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# SUSTAINABLE FISHERIES MANAGEMENT PROJECT (SFMP)

## Information and Communications Technology (ICT) Working Group Strategy Workshop Report



**Hɛn Mpoano**



**SNV** SMART  
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WORKS



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## ACRONYMS

AG	Attorney General
BIT	Business Intelligence Tools
CAPI	Computer Assisted Personal Interviewing
CoP	Chief of Party
CRC	Coastal Resources Center at the Graduate School of Oceanography, University of Rhode Island
DCA	Development Credit Authority
FC	Fisheries Commission
FEU	Fisheries Enforcement Unit
FIP	Fisheries Information Portal
FMIS	Fisheries Management Information System
GoG	Government of Ghana
GPS	Global Positioning System
ICT	Information and Communications Technology
IUU	Illegal Unreported Unregulated
MCSU	Monitoring, Control and Surveillance Unit
MFRD	Marine Fisheries Research Division
MOFAD	Ministry of Fisheries and Aquaculture Development
MOU	Memorandum of Understanding
MP	Marine Police
M and E	Monitoring and Evaluation
NAFPTA	National Fish Processors and Traders Association
NGOs	Non-Governmental Organizations
NITA	National Information Technology Agency
NPOA	National Plan of Action
PPP	Public Private Partnerships
RPA	Rapid Partnership Appraisal
SFMP	Sustainable Fisheries Management Project
SSG	SSG Advisors
ToR	Terms of Reference
UCC	University of Cape Coast
URI	University of Rhode Island
USAID	United States Agency for International Development
VMS	Vessel Monitoring System
WARFP	West Africa Regional Fisheries Program

## TABLE OF CONTENTS

ACRONYMS.....	iii
BACKGROUND .....	1
WORKSHOP OVERVIEW .....	1
SESSION 1: ROLE OF PARTNERSHIPS IN SFMP .....	2
SESSION 2: ICT FOR DEVELOPMENT: THE PRIVATE SECTOR PERSPECTIVE ....	2
SESSION 3: CURRENT REALITY DIALOGUE .....	2
SESSION 4: BRAINSTORMING ON ICT FOR SUSTAINABLE FISHERIES .....	<b>Error! Bookmark not defined.</b>
VISION RESULTS.....	<b>Error! Bookmark not defined.</b>
SESSION 5: STRATEGIC ACTION PLANNING.....	<b>Error! Bookmark not defined.</b>
5.1 RESEARCH WITH STAKEHOLDERS .....	11
5.2 FINANCIAL SERVICES AND BENEFITS .....	12
5.3 DATA AND INFORMATION SYSTEMS.....	13
5.4 COMMUNICATION BETWEEN STAKEHOLDERS .....	14
5.5 SURVEILLANCE AND ENFORCEMENT .....	15
SESSION 6: REFLECTION AND DISCUSSION OF NEXT STEPS ..	<b>Error! Bookmark not defined.</b>
ANNEX.....	<b>Error! Bookmark not defined.</b>
WORKSHOP AGENDA .....	17

## **BACKGROUND**

The Sustainable Fisheries Management Project (SFMP) is a five-year effort to rebuild Ghana's small pelagic fisheries through the promotion of responsible fishing practices.

SFMP is working, together with the Government of Ghana, to: (1) Improve legal enabling conditions for co-management, use rights and effort-reduction strategies; (2) Strengthen information systems and science-informed decision-making for sustainable fisheries management; (3) Increase political and public support for rebuilding fish stocks; and (4) Implement applied management initiatives for several targeted fisheries ecosystems. As an implementing partner on SFMP, SSG Advisors is leading public-private partnership development, to support each of these four components.

Information and Communications Technologies (ICT) could be valuable tools to support sustainable management in Ghana's fisheries sector. Smart applications of ICT can connect diverse stakeholders, improve the efficiency of critical data collection and analysis, and improve the flow of vital information to support marine enforcement and coastal livelihoods. Ghana SFMP created an ICT working group – composed of Government of Ghana representatives, key outside stakeholders, and SFMP staff – to champion ICT initiatives for sustainable fisheries management. On November 12, 2015, the Ghana SFMP ICT Working Group met in Accra, Ghana, to co-design a comprehensive ICT strategy for fisheries management in Ghana. The workshop was led and facilitated by SSG Advisors.

The primary goal for this one-day, participatory workshop was to lay the foundation for a draft **ICT Strategy**, outlining how SFMP will deploy ICT to advance critical project objectives and support Government of Ghana goals. Participants took stock of current uses of ICT for fisheries management in Ghana, outlined key ICT needs and possible applications, and started to build a plan of action for implementing ICT solutions for sustainable management. SSG is now drafting an ICT Strategy Report, which it will circulate for comment to the ICT Working Group in the weeks following the workshop

## **WORKSHOP OVERVIEW**

The ICT Strategy Workshop followed the outline below:

- Welcoming remarks from SFMP Chief of Party Brian Crawford and SSG, participant introductions, and review of the workshop objectives and agenda;
- Presentation from SSG on public-private partnerships to advance ICT for sustainable fishing.
- Presentation from SSG on the private sector perspective in advancing ICT for development;
- Current Reality Dialogue: A participatory stock-taking exercise to assess the current reality vis-à-vis ICT for sustainable fishing;
- Brainstorming on ICT for Sustainable Fisheries: A group visioning exercise to establish goals and priorities for ICT solutions for Ghana's fisheries.
- Action Planning: A group planning session to establish next steps and implementation plans for moving forward with key ICT initiatives.
- Reflection and Discussion of Next Steps: Final discussions and overview of immediate next steps.

Core sessions were designed to incorporate the following elements and principles:

- **Participatory:** Meaningfully engage a range of key stakeholders, ensure broad buy-in and transparency, and create solutions that reflect diverse perspectives and ideas.
- **Dialogue:** Encourage open discussions and solicit diverse perspectives.
- **Results-oriented:** Develop practical proposals, clear targets, and next steps.
- **Structured:** Organize a realistic plan of action.
- **Consensus-building:** Come to agreement on key issues.

## **SESSION 1: ROLE OF PARTNERSHIPS IN SFMP**

SSG's Thomas Buck presented on the role of public-private partnerships in Ghana SFMP. He shared a wide range of examples of ICT partnerships in the region and the fishing sector, and he outlined two ICT partnerships already identified and prioritized for SFMP. He emphasized that SSG's primary role on SFMP is to explore opportunities for strategic partnerships with the private sector to mobilize new resources – such as technology, expertise, funding, and market linkages – to enhance the efficiency, scale, and sustainability of SFMP activities.

## **SESSION 2: ICT FOR DEVELOPMENT: THE PRIVATE SECTOR PERSPECTIVE**

SSG ICT Advisor Charles Kimani then presented on the private sector perspective in advancing ICT for development. Mr. Kimani summarized how the project can engage potential ICT private sector partners at both the national and local levels, and how SFMP can engage the private sector to advance the integration of ICT into SFMP activities.

## **SESSION 3: CURRENT REALITY DIALOGUE**

This session provided participants with an opportunity to take stock of current uses, needs, opportunities, and challenges related to ICT in their institutions/projects. The participants were divided into five stakeholder working groups: (1) Fisheries regulatory/policy agencies; (2) Law enforcement and illegal fishing; (3) Data and research; (4) Fisherfolk and community groups; and (5) National ICT policy and regulation. Each of the five working groups answered the following questions from their organization, institution, or project's perspective:

1. How are we currently using ICT? What are our **strengths** or **assets**?
2. In what areas could we benefit from ICT? What are the **weaknesses** of our current systems?
3. What challenges might we face in attempting to advance ICT solutions for sustainable fishing (i.e. what **obstacles** might stand in our way?).
4. What **opportunities** exist that could help us implement new ICT solutions?

5.

Example of tabulation of answers to above questions.

<b>Stakeholder Working Group Name:</b>	
<b><u>Strengths / Assets</u></b> • • •	<b><u>Weaknesses / Gaps / Challenges</u></b> • • •
<b><u>Opportunities</u></b> • • •	<b><u>Future / Potential Obstacles</u></b> • • •

To streamline process and reporting, the group exercise was organized and structured with the reporting format above and the instructions below:

**Current Reality / Stock Taking Exercise Guidelines:**

- Reflect about your organization’s core business
- Think about ICT and fisheries-related issues (operations, administration, communications, management, etc.)
  - What is working? What is not working?
  - Challenges and room for improvement
  - What is new / different?
- Using provided charts, map out:
  - Strengths / assets
  - Weaknesses / gaps / challenges
  - Opportunities
  - Potential obstacles
- Prioritize the identified needs

**Brainstorming Guidelines**

- Individually brainstorm ideas for each of the four boxes / topics in the chart
- Choose a group member / volunteer to chair the discussions (be sure to stay on track and on time)
- Choose another group member to take notes on the discussion for each of the four boxes
- After the discussion, the team will select 4-6 of the best insights and write them on the provided flip chart
- One team member will volunteer to share the results at the plenary

Participants shared their current strengths and weaknesses related to ICT for sustainable fishing in Ghana. They also provided insight into potential benefits and pitfalls that SFMP and the Government of Ghana may face in moving forward with an ICT strategy. The results are shown below.



<b>National ICT Policy and Regulation</b>	
<b>Strengths / Assets</b>	<b>Weaknesses / Gaps / Challenges</b>
<ul style="list-style-type: none"> <li>• Existing national e-commerce portal (National Information Technology Agency, NITA)</li> <li>• Available infrastructure: network fiber at marine offices of Fisheries Commission</li> <li>• Robust data collection processes</li> <li>• Web-based ICT applications for registry and aquaculture</li> <li>• Fisheries Management Information System (FMIS) is under implementation to link all fisheries data</li> <li>• The Vessel Monitoring System (VMS) is in place</li> </ul>	<ul style="list-style-type: none"> <li>• Inadequate funding/sustainability of ICT</li> <li>• infrastructure and services (World Bank funding is ending)</li> <li>• Inadequate infrastructure to enhance connectivity between marine and inland offices of Fisheries Commission</li> <li>• Storage format of data is not ideal for processing (manual)</li> <li>• Low computer literacy level / weak computer skills (45% of Fisheries Commission staff lack basic computer skills), making it a challenge to migrate to a digital system</li> </ul>
<b>Opportunities</b>	<b>Future / Potential Obstacles</b>
<ul style="list-style-type: none"> <li>• Enhance connection of all offices</li> <li>• Introduce/develop/promote fisheries mobile applications</li> <li>• Introduce CAPI (computer assisted personal interviewing with tablets)</li> <li>• Host apps and data at National Information Technology Agency (NITA), pending completion of Fisheries Management Information System (FMIS) at Fisheries Commission (FC)</li> <li>• Introduce business intelligence tools (BIT) for analytics</li> <li>• Leverage mobile technology as a primary data collection tool</li> <li>• Centralize all fisheries apps and data under FMIS at FC data center</li> </ul>	<ul style="list-style-type: none"> <li>• Inadequate funding</li> </ul>

<b>Fishery Regulatory and Policy Agencies</b>	
<b>Strengths / Assets</b>	<b>Weaknesses / Gaps / Challenges</b>
<ul style="list-style-type: none"> <li>• Existence of fisherfolk association offices in all regions / zones</li> <li>• Registration framework in place / new management plan adopted</li> <li>• Web database and registry of vessels and canoes</li> <li>• Strong collaboration with other agencies</li> <li>• Political will to implement management plan / registration and interest in pension / insurance schemes</li> </ul>	<ul style="list-style-type: none"> <li>• Inadequate sensitization on the need for vessel registration</li> <li>• Low literacy levels in fishing communities</li> <li>• Too many undeveloped landing sites, making data collection and analysis difficult</li> <li>• Lack of licensing scheme for canoe fleets</li> <li>• No safety schemes (health and social) for fishers</li> <li>• Administration gaps between central and local government and fisherfolk</li> <li>• Communication challenges due to limited staff relative to stakeholder base</li> </ul>
<b>Opportunities</b>	<b>Future / Potential Obstacles</b>
<ul style="list-style-type: none"> <li>• Implement canoe registration as first step to licensing / limited access permits</li> <li>• Set up and develop source of data</li> <li>• Stakeholder and political interest in developing pension and insurance schemes</li> <li>• Wide usage of mobile phones among fishing communities will speed uptake of the apps</li> <li>• New National Fish Processors and Traders Association (NAFPTA) could be path to registry of processors</li> </ul>	<ul style="list-style-type: none"> <li>• Poor accessibility/roads to landing sites</li> <li>• Limited access to electricity to charge phones</li> <li>• Poor telecommunications network/coverage with limited communication</li> <li>• Political interference in many aspects of enforcement management of fisheries</li> <li>• Resistance to / noncompliance with registration process</li> <li>• Need regular registration / update of existing canoes and controlling new entrants</li> </ul>

<b>Enforcement / Illegal Fishing</b>	
<b>Strengths / Assets</b>	<b>Weaknesses / Gaps / Challenges</b>
<ul style="list-style-type: none"> <li>• Enabling legislation for enforcement is in place</li> <li>• Well established interagency enforcement (FEU, Navy, MP, AG, MCS) network</li> <li>• Electronic monitoring system</li> <li>• Existing National Plan of Action (NPOA) and FIP (Fisheries Information Portal)</li> <li>• Establishment of Marine police</li> <li>• NGO support for Fisheries Commission in sensitization, awareness, education and research.</li> </ul>	<ul style="list-style-type: none"> <li>• Weak interagency cooperation</li> <li>• Out of court settlement, promoting corruption</li> <li>• Ineffective implementation of laws and policies by the Fisheries Commission/communities and fishers</li> <li>• Low levels of intelligence gathering</li> <li>• Low staff levels</li> <li>• Difficulty monitoring canoes</li> <li>• Lack of operation basis</li> </ul>
<b>Opportunities</b>	<b>Future / Potential Obstacles</b>
<ul style="list-style-type: none"> <li>• Engaging citizens in the watch and management of fishing activities</li> <li>• Erect police posts along landing beaches</li> <li>• Set up vessel monitoring systems</li> <li>• Implement national marine management plan</li> <li>• Create ICT apps for fisheries management</li> <li>• (hotline for reporting activities)</li> <li>• Improve intelligence gathering</li> <li>• Increase funding from development partners</li> <li>• (World Bank, USAID);</li> <li>• Cross border ICT platform (using international carriers);</li> <li>• Introduce fisheries mobile apps;</li> <li>• Introduce CAPI (computer assisted personal interviewing with tablets)</li> <li>• Host apps and data at NITA pending completion of FMIS at FC</li> </ul>	<ul style="list-style-type: none"> <li>• Political interference</li> <li>• Low acceptance of ICT as a tool for monitoring</li> <li>• Sustainability after donor funds</li> <li>• Weak management of ICT infrastructure / interagency management</li> </ul>

<b>Research / Data / Information</b>	
<b>Strengths / Assets</b>	<b>Weaknesses / Gaps / Challenges</b>
<ul style="list-style-type: none"> <li>• Existing database of fisheries</li> <li>• Adequate technical capacity (human resources)</li> <li>• Technical infrastructure in place</li> <li>• Adequate data collection sites</li> <li>• Collaboration between industry/research with academics</li> </ul>	<ul style="list-style-type: none"> <li>• Some data is still in hard copy form</li> <li>• Difficulty in accessing data</li> <li>• Database not standardized</li> <li>• IT management capacity absent/weak</li> <li>• Lack of research vessels, finance</li> <li>• Inadequate collection of data</li> </ul>
<b>Opportunities</b>	<b>Future / Potential Obstacles</b>
<ul style="list-style-type: none"> <li>• Implementation of fisheries management plan</li> <li>• Opportunity to set up good governance structures</li> <li>• Expanded stakeholder support;</li> <li>• Improve ICT capacity/affordability</li> <li>• Donor / NGO in collaborative research</li> </ul>	<ul style="list-style-type: none"> <li>• Replacement/employment of skilled staff</li> <li>• Educational background of data collectors;</li> <li>• Database security</li> <li>• Political interference</li> <li>• Governance</li> <li>• Fisheries management costs</li> </ul>

<b>Fisherfolk and Community Groups</b>	
<b>Strengths / Assets</b>	<b>Weaknesses / Gaps / Challenges</b>
<ul style="list-style-type: none"> <li>• Large population / community size (over 100,000 people)</li> <li>• Existing, strong associations</li> <li>• Wide mobile phone usage</li> <li>• Deep understanding of fishing dynamics (spawning season)</li> <li>• Low attrition rate (do not leave fishing)</li> </ul>	<ul style="list-style-type: none"> <li>• Lack of access to capital</li> <li>• Low education levels in the communities</li> <li>• Increasing usage / depletion of resources</li> <li>• Declining fish stocks</li> <li>• Inadequate safety measures at sea (accidents/unsafe conditions)</li> <li>• Low prices for fish (squeezed by fish mongers)</li> <li>• Low belief in change due to unmet / unrealistic expectations</li> <li>• Older generations see technology as a burden</li> </ul>
<b>Opportunities</b>	<b>Future / Potential Obstacles</b>
<ul style="list-style-type: none"> <li>• Interest in private sector growth/involvement</li> <li>• Introduction of insurance for fisherfolk;</li> <li>• ICT mapping (implementing restricted fishing space)</li> <li>• Existing GPS system being rolled out;</li> <li>• Fishers' Club / hotline</li> <li>• Implementing solar technology– diversification of livelihoods</li> </ul>	<ul style="list-style-type: none"> <li>• Oil and gas restriction of fishing space</li> <li>• Need to understand initiatives before committing</li> <li>• Communication ambiguity</li> <li>• Migration of fisherfolk</li> <li>• Low results/benefits lead to lower commitment</li> <li>• Lack of innovation within initiative to adapt to new and changing environments</li> <li>• Political interference</li> </ul>

## **SESSION 4: BRAINSTORMING ON ICT AND FISHERIES**

The next session gave participants an opportunity to articulate a vision for realistic achievements for ICT in sustainable fishing, given the realities of the fisheries' context as well as the scale of needs. Together, participants laid out goals and targets for a successful ICT strategy for the fisheries sector.

### **Visioning Exercise Instructions**

**Focus Question:** In the next 4 years, what specific ICT solutions do we want to see on the ground to advance sustainable fishing in Ghana?

### **Arenas of Thinking:**

- Developing apps for fisheries and fisherfolk
- Building regional, national, sector portals for capturing and sharing fisheries information
- Capacity strengthening

- Linking users with service providers, regulators, etc.
- Collecting fisheries information and data
- Building appropriate databases
- Hotlines and alert systems, etc.

**Approach:**

- Think visually: What do you see/ envision in the future?
- Describe possible future outcomes and realities that are important to achieve.
- Positive statements of a **HOPE-filled** future.
- Should be practical, what should/could be created

**Procedure:**

- Individually brainstorm 2-3 ideas and jot them down on your notepad.
- Choose/ volunteer one person to chair the discussion and another person to be the secretary and take notes.
- Each person will share his/her ideas with their small groups.
- In the first round, share one idea per person.
- The chair will guide another round of idea sharing, focusing on new ideas that are not similar to ones already shared.
- The groups will review all recorded ideas and select 3-6 ideas that are clear, concise and significant
- The group will write selected ideas on color cards, one idea per card (6-12 words per card)

## VISION RESULTS

1. Research with Stakeholders	2. Financial Services and Benefits	3. Data and Information Systems	4. Communication between Stakeholders	5. Surveillance and Enforcement
Collaborative research with stakeholders	Mobile money platform to receive payments and pay for services (insurance and goods)	Fisheries data collection, storage, analysis and access automated, digitized and optimized.	Innovative communication system and feedback mechanism	<ul style="list-style-type: none"> <li>• Call center for fisheries infractions</li> <li>• Fisheries Commission response performance reporting via SMS platform.</li> </ul>
Integration of universities and NGOs using ICT tools for collaborative research and stakeholder education.	Mobile money platform for fish processors.	Robust database for infraction trend analysis	Robust interagency communication connectivity	Apps to monitor Ghanaian vessels and access data/repository for Fisheries Commission staff.
Strengthen the capacity of stakeholders and the Fisheries Commission (FC) to use and contribute to ICT apps.	Fisherfolk accessing Fisheries Commission-sponsored benefits and services via SMS.	<ul style="list-style-type: none"> <li>• Centralized repository of fisheries data with advanced repository analytics capability</li> <li>• Robust fisheries management information system</li> <li>• Real time reporting of fish catch data</li> </ul>	Network connectivity at all stakeholder sites	<ul style="list-style-type: none"> <li>• Monitoring system to track foreign vessels entering Ghana Exclusive Economic Zones (EEZ).</li> <li>• Fisheries Commission staff able to access Vessel Monitoring System (VMS) data via mobile phones</li> <li>• Stakeholder Illegal, Unregulated, Unreported</li> <li>• (IUU) reporting increasing</li> </ul>

## SESSION 5: STRATEGIC ACTION PLANNING

In new small groups, the participants then brainstormed 3-6 strategic actions to be taken in the next year to achieve each of the five vision pillars. Using the identified strategic actions, each group next started developing a Year 1 action plan. The Year 1 action plan detailed the key tasks/ activities to be undertaken under each strategic action, the partners needed for each task, and resource requirements. The following tables show the action plans under each pillar

### 5.1 Research with Stakeholders

Key Tasks/ Activities	Implementing Partners	When	Resource Requirements (Financial, HR, Technical)
<b>Strategic Action 1: Organize research working groups.</b>			
Identify members	SFMP/FC	January	Administration
Organize initial meeting	SFMP/FC; Universities; NGOs	February	Admin and location
Write TOR (including roles, responsibilities, meeting schedule & deliverables)	SFMP FC	Middle of Feb	Admin
<b>Strategic Action 2: Develop applications</b>			
Design TOR / SOW for consultancy	Research group	Mid March	Admin
Identify and procure consultant(s)	SFMP/FC	End of April	SFMP budget
Validation of app(s) by research working	Research group	Mid May	Admin
Procure tablets and other hardware	SFMP/FC	Mid May	SFMP budget
<b>Strategic Action 3: Design ICT program for stakeholders</b>			
Design first training for FC, Universities and NGOs	Research group consultants	Mid June	Admin
Identify training participants (no more than 20)	Research group consultants	Mid June	Admin
Conduct training for FC etc.	Research group consultants, FC	July	Admin and SFMP budget



Design first training for communities	Research group consultants	Mid July	Admin
Identify training participants (no more than 20)	Research group consultants	Mid July	Admin
Conduct training for community	Research group consultants	August	Admin and SFMP budget

## 5.2 Financial Services and Benefits

Key Tasks/ Activities	Implementing Partners	When	Resource Requirements (Financial, HR, Technical)
<b>Strategic Action 1: Design financial service platform for fishers.</b>			
Identify services and products, insurance premium, credit, input suppliers and saving schemes	<ul style="list-style-type: none"> <li>• MOFAD/FC</li> <li>• SFMP/SSG</li> <li>• Vodafone</li> <li>• Insurance companies</li> <li>• Bank</li> </ul>	Feb – April	Workshop
Design and develop solutions & partnership platforms, service providers, insurance companies	<ul style="list-style-type: none"> <li>• MOFAD/FC</li> <li>• SFMP/SSG</li> <li>• Vodafone</li> <li>• Insurance Companies</li> <li>• Bank</li> </ul>	March – June	Workshops Consultants
Roll out pilot: advertising & marketing	<ul style="list-style-type: none"> <li>• Associations</li> <li>• Service providers</li> <li>• MOFAD/FC</li> <li>• SFMP/SSG</li> </ul>	June – Dec	Skilled personnel

### 5.3 Data and Information Systems

<b>Key Tasks/ Activities</b>	<b>Implementing Partners</b>	<b>When</b>	<b>Resource Requirements (Financial, HR, Technical)</b>
<b>Strategic Action 1: Document historical data.</b>			
Collect and organize all data (paper) sheets from various sources	FC; UCC	Late Feb	10 plus people
Edit data sheets	FC; UCC	Late April	10 plus people
Enter data	FC (FSSD)	End of financial year	10 plus people
<b>Strategic Action 2: Reconcile the database</b>			
Write SOW / TOR	FSSD / SFMP	Late Feb	Admin and SFMP
Procure consultancy	FSSD / SFMP	Late March	Admin and SFMP
Conduct data mining and reconciliation	Consultants and FSSD	End of September	10 plus people

## 5.4 Communication between Stakeholders

Key Tasks/ Activities	Implementing Partners	When	Resource Requirements (Financial, HR, Technical)
<b>Strategic Action 1: Develop ICT-based extension services.</b>			
Assessment of needs, ages of fishers, language preference, preferred channels & define content areas	<ul style="list-style-type: none"> <li>• Associations</li> <li>• MOFAD / FC</li> <li>• Vodafone</li> <li>• Esoko</li> <li>• SSG / SFMP</li> </ul>	March – April	Forum
Design/develop solution ICT platform to use helpline, etc.	<ul style="list-style-type: none"> <li>• MOFAD / FC</li> <li>• Vodafone</li> <li>• Esoko</li> <li>• SSG / SFMP</li> </ul>	Mid May	Training platform
Roll out solution: <ul style="list-style-type: none"> <li>• Pilot</li> <li>• Launch</li> <li>• Sensitization</li> </ul>	<ul style="list-style-type: none"> <li>• MOFAD / FC</li> <li>• Vodafone</li> <li>• Esoko</li> <li>• SSG / SFMP</li> <li>• Associations</li> </ul>	June – Dec	<ul style="list-style-type: none"> <li>• Tents, personnel, mobile clips / devices</li> <li>• Mobile info vans</li> </ul>
<b>Strategic Action 2: Develop ICT-based community outreach program.</b>			
Assess fisher needs – stakeholders meeting	<ul style="list-style-type: none"> <li>• Associations</li> <li>• MOFAD / FC</li> <li>• SSG / SFMP</li> </ul>	Feb – April	Forum
Identify and develop platform for the total forum	<ul style="list-style-type: none"> <li>• Vodafone</li> <li>• Associations</li> </ul>	April – June	Workshops
Roll out	<ul style="list-style-type: none"> <li>• MOFAD / FC</li> <li>• SSG / SFMP</li> <li>• Associations</li> </ul>	June – Dec	<ul style="list-style-type: none"> <li>• Tents, personnel, mobile clips / devices</li> <li>• Mobile info vans</li> </ul>
<b>Strategic Action 3: Develop interagency communication platform.</b>			
Map agencies to be insured	MOFAD / FC	Feb – April	Workshop
Access existing interagency communication platform	MOFAD / FC and NITA	April – May	Workshop and consultants
Implementation platform for interagency communication	MOFAD / FC and NITA	May – Dec	Systems interpreters

## 5.5 Surveillance and Enforcement

Key Tasks/ Activities	Implementing Partners	When	Resource Requirements (Financial, HR, Technical)
<b>Strategic Action 1: Strengthen information sharing among enforcement</b>			
Create stakeholders forum	FC / FEU / Police / Navy	Feb – March 2016	Stakeholders meeting places
Develop protocol for information sharing	<ul style="list-style-type: none"> <li>FC / FEU / Navy / Ag/</li> <li>Associations / Univ.</li> </ul>	Feb – April 2016	Personnel / HR to review, relevant.
Create platform for information sharing	<ul style="list-style-type: none"> <li>FC / FEU / Police / Navy / Ag/</li> <li>Associations / Univ.</li> </ul>	March – June 2016	<ul style="list-style-type: none"> <li>Technology</li> <li>Funds</li> </ul>
<b>Strategic Action 2: Establish a call center to receive information on IUU fishing.</b>			
<ul style="list-style-type: none"> <li>Identify location (e.g., Police headquarters or FEU headquarters)</li> <li>Protocol for hotline</li> </ul>	FEU, fish comm., Police, Navy, other stakeholders	Feb – June 2016	<ul style="list-style-type: none"> <li>Office space</li> <li>Personnel</li> <li>Logistics funds</li> </ul>
Train personnel to man center	Based on location, multi stakeholders	May – June 2016	<ul style="list-style-type: none"> <li>Police, Navy, NGOs</li> <li>Telephones and comps</li> </ul>
Adoption of communication system	Telco, Police, Navy, FC	March – June	Telco, apps, connectivity experts
Publicize facility	Multimedia, stakeholder groups, NGOs, forum, etc.	June – Dec	Radio, TV, SMS, town hall meetings, association
<b>Strategic Action 3: Establish satellite units for intelligence gathering and response.</b>			
Conduct surveys to identify satellite points (hotspots)	FC, Police, Navy	Feb – April	FC, Police, Navy, NGOs, stakeholders

Identify core personnel and training needs	<ul style="list-style-type: none"> <li>• FEU, Police, Navy</li> <li>• Other stakeholders</li> </ul>	May	LE officer, NGOs, FC
Deploy technology to link up satellite	Telco, LE personnel	April – June	Equipment (ICT)
Response readiness	<ul style="list-style-type: none"> <li>• FEU, Police, Navy</li> <li>• Reinforcements</li> </ul>	October	<ul style="list-style-type: none"> <li>• Vehicles, Police/Navy</li> <li>• Ration consumables</li> </ul>

## **SESSION 6: REFLECTION AND DISCUSSION OF NEXT STEPS**

SSG Director Thomas Buck led participants in reviewing the results of the workshop and creating a list of initial next steps, including:

1. SSG to share a Dropbox file with the raw workshop outputs with all participants;
2. SSG to share a final workshop report with all participants;
3. SSG to prepare and share a draft ICT strategy report, building on the results of the workshop, by end of January;
4. SFMP, WARFP, and government representatives to review the Strategy document for finalization by SSG;
5. SFMP to follow up with the Fisheries Statistical Service Division (FSSD) to establish the infrastructure, resources, and training needed for personnel to manage and maintain new ICT infrastructure.

SFMP and SSG look forward to working with the ICT Working Group to continue to advance ICT solutions for sustainable fishing in Ghana.

## ANNEX: WORKSHOP AGENDA



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### Ghana Sustainable Fisheries Management Project (SFMP)

#### ICT Working Group Strategy Workshop

November 12, 2015

Accra, Ghana

*Led by SSG Advisors*

#### WORKSHOP DESCRIPTION AND OBJECTIVES

On November 12, 2015, the Ghana SFMP ICT Working Group will meet in Accra, Ghana, to co-design a comprehensive ICT strategy for SFMP. ICT has great potential to support sustainable management in Ghana's fisheries sector. Smart applications of ICT can connect diverse stakeholders, improve the efficiency of critical data collection and analysis, and improve the flow of vital information to support marine enforcement and coastal livelihoods.

The primary goal for this one-day workshop is to lay the foundation for a draft **ICT Strategy**, outlining how SFMP will deploy ICT to advance critical project objectives and support Government of Ghana goals. SSG will circulate a draft ICT Strategy Report for comment to the ICT Working Group in the weeks following the workshop.

Accordingly, **key objectives** for the ICT Working Group Strategy Workshop include the following:

- Understand current ICT uses, needs, and opportunities for SFMP and the Government of Ghana.
  - **Key Questions:** What are the strengths and weaknesses of the current situation?
  - What have been the successes thus far? What have been the obstacles to success?
  - What are the potential benefits and pitfalls for SFMP and the Government of Ghana in moving forward with a new ICT strategy?
- Reach a consensus on the key priorities for ICT for SFMP and sustainable fishing in Ghana.
  - **Key Questions:** In what areas might ICT advance sustainable fishing in Ghana?
  - Given limited staff time and resources, which of these areas are of highest priority for ICT development for Ghana SFMP and the Government of Ghana?
- Develop an action plan with next steps for ICT development.
  - **Key Questions:** What are the next steps for ICT under Ghana SFMP?
  - What level and type of contribution will be feasible for the Fisheries Commission? For Ghana SFMP?

**Agenda**  
**November 12, 2015**

Time	Activity	Presenter / Facilitator
8:30-9:00	Arrival and Registration	
9:00-9:10	Welcoming Remarks	Brain Crawford, SFMP
9:10-9:30	Introduction and Review of Workshop Objectives <u>Description</u> Introduction of the participants followed by a short overview of the workshop's objectives and agenda	Tom Buck, SSG
9:30-10:00	Presentation of SFMP ICT Partnership <u>Description</u> SSG Advisors present a range of ICT partnerships, including two partnerships prioritized for SFMP	Tom Buck, SSG
10:00-10:15	Questions and Discussions	
10:15-10:45	ICT for Development: The Private Sector Perspective <u>Description</u> SSG ICT Specialist Charles Kimani discusses the private sector perspectives in efforts to deploy ICT for development and conservation	Charles Kumani, SSG
10:45-11:00	Questions and Discussion	
11:00-11:15	Coffee Break	
11:15-12:45	Stock Taking: Where are now with ICT? <u>Description</u> This session allows participants to take stock of the current uses, needs, opportunities, and challenges related to ICT in their institutions / projects. Participants are divided according to stakeholder groups to answer the following questions: <ol style="list-style-type: none"><li>1. How are we currently using ICT?</li><li>2. In what areas could we benefit from ICT? (i.e. What are the weaknesses of our current systems?)</li><li>3. What challenges might we face in attempting to advance ICT solutions for sustainable fishing? (i.e. What obstacles might stand in our way?)</li><li>4. What opportunities exist that could help us implement new ICT solutions?</li></ol> <u>Output / Goals</u> <ul style="list-style-type: none"><li>• Share current strengths and weaknesses related to ICT for sustainable fishing</li><li>• Explore potential opportunities for and obstacles moving forward with an ICT strategy</li></ul>	Polycarp Ngoje, SSG
12:45-1:45	Lunch Break	

1:45-3:15	<p>Brainstorming on ICT for Sustainable Fisheries</p> <p><u>Description</u></p> <p>Group brainstorming and consensus building activity for the ICT strategy. Proposed focus question: What specific ways can ICT advance sustainable fishing in Ghana? Group then works together to prioritize and each consensus around key goals</p> <p><u>Output / Goals</u></p> <p>Create shared vision of priorities for a SFMP ICT strategy, including desired results and changes</p> <p><u>Key Points</u></p> <p>Participants build vision for realistic achievements for ICT in sustainable fishing, given the realities of the SFMP context as well as the scale of needs</p>	Polycarp Ngoje, SSG
3:15-3:30	Coffee Break	
3:30-5:00	<p>Action Planning: Next Steps for the Ghana SFMP ICT Strategy</p> <p><u>Description</u></p> <p>Participants brainstorm 5-10 tasks for the ICT Working Group in Year 1. Each group shares and clusters ideas to create the start of an action plan for the Working Group. Together, the group creates an overarching action plan, with particular detail for the first 6 months. The action plan should also identify other concrete needs (funding, data, etc.) important for successful ICT initiatives. Finally, the group assigns task teams to move key tasks forward in the coming months.</p> <p><u>Outputs / Goals</u></p> <ul style="list-style-type: none"> <li>• Identify up to 10 priority actions and tasks for the ICT Working Group.</li> <li>• Create task teams for each key initiative.</li> </ul>	Polycarp Ngoje, SSG
5:00-5:30	<p>Reflections and Discussion of Next Steps</p> <p><u>Description</u></p> <p>SSG closes the workshop and summarizes next steps for the ICT Working Group. Participants have the opportunity to raise any outstanding issues or key questions relevant to the ICT Working Group or ICT for sustainable fishing.</p> <p><u>Output</u></p> <p>Summary of list of immediate next steps</p>	Tom Buck, SSG