

# Hen Mpoano

# Our Coast, Our Future

*Western Region of Ghana*



November 2013

## Building Capacity for Adapting to a Rapidly Changing Coastal Zone: Lessons Learned

This publication is made possible by the support of the American people through the United States Agency for International Development (USAID). It was prepared by SustainaMetricx.



**USAID**  
FROM THE AMERICAN PEOPLE

*The views expressed in this publication are the author's own and do not necessarily reflect the views of the United States Agency for International Development or the United States Government.*

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Coastal Resources Center  
Graduate School of Oceanography  
University of Rhode Island  
Narragansett, RI 02882, USA  
Tel: (401) 874-6224  
FAX: (401) 874-6920  
<http://www.crc.uri.edu>

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COASTAL RESOURCES CENTER

*University of Rhode Island*



Friends of the Nation





# LETTER OF TRANSMITTAL

Dear Reader,

The Integrated Coastal and Fisheries Governance Program (popularly referred to locally as the Hɛn Mpoano Initiative- meaning “Our Coast”) has been working over the past four years to set the stage for a fresh approach to the governance of coastal districts and fisheries in Ghana’s Western Region. We have defined our core policy goals, and we have built supportive and informed constituencies. We now have the capacity in place to implement the organizational structures and processes that are required by the challenges we face as a region and a nation. The Hɛn Mpoano approach has earned the trust of leaders across sectors and scales that unite individual communities to districts, to the region and the nation. We, the advisors of the Hɛn Mpoano Initiative, have put our names to the set of policy recommendations for improved coastal and fisheries ecosystem governance as a model for the nation. We are at the threshold of securing governmental commitments endorsing these proposals.

This document reflects on what we have learned through the implementation of the Hɛn Mpoano strategy. Conducting this work has not been easy, but it has been immensely rewarding. We have learned that facing the challenges of the Western Region requires a much higher degree of collaboration than first thought, demands high levels of creativity and calls for strong leadership. We now know that integrating concerns for the quality of life of coastal people and their environment leads us on the path to a positive future. We are grateful for the foresight and support of USAID for sponsoring the growth of the Hɛn Mpoano network and thank our global partners and the many individuals, communities and organizations that generated the ideas and energy that have propelled us forward.



**Mr. Kwaku Osei-Poku**  
*Chairman, Advisory Council*

## COMMITTEE MEMBERS

**Mr. Kwaku Osei-Poku**

*Chief Director, Western Region  
Coordinating Council*

**Mr. Moses Kofi Sam**

*Regional Director Wildlife Division,  
Forestry Comm., Takoradi*

**Mr. Alex Yaw Sabah**

*Regional Director Fisheries Commission,  
Western Region*

**Nana Kojo Kondua**

*Chairman, Ghana National Canoe  
Fishermen’s Council And Chief Fisherman,  
Abuesi*

**Mr. Ebenezer Dadzie-Paintsil**

*Regional Director, Town and Country  
Planning Department, WR*

**Mr. Yaw Sarfo Afriyie**

*Regional Director, Environmental  
Protection Agency, Western Region*

**Ms. Nana Esi Adenu-Mensah**

*Deputy Managing Director,  
Nyame Yie Cold Store, Sekondi*

**Awulae Amihere Kpanyili**

*Omanhene of Eastern Nzema  
Traditional Area*

**Rev. George Pepra Addo**

*General Secretary, Religious Groups,  
Western Region*

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## Reflections On Building a Nested System of Ecosystem Governance

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*We need to think of the future and the planet we are going to leave to our children and their children.*

KOFI ATTA ANAN,  
FORMER SECRETARY GENERAL OF THE UNITED NATIONS  
DECEMBER 10, 2001, OSLO, NORWAY.  
NOBEL PEACE PRIZE ADDRESS

As Director of the Integrated Coastal and Fisheries Governance (ICFG) Program, popularly called Hen Mpoano, and with a career dedicated to helping Ghana develop as a model for African nations, I have witnessed first-hand the potential of this great country for growth and change. In just four short years, the coastal districts of the Western Region have been transformed as a result of offshore oil and gas discovery, development and production. The pace of change is increasing rapidly, and I believe we must build capacity to deal with this change.

Although our work focused on improving the governance of both fisheries and coastal land use, it became deeply interconnected with the challenges posed by the oil and gas development. Our experiences working on marine and coastal ecosystem governance in the Western Region since 2009 suggest the need for a reform of our system of governance if we are to leave our children a legacy that provides livelihoods and improved quality of life. This is the greatest challenge we face.

We have proposed a path forward—a fresh approach for the reform of both fisheries and coastal governance. These proposed reforms will not come easy and will require clear goals, significant political will, supportive and informed constituencies and adaptive capacity. These are the building blocks needed for transforming governance. We have learned about the issues that are most important to the people of the place through bottom-up engagements. We have learned that there are a few effective mechanisms in place to address the issues at the district, regional and national levels.

We have proposed a “nested” governance arrangement that balances bottom-up and top-down approaches to governance. Policies derived from such a mechanism are expected to better address community issues. Building an effective nested governance system is a complex process, and we have learned that the best way to understand what is possible is to engage the existing system at all levels—the community, traditional authority, district, regional, national government, private sector and civil society. We have adopted an approach that brings all the parties together and applies a learning-by-doing philosophy. We have dedicated a great deal of effort to envision a more effective collaborative management and believe we have assembled an initial threshold of these conditions. The time is now to commit to a system of fisheries and coastal governance that can be piloted in the Western Region as a model for the nation.

This document is intended to share some of the learning that has taken place over the four years. It features the voices of people of the place, as well as key insights from Hɛn Mpoano practitioners. The stakeholders have provided ample evidence, are calling for reforms and illustrating the willingness to do what it takes to see this through. We have learned many critical lessons and this document explores many of the major lessons learned.

To bring about major reforms in coastal and fisheries governance, four years is not enough. I believe, within this short period, we have managed to assemble a team that is winning the trust of people across sectors and scales. It is essential that this effort be sustained or we risk dispersing the capacities, the trust and the political will that has been assembled.

The people of the Western Region affirm their commitment to engaging in and supporting governance change. The voices presented in this document express the path that involves unlearning of old ways of doing and thinking. The voices have asserted that as they walk this new path, Hɛn Mpoano means advancing with serendipity, conviction, some risk-taking and faith. People have learned that paradoxes abound but that in the midst of profound uncertainty in the Western Region, the goal is for deeper understanding and commitment in dealing with economic, social and environmental change with improving governance. Hɛn Mpoano signifies that the path to changing others' behavior begins with changing our own.

*The cost of doing business as usual is huge, and the time for reform is now.*



iii **LETTER OF TRANSMITTAL**

iv **FOREWORD**

2 **CHAPTER 1: Design Principles For Ecosystem Governance**



- 3 Introduction
- 4 Design Principles that Guide Hɛn Mpoano
- 5 Building the Capacity Of the Core Team
- 8 Three Phases of the Initiative
- 10 Strategies and Adaptations during Project Implementation
- 14 What does Hɛn Mpoano means to you?

16 **CHAPTER 2: Building Constituencies In A Rapidly Changing Western Region**



- 17 Four Years of Rapid Transformation of the Western Region
- 18 Coastal Districts at a Tipping Point
- 22 Focusing on Issues that Matter Most to the People of the Place
- 22 A Fresh Approach is Needed

24 **CHAPTER 3: Building Capacity For Coastal Governance: Lessons Learned**



- 25 Context for Coastal Management
- 25 Experiences in Shama District: Addressing Issues that Matter Most
- 28 Building Local Awareness and Capacity With a Range of Tools and Training Strategies
- 29 Transforming Community Scale Governance from the Bottom-Up
- 30 Transforming Regional Scale Governance: Uniting Across all Six Coastal Districts
- 30 Engaging With Traditional Authorities
- 32 Proposing a Fresh Approach to Coastal Governance



## 34 **CHAPTER 4: Adapting Fisheries Governance: Lessons Learned**



- 35 Integrating International Experience with Local Knowledge to Advance Fisheries Governance in Ghana
- 37 Fisheries Governance Context in Ghana
- 38 Building Collaborative Platforms to Think Together & Learn Together
- 40 Study Tours to Learn How Others Were Facing the Same Issues
- 41 Strengthening the Role of Women in Planning and Decision-Making
- 38 Building Social Capital and Fostering Compliance Through Radio Drama
- 38 Improving Enforcement of Fisheries Regulations
- 38 Strategy Reflection: The Policy Dialogue Process
- 38 Proposing a Fresh Approach to Fisheries Governance

## 48 **CHAPTER 5: Reflections On Lessons Learned For Building Adaptive Capacity**

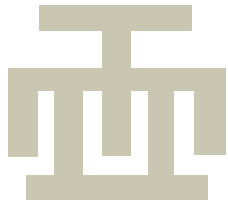


- 49 Principles to Guide Next Steps in Governance Reform
- 49 Build a Deeper Knowledge Base of Social and Environmental Trends
- 49 Analyze How Governance Systems Respond
- 49 Build Leadership Through a Shared Vision
- 49 Build Capacity for Facilitation and Mediation
- 49 The Tool-Box for Capacity Building
- 49 Track Progress and Adapt in Time
- 49 Be Open to Surprises that Occur
- 49 The Path Forward

## 56 **ANNEX**

## 63 **LITERATURE CITED**





# Design Principles For Ecosystem Governance

## Introduction

On July 11th of 2009, US President Obama pledged support for a fresh approach to international development in his remarks to the Ghanaian Parliament in Accra.

*I have come here, to Ghana, for a simple reason: the 21st century will be shaped by what happens not just in Rome or Moscow or Washington, but by what happens in Accra as well.*

*You have the power to hold your leaders accountable, and to build institutions that serve the people. You can serve in your communities, and harness your energy and education to create new wealth and build new connections to the world. You can conquer disease, end conflicts, and make change from the bottom up. You can do that. Yes you can. Because in this moment, history is on the move.*

*But these things can only be done if you take responsibility for your future. It won't be easy. It will take time and effort. There will be suffering and setbacks. But I can promise you this: America will be with you. As a partner. As a friend.*

UNITED STATES PRESIDENT BARACK OBAMA

The purpose of this document is to summarize key lessons learned from the Integrated Coastal and Fisheries Governance (ICFG) Program, locally named and hereafter generally referred to as Hɛn Mpoano (meaning “our coast” in the local language of Fante). This document has been prepared at the endpoint of the four years of project implementation, that began in September 2009. Throughout the document, the voices of Hɛn Mpoano staff and key stakeholders share their insights on what has been learned in light of goals, design, process and the results of the Initiative. These are presented in a set of 12 essays prepared by staff of the core partners of the implementing team of Coastal Resources Center at the University of Rhode Island Graduate School of Oceanography, Friends of the Nation, WorldFish and

SustainaMetrix. Another set of voices featured in this document is that of the key stakeholders in Ghana's Western Region: women and men, people who represent the range of constituencies including traditional authorities, district executives, chief fishermen, fishmongers, planners, health care workers, enforcement officers, volunteers,

elected officials, communicators and actors. Their words have been gathered through in-person interviews conducted in March 2013 and edited for clarity. Together, these voices present evidence of hope in the face of massive change. They convey a willingness to continue to build upon the progress that has been made to date and acknowledge the challenges ahead. This document is intended to serve as a companion to the document prepared at the start of the program which provides an overview of the coastal and fisheries governance issues of the Western Region.

This document is complemented by proposals for a fresh approach for both coastal and fisheries governance in Ghana to be piloted in the Western Region as a model for the nation. Preparing the proposals became the central objective of Hɛn Mpoano, which worked to assemble the pre-conditions for a formally constituted and decentralized coastal and

fisheries governance Program for Ghana's Western Region that can serve as a model for the nation. The proposals as well as Our Coast, Our Future and over 100 technical documents that were generated by the Program are available for download at: <http://henmpoano.org>.

Transforming fisheries and coastal governance in Ghana is a complex and long-term challenge that will require a collaborative and adaptive effort of people, across sectors with different values, perspectives, and worldviews. This document is intended to add to the growing evidence that meeting this challenge is both necessary and possible using methods tested through Hɛn Mpoano.

These methods include an adaptive design, meaningful engagement, rigorous analysis, leadership to build political will, strength in facilitation, mediation and conflict resolution, and periodic reflection. The story presented here is Ghanaian but is intended to serve as an example for people and leaders in other places willing to invest in an alternative path to a better future.

## Design Principles that Guide Hɛn Mpoano

The design of the Program is rooted in an ecosystem approach to governing the use of marine and coastal resources. This approach begins with an appreciation that the three main rivers of the Western Region—the Pra, Ankobra and Tano—meet the oceans and together form a coastal landscape that is abundant in natural resources and has provided the people of the Western Region with a source of livelihoods for thousands of years. The communities of the past, the present and the future will depend on the health of these systems. Unfortunately, experience from around the world shows a common trend of steady decline and in some cases collapse of such resources. The ecosystem approach embraces the needs of the people as well as the health of the natural systems that support them.

An ecosystem approach must to consider what is going on one level higher and one level lower in the system of concern. Engaging with a group of stakeholders on issues regarding coastal lagoon and mangrove forest ecosystems requires that ideas and solutions take into account the needs of individual households as well as multiple-actor networks found at the district, regional and national levels. For example, a critical issue for Hɛn Mpoano was to better understand issues relating to food security in the coastal districts of the Western Region and to propose measures for addressing these issues that are mainstreamed into regional and district-level planning processes. Hɛn Mpoano began at the scale of the communities to meet with individual actors to better understand core issues and then broadened its engagements to those involved in fisheries and land use to better understand the integration between the two and the implications for food security. This led to engagement across multiple networks of people in other districts as well as national authorities, building upon the trust and credibility that was earned at each step along the way.

The Hɛn Mpoano Initiative worked with the current governance system, believing that any proposed modifica-

tion to or transformation of the structure would need to be developed through extensive collaboration and would need to respond to a broader set of environmental issues facing Ghana. For example, the policy proposals for a fresh approach to both coastal management and fisheries governance for the Western Region are nested within national policy frameworks that support local level actions at the district and community scales. These specify in detail the roles, responsibilities and membership and enjoy strong support from stakeholders.

Knowledge of social and ecological dynamics must develop as a collaborative effort and become part of the organizational and institutional structures. For example, by focusing on gender issues, the team developed a more complete understanding of the dynamic role of women in the fisheries value chain. The Program team learned that women play a significant fisheries role in purchasing fish, setting price points that influence supply dynamics, frequently providing capital for acquisitions of boats and motors and processing smoked fish. The activity relies on mangrove wood and links the women's activities directly to mangrove cutting. While having significant roles of authority, women had virtually no voice in decision-making on fisheries management. As discussed in more detail in Chapter 4, the Program addressed this gap through the development of collaborative structures specifically for women and engaged



in four study tours to sites such as Tanzania, Philippines, Senegal and Ivory Coast. As a result, women now play a stronger role in improving supply practices, mobilizing resources for livelihoods improvement and engaging in conflict resolution, to name a few examples. Such efforts provide examples of good practice of community-based approaches to fisheries management that can be made operational. They demonstrate ways to increase community resilience and livelihood interventions as a component of fisheries reform and to ensure legitimacy of management interventions.

Social networks and collaborative platforms have been developed or supported to connect institutions and organizations across levels and scales to share information and to identify knowledge gaps, expertise and priorities for building capacity. These include the creation or support for strengthening groups such as the Platform for Coastal Communities, the Fisheries Alliance, the Western Region Canoe Fishermen Association, leading partner Friends of the Nation, and many others. The Hen Mpoano Initiative has developed a brand, social identity and network so that there is now a growing cadre of Ghanaians with the capacities and the commitment to carry forward the values and Initiatives it has put into motion. The emerging networks are supported by improvements to district and regional level information systems for coastal and fisheries management and increased

knowledge, skills and attitudes of public officials and community level stakeholders including the Western Region Geographic Information Hub and ongoing research and technical support provided by the University of Cape Coast.

To be effective, ecosystem governance Initiatives must be sustainable over long periods of time— usually many decades—must be adaptive to changing conditions and must provide the mechanisms to encourage or require specific forms of resource use and collaborative behavior among institutions and users. The Shama District provides an example. This new district was established in the Western Region roughly at the time when the Hen Mpoano Initiative started. This created a window of opportunity as the new District Executive sought assistance from Hen Mpoano, which successfully assembled a team that is winning trust and creating positive outcomes. Today, the District has adopted flood control ordinances and shoreline plans and established a committee to address shoreline issues. National institutions are increasingly engaged and supportive of implementing integrated coastal management models that have been tested and adopted in the Western Region. Partnership Programs have been established to support implementation structures and move models into practice. These efforts must be sustained or the trust that has been won, the capacities that have been built, the political will to address these long term issues will likely decrease over time.



## Building the Capacity of the Core Team

The ICFG is a cooperative agreement between USAID/Ghana and the University of Rhode Island Coastal Resources Center (CRC) at the Graduate School of Oceanography, planned as a four-year Program ending in January 2014. The lead funding partner, the US Agency for International Development (USAID) provided grants worth \$10 million as accompanied by matching funds of US\$2.5 million contributed collectively by the four implementing partners: CRC, Friends of the Nation, SustainaMetrix and WorldFish.

These partners came together and agreed to follow an ecosystem-based governance approach. Friends of the Nation, a local non-governmental organization, has considerable local knowledge, relationships and experience. CRC built a local project implementation team, primarily of Ghanaians, who also brought considerable local knowledge to bear on the key issues. While familiar with the basic philosophy, actually implementing an ecosystem approach was new to many of the local team members. CRC staff based in Rhode Island, along with experts from WorldFish and SustainaMetrix, brought in experiences in ecosystem management from around the world but for their part had no direct previous experience in Ghana and had themselves not worked together previously on this scale of project. Thus the learning curve for everyone was steep in moving together toward building necessary capacity and developing a strong collaborative team.

The ecosystem governance approach is difficult to put into practice within the confines of a single project. It requires a range of competencies and is best implemented by a team that is familiar with each other, has a common framework and a shared language. Accountability requirements of the major donor, USAID, created steep learning curves for many participants in the Initiative, coupled with the challenges of needing to work across scales and across sectors in Ghana's Western Region. Tensions, confusion and missteps did occur

from time to time among the four partners. Looking back, all agree that more time should have been allocated at the start to sharing prior experiences and lessons learned from their work in other locations and more time should have been taken to define more clearly for Ghanaian team members and stakeholders the implications of the ecosystem approach. A key conclusion is that as new people begin working in a Program aimed at addressing coastal and fisheries governance and ecosystem scale issues, they should all be required to go through a similar training and capacity building to get up-to-speed more quickly and strengthen the level of collaboration. The team gradually developed characteristics of high-quality collaboration and relied upon periodic staff retreats to address key strategic and tactical issues.

Simply put, traditional sector-based top-down management is easier to carry out than the ecosystem approach, but it does not produce the desired results. This is reflected in the challenges of leading a project that seeks to promote policy reform. The ecosystem approach involves engagement by many more actors; it requires more time than traditional top-down sector management and can be messy. For more effective engagement of stakeholders, power of decision-making is often shared among people across disciplines, sectors and social scales. Simply communicating across these scales can be difficult, let alone sharing power to decide on what needs to be done. Trust is essential and the core thread for a woven fabric of community that allows people to work together more effectively. However, trust cannot be

**STEPHEN KANKAM**, the Program coordinator for Coastal Resources Center in Ghana, describes this period in the first essay in *Staying Focused on Program Design* in Essay #1.



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## Staying Focused on Program Design

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Early in the process, it became clear that our larger team of roughly 40 people consisted of two distinct groups, an international team with world experience in the practice of coastal and fisheries governance but relatively uninformed about the nuances of the Ghanaian context, and a local team with relatively little experience in the practice of coastal ecosystem governance, but a long experience with the context of Ghana. In retrospect, we should have identified this gap early on and worked to develop a stronger shared understanding and vision. Instead, we hit the ground running and started to implement a variety of field activities and encountered some bumpy roads. In this context, implementation involves work associated with identifying the key issues from the perspective of the community as well as trying to understand how the governance system works through case studies and literature review.

One of the central challenges was paying attention to our original Program design and keeping focused on Program goals versus being reactive and responsive to opportunities and requests as they arose. As a governance Program, the focus was on catalyzing holistic/system-wide changes in the bottom-up and top-down governance of coastal and marine areas. At the same time, the Program paid significant attention to early actions at focal sites that addressed diversification of livelihoods, gender, public health and food security. Though this was meant to build support for comprehensive planning, the issues were often deeply interrelated and highly complex. The selection and implementation of over 15 different early actions added to the difficulty in staying focused. Part of the challenge was also our inability to turn down requests by local partners who needed planning assistance, as illustrated in Chapter 3 with the example from Shama district.

*For me, losing focus on Program goals was disorienting but did not seem to create undue anxiety. What became more crucial was the overall team's increasing collective ability to detect and acknowledge deviation from Program goals and re-align efforts and priorities.*

Often, the team was able to re-align priorities towards Program goals through our regular retreats, monthly work planning sessions and semi-annual M&E (Monitoring and Evaluation) events. We came away from these events with a stronger team and a revised plan for sequencing, prioritizing and adapting implementation strategies and actions.

*The first year of the Hen Mpoano Initiative was about questioning, listening and understanding the context in the Western Region. The second and third years were dedicated to field implementation and setting up of pilot projects and models.*

These years were marked by a great deal of learning-by-doing, during which time the oil and gas development intensified. While these massive changes were distracting to our focus on Program implementation, it did allow us to reflect on the rapidly shifting context and on how best to adapt the annual work plan to better fit that rapidly changing context. Through this effort, the project team clarified objectives and defined a way forward. Central to this adaptive approach was the use of governance scorecards that became a major feature of the monitoring and evaluation events held at six-month intervals. At first, it was like we were trying to speak Greek to each other, and many were confused with what we were trying to accomplish. But with reinforcement through routine events, we developed a true shared language of process and outcomes. This language became our way of communicating through periodic self-assessment, and how we described the Program during our mid-term external evaluation. It was during this process that we all began to more fully understand the importance of an adaptive learning-by-doing approach that was grounded in a common framework. This process gave us the tools to make adjustments to the priorities and strategies during implementation and more importantly, helped the team to re-align priorities and adapt towards Program goals. It was also a way of fostering collaborative learning and integration across issues and sectors within the Program.

bought or sold; instead it must be earned through repeated actions that build credibility and confidence. Trust among sectors and across political boundaries can also be lost in an instant and can be very difficult to ever rebuild. This helps to explain why the ecosystem approach is not yet widely practiced with much success.

The ecosystem approach also embraces the uncertainty of the future. The Hën Mpoano Initiative used a simple catch phrase of “learning by doing,” which means that the outcome of an intended effort cannot and will not be known until it is tested. After testing, adjustments likely will need made, coupled with continuous learning about what and how the system works. Good governance requires constantly adapting based upon what is being learned. While simple in concept, the practice is very difficult because the adaptations may mean changing ingrained routines of individuals, groups and institutions. The ecosystem approach is about building the capacity to change business as usual as better methods emerge and are agreed upon and for which everyone is held accountable—even if this approach affects short-term gains.

A definition of the ecosystem approach is summarized by McLeod et al, 2005: “Ecosystem-based management is an integrated approach to management that considers the entire ecosystem, including humans. The goal of ecosystem-based management is to maintain an ecosystem in a healthy, productive and resilient condition so that it can provide the services humans want and need. Ecosystem-based management differs from current approaches that usually focus on a single species, sector, activity or concern; it considers the cumulative impacts of different sectors.”

## Building the Essential Enabling Conditions for Ecosystem-based Governance in the Western Region

A core feature of the Program design is rooted in the four partners’ use of a simplifying conceptual framework designed to be readily understandable by the multiple stakeholders in the Initiative. Much thought and effort was devoted initially to the sequence of essential actions that define the processes by which an Initiative is organized. This is best captured by the five-step management cycle (GESAMP, 1996) that organizes the many actions and the different contributions of the sciences to steps of issue identification and analysis, planning, negotiation of authority

and funding. This provides structure to a plan of action, Program implementation and an evaluation of the effort and its impacts.

Analysis of experience in applying the ecosystem approach (vs. sector-based management) and attempting to integrate across sectors has also shown that a well-designed and well-executed management process still may not produce the desired outcomes. This has led to development of a simplifying framework that disaggregates the ultimate goal of sustainable forms of development into a sequence of more tangible outcomes (Olsen, 2003; UNEP/GPA, 2006; National Research Council, 2008). The 1st Order Outcomes define the four enabling conditions for the sustained practice of the ecosystem approach. Experience suggests that the transition to the full-scale implementation of an ICM or fisheries Program can be anticipated only when all four of the following conditions are present:

- > A core group of well-informed and supportive constituencies actively supports the Program,
- > Sufficient initial capacity is present within the institutions responsible for the Program to implement its policies and plan of action,
- > Governmental commitment to the policies of a Program has been expressed by the delegation of the necessary authorities and the allocation of the financial resources required for long-term Program implementation and
- > Unambiguous goals that address both societal and the environmental conditions have been adopted against which the efforts of the Program can be measured.

These enabling conditions result from the successful completion of an analysis of problems and opportunities (Step 1). Work then proceeds to the formulation of a course of action (Step 2). The next stage is when stakeholders and responsible government agencies commit to new behaviors and allocate the resources to implement the necessary actions (Step 3). This requires formal commitment to a set of policies and a plan of action and the allocation of the necessary authority and funds to carry it forward. Implementation of the policies and actions is Step 4. Evaluation of successes, failures and learning, as well as a re-examination of how the issues themselves have changed, rounds out a generation of the management cycle (Step 5).

Progress and learning are greatest when there are many feedback loops within and between the steps (Olsen et al., 2009). The Hën Mpoano Initiative applied these frameworks to sequence and prioritize activities but also to make adaptations along the way. Two scorecards were used: one to track progress, the other outcome attainment. Summary



of results of the process scorecard is presented in Appendix A. The first scorecard is based on the five-step policy cycle described above. It addresses the sequence of specific actions that guide the process of developing a Program constructed on the principles of the ecosystem approach to a natural resource governance Initiative.

## Three Phases of the Initiative

A major feature of the Program was to implement it in three phases over the four years. This allowed for a series of design principles to be executed and for reflective learning to intentionally occur at the end of each phase for adaptations and adjustments. For example, Phase I began with a demand-driven approach in which the team would go out to the communities and inquire as to the most important issues and then shape the work in Phase 2 to address these issues. This was a decidedly bottom-up approach that also required engaging with people who were responsible for top-down management to better understand the function and dysfunction of the existing governance system. Phase 3 was intended to be a summing-up period to propose a way forward based upon what was learned that would serve as

models for the nation.

In **PHASE 1**, the Initiative focused on learning about the issues of fisheries and coastal management through community surveys and the current structure of governance in the Western Region's six coastal districts through community characterization. A summary of the current governance system and the proposed path forward of the Program was published at the end of this phase as "Our Coast, Our Future." It outlined key coastal governance issues in the Western Region as identified through technical and participatory assessments conducted in Year 1 and set the agenda for the Program in the future years. Phase 1 featured the selection of the parameters of the Program delineated by the northern, eastern and western boundary of the six coastal districts of the Western Region with the southern boundary defined by the extent of the artisanal fishing grounds, six nautical miles offshore.

**PHASE 2** covered a wide range of activity concentrated in three key focal areas: Shama, Cape Three Points and the Greater Amanzule wetlands. These focal areas were selected to better understand the dimensions and range of conditions of the key issues identified in Phase 1, to engage in projects such as restoration, monitoring and planning

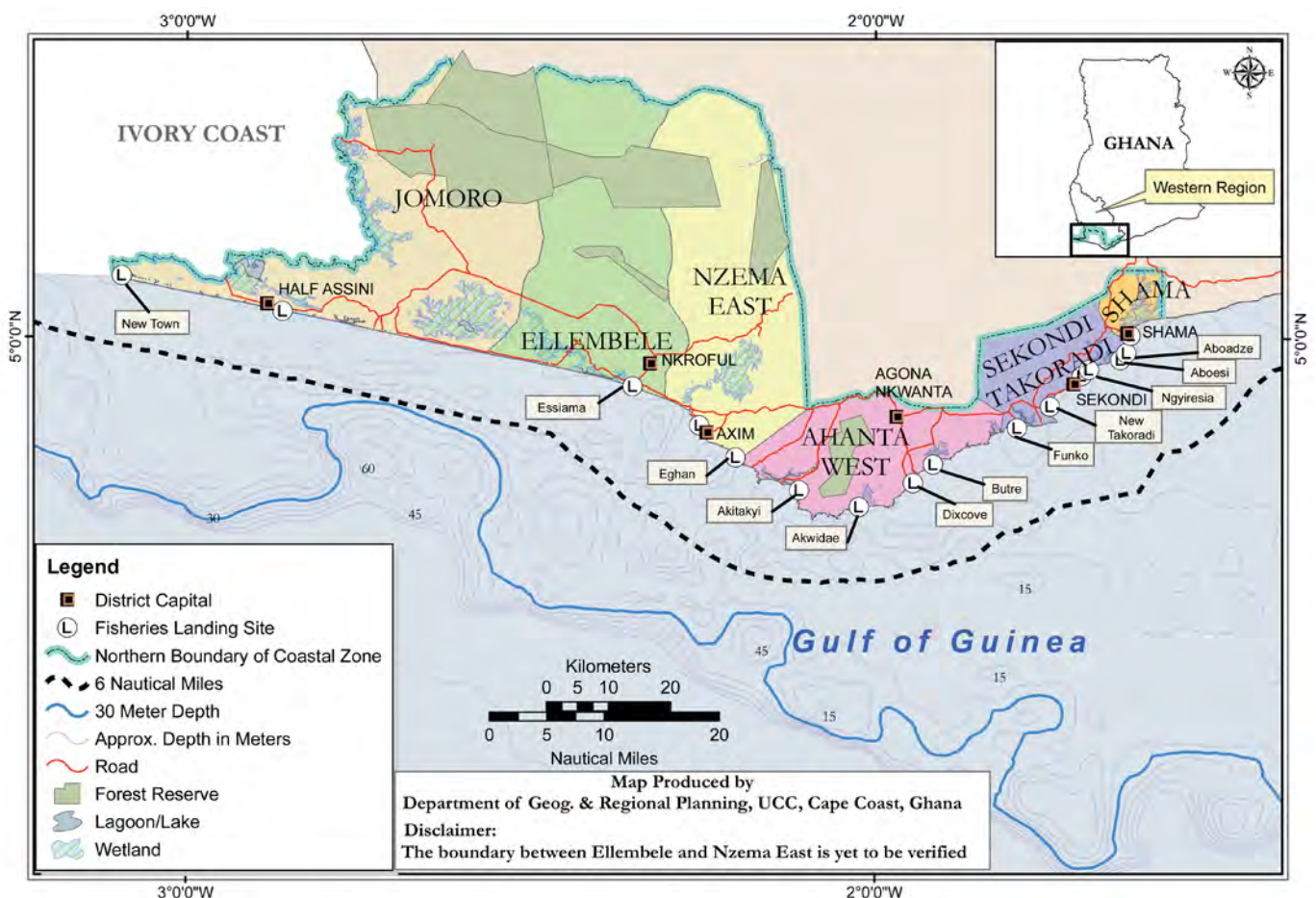


Figure 1.1 – Map of Six Coastal Districts of Western Region, the area of focus for the Program.

efforts as well as to target capacity building efforts so as to build upon that experience to consider reforms for the governance system. By engaging with these complex systems, Hɛn Mpoano began learning how the roles and responsibilities of the individual communities, the six coastal districts and coordination at the regional scale are made explicit, how they could respond to change and if and how they could be strengthened. This strategy was based upon the idea that through direct engagement the Program could better see what changes were most needed in the policies and procedures at different scales and what actions would be needed. This required that the Initiative maintain a stronger presence in the nation's capital of Accra and consult regularly with agencies of central government. This was particularly obvious regarding the issues of fisheries, since virtually all policy making and monitoring and enforcement actions are planned and executed in Accra. While progress was eventually made in this regard, it was a slow effort as much attention was focused on taking action in the pilot focal areas.

Within the first few years, some positive results were attained.

- > In Shama, the District Assembly successfully completed a full demonstration of a District ICM plan that is also integrated into land use and development planning. One coastal village (Anlo Beach) integrates community-based fisheries governance, livelihood and landing site improvements, wetlands restoration and management for harvest of wild shellfish, coastal hazards and climate change adaptation.
- > In Cape Three Points, the Ahanta West District has

successfully demonstrated a Landscape to Seascape "Green Belt" planning in the area surrounding Cape Three Points Forest and adjacent coast and marine areas. There has been progress in promoting best practices in a shorefront planning for shore tourism sites. Plans have been advanced for climate resilient coastal settlements (Akwidaa and Dixcove) as well as an application of rapid techniques for hazard and climate change vulnerability assessment.

- > In the Greater Amanzule Wetlands, shared by Jomoro, Ellembele and also including Nzema East Districts, the adjoining barrier beach and dune system occupied by dozens of small villages presented an the opportunity for advancing the creation of a permanent governance mechanism for sustainable landscapes management in a shared wetland system; planning for vulnerable small coastal settlements and articulating local concerns that need to be addressed in energy facility siting.

**PHASE 3** has been a time dedicated to documenting all of the progress that was made through the Program and articulating a set of policy briefs and white papers. These policy documents defined the transformations needed in the current system of governance to address the issues posed by the growing challenges of the fisheries and coastal management agenda of Ghana. The four-year Program succeeded in its goal to build enabling conditions for a fresh approach to coastal and fisheries governance that can serve as models for the nation of Ghana.

**ROBERT ALLOU** is the author of Hɛn Mpoano Essay #2. He is the program Accountant for the Coastal Resources Center in Ghana, joining the team mid-way through Phase 2. He describes the frenzy of activity and the critical nature of financial management and quality of collaboration in the initiative.



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## Accurate and Timely Project Accounting Matters

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Despite what you may think, the life of a program accountant for Hen Mpoano is not all fun and games. With the massive pace of program activities, non-stop need for engagement and public participation, the job of project accounting is extremely challenging, and we have learned a few lessons. Most important is the need to adapt and be flexible while at the same time increasing our fiscal controls and quality of accounting. Here's one example. Our program team wanted to host a law enforcement training program for the staff of a national agency, who informed us that the number of participants would be about 35 including senior-level officials and possible last-minute arrivals. We used this estimate and negotiated for hotel accommodations and other necessary logistics far advance to meet these visitors for this important occasion.

On the day of the program, we learned that many more persons, about 20 from various partner organizations, were interested in the training and were on their way to participate. This was going to require additional travel allowances and cost of accommodating them, which was not budgeted for. Added on top of this expansion of the event, yet another 15 people arrived unexpectedly to the program on the first day of the event, also needing accommodations and reimbursements that were initially not budgeted for.

Even though it was a major programmatic success to have all these dignitaries at such a function to discuss the vexing issues of environmental law enforcement and compliance, nobody could have predicted their arrival or budgeted for it. Imagine the amount of paper work involved in that sort of event: cash advances, travel receipts, and financial reporting that had to be accurate and timely. We subsequently took all the necessary measures required to ensure that such a difficult administrative situation will never happen, knowing well that as we become more successful in engaging across sectors, we will have bigger and bigger events and we simply cannot know the actual costs until after the event is over.

We have learned that the most important tool is effective communication among the program teams. While this was just one program event that got somewhat out of hand, it is symbolic of a tendency to envision transformative work without considering all the actual details. Also we learned that we needed to have a much more

integrated approach from the start between project implementation and accountability. When the program first started, it moved quickly on many fronts, but unfortunately fell into a rut of late report submissions and letting accounting deadlines to pass, and accepting unfinished reports. This put pressure on the project managers to finish work themselves and need to constantly request extensions of time. This had a consequence of generating a burden to administrative staff and creating a backlog of financial and administrative challenges that took a big effort to overcome. Ironically, this situation was made worse by not anticipating and preparing sufficiently for our success. The better we did with programs, the more in demand we were for tours of our projects by high level officials, more meetings with other partners and more requests for advice and assistance.

*We learned to bring both the management and finance team together from the very start of the program year, to be able to understand the challenges and the potential direction of Hen Mpoano activities.*

Failing to do this early on caused a great deal of unnecessary anxiety between the financial/accounting team and the project managers, all of which could have been easily avoided with thoughtful planning and improved ongoing communication.

Gradually, the Hen Mpoano initiative managers overcame the challenges that seem to have prevented them from being on the top of the situation at all times. For example, the low priority given to the Finance unit became a thing of the past by employing a competent Finance Manager and Executive Assistant who are improving communication, using more streamlined tools and improving the timeliness of the program's monthly financial reporting to the Headquarters. If we had to do it all over again, we would conduct rigorous trainings from the start, describe in clear detail why the Finance unit is so important, and to use scenarios to consider how things are developing so we can stay ahead of the curve rather than constantly catching up.

## Strategies and Adaptations during Program Implementation

International development Programs such as Hɛn Mpoano typically feature a formal relationship between the Program and one central governmental ministry. However, since this Program was intended as integrative, to work across many governmental ministries, across sectors and involving many different stakeholders, the Initiative instead engaged an Advisory Council representing government, civil society and private sector stakeholders. The Council is chaired by the Western Region's Chief Director and composed of members including representatives of traditional authorities, faith-based organizations, private sector, civil society and key government organizations who have a stake in improved coastal and fisheries governance. This was a key decision to integrate senior level decision-makers from across sectors from the start and seek direct and honest feedback from these leaders who possess a diversity of knowledge and legitimacy in the region. The Advisory Council has demonstrated its trust and faith in the Program by putting their names to all of the Program's policy briefs, proposals and major documents associated with the Program.

Another adaptive approach that defined the learning-by-doing orientation was the practice of regular staff retreats as well as monitoring and evaluation sessions that featured productive dialogue among the four implementing partners on progress, lessons-learned and necessary changes. Adaptations were made on a yearly basis through annual work plans, tied with budget recalculations when some Program elements were dropped and others picked up that were not planned.

A mid-term external review by a team of professional evaluators presented an important set of recommendations that helped to guide Hɛn Mpoano's transition from

Phase 2 to Phase 3. The evaluation also served to reinforce the unique nature of the work to the Advisory Board and key constituencies, to encourage a more active presence in Accra and to conclude some of the work in the focal areas to concentrate efforts in writing up the policy briefs, white papers and proposals for governance reform.

For the areas of geographic focus of Hɛn Mpoano, the legacy will include working models of best practices in integrated coastal management mainstreamed and operational within several district development and/or land use plans. These models have been generated through lived experience in selected ICM practices and will serve to inform the approach taken by the nested governance proposal for ICM and fisheries.

The project became recognizable to a wide diversity of stakeholders as different and refreshing. Early on in the first year the Initiative originally entitled the Integrated Coastal and Fisheries Governance Program became known as Hɛn Mpoano. Re-naming the project created a sensitizing concept around the core meaning of the project and reinforced the local nature and the geographic scope of the coast (but not limited to the Western Region), the intended ownership of the project to be Ghanaian, and the aspirational aspect of considering the future of the coast. T-shirts, stickers, hats, calendars and billboards were some of the communication tools used to raise awareness of the name and increase awareness throughout the community to its present high level.

**PATRICIA ABA MENSA** has prepared Hɛn Mpoano Essay #3 that captures the essence of the importance of transition to the name Hɛn Mpoano.



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## Building Trust Through the Name “Hen Mpoano”

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Driving down a dirt road, stirring up a cloud of red road dust in our wake as we approach a cluster of communities in an unbranded project vehicle. In no time we could hear community people shouting our slogan and waving at us from all angles.

*They are shouting “Hen Mpoano! Hen Daakye!” in Akan (most spoken Ghanaian language) “Our Coast! Our Future!” A sense of pride and of accomplishment wash over us as the driver asks, “How do they know us?” “Brand penetration!” I respond while smiling!*

Significant awareness and trust have been built over a relatively short period of about three years, a social capital whose presence extends from the villages to the Government Ministries in Accra. I was part of the Hen Mpoano team that traveled to 89 coastal communities in the Western Region for a community characterization exercise. This was a time when community people were apprehensive of strangers and we were even chased out of a few communities. We realized quickly that we needed to build trust within the community and figure out ways to maintain it if we wanted to return. One sure way of doing that was the adoption of a local slogan for the Initiative to ensure that community people identified with the Initiative.

Within the first six months of the project, we ran a slogan contest in the focal districts of our work area and settled on “Hen Mpoano,” which means “Our Coast,” and the name has stuck! The name itself has raised consciousness about a possibility that the future of the coast can and should be shaped by the people who live here, not by the oil companies who will only be here for a few years.

The name took on a life of its own and was amazingly effective. This result was one-part strategic, one-part opportunistic and one-part luck. Now, international events like World Environment Day and World Wetlands Day are celebrated as if Hen Mpoano itself created them. The name has stuck with students and elders alike through inter-schools conservation competitions, through a range

of billboards, beautiful calendars, T-shirts, car stickers and baseball caps. Before long, our name and goodwill spread like bamboo growing on an open farm.

In the westernmost coastal district of the region, where defecation at the beach used to be very common, community people who engaged in this practice told us they stopped doing it because they became fearful of those neighbors in the community who wore Hen Mpoano T-shirts, knowing that public defecation was bad behavior that could be reported to authorities with consequences like fines.

While this was good progress, our goal towards a nested governance system as a model for the nation, where one level of governance is embedded in the next level, needed to build on the growing social capital. To this effect, training Programs, policy discussion papers, issue briefs and national dialogues were organized and supported by our diverse stakeholders all under the name Hen Mpoano. New committees were established at all levels of governance that support a more nested governance Initiative.

*I learned that the quality of the Program behind the name matters most but the name is what people remember. The name Hen Mpoano has real meaning and represents a commodity called trust that cannot be bought or sold. It means we have built social capital for changing the Western Region of Ghana.*

Now some civil society groups in the region have adopted the Hen Mpoano slogan as their greeting slogan during meetings. Who would not identify with such a comforting brand?

*“Hen Mpoano! Hen Daakye!”  
“Our Coast! Our Future!”*

# What does the Name Hɛn Mpoano mean to you?



ALL OF THESE VOICES ECHO the fact that it would be a fundamental mistake at this stage of governance reform to slow down, disband the team and simply assume that since policies for fisheries and coastal management have been proposed it becomes the responsibility of government alone to take the critical next steps to move through mandate and into implementation. The challenge ahead lies in increasing the momentum gained from the successful engagement in the design of the policy from all sources of governance (that includes traditional authorities, market forces, civil society and government) to move through the next steps in the policy cycle, secure formal commitment from the relevant agencies of government and implement the reforms to the governance structure. A long-term and sustained effort is now required, well beyond four years, to secure formal mandate to implement the necessary reforms and continue learning by doing through cycles of issue analysis, planning, implementation and reflection.

## REGIONAL FISHERIES OFFICER:

To me what they are doing is they are helping in fisheries governance and promoting the livelihood of fishermen. They are friends to fishermen; they are making them aware of what is going on. Simply, I would say the name Hɛn Mpoano means fishermen's friend to me.

## MONITORING CONTROL AND SURVEILLANCE OFFICER:

For me, I've always equated Hɛn Mpoano to food security. Everything about Hɛn Mpoano is about fish food security. From day one; getting the marine police to work, creating awareness at the beaches, the integrated coastal development approaches—everything about Hɛn Mpoano to me is fish food security.

**CHIEF FISHERMAN:** So far as I'm concerned Hɛn Mpoano means real and lasting help to the people of this place.

## POLICE OFFICER ASSIGNED TO

**MARINE LAW ENFORCEMENT:** Hɛn Mpoano, to me in our language means "our coast." What is it about the coast? We got to know that initially fishing within the communities had that

serene atmosphere—everything was OK with them, they get good catch. But with time we realized that there are a lot of illegal activities going on and that because of that Hɛn Mpoano wanted the police to come in to help. So Hɛn Mpoano to me basically is an organization that is coming to make sure that illegal or unconventional activities that go on would be curtailed.

**FISH MONGER:** Hɛn Mpoano means it is our coast. But what I really like is their involvement along the coast, with the fishing communities—educating them on various issues about fishing. There are some issues that the fishermen are not able to bring forward on their own to the appropriate quarters so Hɛn Mpoano has been of help to the fisher folks, showing them how they can channel their grievances and educating them also on certain issues. Maybe there are some issues that you may think it is the government that has to do this or do that but not necessarily the government but it is we the fisher folks who have to help ourselves.

**DISC JOCKEY:** For my part in Hɛn Mpoano, I worked with the Radio Drama called “Biribireba” which means “something’s coming” in our local language. From this work, I think Hɛn Mpoano is all about the changes in behavior that are needed to make sure we still have fish to eat, wetlands and forests to sustain us and a new form of governance so we can be more involved in the decisions that affects our lives.

**DISTRICT DIRECTOR OF HEALTH:** The main purpose of Hɛn Mpoano is to sensitize and educate communities around coastal area to look at the effects of human activities on the beach and how it can be prevented. Hɛn Mpoano did this through sensitizing stakeholders, fishermen and women who can be instruments of change to the people living along the coast. They also collaborate with the health workers in order to take good care of the people.

**TEACHER:** With Hɛn Mpoano, we now share the knowledge gained from activities that go on at the coast with our students and during our outreach Programs and now we can communicate better with the women in the community so that they can bring a change.

**FISHERMAN:** Hɛn Mpoano means “Our Coast.” That is important to those living in the coast because we have to be vigilant about the use of coastal resources and its sustainability. So in short Hɛn Mpoano came to educate us to know more about the coastal issues.

#### **MEMBER OF DISTRICT ASSEMBLY:**

Hɛn Mpoano is all about the dissemination of information and the engagement of people along the shore, this was all was very useful.

**DISTRICT CHIEF EXECUTIVE:** What readily comes to mind is the way Hɛn Mpoano was able to educate the fishers at Dixcove to the extent that when the other communities are having problems with government in terms of abiding with the new fisheries regulations, the people of Dixcove embraced it and work with it without any police intervention as compared to the other communities.

**TOWN AND COUNTRY PLANNER:** Hɛn Mpoano is about taking care of the coast and other encroachment activities that goes on at the beach. People defecate and throw refuse around and it is our responsibility to ensure our coast is maintained.

**DISTRICT CHIEF EXECUTIVE:** I am happy with everything Hɛn Mpoano has done....To me, Hɛn Mpoano has been wonderful.

**DISTRICT ASSEMBLY MEMBER:** Before the inception of Hɛn Mpoano concept, the District Assembly like other district assemblies here in Ghana was sort of having a top-down approach, but when Hɛn Mpoano came it was bottom-to-top approach. It was different, it was the opposite and in fact the people embraced it, because the people were consulted, actively involved, they participated to the full and that has not been the case so people received us in the communities with joy.

**TRADITIONAL CHIEF:** Hɛn Mpoano is a Program to educate people in the coastal areas and why these people are very poor. This Program proves to us that we have to be the richest but we don’t have the knowledge of management. Hɛn Mpoano is a project that helps us build our capacity to help us do a better job with development.

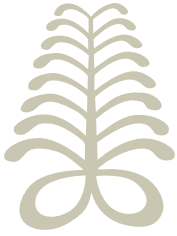
#### **MEMBER OF THE COUNCIL OF ELDERS:**

Hɛn Mpoano is about how to maintain our beaches and take care of ourselves—simply the proper management of our area.

**DISTRICT PLANNER:** Thinking about the coming in of Hɛn Mpoano—what was our reaction? Seriously, how is it going to ensure our forward movement? So we were a bit skeptical. Well as a rational institution we said, “Then let’s try and see how it would work.” So initially we were a bit not sure of what it would be like but when it went on, we derived a great deal from it—it has taught us how to structure our system of governance so we can deal with the issues that we face.







## CHAPTER 2

# Building Constituencies In A Rapidly Changing Western Region

### Four Years of Rapid Transformation of the Western Region

In the summer 2009, when the first stages of project design were underway, the Western Region was considered the quietest and most remote of the four coastal regions of Ghana. Beyond the twin cities of Sekondi and Takoradi, there were long stretches of remote, sparsely inhabited coastline. Since that time the pace of change and transformation has been astounding! Even though oil and gas was not the main focus of Hen Mpoano, it was clear that the rapid development associated with the sector would become a major driver of change, but the timing and extent of the change was unclear. What soon became clear was that the existing governance system could not adequately address the scale of transformation, and reform to the system was needed for coastal and fisheries issues. This section explores the pace of change in the Western Region through the eyes of the people who live there, the constituencies for governance reform.

Study tours were an important strategy to provide perspectives from other countries, to meet colleagues who are dealing with similar issues and to see how their governance systems are structured to address them. One of the first of



five study tours was held in April 2010 with a group of people from the Western Region who visited the Gulf of Mexico in the United States to explore the issues and experience with oil and gas production and seek potential models for a better approach. Ironically, this study tour occurred during the Deepwater Horizon disaster, providing a real-time example of the perils of off-shore, deep-water and complex oil drilling. The team also visited California, where co-management arrangements with fishers were being developed.

#### Tour participant Paramount Chief of the Western Nzema Traditional Area **AWULAE ANNOR ADJAYE III** noted lessons he learned:



**The possibility of Ghana's oil industry turning into a Niger Delta should not be overruled... Ghana's oil industry has a bright future but how it is managed is what actually matters.**

Since 2010, the Western Region has vaulted to the forefront of development and change in Ghana. In 2012 revenues from oil and gas topped half a billion dollars. Oil palm and rubber plantations also are expanding—often at the cost of small farms. The record high price of gold has also produced a surge in artisanal illegal gold mining (referred to locally as *galamsey*), and bauxite exports are booming. A coastal tourism industry is taking hold and, fueled by the oil and gas boom, prices for land, housing and food are spiraling upwards. People are migrating to the region looking for new opportunities. In the Western Region, spatial planning is in its infancy and the cumulative impacts on people and the environment are yet to be fully considered. Infrastructure is struggling to keep up with the pace of development. Major new facilities are being built without adequate water, sanitation, transportation or environmental controls. Many others are in the development pipeline, such as new ports, gas processing plants, airports, a refinery and housing projects the size of cities. These developments have been occurring with little or no input or consultation with the coastal district governments or the people most directly affected.

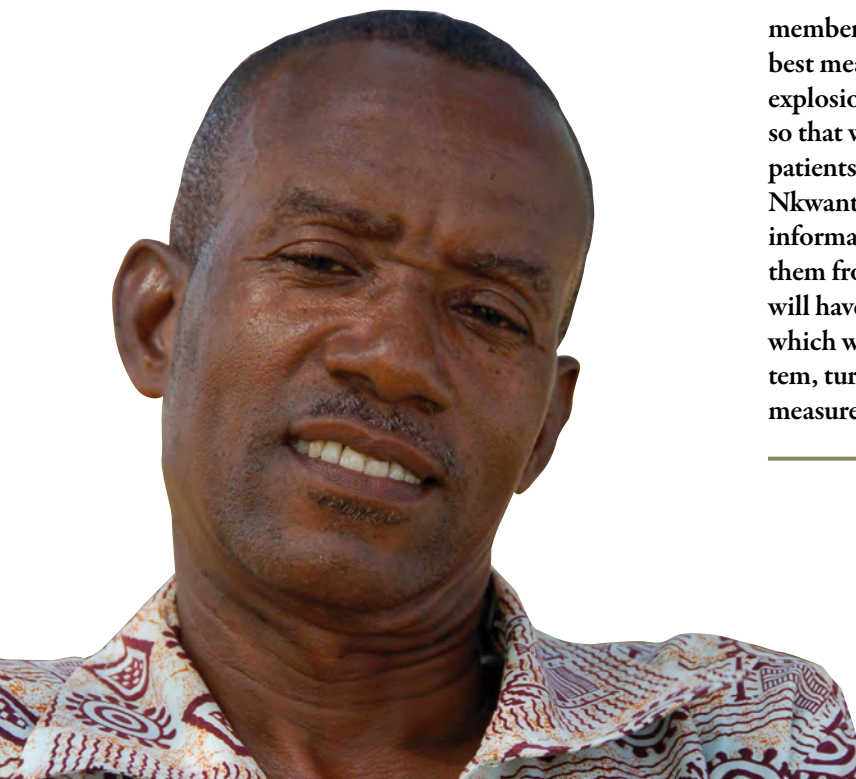
All of this is taking place as the two traditional mainstays of local economies and livelihoods are in decline: fishing and small-scale agriculture. Catches by the canoe fleet are down 60 percent compared to 10 years ago. St Paul's Wilt, a crop disease, has destroyed most coconut farming. It should not be assumed that former fisher folk and farmers simply would become workers in the oil industry or tourist resorts. Instead the economic and social challenges are complex, interwoven and must be addressed quickly. As the transformation speeds up, time is of the essence. Hɛn Mpoano's many participants are keenly aware that the Western Region is at a tipping point.

The Honourable **JOSEPH DOFOYENAH**, the District Chief Executive of Ahanta West District, describes a land rush this way:



After the discovery of oil in 2007, there was a mad rush for land in the Ahanta West District. The Assembly did everything about the land situation in terms of spatial planning but we became increasingly concerned about three things: 1) people from outside will speculate and buy the land for their personal gains; 2) there will be haphazard development in the district; and 3) land litigation problems in terms of land ownership.

In Essay #4, Hɛn Mpoano team member **ELVIS ADDAE** (pictured below) describes the dramatic transformation of the Western Region from the eyes of a member of the Hɛn Mpoano team.



## Coastal Districts at a Tipping Point

**GIFTY EZUAH BABUDU** is a woman with extensive experience in social issues who works as a Gender Officer in the Jomoro District Assembly, and she describes the likely impacts on youth, particularly young women:



The latest song being sung is about the promises of new oil and gas sector but our natural resources are all shadowed by the potential storm of oil and gas. The youth have ignored the education and skills that they would need in order to work in high-paying jobs in the oil sector. There will be an increase of teenage pregnancy. So many things will be changing... For instance, looking at how vulnerable and easily convinced the women are, and the influx of investors in the District. Most of the men are losing their wives and young girls to these investors. Prostitution is on the rise as is sexually transmitted diseases.

**ELIZABETH CORNEY**, the District Director of Health for Ellembelle District, describes the potential community impact of a major gas pipeline that is under construction and a brand new large refinery facility in Atuabo that will connect to a power plant being built in Shama.



The gas pipeline is passing through so many communities from Atuabo to Shama, and my fear is in case there is leakage on the pipe or explosion of the gas what security/safety measures have been put in place for community members. The community must be trained/educated on best measures to protect themselves. For cases like oil explosion, that is why the health center must be upgraded so that we can take care of accidents in the district so that patients will not be transported all the way to Efiu Nkwanta Regional Hospital. There should be more informal skilled job creation for the youth to prevent them from going into prostitution. My fear is that the oil will have an effect on our activities and also on the fish, which will affect our health as well including the ecosystem, turtles, mangroves and wetlands. There should be measures to protect all these.

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## Three Years of Rapid Transformation

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In the three years since the Hɛn Mpoano Initiative has been working to build a sustainable economy in the Western Region that benefits both the people and the local environment, the region has been subject to dizzying changes. The people of the Western Region are traditionally fishers as well as farmers who cultivate cash crops like cocoa, palm oil and rubber, and food crops like cassava, maize, plantain etc. The region is also known for logging and the mining of gold and other minerals. The Western Region boasts of the second largest harbor in the country and 193 kilometers of pristine sand beaches that are home to renowned hotels and a growing tourism industry.

The twin-city, Sekondi/Takoradi, is the capital of the region, and has long been known for its cleanliness and calmness, where residents enjoy music and a serene, modest and pleasant life. The region was self-sufficient in all things; hence the accolade “the best come from the west”

*While living in this natural and gifted environment, a big boooooom arrived from the far west: an OIL boom!*

At first, we started singing “Haleluya! Amen, ooh praise the Lord, another best from the west!” While deep in our hearts the cool pleasant water we had known still flowed, slowly and steadily the water around us became hotter by the day till we came to agree with the proverbial frog who does not notice the steadily heating waters of the pot until it is too late.

Right before the eyes of Hɛn Mpoano, things began to change. There was influx of people into the coastal districts of the region. The cost of living in the region increased rapidly. Sizes of balls of kenkey, fufu and other local staple foods like gari, shrank while the price rose. Due to influx of people into the region, rents and prices of other goods and services rose to higher levels. Spaces for rent were reserved for people who only work in the oil sector.

Excessive pressures are mounted on utilities like water, electricity and the management of waste. Filth has engulfed the city whiles electricity blackouts became a normal phenomenon. Women and girls spend precious time to fetch water as the taps no longer perform their natural duties of giving

clean water. Galamsey or illegal gold miners are exploding in number and are having a heavy toll on the sources of our drinking water.

Land in the southern sector of the region is being grabbed at an alarming rate for residential and/or industrial purposes. When I travel on the major highway further west I see the once green countryside and wetlands being filled and graded for structures that serve as offices and other services for the oil and gas industries.

Large tracts of land have been lost to the oil palm and rubber plantations. An immediate result is that many people who rely on these small plots now cannot grow their foods, and scarcity stares at the faces of residents where there was once plenty. The sea is becoming exhausted as it gives little or no fish to our fishermen during expeditions. Destructive and short-sighted fishing methods have become commonplace. Tell me somebody, what is going to happen if “hungry men decide to become angry men?”

As one of the opinion leaders of the Hɛn Mpoano fraternity, I travel the region to meet and interact with our stakeholders. I now see huge trucks speeding by on unfit rural dirt roads and huge traffic jams in the cities. With more people and bigger trucks on the roads, accidents are rife, people will get hurt and conflicts will become common. I hope someone can assuage my fear that these little drops would not degenerate into a situation familiar in Nigeria where things have become quite dangerous and a curse for the majority and a bonanza for a very few.

*In looking back, it would have been useful to pay more attention to the rapid transformation.*

We all knew it was happening and we reacted to certain events and did some innovative communications—but upon reflection—we should have paid more attention to certain trends to better tell the story, as the pot was getting hotter. That would help us inform District Executives, and educate the people of the region on the effects of the boom in the Western Region, and the effect it is having on the serene life we used to know.

19 **CHARLES SENYO**, a Principal Technical Officer for Ellembelle District, describes the changes he sees caused by rapid development:



The emergence of the oil and gas development plant at Atuabo has brought some changes in the Ellembelle District. There are developments taking place at Atuabo, where filling of lands for infrastructural developments for workers are underway as well as influx of people and big trucks we have never seen before are all moving fast into the District coupled with the high rate of galamsey operations in Nkroful and Esiam. All these activities have made cost of living, food and rent for accommodation very high and also a decrease in quantity supply of foodstuffs.

Ghana is recognized around the world as the regional leader in democratic governance. It is this democratic tradition that lies at the heart of hopes for a positive future. This is an asset as great, or greater, than the nation's mineral wealth. In such a context of positive governance, the current challenges in the Western Region can be addressed but it will require significant effort and transformation to the existing system. It was a clear and conscious decision of the Hen Mpoano Initiative to work within the current governance system and not try to build a shadow system that would only last as long as the project. Given this path, the critical question is whether the current governance system can be adapted and, if so, will capacity be built to effectively respond to the intense development pressures and avoid the curse of oil.



**JOHN BLAY**, who is a member of the Amanzule Working Group who resides in Atuabo in the Ellembelle District, has witnessed the massive development that is occurring in the wetlands from the large-scale facility development and describes why protecting the vast resource is central to providing for long-term livelihoods:



Some time ago, we did not see the importance of the wetlands and we did all sorts of illegal things in the wetlands but when we formed the wetlands working group, I realized that it was very important that we protect this ecosystem for future benefit. There is a village called Asemdown; it is a fishing village. The people get more fish during the fishing season because the fish spend part of their lives in the wetlands, so when we do not conserve this wetland they will lose their livelihoods. We meet every month to discuss issues about the wetlands and what we can do to conserve and manage it. We have also learned that the mangroves are very useful for taking carbon from the atmosphere. The group is active and we are working hard.

## Fisheries at the Brink of Collapse

**JOHN KENNEDY ATTIPOE** worries about the future of the fisheries and the population that is increasing in the Western region due to the oil and gas development and how to prevent a race to catch the last fish:



The women now wake up at 1 in the morning so that they can labor with the men in order to get some fish to go and sell. For the men, because there are so many people (who want fish to eat now) it is a race to cast the nets because the person who casts first tends to get more fish than the rest. It is also dependent on the tides; you get more fish if you cast your net when the tide is high than when it is low tide. The catches are getting smaller and smaller. I'm afraid we are in a race to catch the last fish.

**RICHARD ADUPONG** (pictured on page 20), a staff member at Friends of the Nation and member of Hen Mpoano, describes the rising potential for conflicts at sea in Essay #5.

## Rising Potential for Conflicts at Sea

Late last year, in the dark of the night, a naval patrol team arrested Gospel-Nyame Ne Me Boafo, a Ghanaian fishing boat, for fishing within the 500-meter exclusive zone of the oil and gas field. Fishers go to these massive structures many miles offshore in the deep water because they believe fish have moved from their fishing grounds to these protective structures. Supply boats and crew boats that service the rigs travel at high speeds through fishing grounds, increasing the chances of collisions as most artisanal fishers travel without running lights. Witnessing an obvious decline in harvest, fishermen will go to places where there are fish. Therefore, as oil platforms attract fish because of the intensity of light and protective shelter for the fish to avoid predators, fishermen find the area very desirable.

*These conflicts are expected to explode when the first story appears on the loss of life at sea.*

In a rapidly transforming system, we are learning how potential conflicts can increase overnight as oil and gas sector development can actually threaten the livelihoods of fishers and jeopardize the sector's contribution to food security in the region. Since oil production increased, the number of supply vessels traveling to and from the oil platforms has increased dramatically. Conflict can be avoided if there is a negotiated plan whereby service boats make course adjustments and slow down to avoid the fishing grounds, and fishers agree to stay clear of the oil platforms. Fishers could also be trained to add considerable local knowledge and special skills to the inevitable occurrence of oil spills. None of these concepts are easy to implement and all will require a base of trust.

In such a place of rapid transformation and inevitable conflict that threatens our survival and culture, we are in desperate need of the capacity to listen, assimilate and process community input and to maintain a flow of communication with and from multiple constituencies. We seek the ability to plan, package and deliver updated information, in understandable ways, by diverse means,

and on a routine basis. We seek the ability to think creatively in drafting a public participation plan, including community outreach Programming and public education/information projects.

Given the pace of transformation of the Western Region, Hen Mpoano is paying attention to the fisheries sector and the potential for conflict that will likely erupt.

*Hen Mpoano is focused on assembling the enabling conditions of supportive and informed constituencies, clear goals understood by all parties, formal commitment by the oil companies and the fishermen to work together and capacity to oversee these potential conflicts and ensure this does not explode.*

This could be a model for other coastal regions of Ghana and other areas throughout the world where there are developing conflicts between fishing and oil and gas. How can we avoid the curse of oil and not repeat what is happening in the Niger Delta?



## Focusing on Issues that Matter Most to the People of the Place

Governance systems are a product of culture and they have deep historical roots. Governance is not the same as government. Ideally, governance operates and is shaped as much by civil society and the business sector as it is by the institutions of government to address the issues that matter to the local people. Governance systems are built upon a foundation of values and continuing dialogue. Governance shapes how resources are used and what behaviors are considered acceptable and un-acceptable. Good governance requires leadership who understand the issues that matter most to the people of the place.

## A Fresh Approach is Needed

Over the past four years, the Hɛn Mpoano Initiative has engaged with all six of the coastal District Assemblies, their planners and officers, as well as business leaders, religious leaders, hoteliers, small-scale landowners and large-scale plantation owners. Working together, the partners and stakeholders have learned the strengths and the weaknesses of the current district level governmental system. By practicing a learning-by-doing approach, the limits of the current planning and decision-making system are being tested and overcome. The implications of doing nothing to transform the governance systems are becoming abundantly clear.



**CHARLES SENYO** (pictured on page 19), Principal Technical Officer with experience in both Jomoro and Ellembelle Districts:

I was transferred from Jomoro to Ellembelle in 2009; at that time there was no mad rush for land but suddenly the decision to site the natural gas processing plant from Jomoro to Atuabo has brought about shortage of land in the commercial areas (Essiama & Nkroful). The district assembly is envisaging future land litigation issues in these areas. Land owners have sold out and demarcated lands to investors without the consent of the assembly.

The current system of District planning and project implementation has been designed to pay attention mainly to issues of basic sanitation, roads, education and community development, and it continues to struggle to do even these tasks. Hɛn Mpoano has helped highlight additional issues of sea level rise, wetlands protection, flood hazard mitigation and infrastructure development at the landing beaches. Add to this the demands that a large-scale project like an oil refinery would require to protect the health of the people and the natural systems that they depend for food security and livelihoods. The conclusion that a fresh approach is needed that builds on the strengths of the current system and addresses the weaknesses is captured and addressed in the Hɛn Mpoano policy proposal for integrated coastal management in the Western Region, backed up by national support.

Ultimately, the practice of coastal management and fisheries management is about altering the behavior of people and their institutions. “We don’t manage fish, we manage people” is a common refrain by the Hɛn Mpoano staff. This means working together by experimenting with projects that change behavior, testing out new approaches and adapting from what is being learned. It integrates the technical process with the social and political process. It sees coastal and fisheries governance as a social and political process as much as a complex technical challenge.

In Essay #6, **THEOPHILOUS BOACHIE-YIADOM** (pictured left), a member of Hɛn Mpoano from Friends of the Nation, describes how he learned to engage with communities to better listen and foster dialogue.

## THEOPHILOUS BOACHIE-YIADOM

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### Learning How to Engage with Communities

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In 2010, I joined the Hen Mpoano Initiative as a National Service Volunteer. It was an experience I will never forget after the numerous interactions with a wide range of people from all walks of life. In my first week, I was sent to a community whose main cultural settings were entirely different from mine. I had to quickly adjust and trip along with the community who noted so easily that I was a stranger amongst them. Today I go to the community and they regard me as one of their own. I even have a nickname, they call me “Hen Mpoano”.

Over three years of this Initiative, 16 National Service Volunteers (NSVs) were brought on board from two national Universities; University of Cape Coast and University of Ghana. The typical process lasts for 10 months and starts with orientation and features trainings and workshops on a variety of topics including learning about how fishermen make their living, how to first enter into a community, and how to listen to and then mobilize action by community members.

*The work also features field research activities such as counting the number of canoes in a village and gaining local knowledge from fishermen on pertinent fisheries issues, and talking about the current status of fisheries which we learned was at the brink of collapse. In fact we learned and could begin to see how the entire coastal districts were changing in front of our eyes.*

At the beginning I was not on top of these issues, but the learning by doing approach of the Hen Mpoano Initiative helped my colleagues learn how to engage, how to listen and how to share key facts that were of great interest to the members of the community. This was made possible

through the numerous capacity building processes that we were taken through, in addition to the field learning experiences. For instance, how to ask a question and note down answers while giving the respondents full attention is one of the many things I learned from one of our trainers from WorldFish. This technique helped me get as much information as possible when gathering primary data from community people and conveys respect and builds trust.

*I was rather amazed to watch the members of communities respond to the process and ask for more information so they could take on the issues we were discussing.*

For instance, in one of our routine research rounds, one community member who had come to appreciate what Hen Mpoano was preaching, took us to a house and volunteered to educate the household about the lessons he had just learned from us. We had stayed with this man and interacted with him several months. He asked for more training, which we gave him and now he does much of the community education on our behalf. Almost 3,000 years ago, Lau Tsu said “Go to the people, live with them, learn from them, love them, start with what they know, build with what they have; but with the best leaders, when the work is done and the task accomplished, the people will say, we have done this ourselves.” (Lau Tsu, China, 700 B.C). This is a powerful strategy that I was able to see in action and now I am ready to embark on other similar projects to help my country.







## CHAPTER 3

# Building Capacity For Coastal Governance: Lessons Learned

### Context for Coastal Management

The governance context for addressing pressing issues of coastal management in Ghana is best described as a work in progress, still in its early days. Currently, there is no national Coastal Management Plan. Responsibility for coastal management is distributed among a number of governmental entities many of which are within various Ministries. Guidelines from the National Development Planning Commission empower the District Assemblies to craft their Medium-Term Development Plans and Structure Plans but they do not provide enough detailed guidance for management of coastlines and provide very limited financial support for studies, participation, plans and regulation.

To understand the governance implications for coastal management across community, district and regional scales, the Hen Mpoano Initiative selected and concentrated its work in three focal areas that illustrated a range of conditions in coastal areas. The sites ranged from areas heavily altered to more rural and undeveloped. Shama is an example of a rapidly urbanizing district. Cape Three Points (in Ahanta West District) was chosen as an intermediate setting in which tourism and protection/restoration of important habitats are priorities and development pressures were intensifying

from major industrial facility siting related to the oil and gas development boom as well as the expansion of rubber and oil palm plantations, tourism and urban development. Finally, a rural setting that was once relatively isolated from development pressures, prior to the recent oil and gas development, was selected. It includes a vast wetlands ecosystem called the Greater Amanzule wetlands, encompassing major portions of Jomoro and Ellebelle districts. In all three focal areas the traditional chiefs, who play a major role in determining how land is allocated, played a central role in this consultative process.

Prior to the advent of Hen Mpoano, district approaches for tackling coastal issues were mainly reactive and ad hoc. With the establishment of key collaborative platforms at the district level, such as Working Groups in Cape Three Points and Amanzule and Coastal Committees in Ahanta West and Shama, district governments are gaining more meaningful input from communities for proactive coastal planning and decision-making. The policy framework and enabling conditions have proven to translate well at the District level to sequence and prioritize the actions of issues analysis and selection of issues and the strategies to address them as the basis of a plan. The work in Shama began quickly in Phase 1 of the Hen Mpoano Initiative and provided an ideal application of the project's adaptive design for implementing an ecosystem approach.

**NZEMA EAST MUNICIPAL ASSEMBLY**  
**ZONAL COUNCILS REVENUE PERFORMANCE CHART**

STATIONS	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
AXIM	290145	235148	352977	214880	300230	181525	208400	177558	105483	90720	77680	91950	
BANIAH KOR	20000	20750	20000	20000	20000	22000	24000	22470	21720	20550	21500	2850	
BARRIER	52550	52040	60000	60100	62300	58070	62030	70220	61790	57740	50800	60500	
ASEIN	24990	20900	15830	12880	9808	16670	18410	22680	14960	20540	21480	26700	
OTHERS	96100	40720	235100	1506300	601200	316870	336000	198000	137000	281480	55500	97000	
<b>TOTAL</b>	<b>1185580</b>	<b>1101710</b>	<b>1825700</b>	<b>1264170</b>	<b>1992000</b>	<b>395195</b>	<b>346500</b>	<b>510920</b>	<b>342950</b>	<b>118030</b>	<b>82510</b>	<b>240100</b>	

## Experiences in Shama District: Addressing Issues That Matter Most

The District Chief Executive of Shama, Honorable **ENOCH KOJO APPIAH**, describes the engagement with Hɛn Mpoano, which turned out to be a model for the other two focal areas:



Hitherto some of us didn't know that Hɛn Mpoano could add value to the District. So when the Program started, they have us realize the importance and the need to guide as to how the physical infrastructure should go, the development of the people in terms of the resources around, how best they could be harnessed and at the end of the day ensure that the District's growth and development moves on as expected. It's been phenomenal and wonderful. You have now helped most of us realize the importance of leaving the natural environment as it is such as leaving water bodies alone, and if possible, maintaining them to our benefit. Because once that water body dries up, the human life also ends. Areas earmarked for forests and the mangroves need protection. When we begin to cut them, when we begin to fill river bodies and sell the lands to people to develop; when it starts raining that is where you begin to see the impact of the negative things that we do to the land.

**JOHN KENNEDY ATTIPOE**, a member of the Council of Elders and Chairman in Anlo Beach of Shama, described the transformation:



We face many challenges. Our village that has been ignored for so long, if not for the project (coming to us), they would not know we needed to improve; we'd remain blind. This project came to open our eyes such as throwing refuse in the river is not good, defecating along the river and beaches is not good, fishing with chemical is not good. Cutting of mangrove is not the right thing to do, if you cut you need to replant. It is not good to settle where a sand bar exists; since it is a sand bar we have learned that it is the home of the sea and will move. You might see it as beautiful but living there would eventually result in problems for you. We've gathered a lot of experience because as fishermen, we settle beside the sea, but you should know where you would put your building so that you may not face such difficulties tomorrow.

**STEPHEN KANKAM**, Program Coordinator of Hɛn Mpoano, describes the planning process of Shama:



The story of our initial engagement with the Shama District Assembly on spatial planning exemplifies the listening that is needed to build up the level of trust. During the Hɛn Mpoano Initiative's second year, consultations with the Shama District government to assist in coastal planning were met with a request by the Mayor for district-wide spatial and land-use planning. The project team approached this task through participatory mapping and issue identification exercises that had a district-wide focus. Though responsive to the needs of the district, this approach deviated to some degree from the Program goal of building support and capacity for coastal planning and decision-making. But by engaging with the people directly on the critical coastal issues that mattered most to them, this later became the focus of work in the district. Subsequent work with coastal stakeholders and the district government have consistently made progress on addressing flooding, shoreline management and wetland conversation. These were similar to and consistent with interventions that evolved in other focal areas of the Program.

**HABIB MOHAMMED**, District Development Planning Officer for Shama District, described the importance of trust in the relationship when Hɛn Mpoano began helping during the early steps of coastal land use planning:



Hɛn Mpoano came in not as a bully... it came in as someone who will allow us to participate, to allow our communities to participate, to allow anybody involved in the system to have his or her say then you would be building upon the initial trust we had... The participatory approach of Hɛn Mpoano in collaboration with the District Assembly, the Traditional Authorities and other entities within the District helped all to better appreciate the issues. As my Chief Executive has said, "the trust was there..." At one point during the spatial planning process, some issues came up that were not well known by the Assembly regarding the issues of sand winning (excavating sand from beach faces), sanitation and the negative aspects of quarrying. You can see all these things add to the load that we have. I must admit and confess here that at the tail end of it we have really come to appreciate the importance the concept that Hɛn Mpoano brought to the Shama District. Up to the point that now we can boast of about five to seven different maps of the District. Initially we could only boast of our

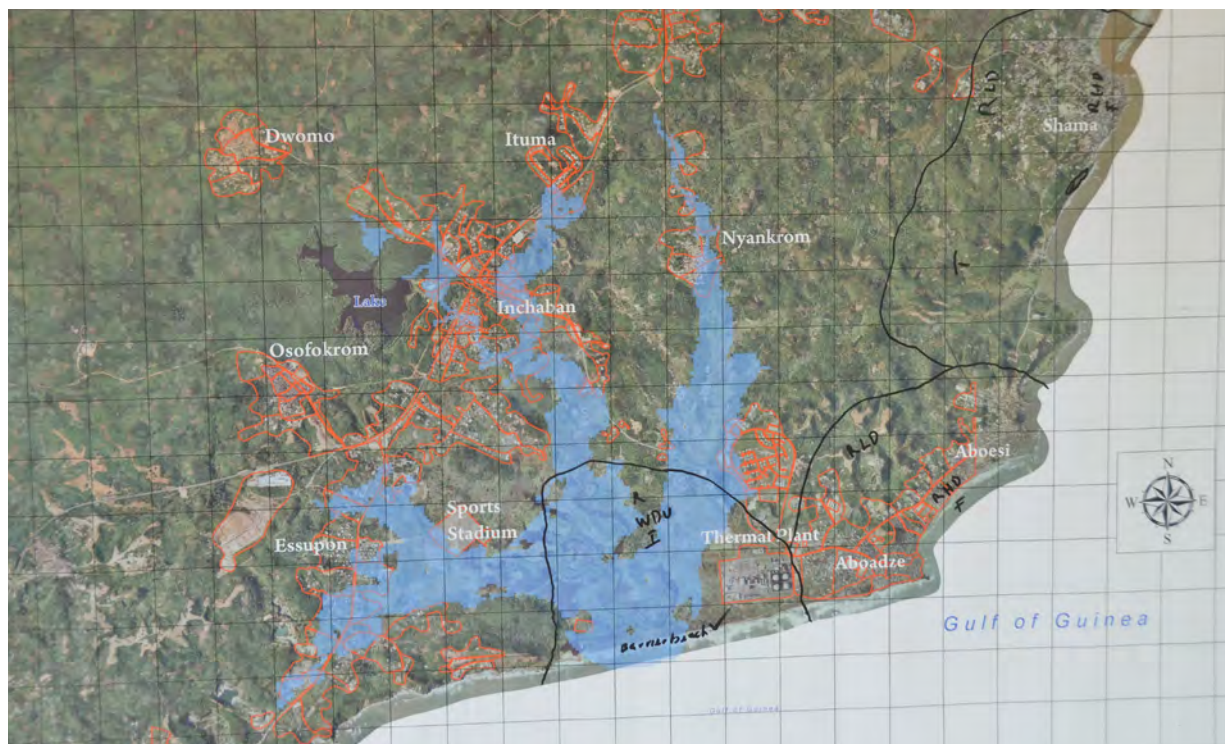


Figure 3.1 – This map is an example of the type of geographical information that was developed for the project. In this case the communities were identified and mapped with respects to a massive storm event and potential flooding.

political map indicating the various positions of Shama, Shama junction, Anlo beach and Asorku. We also now know flood-prone areas that would be flooded after six or 12 hours of rainfall; we are talking about early-warning issues.

District Assembly member **MARK ARTHUR** also describes how issue identification in the planning process was enhanced through the development of the Coastal Management Committee:



When you go to the communities, Hen Mpoano has been a household name because of the trust they have built. People have a sense of belonging; a sense of ownership, the project is not for Hen Mpoano, it's for us. It

must be on record that because of what Hen Mpoano came with, we now have a Coastal Management Subcommittee; the Assembly did not have a subcommittee of the sort but does now. When we went it to the communities and laid bare the maps to the community members, we asked them: "In the next 20/30 years, what kind of infrastructure would you like to have in your community?" The people told us, 'in 10 years' time we would want to have a Senior High School. Some said they would like to have a University, a Hospital." We asked them where they would like these to be located, and they indicated to us on the map away from flooding and coastal hazards, and they did and we agreed. The people are aware of what Hen Mpoano has brought, and they received it with joy and are prepared and ready to support because they have that sense of ownership.

**JOHN KENNEDY ATTIPOE** (pictured on page 25), the Unit Committee Chairman in Shama and member of Council of Elders, describes the issues of resettlement of coastal flood victims:

We had a plan to resettle (vulnerable residents) since the 1990s but the means were not there. We were asked to have an account with a development bank, which we did. We first selected 20 people for resettlement but nothing happened, and over time it seemed the issue had died out. That issue was being handled by the Ministry of Water, Works and Housing but they later came to pack their things and went away. To re-build at the new site is not an easy job—that is our problem. We always say if we could get assistance from somewhere to build a resettlement village, we would have moved there and paid back the funds. When it is raining season we are afraid because should the sea and the river inundate the land, we'll not have anywhere to go. It's our fear and we still have ambitions of moving to the new site and now we have a plan and support.

## Building Local Awareness and Capacity with a Range of Tools and Training Strategies

The Hën Mpoano Initiative developed a range of capacity building strategies for stakeholders and authorities including Climate Change Short Course. Co-organized and delivered with the Fisheries and Aquatic Science Faculty of the University of Cape Coast (UCC), the course helped to build essential capacity among senior national level officials of Town and Country Planning Department (TCPD), National Disaster Management Organization (NADMO), Ministry of Local Government and Rural Development (MLGRD) and National Development Planning Commission (NDPC) for understanding the importance of construction setbacks, flood warning systems and identifying areas for re-settlement. Customized toolkits on ICM have been developed by the Hën Mpoano Initiative to guide the incorporation of ICM into District Mid-term Development and Structure Plans. By using the toolkit approach, the Program has built the capacity for District Planners at each of the six coastal districts to package the MDTP and SDP to respond more effectively to coastal issues.

The Program team applied an approach with three major characteristics. The first is that the issues analysis and goal setting address both the societal and the environmental dimensions of coastal change. A second feature is to emphasize the importance of continuing to involve stakeholders from the private sector, civil society and government in framing responses to the issues of concern. The third feature of the approach advocated in the three focal areas is the importance of integrating coastal management practices into the existing governance systems at the district, regional and national scales.

District level staff became deeply engaged with the significant challenges of climate change.

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**JUSTICE TETTEH AGBODJAN**, a member of the Amanzule Working Group who is from Bonyere in the Jomoro District, describes new awareness of the challenges ahead.



We realize that in some communities where formerly there were houses now the houses are no more because the sea has washed away those houses and formerly an open space used for football match is no longer there. These are some of the reasons why we need to protect the sea and prepare for climate change. Sand winning has been stopped with the technical support of Hën Mpoano. We went from community to community to educate the people on the need to protect the sea and prevent contractors from winning sand on the beach. The sea level rise is currently very insignificant and we are not seeing its impacts now but gradually we will feel it.

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**ASHMOND BAFFOEA**, the town and country Planning Officer with the Jomoro District Assembly, describes some strategies introduced to respond to sea level rise:



Sea level rise is now a phenomenon and we as planners are thinking of how to tackle it. In terms of capacity building, the GIS training (provided by Hën Mpoano) has helped us because we are now able to know and identify areas vulnerable to climate change vulnerability and that facilitated our planning for the district. The Jomoro District has many rivers and wetlands and the coming in of oil and gas will lead to a mad rush of land for development as well as the wetlands, but the assembly is not experiencing that now. So as a planner, if we are able to get the necessary GIS equipment, we would move in to map out the areas that are vulnerable and prone to flooding and by so doing we can convince the Assembly for a legislation or push for a by-law to protect these areas from development, and this means that we have to sensitize the people very well to understand the need to protect these areas because they are the land owners.

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**JOHN BLAY**, a member of the Amanzule Working Group from Atuabo in Ellembelle District, describes how new information is helping deal with the practice of removal of sand for construction projects referred to locally as “sand winning.” for construction.



Hen Mpoano has helped us a lot with technical knowledge on climate change and therefore, we go from community to community to educate people on the impacts of climate change and the need to stop sand winning because it allows the sea to come in-land. We announce for a day to bring the community together to educate people and also warn them on sand winning. During high tides the sea floods some homes close to the shore but as we continued with the sensitization Program the people have stopped.

## Transforming Community Scale Governance from the Bottom Up

**MARK ARTHUR** (pictured on page 26), the Chairman of the Planning Subcommittee of the Shama District Assembly, described the powerful use of tools:

Before the inception of Hen Mpoano, the District Assembly in Shama, like other District Assemblies in Ghana, was having a top-bottom approach to its activities. Hen Mpoano came with an alternative, bottom-up approach and it was different. It was the opposite and in fact the people embraced it, because they were consulted, actively involved and participated to the fullest. That has not been the case before, so people received us in the communities with joy. For example, when we went to the communities, one other issue that worked to perfection was the maps from Hen Mpoano and (the Geography Department of the) University of Cape Coast. You know community members were very happy to see maps of their communities. This is something that does not normally happen. Most of them were not aware that maps of their various communities were with us. So when we went to the communities, we lay bare the maps, you'd see community members, “ooh, this is our community center; ooh, this is the church; ooh, this is the market!” In fact it drove community members to the project and they participated to the fullest. The maps did excellently well; it worked to perfection.

The District Chief Executive for Ahanta West, the Honorable **JOSEPH DOFOYENAH**, describes the value of a new process for engagement with the governance structures at the community scale:



Now we have learned that we must start the preparation of the MTDP with the communities. We dispatch our officers, Assembly Members and Area Councils to the communities to find out the community needs. After that, each area council does a community needs assessment. After the needs assessment then the Area Council meets as a District to combine all the information gathered to prepare our MTDP and come up with various themes, e.g., construction of school blocks which will be found under the theme of education. The government policy is derived from what we are prepared to implement.

With the establishment of key platforms at the district level, such as Working Groups in Cape Three Points and the Greater Amanzule and the Marine and Coastal Management Committee in Ahanta West, district governments are gaining more meaningful input from communities for proactive coastal planning and decision-making. Focusing on improving enabling conditions has proven to translate well at the District level to help identify issues and sequence and prioritize the planning, formal commitment and implementation.

**JOHN BLAY** (pictured above) is a member of the Amanzule Working Group and describes the transformative nature of the platform.

We joined the Greater Amanzule working group because our main purpose is to protect the wetlands, which are an important natural resource. Some time ago, we did not see the importance of the wetlands and we did all sorts of illegal things in the wetlands but when we formed the group, I realized that it was very important that we protect this ecosystem for future benefit. There is a village called Asemdown; it is a fishing village and the people are fishers. The people get more fish during the fishing season because the fish spend part of their lives in the wetlands so when we do not conserve this wetland they will lose their livelihoods. We meet every month to discuss issues about the wetlands and what we can do to conserve and manage it. We have also learned that the mangroves are very useful for taking in carbon from the atmosphere. The group is active and we are working hard.

29 **The Honorable JOSEPH DOFOYENAH** (pictured on page 28) describes the importance of the Cape Three Points forest working group from his perspective as the District Chief Executive for Ahanta West.

Hen Mpoano has assisted in the development and training of the Cape Three Points working group. The members know how to protect the forest, which is a globally significant biodiversity area and one of the few protected forests close to the shore. Hen Mpoano has been holding constant interactions with the group and recently an award ceremony was held for the group for their performance. They have also built the capacity of the group to monitor illegal chain-saw operations in the forest. Through this capacity, the members were able to inform the police and the assembly of an operation that took place in the forest at 2 a.m. and that led to the arrest of the illegal operators with a truck loaded with logs and the case is in court...We have heard that there are ongoing operations in the forest so if the group can intensify the monitoring in the forest or involve other well-armed security personnel to watch the forest throughout the night to help eliminate the chain-saw operations. The future generations can benefit from the forest in terms of reducing climate change and global warming. It is also a place for our birds and primates that are important for tourism.

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## Transforming Regional Scale Governance: Uniting Across All Six Coastal Districts

Individual districts cannot address the integrated issues of coastal management in isolation. Proactive planning and conflict resolution are needed across political boundaries to address these issues.

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**ALHAJI HARDI** is the District Coordinating Director for Ahanta West and describes a vision for integration across the six coastal Districts.



I believe we can be looking at the establishment of a Coastal Resources Commission as a pilot base to integrate across all six Districts so that all the experiences can be put together and get some form of legislation to back it. If this is in place it can be used to champion some of the good things we are doing. We have asked the special committee to do some of the advocacy but there is a limit to it. We want to see strong coordination and communication among the coastal districts to make a big change.

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**The District Chief Executive of Shama, Honorable ENOCH KOJO APPIAH** (pictured on page 25), describes the enabling conditions for integration across the districts.

We need to work across the six coastal Districts in the Western Region. Once we are able to identify our priority areas and we all decide that it is a good venture that would benefit us in the future, we come together, we form a committee and we ensure that whatever we propose as to guidelines, land use and wetland management, we follow through. I'm sure no one on his own merit will decide to go outside what a Committee managing the six coastal districts in the Western Region would say. I would say we should even make it a part of our by-laws so if we all have one common set of by-laws across all six districts running through our legal documents, no one dares go contrary to what has been enshrined in a blueprint... It's a good thing and I'm all for it and I believe strongly that my colleagues in the other districts would also be very happy. We don't have to wait till there's a problem before we react to it. Let us be proactive and sell the idea to the very people who are into this fishing industry, sell this idea to people who want to tamper with wetlands, and when that is done and there is legislation covering it, I can manage things in this office in peace.

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Hen Mpoano Initiative member **EMMANUEL NTIRI** (pictured on page 30) describes the need for resurgence and deep engagement in his following essay on the importance of Traditional Authorities.

## Traditional Authorities and Effective Ecosystem Governance

There is an Akan proverb that says that “a flock of sheep without a shepherd is vulnerable.” Leadership and good governance are synonymous. A very important sector that I believe can contribute greatly to the success of this project are the traditional authorities. My work as part of the team provided me the opportunity to work with the traditional authority system and this has given me quite a thorough understanding of the system.

*The chieftaincy institution has a long legacy of providing for their subjects in Ghana.*

For example, Otumfour Baidoe-Bonsoe of the Ahanta Kingdom in the 1830s led the Ahantas to resist colonization and slavery by the Dutch. In retaliation, the Dutch government used an expeditionary force with reinforcement from other colonized states to conquer the Ahantas. They beheaded Otumfour Baidoe-Bonsoe because he was a huge threat to the colonizers. Today in the Ahanta West District there are many issues, and the other forms of power overshadow the chiefs, causing them to lose respect and the power to mobilize. Today, examples of conflict are:

- > Factions struggling to be chief of a community
- > Chiefs and people of nearby communities litigating over land/resources
- > Chiefs and the Assembly members of the same community not in good terms and not working together.

*Our chiefs should be able to facilitate, mediate and ensure sanity in the management of our coast and help to foster compliance to the fisheries laws.*

This is particularly possible because the communities represent the small place where everyone is known to one another and thus watch over each other. Ideally, we will find a way for the chiefs to regain their past glories and exercise just and balanced power and control that

merges well with modern day trends in administration. The chiefs can play a significant role in a nested system of ecosystem governance, from sharing rich experiences of traditional ways of managing our natural lands, streams, wetlands and forests and through totems and rituals that respects natural systems and the sacred animals that live there. These people must be supported at the community scale and district levels to contribute to the development of vision for their communities that ensure improved livelihoods.

I believe this is a great time for royal families of every community to begin to re-orient themselves and see their role in the community as crucial in the improvement of the livelihoods of the people. Their function should be likened to the professional administrator in any business or local government institution. They have the duty to provide direction and meet the development needs of their people.





## Engaging with Traditional Authorities

Traditional authorities have a legacy of supporting traditional values that may feature a range of stewardship actions such as reducing fishing pressure at times to give the sea a rest and prohibit development near headwater streams in honor of the gods. At their best, traditional authorities manage and resolve conflicts within their communities, participate on various committees as advisors and oversee land for development and serve as knowledgeable people for consultation on affairs concerning the community.

Community leadership in the form of Traditional Authority is critical. However, there can be instances of an absence of leadership that spurs a positive response from community members. **EMMANUEL NTIRI** concludes his essay with one example in Akwidaa:



Given a leadership void and potential distraction from pressing issues, in some rare instances, community people decide their own destiny in the absence of a leader. An example is the case of Akwidaa, where the people have yearned for a substantive chief but finding him has eluded them. Following the development of a local plan, the people have organized series of meetings to try and install a chief who will lead them to implement the local plan. But those efforts failed. It has now been decided to have a neutral committee to lead them. The Akwidaa community is made up of five people each from the Old and New Town plus the Assembly man. Of the eleven people three are women. This is a mark of significant progress in local leadership, in gender balance and in the development of capacity at the community scale.



## Proposing a Fresh Approach to Coastal Governance

At the end of Phase 3, the Hen Mpoano team has developed a proposal that puts forward A Joint Coastal Area Management Program (J-CAMP) for the Western Region for the six coastal districts of the Western Region. This innovative governance feature would be established in response to a request made by the districts to the National Development Planning Commission and authorized through the Joint Development Planning provisions of the National Development Planning Commission Act of 1994 (Act 480) And the Local Government Act of 1994 (Act 462). The resulting Joint Coastal Area Management Program in the Western Region would be the first element of an emerging nested governance system that would eventually feature a Western Corridor Development Authority, other joint coastal district management Programs and a national coastal and marine commission. In the Western Region, the joint planning and management process is urgently needed to meet the challenges brought by the massive surge of development produced primarily by the oil and gas industry. This proposal builds upon a series of policy briefs and the four-year learning-by-doing process of the Hen Mpoano Initiative. This has brought together communities, districts, governmental agencies and other

stakeholders to formulate practical responses to the problems and opportunities brought by accelerating social and environmental change.

At the time of the preparation of this document, a Legislative instrument is now being drafted for approval by the National Development Planning Commission that would provide the J-CAMP Board with the authority to implement effectively. Assuming that the necessary provisions can be made, this structure would provide guidance for the following elements:

- > Defining the special characteristics and issues in the planning area that will be the focal points of the joint planning effort;
- > Selecting the membership of a Board that provides for the representation of the District governments involved and, as suggested by the nature of the issues to be addressed, representatives of the private sector, civil society and traditional authorities;
- > Designing the consultative process with stakeholders and the public during plan formulation and plan implementation;
- > Securing the collaborative arrangements with other institutions of government required for the successful implementation of the plan; and,
- > Making provisions for monitoring and evaluation mechanisms that will be the basis for a long-term adaptive governance process.

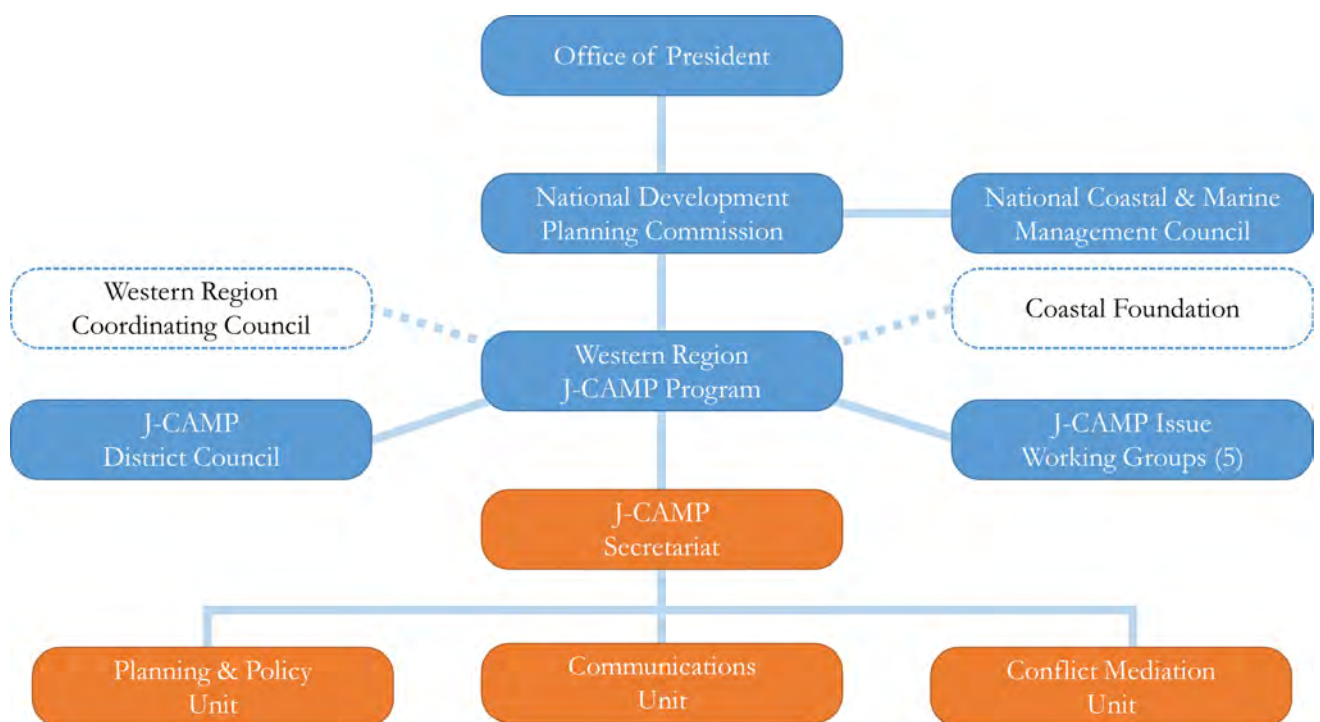
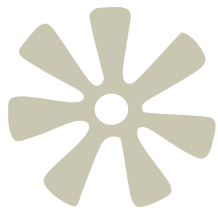


Figure 3.2. Proposed structure for the Western Region's Joint Coastal Area Management planning and decision making process.





## CHAPTER 4

### Adapting Fisheries Governance: Lessons Learned

#### Integrating International Experience with Local Knowledge to Advance Fisheries Governance in Ghana

*At first, in our community, we used to think that when it rains and thunder striking in the sky then fish would be dropping from heaven into the sea; that was our belief. That was our belief so whenever it's raining and we hear that sound we'll be shouting "more fish! more fish! God give us more fish—we want herrings, we want red fish." Hen Mpoano came and trained with us and taught us that wasn't the case. Rain has its own circle and then the thunder has its own effect on other things. But for the fish, they are in the sea... The fish has a time that it would get pregnant and it would go and spawn. We then wait for the fish to grow and then we would come and we'll catch it... And they also taught us about how the fish normally go to the river where there are mangroves. So they were educating us not to cut the mangroves alongside our rivers that is where the fish normally go to spawn and then, after some time, then they would come back to the sea for us to catch.*

EMILIA ABAKA-EDU, A FISH MONGER  
IN THE WESTERN REGION

Upwelling systems, like the ones off the Gulf of Guinea are usually bountiful. For thousands of years, fishing has been a birthright of Ghanaians and they have been regarded as some of the finest fishers in West Africa. But the fisheries that rely upon upwelling systems can collapse. A complete collapse is usually not sudden, rather warning signs appear if there are people paying attention to them. When Hen Mpoano started, warning signs were evident to some of the project's experts due to the reduced catches of species such as *Sardinella* and mackerel, and steady creep" in effort. Together, these are not a good sign but the reasons why are difficult to predict. Sometimes, upwelling systems follow a seasonal

pattern of producing abundant fisheries landings and then disappearing. Ghana had two distinct seasons based on this pattern. It was not uncommon for fish populations to appear to expand rapidly when feeding and spawning conditions are favorable, but then drop just as fast during a season when ocean conditions change. Over the years, however, many factors

have converged to create a bundle of threats that cannot be ignored, including intensive and prolonged fishing pressure, increasing use of destructive and illegal gear, expanding fleets of semi-industrial and industrial fleets, poor enforcement, loss of spawning habitat and pollution flowing from rivers with heavy metals and excessive nutrients. Add to this the effects of climate change that may shift ocean conditions, and the result can be a prolonged collapse that does not rebound.

Over the last 30 years, collaborative management of artisanal fisheries has been increasingly offered as a solution to address the increasing crisis in small-scale fisheries. The implementing partners of Hen Mpoano have been working with governments, NGOs and international donor organizations to develop co-management structures for fisheries. However, every context is unique. A strategy that works in one location probably won't be easily transferred to another. Therefore, understanding

local context and applying key principles are a critical part of the way forward. For example, international experience recognizes that without the help and support of the fishers themselves, and the appropriate authority granted to them, government by itself can do little to achieve sustainable, equitable and resilient fisheries co-management.

When co-management of fisheries was unsuccessfully attempted in the 1990s in Ghana, a backlash emerged against participatory approaches to management.



The government identified co-management as one of the pillars for achieving sustainable fisheries management in the early 1990s. It is in line with the aforementioned that the Community-Based Fisheries Management Committees (CBFMC) concept was introduced and made operational under the World Bank funded Fisheries Sub-Sector Capacity Building Project in the period 1996–2001. Admittedly, the CBFMCs had challenges and lessons have been learned. These lessons learned should guide us in formulating and implementing future co-management Programs.

At the start of the project, the thinking was that perhaps only a few adjustments to the first attempt at co-management were needed, such as improving fisheries data gathering, ramping up monitoring surveillance and enforcement, improving the supply chain for smoked fish by bringing in better technologies for the smokers and making other minor

adaptations. It was quickly discovered that the path to true co-management was going to be far more complex. A strategy consisting of small adjustments would not work without first understanding the context and secondly thinking hard about the dynamics of the whole system. More work was needed to understand how fisheries decisions were made, where the power was located and the ways in which legitimacy and authority needed to be expressed. These are major challenges of governance, not questions of fine-tuning existing management.

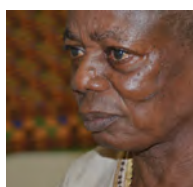
## Fisheries Governance Context in Ghana

In the first Phase, the Hen Mpoano Initiative documented the importance of the canoe fishery in the Western Region in terms of employment and livelihoods. The studies reaffirmed the fact that locally caught fish, frequently smoked and sold within the local communities are a major source of essential nutrition for the people of Ghana. While currently an open access fishery, there had been a time when access to fishing was regulated by traditional Chief Fishermen, but



their influence has diminished. The norms guiding fishing have been closely linked to traditional authorities; however, that relationship was beginning to erode.

**NANA KOJO KONDUAH IV, a member of the Advisory Council of the Hɛn Mpoano Initiative, Chief Fisherman in Aboasi in Shama District and Chairman of the Ghana National Canoe Fisherman's Council of the Western Region, described the situation:**



**When Hɛn Mpoano started, we all knew that the fishing industry in the country was going down. For the past few years, fishermen were losing hope in the practice and in the chief fishermen. But when Hɛn Mpoano**

**came, they started to ask us what we thought and gave us respect by including the Chief Fishermen. We were given the opportunity to describe this situation through a series of meetings/sensitizations in various fora. We also transferred these meetings to our artisanal fishermen, and then they started to get hope and interest in us, the Chief Fishermen, again. Now, we have started to educate the fishers in our villages as a result of the training that were given to us.**

Responsibility for the management of fisheries lies with the National Fisheries Commission within the Ministry of Fisheries and Aquaculture Development. Through a partnership between the Fisheries Commission and the World Bank, an ambitious Program of reform designed to restructure the fisheries sector has proceeded through many years of planning and policy making and began imple-

mentation in the Hɛn Mpoano Initiative. The fishery is dominated by fleets of seagoing canoes that are anticipated to become more profitable and possibly more efficient if the transition from an open access fishery to a managed access fishery is accomplished and if their landing sites are upgraded and provided the necessary supporting infrastructure and services.

At the scale of the Western Region, the Fisheries Commission is represented by an office that is responsible for data collection and has some coordinating functions in extension and enforcement. There is no clear mandate, as of yet, for the delegation of authority for community-based fisheries management. Support for co-management is a planned feature of the World Bank Program, and consequently the Hɛn Mpoano Program began capacity building projects in preparation for the new roles that fisheries officers will play as extension agents, as well as the potential roles for key stakeholders across the nested system.

As the Program was just getting started, the National Fisheries Commission promulgated new fisheries regulations in 2010. To increase awareness and understanding, Hɛn Mpoano embarked on a campaign to explain the new regulations to fishers and translated the relevant parts of the Fisheries Regulations and the Act into five local languages Ewe, Dangbe, Ga, Fante and Nzema.. Recognizing that enforcement efforts have been sporadic, uneven and often ill-tempered, the Program also focused on building the capacity of enforcement. Prosecution efforts have improved significantly through training of judicial authorities as a result of Hɛn Mpoano capacity building.



## Building Collaborative Platforms to Think Together and Learn Together

**DONKRIS MEVUTA**, Executive Director of Friends of the Nation, summarized the need for Hɛn Mpoano to take a lead in strengthening capacity of existing institutions and formation of new collaborative platforms:



A key early lesson that we learned was that there was a vacuum of effective institutions to deal with fisheries issues, and we needed to work hard to build capacity for more functional institutions at all levels as they are all important for effective fisheries governance. This includes developing a much clearer understanding of the current regulations and helping to improve how organizations behave with their norms, rules, by-laws. We learned quite a bit about the degree of dysfunction within the existing institutions; and there were collaborative structures that didn't exist but needed to be built.

There were several collaborative platforms developed at multiple scales: At the national Level: strengthening the Fisheries Alliance, a national ICM Working Group (this latter group never took off even after 3 meetings). Regional level: Fisheries Working Group, Ghana National Canoe and Fishermen's Council (GNCFC -WR), Prosecutor's Platform, Central and West Fishmongers Association (CEWEFIA). Local Scale: fisher folk communicators, Konkohenes Platform (Western Region Fish Mongers Association).

**EMMANUEL MARFO**, the deputy Regional Fisheries officer in the Western Region, describes the learning at the start of the project:



We have learned that the fishers know there is a crisis because when you go to the beaches, they talk about how they go for a longer period on the sea and when they come back they have no catch so they know something is really happening. But because of all the money they put in the business, they try to ignore what they see but they know there is something really bad that is going on... Before the collaboration with Hɛn Mpoano, I sat in the office and received and wrote reports. They gave us training in leadership and other trainings so we now go to the fishermen, talk to them, give them the information they

need to help them come out and do what is right. Making rules and pushing them down without the participation of fishers has not worked well.

**KYEI YAMOA**H of Friends of the Nation noted the stark reality the Program faces in maintaining the collaborative structures that have been painstakingly built:



Now that we have successfully strengthened capacity of some and established new collaborative platforms, a key learning is that all of these efforts will need constant attention into the future. For example, what will happen to the Ghana National Canoe and Fishermen's Council? What will happen to the Fisheries Working Group? What will happen to the Fisheries Alliance, and so on and so on? We don't yet have answers but we have learned that we must answer these questions into the near future to sustain the momentum. These institutions are important but we realized there was a degree of dysfunction so we built structures and we have learned that our attention now has to be about sustaining these structures. The Hɛn Mpoano should continue to discuss with partners its vision for the fisheries sector, especially the urgent need to implement co-management.



In Hɛn Mpoano Essay #8, **TENDAYI MUTUMUKURU-MARAVANIKA** describes the importance of the nested system for developing co-management.

**TENDAYI MUTUMUKURU-MARAVANYIKA****Fisheries Co-management in the Western Region**

*Initiating adaptive co-management of fisheries in a situation where there is open access and no policy framework to support co-management is easier said than done. A previous strategy tried by Ghana did not succeed because there was no formal mandate and support structures in place. The best strategy is to work at all levels, engaging the complex system across scales from national to the community.*

**At the national level**, the Hen Mpoano Initiative has organized three Fisheries Governance Dialogues—platforms for key stakeholders in the fisheries sector (including government, research, NGOs, the private sector and fisher folks) to learn about global, regional and local co-management experiences. The platforms also offered stakeholders an opportunity to discuss what co-management should look like in Ghana. The Initiative also helped build the capacity of the Fisheries Alliance in advocacy and lobbying. The Alliance facilitated key discussions with various stakeholders in the four fishing regions of Ghana to generate ideas of a co-management structure for Ghana—the outcome of these discussions were presented at the important 3rd National Stakeholder Dialogue in Elmina in February 2013. The Initiative also supported key national stakeholders to participate in the exchange visits to other countries (e.g. Tanzania, Senegal, Ivory Coast and Philippines) to learn about co-management.

**At the regional level**, the Initiative put in place the Fisheries Working Group (FWG), consisting of key stakeholders in the fisheries sector, including members

of the prosecution chain (judges, police, navy and representatives of different fishing fleets) and the Fisheries Commission. Members of the FWG participated in the adaptive co-management of fisheries training workshop that was organized by the Hen Mpoano, as part of their capacity building on adaptive co-management.

**At the district level**, the project organized seminars on adaptive co-management and project management that fostered linkages between the districts and the fishing communities and facilitated discussions on what co-management should look like in their areas.

At the community level, the Initiative facilitated processes for communities to understand the status of fisheries and the need for reform. The project went a step further to assist some pilot communities to develop their visions for co-management of the fisheries, to develop action plans to move towards the visions, to implement them in an experimental way and to monitor, evaluate and learn from their activities.



## Study Tours to Learn How Others Were Facing the Same Issues

Study tours sponsored through Hɛn Mpoano were an opportunity to engage key stakeholders from Ghana in real-world experience in other African contexts, to meet people who are facing the same issues and to get inspired about new ideas and concepts. Ideally, the participants would bring lessons back home to share with their community as part of the capacity development process. Four study tours were conducted that were associated with fisheries. Fourteen people traveled to Senegal for 12 days to study co-management; 10 people traveled to Tanzania for 10 days to study marine protected areas; and 25 people traveled next door to Cote D'Ivoire for seven days to explore issues associated with compliance and enforcement. Another study tour took participants to the Philippines where projects have integrated issues of population, health and environment.

The Senegal study tour, conducted in August 2011, gave participants an understating of why co-management is needed in fishing communities and the process involved in its implementation. An important learning outcome for the participants was the essential role women must play in fisheries management and community development. The Senegal study tour study let participants see how organizations and actors made change happen in their environment on issues that are similar to those in Ghana. The participants saw that Senegal faced similar problems as in Ghana regarding illegal fishing and learned that obstacles to reform are not overwhelming when community willpower exists to implement better fisheries management practices.

**EMELIA ABAKA-EDU, who is a Fishmonger and member of the Ghana National Canoe Fishermen Council, described how the fishers in Tanzania overcame some of the same issues Ghanaians face:**



When we went to Tanzania, we found out that they were also in the same situation—we learned that they used to use dynamite and chemicals in fishing, and it was causing a lot of damage to the sea and to their bodies and to their health and they were able to overcome it. They showed us the way they did it, how they were able to overcome it. So as we came back and have been going around from community to community educating our fishers with

the help of Hɛn Mpoano, telling them the effect and the hazardous ways of when they use the chemicals how it is going to affect them. Hɛn Mpoano has been helping us and they've also built our capacity on how to advocate. They've given us a lot of training on how to advocate, they've given us a lot of training on how to organize ourselves to be in a very effective group that can be able to bring influence and other things in the community.

**JOHN DIXON ESHUN, Organizing secretary of the Ghana National Canoe Fishermen Council, Western Region, described a profound sadness at what he saw in the Tanzania study tour:**



What made me sad was that the country we visited first came to learn about the co-management from us in Ghana about 30 years ago. The people of Tanzania have been able to go through those challenges, address those issues; because of the well-built structures that they put in place, which they came to learn from Ghana here. But we, the country from which they came to learn we've not been able to resolve those issues though we have those structures here. Why couldn't we resolve those challenges through the structures but they have been able to do that? That made me sad.

**THEODORE KWADJOSSE, a Fisheries officer with the Monitoring, Control and Surveillance Division in the Western Region, noted the sharp contrasts in behavior in neighboring countries:**



After I went to Côte D'Ivoire, I realized that that the Ghanaian fishery is really in shambles—everything is upside down. I got to understand that cooperatives can really work; they can make a lot of changes, they can make things different. Where we have everybody in the cooperative being a keeper—a brother's keeper or a sister's keeper. People in the cooperative telling a colleague that, "Hey, don't do this. If you do this I'll take you up." And then realizing that the less interference we have from politicians, the better we'll be able to manage our resources. That was one big thing I learned during the study tour in Côte D'Ivoire. Because when Ghanaians go to Côte D'Ivoire, they obey the law, but when they come home to Ghana, it's the other way around; because the laws work in Côte D'Ivoire. There's so little interference. And the institutions, they may not be perfect but they are allowed to work, which is quite different from what we have here in Ghana.



**EMMANUEL OHENE MARFO** (pictured on page 37), the Deputy Regional Fisheries Officer, Western Region, described his commitment to sharing what he learned:

What I think I have learned from the Study Tours is normally when I go to talk to the fishermen I try to tell them what I saw in Tanzania, that our problem is the same as theirs. I tell them they went through what we have gone through, so I try to share their experience with them so that the fishermen would understand that there is a need to protect our fisheries resources.

From an internal review of the Study Tour Process a variety of lessons were learned, including the need for more effective coordination of follow-up actions that were agreed to after the study tours, greater participation of women (the target was 30 percent but total participation only reached 12 percent), overall selection criteria for tour participants and quality of implementation of individual tours.

**GODFRED AMEYAW** of the WorldFish describes the high quality of the Senegal Study Tour:



The study tour in Senegal was planned very well in advance. The briefing material, traveling logistics, in-country supports/partnership, comparative examples of what we were going to find and where were planned. After the tour, all the participants were brought together in a workshop to go over what we learned in a three-day debriefing workshop, and a good report came out of the study tour with recommendations for further actions.

**DONKRIS MEVUTA** (pictured on page 37) of the Friends of the Nation describes the impact of the visits after participants returned:

We have to look at the impact we had when the participants came back; not only the details of when they were there. Listening to them when they came back, the story from Cote d' Ivoire one was fascinating because about 99 percent of the fishermen in Cote d' Ivoire are Ghanaians; hitherto, they only spoke of Cote d' Ivoire as an external factor that they are the same people within the two countries; so let's look at another factor which is contributing to how Ghanaians are not practicing sustainable fisheries in their own country; so its adding another dimension to identifying the real causes of how Ghanaians are stubborn in Ghana than in Ivory Coast. The impacts that it had contributed to some change in the practice and brought on board the marine police.

**KYEI YAMOA**H (pictured on page 37) of Friends of the Nation describes the impact of the tour experiences:

There were government officials, enforcement officers and Hen Mpoano representatives, but for the fishers, almost all the 100 percent of them were previously using the illegal methods because it's a livelihood issue. But afterwards, we could say is now reduced to about 70 percent. One of the objectives of the study tour was to have an informed constituency before we work toward behavioral change by fishers. Now in their mindset they are informed of most of the illegal practices and they have seen that enforcement would yield benefits, especially those who went to Cote d' Ivoire. Those are the people who are now crying that there should be enforcement, so that they can comply. They are now accepting to collaborate with security agencies for enforcement. Those who went on the study tour are the most helpful in assisting the marine police when they go to the communities.

## Strengthening the Role of Women in Planning and Decision-Making

Women play a powerful role in the fishing sector but they have little to no voice in formal fisheries governance structures. Hen Mpoano sought to learn how to change this dynamic through a variety of strategies, such as negotiating a place for them at platforms including in the Ghana National Canoe Fisherman Council and in local settings such as Anlo Beach. There has been deliberate effort to ensure women's participation in capacity building activities and a separate platform has been created for women who are the Chief Fishmongers (processors, smokers and traders of fish) referred to in the Fante language as Konkohene's.

**TORGBUI TEKPLE GARIKOR, the Traditional Chief of Anlo, noted the following:**



Through Hen Mpoano's education, the communication skills of the women have been developed and they are also able to organize, participate and engage in meetings; which formerly wasn't true.

Engaging women in higher profile governance structures has been more difficult. Women are not represented in the current composition of the Fisheries Commission (an 11-member body representing fishers, operatives, transport research, academia and defense). As a result it is considered a matter of high priority for the Ministry (the Fisheries Commission) to ensure that women are represented and they should have voting powers.

As the Program team began to learn that fish stock are indeed nearing collapse, it became urgent to explore diversified livelihoods, moving families away from overdependence on the fisheries value chain. Such economic changes often require capital investments for basic production infrastructure.

**DEBORAH ANTWI, the head of finance for CEWEFIA, a group dedicated to increasing the role of fish mongers in decision making, described this need:**



The women have been educated, but they also want infrastructure like processing sheds to improve their work and also loans which could help them with the alternative livelihoods. We were considering that even if we could not help them with the loans, we could assist them with their processing sheds and training centers where they could be trained in bread making, tie-and-dye and batik. We should be able to help them apart from telling them to do it.

Thus, as pressure on fishing increases in coastal Ghana, older fishers may stay in the sector, younger people (and particularly those who have more opportunities as a result of higher levels of educational achievement) will likely shift into other sectors. Those with better networks and information and those with more choices, by virtue of their access to other types of capital (financial capital or land) are likely to change how they earn a living before those who are more disadvantaged. Livelihood diversification must take a long view. Considerable effort is needed to find viable options as well as make progress toward a major transformation of the fishing sector such as limiting access and increasing co-management. The voices and presence of women in the governance of fisheries are essential to increase options for livelihoods and to transform the fisheries sector.

## Building Social Capital and Fostering Compliance Through Radio Drama

A major effort of the Program was to develop a series of 52 episodes of a radio drama addressing fisheries and coastal issues.

**LINDA DSANE**, a member of the team who worked with Friends of the Nation, SustainaMetrix and CRC's Ghana-based staff, prepared the following essay on using radio drama to inspire compliance.



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## Using Radio Drama To Inspire Compliance

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Imagine people chanting loudly in a pleasing rhythm: “Biri bireeba! Biri bireeba! Biri bireeba!” which means “something is coming” in our local language. So begins a catchy theme song that has dominated on the airwaves and grabbed the attention of young and old through an insightful and traditional way of storytelling. The purpose was to create a spirited radio drama depicting the trends of both the physical environment of the Western Region and the people who live there. The dialogue was fun and interesting and was intended to also evoke message of hope and action. Like all dramas, Biribireba is filled with intrigue, corruption, temptation, chaos and love. But unlike many dramas, Biribireba is also sprinkled with important social and environmental messages so you really don’t think you are learning. The drama is set in the imaginary fishing community of Biribireba and Kawano Pado, somewhere in the Western Region.

*In Biribireba village, the sweet and lovable Gifty tells Officer Bob that unless he prosecutes fishermen who use unsustainable methods to fish as well as consumers of sea turtle, she will refuse his marriage proposal. Egya Ackon, a fisherman who uses dynamite to harvest plenty fish without considering the future, is not ready to change and instead convinces his friend Egya Bentum to join in his diabolic acts.*

Madam Tina, Egya Essoun and Officer Brown manage to educate their folks as well as Kweku Anokye, Paakow and Caro to bring about a change in Biribireba. The clever Auntie Aba and her husband Nyansu later realized the need to change their behavior towards conservation of wetlands, the destruction of which is widespread in Ghana’s Western Region due to the rapid development associated with oil and gas and lack of effective local governance.

In order to create awareness on coastal issues and educate the people living in coastal communities in the six districts of the Western Region, a 52-episode radio drama series was developed in January 2011, which aired bi-weekly on three radio stations. The objective

of the drama series is to entertain as well as educate fisher folks in the six coastal districts in order to change behavior towards a more sustainable utilization and management of coastal resources to improve their livelihoods. In this regard, callers can deliberate and discuss issues from the drama such as Sustainable Fisheries Management, Response to Climate Change Vulnerability, Protection of Wetlands and Coastal Biodiversity, Integrated Management and the implications of reform of the current system of governance.

One host noted, “Even though I know a little about fisheries and coastal issues, Biribireba and all the materials that Hen Mpoano has given me as background has really built my understanding so I can educate our listeners.” Many have described how the show has significantly increased listener participation; people now have cell phones and are using them to voice their opinion.

One cast member said “Having considered myself as the character of the assembly woman, doing all sorts of nasty things at Biribireba, such as mine sand at the beach, hiring people to cut and sell mangroves, the Program has helped to change my thinking towards how we manage our resources.”

*Storytelling is central to our culture in Ghana and this project allowed us to prepare scripts, consider what happens in different episodes, and use the power of radio broadcasting to make a difference.*

We were able to do this through coaching and support of partners at Media Impact and SustainaMetrix, who were invaluable to this process. The story has just begun; we are now planning on scaling this project across the communities of the coastal regions of Ghana much like we prepare our gardens for seedlings. As observed by a listener “your program is so educative and has the potential of changing behaviors in our communities, please continue with it. As if we are playing, we are also learning from it. Keep it up”

## Improving Enforcement of Fisheries Regulations

Throughout the project, there was growing consensus among stakeholders that tougher enforcement was needed to prevent illegal behavior at sea. Illegal actions that were discussed included; use of banned fishing methods (chemicals and light), illegal nets, fishing by industrial boats in areas reserved for the canoe fishermen and trans-shipment of fish by trawlers to smaller craft.

**During one of the Fisheries Dialogue meetings, the Chairman of the Fisheries Commission, Hon. MIKE AKYEAMPONG recognized the concerns:**

The Commission had tried to stiffen punishments but the process of implementation has been difficult. Recently, Marine Police officers have been supported and trained to undertake enforcement at the landing beaches and at sea. The Commission also translated the Fisheries Laws into five local languages (Ewe, Dangbe, Ga, Fante and Nzema) for the education of fisher folks.

Several enforcement actions that turned violent in response to confiscation of generators and removal of monofilament gill nets with small mesh size increased the urgency for increased education (why monofilaments nets and generators for light fishing are “bad”) implications of the new law for fishers and likely practices of a task-force who is seeking to enforce regulations by force. A demonstration by local fishers in September 2011 in the Sekondi area against the task-force (See link) underscored the need for increased awareness and education campaigns.

The implementation of the seizure of the fishing nets, the monofilament nets, which the government started about two years ago with the navy and the police was important. They were mandated to go and seize these monofilament nets without any formal training on how to do so or telling the people why the nets were bad and this is what we are going to do. They just started to seize the nets which the fisher folks saw as infringement on their rights, so they objected to that. In some communities, there were some conflicts between the enforcement unit and the fisher folks. It was Hɛn Mpoano who (went) to Accra to see the government, meet with the Fisheries Commission to discuss the impacts of the actions of the task force and advocated for the suspension of its activities.

And one of the reports is that to be able to manage the fisheries work you have implement something like co-management. Through that you have to engage the fisher folks—tell them what we are going to do—they are at the ones on the water. And it was through that, that the operations stopped and they listened to what Hɛn Mpoano was telling them, and it was through that, the government started to engage fishers more and more.

**Officer EMMANUEL OWUSU ADDAE, Assistant Superintendent of Police with the Marine Law Enforcement team, describes its willingness to approach these situations differently.**



The police have been mandated to go into marine law enforcement. Now, what I realize was that if somebody is not educated and you enforce the law, which he's not aware of, normally we find it so disheartening especially

when the person goes to court and then he doesn't know what he has done wrong. He sees it as something that is normal so he doesn't know why you should arrest him. Now Hɛn Mpoano came in, educated us on some of the illegal activities that is being practiced by these fishermen. For instance usage of monofilament nets, dynamite and their ill effects, light fishing, pair trawling and more. Before this particular Program came, we were dealing with traditional crimes... the coming of Hɛn Mpoano has given us the highlights on how to approach some of the issues. The communities themselves started some of these activities so it has become a norm, so when you go and you talk about something different from what is happening it becomes a problem. A lot of people have appreciated the fact that, now, when we go to the communities we come to them to educate them. Actually some of the changes that I have realized is that our relationship with them is very cordial—they gave us trust they actually embraced whatever we sent on board... we have trained 25 men but they are not the only men that would be coast guards, more people will be coming but it is a gradual process. We need more men. I know 25 is not enough.

**THEODORE KWADJOSSE** (pictured on page 39), a Fisheries officer with the Monitoring, Control and Surveillance Division in the Western Region, noted the importance of changes in behavior:

Most of the interactions I've had with the people in the communities have been positive, anytime we go out with Hən Mpoano, we realize they identify with what Hən Mpoano is trying to do and they understand. Mind you, these are people who want to be able to provide for themselves and their family. They are not really business-oriented like some other people. They understand who are causing all these problems in the fisheries sector. So they say "Yes, Hən Mpoano is here to help cut off these illegalities and help us."

**JOHN BLAY**, a member of the Amanzule Working Group, describes the positive effect of changing the dynamic of enforcement:



Recently Hən Mpoano came to Atuabo with the marine police unit. They educated the fishermen on the type of fishing gear and the right methods to fish. Some of the fishermen were happy, especially those living in Atuabo. They were happy because the marine police have come to ban fishermen that use light to fish in order to pave way to help the other artisanal fishermen by also strengthening enforcement... Behavior change is not a small thing; it is a gradual process and when we continue to educate them they will understand but we can't force someone to change his/her attitude. Fishermen fish illegally but when they hear that the police are coming over, they stop but when they go they continue. When the person knows the side effect or the bad thing that will come on him/her they will change. Teaching someone to change will take a long time but when you exercise patience to educate the person on the details he/she will understand and stop.



## Strategy Reflection: The Policy Dialogue Process

The policy dialogue process featured engagement at community levels as well as at national/international levels. An example of the effectiveness of engaging with local communities is illustrated by a meeting held in Axim in August 2011. The session began with the purpose of discussing locally relevant fishing issues. It quickly turned into a creative think tank to brainstorm key messages to policy makers. The information and testimonies collected during these meetings provided the project valuable information for the series of national dialogues hosted by Hen Mpoano. Regular community meetings have proven to be useful opportunities to identify local leaders and change agents—individuals who actively engage and can bring about transformative change in their community, as well as individuals who are strongly opposed to any new Initiatives. Emerging leaders in these sessions were targeted for subsequent interventions in the community.

The success of continued engagement with communities provides a number of lessons for building capacity, including the need for permanent local information displays that visualized key events such as the results of the study tours or the trend in fisheries effort. It also became clear that building capacity for improving facilitation skills and conflict resolution would be needed to continue the dialogue process with local community leadership.

Three high-level Governance Dialogue events were held and had similar impacts for regional and national audiences. The first of these took place in 2011; the second in the key fishing port of Elmina in April 2012; and the third again in Elmina in February 2013. Together, the meetings and follow-up activities helped shape policy through a process of dialogue. Deep insights were revealed, among the most important that there should not be a one-size-fits-all structure for co-management along the Ghanaian coast, as this has been shown elsewhere as unlikely to work. This and other overarching policy ideas generated by key stakeholders during the dialogue process that are now primary features of the proposal for a fresh approach to fisheries governance include the following:

- > Eliminate light fishing
- > Eliminate fine mesh nets
- > Possibly consider a closed season to allow the stocks to grow
- > Eliminate premix subsidy



- > End open access
- > Strengthen compliance and enforcement systems
- > Improve scientific basis for decisions and information base
- > Improve value chain
- > Establish government benchmarks and incentives/rewards
- > Build capacity for increased engagement of civil society
- > Promote more regional cooperation on effort reduction
- > Declare this stock collapse a food security crisis/disaster

## Proposing a Fresh Approach to Fisheries Governance

At the end of Phase 3, the Hen Mpoano team developed a proposal that puts forward the need for the reform of fisheries management. The detailed proposal can be found at CRC website and underscores the fact that the Fisheries Act of 2002, Act 625, can support initial expressions of co-management through the establishment of fisheries



advisory committees. Once legislation is put in place for co-management, the advisory groups could be transformed into co-management groups with defined responsibilities and authority. While additional planning and legislative amendments are needed to fully address the crisis in Ghana's fisheries, this should not be at the expense of other actions that can be taken while these legal and planning processes are underway. This should include:

- > Graduated enforcement of the regulations adopted in 2010 that build on the policing strategies piloted in the Western Region
- > Better coordination of institutions involved in the enforcement and prosecutorial chain to increase successful prosecution of those arrested to act as a greater deterrent to illegal actions.
- > Adjustments to data gathering on effort and landings so that better estimates on the status of stocks would better inform decision-makers and managers
- > Consideration of closed seasons, especially for small pelagics, as a means to quickly reduce effort in response to the increase in boats and days at sea fishing.
- > Complete and fully implement a comprehensive national registration system for all canoe fishing vessels

Over time, legislative change will likely be needed in the form of an amendment to the Fisheries Act of 2002 by add-

ing a new section on co-management and an appropriate legislative instrument on co-management that sets the standards and procedures by which fisheries co-management will be implemented in Ghana. Such legislation should include explicit language to support the creation of adaptive co-management frameworks at different scales as previously outlined. This needs to include clear roles and responsibilities of the Fisheries Commission in relation to the co-management committees. Jurisdictional boundaries (maritime and/or geographical) need to be made explicit to coincide with the authorities granted to co-management committees and user groups.

The legislation also needs to provide explicit authority of the Fisheries Commission to allocate use rights, where necessary, but with a caveat that such rights come with responsibilities for conservation, environmental protection (e.g. protection of endangered species and critical habitats) and contributions to Ghana societal goals as spelled out in national fisheries policy. The Fisheries Commission must also be mandated to establish by legislative instrument criteria concerning these responsibilities and conditions under which use rights can be granted or suspended. While complex, there is a path forward for reform of fisheries governance.







## CHAPTER 5

# Reflections on Lessons Learned for Building Adaptive Capacity

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### Principles to Guide Next Steps in Governance Reform

The Western Region will change dramatically in the next 20 years, and the decisions made and actions taken today will shape this future. In a situation where change and uncertainty are likely to increase and conditions are in constant flux, the task of building adaptive capacity and reforming governance is forever incomplete but is a task worth doing. It needs to be guided by a set of principles to help sequence and prioritize the steps to take moving forward. Based on the first four years of the Hɛn Mpoano program, the following principles are considered essential for building marine and coastal governance capacity:

- > Continue to build a knowledge base of ecosystem dynamics—with balanced focus on human well-being as well as the function of natural systems. Routinely assess changes in the condition and use of the coastal ecosystems of the Western region;
- > Continue to build a better understanding of how the governance structures function, including: markets, government, traditional authorities and civil society. Support the development of networks that integrate across these networks;
- > Grow leadership through the development of a shared vision and experiences;
- > Build greater capacity for facilitation and mediation to engage stakeholders in planning, policy and conflict resolution;
- > Sustain adaptive capacity by continuing to design and refine the shape of coastal and fisheries governance; and
- > Deal with the unpredictable through the use of effective monitoring and evaluation strategies that embrace uncertainty and continually recalibrate to better sequence and prioritize actions.

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### Build a Deeper Knowledge Base of Social and Environmental Trends

Knowledge that is relevant to coastal and fisheries governance comes from many sources including cultural practices of community inhabitants, elders, local resource users, non-governmental organizations, faith-based organizations, chieftaincy, businesses, governmental agencies and academia. The Hɛn Mpoano team has learned that scientific understanding alone does not dictate decisions but informs the processes of management and governance through discovering how coupled natural and social systems function, documenting changes in these systems, anticipating their likely outcomes and evaluating alternative courses of action.

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#### As the Director of the Hɛn Mpoano Initiative, KOFI AGBOGAH noted:



We are becoming adept at the identification of critical unknowns and uncertainties and at working with both scientists and stakeholders to define how such gaps can be addressed.

It has been our experience that non-specialists make important inputs by contributing to the collection of relevant information on distribution and abundance of selected species and habitats, exploitation rates and the effectiveness of new techniques. We need to continue to pay attention to these voices to track the trends in the coastal system.

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## Analyze How Governance Systems Respond

The team has learned the importance of distinguishing between and characterizing the power dimensions across the four mechanisms by which the processes of governance are expressed: the marketplace, the government, the traditional authorities and the institutions and arrangements of civil society. The four governance mechanisms interact with one another in complex and dynamic ways. The team is developing a better grasp of how these fundamental mechanisms work, jointly and individually, and the external pressures that operate at larger spatial scales.

### As the Executive Director of Friends of the Nation, DONKRIS MEVUTA noted:



We have built an understanding of the traditions and capacities of the existing ecosystem governance system by considering processes and outcomes of past and present governance structures. These include the ways where planning and decision-making systems have worked, or most often not worked, to decentralize authority and responsibility and encourage co-management strategies. We are working toward a time in which government (local, regional, national) and a diversity of stakeholders (local resource users, community leaders, academics, scientists and others) share responsibility and join together in compliance with sound policies and procedures.

STEPHEN KANKAM, the Deputy Director of Hɛn Mpoano, noted the value of this approach with a reminder that capacity needs to be built from the start:



The basic understanding of the nested system of governance was one of our greatest challenges as a team. It required us to consider what structures were actually allocating planning and decision-making responsibility in decentralized systems that would encourage responsibility for addressing local issues without always waiting for directives from the central government. We learned the importance of considering national and global concerns, such as climate change, and how these issues must be safeguarded through top-down and bottom-up exchange and sharing of information and directives respectively. This means decentralization must not result in satisfying local interests at the cost of the larger system. As I look back, I now see the value of the approach and wish we committed to much more extensive training and capacity building around the methods to achieve this from the very beginning. With this, I believe we could have done a better job of building a common understanding of our shared purpose, selecting key sets of patterns and trends to pay attention to in the shifting context that was transforming around us. This could have given us a stronger focus on adaptive work plans and featured interventions that were more grounded in the objective of learning-by-doing towards our shared goals.



## Build Leadership Through a Shared Vision

The team has learned the importance of articulating a vision that inspires action on the issues posed by the use, conservation and restoration needs of a coastal ecosystem. Leadership requires communicating a clear vision that integrates the desired environmental, social and governance dimensions of a positive and achievable future. This requires addressing the issues and outcomes that the people of the place care about deeply. This work has required personal credibility and the ability to inspire trust and obtain cooperation and commitment from a diversity of constituents with different interests and values. These constituents want to see tangible demonstrations of respect for indigenous knowledge, a wider scope for collaboration and strong feedback mechanism that prove that leaders are listening.

**TENDAYI MUTUMUKURU-MARAVANYIKA**  
of WorldFish described the importance of building the capacity for a shared strategy:



Upon reflection, at the beginning of this work, the Hɛn Mpoano partners should have dedicated more energy into the development of a shared strategy for implementing various activities. For instance, throughout the process, we encountered huge transaction costs associated with simply explaining what the WorldFish work was all about and how it fed into the overall

objective of the Hɛn Mpoano Initiative to both external and internal partners who we thought were already well aware. We have learned it is crucial for all stakeholders to have a common understanding at an early stage of such an Initiative, gain an understanding of roles and responsibilities as well as agree on common methodologies for implementation. Because there was no general understanding or sense of common purpose, methodologies used by the Hɛn Mpoano partners were different, making the work very difficult.

It is clear that four years is not nearly enough time for the Initiative to achieve meaningful results in terms of facilitating reform towards co-management in Ghana Fisheries. Projects such as this, which rely on building trust and social capital, require longer time frames so that by the time the project ends, a more solid ground has been set and new structures have been tested. There is much that still needs to be done to generate the enabling conditions before a wholesale change in fisheries governance can occur. The learning-by-doing approach is the path forward and requires more time.



## Build Capacity for Facilitation and Mediation

Effective ecosystem management is expressed as much by moral leadership as by the capacity to integrate across a range of technical topics and skills. Effective leaders can appeal to the values and beliefs of a society and demonstrate their commitment to fair dealing, accountability and respect for the opinions and beliefs of others. Effective leaders are skilled in negotiation, identification of common ground and the crafting of compromises that do not detract from the fundamental goals of a program. The abilities to interpret non-verbal communication and guide a process through facilitation skills are developing within Hen Mpono. As conflicts spurred by rapid development and the crisis in fisheries grow, a range of competencies are needed to address this capacity gap:

- > Critical and reflective thinking, a willingness to challenge the status quo and invite inquiry into new ways of doing things and participatory approaches
- > Skillful and honest communication, including listening skills and the ability to speak and write with clarity, vision, and purpose
- > An ethical foundation expressed in both word and action and the ability to navigate the political arena without susceptibility to corruption
- > Ability to inspire and motivate others, to obtain their commitment and to forge collaboration among different groups
- > Knowledge of how to use leadership, team building, negotiation and conflict resolution skills to build effective partnerships
- > Respect for indigenous culture and recognition of the implications of indigenous traditions and values when engaging with leaders and improved social capital, awareness of acceptable attitude and behavior when visiting local communities and procedures within collaborating agencies

## The Toolbox for Capacity Building

The team has realized the fundamental importance of matching the complexity of the issues that will be addressed with the capacity of the program and its partners to bring about desired changes. This is a golden rule. When the time and resources available to a program are less than those required to achieve desired ecosystem conditions, it is essential to set goals and intermediate objectives that set realistic expectations and will contribute to the larger and longer term efforts that can together build the path to a positive future. Examples of this include tools and trainings that are needed for core partners to generate desired outcomes.

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As was described by **RICHARD ADUPONG** of Friends of the Nation, the toolbox that has been created is a good start:



The GIS toolbox includes land and water zoning schemes, licensing programs, performance standards and the equally important non-regulatory measures that include incentive programs, investments in capacity building and public education. Particularly critical is the use of Geographic Information Systems (GIS) that are a powerful tool for creating maps to help visualize and integrate across the environmental, social, economic and institutional dimensions of an area. A range of decision-support tools have been developed that can be very useful when evaluating alternative courses of action.

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These tools are essential to assess different scenarios in view of past performance of the governance system, the present conditions and the trajectory of change. The Town and Country planners are growing in their ability to communicate the vision, mission and strategic intent of a structural plan or hazard map. This enhances their ability to obtain consensus on a shared vision and agreement on specific actions to realize that vision. Through training on how to present the material to traditional authorities, where land tenure is a confusing and complex issue, there is respect and sensitivity to the indigenous culture that recognizes the implications of indigenous traditions and values when designing a program.

## Track Progress and Adapt in Time

Routine reflective practice is needed to adapt to changing social and environmental conditions and to learn from experience. Hen Mpoano progress has been monitored by indicators and markers, and the design was adapted as conditions and learning evolved through periodic assessments.

**PATICIA ABA MENSA, the coordinator of the Monitoring and Evaluation strategy with CRC Ghana, described it the following way:**



We recognized the importance of creating a culture of learning marked by periodic times for reflection and taking-stock of our progress. These meetings involved the program's staff and its partners. We wanted to create a

culture in which accomplishments are celebrated and both progress and setbacks are acknowledged with all stakeholders. Furthermore, we held monthly technical meetings and conducted routine governance scorecard tracking, etc.

Periodic program assessments provided the basis for adaptive management. The objective of program assessment is to make explicit and internalize the learning process and to encourage the adjustments suggested by the program's experience as it matures. It is equally important to recognize and act upon changes in the social, political, and environmental context within which the program is operating. Changes in ecosystem condition and dynamics that might require adjustments to a program's objectives and strategies can be anticipated both at the scale in which the program is operating and at the national or even regional and global scales. The mid-term evaluation was a great example of a serious effort to identify strengths and weaknesses in the program followed immediately with necessary adjustments. Monitoring and evaluation, while central to the practice of ecosystem management, must be kept simple and cost-effective. The selection of indicators must be the basis for accountability to the program's funders and stakeholders as well as the foundation for learning and adaptation to change. The program's monitoring must reveal the strength of the enabling conditions, gauge how the program's actions are influencing the behavior of key groups and institutions as well as document progress towards the ecosystem conditions the program is striving to achieve.

**KOFI AGBOGAH (pictured on page 48), the Director, noted that:**

We are familiar with a range of evaluation tools and are prepared to analyze progress and learning both within the program as well as the environmental and societal contexts in which we are operating. We recognize that increasingly the most powerful forces of change operate at regional and global scales and are beyond the control of an individual coastal governance program. However, we learned what we can control and have made key adjustments such as adding program elements and dropping several as well. Some of the things we decided to drop along the way for a range of strategic decisions included: creating a Marine Protected Area in the Cape Three Points area and creating a social thermometer to gauge human well-being. We also reduced the number of sites where we focused on community resilience at landing beaches from four to one (Anlo Beach). We supported alternative livelihoods through business plan development of local artisans who were using biodiversity images as part of their craft, led efforts to increase sea turtle conservation and promoted the use of alternative and less harmful fish smokers for the fish mongers.

His insights underscore the adaptive nature of the work that some aspects will go unrealized, some will be implemented as expected and new opportunities will be included as they emerge. Learning is focused on the urgent need to track and document these forks in the road as different aspects of strategic innovation and understand the governance implications to help shape reform. Learning also requires openness to surprises and unanticipated events.

## Be Open to Surprises That Occur

When asked about what surprised team members the most about what actually occurred versus what was planned, here are a few responses from the leaders of the four partners in Ghana:

- > My last job was with the center for International Policy Research in Zimbabwe, and we had a regional coordinator who was the only person who could speak to anyone of authority. There are typically designated people to speak to the public and they say exactly what they are told. If we had anyone from our office speak to someone even if they were asked about a program, they would be in big trouble. I'm impressed and surprised by the openness of this program. We have entertained hundreds of prominent visitors from all over the world, and we were all given the opportunity to engage and speak from our experience. My friend came here and said, "you people know what you are talking about."
- > I was very surprised that we succeeded in facilitating a rebirth of fisheries enforcement; they now are really rolling. One day I was invited into a meeting to discuss enforcement, even though we worked hard to invite officers to attend, I was very surprised to see several uniformed men who showed up on time and were all ready and willing to be trained. After three weeks of training, they hit the community and started educating people, after five months they went to the field and started first with extensive communication. After that, they commenced with enforcement of those who chose not to follow the rules and started to arrest people with community support. I never thought I would see this happen.
- > Until this project, most of us did not know what integrated coastal management was. We didn't know what it means or how to do it. Once we learned about this, the greatest achievement for me was that we applied our new knowledge and focused our attention of the District Assembly officials and their community leaders. We realized together the need to manage the coastal zone, and it has been a great experience to all involved. People took this area for granted. We would say "protect the sea" but we didn't know how—this project taught us how. I was very surprised that we could accomplish so much. That is the greatest achievement of the program.
- > One thing that fascinates and still surprises me about this program is the degree of government acceptance of our philosophy. I was concerned that maybe after our work, it would be business as usual and no real formal commitment by government. However, if you look at some specific events like the meeting at the National District Planning Commission, we were invited by them to help them make policies. You don't find NGOs on that platform, it's all government Ministry representatives. But there we were, the Hen Mpoano Initiative's team, simply providing clear evidence of our work and backing it up with clear examples and a fresh approach to coastal governance and influencing policy at that high level. It was a big surprise for me that we could achieve a significant amount of success that four years back we could not have thought was possible.
- > Now at the Ministries, they don't talk about coastal issues, they talk about Hen Mpoano Issues. So the coastal issues have become synonymous with Hen Mpoano. For the first time, we have a body of work, with supportive and informed constituencies who can tell of their experiences working across sectors with implementation in the Coastal Districts. Government is listening to us in all respects; they are beginning to believe what we tell them because we base it on facts and evidence. For example, there was a problem between the fishermen and the navy, and we went to Accra to discuss the issues. The Ministers told us they had only five minutes for us to present our case. The Deputy Minister was late to a meeting with the President. Those five minutes turned into one and a half hours. And when we finished, the Deputy Minister said to me. "Kofi, what you are doing is right." The essence of that is that they were listening, and I am surprised how effective this has been.
- > This week I was on the phone with one director in the Ministry of Agriculture who was focusing on cocoa. He was trying to understand the issues surrounding Green-Green (occasional macro-algae bloom found in the coastal waters of Jomoro and Ellembelle Districts) because he was told that it was the use of fertilizer on the cocoa farms that is contributing to the problem. "So how can we meet and talk about what to do," he asked. It is our advocacy and trust that is leading people to come to us to talk about evidence-based information on issues that matter to the people.

- > Having all the international expertise coming together and working together in real time with them has been so tremendous. I was surprised at how many people came in and contributed to the experience of learning together. This directly relates to all the capacity that has been built in-house through this interface. It has been just wonderful. Typically, program leaders think they have the way. I was surprised by our degree of openness, willing to listen to other perspectives and applying new ideas to our local context. Some worked, others did not, but we listened and welcomed divergent views. This is something that I would recommend for any future similar new program, combine local specific knowledge with external international expertise.
- > Working across institutions to try and reach a common goal has been the hallmark of this exercise or experiment that we are embarking upon. I do not think for a moment, that those of us in this room would be able to count how many institutions have helped to make this program a success. In most programs, people look very narrowly at their program. Here we had many people from many institutions bringing a diversity of perspectives and wisdom from all over the world. It's better than I ever expected and this is very significant.





## The Path Forward

The path ahead will not be easy but fortunately, through Hɛn Mpoano, the journey is already well underway. The coastal zone and marine resources of the Western Region, like most of Ghana's other coastal districts, face an uncertain and unpredictable future. The Hɛn Mpoano Initiative has emerged as a powerful source of momentum aimed at shaping a more positive future. As the many voices presented in this document express time and time again, the path involves an unlearning of old ways of thinking about and doing things and affirming the commitment of the people of the Western Region to engage in and support governance change. The voices have declared how they are now paying attention to how their governance system responds to these changes. The voices have asserted that as they walk this new path, Hɛn Mpoano means advancing with serendipity, conviction, some risk taking and faith. People have learned that paradoxes abound but that in the midst of profound uncertainty in the Western Region, the goal is for deeper understanding and commitment to dealing with economic, social and environmental change with improving governance. Reducing social, physical and economic vulnerability means taking risks. Hɛn Mpoano signifies that the path to changing others' behavior begins with changing our own.

The insights and lessons offered in the previous pages from program staff and stakeholders are relevant to people living in Ghana's other coastal districts. If asked how to improve coastal and marine governance in their regions and districts, the participants in Hɛn Mpoano might collectively offer the following insights and advice:

- > Be aware of the simple rules and the hidden system that is holding your problems in place and work to understand the factors that will need to change as you step up your involvement in the process of governance.
- > Work hard to create and support a positive vision, bringing together people with a strong sense of calling who are able to see larger system forces and windows of possibilities. While you are probably going to start small, the Hɛn Mpoano philosophy and approach will lead you forward.



- > Support people who are willing to interact and form networks among those who have potential to tip a system in a new direction. The involvement and support from international donors is critical but it is your neighbors who should be shaping the vision for the future in your area.
- > Be prepared to try new things. Identify and remove barriers to innovation, both those within and without.
- > Don't look to government to change the governance situation on its own. Realize that public officials and political leaders also need a supportive and informed constituency, political will, clear goals and the necessary capacity. Help to build these enabling conditions by making suggestions, by attending meetings, by volunteering to test out a new approach and by offering to share in the work of planning and implementation.
- > Become open to working with groups, businesses and stakeholders across sectors to identify allies as well as those with whom dialogue needs to be opened.
- > Find the courage to stand together to articulate a vision that can rekindle the flame and start the fire to sustain the hard work needed to make progress.
- > Speak passionately about things that really matter, give voice to those who live with the problems that need to be addressed.
- > Hone what you have to say and practice saying it in a way that connects both emotionally and rationally with those who are not yet willing to cooperate or comply with decisions.
- > Accept feedback about how you come across in expressing your views and in using coastal and marine resources.
- > Consider your niche and linkages to local knowledge and be prepared to speak up and share when the opportunities in discussions and decisions appear, even if reactions are negative rather than positive.
- > Document progress throughout your own Hen Mpoano Initiative. Keep track of how problems seem at the beginning as a baseline for later use when it is time to take stock and evaluate progress. Many small steps do add up and keeping this in mind is a source of encouragement as well as a way to make adjustments and adaptations along the way.
- > Above all else, work together to keep the momentum moving in every way that you can.

The path ahead will not be easy. However, the momentum that was built over the four years provides a direction and a niche for Hen Mpoano.

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**The following recommendation by the expert team that conducted a mid-term evaluation of the project sums up the potential role:**

We feel that Hen Mpoano offers a highly significant opportunity to the diverse stakeholders of Western Region, and perhaps to those of other coastal communities in Ghana. Our principal recommendation is that Hen Mpoano view itself as the emerging central convener of coastal governance issues in the Western Region, definitely not moving toward any kind of governance responsibility but rather drawing together and facilitating the interaction among the players in such governance... Hen Mpoano has invested heavily in, and has strongly changed, institutional capacity in the Western Region.

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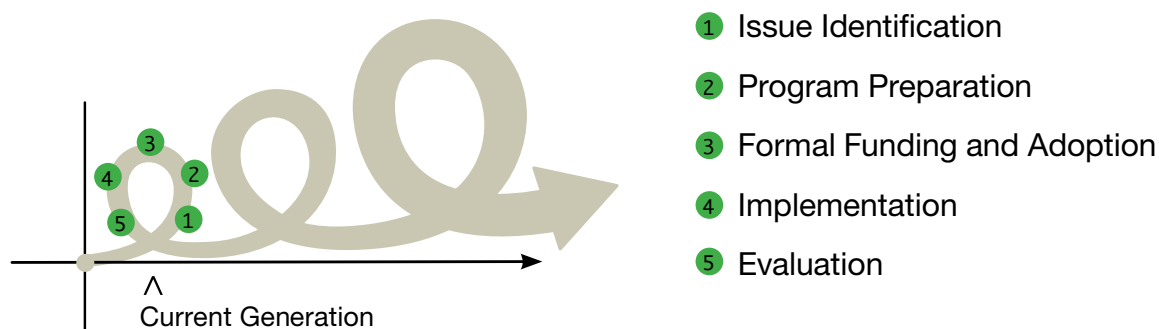
## Assessing the Responses to Coastal Ecosystem Change

The practice of the ecosystem approach recognizes that both the environment and the associated human population must be addressed simultaneously. It is concerned primarily with instigating the changes in human behavior that are required to restore and sustain the desired qualities of ecosystems. As an initiative lead by the Coastal Resources Center (CRC) at the University of Rhode Island the H&Mpoano is rooted in simplifying conceptual frameworks that are readily understandable by the multiple stakeholders who participate in ecosystem stewardship initiatives. Baseline conditions as summarized by this document are the foundation for the application of a monitoring and evaluation system that draws upon the methods that have been developed by the CRC and its partners over the past two decades. These were most recently compiled in the form of a handbook produced by the international Land-Ocean Interactions in the Coastal Zone program (Olsen et al., 2009).

### Tracking the Processes of Coastal Governance Through the Management Cycle

A simplifying and widely used framework for sequencing the many actions associated with the processes of an ecosystem governance initiative was offered by the Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection (GESAMP, 1996). The GESAMP cycle begins with an analysis of problems and opportunities (Step 1). It then proceeds to the formulation of a course of action (Step 2). Next is a stage when stakeholders, managers, and political leaders commit to new behaviors and allocate the resources by which the necessary actions will be implemented (Step 3). This involves formalization of a commitment to a set of policies and a plan of action and the allocation of the necessary authority and funds to carry it forward. Implementation of the policies and actions is Step 4. Evaluation of successes, failures, learning and a re-examination of how the issues themselves have changed rounds out a “generation” of the management cycle as Step 5. At the scale of a nation or province, a generation may require a decade or more to complete.





*More Sustainable Forms of  
Development over Time*

*Progressively larger cycle loops  
indicate growth in program scope*

Adapted from the GESAMP Cycle (1996)

As suggested by Table A.1, ideally, successive generations of a coastal governance program repeat these five steps to address an expanding agenda of issues and/or a larger geographic area. This conceptually simple cycle is useful because it draws attention to the interdependencies between the steps and, in mature programs, between successive generations of management. The five steps may be completed in other sequences, as for example, when an initiative begins with enactment of a law (Step 3) that provides the mandate for analyzing issues and developing a detailed plan of action (Steps 1 and 2). Altering the sequence, however, often comes at the cost of efficiency, as when it becomes apparent that the authorities provided by the law prove to be inadequate for implementing the actions that are required. Progress and learning are greatest when there are many feedback loops within and between the steps (GESAMP, 1996; Olsen et al., 1997, 1999).

In the case of Hæn Mpoano, the policy cycle has been used to track progress at the scale of the Western Region's coastal zone towards a formally established program with a mandate from the appropriate institutions in national government to formulate and implement policies and actions that are appropriate to the coordination role of regional

government. At this scale, the project accomplished its primary objective to complete the actions associated with steps 1, 2 and 3 of the management cycle. The formulation of such a coastal zone program at the regional scale has been informed by a number of initiatives directed at much smaller geographic areas as described throughout this document. The same steps and actions have been completed more quickly at a smaller geographic scale. A number of other activities, for example training events, communications programs and research activities are not suitable for management cycle analysis. Table A.1 summarizes a baseline application of the management cycle at the scale of a future coastal zone management program for the Western Region.

**Table A.1 Baseline Conditions as of October 1, 2013 for the Process of Establishing a Nested Governance Program for the Coastal Zone of the Western Region: Steps and Actions of the Management Cycle**

▼ = Not Initiated; ▲ = Underway; ● = Completed

STEP	INDICATORS	PROGRESS	
		2010	2013
<b>STEP 1:</b> <b>Issue Identification and Assessment</b>	Principal environmental, social and institutional issues and their implications assessed	▲	●
	Major stakeholders and their interests identified	▲	●
	Issues upon which the Hɛn Mpoano will focus its efforts selected	●	●
	Goals of the Initiative defined	▲	●
	Stakeholders actively involved in the assessment and goal setting process	▲	●
<p><b>Comments on Progress in Step 1:</b> Our understanding of the issues, their implications, and the major stakeholders involved has of course evolved over time as work proceeded in the focal areas during the coastal management phase of the program. Topics identified in phase 1 took on depth and coloration. Issues at the scale of the Western region also became increasingly clear, however our understanding of the complexities of the coastal governance system at the national scale only began to come into focus in phase 3. On fisheries topics the wide-ranging nature of the small pelagic stocks quickly required understanding the dynamics of fisheries governance at the national scale. At the same time, fisheries work at the scale of individual communities and the Western region as a whole enabled the project to understand the dynamics of fisheries issues in a firsthand and detailed manner. The issues posed by petroleum development came into focus only towards the end of phase 2. By midway in the series of M&amp;E sessions, the team agreed that the issues that the program will address have largely been identified and specific goals and objectives have been defined. Given the emergent and dynamic nature of the context of the Coastal Districts of the Western Region, issues will continually emerge, however, the program has now defined the central issues and the goals for the focal areas and for fisheries. Stakeholders are actively involved in the goals setting through the mid-term external evaluation; the score cards process also involves stakeholders in the assessment such as the fisheries commission, District assemblies and other relevant stakeholders.</p>			
<b>STEP 2:</b> <b>Design of a Nested Governance Program for the Coastal Zone of the Western Region</b>	Scientific research on selected management questions conducted	▲	●
	Boundaries of the area of focus defined	▲	●
	Baseline conditions documented	▲	●
	Institutional framework for the nested governance system designed	▼	●
	Institutional capacity for implementation developed	▼	●

**Comments on Progress in Step 2:** The boundaries of the area of focus were defined pragmatically in phase 1. Baseline conditions were documented also in phase 1 through the Our Coast paper and the associated community-by-community assessments. In hindsight the effort to document community conditions perhaps consumed too much energy. Pilot activities were undertaken initially through a small grants program that may have built some goodwill but were in many cases unfocused and only marginally useful to the initiative as a whole. Relatively little primary research was funded. Examples include a diagnostic on the source of algal blooms referred to locally as “green-green”, a survey of marine resources in the Cape 3 Points region, and ecosystem assessment of the lower Pra River mangrove system. The strategy was instead to apply scientific and technical techniques with skilled practitioners in order to understand the trends in important variables—as illustrated by the increases in fishing effort that are not documented by the fisheries statistics. GIS technology and the application of knowledge of shoreline processes proved essential to documenting and analyzing information on the shoreline. This became the basis for assessing the magnitude of risks and the management policies and tools that could be applied in individual Districts such as Shama. The learning by doing approach in the coastal districts was the major capacity building technique. Study tours and workshops on specific aspects of coastal and fisheries management were also important for capacity building. In this project study tours were particularly important. The institutional framework for the nested governance system has been designed in the issues brief. Piloting of activities is underway and this is informing practices of institutions at all levels.

Table A.1 continued

▼ = Not Initiated; ▲ = Underway; ● = Completed

STEP	INDICATORS	PROGRESS	
		2010	2013
<b>STEP 3:</b> <b>Formal Adoption and Funding of a Nested Governance Program for the Coastal Zone of the Western Region</b>	Policies/plan formally endorsed and authorities necessary for their implementation provided.	▼	▲
	Funding required for program implementation obtained	▼	▲
<p><b>Comments on Progress in Step 3:</b> As of November 2013, there has been increasing interest in the “fresh approach” to coastal or fisheries governance. Opportunities for formal endorsement by high level Ghanaian institutions include the incorporation of recommendations into the National Development Planning Commission guidance to districts on preparing mid-term development plans. The funding required to sustain the ideas put forward by this project will be provided by international agencies. USAID has announced a follow-up investment focusing on fisheries governance, and the West Africa Regional Fisheries Program (WARPF) has already made a substantial commitment to improving Ghanaian fisheries management. While individual districts could act upon and fund the coastal management actions may be incorporated in their next medium-term development plans (encouraged by new guidance to districts) it is unlikely that funds provided by central government will be sufficient to result in their full implementation. As of November 2013, policies and plans are still being negotiated with stakeholders for endorsement of creating joint coastal area management programs. Discussion was ongoing with WARFP, DFID, GoG, etc. for sustained funding for long term program implementation at local, regional and national levels.</p>			
<b>STEP 4:</b> <b>Implementation of a formally constituted Nested Governance Program for the Coastal Zone of the Western Region</b>	Behaviors of strategic partners monitored, strategies adjusted	▼	▼
	Societal/ecosystem trends monitored and interpreted	▼	▼
	Investments in necessary physical infrastructure made	▼	▼
	Progress and attainment of goals documented	▼	▼
	Major stakeholder groups sustain participation	▼	▼
	Constituencies, funding and authorities sustained	▼	▼
<p><b>Comments on Progress in Step 4:</b> The implementation of a future coastal program for the Western Region has been informed by pilot scale activities as well as a set of policy briefs, white papers and proposals for a fresh approach for both coastal and fisheries governance. The future coastal program will require a formal mandate, ideally from the President of Ghana, as well as other key stakeholders for implementation to begin.</p>			
<b>STEP 5:</b> <b>Self Assessment and External Evaluation</b>	Program outcomes documented	▼	▲
	Management issues reassessed	▼	●
	Priorities and policies adjusted to reflect experience and changing social/environmental conditions	▼	●
	External evaluations conducted at junctures in the program’s evolution	▼	▲
	New issues or areas identified for inclusion in the program	▼	●
<p><b>Comments on Progress in Step 5:</b> Monitoring and evaluation lies at the heart of adaptive ecosystem governance and has been a major feature of both Hen Mpoano and the nested governance program that it hopes to catalyze. During Phase 2 of Hen Mpoano, the results of monitoring will be the basis for self-assessments and adjustments to the program’s activities. In Phase 3, the progress made towards establishing a sustained governance program will be evaluated as a source of experience for a national coastal and fisheries governance program. Through detailed monitoring and evaluation practices including a self-reflection between Year 2 and Year 3, an external assessment in Year 3 and ongoing internal M&amp;E sessions, the team has built a culture of learning by doing and reassessed management issues, documented some developing program outcomes and have adjusted policies to reflect experience and highly dynamic social and environmental conditions. As of November 2013, the documentation of program outcome and assessment is underway through the annual and semi-annual reports, scorecards and lessons learned document.</p>			



## LITERATURE CITED

Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection (26th sess.: 1996: Paris), & Intergovernmental Oceanographic Commission. (1996). IMO/FAO/UNESCO-IOC/WMO/WHO/IAEA/UN/UNEP Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection (GESAMP): Report of the 26th Session, Paris, 25-29 March 1996. Brand, F. S., and K. Jax. 2007. Focusing the meaning(s) of resilience: resilience as a descriptive concept and a boundary object. *Ecology and Society* 12(1): 23.

Olsen, S.B.; Page, G.G. & Ochoa, E. (2009): The Analysis of Governance Responses to Ecosystem Change: A Handbook for Assembling a Baseline. LOICZ Reports & Studies No. 34. GKSS Research Center, Geesthacht, 87 pages.

Olsen, S., K Lowry and J. Tobey (1999). The Common Methodology for Learning: A Manual for Assessing Progress in Coastal Management. Coastal Resources Center, University of Rhode Island, Narragansett, RI. [http://www.crc.uri.edu/download/SEL\\_003F.PDF](http://www.crc.uri.edu/download/SEL_003F.PDF)

Olsen, S., Tobey, J., & Kerr, M. (1997). A common framework for learning from ICM experience. *Ocean and Coastal Management*, 37(2), 155-174.

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Coastal Resources Center  
Graduate School of Oceanography  
University of Rhode Island  
Narragansett, RI 02882, USA

Tel: (401) 874-6224  
FAX: (401) 874-6920  
<http://www.crc.uri.edu/>

