

Rapid Needs Assessment for Ecosystem-Based Adaptation:

Municipalities of Grand Boucan, Cayemites Islands, and Corail, Haiti

NOVEMBER 2025

Mission Statements

CORE's (Community Organized Relief Effort) mission is to empower communities in and beyond crisis. CORE envisions a more equitable world in which underserved communities are prepared and can respond effectively to crises from within. To learn more, visit www.coreresponse.org and contact Samba Sidibe (samba.sidibe@coreresponse.org), Haiti Country Director.

GOAL works with the most vulnerable communities to help them respond to and recover from humanitarian crises, and to assist them build transcendent solutions to mitigate poverty and vulnerability. To learn more, visit https://www.goalglobal.org/ and contact Matt Knight (mknight@goal.ie), Haiti Country Director.

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1. EXECUTIVE SUMMARY

In November 2024, CORE (Community Organized Relief Effort) and GOAL conducted a joint rapid needs assessment in Haiti's Baradères-Cayemites Marine and Coastal Protected Area, in three municipalities: Grand Boucan, Cayemites Islands, and Corail. The aim of the rapid needs assessment was to better understand the local context, community priorities, and environmental challenges to inform future programming and identify opportunities for ecosystem restoration and resilient livelihoods.

Through focus group discussions and key informant interviews, CORE and GOAL consulted a total of 188 participants, including fishers, traders, farmers (including herders), local authorities and community leaders. Consultations were inclusive of women and youth. Four key findings and recommendations emerged:

- **Environmental degradation is accelerating.** Marine and coastal environments have been affected by natural and anthropogenic factors. Coastal erosion is intensifying due to deforestation and unregulated development, while marine biodiversity is declining from overfishing coral reef exploitation and mangrove loss. Environmental education implementation and enforcement of strict and updated fishing regulations, as well as strengthening and diversification of livelihoods are essential to supporting vulnerable communities.
- **Livelihoods in fisheries and agriculture are at risk.** Participants reported limited access to appropriate fishing equipment and agriculture inputs, technical training, and financial resources. Environmental pressures such as declining fish stocks and degraded farmland have made traditional practices increasingly unsustainable. Most community members lack awareness of sustainable practices, suggesting the need for training on sustainable and deep-sea fishing techniques, marine ecosystem management and modern, sustainable farming including crop diversification, as well as strengthening of local market systems. Opportunities for livelihoods interventions include strengthening fishing and farmer associations and establishing cooperatives, and the development of seafood conservation and storage structures to facilitate agriculture and aquaculture product sales, development of ecotourism grounded in environmental education, bee keeping, vocational training for youth such as fishing equipment repair, refrigeration and solar system installation, and expanding the handicrafts sector with secured market linkages.
- **Women are central to livelihoods but face structural barriers.** Despite playing a major role in food production, trade, and artisanal work, women have limited access to training, financial resources, and social and economic empowerment opportunities. Expanding gender-responsive and gender-transformative programs is critical to achieving gender equality and improving women's economic opportunities. These should include support to women's groups including savings and loan associations, as well as support for women entrepreneurs to start and scale up businesses through business training, grants and linkages with financial services, as well as business development coaching. Community awareness raising on gender equality and gender-based violence (GBV) prevention, in particular training men and boys, as well as response services for survivors.
- **Local climate response efforts exist but remain under-resourced.** Local initiatives such as environmental education, ecosystem restoration, and mangrove nurseries face major constraints including limited funding, public awareness, and mobilizing participation. Greater investment and inclusive engagement—particularly of marginalized groups—are essential to sustain and expand these efforts.

2. INTRODUCTION

The overall goal of the rapid needs assessment was to collect data to inform future programming by identifying opportunities to strengthen community resilience and adaptive capacity to climate change in the southern region of Haiti, particularly in the communes of Grand Boucan, Cayemites Islands, and Corail.

In November 2024, CORE and GOAL undertook a rapid needs assessment in the Baradères-Cayemites Marine and Coastal Protected Area to better understand the environmental and socio-economic context of three target municipalities: Grand Boucan, Cayemites Islands, and Corail. These municipalities are characterized by highly vulnerable marine, coastal, and terrestrial ecosystems, where climate change and unsustainable practices have significantly impacted biodiversity, agriculture, and livelihoods.

To capture a broad range of local perspectives, CORE and GOAL consulted a total of 188 participants—including fishers, traders, farmers (including herders), local authorities and community leaders. Consultations were inclusive of women and youth. The assessment aimed to explore community perceptions, lived experiences, and adaptive strategies in the face of worsening climate and environmental challenges affecting both terrestrial and marine ecosystems.

3. ASSESSMENT OBJECTIVES

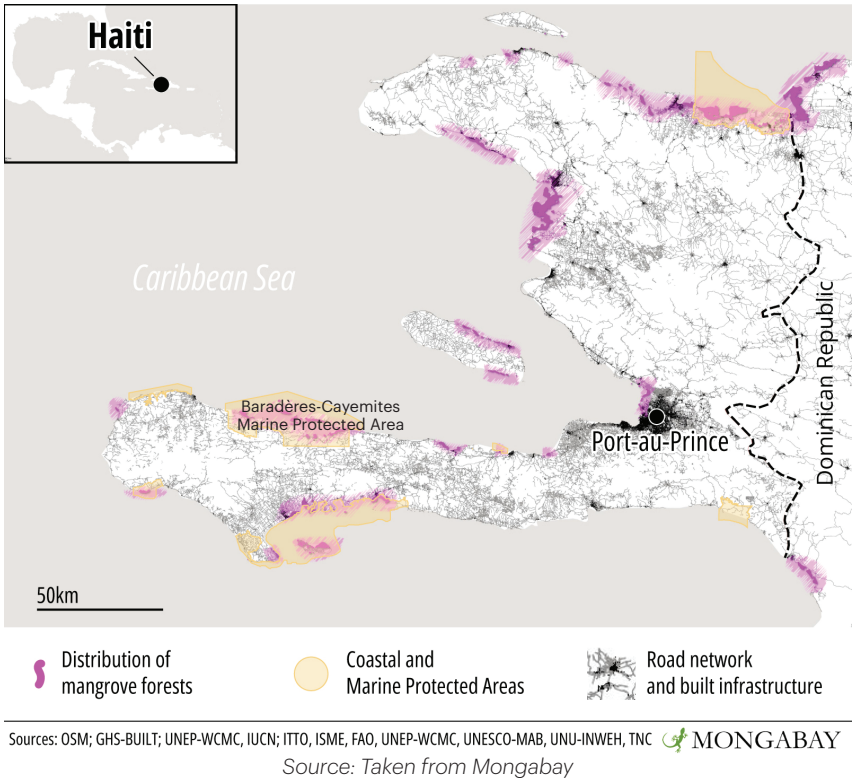
The specific objectives of the rapid needs assessment were as follows:

- Identify and understand climate-related challenges facing communities, including those affecting livelihoods, food security, and the health of marine and coastal ecosystems (e.g. loss of biodiversity, coastal erosion, variations in fishing yields).
- Understand local perceptions of climate change impacts and existing adaptation strategies.
- Assess current practices in natural resource management, knowledge about preservation of marine ecosystems, and disaster risk reduction.
- Identify gaps in climate change adaptation strategies and propose locally relevant and feasible interventions for improvements.



4. THE ASSESSMENT AREA: GRAND BOUCAN, CAYEMITES ISLANDS, AND CORAIL

4.1 Geographic Scope: Baradères-Cayemites Marine and Coastal Protected Area



Source: Taken from Mongabay

The Baradères-Cayemites Marine and Coastal Protected Area is one of Haiti's key biodiversity zones, covering 874.474 square kilometers (km²) (337.63 square miles), comprising 49% terrestrial ecosystems (428.49 km² or 165.37 square miles) and 51% marine ecosystems (445.98 km² or 172.19 square miles). It is located in the southwestern peninsula of Haiti, straddling two departments, Nippes and Grand'Anse.

4.2 Municipality Profiles

4.2.1 Grand Boucan is a peninsula attached to the communes of Les Baradères and Pestel by its southeastern end, the rest being bounded by the sea. Home to an estimated 5,815 inhabitants (IHSI projection, 2015), the commune includes three agglomeration areas (Bourg de Grand Boucan, Zétroit and Eau Basse, Breyard), spanning 44.81 km² (17.30 square miles). The area lies at a relatively low altitude, ranging from 0 to 60 meters (65.62 yards), and rising to 400 meters (437.44 yards) at its point of attachment to Pestel and Baradères. The municipality features three major ecosystems:

- **Marine:** Coral formations and seagrass beds, increasingly threatened by unsustainable fishing practices
- **Coastal:** 5.05 km² (1.95 square miles) of mangroves including Rhizophora mangle, Avicennia germinans and Laguncularia racemosa, as well as limestone terraces and sandy areas at Grande-Anse beach.
- **Terrestrial:** Dominated by native forest and inland areas with toothed stony crusts and shallow vegetated soils, and increasingly degraded due to free livestock farming, charcoal production (driven by tree-cutting) and slash-and-burning used to clear land for agriculture. The area has a minimal hydrographic system due to its low slope, stony soil, rocky crust, and dominant natural vegetation.

4.2.2 Cayemites Islands, previously part of the commune of Pestel, became an independent municipality in 2017 following a bill passed by the Haitian Senate. Home to an estimated 5,231 inhabitants (IHSI projection, 2015), the commune includes six agglomeration areas (Pointe-Sable, Anse du Nord, Herbe Guinée, Nan Palmis, La Source and Anse à Maçon), spanning 48.97 km² (18.90 square miles). The commune lies within the marine boundaries of the Baradères-Cayemites Protected Area. The island's altitude ranges from 0-200 meters (218.72 yards).

The municipality features three major ecosystems:

- **Marine:** Coral formations and seagrass beds
- **Coastal:** 2.93 km² (1.13 square miles) of mangroves primarily composed of Rhizophora mangle, Avicennia germinans and Laguncularia racemosa
- **Terrestrial:** Dominated by natural forest, with visible signs of soil degradation due to free livestock farming, charcoal production (driven by tree-cutting), and slash-and-burning used to clear land for agriculture.

4.2.3 Corail is a coastal commune located in the department of Grand'Anse, bordered to the north by the Caribbean Sea, to the south by the commune of Beaumont, to the east by Roseaux, and to the west by Jérémie. With an estimated population of 23,203 inhabitants (IHSI projection, 2015), Corail comprises several agglomeration zones, including Bourg de Corail, Fond Rogé, Nan Porté, and Tiboukan, covering a total area of approximately 117.2 km² (45.26 square miles). The topography of the commune varies from sea level up to 600 meters (656 yards) in its more mountainous southern areas.

The municipality includes three major ecosystems:

- **Marine:** The coastal waters are home to coral reefs and seagrass beds, which are increasingly threatened by sedimentation, overfishing, and the use of destructive fishing methods.
- **Coastal:** The commune contains approximately 6 km² (2.32 square miles) of mangrove forests, mainly composed of Rhizophora mangle, Avicennia germinans, and Laguncularia racemosa. These ecosystems are vital for shoreline stabilization and biodiversity, but face pressures from land conversion and fuelwood harvesting.
- **Terrestrial:** The inland region is characterized by degraded forest cover, shallow rocky soils, and slopes subject to erosion. Deforestation, driven by charcoal production and unsustainable agricultural practices (including slash-and-burn), continues to reduce ecosystem resilience and increase vulnerability to natural hazards. Water resources are limited and seasonal, with few permanent streams due to the terrain's rocky nature and limited vegetation cover.

4.3 Infrastructure of the Municipalities

In terms of basic service infrastructure, these two municipalities are largely neglected, and the population faces great difficulties. There are a few buildings including houses, schools and churches, but there is no access to health services or potable water supply. There is no central marketplace nor market infrastructure, and the trails are in poor condition. Transport within the communes is mainly provided by domestic animals (donkeys, mules, horses), while the sea route, navigated by rowboats and canoes, is the only option to reach not only the mainland (Pestel, Corail, Baradères and Petit-Trou-des-Nippes), but also to connect certain localities of these three communes.



5. METHODOLOGY AND DEMOGRAPHIC INFORMATION

5.1 Participant Demographics

The teams developed a discussion guide and conducted focus groups and semi-structured key informant interviews in Grand Boucan, Cayemites Islands, and Corail, with participants representing all age groups and sexes. A total of 6 focus group discussions (FGDs) were conducted with 171 participants (See **Table 1**), alongside 17 key informant interviews (KIIs). Data was collected from the following groups:

- Fishermen (all types of fishing practiced) and fish merchants
- Women merchants
- Farmers (including livestock breeders).
- Young people (men and women).
- Members of mangrove management committees (established by GOAL)
- Local authorities and community leaders (men and women including youth)

Table 1. List of Focus Group Discussion Participants by Sex and Age

Sex of participants	18-35 years old	36-59 years old	60+ years	Total
Male	51	62	2	**115**
Female	25	30	1	**56**
Total	**76**	**92**	**3**	**171**

Source: Author's elaboration using list of FGDs

5.2 Ethical considerations

- Informed consent: Participants were fully informed about the purposes of the assessment, the intended use of their information, and their rights, including the right to withdraw at any time1.
- Confidentiality and anonymity: The team ensured the confidentiality of information shared and guaranteed anonymity upon request.
- Cultural sensitivity: Local beliefs and norms were respected throughout the process, particularly when discussing sensitive topics.



6. COMMUNITY INFRASTRUCTURE AND BASIC SERVICES

6.1 Available Infrastructure

As shown in **Table 2,** basic service infrastructure is largely absent across the area, and existing structures are often in a state of disrepair. Road access is limited to small paths connecting localities. For water, families rely on basins and water towers to collect rainwater, while brackish water from wells found in rock cracks is used for domestic water purposes. The Cayemites Islands lack essential public services entirely—there is no health center, court, or police station. In Grand Boucan, these services exist but are largely non-operational. Notably, neither municipality has a public market, further limiting economic activity and access to goods. In Corail, basic services exist but are limited and under-resourced, with poor road conditions, irregular electricity, and constrained water access. Market and public facilities remain minimal, and infrastructure is highly vulnerable to seasonal disruptions and natural hazards.

Table 2. Facilities available in Grand Boucan, Cayemites Islands, and Corail

Commune	Grand Boucan		Cayemites Islands		Corail	
School	Primary	Secondary	Primary	Secondary	Primary	Secondary
	10	2	10	0	32	9
Health Center	1		0		1	
Court	1		0		1	
Public procurement	0		0		1	
Police Station	1		0		1	
Drinking water supply system (SAEP)	0		0		17	

Source: Author's elaboration using FGDs and KIIs

6.2 Lifestyles and Income-Generating Activities

6.2.1. Main Sources of Income

Livelihoods in the community are diverse, with fishing being the most common and central source of income, particularly for men. Local trade also plays a vital role, serving as a primary source of income for those that do not fish. Charcoal production is common, though there are serious and growing concerns about its environmental impact. Additionally, agriculture and livestock are additional production activities that support food security for households; however, the income they generate is often insufficient to meet household needs. **Table 3** presents an estimation of revenue by industry.

Table 3. Revenue Estimation by Industry, Nominal Prices

Sector/category	Typology/sector	Average income in Gourde (G)	Average income in USD and EUR
Large-scale fishermen	Lagoon	65 to 80,000 /month	$496–610 USD or €429–528 EUR
	Three Layers	75 to 95,000 /month	$572–725 USD or €495–626 EUR
	Net	45 to 60,000/month	$343–458 USD or €297–395 EUR
Small-scale fishermen	Three Layers	40 to 50,000 /month	$305–382 USD or €264–330 EUR
	Net	30 to 40,000 / month	$229–305 USD or €198–264 EUR
	Fish trap	25 to 35,000 / month	$191–267 USD or €165–231 EUR
Boat owners	None	70 to 120,000 / month	$534–915 USD or €461–791 EUR
Women Fish Merchants	None	35 to 50,000 / month	$267–382 USD or €231–330 EUR
Agriculture by primary crops	Yam	50 to 75,000 / year	$382–572 USD or €330–495 EUR
	Cassava	15 to 20,000 /year	$114–153 USD or €99–132 EUR
	Groundnuts	40 to 60,000 /year	$305–458 USD or €264–395 EUR
Charcoal production	None	100 to 150,000 / year	$764–1,146 USD or €660–990 EUR
Micro-Small businesses	None	10 to 15,000/ month	$76–114 USD or €66–99 EUR

Source: Author's elaboration using FGDs and KIIs. Prices are nominal

6.2.2. Recent Changes in Revenues

Recent changes in income sources vary across households. Access to markets has further been constrained by insecurity in Port-au-Prince encroaching into the countryside, limiting or blocking access. Some report receiving remittances from the diaspora, while others report no significant shifts. Overall, there is a clear decline in income levels, making it increasingly difficult for most households to cover essential expenses. The beginning of the school year is identified as a particularly challenging time due to increasing financial pressure as both public and private schools in Haiti charge tuition and require uniforms. As a coping strategy, many families prioritize food over other basic needs such as education and health.

6.2.3. Income Participation by Social Groups

Participation in income-generating activities (IGAs) varies across social groups, particularly by gender and age (See **Table 4**). All respondents reported that roles and responsibilities between men and women are still divided along traditional lines of gender norms, though these patterns are gradually shifting in response to local social, cultural and economic dynamics. Men generally dominate IGAs and are more likely to note IGAs as their primary source of livelihood, while women tend to earn lower incomes and face challenges such as limited opportunities and support interventions. However, potential opportunities exist for women, such as ecotourism, beekeeping, and the production and processing of certain agricultural products like melon, pineapple, cassava.

According to Jean Donès, member of the Network for Local Economic and Social Resilience (RESIL ASEC) of the 2nd communal section of Corail, women are taking on increasing economic responsibilities, particularly in the agricultural, artisanal and commercial sectors, while continuing to play a key role in caregiving. Women are involved in all the community activities undertaken in the municipality of Corail, yet they continue to face economic, social and cultural challenges and marginalization.

As for youth, their involvement in traditional sectors such as fisheries and agriculture remains limited. However, many youth express interest in more innovative and skill-based activities, including repair of fishing equipment and gear (such as motors and boats), installation of solar systems and refrigeration units, crafts and trades like cooking and baking.

Table 4. Breakdown of Most Economic Activities by Sector and Selected Social Groups

Women	Men	Youth
Commerce	Fishing	Fishing
Livestock breeding	Charcoal production	Charcoal production
Charcoal production	Livestock breeding	Agriculture
Agriculture	Agriculture	Livestock breeding
Fish Vending	Commerce	

Source: Author's elaboration using FGDs and interviews. Activities are not ranked

7. FISHERIES AND MARINE LIVELIHOODS

7.1 Main Fishing Products

Fishing in the communes of Grand-Boucan, the Cayemites Islands, and Corail is predominantly artisanal and small-scale, deeply rooted in local traditions. Fishermen typically use simple, locally made boats — either dugout canoes carved from tree trunks or fiberglass boats fitted with small engines. Their fishing gear is often handcrafted from local or recycled materials, including nets, traps, lines, and pots, reflecting traditional techniques passed down through generations.

The main fishing products harvested from these coastal areas include:

- **Various coastal fish species** (snappers, grunts, groupers, parrotfish), primarily caught in coral reef and seagrass zones, which form an essential part of local diets and markets.
- **Lobsters,** a highly valued species locally and sometimes destined for export markets, contributing significant income to fishing households.
- **Conchs (giant strombs),** an emblematic but increasingly vulnerable marine resource due to overharvesting pressures.
- **Sea cucumbers,** particularly harvested in Grand-Boucan, which serve niche, specialized markets often outside Haiti.

Artisanal fishing remains a vital economic activity, supporting livelihoods for thousands of families across these communes.

7.2 Impacts of Climate Change and Environmental Degradation on Marine and Coastal Ecosystems

Marine and coastal ecosystems are increasingly affected by climate impacts, leading to their progressive degradation. These changes are placing pressure on natural resources and undermining livelihoods, contributing to community socio-economic hardship. Key impacts include the disappearance of islets and marine species (e.g. fenfen or cobblestone, sea cucumber), coastal degradation, and loss of biodiversity, particularly among coral reefs and mangroves. Mangroves, critical to ecological balance, are increasingly vulnerable to sediment accumulation, excessive cutting of mangroves, and poor fishing practices.

During interviews, most participants noted a perceived increase in the number of climate-related events (storms, floods, droughts) compared to previous years. Flooding caused by torrential rains causes sediment buildup in mangroves and coral reefs, disrupting the natural development of these ecosystems. This leads to coastal water turbidity for several weeks (2 to 4 weeks), negatively impacting marine fauna. The resulting pollution has driven the migration of pelagic species and weakened seagrass beds, which are essential for regulating the marine ecosystem. These disturbances directly reduce fish catches and disrupt fishing schedules, affecting food security and incomes. As marine, terrestrial and coastal ecosystems degrade under climate stress, fish migration increases, leaving fishers with fewer resources and longer periods without adequate yields.

According to Kelly Maxcia, Director of the Department of the Environment (MDE) originally from Corail, with the illegal exploitation of coral reefs, the disappearance of islets and sea level rise have accelerated. Additionally, in recent decades, the appearance of the lionfish (locally called "minista"), a carnivorous species, has further disrupted the ecosystem, as the species preys on native marine life and poses a hazard to fishers. Ultimately, the marine and coastal environment of Corail has undergone significant changes in recent years due to climate change, erosion, pollution, and biodiversity loss.

These environmental stressors, compounded by unsustainable local practices, have led to significant ecological degradation across all accessed coastal municipalities.

Key trends include:

- **Coastal erosion:** Coastal municipalities have experienced significant erosion in recent years, driven by tropical storms, hurricanes, flooding and rising sea levels. These impacts are further exacerbated by human practices such as the coastal construction of slums (slum halls) and deforestation, which reduces the natural ability of vegetation to retain soil.
- **Marine and coastal pollution:** Poor waste management has led to the discharge of plastic waste and untreated wastewater, and chemicals along the coast, degrading water quality and marine habitats. Some areas are also used for open defecation and informal waste dumping due to lack of sanitation infrastructure. These conditions threaten vital ecosystems, such as coral reefs and mangroves, and pose risks to local communities, 90% of whom depend on the sea for fishing and other plant resources.
- **Loss of marine biodiversity:** Overfishing, unregulated coastal settlements, abusive exploitation of coral reefs, and unregulated mangroves have contributed greatly to the loss of marine biodiversity. Coral reefs in Corail, in particular, are greatly weakened by overexploitation and rising sea levels.

7.3 Fishing Livelihood Challenges

Climate change negatively affects livelihoods leading to socio-economic deprivation of the community, leading to strong pressures on the marine and coastal ecosystem. These disturbances directly reduce fish catches and disrupt fishing schedules. As marine, terrestrial and coastal ecosystems degrade under climate stress, fish migration increases, leaving fishers with fewer resources and longer periods without adequate yields.

> "The practice of fishing with small mesh nets is one of the main obstacles to the renewal of the stock of fish resources."

Source: Focus Groups

Fishers in this region face many challenges, impacting both their livelihoods and the economy, among which the most important include:

- **Overexploitation of marine resources:** Several fish species are becoming increasingly rare or disappearing due to unsustainable fishing practices centered around rudimentary techniques such as the use of smaller mesh nets and/or chemicals.
- **Lack of food preservation infrastructure:** Due to the lack of proper storage and food preservation facilities, traders rely on salting and drying methods. These techniques are often inadequate, especially during the rainy season, when limited sunlight reduces drying effectiveness, leading to significant product losses.
- **Lack of proper equipment and fishing gear:** The lack of modern and appropriate fishing gear (boat, motor, fish aggregating device-CPD) hinders the development of sustainable offshore fishing, resulting in a concentration of fishing activities along the coast.
- **Lack of training and know-how:** Many fishers lack the necessary skills to manage marine resources responsibly and practice sustainable fishing techniques, including the use of fish aggregating devices (FADs).
- **Non-application and updating of fisheries laws:** Failure to comply with and update existing regulations contributes to the unsustainable exploitation of fisheries resources, hindering stock regeneration. As a result, fishers face often work in difficult conditions, with long hours and increased risk of accidents.
- **Weakness of fishing associations:** Although a structure promoting high sea fishing techniques to increase income exists, its capacity is limited due to the weakness of existing fisheries structures to facilitate the implementation of collective measures for sustainable fisheries management. Many fishers cited mistrust as the main barrier to forming or joining associations.
- **Environmental degradation:** Coastal areas frequently experience flooding, leaving sediment deposits and waste that disrupt marine and coastal ecosystems, including seagrass beds, coral reefs, and mangroves, causing the migration of pelagic fauna. Deforestation, driven by demand for firewood and agricultural land, further contributes to biodiversity loss and soil erosion.
- **Fishing as a primary livelihood:** With limited alternative livelihood options, fishing remains a critical source of income for the local population. Over 90% of men reportedly engage in fishing, yet the sector remains underdeveloped due to the lack of modern facilities, equipment and training. Fishers link these gaps to the degradation of pelagic fauna and worsening socio-economic conditions. Women also play a vital role in the fisheries value chain, particularly in conservation, storage and marketing.

To cope with declining fish catches and the economic hardship, many fishers have either increased time spent at sea or turned to alternative sources of income. These include agricultural activities such as cultivating cassava, groundnuts, yams, bananas, as well as the excessive cutting of mangroves and dry forests for charcoal production. However, their income remains insufficient to meet household needs and has increased pressure on terrestrial and coastal ecosystems.

7.4 Use of Sustainable Practices

Across all municipalities, unsustainable fishing practices remain widespread, and dynamite fishing (the use of dynamite to catch fish) being among the most concerning. Several respondents emphasized the importance of ending illegal and destructive fishing practices such as this. While many fisherfolks are aware of sustainable fishing practices, the lack of proper fishing equipment and weak enforcement of regulations—particularly those using Fish Aggregating Devices (FADs)—contribute to harmful practices that degrade the marine ecosystem.

Fisherfolks believe that improved management of the marine ecosystem is key to ensuring long-term sustainability. They highlight the need for better supervision, access to adequate equipment, and training in sustainable fishing techniques, particularly for high-sea fishing and fish aggregating devices (FADs). Interviewed fisherfolks also support stricter fishing regulations accompanied by the establishment of zoning systems to help manage resources effectively and sustainably.

7.5 Opportunities to Support Sustainable Fishing

Currently, there are few concrete initiatives in place to support fishers. However, key areas for support include:

- Training on sustainable fishing techniques and marine ecosystem management
- Access to modern and appropriate fishing gear for deep-sea fishing
- Development of seafood preservation and storage structures to facilitate product sales
- Implementation and enforcement of strict and updated fishing regulations, including zoning and fish reproduction calendars or no-fishing zones
- Establishment of savings and loan associations for fishermen and women vendors
- Strengthening fishing associations and establishment of cooperatives to improve the economic conditions of fishermen.
- Promotion of alternative income-generating activities during fishing off-seasons, such as apiculture (beekeeping), aquaculture, or converting fish waste into animal feed, to diversify livelihoods and reduce dependence on fishing.



8. AGRICULTURE AND LAND USE

8.1 Main Agricultural Products

The area stands out for its diversity and stratified production capacity, making it a key contributor to local food systems and markets. Primary crops include in order of importance yams, groundnuts, cassava, bananas and melons and are primarily sold raw in local markets, particularly in Pestel and Corail either by producers or through intermediaries such as *Madan Sara*.[1]

In the commune of Corail, farmers also cultivate maize, rice, beans, sweet potatoes, vegetables (cabbage, tomatoes, onions, and peppers), fruits (mangoes, lemons, and avocados), coffee, groundnuts, cocoa, sugar cane and sorghum. These products are mainly sold in local markets, with some also sold directly to retailers and wholesalers for broader distribution.

8.2 Impacts of Climate Change and Environmental Degradation on Terrestrial Ecosystems

Prolonged droughts have become increasingly frequent, including an eight-month drought period from September to April (2022-2023) that causes considerable agricultural yield losses and ecosystem damage. Key food crops such as cassava, yams and bananas are heavily affected, threatening local food security and incomes, particularly for vulnerable groups like the elderly, pregnant women and children. Climate-related impacts, including drought, cyclones, insect proliferation, and leaf yellowing, have further reduced yields, consumption and income.

In response, communities have adopted a new cropping calendar aligned with rainy seasons, and practices such as coppice[2] and slash-and-burn have intensified. As a result, pressure on terrestrial and coastal ecosystems has increased significantly, as households attempt to offset lost income from fishing to meet their basic needs.

8.3 Agricultural Livelihood Challenges

In addition to these climate shocks, poor farming practices and limited resources have contributed to declining productivity. As a result, many farmers have resorted to destructive practices, such as overcutting trees for charcoal production, accelerating natural resource depletion, and hindering forest and soil regeneration.

In the commune of Cayemites, farmers have limited knowledge of sustainable agricultural practices. In search of cultivable land, many rely on slash-and-burn[3] techniques, which degrade the environment, alter humus, and disturb soil microorganisms. Overall, current farming methods used do not align with the principles of sustainability.

1 A term in Haitian Kreyol that refers to women who work in the informal economy as market vendors. They often buy and sell small items, including food, and travel between marketplaces in rural areas and urban centers.
2 Cutting back the foliage of trees and shrubs to the ground level in order to stimulate new growth.
3 Cutting and burning vegetation in order to clear forest land for farming before new crops are planted.

Producers face several difficulties that affect their agricultural activities, the main challenges of which are the following:

- **Reduced yield:** Climatic variability, such as prolonged droughts and seasonal flooding, disrupts crops, lowers yields, and leads to agricultural losses. Limited access to irrigation and a shortage of quality seeds further compounds the problem.
- **Lack of funding:** Limited access to agricultural credit and financial resources to purchase essential inputs remains a major obstacle.
- **Inappropriate practices and limited infrastructure:** Farmers continue to use techniques like slash-and-burn coppice, which are increasingly unsuitable due to the lack of irrigation and low rainfall—further degrading soil quality and harming the environment. The absence of transport infrastructure also makes farming more labor-intensive and time-consuming.
- **Free Livestock Breeding** is widespread in the area, with goats and cattle allowed to reproduce and roam freely. This contributes to land degradation, crop damage, and challenges managing agricultural practices.
- **Insect and pest infestations:** Crop damage from insects (e.g. bugs, caterpillars) and pests (e.g. rats) is a major concern, significantly damaging crops and reducing yields.

8.4 Use of Sustainable Practices

According to farmers consulted, crop rotation is not widely practiced, and farmers report a lack of local organizations to support them in the adoption of improved techniques. The primary barrier to the implementation of sustainable agricultural practices is the lack of awareness and technical knowledge. To overcome this, farmers are seeking support from the Ministry of Agriculture as well as local and international organizations. To date, this area is underserved.

8.5 Opportunities to Support Sustainable Agriculture

To improve agricultural production in the area, farmers have identified the following priorities:

- Provision of higher-quality seeds in sufficient quantity
- Establishment of savings and loan associations to support farmers during planting seasons
- Creation of training programs to improve agricultural practices (e.g. reducing slash-and-burn) and natural resource management
- Installation of impluviums for community rainwater harvesting and storage
- Construction of storage and processing centers
- Awareness campaigns on climate change and adaptation techniques
- Support for developing localized marketing channels
- Assistance with insect and rat control using natural pesticides and biological methods

9. SOCIO-ECONOMIC IMPACTS AND INCLUSIVE LIVELIHOODS

9.1 Effects of Climate Change on Families and Communities

Climate change is driving major environmental shifts that significantly affect the communities of Grand Boucan, Cayemites Islands, and Corail, worsening their socio-economic conditions. Weakened livelihoods have led to income-loss, increased food insecurity, and reduced access to basic needs such as healthcare. In response, many family members, particularly young people and male breadwinners are forced to take on additional work or migrate closer to urban centers which are affected by gang violence and insecurity. Women face barriers to sustaining income-generating activities due to limited capital, while children and the elderly are especially vulnerable to the worsening conditions.

While all social groups have been negatively affected, the most vulnerable have been hit hardest:

- **Pregnant women** face limited access to antenatal consultations and inadequate nutrition negatively impacts both maternal and infant health.
- **Children** experience reduced household meals and limited access to healthcare, affecting overall well-being and development.
- **Older persons** have reduced access to food and healthcare, heightening vulnerability.
- **People living with disabilities** live in difficult conditions marked by food insecurity, limited access to health care, and, in most cases, almost no access to education.

9.2 Women's Economic Roles and Constraints

9.2. 1 Women's Involvement and Challenges

Women play a vital but often undervalued role in the fisheries and agriculture sectors, contributing to production, resource management, and community well-being. Women play a fundamental role in agricultural activities, participating in sowing, weeding, harvesting, and the marketing of agricultural products—making essential contributions to household income and the local economy.

> "Women's knowledge of seafood preservation and storage is essential to ensure significant added value in the fishing industry"
>
> *Source: Focus Groups*

Despite this involvement, women face significant financial and structural barriers to expanding their business activities. Access to credit is limited, and many women who do receive loans struggle with repayment due to lack of financial training and business management skills. This challenge is rooted in broader issues such as limited access to education, poverty and insufficient support services which are further limited for women due to traditional gender norms.

Additional obstacles include limited access to healthcare and information, lack of training on gender equality and women's rights, and exposure to risks of gender-based violence. These intersecting challenges further limit women's ability to expand or sustain their income-generating activities.

- **Transportation constraints:** Moving agricultural products from the islands to markets is difficult, as transportation by sea is the only option and the costal shipping system (cabotage) is in poor condition. Additionally, Financial institutions are not available in all municipalities, and the distance required to access credit services often results in high transport costs and interest rates.
- **Access to credit:** Limited access to credit or financing hinders women's ability to develop their agricultural or commercial activities, limiting their ability to invest in higher-quality equipment or goods, and reducing the profitability of their businesses. Many women are involved in charcoal production and trading, activities that are rooted in environmental degradation and face persistent economic limitations and difficulties in accessing credit to grow or sustain their livelihoods.

9.2.2 Opportunities for Women

In Corail, many women do not earn enough to support their families, highlighting the need for targeted support to improve their economic autonomy.

> "Small trade, practiced mainly by women, should be very dynamic according to demand."
>
> *Source: Focus Groups*

Key opportunities include:

- **Capacity-building initiatives** such as training in business management, financial literacy, improved access to credit, development of marketing infrastructure, can help women strengthen and scale their income-generating activities. Support for these initiatives through microfinance or micro and small business grants would enable more women to launch and sustain small businesses.
- **Investment in seafood value chain infrastructure** including storage and preservation facilities to support women's expansion in seafood processing and marketing activities, alongside improved maritime transport (including cabotage) to facilitate men's deep-sea fishing, would expand opportunities across the value chain by ensuring more reliable supplies and broader market access.
- **Establishment of small agricultural processing units** would allow women to create added value in the sector and increase income-generating potential, by processing local agricultural products before marketing them.
- **Development of ecotourism and the handicraft sector,** offers economic opportunities for women in hospitality, catering, tailoring and tour guiding, and the creation and sale of artisanal goods, such as handicrafts, jewelry, clothing, and tailoring. However, there are currently limits to ecotourism given Haiti's ongoing insecurity with pervasive armed group violence concentrated in urban areas and increasingly approaching the countryside. Further, the relative isolation of communities from regional and national markets. Any interventions in the handicraft sector must be based on market linkages.

9.2.3 Opportunities for Youth in the Community

Youth in the community are primarily interested in fishing and livestock breeding. Many youth express interest in sustainable fishing but lack modern equipment, such as boats and motors, needed for deep-sea fishing. There is also a strong interest in learning how to repair this equipment and gaining technical skills to install solar systems for fisheries conservation structures. According to Alex Maxcia, Magistrate of the Commune of Corail, it is crucial to consider the aspirations and needs of young people, as well as the local opportunities available to them.

Beyond fisheries, youth people are eager to pursue entrepreneurship, particularly in the ecotourism sector. However, they face significant challenges, including limited access to finance, education, vocational training, and the infrastructure needed to expand their businesses.

10. ASSESSMENT FINDINGS AND ANALYSIS

Sustained observation and analysis of the data highlight progressive degradation of the marine, coastal and terrestrial ecosystems, due to a combination of climatic, ecological, and anthropogenic factors. This deterioration particularly affects livelihoods (fishing and agriculture) with significant economic and social consequences for local communities, particularly the most vulnerable.

10.1 Current Gaps in Sustainable Environmental Practices

Mangrove protection efforts remain limited, and there is a widespread absence of sustainable practices adapted to local fishing and agricultural activities. This significantly hinders both environmental management and long-term community development.

Key challenges identified in adopting sustainable practices include:

- **Lack of resources and training:** During group discussions, most participants reported being unaware of or not applying sustainable fishing and farming practices that support marine, terrestrial and coastal ecosystem protection.
- **Lack of appropriate materials:** Equipment, tools, input and techniques needed to implement sustainable practices are often unavailable or unfamiliar.
- **Limited institutional support:** Few institutions and organizations are currently engaged in promoting or supporting sustainability efforts at the community level.

10.2 Community Priorities and Environmental Protection Efforts

At the community level, residents have developed various strategies to cope with climate-related events, including community solidarity networks, emergency response, and public awareness campaigns. Recent measures include the mapping and classification of mangroves conducted by GOAL Haiti, environmental education activities and awareness-raising targeting residents of Corail, and mangrove restoration projects implemented by several Community-Based Organizations (CBOs).

These actions are carried out in collaboration with the Corail Town Hall and the Departmental Directorate of the Ministry of the Environment of Grand'Anse. However, respondents noted that some community members were excluded from participating. To strengthen the impact of these efforts, it is essential to ensure inclusive participation across the entire community. Key resources needed to enhance these initiatives include increased funding, training opportunities, and distribution of necessary materials.

Communities have identified several priority actions to advance restoration and environmental protection, including mangrove monitoring and limiting the use of inappropriate fishing gear. In pursuing these efforts, they anticipate several key challenges, the weakness of existing local measures, limited technical capacity, and a lack of financial resources. These constraints are likely to affect the effective implementation and long-term sustainability of restoration activities.

> "Without community awareness, nothing will change." This highlights the carelessness of the local community with regard to actions that will have medium and long-term benefits, especially in the environmental sector.

Source: Focus Groups

Participants proposed several recommendations to improve the adoption of sustainable practices which include:

- **Training on context-appropriate techniques,** such as crop rotation and the use of organic fertilizers
- **Subsidies or financial support** for the acquisition of durable, eco-friendly equipment
- **Community awareness campaigns** to increase the understanding of the importance of and benefits of sustainable practices

10.3 Disaster Risk Reduction Across Measures

Communities in the area have taken important steps to reduce climate and environmental risks. Notable community-led efforts include activating the civil protection alert system, establishing environmental monitoring committees, and implementing measures to prevent mangrove cutting and reduce the use of small-mesh fishing nets.

However, these initiatives remain insufficient in the face of the magnitude of the challenges these communities are faced with. Many community members view them as ineffective due to weak organizational structures, inadequate resources, and lack of sustained support. Low local capacity and insufficient funding continue to hinder the full implementation and impact of disaster risk reduction measures.

11. CONCLUSION AND RECOMMENDATIONS

This analysis underscores the interdependence between marine, coastal, and terrestrial ecosystems, as well as the increasing impacts of climate change on local communities. Environmental degradation, particularly in marine and coastal ecosystems, has been compounded by climate disruptions, leading to reduced productivity in both agriculture and fisheries. This has serious economic and social consequences, especially for vulnerable groups. In response, some community members engage in coping strategies such as excessive tree cutting for charcoal production, which further exacerbates environmental degradation and contributes to a cycle of ecological and economic decline.

To promote sustainable fishing practices, it is essential to support fishers through targeted training, regulatory initiatives, and improved access to appropriate high-seas fishing equipment. Long-term environmental protection relies on more responsible management and increased protection of marine, coastal, and terrestrial ecosystems to ensure the sustainability of fisheries resources and the environment for future generations. Looking ahead, it is crucial to initiate innovative, medium- and long-term activities that empower local communities—particularly women and youth.

While women and youth show a strong interest in entrepreneurial ventures, they face significant barriers, including limited access to finance, training, and necessary infrastructure needed to grow their businesses. Financial institutions are not available in all municipalities, and the distance required to access credit services often results in high transport costs and interest rates. This displacement heightens the risk of GBV, particularly for women. Young women are especially vulnerable, as cultural norms and gendered occupational roles restrict their access to resources, build their skills, and receive fair compensation for their contributions. With targeted support they will be able to contribute more fully to the economy and the sustainable growth of their communities. Ultimately, advancing sustainable ecosystem management and the barriers faced by vulnerable groups are critical to ending the cycle of environmental degradation, driving equitable economic growth, and securing resilient futures for local communities.

Four key findings and recommendations emerged:

- **Environmental degradation is accelerating.** Marine and coastal environments have been affected by natural and anthropogenic factors. Coastal erosion is intensifying due to deforestation and unregulated development, while marine biodiversity is declining from overfishing coral reef exploitation and mangrove loss. Environmental education implementation and enforcement of strict and updated fishing regulations, as well as strengthening and diversification of livelihoods are essential to supporting coastal communities, especially underserved individuals (e.g., women, youth, older adults).
- **Livelihoods in fisheries and agriculture are at risk**. Participants reported limited access to appropriate fishing equipment and agriculture inputs, technical training, and financial resources. Environmental pressures such as declining fish stocks and degraded farmland have made traditional practices increasingly unsustainable. Most community members lack awareness of sustainable practices, highlighting the need for training on sustainable and deep-sea fishing techniques, marine ecosystem management and modern, sustainable farming including crop

diversification, as well as strengthening of local market systems. Opportunities for livelihoods interventions include strengthening fishing and farmer associations and establishing cooperatives, and the development of seafood conservation and storage structures to facilitate agriculture and aquaculture product sales, development of ecotourism grounded in environmental education, bee keeping, vocational training for youth such as fishing equipment repair, refrigeration and solar system installation, and expanding the handicrafts sector with secured market linkages,

- **Women are central to livelihoods but face structural barriers.** Despite playing a major role in food production, trade, and artisanal work, women have limited access to training, financial resources, and social and economic empowerment opportunities. Expanding gender-responsive and gender-transformative programs is critical to achieving gender equality and improving women's economic opportunities. These should include support to women's groups including savings and loan associations, as well as support for women entrepreneurs to start and scale up businesses through business training, grants and linkages with financial services, as well as business development coaching. Community awareness raising on gender equality and GBV prevention – in particular training men and young men – as well as response services for survivors.
- **Local climate response efforts exist but remain under-resourced.** Local initiatives such as environmental education, ecosystem restoration, and mangrove nurseries face major constraints including limited funding, public awareness, and mobilizing participation. Greater investment and inclusive engagement—particularly of marginalized groups—are essential to sustain and expand these efforts.



CORE Community Organized Relief Effort

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