council is unable to monitor construction works due to the unavailability of technical personnel (engineers) on the island.
Fonadhoo	Community members expressed worries about the prolonged road construction project, noting that its extended timeline and delays have been causing various disruptions and negative impacts on local residents
Kalaidhoo	No issues related to construction and no complaints from the residents.
Isdhoo	Island specific challenges were not identified by council
Dhanbidhoo	Island specific challenges were not identified by council
Mundoo	Council stated that even after obtaining the approved LUP they still need to get permission from the central government and other relevant agencies to use the land for the dedicated activity. This causes delays and difficulties in initiating construction and development projects.
Maabaidhoo	The island is fully utilized and new construction projects cannot be initialized due to lack of land availability.
Maamendhoo	Island specific challenges were not identified by council
Gan	<p>Projects spearheaded by the government are not supervised properly, and quality of materials used is poor. Additionally, council stressed the importance of developing infrastructure to certain standards with an appropriate design life.</p> <p>As usually the final decision is made by the main government rather than the governing island councils, council faces difficulties in initiating new projects.</p>

8. Conclusions and Recommendations

This baseline assessment provides a comprehensive understanding of the current construction practices, challenges, and opportunities in Laamu Atoll. The findings highlight the critical role of the construction sector in the region's socio-economic development while also revealing significant gaps in sustainability, compliance, and resource management. Key insights include:

- **Diverse Practices Across Islands:** Construction practices vary significantly between islands in Laamu Atoll, with some councils demonstrating awareness and adherence to government regulations while others face challenges such as technical capacity gaps and lack of locally developed guidelines.
- **Resource Dependency:** The industry's reliance on imported construction materials and foreign labor creates vulnerabilities, such as exposure to global market fluctuations and environmental concerns from inefficient resource use.
- **Waste and Environmental Management:** Some islands have implemented construction waste reuse methods (e.g., reuse of rock waste to prevent erosion) while some islands stockpile construction waste at island waste management centers.
- **Health and Safety Concerns:** Health and safety measures are inconsistent across islands, with limited monitoring due to insufficient technical personnel and resources. This poses risks to both workers and the environment.
- **Challenges with Centralized Decision-Making:** The lack of autonomy for island councils to initiate and manage construction projects delays development and impacts the community, as highlighted by issues such as land availability and multi-agency approval processes.

Limitations of the Baseline Study

While this baseline study provides valuable insights into the current construction practices in Laamu Atoll, several limitations were encountered during the assessment process as follows:

- **Inconsistent data availability across the islands:** Many councils lacked formal records or comprehensive registries of construction projects, contractors, or waste management practices, which limited the scope of quantitative analysis.
- **Heavy reliance on stakeholder consultations:** While stakeholder consultations are valuable, they are subject to biases and variations in perspectives. Some respondents provided limited or generalized information, while others expressed concerns specific to their context that may not be representative of the broader atoll.
- **Limited participation from contractors:** Although online questionnaires were circulated to contractors from 11 islands, responses were received only from 2 contractors from 1 island.
- **Absence of baseline data on sustainable construction practices across the Maldives:** While this

report establishes a reference point for Laamu Atoll, comparisons to other regions or historical trends, and benchmarking findings of this study were limited due to a lack of comprehensive national-level studies on the construction sector.

Recommendations

Based on the assessment, it is recommended that the following steps be prioritized under the construction components of the ENDhERI project:

- **Capacity Building:** Enhance technical expertise among island councils and local contractors through training programs focused on sustainable practices and regulatory compliance.
- **Policy Revisions:** Advocate for decentralized decision-making authority to enable island councils to address local planning needs efficiently.
- **Infrastructure Development:** Establish or upgrade waste management and recycling facilities in line with sustainable practices across all islands in Laamu Atoll.
- **Health and Safety Standards:** Ensure implementation and consistent enforcement of health and safety standards through technical personnel assigned to monitoring roles.
- **Data Collection and Monitoring:** Implement systematic reporting mechanisms to monitor environmental impacts and compliance with regulations.

This baseline assessment sets a foundation for the ENDhERI project to prioritize activities and develop targeted interventions that address existing challenges while promoting sustainable construction practices in Laamu Atoll. By leveraging these findings, the project can build capacity within local communities and stakeholders, ultimately contributing to the resilience and environmental sustainability of the region.

9. References

- First National Finance Corporation, 2024. First National Insights Construction Industry. Male’.
- Maldives Building Code (2013). *Maldives Building Code: Regulations for Construction Practices*. Available from MNPHI.
- Maldives Bureau of Statistics, 2022. TABLE P5: RESIDENT POPULATION BY ISLAND AND SEX, 2022. Island & Atoll Level Indicator Sheets. URL <https://census.gov.mv/2022/wp-content/uploads/2023/03/Table-P5.pdf> (accessed 12.23.23).
- Maldives Monetary Authority. (2025). MMA Statistics Database. Maldives Monetary Authority. <https://database.mma.gov.mv/>
- Ministry of Environment (2019). *Environmental Protection and Preservation Act* (Law No. 4/93). Retrieved from <https://www.environment.gov.mv>
- Ministry of Environment, Climate Change. and Technology, 2024. Baseline Report on Fisheries Practices in Laamu Atoll. Male’, Maldives.
- Ministry of Environment Climate Change and Technology, 2023. Baseline Report on Agricultural Practices in Laamu Atoll. Male’, Maldives.
- Ministry of Finance (2020). *Public Procurement and Financial Management Guidelines*. Retrieved from <http://www.finance.gov.mv>
- Ministry of National Planning, Housing and Infrastructure (MNPHI). (2021). *National Development Plan and Urban Planning Guidelines*. Retrieved from <http://www.planning.gov.mv>
- Planning and Urban Development Authority (PUDU). (2020). *Master Plan for Greater Malé and Urban Development Framework*. Retrieved from <http://www.pudu.gov.mv>
- UNDP Maldives (2021). *Sustainable Development and Climate Resilient Construction*. Retrieved from <https://www.mv.undp.org>

10. Annex 1 – Questionnaire for Local Contractors