



GPHA PROJECT SEA-LIFE LINE

MOBILE FIRST AID FOR GHANA'S ARTISANAL FISHERS

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CONCEPT PAPER:
"GPHA PROJECT SEA-LIFE LINE" – MOBILE FIRST AID FOR GHANA'S
ARTISANAL FISHERS

1. Introduction & Problem Statement

Ghana's artisanal and inshore fishing sectors are the backbone of coastal livelihood, yet fishers operate in one of the world's most hazardous environments with limited immediate medical access. When accidents or illnesses occur at sea, the "travel time to shore" often dictates the difference between recovery and permanent disability or death. Today, Ghana's fishers are being lost not to the sea, but to the silence between the waves and the shore.

GPHA Project Sea-Life Line is not a niche intervention; it is a direct accelerator for five core SDGs:

- **SDG 3 (Good Health & Well-being):** Directly targets the “3.8” universal health coverage gap for maritime workers especially fisherfolk. Reduces preventable deaths and disabilities through timely care, tele-diagnosis, and rapid evacuation.
- **SDG 8 (Decent Work & Economic Growth):** Transforms artisanal fishing from a high-risk occupation into dignified, safe, decent work. Protects the productivity of millions of Ghanaians who depend on fishing value chains.
- **SDG 9 (Industry, Innovation & Infrastructure):** Demonstrates low-carbon, high-impact innovation, using drones and speedboats integrated with traditional landing sites to build resilient maritime infrastructure where none existed before.
- **SDG 14 (Life Below Water):** Increasing sensitization to improve best fishing practices by reducing reckless fishing and the desperate urgency from incidents that leads to unsafe conditions (e.g., storms or overloaded boats), Sea-Life Line promotes safer, more sustainable practices aligned with responsible fisheries management.
- **SDG 17 (Partnerships with Maritime Sectors):** Sea-Life Line is not a standalone health project, but a **collaborative maritime safety platform** that connects multiple ocean industries.

GPHA Project Sea-Life Line proposes a decentralized medical response network using fishing harbours and landing site helpdesks, tele-medicine for first aid, evacuation of victims, the use of speed boats and drone delivery to bridge the gap between the deep sea and the shore.

Figure 1 Focus SDG's



2. The Strategy: How It Works

This initiative will leverage a "Hub-and-Spoke" model centered at major fishing harbours and minor Fish landing sites (e.g., Tema, Jamestown, Elmina, Sekondi, Dixcove and others) with integration into the various port health infrastructure with appropriate referrals to the next level of health care delivery, including the secondary and tertiary health institutions.

2.1. Structure

- **Shore-Based Helpdesks:** Staffed by trained Emergency Medical Technicians (EMTs), nurses and dedicated community members (Fisher-Medics) equipped with mobile phones, digitized dashboards to communicate between health services and the fisherfolk.
- **Canoe Fishing Group First Responders:** training of selected capable representatives from the respective fishing groups on first aid, emergency communication and response at sea.
- **Community Sensitization & Advocacy:** Health education and promotion among the Fisherfolks to equip them with the necessary information on how to take care of themselves and practice safe and sustainable fishing.
- **Tele-Medical Triage:** Using USSD/SMS or low-bandwidth VoIP, fishers can report injuries. Medics provide real-time guidance via phone.
- **Drone Delivery (The "Flying First-Aid Kit"):** For critical needs (anti-venom, tourniquets, epi-pens, or AEDs), GPS-enabled drones are deployed from the harbour to the vessel's coordinates.

- **Digital Health Passports:** A simple mobile database built on patronage to track fishers' pre-existing conditions (e.g., hypertension, allergies) to ensure safe emergency care.

3. The Vital Role of Ghana's Ports

Over the years, the Ghana Ports and Harbours Authority (GPHA) has remained committed to promoting sustainable coastal community development through strategic infrastructure and social intervention initiatives, aimed at improving the livelihoods of fishing communities along the country's coastline. As part of this commitment, the Authority has supported the Government's initiative to provide the respective coastal areas with structured fishing harbours or landing sites. Consequently, GPHA has contributed significantly to the establishment and improvement of fishing harbours and landing sites in several coastal communities to enhance fishing activities, facilitate safe landing and handling of fish and support local economic growth. These interventions have not only strengthened the fisheries value chain and created employment opportunities but have also contributed to the overall socio-economic development of coastal populations that depend heavily on fishing as a primary source of livelihood.

Specifically, GPHA has consistently developed fish handling and landing facilities in Ghana's seaports of Tema and Takoradi and along the coast, comprising Elmina and James town fishing harbours. The focus of the infrastructure development has transcended commercial facilities to the provision of infrastructural facilities for the artisanal segments. From canoe basins, net mending wharfs, market stalls, cold storage facilities and sanitation facilities among others. This has extended to the provision of mini community fish landing sites along Axim, Dixcove, Elmina, Moree, Otuam, Abandze, Mumford, Winneba, Senya Bereku, Fetteh, Jamestown and Teshie. The objectives of all the fish capacity development projects were to:

- Provide safety for the fishermen, canoes and goods.
- Provide food security and reduction of post-harvest losses.
- Provide sanitation facilities for the fisherfolk.
- Provide for more jobs and opportunities in the sector.

Even though all the above have been done, there are still gaps for improvement especially regarding seaward first aid and medi-care.

Figure 2 Axim Fish Landing Site



Figure 3 Dixcove Fish Landing Site



Figure 4 Elmina Fishing Harbour

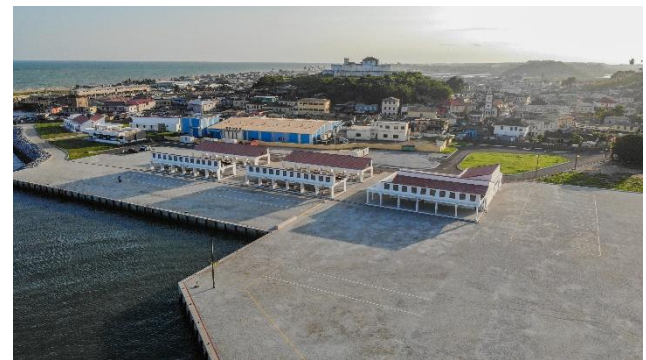
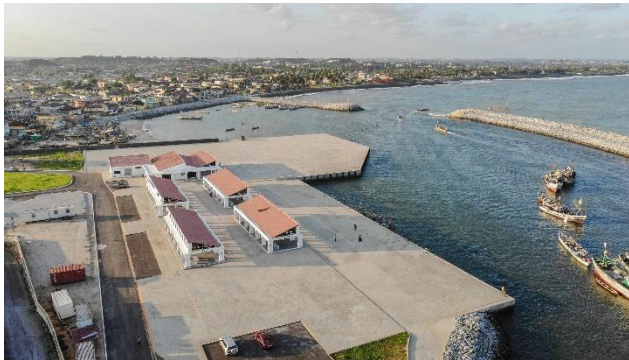


Figure 5 Moree Fish Landing Site



Figure 6 Gomoa Fetteh Fish Landing Site



Figure 7 Mumford Fish Landing Site

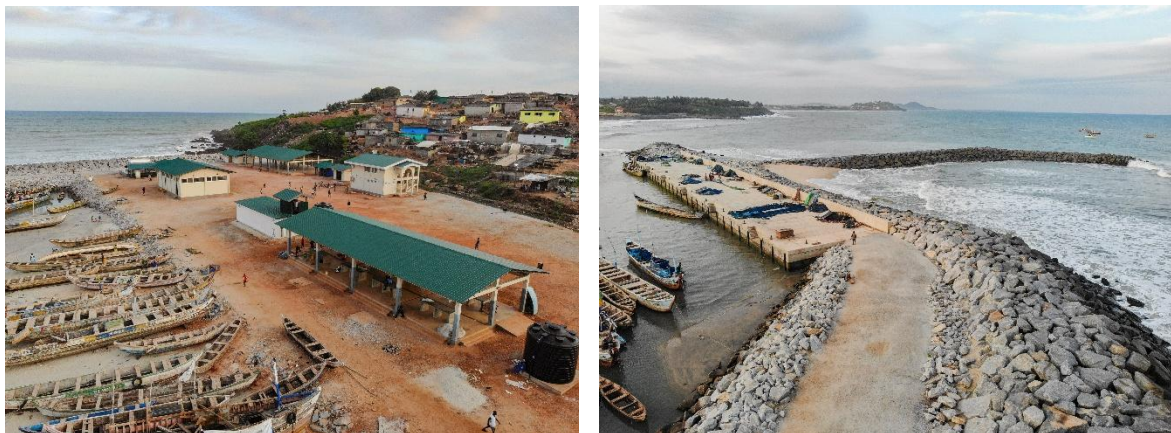


Figure 8 Winneba Fish Landing Site



Figure 9 Senya Bereku Fish Landing Site



Figure 10 Jamestown Fishing Harbour



Figure 11 Teshie Fish Landing Site



Figure 12 Abandze Fish Landing Site



Figure 13 Otum Fish Landing Site



4. The Artisanal Fishing Sector

According to recent data from the Ministry of Fisheries and Aquaculture Development (MoFAD) and reports from the Environmental Justice Foundation (EJF), as of 2024–2026, Ghana's fishing industry remains a cornerstone of its coastal economy, supporting millions of livelihoods. The following breakdown details the estimated number of operators in the artisanal and inshore sectors.

4.1. Artisanal (Small-Scale) Sector

The artisanal sector is the largest component of Ghana's marine fisheries, utilizing traditional wooden canoes.

- **Number of Fishers:** Approximately 100,000 to 110,000 active fishers.
- **Number of Canoes:** Roughly 12,000 canoes (of which about 8,000 are motorized).
- **Landing Sites:** They operate across more than 250 landing beaches along the 550km coastline.
- **Total Livelihood Impact:** Including over 90% women processors, transporters, and traders, this sector supports over 2.7 million people (nearly 10% of Ghana's population).

4.2. Inshore (Semi-Industrial) Sector

The inshore sector consists of locally built wooden vessels (typically 9 to 35 meters in length) equipped with inboard engines.

- **Number of Vessels:** Approximately 250 to 300 active inshore vessels.
- **Number of Operators:** Estimated at 5,000 to 7,500 fishers.
- **Operations:** These vessels are dual-purpose, using purse seines for small pelagics during the sardinella season and trawls for demersal species during the off-season.

4.3. Ghanaian Coastal Fishing: Facts & Figures (2025-2026)

- **Sector Importance:** The artisanal sector accounts for approximately 70% to 80% of Ghana's total domestic fish production.
- **Fleet Size:** Over 12,000 artisanal canoes and 400 inshore vessels operate along the 550km coastline.
- **Protein Security:** Fisheries provide nearly 60% of the country's animal protein intake.

- **Export Contribution:** Ghana exported approximately \$145M in processed fish in 2024, primarily to the United Kingdom (\$55M), France (\$33.7M), and Italy (\$20.7M).
- **Economic Impact:** The fishing industry supports the livelihoods of over 2.7 to 3 million Ghanaians (approx. 10% of the population) and contribute ~1.2% to the national GDP.
- **The Safety Gap:** Recent assessments indicate that over 90% of artisanal fishers lack formal first-aid training and do not carry first-aid kits on vessels

Sources: Ministry of Fisheries and Aquaculture Development (MoFAD) 2026 Reports; GPHA Annual Outlook 2025; Ghana Statistical Service (GSS).

5. GPHA Project Sea-Life Line

In the "Sea-Life Line" project, The Ghana Ports and Harbours Authority (GPHA) serves as the Socio-operational anchor, moving beyond commercial logistics and augmenting its status as a humanitarian hub, by leveraging the following:

- **Medical Command Centers:** Utilizing GPHA's existing modern health service facilities, such as the Tema and Takoradi hospitals and International Maritime Hospital (IMaH) in Tema, as the primary referral and tele-medical hubs, in tandem with other secondary and tertiary health facilities.
- **Strategic Launchpads:** Fishing harbours (e.g., the newly modernized Jamestown and Elmina Fishing Harbours) as drone docking stations and rapid-response clinics.
- **Logistical Integration:** Collaborating with the navy and other maritime agencies to access motorized vessels that will provide a secondary layer of physical rescue for cases too severe for phone calls or drone-only intervention.

5.1. Expected Outcomes

- **Reduced Mortality:** A projected 30-40% reduction in sea-based fatalities due to rapid response, tele-medicine, and drone delivery.
- **Reduced Permanent Disability:** A 25-35% reduction in amputations, paralysis, and chronic injuries from early on-site first aid.
- **Economic Resilience:** Faster recovery times mean fewer lost man-hours and reduced financial strain on over 200,000 fishing households.
- **Data-Driven Policy:** A digitized incident reporting provides the government with a comprehensive database on maritime occupational hazards.
- **Strengthened Community First Responder Networks:** Over 24 local fishers trained and certified in maritime first aid and emergency communication.
- **Enhanced Gender Inclusion:** Shore-based women fish processors and traders gain equal access to helpdesk and tele-medicine services.
- **New Green Maritime Jobs:** 50-80 jobs created for drone operators, speedboat pilots, and helpdesk officers in coastal communities.
- **Safer Fishing Practices Encouraged:** Real-time hazard data enables government to issue early warnings and seasonal safety advisories.
- **SDG Contributions:** Measurable improvements in SDG 3 (health), SDG 8 (decent work), SDG 9 (infrastructure), SDG 14 (life below water), and SDG 17 (partnerships).

5.2. Collaboration & Stakeholders

- **MoFAD & Fisheries Commission:** Regulatory oversight where applicable and provision of registered canoe data.
- **GPHA:** Provision of harbour-side medi-help desks, health service assistance, logistics and coordination with other stakeholders (Navy, Marine Police, GMA for provision of speed boats for search and rescue activities) among others.
- **Ghana Health Service (GHS):** Medical support through the port health department, training protocols and hospital referrals.
- **Private Tech/Drone Firms:** Technical logistics for medical deliver.

APPENDIX

5.3. Estimated Budget & Funding

The segmented budget details are outlined and explained in the appendices i.e. Appendix 9 under the Program Budget. The table below is a summary of the components.

Table 1 Estimated Budget & Funding

NO	ITEM	EST. COST (GHC)
1	Infrastructure	2,000,000
2	Communication Devices	260,000
3	Drone Fleet	1,075,000
4	All-Terrain Vehicle	850,000
5	Training	560,000
6	Preliminary Field Assessment	164,400
7	Stakeholder Engagement	775,395
8	Digital Platform	300,000
9	Operations (Year 1)	2,250,000
TOTAL		8,234,795

5.4. Possible Funding Sources

- **Embassies and Multinational Companies in Ghana.**
- **World Bank:** West Africa Food Systems Resilience Program on artisanal fishing stability and the Next Fisheries Recovery Activity phase.
- **The Global Fund:** Potential interest in reaching "last-mile" populations for emergency health.
- **Corporate Social Responsibility (CSR):** GPHA, Oil and Gas companies (e.g., Tullow, GNPC) operating in Ghanaian waters.
- **EU Sustainable Fisheries Partnership:** Funding for safety-at-sea initiatives.
- **Lloyd's Register Foundation:** "Safety at Sea" call.

5.5. Cost-Benefit Analysis

The investment is offset by the preservation of human capital. If the program prevents the deaths of 50 primary breadwinners annually, then the economic value of lives saved (based on lifetime earnings, household stability and government tax revenue) will far exceed the initial capital outlay within **24 months**.

5.6. Challenges

1. The long nautical distances (miles) covered by fishermen may create communication challenges.
2. Sustaining consistency in the provision of healthcare services and medication may become challenging due to the likely increase in dependency from surrounding community members and fisherfolk families seeking access to the facility.
3. In emergency cases requiring evacuation and subsequent referral to other healthcare facilities, fisherfolk may be unwilling to bear the associated costs of treatment potentially placing a significant financial burden on the Authority.

5.7. Standard Operating Procedure: Emergency Medical Response

(Remote/Waterfront)

This SOP outlines the end-to-end workflow for managing artisanal fisheries medical assist desks, from the initial alert to final resolution or medical evacuation.

5.7.1. Data Base Assimilation

- Liaise with chief fishermen to provide the list of fisherfolk or logs of canoes deployed for the day and scheduled fishing areas.
- Use calls and alerts to update the data logs
- Access canoe registration logs from Fisheries commission.

5.7.2. Emergency Alert & Intake

The process begins the moment a distress signal is received.

- **Trigger:** An emergency call via radio (VHF), phone, or physical panic button.
- **Action:** The dispatcher or receiver must gather the "**Big Three**":
 1. **Location:** Precise coordinates or landmark.
 2. **Description of Emergency:** Trauma, cardiac, drowning, flu, diarrhea etc.
 3. **Patient Count:** Number of individuals requiring care.
- **Status:** Incident Log opened.

APPENDIX

5.7.3. Medical Desk Activation

Once the alert is verified, the central "Medical Desk" (Command Center) is activated.

- **Resource Allocation:** The Med Desk Officer identifies the nearest available responders.
- **Communication Hub:** The desk becomes the sole point of contact between the field and external health facilities.
- **Pre-Arrival Instructions:** If the caller is on the line, the Med Desk provides immediate life-saving instructions (e.g., CPR coaching) while units deploy.
- **Medical Response:** if applicable, delivery of first aid medicines and equipment via speedboat or drones.

MedEvac: arrangement of speedy MedEvac where applicable. If the incident exceeds first aid treatment, a liaison between the navy and other agencies will help in the evacuation of patient to the nearby health facility for immediate treatment.

- Incident log closed.

5.7.4. Rapid First Aid Deployment

Based on the terrain and location, the Med Desk selects the most efficient deployment method:

Table 2 Deployment Modes

METHOD	USE CASE	CAPABILITY
Speed Boat	Water-based incidents or island access.	Transports a full paramedic team and stabilization equipment. Proposed rapid response deployment by using cross agency Speed Boats in collaboration with other agencies and private sector organizations. Until a dedicated vessel can be acquired or donated.
All-Terrain Vehicle	Dense woods or beach sand.	Quick extraction to a secondary staging area.
Drone (UAV)	High-speed, hard-to-reach terrain.	Drops AED, tourniquets, or epinephrine. Provides live aerial video.

5.7.5. Response Status & Real-Time Notification

Continuous updates are required to maintain "situational awareness."

- **En Route:** Responder confirms they are moving to the scene.
- **On-Site:** First responders notify the Med Desk of the patient's actual condition (Triage).
- **Notifications:** The Med Desk updates relevant stakeholders (facility managers, family, or local authorities) on the status of the intervention.

5.7.6. Resolution: Closure or Escalation

The final stage is determined by the patient's stability.

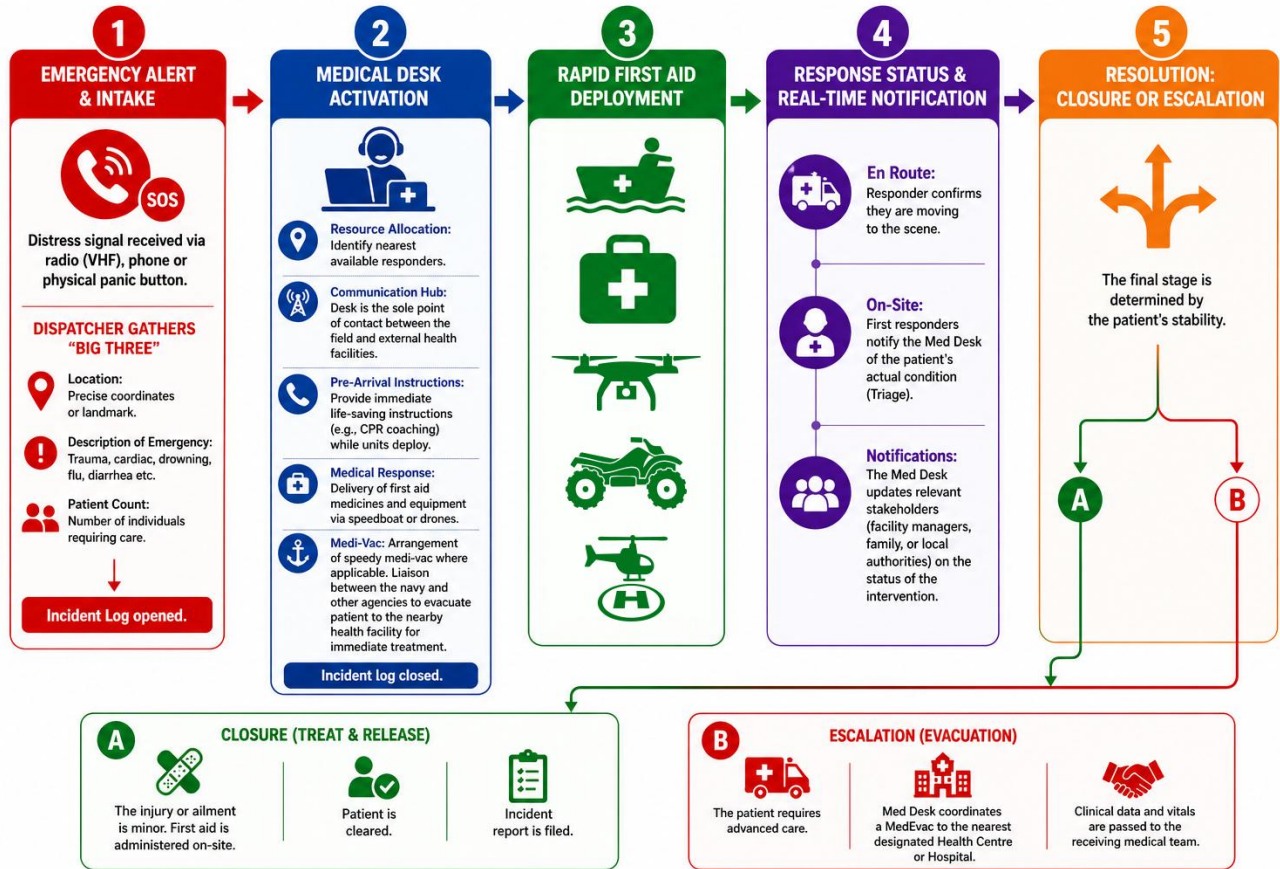
- **Option A: Closure (Treat & Release)**
 - The injury or ailment is minor. First aid is administered on-site.
 - Patient is cleared; incident report is filed.

- **Option B: Escalation (Evacuation)**
 - The patient requires advanced care.
 - **Action:** Med Desk coordinates a **MedEvac** to the nearest designated Health Centre or Hospital.
 - **Handover:** Clinical data and vitals are passed to the receiving medical team.

APPENDIX

5.7.7. Process Flow Summary

Figure 14 Process Flow Summary



Note: Always ensure the drone pilot and boat operator maintain radio contact with the Medical Desk to avoid collisions during simultaneous deployments.

6. Phasing

Table 3 Project Phases

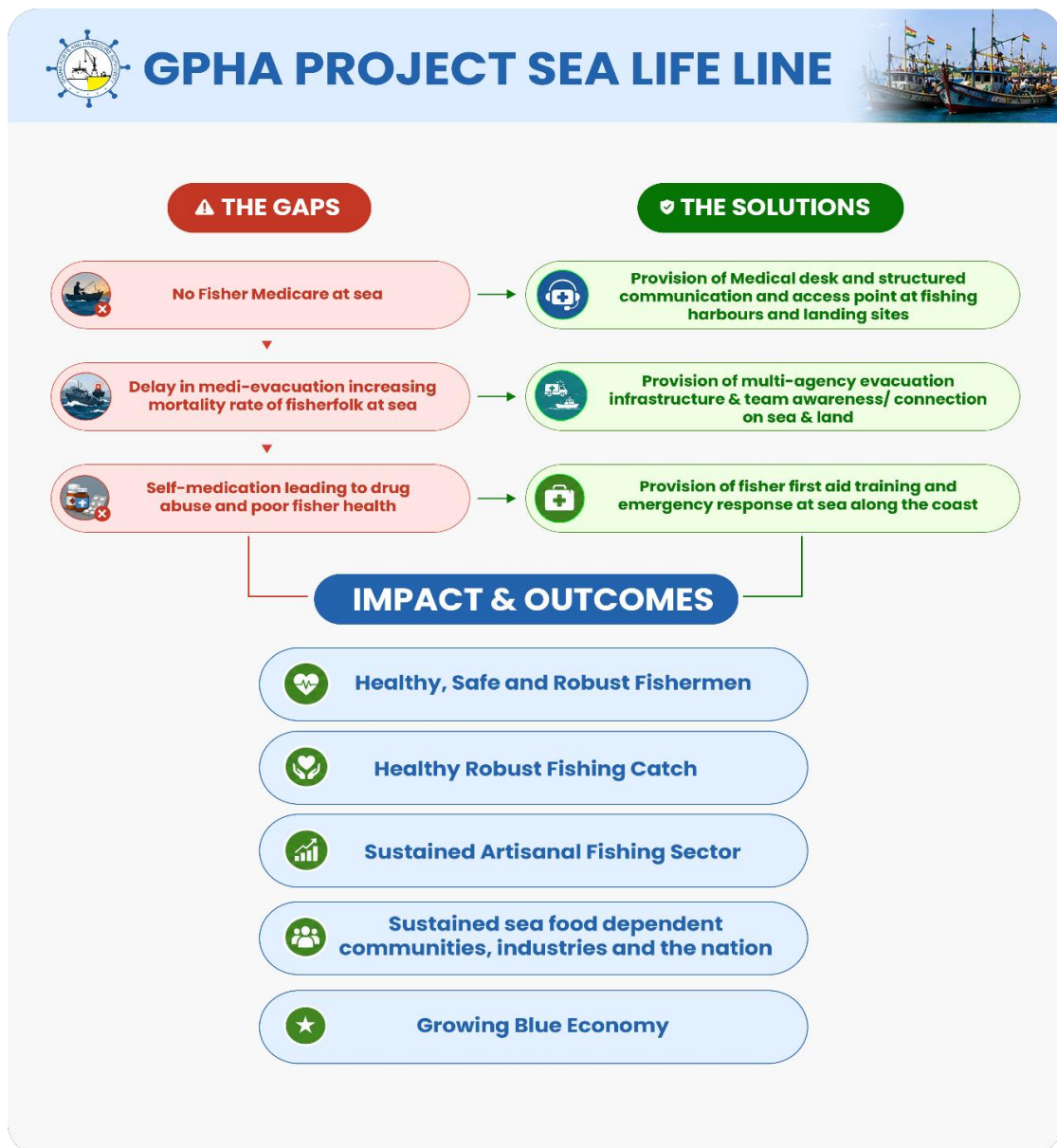
Phase	Title	Primary Objectives	Key Activities	Expected Deliverable
Phase 1	Fish Landing Sites	To facilitate safe landing and handling of fish and support local economic growth.	<ul style="list-style-type: none"> • Construction of Landing sites along the coastal regions: Axim, Dixcove, Elmina, Moree, Mumford, Winneba, Senya Bereku, Fetteh, Jamestown, Teshie 	Done
Phase 2	Field Assessment	Establish a baseline and identify technical/logistical needs.	<ul style="list-style-type: none"> • Technical site visits to identify locations, coordinates etc. • Data collection & audits • Resource mapping 	Done -Comprehensive Assessment Report on viability of project.
Phase 3	Strategic Stakeholder Engagement	Secure institutional "buy-in" and align with local leadership.	<ul style="list-style-type: none"> • 1-on-1 meetings with traditional leaders and chief fishermen. • Meetings with Opinion leaders • Establishing Steering Committees. 	Done Report in Appendix

Phase	Title	Primary Objectives	Key Activities	Expected Deliverable
Phase 4	Pilot Program	To test practical viability of project.	<ul style="list-style-type: none"> • Setting up helpdesk and medi-assist chain in three locales. • Tema Fishing Harbour • Jamestown Fishing Harbour • Sekondi Fishing Harbour 	Feedback on practical applicability of project.
Phase 5	Financial Resourcing & Grant Sourcing	Secure the necessary capital to move from planning to execution.	<ul style="list-style-type: none"> • Grant research & writing • Donor pitch sessions • Budget finalization • Resource Acquisition 	Secured Funding / Grant Approvals
Phase 6	Community Sensitization & Advocacy	Build grassroots trust and ensure long-term adoption.	<ul style="list-style-type: none"> • Town hall meetings • Awareness campaigns • Local volunteer recruitment 	Community Feedback Log & High Public Awareness
Phase 7	Training Programs	Training of selected capable representatives from the respective fishing groups	<ul style="list-style-type: none"> • Training on practical administration of first aid and emergency communication and response. 	
Phase 8	Implementation & Launch	Execute the core project activities based on gathered data.	<ul style="list-style-type: none"> • Procurement of materials • On-site construction/delivery • Technical training 	Operational Project / Go-Live
Phase 9	Monitoring & Evaluation (M&E)	Measure impact and ensure project sustainability.	<ul style="list-style-type: none"> • Post-launch surveys • Performance tracking • Reporting to donors 	Impact Assessment & Final Project Report

7. Conclusion and Future

Ultimately, equipping fishers with comprehensive first aid and accessible Medicare is not just a safety measure—it is a vital lifeline for a population that is critical to Ghana’s development. By bridging the critical gap between the onset of an emergency and the arrival of professional medical care, this initiative has the potential to drastically reduce preventable fatalities and mitigate severe injuries at sea. Investing in the health and preparedness of fishing communities ultimately safeguards not only the lives of individual fishers, but also the economic resilience and social fabric of the coastal communities that depend on them.

Figure 15 Conclusion GPHA Sea Lifeline Project



We believe if this concept is successful, it can be leveraged across the West and central African coast where on sea fisher Medicare may not be readily available, simply and gradually through the various ports. This can be pitched to neighbouring countries through the PMAWCA and IAPH. It does not have to be highfalutin but rather implemented gradually within available resources.



APPENDIX

8. APPENDICES

8.1. Comprehensive Stakeholder Engagement Report

Fishing Harbour Community Engagements | Tema · Jamestown · Elmina · Sekondi

1. Introduction

As part of the Ghana Ports and Harbours Authority's (GPHA) strategic community health initiative under Project Sea Lifeline, a series of stakeholder engagement sessions were conducted at four major fishing harbours across Ghana. The engagements were designed to assess the healthcare challenges confronting fishing communities, understand existing emergency response mechanisms, evaluate fishermen's awareness of access to medical services, and gather community perspectives on the proposed Health Helpdesk/Medi-Desk interventions.

The Field Assessment Team, led by Mrs. Nana Esi Söderberg (Marketing and Corporate Affairs Manager), engaged directly with chief fishermen, canoe owners, and fishers at the Tema Fishing Harbour (20th May 2026), Jamestown Fishing Harbour (1st June 2026), Elmina Fishing Harbour (10th June 2026), and Sekondi Fishing Harbour (11th June 2026). The discussions were structured around a set of questions covering health challenges, emergency response, first aid practices, communication at sea, and the proposed GPHA healthcare interventions.

2. Engagement Schedule

Table 1 below provides a summary of the locations, dates, and participant groups involved in each stakeholder engagement session conducted under Project Sea Lifeline.

Table 4: Summary of Stakeholder Engagement Sessions

No.	Location	Date	Participants
1	Tema Fishing Harbour	20th May 2026	Chief Fishermen, Canoe Owners & Fishers
2	Jamestown Fishing Harbour	1st June 2026	Chief Fishermen, Canoe Owners & Fishers,
3	Elmina Fishing Harbour	10th June 2026	Chief Fishermen, Canoe Owners & Fishers
4	Sekondi Fishing Harbour	11th June 2026	Chief Fishermen & Canoe Owners

APPENDIX

3. Methodology

Each engagement was conducted as a structured focus group discussion involving chief fishermen, canoe owners, and active fishers from the respective harbour communities. A standardised set of questions was used across all four locations to ensure consistency and comparability of findings.

The Field Assessment Team administered questions in an open format, allowing participants to provide candid and detailed responses.

Discussions covered the following thematic areas:

- Common health conditions and occupational hazards experienced at sea
- Current emergency response procedures and evacuation methods
- Access to and utilisation of healthcare services near the harbour
- First aid knowledge and practices among fishermen
- Communication capabilities during emergencies at sea
- Use of conventional and traditional/herbal medicines
- Perspectives on the proposed Health Helpdesk/Medi-Desk and preferred operating hours

4. KEY FINDINGS

The findings below are presented thematically, drawing from the collective responses of all four harbour communities. Where relevant, specific observations from individual locations are highlighted to reflect local context.

4.1 Prevalent Health Conditions and Occupational Hazards

Across all four harbours, fishermen identified a range of recurring health conditions and physical injuries arising from the demanding nature of their work. The most consistently reported conditions included:

- **Physical fatigue, exhaustion, and stress:** cited at all locations, particularly at Tema and Sekondi, where the physical demands of fishing are most pronounced.
- **Abdominal pain and gastrointestinal issues:** prominently raised at Sekondi and Elmina, attributed to poor nutrition, irregular meal schedules, and unhealthy eating habits at sea.
- **Hernia:** a significant occupational health concern noted at both Sekondi and Elmina, attributed to repeated heavy lifting of fishing equipment, nets, and catch.
- **Hypertension (high blood pressure):** identified at Sekondi as a growing, often undiagnosed condition due to limited access to routine health screenings.
- **Burns and injuries from hot boat engines:** a recurring cause of serious injury across all fishing harbours, where oil spillages create slippery surfaces leading to falls onto engines.
- **Cuts and lacerations from fishing equipment:** reported across all four locations, arising from hooks, ropes, propellers, and boat machinery.
- **Fainting, seizures, and sudden medical collapses:** identified at Sekondi, often aggravated by underlying undiagnosed conditions.

APPENDIX

- **Pre-existing conditions aggravated at sea:** raised across all four locations, where fishermen with known medical conditions continue fishing, resulting in severe complications.

A particularly alarming pattern observed across all sites is the widespread practice of fishermen proceeding to sea despite existing illness or injury. This increases the risk of severe complications during fishing expeditions, far from accessible medical care.

4.2 Emergency Response Procedures and Evacuation Challenges

All four harbour communities confirmed that emergency response mechanisms are severely limited. In the absence of formal emergency systems, improvised and often dangerous methods are employed to manage critical medical situations at sea:

- **Tema:** In critical cases, evacuation is carried out using trucks and three-wheeled motorized tricycles (locally known as aboboyaa). Participants noted that these inadequate evacuation methods result in prolonged response times and have contributed to loss of life.
- **Jamestown:** Depending on proximity, evacuation is carried out using the same canoe or by transferring the patient to a faster vessel. A healthcare facility is available approximately fifteen minutes away by road, though traffic congestion and road blockages often delay access during critical emergencies.
- **Elmina:** When emergencies arise, the affected individual may be transferred to another vessel already heading to shore. Participants unanimously confirmed witnessing instances where delayed first aid led directly to fatalities.
- **Sekondi:** No dedicated first aid or medical facility exists at the landing beach or harbour. Injured or ill fishermen are referred directly to hospitals. Participants stressed the need for a health support structure at shore to provide immediate intervention prior to referral.

A common trend across all engagements was the absence of structured emergency response framework; no medical response services, no dedicated rescue vessels, no emergency communication systems, and no trained first responders within any of the four harbour communities.

4.3 Deaths at Sea and the Consequences of Delayed Response

The occurrence of deaths at sea was confirmed at all four locations, with respondents attributing fatalities to a combination of the following factors:

- Delayed evacuation and medical intervention
- Absence of on-shore or near-harbour medical facilities
- Inadequate or improvised evacuation methods
- Untreated or poorly managed health complications during expeditions

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- Fishermen with pre-existing conditions embarking on fishing trips without medical clearance.

4.4 First Aid Knowledge and Current Practices

A critical finding uniformly reported across all four engagements is the complete absence of formal first aid training among fishermen. All respondents from Tema, Elmina, Sekondi, and Jamestown confirmed that they have never received any professional training in first aid administration or emergency response.

In the absence of training, the following informal and potentially dangerous practices have become commonplace:

- **Application of petrol to wounds:** reported at Tema, where fishermen use petrol as an improvised way to control bleeding from cuts. This practice poses significant infection and chemical burn risks.
- **Self-medication with unregulated pharmaceuticals:** a widespread practice at all four locations, involving the purchase of medications from unregulated vendors based on personal experience or packaging information, without professional medical guidance.
- **Use of traditional and herbal remedies:** confirmed across all harbours. Preparations include herbal concoctions, balms, ointments, root-based treatments, and the application of seawater to injuries without any approval from Center for Plants Medicine Research and Food and Drugs Authority (FDA).
- **Expired medications:** highlighted particularly at Sekondi, where medicines remain in first aid kits without monitoring expiration dates, resulting in the use of expired products.

Despite this deficit in knowledge and safe practice, participants at all four locations expressed strong and unanimous willingness to participate in first aid and emergency response training programmes.

4.5 Healthcare Access and Infrastructure

A significant finding across all four locations is the inadequacy of healthcare infrastructure within and immediately around the harbours.

- Tema: A health facility previously operated within the canoe basin area but is currently non-operational. This has created a critical gap. Participants underscored the urgent need for its re-establishment, linking its absence directly to preventable deaths within the community.
- Elmina: Minor cases are managed with available first aid supplies; more serious conditions are referred to nearby clinics. Participants noted that this referral system is insufficient given the severity and frequency of emergencies.

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- Sekondi: No dedicated medical facility exists at the landing beach or harbour. Fishermen with serious conditions are sent directly to hospitals, without any intermediate care structure.
- Jamestown: A healthcare facility is accessible approximately fifteen minutes away by road, but transport delays due to traffic congestion and road blockages regularly increase response times to a critical degree.

4.6 Communication Capabilities at Sea

The ability of fishermen to communicate with shore during emergencies is constrained by mobile network coverage limitations:

- All Harbours: Across all the fishing harbours it was noted that mobile network reception becomes significantly limited or unavailable beyond approximately 10-15 nautical miles offshore. They added that within approximately 8 miles of the shoreline, communication is generally reliable.

4.7 Fishing Frequency and Duration of Expeditions

Understanding fishing patterns is critical to designing an effective Health Helpdesk operation schedule. The following patterns were observed:

- **Tema:** Expedition durations range from a few hours to three days, with some trips lasting up to a full week.
- **Jamestown:** Duration varies from a few hours to an entire week, depending on the type of fishing activity.
- **Elmina:** Fishermen typically go to sea between three and five times per week. Expeditions range from a few hours to one week, with most in the range of one to three days.
- **Sekondi:** Active fishermen spend approximately 19 to 21 days per month at sea. Trawling operations occur daily; ring net expeditions take place roughly every two weeks.

All four communities confirmed that fishing activities occur at all hours of the day and night, with return times often falling late at night or in the early morning hours.

4.8 Perspectives on the Proposed Health Helpdesk / Medi-Desk

The proposed GPHA Health Helpdesk/Medi-Desk initiative received an overwhelmingly positive reception at all four locations. Key perspectives included:

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- **Unanimous support:** All participants at all four harbours expressed strong willingness to utilise the proposed facility and viewed it as a critical and long-overdue intervention.
- **24-hour operation:** Respondents at all four locations strongly recommended that the helpdesk operate on a 24-hour, round-the-clock basis, given the unpredictable and irregular nature of fishing activities and return times.

5. Cross-Site Comparative Summary

The table below presents a side-by-side comparison of key findings across all four harbour communities, enabling a holistic view of commonalities and site-specific issues.

Table 5 Cross-Site Comparative Summary of Key Findings

Theme	Tema	Elmina	Sekondi	Jamestown
Common Health Conditions	Stress, fatigue, self-medication; prior health facility now non-operational	Abdominal pain, obstructed hernia, diarrhoea, burns, falls on engines	Abdominal pain, Obstructed hernia, hypertension, fainting/seizures, diabetes	Minor illnesses & injuries managed with basic first aid kits
Emergency Response	Transport via trucks & tricycles (aboboyaa); no ambulance services	Vessel transfer to shore; no dedicated emergency system; fatal delays recorded	Improvised methods; no dedicated first aid at landing beaches	Canoe-to-shore evacuation; referral to clinic
First Aid Training	No training whatsoever; respondents confirmed absence of skills	No formal training; fishermen unanimously willing to participate	No formal training; all willing to participate in programmes	Strong support for proposed first aid training for selected fishermen
Communication at Sea	Network cut-off approximately 10 miles offshore; reliable within	Mobile signal within 12–15 nautical miles; beyond is unreliable	Depends on distance; limited or impossible beyond certain range	Network limited beyond shore proximity; delays

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Theme	Tema	Elmina	Sekondi	Jamestown
	approximately 8 miles			emergency coordination
Proposed Medi-Desk / Health Helpdesk	Strongly supported; request for re-establishment of prior facility; 24-hr operation preferred	24-hr operation preferred; recommended speedboat for rapid evacuation	All participants willing to use it; 24-hr operation recommended	Strongly welcomed and suggested 24-hr operation
Use of Traditional / Herbal Medicine	Common; petrol and sea water applied to cuts as improvised reduced blood flow mechanisms	Common; used when conventional supplies unavailable	Frequent; herbal concoctions, balms, root-based preparations;	Confirmed; used alongside basic first aid medications

6. Common Themes and Critical Observations

Notwithstanding the geographical distribution of the harbour communities, the following critical themes emerge consistently across all four engagement sites:

i. Universal Absence of Formal Emergency Infrastructure

None of the four harbour communities has a dedicated, functional emergency response system. The absence of medical services and trained first responders, emergency communication tools, and harbour-based medical facilities creates a uniformly vacant health presence for fishermen across Ghana's coastline.

ii. Zero First Aid Training Across All Communities

Not a single respondent across the four engagements had received any formal training in first aid or emergency response. This represents a fundamental gap that directly contributes to preventable deaths and the escalation of treatable conditions into life-threatening emergencies.

iii. Dangerous Informal Healthcare Practices

Self-medication, use of unregulated pharmaceuticals, application of petrol to wounds, and reliance on untested traditional remedies are standard practices across all communities.

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iv. Confirmed Deaths Linked to Systemic Healthcare Deficiencies

Deaths at sea linked to delayed medical intervention were confirmed at all four harbours. This is not an isolated or community-specific issue.

v. Strong Community Buy-In for GPHA Intervention

The willingness of all four communities to engage constructively, share detailed experiences, and support the proposed GPHA healthcare interventions demonstrates strong community buy-in and a genuine appetite for change. This social capital represents a critical enabling factor for the successful implementation of Project Sea Lifeline.

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7. Recommendations

Based on the findings from all four stakeholder engagement sessions, the following recommendations are proposed for GPHA's consideration in the development and implementation of Project Sea Lifeline:

7.1 Establish 24-Hour Health Helpdesks / Medi-Desks

A 24-hour Health Helpdesk should be established at each of the four harbour locations as an immediate priority. The facilities should provide basic first aid services, triage and stabilisation of injured or ill fishermen, referral coordination to nearby healthcare facilities, health education, and medication guidance.

7.2 Implement Community First Aid and Emergency Response Training

A structured, practical training programme should be designed and delivered to selected fishermen at each harbour, equipping them with competencies in basic first aid administration, wound management, emergency triage, and coordination of evacuation procedures. Training should be community-embedded, delivered in local languages from time to time.

7.3 Establish Formal Fishermen Departure Documentation Systems

A standardized departure documentation system should be introduced at all four harbours to record the identity, number, and vessel details of fishermen embarking on expeditions. This would significantly improve monitoring, emergency response coordination, and search-and-rescue operations.

7.4 Deploy Emergency Communication Tools

Marine VHF radios or SOS signalling equipment should be provided to fishing vessels to bridge the communication gap beyond mobile network coverage. Additionally, an emergency hotline or distress signalling protocol should be established and communicated to all harbour communities.

7.5 Deploy a Dedicated Rescue Speedboat

Given the specific recommendations from the Elmina engagement, GPHA should assess the feasibility of stationing a dedicated emergency response speedboat at the Elmina harbour to facilitate rapid evacuation of critically injured or ill fishermen.

7.6 Ensure Affordable Access to Healthcare Services

Healthcare services at the proposed Medi-Desks should be structured to be accessible and affordable for all fishing community members, consistent with GPHA's stated intention of the initiative as a social welfare and community support programme rather than a commercial venture.

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8. Conclusion

The four stakeholder engagement sessions conducted under GPHA's Project Sea Lifeline have revealed a consistent and deeply concerning pattern of healthcare vulnerability across Ghana's fishing harbour communities. At Tema, Elmina, Sekondi, and Jamestown alike, fishermen operate in an environment largely devoid of formal emergency response structures, professional healthcare access, and basic first aid training, a reality that has cost lives.

The engagement process has equally demonstrated that these communities are not passive recipients of their circumstances. Fishermen at all four locations engaged constructively, provided detailed and insightful responses, and expressed overwhelming enthusiasm for the proposed interventions under Project Sea Lifeline. Their participation reflects a strong community readiness to partner with GPHA in improving health and safety outcomes within the fishing sector.

GPHA's Project Sea Lifeline represents a timely and strategically significant intervention. The findings from these engagements provide a clear, evidence-based foundation for the design, prioritization, and implementation of the proposed Health Helpdesks and complementary community health initiatives. Translating these findings into concrete action will not only improve the health and safety of thousands of fishermen and their families but will also reinforce GPHA's commitment to the welfare of the communities it serves.

8.2. Stakeholder Report Summaries

Greater Accra Region – Stakeholder Engagement

Tema Newtown Fishing Harbour – Focus Group 1 | Jamestown Fishing Harbour- Focus Group 2

The focus groups comprise Chief Fishermen, Canoe Owners and Canoe fishermen whose business activities are deep sea fishing on Ghana Coast.

Table 6 Summaries of findings from Stakeholder Engagements in the Greater Accra Region

Theme / Question (Rows)	Responses	Focus Group 1 (n=13)	Focus Group 2 (n=7)	Cross-Batch Synthesis / Takeaway
1. In cases of health emergencies at sea, what measures are currently undertaken?	Self-medication or return to shore	High Consensus	High Consensus	Agreement by all respondents in both batches reiterating need for structured medicare to mitigate drug abuse and its effects
2. What are some health conditions faced at sea?	Unforeseen illness or accidents	General Response	General Response	Established time gap to reach shore in case of a medical emergency and need for an established communication/evacuation system
3. How long does it take to return when they go on sea	depends on distance sailed	General Response	General Response	Need for first aid training to be used within the communication gap
4. What is the typical duration of fishing expeditions?	Eclectic hours, days, weeks	General Response	General Response	Solution would need to incorporate unscheduled fishing times and durations.
5. What steps are taken in the case of an emergency health condition that exceeds first aid treatment?	return to shore either directly or via transfer only way out	General Response	General Response	An emergency evacuation solution is required.
6. How is communication managed during emergencies at sea?	Phone within coverage area, No comms outside coverage.	High Consensus	High Consensus	An emergency communication solution is required
7. Do the fishermen have any first aid treatment experience?	No training	High Consensus	High Consensus	A practical solution is required which will mitigate drug abuse and save lives.

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8. What support do you require for fishing activities aside a help desk and first aid treatment?	A pharmacy or close Medicare	High Consensus	High Consensus	A practical solution is required which will mitigate drug abuse and save lives.
9. What should be the operational times of the Help Desk?	Day and Night	Mixed	Mixed	A practical solution is required which will mitigate drug abuse and save lives.
10. In the case of a serious emergency situation i.e. fracture or a very deep cut, what is their intervening procedure.	Using petrol over the cut to temporarily seal it	Mixed	Mixed	First aid training for fishers required to plug gap between incident and journey to shore health facility.
11. Do they use herbal medicines as part of the treatment procedures at sea?	Yes	Mixed	Mixed	A practical solution is required which will mitigate drug abuse and save lives.
12. Are there healthcare facilities available nearby for emergency referrals?	No	General Response	General Response	information
13. Would the establishment of a medical desk or clinic at the harbour be beneficial?	Yes	High Consensus	High Consensus	Reiterates the need for the medi-desk solution.
14. Should the help desk be set up will they patronize it.	Yes	High Consensus	High Consensus	Reiterates the need for the medi-desk solution.
15. Would Training of selected fishermen in emergency response and first aid be welcome?	Yes	High Consensus	High Consensus	Reiterates the need for the first aid training solution.
16. Is there an official record or documentation of fishermen departing for fishing activities?	No, they leave from different coastal points - ad hoc	General Response	General Response	Establishment of the existence of documentation gaps to ascertain fisherfolks embarking on fishing expedition.

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Central And Western Region Stakeholder Engagement

Elmina Fishing Harbour – Focus Group 3 | ABS Sekondi Fishing Harbour- Focus Group 4

Table 7 Summaries of findings from Stakeholder Engagements in the Central and Western Region

NO	Theme / Question (Rows)	Responses	Focus Group 3 (n=26)	Focus Group 4 (n=36)	Cross-Batch Synthesis / Takeaway
1	What are the common health problems experienced by fishermen?	Various including diarrhea, hernia.	High Consensus	High Consensus	Established various kinds of health concerns among fisherfolk at sea and hence the need for providing emergency medical aid.
2	Do fishermen carry medicines and use first aid treatments while at sea?	Yes self-prescribed medical supplies	High Consensus	High Consensus	Unanimous agreement on self-prescription including herbal medication and sometimes expired drugs.
3	What are some common causes of injuries at sea?	Burns and Cuts	High Consensus	High Consensus	Established varied medical injuries which will need prompt emergency care.
4	In cases of injury or medical emergencies, how long does it take to evacuate an affected person to shore?	Varies dependent on distance from shore	High Consensus	High Consensus	Established time gap to reach shore in case of a medical emergency and need for an established communication/evacuation system.
5	Have you witnessed any deaths resulting from delays in first aid administration or medical response?	Yes unanimously	High Consensus	High Consensus	The engagement revealed that there have been several deaths due to delay in emergency evacuation and administration of first aid.
6	How often do fishermen go to sea?	3 to 5 times per week	Mixed	Mixed	Information update

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NO	Theme / Question (Rows)	Responses	Focus Group 3 (n=26)	Focus Group 4 (n=36)	Cross-Batch Synthesis / Takeaway
7	What time do fishermen usually go fishing?	Varies	Mixed	Mixed	Solution would need to incorporate varied fishing times and durations.
8	Do fishermen use local or traditional medicines as first aid treatment?	Yes	High Consensus	High Consensus	A practical solution is required which will mitigate drug abuse and save lives.
9	Have fishermen received formal training in first aid administration?	No	High Consensus	High Consensus	Establishes need for basic life support training and administration of first aid in case of emergency.
10	Where are injured or ill fishermen referred for medical care?	Varies usually	Mixed	Mixed	A mixed response revealed that some fisherfolks do not receive proper medical care in times of injuries or emergencies.
11	What medical supplies would be required if a health support desk or emergency station were established?	First aid supplies, painkillers	Mixed	Mixed	Information
12	How do fishermen communicate with shore during emergencies at sea?	Mobile phones were possible.	High Consensus	High Consensus	Mobile communication from the various telcos in Ghana within certain distances (10-15 nautical miles). An emergency communication solution is required.
13	What should be the standard operating time for the Medical Desk?	24-hour basis	High Consensus	High Consensus	Establishment of 24-hour medical desk due to varied times of medical fishing associated emergencies.

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8.2.1. Strategic Stakeholder Engagement – Tema Newtown Fishing Harbour



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8.2.2. Strategic Stakeholder Engagement – Jamestown Fishing Harbour



8.2.3. Strategic Stakeholder Engagement – Elmina Fishing Harbour



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8.2.4. Strategic Stakeholder Engagement – Sekondi Fishing Harbour



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9. PROGRAM BUDGET

9.1. Preliminary Field Assessment

Venue: Sekondi, Elmina, Jamestown and Tema Newtown

Table 8 Preliminary Field Assessment Budget

ITEM	DESCRIPTION	QTY	FRQ	UNIT PRICE (GHC)	TOTAL (GHC)
ELMINA					
Accommodation (Lemon Beach Resort)	Assessment Team of 5 + 2 Driver for 1 Night	7	1	2,500	17,500
HONORARIUM	Traditional Leaders	2	1	1,000	2,000
	Chief Fishermen	2	1	500	1,000
Customary Donations for Traditional Leaders	Schnapps and Drinks				
					20,500
SEKONDI					
Accommodation (Alliance by Eagles)	Assessment Team of 7 + 2 Drivers for 2 Nights	9	2	2,500	45,000
HONORARIUM	Traditional Leaders	2	1	1,000	2,000
	Chief Fishermen	1	1	500	500
Customary Donations for Traditional Leaders	Schnapps and Drinks				

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					47,500
JAMESTOWN					
HONORARIUM	Chief Fishermen	4	1	500	2,000
Customary Donations for Traditional Leaders	Schnapps and Drinks				
					2,000
TEMA NEWTOWN					
HONORARIUM	Chief Fisherman	2	1	500	1,000
Customary Donations for Traditional Leaders	Schnapps and Drinks				
					1,000
FUEL					10,000
TOTAL					81,000
CONTINGENCY					5,000
GRAND TOTAL					86,000


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9.2. Other Budget Components




Table 9 Infrastructure - Budget Help Desk Set Up

INFRASTRUCTURE				
ITEM	DESCRIPTION	QUANTITY	UNIT COST (GHC)	TOTAL (GHC)
Help Desks	Set up of Harbour side help desks across all coastal regions (Axim, Dixcove, Elmina, Moree, Mumford, Winneba, Senya Bereku, Fetteh, Jamestown, Teshie)	10	200,000	2,000,000

Table 10 Communication Devices Budget

COMMUNICATION DEVICES					
ITEM	DESCRIPTION	QUANTITY	UNIT COST (GHC)	TOTAL (GHC)	PREVIEW
VHF Radio	<p>Ship-to-Shore, Distress and Emergency Communication</p> <p>To transmit distress calls during emergencies such as accidents, capsizing, fire outbreaks, medical emergencies</p>	10	5,000	50,000	

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Mobile Phones (Techno Camon)	Help Desk-to-Referral Hospital Communication	10	2,000	20,000	
Computers	For the record keeping and tracking of distributed health supplies and medical items.	10	10,000	100,000	
Tablets	Mobile Device for Record Keeping and Tracking.	10	9,000	90,000	
TOTAL				260,000	

NB: The cost figures stated are provisional, as they were sourced directly from online references; consequently, applicable duties, levies and taxes have not been included.

Table 11 Drone Fleet Budget



DRONE FLEET					
ITEM	DESCRIPTION	QTY	UNIT COST (GHC)	TOTAL (GHC)	
Long Range Drone (DJI Fly Cart 100)	For Delivery of drugs and medical supplies to fisherfolk at sea. Max Load: 85 KG Max Distance: 12 Km	5	215,000	1,075,000	

Table 12 All Terrain Vehicles Budget

ALL TERRAIN VEHICLES					
ITEM	DESCRIPTION	QTY	UNIT COST (GHC)	TOTAL (GHC)	PREVIEW
All Terrain Vehicles (Outlander 6x6)	For quick extraction to a secondary staging area.	5	170,000	850,000	
TOTAL				850,000	

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Table 13 Training Budget

TRAINING				
ITEM	DESCRIPTION	QTY	UNIT COST (GHC)	TOTAL (GHC)
Training	Training and Certification of Fisher Medics in Emergency Responses, Advanced First Aid, Telemedicine, Infection Control, Crisis Management and Radio Protocol	24	15,000	360,000
	Drone Pilot Training and Certifications	10	20,000	200,000
TOTAL				560,000

Table 14 App Development Budget

APP DEVELOPMENT				
ITEM	DESCRIPTION	QUANTITY	UNIT COST (GHC)	TOTAL (GHC)
Digital Platform	App Development with SMS Integration for digital communication and tracking.	1	300,000	300,000
TOTAL				300,000

Table 15 Operations (Year 1) Budget

OPERATIONS (YEAR 1)				
ITEM	DESCRIPTION	QUANTITY	UNIT COST (GHC)	TOTAL (GHC)
Operations (Year 1)	Maintenance	1	150,000	150,000
	Staff stipends	1	1,300,000	1,300,000
	Supplies	1	800,000	800,000
TOTAL				2,250,000

