GHANA

POLICY BRIEF

POLICIES, INSTITUTIONAL SET-UP, AND FINANCING OF MARINE LITTER PREVENTION IN GHANA

2026

PROTEGO
Prevention of Marine Litter in the Gulf of Guinea

SUPPORTED BY:
Federal Ministry for the Environment, Nature Conservation and Nuclear Safety
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LED BY:
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PROJECT

PROTEGO

Prevention of Marine Litter in the Gulf of Guinea

FUNDED BY:

Federal Ministry
for the Environment, Climate Action,
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IMPLEMENTED IN GHANA BY:

adelphi RESEARCH

Ghana National Cleaner Production Centre GNCPC

PLASTIC PUNCH

IN COLLABORATION WITH:

epa

Ministry of Environment, Science & Technology MEST


XMAN

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ABBREVIATIONS

ACEA	African Circular Economy Alliance
ACECoR	Africa Centre of Excellence in Coastal Resilience
ACEN	African Circular Economy Network
AGI	Association of Ghana Industries
AGN	African Group of Negotiators
ALDFG	Abandoned, Lost and Otherwise Discarded Fishing Gear
AMA	Accra Metropolitan Assembly
AU	African Union
AUDA-NEPAD	African Union Development Agency – New Partnership for Africa's Development
AfDB	African Development Bank
BCCC	Basel Convention Coordinating Centre
CNG	Compressed Natural Gas
COP	Conference of the Parties
CapVal	Creating and Capturing Value
ECOWAS	Economic Community of West African States
EPA	Environmental Protection Authority (Ghana)
EPC	Environmental Protection Council
EPR	Extended Producer Responsibility
ESPA	Environmental Service Providers Association
FAO	Food and Agriculture Organization
GAYO	Green Africa Youth Organization
GEF	Global Environment Facility
GMA	Ghana Maritime Authority
GPAP	Global Plastic Action Partnership
GPHA	Ghana Ports and Harbours Authority
GPMA	Ghana Plastic Manufacturers Association
GPML	Global Partnership on Plastic Pollution and Marine Litter
GRIPE	Ghana Recycling Initiative by Private Enterprises
GSS	Ghana Statistical Service
ICC	International Coastal Cleanup
INC	Intergovernmental Negotiating Committee
IUCN	International Union for Conservation of Nature
LBSA	Land-Based Sources and Activities
LI	Legislative Instrument
MALNET	Marine Litter Network
MARPOL	International Convention for the Prevention of Pollution from Ships
MEST	Ministry of Environment, Science and Technology
MFA	Material Flow Analysis
MLGCRA	Ministry of Local Government, Chieftaincy and Religious Affairs
MMDAs	Metropolitan, Municipal, and District Assemblies

ABBREVIATIONS

MRFs	Material Recovery Facilities
MSW	Municipal Solid Waste
MTDPs	Medium-Term Development Plans
MoFAD	Ministry of Fisheries and Aquaculture Development
NCCE	National Commission for Civic Education
NPAP	National Plastic Action Partnership
NPMP	National Plastics Management Policy
OCPP	Ocean Country Partnership Programme
RAP	Regional Action Plan
SDG	Sustainable Development Goal
SEEA	System of Environmental-Economic Accounting
SME	Small and Medium Enterprise
STMA	Sekondi-Takoradi Metropolitan Assembly
UCC	University of Cape Coast
UNCLOS	United Nations Convention on the Law of the Sea
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNIDO	United Nations Industrial Development Organization
WACA	West Africa Coastal Areas Program
WSR	Waste Segregation and Recycling
WaFo	Waste to Food

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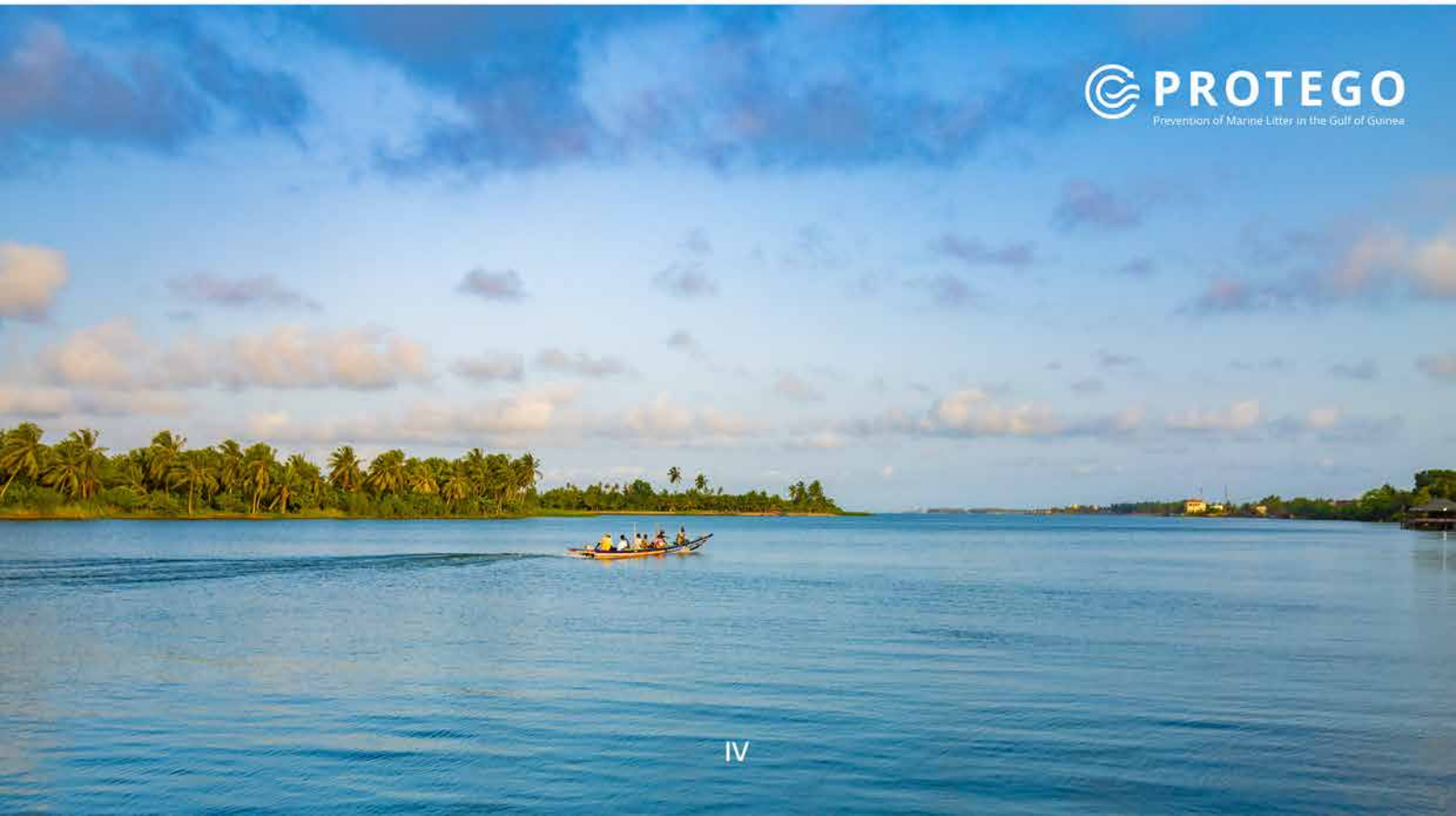

EXECUTIVE SUMMARY

Ghana's 550-kilometre coastline is under severe and escalating pressure from plastic pollution, with the country generating an estimated 1.1 million tonnes of plastic waste annually, of which approximately 23% enters aquatic systems, contributing up to 260,000 metric tonnes of marine debris to the ocean each year. The country has built a multi-layered governance framework to address this crisis, spanning international instruments (UNCLOS, MARPOL, the Basel and Stockholm Conventions), regional frameworks (the Abidjan Convention, ECOWAS Regional Action Plan on Plastics, and AU Agenda 2063), and national legislation including the National Plastics Management Policy (2020), the Maritime Pollution Act (Act 932), and the landmark Environmental Protection Authority Act (2025, Act 1124), which significantly expands the EPA's mandate to encompass circular economy promotion and Extended Producer Responsibility (EPR) oversight. A diverse ecosystem of public institutions, private waste management enterprises, NGOs, and international development partners have produced notable results, including Ghana's National Plastic Action Partnership Roadmap targeting an 84% reduction in plastic leakage by 2040, a Voluntary Pact to reduce single-use plastic bags by 50% by 2030, and the Netcycle Africa initiative that has already recovered over 100 metric tonnes of abandoned fishing gear for industrial recycling. Despite this progress, the brief identifies critical structural gaps that limit impact: there is limited marine plastic litter policies; the NPMP lacks both a budget and an implementation action plan; the Environmental Excise Tax fund had accumulated GH₵911.6 million by 2019 yet remains largely undisbursed due to the absence of a utilisation framework; institutional mandates are fragmented across the EPA, GMA, MEST, and MMDAs with no single coordinating body; and local government assemblies serve only approximately 33.4% of households for waste collection. To bridge these gaps, the brief recommends five priority actions: enacting enabling regulations to operationalise the NPMP with a dedicated budget; urgently activating the Plastic Waste Recycling Fund with a transparent disbursement framework while reducing donor dependency through public-private partnerships; establishing a national Marine Litter Task Force to harmonise inter-agency coordination; building technical and digital capacity within MMDAs to enforce waste management mandates at the local level; and stimulating end markets for circular products through mandatory recycled content standards and green procurement policies. Achieving a sustainable and resilient marine environment will require Ghana to complement its strong policy architecture with consistent enforcement, sustainable domestic financing, and inclusive stakeholder engagement rooted in local realities.

1. BACKGROUND

TThe Republic of Ghana, situated along the western (Atlantic) coast of Africa, is bordered by Togo to the east, Côte d'Ivoire to the west, Burkina Faso to the north, and the Gulf of Guinea to the south. The country spans a total area of 238,533 square kilometers, of which 227,533 square kilometers is land and 11,000 square kilometers is water. As of 2025, Ghana's population was estimated at 33.7 million (Ghana Statistical Service, 2025). Despite being classified as a low-middle-income economy, Ghana possesses abundant natural resources and remains a leading exporter of gold, cocoa, oil, bauxite, and timber. The country recorded an impressive GDP growth of 6% in 2025, up from 5.8% in 2023[cl1.1], driven primarily by the extractive (mining), construction, agricultural, and service sectors (Ghana Statistics Service, 2025). Notwithstanding these economic gains, Ghana faces a growing environmental crisis: marine litter, with plastic pollution being the predominant concern. With a coastline stretching over 550 kilometers along the Gulf of Guinea, Ghana's coastal and marine environments are increasingly threatened by the accumulation of plastic debris (Ghana Environmental Protection Authority, 2020). This pollution adversely impacts biodiversity, coastal livelihoods, public health, and key economic sectors such as fisheries and tourism.

Ghana faces an escalating plastic waste crisis, generating an estimated 1.1 million tonnes of plastic waste annually, of which approximately 0.84 million tonnes constitutes municipal plastic waste (Ghana NPAP, 2020; UNDP, 2023). Waste management infrastructure has failed to keep pace with this volume; only 49% of collected plastic waste is actively managed, and nationwide recycling rates hover between just 5% and 9% (UNDP, 2023). The remaining 51% of plastic waste is mismanaged and becomes a source of pollution: approximately 38% ends up in landfills, 28% is left on land, 11% is openly burned, and 23% enters aquatic environments (UNDP, 2019).

This systemic mismanagement results in severe ecological leakage, with an estimated 9% of all plastic waste binding directly into water bodies. According to the Ghana Audit Service, the country contributes between 92,000 and 260,000 metric tons of marine debris to the ocean every year. The scale of this shoreline accumulation was starkly highlighted in 2020 when over 152 million plastic items were recorded along Ghanaian beaches alone (UNDP, 2020).

The primary streams fueling marine litter originate from household, commercial, and industrial activities, transitioning through both land-based pathways (such as stormwater runoff) and ocean-based sources (including ship-generated waste and abandoned fishing gear). Land-based litter enters inland and coastal waters via surface runoff, moving through interconnected drainage networks and river systems before ultimately reaching the marine environment.

Figure 1 illustrates how Ghana's network of rivers and waterbodies drains into the ocean, acting as a direct conveyor belt for land-derived litter and pollutants into marine waters.

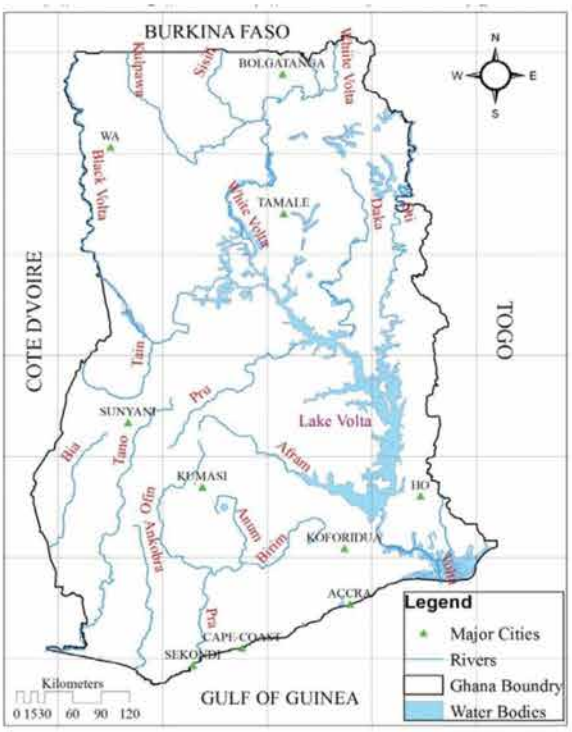

Figure 1: A Hydrological Map of Ghana

Source: Boateng Ampadu | (2021) Overview of hydrological and climatic studies in Africa: The case of Ghana, Cogent Engineering

Ultimately, urban and coastal communities lack the critical infrastructure required for effective waste collection, source segregation, and recycling. These physical gaps are exacerbated by limited municipal resources, poor logistics, and fragmented institutional coordination. Despite robust domestic policy frameworks, local programs, and international environmental commitments, critical challenges persist in enforcement, sustainable financing, and community engagement.

The proliferation of single-use plastics, especially sachet water packaging and non-recyclable packaging materials, exacerbates the situation. These products, while accessible and affordable, are difficult to manage at end-of-life due to their composition and the absence of robust regulatory enforcement. Informal trading activities, including street vending, also contribute significantly to unmanaged waste, much of which ultimately finds its way into the ocean through drainage systems, especially during the rainy season.

The fisheries sector, which provides livelihoods for millions of Ghanaians and contributes substantially to national food security, also plays a role in marine pollution. Abandoned, lost, or discarded fishing gear (ALDFG), such as synthetic nets, ropes, and containers, remains prevalent. These materials continue to entrap and kill aquatic life. This phenomenon, known as "ghost fishing," negatively impacts marine life, resulting in biodiversity loss and reduced fish stocks. Moreover, microplastics and toxic chemical residues from degraded plastics infiltrate the aquatic food web, posing significant health risks to consumers.

Tourism, another key economic sector contributing 1.7% of Ghana's GDP, is similarly at risk. Ghana's coastal destinations, including Labadi Beach, Kokrobite, and Cape Coast, are increasingly tainted by plastic debris. Inadequate waste disposal services, poor enforcement of sanitation by-laws, and improper practices by hotels, restaurants, and visitors contribute to litter accumulation. The visible pollution not only undermines the aesthetic appeal of these destinations but also erodes their economic viability, discouraging both local and international tourism.

Beyond ecological and economic consequences, marine litter has significant public health implications. Open burning of plastic waste, a common disposal method in Ghana, releases toxic emissions, including dioxins and furans, which are linked to respiratory illnesses and other long-term health issues. Additionally, solid waste left in stagnant water bodies facilitates mosquito breeding, increasing the incidence of vector-borne diseases such as malaria. Leachates from plastic pollution can also contaminate water sources, posing risks to drinking water safety.

Recognizing these challenges, the government of Ghana introduced the National Plastics Management Policy (NPMP) in 2020 to reduce plastic consumption, promote recycling, and strengthen sustainable waste management. The NPMP was introduced to encourage public-private partnerships and support innovative interventions, such as plastic buy-back schemes and the development of biodegradable alternatives. However, the implementation of the policy has been constrained by a lack of resources, weak institutional capacity, and an ongoing reliance on donor funding.

A holistic, context-specific approach that reflects local realities must be adopted to build a resilient and sustainable waste and marine ecosystem in Ghana. This means holding producers accountable through mechanisms like Extended Producer Responsibility (EPR) while ensuring active citizen participation and consistent enforcement of environmental laws. Equally important is investing in modern waste infrastructure, promoting research into eco-friendly alternatives, and supporting public education to bring about attitudinal and behavioral change toward waste disposal. A significant number of Ghanaians are still unaware of the long-term consequences of poor waste management practices (Ghana Audit Service, 2024), making community-based interventions and awareness campaigns vital. These efforts must be backed by sustainable, locally driven financing and strong collaboration between government, civil society, academia, and the private sector to truly foster a circular economy and protect marine ecosystems for generations to come.

Marine litter is not merely an environmental issue; it is a socio-economic and public health crisis that demands urgent and coordinated national action. It undermines key sectors such as artisanal fisheries and coastal tourism, increases costs for local authorities and coastal communities through damage to fishing gear, clogged drainage systems, and frequent shoreline clean-ups, and places additional strain on limited public resources. Through strategic investment, institutional strengthening, and inclusive stakeholder engagement, Ghana can protect its marine environment and chart a path toward sustainable development.

2. METHODOLOGY

The policy brief was developed using a qualitative, desk-based analytical approach grounded in an extensive review of secondary data. Key sources included national legislation and policies, international and regional frameworks, technical reports, statistical data from relevant institutions, and news articles. These materials were systematically analyzed to establish a comprehensive baseline of Ghana's regulatory, institutional, and operational context for marine litter prevention. A policy mapping exercise was subsequently undertaken to categorize instruments across international, regional, and national levels, enabling a multi-level governance analysis of how global commitments are translated into domestic implementation.

Stakeholder and institutional analysis were applied to examine the roles, mandates, and interactions of key actors, including public institutions, private sector entities, civil society, and development partners. This was complemented by a systems-thinking (source-to-sea) approach, which conceptualizes marine litter as the outcome of interconnected processes spanning waste generation, management, and environmental transport pathways. This integrated perspective facilitated the identification of critical inefficiencies and leakage points within the waste management chain, as well as structural constraints affecting coordination and service delivery. To ground these findings, targeted interviews and consultations were conducted with experts and academics regarding legal, regulatory, and operational dimensions of marine litter management.

A gap analysis was undertaken to evaluate discrepancies between existing conditions and desired outcomes, focusing on policy, institutional, and financial dimensions. This phase included evaluating enforcement bottlenecks, institutional capacity constraints, and the adequacy of financing mechanisms, including public funding, donor support, and public-private partnerships. The findings from these analytical components were synthesized to generate targeted, evidence-based recommendations to strengthen policy coherence, enhance institutional effectiveness, improve financial sustainability, and advance circular economy practices in Ghana.

Finally, the draft brief was presented at a validation workshop where experts and institutional stakeholders provided critical feedback, which was systematically integrated into the final document.

3. POLICIES, IMPORTANT ACTORS AND INITIATIVES

3.1. Existing Policy Frameworks

International, regional, and national policies governing marine pollution operate as an interconnected system in which global agreements set standards, regional frameworks adapt them to shared ecosystems, and national governments implement and enforce them. At the international level, treaties such as UNCLOS (United Nations Convention on the Law of the Sea) and MARPOL (International Convention for the Prevention of Pollution from Ships) establish common rules to prevent pollution from ships, dumping, and land-based sources, creating baseline obligations for all states. Regionally, frameworks like the Abidjan Convention translate these global commitments into coordinated action for the West and Central African marine environment, promoting harmonized standards, joint monitoring, and collective responses to risks such as oil spills and marine litter. In Ghana, national laws and institutions operationalize these obligations through domestic legislation, port state control, environmental permitting, and enforcement by agencies such as the Environmental Protection Authority and the Ghana Maritime Authority, ensuring that international and regional commitments result in concrete pollution prevention and control on the ground.

Here are some existing policies that address marine pollution in Ghana:

3.1.1. International Frameworks

Ghana actively participates in different international frameworks that guide its efforts to combat marine pollution and protect its coastal environments.

London Protocol, which entered into force in 2006, was designed to modernize and eventually replace the London Convention of 1972 (formally known as the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter), one of the world's first international agreements protecting oceans from human pollution that has been in effect since 1975 (IMO, 2025). While Ghana is a formal state party to the 1972 London Convention, the nation has not fully ratified the 1996 London Protocol, which was designed with more stringent protections for the marine environment (IMO, 2025). Nevertheless, Ghana has proactively aligned its national legislative framework with these higher global standards; the Ghana Maritime Pollution Act, 2016 (Act 932) directly integrates and domesticates core provisions of the Protocol to safeguard the country's territorial and marine waters (Addo et al., 2023).

United Nations Convention on the Law of the Sea (UNCLOS): Ghana is a party to UNCLOS, which provides the fundamental legal framework for all maritime activities and for governing the use of marine resources worldwide. The country signed the UNCLOS on December 10, 1982, and ratified it on June 7, 1983 (UN, 2025), and demonstrated its commitment to the international legal framework governing maritime activities and resources. As a coastal West African state, Ghana has actively supported UNCLOS implementation through the work of key institutions, including the Commission on the Limits of the Continental Shelf, the International Seabed Authority, and the International Tribunal on the Law of the Sea (The Permanent Mission of Ghana to the United Nations, 2022).

International Convention for the Prevention of Pollution from Ships (MARPOL): is the most important international Convention focusing on reducing all types of marine pollution from ships. MARPOL Annex V is a critical component of the Convention for the Prevention of Pollution from Ships, which entered into force in 1988 and was strengthened in 2013 with a complete ban on waste disposal at sea (Serra-Gonçalves et al., 2023). Ghana has actively implemented this International Convention through its domestic legislation, notably the Maritime Pollution Act, 2016 (Act 932), which domesticated this Convention's provisions, including all six annexes (B&FT, 2021; GhanaWeb, 2025).

Basel Convention on the Control of Transboundary Movements of Hazardous Waste and their Disposal: Ghana acceded to the Basel Convention on 30th March, 2003, and it entered into force on August 28, 2003 (Basel Convention, 2025). At the Conference of the Parties (COP) 14 in 2019, the Basel Convention adopted amendments to three annexes, namely Annexes II, VIII, and IX, that strengthen controls on transboundary plastic waste movements and clarify how the Convention applies to these materials. Ghana approved these amendments on March 24, 2020 (Basel Convention, 2025). The Environmental Protection Authority (EPA) serves as both the focal point and competent authority and is responsible for issuing permits for waste movements, monitoring compliance, and communicating with the Convention Secretariat.

Stockholm Convention: Ghana signed and adopted the Convention on May 23, 2001, ratified it on May 30, 2003, and it came into force on May 17, 2004 (Stockholm Convention, 2025). The convention's focus on eliminating or reducing persistent organic pollutants (POPs) has recently expanded to include plastic additives, with two plastic-related chemicals (the flame retardant dechlorane plus and the ultraviolet stabilizer UV-328) added to the controlled substances list. The EPA acts as the national focal point for the convention. Ghana's National Implementation Plan (NIP) is aligned with its National Environmental Action Plan (EPA, 2007).

Global Plastic Action Partnership (GPAP), launched in September 2018, is an ambitious initiative created by public and private partners to transform plastic pollution commitments into actionable solutions, accelerating the global response to the escalating plastic pollution crisis (GPAP, 2018). Ghana became the first African nation to join the NPAP in October 2019 and established the Ghana National Plastic Action Partnership (Ghana NPAP, 2020). GPAP has brought together government, businesses, and civil society to develop a comprehensive national roadmap for sustainable plastic waste management. This collaborative approach, supported by the Global Environment Facility (GEF), aligned with Ghana's National Plastic Management Policy and further accelerated by the Ghana multi-stakeholder 'Waste' Recovery Platform (WEF, 2019), could reduce plastic leakage by 84% under a realistic scenario and potentially achieve zero leakage by 2040 (Citi Newsroom, 2021). The initiative is also mobilizing US$77 million towards establishing a Circular Economy Framework through international partnerships between the Government of Ghana and the Global Environment Facility (GEF) and the United Nations Industrial Development Organization (UNIDO).

Global Partnership on Plastic Pollution and Marine Litter (GPML): Ghana joined the Global Partnership on Plastic Pollution and Marine Litter (GPML), a multi-stakeholder initiative launched at the United Nations Conference on Sustainable Development in 2012. The GPML brings together governments, intergovernmental organizations, regional bodies, the private sector, civil society, and academic institutions to address the growing challenge of marine litter and plastic pollution (GPML, 2012). The GPML's specific objectives align well with Ghana's environmental priorities, which aim at reducing plastic leakage into oceans, applying the '3Rs' principle (reduce, reuse, recycle), encouraging closed-loop systems, and maximizing resource efficiency while minimizing waste generation (UNEP, 2012).

3.1.2. Regional Policies

Abidjan Convention (1981) and Protocols: The Abidjan Convention for Cooperation in the Protection and Development of the Marine and Coastal Environment of the West and Central African Region requires Ghana to implement regional strategies to reduce marine litter pollution. However, limited funding and interagency coordination challenges have slowed progress. Covering 22 countries in West, Central, and Southern Africa, the Convention is legally binding for its signatories and includes relevant protocols such as the Protocol on Land-Based Sources and Activities (LBSA Protocol), which addresses marine litter and plastic pollution from both inland and coastal sources. Under this framework, parties are required to develop national policies and legislation to manage marine litter and are encouraged to harmonize marine waste laws and standards at the regional level.

Bamako Convention: The Bamako Convention on the Ban of the Import into Africa and the Control of Transboundary Movement and Management of Hazardous Wastes within Africa is legally binding for member states. Although its original focus is on hazardous waste, the Convention is increasingly referenced in discussions on plastic pollution and marine litter, particularly regarding the importation or dumping of plastic waste in Africa. It plays a supportive role in the development of national legislation against marine plastic dumping, reinforcing efforts to address plastic pollution at both national and regional levels.

AU Agenda 2063: AU Agenda 2063 is the African Union's long-term strategic framework for transforming the continent through inclusive growth and sustainable development. It incorporates environmental sustainability and natural resource management under Aspiration 1 ("A prosperous Africa based on inclusive growth and sustainable development") and Aspiration 7 ("Africa as a strong, united, resilient, and influential global player"). With respect to marine litter management and prevention, Agenda 2063 calls for the protection of Africa's biodiversity, water resources, and coastal ecosystems, and promotes sustainable blue economy practices. It establishes a continental mandate for reducing marine pollution, including plastic waste, through improved waste management systems, circular economy approaches, and enhanced regional cooperation, providing essential support for marine litter prevention efforts across Africa.

Africa Blue Economy Strategy (2019): Adopted under the African Union (AU), the Africa Blue Economy Strategy (2019) identifies marine pollution control and ocean governance as key pillars for sustainable development. The strategy encourages member states to integrate circular economy principles, promote regional marine litter action plans, and harmonize national marine waste policies. By prioritizing these areas, the strategy supports coordinated and effective responses to marine litter and plastic pollution throughout the continent.

ECOWAS Regional Action Plan on Plastics Management (Under Development): (Under Development): Ghana, as a full member of ECOWAS, has actively participated in the technical and ministerial meetings shaping the ECOWAS Regional Action Plan (RAP) on Plastic Management, which is being coordinated by the ECOWAS Commission with support from partners such as UNEP and GIZ. The plan aims to standardize national plastic policies across member states, promote regional circular economy models, and improve trade and innovation in sustainable plastic alternatives. Ghana's experience with the National Plastic Action Partnership (NPAP) and its National Plastic Management Policy has served as a model for regional dialogue. Although the action plan is still under development, Ghana remains directly engaged through the Ministry of Environment, Science and Technology (MEST) and the Environmental Protection Authority (EPA).

African Union Continental Circular Economy Action Plan: Ghana is a member of the African Union and actively participates in AU-level initiatives to promote a CE and reduce plastic pollution. The Continental Circular Economy Action Plan, led by the African Circular Economy Alliance (ACEA) and AUDA-NEPAD, includes pillars on plastic waste reduction, green industrialization, and marine litter prevention, with a strong focus on youth, innovation, and cross-border policy harmonization. Ghana has actively participated in AU-led circular economy forums and stakeholder consultations, showcasing its public-private partnership initiatives, including collaborations with private-sector recyclers and non-governmental organizations such as Plastic Punch. The country has also organized policy dialogues to advance circular economy objectives in alignment with the AU's strategic goals.

As a frontrunner in West Africa on plastic waste policy development and data-driven plastic action, Ghana is helping to inform and shape the AU continental strategies.

African Group of Negotiators (AGN) for the UN Global Plastics Treaty: The AGN is a coalition of African member states that works together to represent the interests of the African continent in international climate change negotiations. It was established at COP1 in Berlin, Germany, in 1995 as an alliance of African member states that speaks with a common and unified voice. The AGN comprises 54 parties. The AGN plays a crucial role in the Intergovernmental Negotiating Committee (INC) on plastic pollution, representing the interests of African countries in developing a global plastics treaty. The AGN aims to ensure Africa's priorities are reflected in the final agreement, including advocating for binding targets on plastic production reduction and addressing financial mechanisms for implementation

3.1.3. National Policies and Legislation

Ghana has introduced several national policies to address marine litter, but gaps in enforcement and coordination remain an issue. Below are some national policies addressing marine litter:

National Plastics Management Policy (NPMP): The NPMP (2020) seeks to reduce plastic waste through recycling, waste segregation, and the promotion of biodegradable alternatives. However, its impact on reducing marine litter is limited due to weak implementation at the coastal and municipal levels. Its objective includes the establishment of a sustainable framework for managing plastic waste through a circular economy approach, emphasizing reduction, reuse, and recycling of plastic materials.

The key focus areas consist of
1. Minimizing plastic leakage into marine and freshwater systems,
2. Promoting eco-friendly product design and alternatives to single-use plastics,
3. Encouraging public-private partnerships and innovation in waste management, and
4. supporting education and awareness campaigns targeting behavioral change.

Environmental Protection Act, 2025 (Act 1124): This act transitioned the erstwhile Environmental Protection Agency into an Authority. The Environmental Protection Authority Act 1124 amends and consolidates all laws related to environmental protection, establishes the EPA to regulate and protect the environment, control and regulate pesticides, control and manage the disposal of hazardous waste and electrical and electronic waste, coordinate climate change responses, and for related matters. Part C of the sixth schedule of the Act lists plastics under categories of waste requiring special consideration.

The EPA is also responsible for promoting the adoption and implementation of a circular economy and extended producer responsibility. The Act empowers the EPA, [cl3.1] to regulate plastic waste and marine pollution.

Environmental Protection (Environmental Assessment) Regulations, 2025 (LI 2504), The environmental assessment regulations provide the EPA with a holistic procedure for protecting the environment by preventing, minimizing, and offsetting the negative impacts of undertakings or developments. This LI 2504 ensures that developments are carried out in a manner that takes into account the environmental, social, and economic aspects of projects to ensure sustainable development.

As part of these regulations, undertakings are subjected to a thorough assessment, which identifies potential environmental impacts and ensures appropriate mitigation measures are put in place before an environmental permit is granted to a developer. The regulations provide procedures for monitoring ongoing projects through compliance inspections, periodic environmental monitoring, and submission of environmental reports. By granting the EPA oversight across the entire project lifecycle, these regulations serve as a critical upstream intervention. Strictly regulating land-based waste streams and industrial discharges at the source enables the EPA to prevent the hydrological transport of plastic debris and chemical pollutants into river systems, ultimately ensuring the long-term integrity of Ghana's marine ecosystems.

Local Government (Act 936): The Local Governance Act, 2016 (Act 936) provides the legal basis for decentralization in Ghana, designating Metropolitan, Municipal, and District Assemblies (MMDAs) as the highest authorities responsible for local development and service delivery. The Act assigns MMDAs deliberative, legislative, and executive functions, including environmental sanitation management. This assigns them the waste management responsibilities. Section 181 empowers MMDAs to enact and enforce bylaws that ensure proper waste management practices to prevent ultimate leakages into waterways.

Maritime Pollution Act, 2016 (Act 932): The act establishes the legal framework for the prevention, reduction, and control of marine pollution in Ghana's waters, including internal waters, the territorial sea, and the Exclusive Economic Zone. The Act gives effect to key international conventions, particularly MARPOL 73/78, and regulates pollution from ships and offshore installations arising from oil, noxious liquid substances, sewage, garbage, and air emissions. It mandates that vessels operating within Ghana's jurisdiction comply with prescribed construction, equipment, and operational standards, and maintain relevant pollution prevention certificates and record books. The Act also requires ports and terminals to provide adequate reception facilities for ship-generated waste to ensure environmentally sound disposal.

Enforcement of the Act is led by the Ghana Maritime Authority in collaboration with institutions such as the EPA and the Ghana Ports and Harbours Authority. The legislation prohibits unauthorized discharges and imposes strict reporting obligations in the event of pollution incidents. Authorized officers are empowered to inspect and detain non-compliant vessels, while offenders are subject to penalties including fines and liability for cleanup and environmental damage. By integrating international standards with national enforcement mechanisms, the Act plays a critical role in safeguarding marine ecosystems, protecting coastal resources, and promoting sustainable maritime operations in Ghana.

Integrated Coastal and Marine Management Plan (2021): This plan promotes marine litter monitoring, sustainable coastal development, and enhanced governance. Yet, poor stakeholder coordination and limited financial resources hinder its full implementation.

FACT SHEET GHANA

WASTE

- Population: ~34.4 million (2024)
- Generates ~1.1 million tons of plastic waste annually; only 5% recycled
- Over 152 million plastic items recorded on beaches in 2020
- Main sources: households, commercial activity, informal trade, and fishing
- Proliferation of single-use plastics (e.g., sachet water packaging)
- Marine litter contributes to biodiversity loss, economic damage (fisheries & tourism), and public health issues (toxic emissions, mosquito breeding)

EXISTING CHALLENGES

- No dedicated marine litter policy
- Weak enforcement of existing regulations (e.g., NPMP)
- Fragmented institutional mandates and coordination
- Low technical and financial capacity at municipal level (MMDAs)
- Poor public awareness and limited recycling incentives
- Infrastructure gaps: limited collection, segregation, and recycling capacity
- High dependence on donor funding; underutilization of environmental taxes

POLICIES

National:

- National Plastics Management Policy (2020)
- EPA Act (2025): Introduced EPR, circular economy promotion
- Environmental Assessment Regulations (1999)
- Local Government Act (2016): Assigns waste roles to MMDAs
- Integrated Coastal and Marine Management Plan (2021)

Regional & International:

- Basel Convention (ratified 2003)
- MARPOL Annex V (via Maritime Pollution Act 2016)
- Stockholm Convention (ratified 2003)
- Abidjan Convention
- UNCLOS (ratified 1983)

CURRENT INITIATIVES

- NPAP Roadmap: Targets 84% reduction in plastic leakage by 2040.
- Voluntary Pact: Supermarkets aim to cut single-use plastics by 50% by 2030.
- Water ATMs & Natural Packaging: Pilot projects to replace sachets and styrofoam.
- Clean-ups & Mapping: Community-led beach clean-ups and litter hotspot mapping.
- Private Sector Recycling: Buyback schemes and recycling by GRIPE, Nelplast, Coliba.

Figure 2: Fact sheet of Ghana

3.2. Key Actors

Marine litter prevention in Ghana involves public institutions, private sector players, NGOs, and international organizations working together to tackle pollution and protect coastal and marine ecosystems. Below is a breakdown of key national, regional, and international stakeholders actively engaged in marine litter prevention:

3.2.1. Public Stakeholders

Ministry of Environment, Science, and Technology (MEST)leads Ghana's environmental policies, including plastic waste reduction and marine ecosystem protection. MEST is the governmental body mandated to oversee the formulation and implementation of environmental policies in Ghana. MEST leads Ghana's environmental policies, including plastic waste reduction and marine ecosystem protection. The ministry plays a crucial role in:

- Overseeing national environmental and plastic waste management strategies, e.g., through Plastic Waste Management Strategies.
- Leading inter-ministerial coordination on waste reduction efforts.
- Engaging with stakeholders, including the private sector and civil society, on environmental sustainability.
- Through its Policy Planning, Monitoring, and Evaluation Directorate, MEST ensures policy coherence, tracks performance indicators, and fosters collaboration on marine litter and environmental protection initiatives. This directorate facilitates partnerships with civil society, the private sector, and development partners to tackle marine litter and enhance coastal protection.

Ministry of Fisheries and Aquaculture Development (MoFAD): Addresses the sustainable fishing practices and plastic waste reduction within Ghana's fishing communities through its specialized departments: the Fisheries Scientific Survey Division, Marine Fisheries Management Division, and Inland Fisheries Management Division. Operating within key policy frameworks such as the National Plastic Management Policy (2020), MoFAD works to align fisheries value chains with circular economy goals. The ministry's activities and roles encompass:

- Implement plastic-free fishing practices (e.g., eco-friendly gear, collection nets)
- Collaborate with EPA/MEST for community sensitization programs in fishing towns
- Support integration of waste segregation infrastructure at landing beaches and cold storage centers.
- Partner on marine litter mapping to identify priority cleanup zones along the coast.

Ministry of Local Government, Chieftaincy and Religious Affairs (MLGCRA): Works with MMDAs in coastal areas to enforce sanitation laws and improve waste management. Relevant departments include the Department of Environmental Health and Sanitation, the Local Government Service, and the Regional Coordinating Councils

Some of the ministry's activities and roles include:
- Facilitating decentralized plastic recovery systems in coastal MMDAs.
- Organizing joint campaigns with the EPA and NGOs on proper disposal practices.
- Using the Auditor-General reports to strengthen monitoring of MMDA compliance on marine litter.

Under the Local Governance Act, 2016 (Act 936) and the National Environmental Sanitation Policy, Metropolitan, Municipal, and District Assemblies (MMDAs) serve as the primary legal and administrative authorities responsible for waste management and environmental health within their jurisdictions. MMDAs function as "service regulators," shifting from direct service delivery to a supervisory role that facilitates private sector participation. Through Waste Management Departments and Environmental Health Units, they execute franchise-based contracts and Public-Private Partnerships (PPPs) to ensure the collection, transportation, and final disposal of solid waste. This decentralized governance structure empowers MMDAs to pass and enforce local sanitation bylaws, providing the legal framework necessary to penalize indiscriminate dumping and promote household waste coverage, which currently stands at approximately 33.4% nationally (Owusu-Ansah et al.,2022)

MMDAs are the frontline defense against "land-based leakage." Because the majority of marine debris in Ghana originates from poorly managed urban waste streams, the efficiency of an MMDA's collection infrastructure directly determines the volume of plastic that reaches the Gulf of Guinea. Coastal MMDAs, such as the Accra Metropolitan Assembly (AMA) and the Sekondi-Takoradi Metropolitan Assembly (STMA), are increasingly integrating "source-to-sea" strategies into their Medium-Term Development Plans (MTDPs). This includes the strategic placement of skip containers in high-density coastal communities. By bridging the gap between national policy and local enforcement, MMDAs ensure that municipal waste is intercepted and directed toward valorization pathways before it can undergo hydrological transport into marine ecosystems. The efforts of the MMDAs are reflected in initiatives such as the following, championed by the Accra Metropolitan Assembly (AMA):

- The Accra Metropolitan Assembly (AMA) initiated a source segregation programme in 2022, structured in three phases:
  1. Public education and sensitization
  2. Piloting and demonstration of on-site and off-site infrastructure
  3. Full-scale implementation by 2035, including the development of composting and biogas/CNG facilities.
- Circular economy practices are being promoted through recycling initiatives, including the establishment of buy-back centres and transfer stations for municipal solid waste (MSW) management.
- Existing AMA by-laws are currently under review to ensure alignment with citywide source segregation of MSW.
- An implementation strategy for the Climate Action Plan has been developed, targeting the diversion of 50% of MSW from landfill by 2030.
- Funding has been secured from the African Development Bank (AfDB) for the construction of a 200 tonnes-per-day composting plant and associated infrastructure.
- Pre-feasibility studies are ongoing, with support from the Gap Fund/GIZ, to assess the viability of biogas/CNG production from source-separated organic waste, particularly from markets.

Ministry of Tourism, Culture and Creative Arts: Plays a vital role in supporting clean beaches and marine conservation efforts to enhance coastal tourism in Ghana through its key departments: the Tourism Directorate, Art & Culture Directorate, and Ghana Tourism Authority. Operating within comprehensive policy frameworks, including the National Plastic Management Policy (2020) for ecotourism integration, LI 2504, which mandates Environmental Impact Assessments for tourism projects near coastlines, and the Zero Waste Accra Strategy, which promotes community-driven waste management in tourist areas, the ministry takes a multifaceted approach to environmental stewardship.

Some of its relevant activities and roles include:
- Enforce sustainable waste practices in hotels, resorts, and tourism sites
- Promulgation of legislation and regulations on tourism, arts, and culture
- Promote artistic reuse of plastics through national arts programs

Ghana Maritime Authority (GMA): As the regulatory body for Ghana's maritime space, the GMA plays a critical role in enforcing marine safety and environmental standards to reduce pollution from vessels and port operations. The Authority regulates maritime activities and ensures compliance with international conventions on marine pollution. The Technical Division - Environmental and Safety Standards Section and the Flag and Port State Control Unit are involved in marine litter prevention.

Relevant GMA activities and roles consist of:

- Enforce pollution control measures on ships and at ports.
- Implement standardized waste reception facilities in compliance with MARPOL.
- Collaborate with the EPA to monitor plastic discharges from vessels and offshore activities.
- Conduct training programs for seafarers on marine waste handling and reporting.

Environmental Protection Authority (EPA): The EPA, under the Ministry of Environment, Science, and Technology (MEST), is the principal regulatory body tasked with environmental protection, sustainability, and general oversight over all matters relating to climate change and the environment. Its operations are critical to addressing pollution, especially in marine and coastal areas, and advancing national efforts toward a circular economy. The EPA began as the Environmental Protection Council (EPC), established by NRCD 239 in 1974 to advise the government on environmental matters. Its role was enhanced in 1976 (SMCD 58) to align with the formation of the Ministry of Environment. In 1994, the EPA Act (Act 490) transformed the EPC into the Environmental Protection Agency, granting it regulatory and enforcement powers.

Recently, the EPA Act, 2025 (Act 1124), effective January 6, 2025, transitioned the EPA to an authority, significantly expanding its mandate to regulate, protect, coordinate, and exercise general oversight over all matters relating to climate change and the environment in Ghana. This act repeals Act 490 and marks a major step forward in environmental governance.

The Act tasks the Authority to regulate and protect the environment, provide for pesticide control and regulation, provide for control, management, and disposal of hazardous waste and electrical and electronic waste, provide for the coordination of climate change responses, and for related matters. In addition, the Authority is to promote the adoption and implementation of the circular economy and extended producer responsibility.

The EPA maintains an operational structure with specialized departments that collectively enforce regulatory compliance and monitor environmental quality across Ghana. In connection to marine litter prevention, its Environmental Quality Department plays a crucial role in monitoring industrial pollution and marine water quality while actively preventing illegal waste dumping in coastal areas that could harm marine ecosystems. Additionally, through the enforcement of the Environmental Assessment Regulations, the EPA ensures the incorporation of proper waste management systems and practices in the execution of development projects, including compliance in respect of existing projects which aids in preventing pollution of the coastal environment.

Ghana Audit Service: Tasked under Article 187 of the 1992 Constitution with protecting the public purse, the Auditor-General's mandate has expanded beyond traditional financial oversight to include Performance Auditing. This specialized function evaluates the economy, efficiency, and effectiveness of government programs. In the realm of environmental protection, the Auditor-General audits the activities of state agencies such as the EPA and MEST, ensuring that public funds and regulatory mandates are effectively deployed to mitigate ecological degradation and satisfy national environmental policies.

The institution acts as a vital accountability mechanism by identifying systemic bottlenecks in waste management. The two landmark 2024 Performance Audit Reports, Preventing and Reducing Solid and Plastic Waste on Ghana's Coastal Environment and The Disposal of Plastic Waste in Ghana, documented a significant implementation gap where uncoordinated stakeholder efforts and logistical constraints at the local assembly level led to the accumulation of plastic debris in drainage systems and along shorelines. By exposing these failures, the Auditor-General provides the evidentiary basis for structural reforms, ensuring that coastal sanitation efforts effectively intercept land-based waste before it undergoes hydrological transport into the Gulf of Guinea.

Ghana Statistical Service: The Ghana Statistical Service (GSS), operating under the Statistical Service Act of 2019 (Act 1003), serves as the central authority for the National Statistical System. A cornerstone of its strategy for marine litter prevention is the integration of "citizen science" into official national statistics, making Ghana the first nation to leverage volunteer-collected data for reporting on SDG Indicator 14.1.1b (marine plastic debris density). By validating and standardizing data from local beach cleanups and digital platforms like Clean Swell, the GSS provides a high-resolution, cost-effective map of plastic hotspots along the coastline, bridging the gap between local grassroots monitoring and international reporting standards.

Furthermore, the GSS facilitates the transition from raw data to actionable policy through the System of Environmental-Economic Accounting (SEEA). By quantifying the economic externalities of litter on sectors such as tourism and fisheries, the GSS provides the critical evidentiary basis for the National Plastic Management Policy, ensuring that governmental interventions and investments in the circular economy are targeted, measurable, and evidence-driven.

Figure 3: Overview of Key Public Actors in Ghana

3.2.2. Non-Public Stakeholders

Marine litter management involves multiple stakeholders, including private entities, civil society, and international organizations.

Private Sector

Ghana Recycling Initiative by Private Enterprises (GRIPE): The Ghana Recycling Initiative by Private Enterprises (GRIPE), founded in 2017 under the Association of Ghana Industries (AGI), has emerged as a key private sector force addressing plastic pollution through a circular economy lens. By partnering with local collectors and recyclers, GRIPE has established plastic recovery systems and buyback programs, including a permanent center in Jamestown and regular collection events in Accra, Kumasi, and informal settlements like Old Fadama. It also engages youth through an annual school recycling competition and targets widespread waste streams such as sachet water packaging. Its infrastructure includes a shredding plant in Katamanso (Cash It Project) and a sorting facility in Tema Newtown (Pick It Project), aimed at improving plastic processing and recovery.

Beyond collection and processing, GRIPE is leading innovation in plastic reuse by piloting plastic-modified concrete in collaboration with EAP Consult, CSIR-BRRI (Building and Road Research), and the Ghana Standards Authority. It drives public education and behavioral change through partnerships with Environment 360, the UNDP, and media outlets like Asaase Radio. These efforts are complemented by digital campaigns promoting community action against marine litter. GRIPE also actively supports environmental policy reforms, such as Extended Producer Responsibility (EPR) and banning single-use plastics, while investing in green job training for youth and women. Through this multifaceted approach, GRIPE is transforming Ghana's plastic waste problem into a platform for sustainability, innovation, and inclusive economic growth.

Environmental Service Providers Association (ESPA): The Environmental Service Providers Association (ESPA) Ghana is a professional body that brings together organizations and practitioners involved in the delivery of environmental services. The association plays a key role in strengthening the environmental sector through capacity building, coordination, and advocacy. It collaborates with the EPA to promote compliance with environmental regulations and to enhance the quality and standardization of services such as environmental impact assessments, auditing, and waste management. Through training programs and stakeholder engagement, ESPA supports the adoption of best practices and contributes to improved environmental governance and sustainable development in Ghana.

The Ghana Plastic Manufacturers Association (GPMA) is an industry association representing manufacturers and stakeholders within Ghana's plastics sector. The Association facilitates coordination and engagement between its members, government agencies, and other relevant stakeholders on matters relating to production, regulation, and environmental management. It promotes the adoption of responsible manufacturing practices, including resource efficiency, waste minimization, and recycling, in alignment with national environmental policies and circular economy principles. Additionally, GPMA contributes to policy development and supports initiatives aimed at strengthening plastic waste collection, recovery, and recycling systems, thereby contributing to the reduction of plastic pollution and the advancement of sustainable industry practices.

Waste Management Companies: Waste management companies in Ghana play a critical role in mitigating marine pollution through the collection, transportation, treatment, and disposal of solid and liquid waste, particularly in coastal and urban areas. Their efforts complement public awareness campaigns and national initiatives aligned with circular economy principles.

Ghana's environmental sanitation policy promotes strong private sector participation, with up to 80% of service delivery expected to be undertaken by private operators. In response, a large number of waste management companies have emerged across the country, operating at different points along the waste management value chain. Many of these companies are represented by the Environmental Service Providers Association (ESPA), an umbrella body with over 1,500 registered members in both the formal and informal sectors, although not all waste operators belong to the association.

In line with national policy, these companies provide services such as waste collection, transportation, recycling, recovery, treatment, and final disposal. According to the 2021 Population and Housing Census, about 33.4% of households in Ghana have their waste collected and managed by private service providers. This represents a significant waste stream, including an estimated 300,000 tonnes of plastics annually.

Collected waste is directed into locally available valorization pathways, including mechanical recycling, conversion into plastic-based products and art, and final disposal through open dumpsites, controlled landfills, and engineered landfill facilities. These interventions are important in reducing poor waste management practices such as open burning, indiscriminate dumping, and the leakage of waste into the wider environment, including water bodies and marine ecosystems.

Most waste collection companies operate through franchise-based contracts with the Metropolitan, Municipal, and District Assemblies (MMDAs), particularly in household waste collection and public cleansing services.

- **Jospong Group of Companies:** A major player in the sector is the Jospong Group of Companies, a vertically integrated waste management conglomerate with operations across the full waste management value chain. The Group has a nationwide presence and works with MMDAs under public-private partnership arrangements, particularly through its Sanitation Improvement Package (SIP), which targets waste collection in high-density, low-income communities. Within the plastics value chain, key subsidiaries of the company include Zoomlion Ghana Limited, Zoil Services Limited, Alliance Waste Limited , Universal Plastics Products, which recycles plastics into bins and other products; NAMRCO, which supports the separate collection of recyclables; and Eco-Brigade, which focuses on coastal and environmental management.
- **Jekora Ventures Limited** is a pioneer in Ghana's waste management sector, distinguished by its specialized focus on source-segregated collection and the circular economy. Operating primarily within the Osu Klottey and Adentan municipalities under franchise-based agreements, the company implements a technical Waste Segregation and Recycling (WSR) program that utilizes an incentive-based "pay-as-you-throw" or discount model to encourage commercial and residential clients to separate waste at the point of generation. This approach is critical for marine litter prevention, as it ensures that high-value recyclables and organic fractions are intercepted before they enter the drainage network or open dumpsites, which are primary conduits for land-based leakage into the Gulf of Guinea. Through its "Creating and Capturing Value" (CapVal) and "Waste to Food" (WaFo) initiatives, Jekora Ventures converts recovered organic waste into nutrient-rich compost (e.g., JV CompSoil) and briquettes, effectively transitioning waste into industrial and agricultural feedstock. By integrating decentralized composting facilities and pre-processing stations into the urban waste value chain, the company provides a scalable, empirical model for reducing the environmental footprint of municipal solid waste in Ghana.
- **Nelplast Eco Ghana Limited:** Nelplast Eco Ghana Limited, a pioneering waste recycling company, plays a crucial role in addressing marine litter prevention through innovative and sustainable initiatives. The company actively contributes to marine litter prevention by repurposing plastic waste into valuable materials. One of Nelplast Eco Ghana's key initiatives is the conversion of plastic waste into pavement slabs and tiles. This initiative reduces plastic waste that would otherwise end up in water bodies, helping to prevent marine litter. The company also works with local communities to promote the systematic collection of plastic waste, which prevents it from entering rivers and oceans.
- **Pyramid Recycling Enterprise:** Pyramid Recycling Enterprise Ghana is a plastic processing company that contributes to marine litter prevention and waste management through the conversion of plastic waste and fibers, such as rice husks and sawdust, into wood alternatives. Wood-plastic beams, chairs, curtain ropes, panels, pellets, and school furniture are just a few examples of their end products. The company actively supports the circular economy by repurposing plastic waste into pellets, which serve as raw materials for manufacturing new plastic goods. According to a publication on the Ghana Climate Innovation Center website, the business has grown from processing 1 ton of plastic waste per month to over 20 tons per month since its establishment in 2007. Furthermore, during their plastic waste collection and recycling process, the company works closely with local communities, businesses, and waste collectors to recover plastic waste before it reaches water bodies. This contributes to reducing the amount of plastic waste that leaks into water bodies.

- **Sesa Recycling Co. Ltd.:** Sesa Recycling is a waste management company that focuses on waste collection and recycling to prevent waste from leaking into environmental systems. The company develops recycling programs for plastics, aluminum, paper, and cardboard. Sesa Recycling also incentivizes people to exchange waste for cash or rewards, encouraging active community participation and positive waste management behaviour change. Their recycling programs provide sorting and collection services to their clients. Clients can then earn points that can be redeemed for prizes (products or services) based on the weight of their recycled waste. Sesa Recycling effectively reduces marine litter and promotes a circular economy by converting collected waste into new products.
- **Coliba:** Coliba is an African startup that helps prevent marine litter by leveraging technology-driven recycling solutions to collect, recover, and repurpose plastic waste before it reaches water bodies. Through digital platforms, efficient waste collection, and recycling services, it promotes sustainable waste management while creating new products from recycled materials. Additionally, Coliba conducts quality audits to measure environmental impact. Coliba also includes female waste pickers, encouraging community involvement in plastic pollution reduction. Coliba plays a key role in protecting marine ecosystems, reducing plastic waste leakage, and promoting the circular economy.

Fishing and Shipping Industry (both **Private and Public Sector Players)** includes shipping companies, port authorities, and logistics firms working to reduce marine litter through proper waste disposal policies in Ghana's ports and shipping lanes. The shipping industry, both public and private, plays a dual role in driving economic growth and contributing to marine pollution through vessel discharges, port waste, and packaging-related litter. Relevant players include the Ghana Ports and Harbours Authority (GPHA) and private shipping companies, freight forwarders, and logistics providers. They oversee implementing company-level plastic recovery systems onboard and in warehouses, training shipping crews and port workers on marine litter protocols, partnering with EPA/MEST on stakeholder engagement for circular economy adoption, and conducting voluntary sustainability audits aligned with LI 2504.

Plastic manufacturers and retailers contribute to the generation of marine litter and have an important role in the implementation of Extended Producer Responsibility (EPR).

- **Miniplast Ghana Limited** is a manufacturing company operating within Ghana's plastics and packaging sector, with core activities centered on the production of plastic products for industrial and consumer applications. The company contributes to the local manufacturing value chain by supplying materials used in packaging, construction, and related industries. In line with evolving regulatory and environmental requirements, Miniplast Ghana has increasingly engaged in initiatives aimed at improving resource efficiency, waste minimization, and recycling within its operations. These efforts are consistent with national policies on plastic waste management and circular economy principles and position the company as a relevant stakeholder in industry-led approaches to reducing plastic pollution and enhancing sustainable production practices in Ghana.

- **Qualiplast** is a key player in Ghana's industrial sector and has been producing high-quality plastic packaging and household products since 1973. From an environmental management standpoint, the company demonstrates a strong commitment to resource efficiency, achieving an internal recycling rate of approximately 98% for production waste, consistent with closed-loop circular economy principles. Beyond its manufacturing operations, Qualiplast collaborates with the Accra Metropolitan Assembly (AMA) to support improved waste management practices, including promoting source segregation through the provision of color-coded waste bins to schools and public institutions. The company also implements the ISO 14001:2015 Environmental Management System within its operations and supports the transition toward waste-to-resource approaches at the national level. Through its active involvement in the Association of Ghana Industries (AGI) and its focus on packaging innovation, Qualiplast contributes to private sector efforts aimed at reducing land-based plastic leakage, enhancing product durability, and strengthening waste collection and management systems.

Civil Society and NGOs

The Or Foundation focuses on textile waste management and organizes beach cleanups to tackle the problem of secondhand clothing waste polluting Ghana's coastline. Some noteworthy projects relevant to marine litter prevention embarked on by the foundation include, but are not limited to

- **Tide Turners Cleanup Team (2023–Present | Active):** In partnership with the waste management department of the Accra Metropolitan Assembly and community cleanup groups, the foundation removes and hauls away over 18 tons of textile and other plastic waste from Accra's beaches every week. The cleanup team, which is paid weekly, brings together more than 50 people in addition to activating local and international volunteers. (The Or Foundation, 2023)
- **Ecological Research and Remediation (2021–Present | Active):** Citizen scientists are organized weekly to perform beach monitoring reports, tracking textile tentacles across a seven-kilometer swath of Accra's beaches. Building on these findings, the Or Foundation conducts weekly water and air sampling analysis along with regular passive air pollution monitoring to track the flow of waste pollution across the coastal environment. Through their first-of-its-kind solar-powered research vessel, monitoring and mapping efforts will soon be expanded off the coastline and into the Gulf of Guinea. (The Or Foundation, 2021)
- **Stop Waste Colonialism (2021–Present | Active):** The Stop Waste Colonialism campaign has established a new precedent for Extended Producer Responsibility, one that does not simply offset the cost of waste management within a linear economy but rather that funds the transition to true circularity. Grounded in self-representation and extensive research, the Or Foundation advocates for textile-based Extended Producer Responsibility (EPR) programs across the world to be globally accountable. This campaign is centered around a policy paper with more than 10,000 endorsements. (The Or Foundation, 2022)


MILLICENT
RICE

Asaase Foundation: Asaase Foundation's goal is to create a platform that inspires and empowers women and beyond. This goal is achieved by providing seed funding, technical expertise, and business training to assist them in establishing and operating their own plastic waste reprocessing facilities as social enterprises. This initiative enables Ghanaian women entrepreneurs to actively capitalize on plastic waste management, turning waste into economic opportunities while reducing plastic pollution at its source. Equipping Ghanaian female entrepreneurs with the skills and resources to collect, recycle, and repurpose plastic waste helps to prevent waste from entering water bodies, which contributes to marine litter prevention, coastal ecosystem protection, and sustainable waste management, ultimately creating economic opportunities for local communities.

Plastic Punch: Established in 2018, Plastic Punch is a non-governmental organization dedicated to promoting the circular economy and environmental preservation, particularly marine conservation, to support sustainable development impacting future generations. The NGO's objective is to inspire behavioral change through community engagement, environmental education, citizen science, and awareness raising towards sustainable waste management practices.
Data collected from these clean-up activities contributes to a growing dataset that quantifies the severity and distribution of plastic and waste pollution. This data supports evidence-based decision-making by providing actionable insights for developing targeted marine waste management strategies and policy interventions. Below are some notable and impactful projects:

- **Notpla (2023 - Present | Active):** This project seeks to provide an eco-friendly and sustainable alternative to styrofoam plastics (takeaway plastic packaging) for food packaging in eateries and restaurants. NOTPLA (Not Plastic) entails the assessment of alternative packaging in place of plastic packaging to eliminate potential plastic waste in our environment. Two products piloted by Plastic Punch: food takeaway boxes coated with seaweed instead of plastics or chemicals to hold food, and Ooho water packaging made of seaweed (edible and compostable, biodegradable, and can be consumed or thrown away to degrade naturally after water/liquid has been used up) (Plastic Punch, 2024).
- **Water ATM Machine (2024 - Present | Active):** The water ATM is a sustainable solution for easy access to potable drinking water in communities. These machines will be placed in public spaces to reduce the use of single-use plastic sachets and bottles, causing harm to the environment. This pilot project is a collaboration between Plastic Punch, BCCC-Nigeria, and Ghana's Ministry of Environment, Science, and Technology (MEST) to reduce plastic waste from water sachets through the use of water vending machines in Ghana. This initiative falls under the BRS-Norad-1 project, funded by Norad and implemented by the BRS Secretariat, MEST, and BCCC-Nigeria. The project involves installing two water vending machines that dispense filtered water at a small fee, encouraging reuse and minimizing single-use plastics. It includes installation, training, maintenance, and operational support to ensure successful implementation and sustainability (Plastic Punch, 2024)

Centre for Coastal Management (University of Cape Coast): Conducts marine litter research and provides training programs on coastal sustainability. Practitioners who are dedicated to the policy and institutional aspects of human development and coastal environmental sustainability, such as national and local government officials, coastal resource managers, planners, engineers, and disaster management officials, are engaged at the regional and district levels. Below are some notable projects embarked on by the center, relevant to marine litter prevention:

- **Nippon Ocean Litter Foundation (2020-2021):** This project seeks to apply an interdisciplinary approach to address some critical research questions, integrating scientific models, sociological field research, and legal and policy analyses. Solutions and policies recommended by the Project will be underpinned by research conducted by a diverse network of experts, with appreciation for the socio-cultural contexts of communities and people who will be affected. (ACECoR, 2021)
- **Inter ACE Marine Litter Network (MALNET) Project (2021-2023):** The overall objective of this project is to establish and promote a network of research and development actors, to accelerate scientific research in marine litter and coastal degradation and strengthen the interlinkages and partnerships between ACE Impact Centres and collaborators across the West African Region as a whole. (ACECoR, 2021). The network aims to achieve the following:
  - Enhance the understanding of scientists, civil society, non-governmental, and governmental organizations on marine litter and coastal degradation across the West African Region
  - Enhance coherence and coordination of capacity building in marine litter and coastal degradation
  - Foster country-specific actions towards protecting and conserving coastal and marine environments.

Green Africa Youth Organisation (GAYO) Ghana: GAYO's mission is to provide solutions to environmental issues through youth empowerment, skills development, and public education. GAYO implements innovative waste reduction, recycling, education, and policy advocacy programs to protect water bodies and prevent marine litter. GAYO's work has spanned a variety of industries over the years with a focus on climate change, circular economy, and disaster risk reduction.

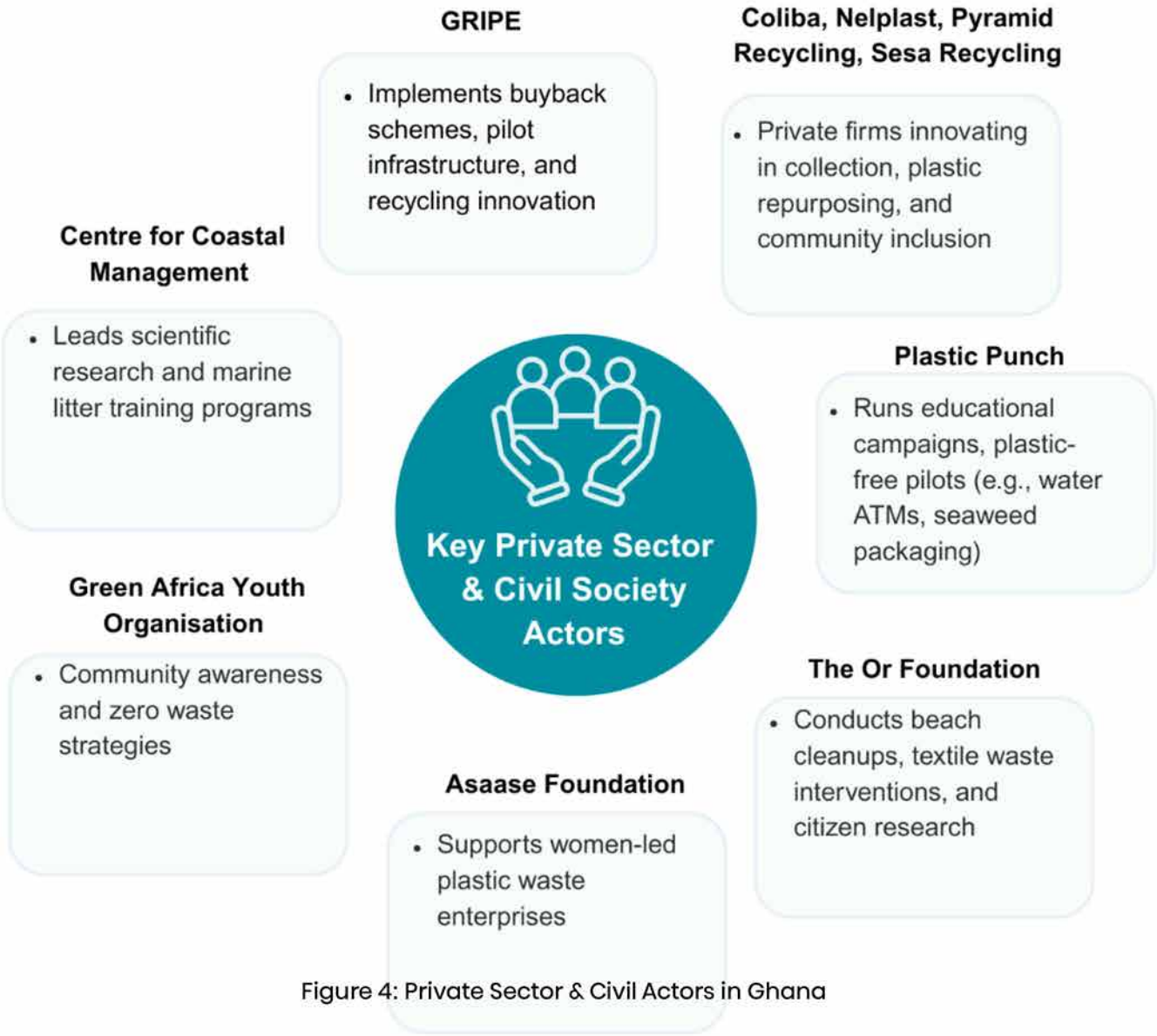

Figure 4: Private Sector & Civil Actors in Ghana

International Organizations and Development Partners

United Nations Development Programme (UNDP) provides funds and supports projects focused on reducing marine litter and strengthening waste management systems in Ghana.

United Nations Environment Programme (UNEP) provides technical support for marine litter reduction.

The United Nations Industrial Development Organization (UNIDO) supports countries, including Ghana, in reducing plastic leakage into the marine environment by strengthening waste management systems, promoting sustainable production processes, and enhancing recycling value chains. Through technical assistance, capacity building, and partnership development, UNIDO facilitates the adoption of cleaner production methods and supports policies aimed at minimizing plastic waste generation.

The International Union for Conservation of Nature (IUCN) serves as a vital scientific and technical bridge in Ghana, shifting the focus from reactive beach cleanups to a proactive "source-to-sea" conservation strategy. As a global membership union of governments and civil society, the IUCN leads the EPPIC initiative, which drives "upstream" solutions by funding circular economy innovations and product redesign through local SMEs. Their contribution is further defined by high-level technical assessments, such as Material Flow Analysis (MFA) to track plastic leakage through the industrial supply chain and biodiversity risk mapping that identifies high-impact zones like the Sakumo Lagoon and Densu Delta. By harmonizing Ghana's national policies with the Global Plastics Treaty, the IUCN ensures that the country's plastic mitigation efforts are not only scientifically rigorous but also integrated into a larger global framework for protecting marine ecosystems.

Abidjan Convention Secretariat facilitates regional cooperation on marine waste management.

Global Plastic Action Partnership (GPAP) collaborates with the Ghanaian government to implement sustainable plastic waste solutions.

Ocean Conservancy provides methodologies for marine litter data collection and supports cleanup initiatives.

World Bank (West African Coastal Areas Program) supports coastal management and blue economy initiatives to combat pollution and climate change impacts.

3.3. Initiatives

Ghana has launched several initiatives to combat marine litter, drawing in stakeholders from government, NGOs, and the private sector. Notable efforts include:

Ghana National Plastic Action Partnership (Ghana NPAP) was established in 2019 in collaboration with the GPAP. GPAP serves as a platform for multi-stakeholder cooperation, aiming to reduce plastic pollution through measurable actions and the transition to a circular economy. Working with MEST and other stakeholders, the Ghana NPAP in 2021/2022 developed a National Plastic Action Roadmap (Ghana NPAP, 2022) to guide the country's transition to a circular plastics economy. The roadmap sets out a comprehensive framework to de-risk the plastics sector, facilitates blended financing by global and local organizations to develop high-impact circular plastics value chains, and ultimately reduces midstream and downstream plastic pollution, including marine litter, in Ghana. The partnership has also promoted capacity building and public awareness campaigns, facilitated pilot projects in collection, recycling, and innovative waste management, and helped mobilize financing from grants, development partners, and the private sector. Additionally, Ghana NPAP has emphasized data-driven decision-making through waste audits and citizen science initiatives, providing critical information to monitor progress and guide targeted interventions along the plastic value chain.

Marine Litter Project Coordinated by the United Nations Development Programme (UNDP), this project focuses on improving waste management in Ghana's marine environments. By collaborating with local organizations like Smart Nature Freak Youth Volunteers and Plastic Punch, the initiative has collected extensive data on beach litter, identifying over 152 million plastic items along the country's beaches in 2020 alone. The generated data include quantitative and qualitative data on the composition, sources, and spatial distribution of litter along Ghana's coastline through a structured citizen science approach. Additionally, by engaging trained volunteers in standardized data collection protocols, the initiative has produced reliable evidence on the types and volumes of marine litter, thereby supporting informed decision-making, policy development, and targeted intervention planning.

Voluntary Pact to phase down single-use plastics (2024-Present | Active): Recognizing the increasing proliferation of single-use plastic bags in the environment and their negative impacts on human health, wildlife, the marine ecosystem, and the environment, a voluntary pact was co-designed by Plastic Punch, Melcom, Marina Supermarket, Max Mart, and All Needs Supermarket [cl9.1]with the support of GIZ Go Circular Economy, MEST, and EPA. This pact was implemented in April 2025 [cl10.1]with the main goal of reducing single-use plastics by 50% by 2030.

Signatories of this pact are committed to reducing their use through sustainable practices, innovative solutions, and consumer education. This pact signifies a shared commitment to the 50% reduction of single-use plastic bags in Ghana by 2030, contributing to environmental stewardship, promoting sustainable business practices, and supporting Ghana's national sustainability goals.

The voluntary pact aligns with the objectives of the Plastic Waste Management Policy, National Plastic Action Partnership Roadmap and other national regulations, as well as global frameworks such as the United Nations Sustainable Development Goals (SDGs). The pact calls for the collective and committed participation of its signatories in working towards the shared goal of mitigating the negative impact of single-use plastics. Through collective action, the signatories aim to foster a cleaner Ghana while supporting the country's transition to a more sustainable and circular economy.

As such, signatories to this pact agree to achieve a reduction of single-use plastic bags of 50% by 2030. (Plastic Punch, 2024)

The Multi-Stakeholder Waste Recovery Platform: The platform, which was initiated and facilitated by UNDP in 2018, represents an innovative approach to addressing the country's waste management challenges. The platform was created for connecting ideas, people and resources for waste recovery. Participants include government entities (MEST, local government authorities), private sector companies (Total, Voltic/Coca-Cola[cl11.1], etc.), research institutions (CSIR-IIR), environmental NGOs (A Rocha Ghana, Plastic Punch, Environment 360), innovative waste management businesses (Coliba, Nelplast, Alchemy Alternative Energy), and international partners (Netherlands Embassy, World Economic Forum's Global Plastic Action Partnership). Through its comprehensive approach combining stakeholder collaboration, digital solutions, innovation support, and advocacy, the platform has contributed to Ghana's National Plastic Management Policy development and implemented the 'Waste' Recovery Innovation Challenge that provided $310,000 in grants to ten innovative projects, demonstrating how coordinated multi-stakeholder engagement can transform waste from an environmental problem into an economic opportunity while addressing pressing social and environmental challenges.

Ghana Clean-up Project: As a result of growing population and insufficient waste management among many factors, plastic waste incessantly pollutes water bodies within the Accra Metropolis. The Ghana Clean-up Project, led by RiverRecycle Oy in collaboration with Beach Clean-up Ghana Ltd and Ambitious Africa, was initiated to combat plastic pollution in Accra's waterways, particularly the Kpeshi Lagoon. Using innovative land and water-based collection systems, the initiative recovers plastic waste for recycling into products like plastic boards, flakes, and pyrolysis oil, fostering a circular economy. The project has also empowered local communities by creating jobs, engaging informal waste pickers, and providing alternative waste management solutions. Reducing plastic leakage into the environment and enhancing recycling rates contribute to improved marine ecosystems and sustainable livelihoods in Ghana.

Citizen Science: The citizen science initiative in Ghana has successfully leveraged public participation to address marine plastic pollution and contribute to SDG indicator 14.1.1b on plastic debris density. Through collaboration by the Ghana Statistical Service, local volunteer groups, and local NGOs such as Plastic Punch and global organizations like UNEP, citizen science data was validated and integrated into the country's official statistics, making Ghana the first nation to report on this indicator using such data. This project not only informed policy decisions, such as Ghana's Integrated Coastal and Marine Policy, but also empowered communities through capacity building and awareness campaigns. It serves as a replicable model for other countries and SDG indicators, showcasing the potential of citizen science in bridging data gaps and driving sustainable development.

Figure 5: A sample of ongoing initiatives to combat marine pollution

Natural Packaging Pilot Project (Basel Convention, 2023): Launched in Accra, this pilot project aims to introduce sustainable alternatives to single-use plastic packaging through natural, biodegradable solutions. The initiative, launched on the University of Ghana campus, features seaweed-based takeaway boxes and edible water sachets called "Ooho". These innovations are designed to reduce plastic waste by offering eco-friendly, compostable packaging options. The project is part of a broader effort funded by the Norwegian Agency for Development Cooperation (NORAD) and implemented by MEST, alongside the Basel, Rotterdam, and Stockholm (BRS) Conventions Secretariat. It highlights the importance of preventing waste generation through the use of plastic alternatives as a sustainable solution to Ghana's plastic waste challenges. protection.

Marine Litter Training Programme (ACECoR, 2024), hosted by the Centre for Coastal Management at the University of Cape Coast, is the first of its kind in West Africa. Supported by the Ocean Country Partnership Programme (OCPP) under the UK's Blue Planet Fund, this initiative addresses marine pollution through capacity building and innovative solutions. The programme aims to deliver technical assistance across three main themes: marine pollution, biodiversity loss, and sustainable seafood. The programme includes three hybrid, modular courses: Marine Litter Assessment and Monitoring, Socio-economic and Behavioral Research in the Context of Marine Litter, and Marine Litter Management - Policy and Interventions. It combines self-paced e-learning with a two-week in-person session in Cape Coast, Ghana, focusing on practical and theoretical approaches to tackle marine litter challenges effectively.

International Coastal Cleanup (ICC), initiated by Ocean Conservancy, has been active in Ghana through partnerships with local organisations like the Smart Nature Freak Youth Volunteers Foundation of Accra. This global movement engages volunteers in removing trash from waterways and beaches while collecting critical data to combat marine pollution. In Ghana, the ICC contributes to raising awareness about plastic pollution and fostering community participation in sustainable coastal management.

Coastal Sanitation and Waste Collection Programs, led by MMDAs & MLGRD. These local government programs focus on beach cleanups and improved waste disposal infrastructure. They involve initiatives like community-based waste management, construction of waste transfer stations, and reintroduction of National Sanitation Day, as outlined in the Greater Accra Resilience and Development (GARID) Project

The Netcycle Africa project, a flagship collaboration between Chaint Afrique Academy and the Accra Metropolitan Assembly (AMA), addresses the critical issue of Abandoned, Lost, and otherwise Discarded Fishing Gear (ALDFG), commonly known as ghost gear, within Ghana's coastal ecosystems. By establishing structured buy-back schemes at major landing sites, the project incentivizes artisanal fishing communities to divert damaged nylon nets from the ocean, effectively preventing marine entanglement and microplastic degradation at the source. This initiative transitions marine litter into a high-value industrial feedstock through partnerships with global recyclers like Aquafil, transforming recovered nets into circular materials such as ECONYL® yarn. Beyond its environmental impact, having already recovered over 100 metric tonnes of nylon, Netcycle Africa provides a scalable model for socio-economic resilience, offering alternative income streams for coastal families while aligning local waste management with international SDG 14 targets.

Port and Shipping Waste Management Strategies (GPHA, 2022), led by Ghana Ports and Harbours Authority, aims to encourage responsible waste disposal in Ghana's major ports, including Tema and Takoradi.

Zero Waste Strategy (By GAYO): is a strategic initiative aimed at transforming urban waste management systems through the adoption of circular economy principles. The project reimagines urban systems by promoting community-driven approaches that reduce pollution, minimize resource extraction, protect public health, and advance sustainable models rooted in reuse, repair, recycling, and shared responsibility. The project is being implemented in partnership with six (6) municipalities, including the La Dade-Kotopon Municipal Assembly and the Accra Metropolitan Assembly (AMA).

Key interventions from the project include the establishment of Material Recovery Facilities (MRFs), promotion of waste segregation at source, and implementation of organic waste management solutions such as composting. The project also supports upcycling initiatives and green enterprises, creating jobs while reducing waste streams. Through policy engagement and stakeholder collaboration, GAYO works with local authorities and communities to strengthen waste governance and drive behavioral change.

Plastic Recovery & Circular Economy Pilots (MEST, 2019): The Plastic Recovery & Circular Economy Pilots represent a strategic partnership between UNDP, MEST, and EPA to address Ghana's plastic waste challenges through integrated waste management solutions. These initiatives implement four key interventions: community-based waste segregation at the source to improve recyclable recovery rates; digital waste tracking systems that monitor collection efficiency and material flows; Zero Waste Hubs serving as community collection points and education centers; and youth-led awareness campaigns that promote sustainable consumption practices.

Ghana Clean-up Project

- 2025 cleanup initiative led by RiverRecycle Oy with local NGOs, focusing on removing plastic from rivers.

Infrastructure, Port & Cleanup Operations - Initiatives

Port and Shipping Waste Management (GPHA)

- Ghana Ports & Harbours Authority implemented waste reception facilities at Tema and Takoradi ports.

Figure 6: Cleanup Initiatives on Marine Litter and Plastic Waste in Ghana

Community Mapping for Marine Litter (UNDP, 2020): This initiative, led by Ghana's EPA with support from the UNDP, represents an innovative approach to addressing coastal plastic pollution through local engagement and participatory methods. This program involves coastal communities in identifying plastic pollution hotspots. It facilitates participatory data collection that not only informs targeted cleanup efforts but also raises awareness about the sources and impacts of marine pollution. Complementing these mapping efforts are public education and stakeholder engagement activities, characterized by active collaboration between the EPA, non-governmental organizations, youth groups, and traditional authorities to implement behavioral change campaigns focused on proper waste disposal and coastal protection.

Figure 7: Multi-Stakeholder & International Initiatives on Marine Litter and Plastic Waste in Ghana

Ghana National Plastic Action Partnership (NPAP)

- Multi-stakeholder platform (with MESTI and GPAP) that created a roadmap to reduce plastic leakage by 84% by 2040.

National Plastics Management Policy (NPMP)

- 2020 policy aiming for plastic minimization through biodegradable alternatives, segregation, and recycling.

Zero Waste Strategy

- Developed by GAYO with EPA and MEST, promoting infrastructure for waste segregation and community incentives.

Government and Policy Frameworks - Initiatives

Integrated Coastal and Marine Management Plan

- Launched in 2021 by EPA to improve monitoring, sustainable development, and coordinated marine actions.

Auditor-General Monitoring Report on Plastic Waste

Assessed plastic waste measures between 2019–2023 and recommended improved awareness, enforcement, and collaboration.

3.3. Financing Mechanisms and Financial Implications

3.3.1. Finance Mechanisms

Ghana relies on government funding, international donor support, and private sector investments for waste and marine litter management. Below are some financing mechanisms implemented by the Ghana government to help with marine litter management.

The Environmental Excise Tax (EET) of 20% was imposed on imported plastics and related items in 2011 under Act 512, as a 'polluter-pays principle' initiative. This was amended under the Excise Duty Act, 2014 (Act 878), reducing the tax from 20% to 10%. This tariff schedule was reduced further from 10% to 5% under the Excise Duty Amendment (No. 2), 2023 (Act 1108). This act revises the first schedule of the Excise Duty Act, 2014 (Act 878). (SCG, 2023).

However, plastic levies and environmental taxes like the plastic waste management levy require stronger implementation frameworks. The funds have accrued but the absence of regulations for the utilization of the fund has hindered its disbursement. The absence of provision for the utilization of the fund while awaiting the regulations has contributed to the absence of targeted funding for management of plastic waste.

Ghana relies on international organizations and institutions, such as the World Bank, for funding to combat marine litter. According to the Ghanaian Times, the World Bank awarded a $1.5 million grant for Ghana to implement "Improving Framework Conditions for Reducing Marine Litter and Pollution in the Greater Accra Region." The grant, funded under the bank's PROBLUE initiative, a multi-donor trust fund partnership, aimed to support integrated and sustainable economic development in a healthy ocean (Ghanaian Times, 2022). Auditor General's Reports: The Ghana Audit Service (GAS) has strategically expanded its statutory mandate under Article 187 of the 1992 Constitution and the Audit Service Act, 2000 (Act 584) to prioritize performance auditing.

The institution serves as the ultimate watchdog for environmental fiscal responsibility by utilizing performance auditing to ensure that public funds, such as the Sanitation and Pollution Levy and the Plastic Waste Recycling Fund, are utilized with maximum efficiency. Unlike traditional financial audits that merely verify receipts, these performance evaluations investigate the value-for-money of government expenditures on waste infrastructure and coastal sanitation contracts. By auditing the MEST, Metropolitan, Municipal, and District Assemblies (MMDAs), the Auditor-General identifies any financial losses and logistical failures that lead to the accumulation of land-based litter. This rigorous oversight ensures that capital is not just spent but is effectively deployed to intercept pollutants before they enter the hydrological cycle and reach the Gulf of Guinea.

Extended Producer Responsibility (EPR): The implementation of EPR in Ghana is guided by the Environmental Protection Act 2025 (Act 1124) and associated regulations, such as LI 2250. EPR shifts the financial and operational responsibility for waste management to producers, encouraging sustainable product design and resource efficiency. The EPR regulations for the plastics sector are supported by the World Bank and are currently in the draft phase. Current provisions include mandatory registration of manufacturers/importers, take-back obligations for certain products, and financial contributions for waste collection, recycling, and disposal. Plans include establishing an e-registry and transitioning from voluntary to mandatory compliance to Producer Responsibility Organizations (PROs) obligations by 2026, focusing on products like packaging, electronics, tyres, and textiles (Landbell Group, 2025).2.3.2.

3.3.2 Financial Implications

Despite these efforts, challenges persist due to limited financial resources and infrastructure. In 2016, the Accra Metropolitan Assembly reported that only 40% of residents paid for waste management services, placing a strain on both the private and public sectors responsible for waste collection and disposal. Analysis of the 2024 and 2025 composite budgets of the Accra Metropolitan Assembly (AMA), as approved by the Ministry of Finance, shows persistent constraints in revenue mobilization for waste management services. Waste collection and transportation continue to account for approximately 50–82% of the Assembly's recurrent expenditure, largely driven by inadequate cost recovery from households through direct user charges.

To address these financial constraints, Ghana has explored cost-effective strategies, including the use of citizen science for data collection on marine litter. This approach is designed to produce more accurate and timely data, informing policy decisions without incurring substantial costs.

Inadequate marine litter management has a financial impact on tourism, fishing, and public health. This is because polluted beaches deter tourists, leading to revenue losses in the hospitality industry, while contaminated waters impact fish stocks, threatening not just the livelihoods of fishing communities. Furthermore, the cost of cleaning up polluted areas and dealing with pollution-related health issues increases the economic burden.

In summary, effective marine litter management in Ghana requires sustainable financing mechanisms, improved waste management infrastructure, and community engagement to mitigate the financial, environmental, and human impacts of plastic pollution.

4. Gap Analysis

4.1. Gaps in Current Policies, Institutional Set-ups, and Financing Mechanisms

One of the most significant gaps in Ghana's waste management framework is the absence of a dedicated policy specifically addressing marine plastic litter. Existing policies focus on broader environmental sanitation and waste management, but do not sufficiently target marine environments. The National Plastics Management Policy (NPMP) aims to tackle plastic pollution, yet it lacks detailed provisions specifically tailored for marine litter prevention.

Additionally, while Ghana is a signatory to several international agreements, including the Basel Convention and MARPOL Annex V, domestic implementation and enforcement of these agreements remain weak. This lack of a specific marine litter policy results in uncoordinated and fragmented efforts among agencies and stakeholders.

Despite having multiple environmental policies, enforcement remains a major hurdle. Some key weaknesses in the legal framework include:

- **Overlapping Institutional Mandates:** The responsibilities for marine litter management are spread across various institutions, including the GMA, MEST, and MLGRD. These overlaps lead to inefficiencies, with no single agency fully accountable for enforcement.
- **Inadequate Monitoring and Compliance Mechanisms:** Ghana's ports lack adequate facilities to monitor and prevent illegal dumping of waste into the ocean. Additionally, MARPOL Annex V regulations on waste disposal from ships are not fully enforced due to weak surveillance capacity. According to stakeholders such as Dr. Daniel Ofori (UCC) and Mr. Ebenezer Appah Sampong (former Deputy CEO of Technical Services, EPA), the current system is insufficient because Ghana does not possess its own dedicated monitoring and compliance mechanism. [cl14.1]Instead, marine litter data used for national statistics is collected through external support, such as donor-funded coastal projects, citizen science initiatives, and periodic beach surveys. Marine litter management involves multiple stakeholders, including governmental institutions, non-governmental organizations (NGOs), private companies, and international partners. However, Ghana lacks a well-defined coordinating body to oversee marine plastic waste management.
- **Fragmented Responsibilities:** Local government bodies, such as the MMDAs, are responsible for waste collection but lack the necessary capacity and resources to manage marine litter effectively.
- **Limited collaboration between agencies:** Poor coordination between the EPA, GMA, Ministry of Fisheries and Aquaculture, and Ghana Ports and Harbours Authority (GPHA) reduces the effectiveness of marine plastic waste management strategies.

Financial constraints significantly hinder Ghana's ability to implement effective marine litter prevention programs.

- **Non-Operationalization of Earmarked Funds:** Established in 2011, the environmental excise tax (EET) fund was intended to support waste management initiatives. However, there is no clear framework for disbursement, leading to ineffective utilization of funds. According to the Ghana Plastic Manufacturers Association (GPMA), the Environmental Excise Tax (EET) fund had accumulated GH¢911.6 million as of April 2019, yet it has remained unused for its intended purpose since its introduction. (Ghana Plastic Manufacturers Association, 2019).
- **Low Revenue Collection from Waste Management Services:** Only about 40% of Ghanaian households pay for waste collection services, placing a financial burden on both public and private waste management entities. This makes it difficult to sustain long-term waste management initiatives.
- **Dependence on International Donor Support:** Many marine litter prevention projects in Ghana rely on foreign grants and donor funding, such as the $1.5 million PROBLUE grant from the World Bank. However, donor-dependent initiatives often lack sustainability when external funding is discontinued.

Inadequate Public Awareness and Participation

Public participation plays a crucial role in waste management, yet Ghana faces challenges in fostering public awareness and participation. Notably, there are:

- **Low Awareness on Marine Litter Issues:** Many coastal communities lack awareness of the environmental and economic impacts of marine plastic pollution.
- **Limited Incentives for Recycling and Waste Segregation:** Ghana lacks an efficient waste segregation and recycling system at the household level. In contrast to other nations that provide financial incentives for recycling, Ghana's policies do not encourage widespread participation.

4.2. Implementation Challenges

Despite Ghana's established waste management policies, effective implementation remains problematic. The 2015 ban on plastics below 20 microns was ultimately reversed due to industrial and economic pressure, demonstrating the gap between policy development and enforcement. This case illustrates how economic considerations often override environmental protection goals, highlighting the need for stronger enforcement mechanisms and broader stakeholder consensus to achieve sustainable waste management outcomes.

Financial constraints significantly hinder Ghana's marine litter prevention efforts. Local authorities struggle to fund basic waste collection services, while the high costs of establishing and maintaining waste treatment facilities impede effective waste management implementation. Ghana's recycling infrastructure remains underdeveloped, with insufficient processing capacity to handle the country's plastic waste volume efficiently. Although private companies like City Waste Recycling have launched promising initiatives, their impact remains limited without substantial government support and investment. These financial barriers highlight the need for innovative funding mechanisms, public-private partnerships, and strategic investments to build sustainable waste management systems that can effectively address marine pollution challenges

According to consulted stakeholders, the difficulty in implementing the 2020 National Plastic Management Policy stems from its lack of a dedicated budget and an accompanying action plan. He contrasted this with the successful implementation of policies such as the Environmental Sanitation Policy, which included both an action plan and allocated funding.

Ghana faces significant institutional barriers to effective marine litter management. Key regulatory bodies, including GMA and EPA, lack sufficient technical expertise and financial resources to implement comprehensive monitoring programs for marine pollution. At the same time, although the Local Government Act (2016) assigns waste management responsibilities to the Metropolitan and Municipal District Assemblies (MMDAs), these local authorities typically lack sufficient funding and waste disposal infrastructure to effectively carry out their mandates. All interviewed stakeholders agreed that overlapping mandates among government agencies and institutions lead to unclear enforcement responsibilities, making accountability difficult. These institutional limitations create a significant gap between policy objectives and implementation capacity.

Public engagement efforts in Ghana face substantial sustainability challenges. Organizations like Plastic Punch and the Ghana Clean-up Project conduct valuable beach cleanup initiatives, but their impact remains geographically limited due to insufficient resources for broader implementation. Simultaneously, while Ghana has explored biodegradable alternatives to plastics, including innovative seaweed-based packaging, these solutions remain at a pilot scale with minimal market penetration. The limited availability and adoption of sustainable alternatives further complicates efforts to reduce plastic consumption and waste generation, highlighting the need for both expanded public education and greater investment in developing commercially viable, eco-friendly alternatives.

4.3. International and Regional Cooperation Gaps

Ghana faces difficulties in implementing its international environmental commitments. Despite being a signatory to key treaties, including MARPOL Annex V and the Abidjan Convention, the country struggles with compliance due to insufficient institutional capacity for monitoring and enforcement. Similarly, while Ghana participates in the West Africa Coastal Area (WACA) Management Program, effective regional strategies for addressing marine litter remain underdeveloped, limiting the impact of transboundary pollution control efforts. These gaps in international compliance and regional coordination undermine Ghana's ability to address marine pollution comprehensively, as coastal waste management requires collaborative approaches that extend beyond national boundaries.

5. RECOMMENDATION

5.1. Policy Enhancements

Ghana has established policies and regulations, such as the National Plastics Management Policy (NPMP) and the Environmental Protection Authority Act (2025), to address plastic waste and marine litter. However, enforcement remains a significant challenge due to weak regulatory oversight, inadequate institutional coordination, and limited financial resources. Strengthening policy implementation requires:

- **Implementation of the NPMP through Legislation:** While the NPMP establishes a robust conceptual foundation for resource recovery and circularity, its operational efficacy is currently constrained by an implementation gap. To bridge this, it is critical for the State to enact enabling regulations and legislation to facilitate compliance, reporting obligations, and accountability measures. These will enhance the effectiveness of the NPMP and ensure the policy's goals are translated into measurable environmental outcomes.
- **Integrating informal waste collectors into formal recycling schemes:** Informal waste pickers play a crucial role in Ghana's waste management sector but lack recognition and support. Establishing cooperatives, providing incentives, and integrating them into formalized systems can improve plastic waste recovery and recycling rates.
- **Alignment of national marine litter policies with local implementation frameworks:** National policies often lack clear guidelines for local government implementation. For instance, the Local Government Act (2016) assigns waste management responsibilities to MMDAs, but these entities face financial and technical capacity challenges. Aligning national policies with localized frameworks will ensure better coordination and implementation at the grassroots level.
- **Enhancing institutional coordination:** Coordination among state agencies and institutions can be enhanced by establishing a formal inter-agency task force with clear Terms of Reference and a supporting secretariat. The task force will align mandates, improve information flow, and implementation structure. Capacity building through joint training, simulation exercises, and harmonized reporting would enable all institutions operate from the same information base and pursue aligned outcomes.
- **Stimulate the development of end-use markets for circular products** through enabling regulations such as mandatory recycled content for single-use plastic and other packaging materials, as well as green procurement, demonstrating commitment by leading with effective enforcement in government institutions.

5.2. Financial Strategies

Ghana's marine litter management efforts are hindered by insufficient funding, over-reliance on donor support, and weak financial frameworks for sustainable waste management. Addressing these gaps requires:

- **Reforming Financing Mechanisms for Marine Litter Management:** The Plastic Waste Recycling Fund, established under the EET amendment in 2013 to receive and manage 50% of Environmental Excise Tax (EET) proceeds, should be urgently and effectively implemented. This fund is specifically intended to support improvements in at-source collection and recycling key strategies to significantly reduce plastic leakage into the marine environment. In addition, dedicated contributions from plastic levies, extended producer responsibility (EPR) schemes, and corporate sustainability initiatives should be mobilized to provide stable and transparent financial support for marine litter management programs. The current lack of clarity and reinvestment strategies in plastic waste levy management indicates that there needs to be comprehensive reform in how such funds are allocated and utilized.
- **Promotion of public-private partnerships (PPPs) for waste management infrastructure:** The government alone cannot sustainably shoulder the financial burden of marine litter management. Instead, its role should focus on creating an enabling policy, regulatory, and investment environment that attracts private sector participation in waste management infrastructure. Under such conditions, early-stage enterprises can leverage grants, incubators, and angel investment to pilot and scale innovative solutions, while more mature companies can access larger pools of capital, such as venture capital, private equity, and development finance institutions (DFIs), to support expansion and long-term impact.
- **Provision of financial incentives for businesses adopting circular economy models:** Businesses engaged in sustainable packaging, biodegradable alternatives, and plastic recycling need incentives such as tax breaks, grants, and concessional financing to scale their impact. The Ghana National Plastic Action Partnership, in collaboration with global partners, can serve as a platform for directing financial resources to high-impact initiatives.

5.3. Institutional Strengthening

Ghana's current institutional framework for marine litter management suffers from fragmented mandates and weak inter-agency collaboration. The EPA, GMA, MLGRD, and MEST all play roles in marine pollution control but lack cohesive coordination. Strengthening institutional frameworks requires:

- **Improved interagency coordination through a centralized task force:** Establishing a national Marine Litter Task Force will ensure a coordinated approach among government agencies, local authorities, and private sector actors, reducing bureaucratic inefficiencies.
- **Building technical capacity within municipal authorities:** Many MMDAs lack trained personnel and infrastructure to enforce waste management regulations. Investing in technical training, digital waste tracking systems, and logistical support will enhance their ability to execute national policies at the local level.
- **Encouraging stakeholder engagement,** including NGOs and local communities: Organizations such as Plastic Punch, The Or Foundation, and Sustainable Ocean Alliance Ghana are actively engaged in marine litter reduction but need greater government collaboration. Formalizing partnerships between civil society and government agencies will ensure that community-driven solutions are incorporated into policy frameworks.

Generally, a comprehensive, context-appropriate approach aligned with Ghana's socio-economic and institutional realities is required to strengthen the resilience and sustainability of the national waste management and marine protection system. This should include enforcing producer accountability through instruments such as Extended Producer Responsibility (EPR), alongside mechanisms that promote sustained public participation and effective enforcement of environmental regulations

In parallel, targeted investment in modern waste management infrastructure, support for research and development of environmentally sustainable alternatives, and structured public awareness and behavior-change programmes are essential to improving compliance and reducing marine pollution.

5.4. Capacity Building and Public Awareness

Area	Objective	Target Groups	Training Topics
Policy Development and Legal Frameworks	Strengthen institutional understanding of legal instruments and support the development of a dedicated marine plastic litter policy.	Ministry of Environment, Science and Technology (MEST), EPA, Legal Department, Ghana Maritime Authority, Local Government Service	• International legal frameworks (e.g., MARPOL Annex V, Basel Convention) • Best practices in marine litter legislation • Drafting and implementing targeted marine litter policies • Policy harmonization and institutional roles clarification
Enforcement and Surveillance	Build capacity to enforce existing laws and monitor compliance at ports and coastal areas.	Ghana Ports and Harbours Authority (GPHA), EPA , GMA inspectors, Navy and Marine Police units	• Surveillance technologies for marine litter • Port waste reception and monitoring systems • Enforcement protocols for illegal dumping • Evidence gathering and reporting for prosecutions
Institutional Coordination and Multi-Stakeholder Collaboration	Foster effective collaboration across governmental, NGO, and private sector actors.	Coordinating committee members, MMDAs, NGOs (Plastic Punch, GAYO, The Or Foundation)	• Inter-agency coordination tools and models (e.g., One Health approach) • Stakeholder engagement methodologies • Multi-level governance for coastal management
Financial Management and Resource Mobilization	Equip local authorities and national agencies with tools to manage funds and attract investment.	MMDAs finance departments, EPA, GPMA, and GRA (Ghana Revenue Authority)	• Accessing green funds and climate financing • Accountability and transparency in fund management • PPPs and CSR for marine plastic solutions

Public Engagement and Behavior Change	Enhance capacity to run effective education, awareness, and incentive-based programs.	Community-based organizations (CBOs), Environmental NGOs, Teachers and youth leaders, Media professionals	• Designing environmental awareness campaigns • Behavioral science for environmental action • Reward systems for waste segregation and recycling • Community organizing for coastal protection
Environmental Education	Introduce environmental education into the national curriculum to instill sustainable habits and teach environmental policies to children.	Centre for Coastal Management (University of Cape Coast), National Commission for Civic Education (NCCE), Ghana Education Service (GES), Basic and secondary schools	• Curriculum development on environmental and marine issues. • Best practices in environmental education • Integrating civic education with sustainability topics • Monitoring educational impact on youth behavior
Monitoring, Evaluation, and Research	Establish systems for continuous learning and accountability.	Universities and research institutions, Policy analysts, and government planners	• Designing M&E frameworks for marine litter programs • Participatory research methods and citizen science • Indicator development and SDG 14.1 tracking

Ghana has taken significant steps toward tackling marine litter through policies, financing mechanisms, institutional collaborations, and awareness initiatives. However, policy gaps in enforcement, funding, institutional coordination, and public engagement persist. Strengthening these areas through targeted interventions will accelerate Ghana's transition toward a sustainable marine environment and a circular economy.

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