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SUSTAINABLE FISHERIES MANAGEMENT PROJECT (SFMP)

Baseline Survey Report for Winneba and Apam

July 2015

THE UNIVERSITY OF RHODE ISLAND GRADUATE SCHOOL OF OCEANOGRAPHY | CRC COASTAL RESOURCES CENTER

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ACRONYMS

AOR	Administrative Officer Representative
ASSESS	Analytical Support Services and Evaluations for Sustainable Systems
CEMAG	Community Environmental Monitoring and Advocacy Group
CCLME	Canary Current Large Marine Ecosystem
CCM	Centre for Coastal Management
CDCS	Country Development Cooperation Strategy
CEWEFIA	Central and Western Region Fishmongers Improvement Association
COMFISH	Collaborative Management for a Sustainable Fisheries Future
CoP	Chief of Party
CPUE	Catch Per Unit Effort
CR	Central Region
CRC	Coastal Resources Center at the Graduate School of Oceanography, University of Rhode Island
CRCC	Central Regional Coordinating Council
CSLP	Coastal Sustainable Landscapes Project
CSO	Civil Society Organization
DA	District Assembly
DA	District Authorities
DAA	Development Action Association
DAASGIFT	Daasgift Quality Foundation
DCE	District Chief Executive
DFAS	Department of Fisheries and Aquatic Sciences
DFID	Department for International Development
DO	Development Objective
EBM	Ecosystem-Based Management
EG	Economic Growth
EMMP	Environmental Mitigation and Monitoring Plan
ERF	Environmental Review Form
ETP	Endangered, Threatened and Protected
FAO	Food and Agricultural Organization of the United Nations
FASDEP	Food and Agriculture Sector Development Program
FASDP	Fisheries and Aquaculture Sector Development Program
FC	Fisheries Commission
FCWCGG	Fisheries Committee for the West central Gulf of Guinea
FEU	Fisheries Enforcement Unit
FHI	Family Health International
FoN	Friends of Nation
FtF	Feed the Future
GCLME	Guinea Current Large Marine Ecosystem
GIFA	Ghana Inshore Fishermen's Association
GIS	Geographic Information System
GIZ	Gesellschaft für Internationale Zusammenarbeit
GLM	Generalized Linear Models
GNAFF	Ghana National Association of Farmers and Fishermen
GNCFC	Ghana National Canoe Fishermen’s Council
GoG	Government of Ghana
GSA	Ghana Standards Authority
GSO	Graduate School of Oceanography, University of Rhode Island
HM	Hen Mpoano
HP	Health Practitioners
H&S	Health and Sanitation
ICFG	Integrated Coastal and Fisheries Governance
ICM	Integrated Coastal Management

ICT	Information, Communication Technology
IEE	Initial Environmental Examination
IR	Intermediate Results
IUCN	International Union for Conservation of Nature
IUU	Illegal Unreported Unregulated
JHS	Junior High School
JICA	Japan International Cooperation Agency
LEAP	Livelihood Enhancement Against Poverty
LOC	Location
LOE	Level of Effort
LOGODEP	Local Government Development Program
LoP	Life of Project
MA	Municipal Assembly
MCE	Municipal Chief Executive
MCS	Monitoring, Control and Surveillance
METASIP	Medium Term Agricultural Investment Program
METSS	Monitoring, Evaluation and Technical Support Services
MFRD	Marine Fisheries Research Division
MOFAD	Ministry of Fisheries and Aquaculture Development
MOU	Memorandum of Understanding
MPA	Marine Protected Area
MSME	Micro Small and Medium Enterprises
MSP	Marine Spatial Planning
M&E	Monitoring and Evaluation
NAFAG	National Fisheries Association of Ghana
NGO	Non-Governmental Organization
NC	National Committee
NRM	Natural Resources Management
PMEP	Performance Monitoring and Evaluation Plan
PMP	Performance Management Plan
PPP	Public Private Partnerships
PV	Photovoltaic
RAVI	Rights and Voices Initiative
RCC	Regional Coordinating Council
RFA	Request for Application
RPA	Rapid Partnership Appraisal
SAMP	Special Area Management Plans
SFMP	Sustainable Fisheries Management Program
SHS	Senior High School
SMEs	Small and Medium Enterprises
SNV	Netherlands Development Organization
SS	Spatial Solutions
SSG	SSG Advisors
STEP	Sustainable, Transparent, Effective Partnerships
STWG	Scientific and Technical Working Group
UCAD	University Cheikh Anta Diop
UCC	University of Cape Coast
URI	University of Rhode Island
USAID	United States Agency for International Development
USG	United States Government
WA	West Africa
WARFP	West Africa Regional Fisheries Development Program
WASH	Water, Sanitation and Hygiene
WR	Western Region

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EXECUTIVE SUMMARY

The Sustainable Fisheries Management Project (SFMP), a USAID funded project which is being implemented by the Coastal Resurce Center of the University of Rhode Island through a consortium of partners including SNV in the coastal areas of the Central and Western Regions of Ghana aims at boosting the production of small pelagic fish in Ghana's coastal waters.

As part of initial interventions towards achieving this goal, SNV Netherlands Development Organisation has carried out a detailed baseline survey at Winneba and Apam.

The survey sought to obtain information on the effects of the activities of fishing in the landing sites of the two communities and on the health, sanitation and livelihood of the people. The respondents from which the information were obtained included men and women in fishing activities (fishermen and fish processors), teachers, workers within the District Assembly and Municipal Assemblies, workers concerned with the Health and Sanitation of the communities and Health Practitioners, Agricultural officers and officers within the Fisheries Department, Town and country officers. Two hundred (200) respondents were interviewed in both communities; and there were seven different questionnaires targeted at the various respondents.

The indiginions men are mostly fishermen, with others working with the civil service and as small scale crafts men such as carpentry and masonry. The women from the coastal areas are engaged in fish processing and petty trading. School dropout rate is 5 – 10% of the school attending population; with the girls covering 60% and the boys 40%. There are many factors leading to this phenomenon such as parent's irresponsibility. The fishes mostly harvested in both communities are the Herrings, Salmon, Eban (Sardinella aurita) and Tuna. The method of fishing mostly used are the net- angling and dragging net. Smoking, salting, frying and drying of fish are the main methods used in fish processing in the two communities. 882 and 982 Fish processing ovens were counted in Apam and Winneba respectively whereas according to the Fisheries officers stationed in Apam and Winneba, there are about 228 and 450 canoes in both Apam and Winneba, respectively.

In general terms both communities harvest small pelagic fishes using the light system of fishing at night; this occurs all year round but in very low quantities during the lean season. The most catch is made between August and September; the bumper season. They are mostly dried and smoked for sale in the markets. They can be stored for very long depending on how well it is smoked and the storage system available.

The sanitation situation in both communities is very poor and must be given a great deal of attention in this project; a well mechanized land fill; site could be considered. Provision of cold store would be helpful in improving storage and trade in fresh fish. High rate of illiteracy is also affecting businesses and they can be assisted through adult education. Assess to loan is quite difficult for the men and women fishers because of high interest rates.

Finally, interventions in the forms of logistic and better improvement options in both the fishing and fish processing industries whiles considering proper sanitation interventions will go a long way to streamlining the fishery industry in both communities and more importantly increasing small pelagic stock in the coastal waters.

1.0 INTRODUCTION

The United States Agency for International Development (USAID) has committed funds to the implementation of a Sustainable Fisheries Management Project (SFMP) in Ghana for five years.

The objective is to rebuild marine fisheries stocks and catches through adoption of responsible fishing practices. The project will contribute to the Government of Ghana's fisheries development objectives and USAID's Feed the Future Initiative.

Working closely with the Ministry of Fisheries and Aquaculture Development and the Fisheries Commission, USAID/Ghana SFMP aims to end overfishing of key stocks important to local food security through a multi-pronged approach:

- Improved legal enabling conditions for co-management, use rights and effort-reduction strategies
- Strengthened information systems and science-informed decision-making
- Increased constituencies that provide the political and public support needed to rebuild fish stocks
- Implementation of applied management initiatives for several targeted fisheries ecosystems

USAID has selected the Coastal Resources Center (CRC) at The University of Rhode Island's Graduate School of Oceanography as lead implementer of the SFMP. In leading the project, CRC will work with the Ministry of Fisheries and Aquaculture Development and the Fisheries Commission along with a consortium of international and local partners, including SNV Netherlands Development Organization. SNV, as part of the fishing communities livelihood development value chain and post harvest improvement interventions has carried out a baseline or characterization survey of two pilot sites in the Central Region; Apam and Winneba.

This survey is supposed to determine the current state or situation in both communities without the project. This will therefore provide a benchmark to evaluating the project progress over time.

The survey is broad based covering different components; fishing industry, fish processing, the community, health and sanitation, livelihood alternatives etc.

1.1 Objectives

This assignment is intended to:

- Collate baseline data and detailed information on social and economic standards of living of both communities.
- The survey seeks to understand the way of life of the people.
- Establish a baseline for which the project will work with.

2.0 OVERVIEW OF APAM AND WINNEBA

APAM

Apam is a coastal town and capital of Gomoa West District in the Central Region of Ghana, located approximately 45km east of the Central regional capital of Cape Coast. Apam is the site of Fort Lijdzaamheid or Fort Patience, a Dutch-built fort which was completed in 1702, which dominates the fishing harbor and town from a rocky peninsula located on the south side of the town. It used to be a major port in pre-independence times but after Tema was built shipping was stopped. The town has an Odikro (Chief of the town) called Obotantam Nana Efrim XII.

It is also a major town in the Gomoa Akyempem Paramountcy. It has a lot of fishermen as fishing is the main industry. Apam has a Senior High School (Apam SHS), an FM station, several churches and a salt weaning industry which is no more functioning. The Benyah Lagoon is used for producing salt. Apam has a total population of 26,466 and a growth rate of 2.5%.

Apam has a very busy and vibrant fishing sector with large numbers of canoes with out-board motors lining their beach area.The major fishing season in Apam waters is between August and December. The main fish harvested from their waters are "Akoonai, Eban (Sardinella aurita), Opeku, Apaa". The fishermen go to see in two batches; some go in the evening and return in the morning whereas others go to sea in the morning and arrive in the evening between 5pm and 7pm. Those who go to see in the night usually use the light system of fishing to harvest more herrings and other small pelagics. The fishermen use both the prescribed and unprescribed fishing nets.

Each canoe can have between 10 to 15 workers on it at a time and the owner pays them at the end of each trip. Most of the workers are from the town.

At the landing site the landed fish is sold to inhabitants of the community, neighboring communities and most often storage vans from far away towns such as Techiman and Swedru. The fishermen have a well-established association which is the Apam branch of the Ghana National Canoe fishermen Association. They are constructing a main office for the executive body of the Association, but have a temporary office for the chairman. According to the executive body, each canoe that lands on the beach pays an annual levy of GHC50.00 but there are daily levies made with fish to the executive body.

The women population of Apam is mostly fish processors. The fish is processed through smoking, salting or frying. Smoking and salting is more predominant. The fish smokers use chorkor stoves made of clay but most of them have the round mud stove for storage of the smoked fish. The fish smoking sites are more of household based, where families work together in groups but within their homes. The fish smoking sites identified did not have shed over their stoves.

It was observed that some fish smokers travel from other regions to Apam to smoke fish when they have less catch in their regions.

The main fuelwood used is Nim and 'Esa' and they are supplied by trucks coming from neighboring towns such as Bobikuma, Antam and Swedru. The women smoke 'Opeku, Tuna,

Gyenkum, Emane, Safoa, Doctor fish' and sell the smoked fish in market centres at Kumasi, Techiman and Accra. They also sell the fish in its fresh state but on a lower scale.

WINNEBA

Winneba is a coastal town and the capital of Effutu Municipal Assembly in the Central Region of Ghana. Winneba has a population of 60,331 and is traditionally known as *Simpa*; it is a historic fishing port in southern Ghana, lying on the south coast, 90 miles (140 km) east of Cape Coast. During the Gold Coast era, (Effutu) Winneba served as a port town between Europe and the then Gold Coast.

The main industries of Winneba are fishing and services. It is known for the Aboakyer deer-hunting festival and its New Year fancy dress carnival/mascarading festival. The town has a rich musical tradition and currently boasts of several renowned musical groups in the country, including the Winneba Youth Choir, the Osimpam Ompeh group, and the Akoo show Choir. The University of Education, Winneba is the main teacher training tertiary educational institution in Ghana.

Winneba beach area is also a very busy and vibrant fishing site with about 5 landing site that stretches from Akosua village to Woarawobeba a small community close to Winneba. The sites are Aboadze mpoano, Kesiwokan mpoano, Eyipe mpoano, Penchem mpoano, Akosua village, and Woarawobeba mpoano.

The bumper fishing season is in August through to December and dawdles through January and February. The fishermen here do not trade with the Chinese but always go in search of fish. They also go in two groups, some go for night fishing and the others fish during the day. It was noted that, night fishing is carried out using light and they usually harvested 'Émane' (Herrings) during the night but harvest other fishes like Doctor fish, Eban (Sardinella aurita) Opeku, Safoa, and mpae during the day. They use both the prescribed and un-prescribed nets for fishing. The fishermen use GPS not only for navigation anymore but to locate areas where they had good catch in the past. They sell to people from far to neighbouring communities, but women are their major customers. They also have an existing association and have a well-established executive body with an existing office. The sanitation situation at some of the beaches is very poor.

The women population also smoke, dry, fry and salt the fish before selling it. But the situation is same as that of Apam, fish smoking and salting is more predominant.

At Woarawobeba, the drying process is carried out on the bare salty sand but this system is very unhealthy. They dry the fishes for days depending solely on heat from the sun.

Fish smokers in Winneba also work in their homes. They smoke most of the fishes landed by the fishermen, but mostly Mpae, Tuna and Opeku. The women use chorkor stoves made of clay and these stoves are mostly not under shed. They also have the round stoves made of clay, for storage purposes. They sell their fish at market centers in Swedru, Oda, Kasoa and Accra (Agbogbloshie market). They buy their fuelwood from trucks coming from Suhum and Oda in the Eastern region.

Woarawobeba community has a long stretch of mangrove landscape with large patches of degraded areas. There was evidence of cutting as there was a number of bundled mangrove

wood that was left to dry but there was no evidence of mangrove wood being used as firewood for fish smoking.

3.0 SURVEY METHODOLOGY

The survey was conducted under 7 components/themes in the two communities; Apam and Winneba. The survey assessed issues concerned with the fishing industry, Fish processing, the community, Health and Sanitation and Alternative livelihood in these communities with focus on the fishery industry. The survey took a gender perpective in gathering the data. Questionnaires were designed to facilitate the survey process.

3.1 Details on Survey – Components

The survey was conducted under 7 components as follows

3.1.1 Component 1: The Fishery Industry

This component gathered information on the fishery industry in the communities. It covered the following parameters

- The state of the fishery industry
- Fishing methods
- Fishing logistics
- Harvesting capacity
- Specie types peculiar to the community
- Fish trade and markets

3.1.2 Component 2: Fish Processing

Fish processing is one major occupation for the female population in coastal towns. Apam and Winneba are no exceptions. This component gathered information on the state of fish processing in the communities. The following parameters were covered;

- The types of processing activities
- The logistics used for processing
- Challenges relating to their activities
- Storage
- Trade and marketing

3.1.3 Component 3: The Community

This focused on the economic and social life style of the people. It provided information on the situation that pertains to the communities.

- Economic activities (labor, trade and markets, industries)
- Social (culture, religion, belief system)
- Major organizations working in the community and their interest for the fishery industry
- Standards of living
- Children

3.1.4 Component 4: Health and Sanitation

This component sought to understand the health situations in these communities both on a general scope for the entire community and for the coast. The main areas of concern is the

- Sanitation issues at the coast
- The behavior of the people in relation to sanitation (by observation)
- Medical centers available
- Medical records on high occurring diseases peculiar to these communities

3.1.5 Component 5: Alternative Livelihoods

This component looked at other opportunities that are available to the people apart from fishing and fish procession that will add more value to them or increase their income, such as

- Untapped industries
- Interests of the people
- Value addition

3.1.6 Component 6: Interviews

Interviews were carried out to understand the role of the individuals and institutions in the fishery industry and the overall state of the community.

The Medical centers:

- Records on disease occurrence
- View on the sanitation situation in the communities
- Information on earlier interventions in the area
- Suggestions on interest areas that needs attention

The Schools:

- Information on extra curriculum activities
- Availability of skilled labor and logistics
- School attendance
- Behavioral situation of children
- Part time activities carried out by children
- Opportunities available for children

The Chief fisherman:

- The situation and concerns on fishing
- Issues with fishing methods
- Regulatory standards available and compliance issues
- Challenges in fishing
- Suggestions on how to replenish fish stock

The District Assembly:

- General information on the community
- The fish industry and issues of concern
- The processing industry and issues of concern
- Interventions undertaken in the past and existing ones
- Needs and challenges with focus on the fishery industry
- Health issues
- Issues on education
- Organizations working within the area and their focus of work

3.1.7 COMPONENT 7: Enumeration of fish smoking stoves

In addition to administering questionnaires the survey identified the different types of fish smoking stoves available, identified their locations in the communities and counted all the stoves.

3.2 Research Methodology Assesment

Apam and Winneba are two major fishing communities in Ghana. The survey collated information/data from fishermen including the Chief Fisherman from Winneba, Fish Processors including the Queen Fish Processor, the General Public, Schools – both government and private, (Presby Junior High School and Winneba Senior High School), Medical Institutions – government and private (Winneba Health Center and Klimovic Memorial Hospital), the Local Governments including the DCEs, Coordinating Directors, Planning Officer, Health & Sanitation Officers, Agricultural Department and Town & country Department. An enumeration of ovens used in fish processing (Round Metal/Mud ovens and Chorkor ovens) was also carried out in both communities. In all 200 respondents were interviewed in the two communities.

3.2.1 How information was gathered

Data was analysed using statistical tables.These qualitative data then were processed, analyzed and organized in table. Statistical values including frequency counts and percentage were calculated in order to explain distribution and general characterizations of the communities under general information, fishery industry and processing. Though quantitative data was used, quantitative information was as well used to compliment that of qualitative data.

3.2.2 Source of information/population

This project information was gathered from Apam and Winneba in the Central Region. Data was collated the from fishermen including the Chief Fishermen from the Apam Winneba communities, Fish Processors including the Queen Fish Processors of Apam and Winneba communities, the landing sites (Apam, comedown, Mumford, Abrekum) fish processing sites (Nsuekyiri, Bakano, Ngenka Abor and Paado) the General Public, Public and Private Schools in the two communities, Medical Institutions both Government and Private, the Local Governments including the MCE/DCEs, Coordinating Directors, Planning Officers, Health & Sanitation Officers, Agricultural Department in the communities Town and Country Planning

Officers. There were enumerations of fish smoking stoves in the following areas: Alata, Abakwa, Mafam, Egyaa, Amamudu, Akosua Village, Oyibi, Walabeba, Zion Top Right, Zion Top Left and Nsuekyie.

4.0 RESULTS FOR WINNEBA

Table 1 Total number of Surveyed areas and respondents in Apam and Winneba Communities

District	No, of Loc.	No .of Fishermen Surveyed	No. of Fish processors surveyed	No. of H.P Surveyed	No. of Teachers surveyed in the District	No. of H & S Staff Surveyed	No. of Staff of DA Surveyed	No. of People of the General Public Surveyed	Grand Total
Apam	21	M: 30 F: 0	M: 2 F: 28	M: 2 F: 5	M: 7 F: 3	M: 1 F: 2	M: 5 F: 5	M: 5 F: 5	M: 52 F: 48
Winneba	22	M: 30 F: 0	M: 0 F: 30	M: 3 F: 4	M: 4 F: 6	M: 1 F: 2	M: 6 F: 4	M: 4 F: 6	M: 48 F: 52

Note: M = Number of male respondents; F= Number of female respondents

In each of the two communities data was gathered from 30 fishermen, 30 fish processors who are basically illiterates or semi-illiterates, and 10 people from the General Public. 3 workers of the Municipal/District Assemblies were interviewed. These were made up of MCE/DCE, Coordinating Directors, Planning Officers, 1 Agricultural Extension Officer, 4 staff of the Fishery Department, 1 staff of Town and Country Planning Department, 1 District Sanitation Officer and 2 other staff, 10 Teachers, 3 Medical Health Practitioners in the Government Hospitals, 2 medical staff each from two Private Clinics. In Apam 52 men and 48 women were interviewed whilst in Winneba 48 men and 52 women were interviewed.

In all, the Baseline Survey covered a total number of 200 people in the Apam and Winneba communities and they were randomly selected. A total number of 882 and 982 fish smoking stoves were enumerated in Apam and Winneba communities respectively.

Table 2 Background characteristics of Fishermen – Apam

Fishermen (N = 30)	Frequency	Percentage (%)
Age N = 30		
20 – 29	4	13.8
30 – 39	10	34.5

40 – 49	6	20.7
50 and above	9	31.0
Years spent in the community (n = 30)		
Less than 5 years	3	10.0
5 – 10 years	0	0.0
11 – 20 years	2	6.67
20 years and above	25	83.33
Years spent in the business (n = 30)		
Less than 5 years	2	6.67
5 – 10 years	3	10.0
11 – 20 years	1	3.33
20 years and above	24	80.0

Table 3 Background characteristics of Teachers – Apam Community

Teachers (N = 10)	Frequency	Percentage (%)
Age N = 10		
20 – 29	2	20.0
30 – 39	7	70.0
40 – 49	0	0.0
50 and above	1	10.0
Years of teaching (n = 10)		
Less than five years	4	40.0
5 – 10 years	5	50.0
11 – 20 years	1	10.0
20 and above years	0	0.0
Years spent in the community (n = 10)		
Less than 5 years	3	30.0
5 – 10 years	5	50.0
11 – 20 years	1	10.0
20 years and above	1	10.0

Table 4 Teachers and fishermen response on fishing activities and community livelihood - Apam

Teaching activity	Teachers	Fishermen
Do you have child delinquency in the School?	Yes, due to parental negligence	-
What is the dropout rate?	5 – 10%, this was deduced from the Baseline survey	-
What are the causes of child delinquency in School?	Broken homes, not interested in education, parental negligence, lack of parental care, support, supervision and control	-
What are the main challenges with your work in the community?	Parents are not responsible towards their children education. Some don't buy books for their wards. They don't attend PTA meetings.	Lack of finance to procure books for childern
Fishing activity – fishermen		
What are the main fish harvesting methods used in the community?	Using of net, hook and line fishing	Net, Hook and line
Which types of nets are used in havesting the fish?	Wotse net and Nifa nifa nifa nets	Wotse net and nifa, nifa nifa nets
What fish do they harvest most?	Herrings, Eban, Tuna, Opoku	Salmon, Herrings, Opoku, Eban, Osoropa, Tantamle, Tsukwe
How often do they harvest small pelagic fish (Eban, Kankama, Antebo, Druku, Anter)?	August and September they harvest in large quantity	August and September they havest in large quantity.
Are there particular fish harvesting systems that you are not comfortable with?	Yes, the use of mosquito nets and light, the use of chemicals like DDT	Light methods, use of chemicals like DDT, dynamites
How do they market their harvested fish	The fishmongers buy them at the landing sites, smoke or salt and sell them outside Apam.	They sell to their wives and other fishmongers

Fishing activity – Fish Processors	Teachers	Fishermen
In what quantity do they acquire fish?	5 – 10 pans	20 pans when in abundance and 5 pans lean season
What types of fish processing activities are undertaken in this community?	Salting and smoking	Salting and smoking
Do other boats from neihbouring countries fish in your water?	Yes, Chinese trawlers	Yes, Chinese trawlers
How often do they undertake processing activity in a week?	-	Five times in a week: Mondays, Wednesdays, Thursdays, Fridays and Saturdays
Are there particular months that fishes in general are in short supply and expensive?	February – May	February – May
How do they store their fish?	Deep Freezers storage, smoke and kept in baskets	Deep Freezers, smoking
Do they have Fish Processors Association?	-	Yes; Apam Fish Processors Association; Dwomaman Fish Processors Association; Nyame Nti Se Odasani; Adom Wo Wim Association
How do they access fish?	From the landing site	From the landing site and cold store in Tema
Which fish types do they acquire most?	Eban and Tuna	Red fish, Eban, Tuna
What are the main challenges with the work	Logistics	Transportation and finance

Fishing industry	Teachers	Fishermen
How many landing sites do you have?	-	4
What are their names?	-	Alata mpoanu, Amuni mpoano Akupram, Abakwa

Which fishing net do you use for fishing?	-	Watsaa Net, 6 Inches, 2inches, One Quarter, Wokye net, 5-8 net, 3inches, 1-1-8 net, Nsuadeboa Wire (Hook and line) Net, Sika Ye Abrantie, Wotse Net, Busia, Slope 9, Slope 18 Net, Glue Net
As a fisherman what are your logistical needs?	-	Net, Outboard Motor, Fuel, Torch Light, Mobile Phones, Ropes, GPS Compass, Floats, Lead, Generators, Safety Gears
Do other boats from neighboring countries fish in your waters?	-	Yes, the Chinese trawlers use our water
What measures do you put in place for safety on the sea?	-	They were taught how to check mechanical fault, leakages, carry more fuel and life jackets
Community & Alternative livelihood	-	-
What is the most dominant occupation in the community?	Fishing, fish processing, trading	Fishing, fish processing, trading
What occupations are women dominated?	Trading, fish processing	Trading, fish processing
What occupations are men dominated?	Fishing, masonry and capentary	Fishing and carpentary
What other activities do they do in addition to fishing and processing to gain additional income?	Farming	Farming

Table 5 Background characteristics of Fish Processors – Apam Community

Fish Processors (N = 30)	Frequency	Percentage (%)
Age N = 30		
20 – 29	2	6.7
30 – 39	4	13.3
40 – 49	10	33.3
50 and above	14	46.7
Years of processing fish (n = 30)		
Less than five years	3	10.0
5 – 10 years	9	30.0
11 – 20 years	12	40.0
20 and above years	6	20.0
Years spent in the community (n = 30)		
Less than 5 years	2	6.7
5 – 10 years	10	33.3
11 – 20 years	12	40.0
20 years and above	6	20.0

Table 6 Background Information on District Assembly – Apam Community

District Assembly (N = 10)	Frequency	Percentage (%)
Age (n =10)		
20 – 29	3	30.0
30 – 39	4	40.0
40 – 49	2	20.0
50 and above	1	10.0
Years of working in the District Assembly (n = 10)		
Less than 5 years	6	60
5 – 10 years	3	30.0
11 – 20 years	0	0.0
20 and above	1	10.0
Years of staying in the Community (n – 10)		
Less than 5 years	5	50.0

5 – 10 years	2	20.0
11 – 20 years	2	20.0
20 years and above	1	10.0
How old is the District Assembly (n = 10)		
Less than 5 years	2	20.0
5 – 10 years	1	10.0
11 – 20 years	2	20.0
20 years and above	5	50.0

Table 7 Background Information on district Health and Sanitation Workers – Apam Community

Health and Sanitation (N = 3)	Frequency	Percentage (%)
Age (n = 3)		
20 – 29	0	0.0
30 – 39	1	33.3
40 – 49	2	66.7
50 years and above	0	0.0
Years of working in the District Assembly (n = 3)		
Less than 5 years	0	0.0
5 – 10 years	1	33.3
11 – 20 years	2	66.7
20 years and above	0	0.0
Years of staying in the Community (n = 3)		
Less than 5 years	0	0.0
5 – 10 years	0	0.0
11 – 20	2	66.7
20 years and above	1	33.3

Table 8 Background Information on Health Practitioners' – Apam Community

Health Practitioners (n = 7)	Frequency	Percentage (%)
Age (n = 7)		
20 – 29	4	57.1
30 – 39	2	28.6
40 – 49	0	0.0
50 years and above	1	14.3
Years of working in the Health Sector (n = 7)		
Less than 5 years	0	0.0
5 – 10 years	5	71.4
11 – 20 years	1	14.3
20 years and above	1	14.3
Years of staying in the Community (n = 7)		
Less than 5	0	0.0
5 – 10 years	4	57.1
11 – 20 years	1	14.3
20 years and above	2	28.6

Table 9 Responses from respondents on health activities, fishing activities, fish processing activities and the community, and alternative livelihood.

District Assembly Activity	District Assembly members	Health and Sanitation	Health Practitioners
What is the main commercial activity of the people?	Fishing, fish processing and farming	Fishing, fish processing and farming	Fishing and farming
Are children dropping out of school? (Why)?	Yes, due to poor parental control and teenage pregnancy	Yes, poverty as a result of high rate of child birth	Yes, broken homes
What are the causes of child delinquency in school?	Lack of parental control	Love for quick money	Teenage Pregnancy
What are the main challenges with your work in the community?	Inadequate Government subvention	Improper disposal of waste	High rate of inpatients from the community
Health activity			

How many patients visit health facilities in a week?	--	--	200 – 817
Common diseases in the area	Malaria, skin infection, cholera, Respiratory tract infection, Diarrhea, HPT, DM	Malaria, cholera	Malaria, skin infection, cholera, Respiratory tract infection, and diarrhea, HPT, DM
Causes of diseases	Poor sanitation	Poor sanitation	Poor drainage, poor ventilation system, personal hygiene
Health and Sanitation activity			
What is their (H&S) role in this situation	Cleaning and education on keeping their surroundings neat	Eduction on the need to keep ones environment clean	Treatment and education on endermic deseases in the community
The state of sanitation issues at the coast and community?	Bad	Bad	Very Bad
What is the behavior of the people in relation to sanitation?	Apathy	Unwilling to do clean up	Not encouraging. They throw gabbage at will and everywhere
Fishing activity – Fishermen			
What are the main fish harvesting methods used in this community?	use of net, dragging	use of net, dragging	use of net, dragging
What fishes do they harvest most?	Tuna, Opoku	Tuna	Tuna, Opoku
How often do they harvest small pelagic fish (Eban, Kankama, Antebo, Druku, Anter)?	All year round but mostly from July to September	--	--
Are there particular fish harvesting systems that you are not comfortable with?	Yes, the use of DDT and other chemicals	The use of DDT	Yes, lighting system, dynamite

Fishing Activity – Fish Processors	District Assembly members	Health & Sanitation	Health Practitioners
What types of fish processing activities are undertaken in this community?	Smoking	Smoking, salting	Smoking
Which fish types do they process most?	Tuna	Tuna	Tuna
How often do they undertake processing activity in a week?	Five days in a week	--	often
In your opinion, which fish type has more consumer demand in this community?	Tuna	Tuna	Tuna
Community & Alternative Livelihood			
What is the most dominant occupation in this community?	fishing, trading	fishing, trading	fishing, trading
What occupation are women dominated?	fish processing	fish processing	fish processing
What occupation are men dominated?	Fishing	Fishing	Fishing
What resources does the community have, that can be sustainably used for income generation and how?	Salt	Salt	Salt

Table 10 Enumeration of ovens in Apam Community

Location	Round/Mud Oven			Chorkor			Grand Total
	Good	Bad	Total	Good	Bad	Total	
Alata	63	6	69	179	15	194	**263**
Abakwa	40	15	55	33	5	38	**93**
Mafam	179	6	185	67	5	72	**257**
Egyaa	99	5	104	53	5	58	**162**
Amamudu	20	3	23	25	5	30	**53**
Nsuekyie	30	7	37	19	6	25	**62**
Total	**431**	**42**	**473**	**376**	**41**	**417**	**890**

Enumeration of ovens in Apam Community took place in 6 locations. At Alata there were 63 good round/mud ovens and 6 bad ones making 69. At the same place there were 179 good chorkor stoves and 15 bad ones. The total for chorkor stove was 194 and the grand total is 263. At Abakwa there were 40 good and 15 bad mud ovens whose total was 55. At the same place there were 33 good ones and 5 bad chorkor stoves. The grand total therefore is 93. Mafam another location 179 good mud ovens and 6 bad ones were registered that gives us 185 and 67 good chorkor stoves as well as 5 bad chorkor stoves, the total is 72 and the grand total is 257. Egyaa another location had 99 good mud ovens and 5 bad mud ovens. The total is 104 and chorkor stoves were 53 good and 5 bad stoves brepectively. It has grand total of 162. Amamuda location was 20 good mud ovens and 3 bad one making 23 in number. The chorkor stoves registered 25 good and 5 bad chorkor stoves respectively, and this makes a grand total of 53. Nsuekyie there were 30 good mud ovens and 7 seven bad ones the total is 37. There were 19 good chokor stoves and 6 bad ones totaling 25 with the grand total of 62. The sum total of all these figures is 890 stoves.

There is the need for an intervention to replace the spoilt ovens for the fish processors in order to have meaningful income since their livelihood depend on the fish processing.

5.0 DISCUSSIONS OF RESULTS - APAM

5.1 Component 1: Fishing Industry - Methods and Logistics

The fishing industry in Apam community is one of the busiest in the country. There are two main ways of harvesting fish in this area, the drag method and the deep sea fishing method.

Drag method: The fishermen use a wide net to enclose an area of the sea, close to the shore. They tie one end of the net at one end of the shore and using a canoe to lay out the wide net further into the sea and back to a further end of the shore, in a curved form/shape (beach seine net). Thus the net traps all the fish within the enclosed area. The net is usually designed in a sac shape and this fishing method is mostly carried out in the morning. A number of fishermen, between 10 to 20 men at both ends of the net, will then drag the entire net to shore harvesting all the fish in its way. This fishing type usually occurs during the lean season where deep sea fishing may not be profitable as a result of the logistics (outboard motor, fuel) needed for going for deep see fishing.

It was observed that the landing site on which this method was carried out was much neater than the others and very few canoes were kept on it.

Deep sea fishing: This entails going further into sea to harvest fish. They normally use the purse seine net and when they identify schools of fish; they cast the net into the sea, which encloses the fish. The harvested fish in the net is emptied into their canoes. This method of fishing is mostly carried out from July to September; the bumper fishing season and it is usually carried out at night. This encourages the use of light to attract the fish. The fish that are mostly harvested with this method are herrings.

Some of the logistics used by these fishermen are nets, lights, canoes, generators, outboard motors, paddles, fuel, anchors etc. During the month of August, the harvesting capacity of fish is very high compared to other months. Harvesting of fish in Apam community is seasonal. Species of fish peculiar to Apam community are Tuna, Red Fish, Herrings, Eban, Kakanma, Amorni. These fishes are usually caught in large quantities. The fishermen sell most of their products to their wives and few to other customers and vans from far away communities such as Agona.

Even though there are lots of canoes at Apam quite a number of the fishermen did not own canoes. Most of those who owned canoes had more than one. The number of canoes are

increasing thus there is the problem of over fishing and respondents informed that they have to travel very far for a number of days to get fairly good catch. Most of them indicated that increasing number of canoes on the seas has contributed a lot to reduced catch over current years. Most of the fishermen are not engaged in other income generating activities apart from the fishing.

They however, have to battle with the invasion of their waters by the Chinese Trawlers who catch most of the fishes due to the logistics they have. For this reason the fishermen of Apam community resulted to the use of unapproved methods to have bumper catches. As a result of these unlawful practices, there is there is the problem of overfishing. They also have the challenge of assessing loans from the financial institutions due to the requirements they have to meet which most are not able to satisfy. All the same, it was observed that some of the fish that were brought to the shore were already frozen. These had been purchased from the larger vessels on sea when the fishermen were not able to harvest much fish by themselves. Althogh some of the fishermen bring their catch to the landing site fresh some with freezers in their boat bring the fish frozen; thus they either stayed on the sea for days or they bought the fish from the larger vessels.

There are no regulatory standards available therefore compliance issues are non-existing. But the administration of the chief fisherman regulates the activities of the fishermen. Members pay dues and they have periodic meetings to discuss issues concerning the association. The fishermen are all part of the Ghana canoe fishermen association but falls under various community chapters, eg. Apam chapter. There are four landing sites and these are Alata, Akupram, Abakwa, and Amuni. From the survey the total number of canoes as provided by the Fisheries Officer for Apam is about 228 in number. The types of nets used are the Ali, Poli, and Watsa nets. Opoku and Eban are mostly harvested throughout the year.

Plate 1 Fishing scene at Apam

5.2 Component 2: Fish Processing In Apam Community

Majority of the women at Apam engage in fish processing. Most of the fish processing activities notable to this community are fish smoking and fish salting popularly known as ‘Momoi’. They also sell the fresh fish and some also fry the fish for sale with accompanying

meals like kenkey. Logistics they use in their trade are: round mud stoves, Chokor smokers, fire wood, wire nets trays for fish smoking and salt and round barrels or cemented tanks for 'momoi' making. Thos who fry fish use cly tripod stoves and three stone stoves.

Storage facilities available to the processors are not adequate and not of good standard since fishes cannot be stored in them for longer period. Some of the fresh fish are stored in the freezer whereas smoked fish are stored in the round mud ovens, baskets and wire net trays depending on how long they intend to store the fish usually from two weeks to four months. Fishes that can be stored for longer periods are the small pelagics, the Sardinella and the anchovies. At the time of the survey none of the respondents had stored fish available as they had sold everything out. The fish processors pay for the pace where their stoves are installed.

For fish salting; the salted fish are kept in the barrels or cemented tanks till they are sold out. This can last for several months, even a year. The capital to work with is very low since they are not in position to raise bigger loans due to requirements they have to meet such as collateral. People are also not ready to stand surety for each other to raise loans. The only bank in Apam according to survey is the Ghana National Bank (GN Bank). Most of the fish processors are illiterate or semi-literate hence are not well abreast with modern trends in fish processing.

They process fish in the scotching sun and any time it rains their activities come to a halt. Fishes are prepared for processing on the bare ground which is bad and unhealthy for human consumption. Fish processors most of the times smoke the fish they acquire by using mud/round ovens or chorkor stove. Usually they smoke the fish on the chorkor stove and they further heat and store the fish on the round mud stoves.

Apam has four fish processors Association and these are known as (1) Dwomaman Fish Processors Association (2) Apam Fish Processors Association (3) Nyame Nti Se Odasani (4) Adom Wo Wim Association.

There is no immediate market in the Apam township for the processed fish. The processors send the smoked and salted fish to Mankessim, Akim Oda, Swedru, Accra, Kumasi, Takoradi, Koforidua, Cape Coast and as far as Kede and Techiman markets for sale. They mostly go to the market on Mondays and Thursdays. This also comes with extra cost which they often shift to the consumers.

Plate 2 Fish processing using chokor smoker – Apam Community

5.3 COMPONENT 3: The Community – Apam

The people of Apam community are very friendly, welcoming and easy to approach. Majority of the people in the community are fishermen and fish processors. Due to the nature of their work, illiteracy rate is very high even though there are about forty Basic Schools and one Senior High School (Apam Senior High School). The people of Apam do not enjoy proper livelihood for the following reasons;

Family sizes are large because parents give birth to many children but have little to take care of them, thus the dependency rate is high in the community. Their incomes are just very low because they operate small fish based businesses and could not raise enough money to expand their businesses which will bring them enough income. Most parents pay attention to their fishing and fish processing activities than their children education. Some parents are just irresponsible whilst some too due to broken homes have neglected their children which have resulted to high rate of school dropouts and teenage pregnancy in Apam community. Some children assist their parents in fishing and fish processing activities therefore do not have much interest for schooling also because their parents cannot afford their school fees. These sometimes lead to the selling of the children into child labor along the Volta Basin.

The people are mainly fishermen, fish processors, civil servants petty traders and artisans. There are however a lot of youth an employment and low standard of living in the community. The people of Apam are sociable. Their family system is matrimonial. There are Christians, Muslems, and traditionalists; however they coexist. The Apam community has a Bank known as Ghana National Bank, the District Assembly, Ghana Education Service, Apam Reproductive Health Care, Ministries, District Court, Apam Senior High School, and few other private and Government organizations. It was also noticed that most of the workers in the government agencies are non-natives. Most of the children in the community are drop out of school. The Survey shows that parents are preoccupied with their businesses. Some parents have more children than they can cater for, as a result they finds it difficult to provide for them. Teenage pregnancy is prevalent among the children of the fisher folks.

5.4 COMPONENT 4: Health and Sanitation - Apam

The sanitation issue at the coast is very much appalling. Majority of the areas are littered with wastes. Gutters are chocked breeding mosquitoes as a result of that malaria, skin diseases and diarrhea are high occurring diseases peculiar to the community. This is affecting their income since they have to use the same money they made to pay medical bills. The hospital and clinic records show that there are increasing reports of illness related to poor sanitation. Their landing sites and fish processing centers especially locations like Nsuekyie and Mafam are very bad. Ten out of thirty fishermen interviewed has signed unto health insurance. Those who failed to register gave no reasons. Some of the fish processors have their stoves built right besides stagnant waters and even close to refuse dump and water drains

Even though the people often get ill they show apathy towards clean up and sanitation campaign in the community. The people do not have a well demarcated area for dumping refuse.

Currently the District Assembly has taken advantage of the National sanitation day declaration and is working with the people to consistently clean up their environment. This effort will go a long way to solving this problem but there will be a need for sensitisation and awareness campaigns and possibly a well mechanized incineration system for controlling the community waste. Most of the households do not have toilet facilities but there were two public toilets but the people prefer open defecation better.

Plate 3 Smoking stoves near water drains

Plate 4 Fish Smoking Stoves on Refuse Dump – Apam Community

5.5 COMPONENT 5: Alternative Livelihoods - Apam

Apart from fishing and fish processing, most of the people were petty traders, artisans (masons and carpenters) and farmers. There are large deposits of clay in the Gomoa East district which can be used for pottery industry. The Benyah Lagoon could also be exploited for salt; Apam used to have a salt production factory which is no more in operation, such an industry can generate jobs for the youth. The people could be given training in their fields of business to add value to their businesses and in other skills and crafts. As an alternative livelihood, the people do farming, artisanship and rearing of livestocks.

5.6 COMPONENT 6: Interviews

Interviews were carried out to understand the role of the individuals and institutions in the fishery industry and the overall state of the community.

5.6.1 The Medical centers:

Records at the health facilities; Apam Reproductive Child Health and Apam Catholic Hospital on disease occurrence show that malaria, diarrhea, skin diseases are reported most often. The sanitation situation in the communitiy is very bad because almost every house suffers during the raining season as there are issues of flood and the stench is unhealthy. Information on earlier interventions in the area is that the hospitals in the community from time to time conduct outreach programs to educate them on good surroundings and personal hygiene.

5.6.2 The Schools:

Most of the teachers in the Basic Schools are trained teachers. Most of their logistics are not supply on time but they do with what is available. School attendance is not encouraging due absentism and child delinquency. The extra curriculum activities observedare out door games, drumming and dancing.Children play truancy in school, they don't do home works. During major season they are out of the classroom to make money on the seas. Part time activities carried out by children are hawking for their parents. Opportunities available for children are scholarships that are awarded to needy but brilliant students by the District Assembly.

5.6.3 The Chief fisherman:

The Chief fisherman proposed for byelaws to regulate the standards in the fishing industry. According to him non-availability of byelaws is making compliance difficult. His issues with the fishing methods is that punitive measures be applied to discourage the use of chemicals, dynamites, mosquito nets and any means that are unlawful. Raising of soft loans, logistics, high cost of premixed fuel, lack of proper safety measures are some of their challenges in the fishing industry. Suggestions on how to replenish fish stock is fishermen should not catch fish when the fishes are with eggs. They should be allowed to produce the fingerlings.

5.6.4 The District Assembly:

Apam is a coatal town for that matter a fishing community which has a viabrant youth who could be productive. The fish processing industry is beset with problem of capital to expand their businesses and build pavilions over their smokers to work under and not in the direct sun. Interventions undertaken in the past and existing ones are education on personal hygiene, how to manage ones income and how to invest monies made from the business. There was assistance in the past from Rural Enterprise Programme. Needs and challenges in the fishery industry are assistance to procure fishing logistics and safety gears. The existing clinic and the hospital needs to be better resourced to provide adequate health care to the people of Apam. Even though the area does not experience child trafficking they are equally not attending school to learn. Some feel it is a waste of time. The District Assembly is working with the people to address major issues facing the community.

5.7 COMPONENT 7: Enumeration of fish smoking stoves

In addition to administering questionnaires the survey identified the different types of fish smoking stoves available, identified their locations in the communities and counted all the stoves. There were 431 good ovens and 42 bad ones tatalling 473. There were 376 good chorkor stove and 41 bad ones totalling 417. The grand total is 890 from Alata, Abakwa, Mafam, Egyaa, Amamudu and Nsuekyire; all are fish processing sites at Apam.

5.8 SUMMARY OF PAST INTERVENTIONS IN APAM

In past interventions some fish processors benefited from soft loans and literacy and business management trainings through the Rural Enterprise Programs. Some farmers also received agricultural inputs and agro-chemicals to support them.

The District Assembly also sought for market for the farmers as well. There were other interventions from International Needs Ghana and they were beneficiaries of the Local Service Delivery and Governance Project (LSDGP) initiated in 2009 by the Government of Ghana and the Danish Government

According to the District Assembly, the Brenyah Lagoon has a lot of salt which could generate employment for the people of the Apam community if it exploited. According to them there were several surveys in that regard as well.

Plate 5 Example of smaller fishes which could grow into bigger ones

6.0 RESULTS -WINNEBA

Table 11 Background characteristics of Fishermen – Winneba Community

Fishermen (N = 30)	Frequency	Percentage (%)
Age N = 30		
20 – 29	8	26.7
30 – 39	4	13.3
40 – 49	11	36.7

50 and above	7	23.3
Years spent in the community (n = 30)		
Less than 5 years	4	13.3
5 – 10 years	3	10.0
11 – 20 years	6	20.0
20 years and above	17	56.7
Years spent in the business (n = 30)		
Less than 5 years	3	10.0
5 – 10 years	4	13.3
11 – 20 years	5	16.7
20 years and above	18	60.0

11 out of 30 fishermen respondents falls within the age group of 40 to 49; this is the highest percentage of 36.6. The least is 13.3 percent and the age group is 30 to 39 years and they are 4 fishermen. The mid age group is 20 to 29 with 8 people.

17 fishermen have lived in the community for over 20 years making 56.7 percent. The least years in the community is 5 to 10 years made up of 3 fishermen and mid is 11 to 20 years with 6 fishermen making 20 percent.

For number of years in the fishing business, 18 fishermen have been in the business for over 20 years and making 60 percent of the respondent population. The remaining 40% encompasses all the year groups below 20years.

Table 12 Background characteristics of Teachers – Winneba Community

Teachers (N = 9)	Frequency	Percentage (%)
Age N = 9		
20 – 29	1	11.1
30 – 39	2	22.2
40 – 49	5	55.6
50 and above	1	11.1
Years of teaching (n = 8)		
Less than five years	1	12.5
5 – 10 years	3	37.5
11 – 20 years	2	25.0
20 and above years	2	25.0
Years spent in the community (n = 9)		
Less than 5 years	1	11.1

5 – 10 years	1	11.1
11 – 20 years	3	33.3
20 years and above	4	44.4

5 teachers who were interviewed are between 40 to 49 years representing 55.5 in the majority. The mid age is 30 to 39 made up of 2 teachers representing 22.2 percent. The least 50 years and above made up 1 teacher this reprents 11.1 percent.

37.5 percent with 3 teachers have taught between 5 to 10 years. The mid group is 11 to 20 and 20 years and above with 2 teachers each attaining 25.0 percent each. The least is less than 5 years made up of 1 teacher at 12 .5 percent.

Number of years in the community, 20 years and above is 44.4 percent made up of 4 teachers which is the highest. The mid of 11 to 20 years has 3 teachers making 33.3 percent. Finally respondents who have lived in the community less than 5 years and 5 to 10 years are 11.1 percent each.

Table 13 Teachers and fishermen response on fishing activities and community livelihood – Winneba Community

Teaching activity	Teachers	Fishermen
Do you have child delinquency issues in the school?	Yes, due to parental irresponsibility	-
What is the dropout rate?	5 – 10% (from the Baseline Survey)	-
What are the causes of child delinquency in school?	Broken homes, not interested in schooling, parental negligence, lack of parental care, supervision and control	High poverty
What are the main challenges with your work in the community?	Lack of teaching materials and working tools, truancy, lack of teacher motivation, transportation, lack of proper infrastructure.	Logistics are expensive
Fishing activity – fishermen		
What are the main fish harvesting methods used in the community?	Nets	Casting of net, Dragging of net to the shore
What fish do they harvest most?	Redfish, Herrings, Tuna, Crabs, Salmon, Baracuda, Bream, Cassava Fish	Salmon, Herrings, Opeku, Eban, Osoropa, Tantamle, Tsukwe

How often do they harvest small pelagic fish (Eban, Kankama, Antebo, Druku, Anter)?	August	More between August and September but very less in other months
Are there particular fish harvesting systems that you are not comfortable with?	Yes, the use of mosquito net and light fishing, the use of dynamite, the use of chemicals like DDT	Light methods, use of chemicals like DDT, dynamites
How do they market their harvested fish	Selling to the market centers, They sell to fish mongers who smoke and then sell to the public	They sell to their wives and other people in the community.

Fishing activity – Fish Processors	**Teachers**	**Fishermen**
What types of fish processing activities are undertaken in this community?	Salting, drying, frying, smoking	Salting, drying, frying, smoking
Which fish types do they process most?	Salmon, Eban, Herring, Tuna,	Salmon, Eban, Herring, Tuna, Redfish
How often do they undertake processing activity in a week?	-	Five times in a week
Are there particular months that fishes in general are in short supply and expensive?	February to May	February to May
How do they store their fish?	Fresh fishes are smoked immediately and stored in baskets. Those with deep freezers freeze them	Cold store storage, smoking,
In your opinion which fish type has more consumer demand in the community?	Tilapia, Red Fish, Salmon, Herrings, Tuna	Tilapia, Eban, Red Fish, Salmon, Opeku, Tuna, Herrings, Bream, Barracuda,

Fishing industry	**Teachers**	**Fishermen**
How many landing sites do you have?	-	5
What are their names?	-	Penkye, Aboadzi, Eyipe, Wolabeba, Akosua village

Which fishing net do you use for fishing?	-	Watsaa Net,6 inches, 2inches, One Quarter, Wokye net, 5-8 net, 3 inches, 1-1-8 net, Nsuadeboa Wire (hook and line) Net, Sika Ye Abrantie,Wotse Net, Busia, Slope 9,Slope 18 Net,Glue Net
As a fisherman what are your logistical needs	-	Net, Outboard Motor, Fuel, Torch Light, Mobile Phones, Ropes, GPS Compass, Floats, Lead, Generators, Safety Gears
Do other boats from neighboring countries fish in your waters?	-	Yes, the Chinese trawlers (is it only the Chinese trawlers?)
What measures do you put in place for safety on the sea?	-	no safety measures are in place but mostly the fishermen are trained well to overcome any obstacles at sea
Community & Alternative livelihood		
What is the most dominant occupation in the community?	Fishing, fish processing, trading	Fishing, fish processing, trading
What occupation are women dominated?	Trading, fish processing	Trading, fish processing
What occupation are men dominated?	Fishing	Fishing

Table 14 Background characteristics of fish processors – Winneba Community

Fish Processors (N = 30)	Frequency	Percentage
Age N = 30		
20 – 29	1	3.33
30 – 39	9	30.0
40 – 49	9	30.0
50 and above	11	36.7
Years of Processing Fish (n = 30)		
Less than five years	2	6.7
5 – 10 years	4	13.3

11 – 20 years	5	16.7
20 and above years	19	63.7
Years spent in the community (n = 30)		
Less than 5 years	0	0.0
5 – 10 years	0	0.0
11 – 20 years	2	6.7
20 years and above	28	93.3

Table 15 Background characteristics of General Public – Winneba Community

General Public (N = 10)	Frequency	Percentage (%)
Age N = 10		
20 – 29	3	30.0
30 – 39	5	50.0
40 – 49	2	20.0
50 and above	0	0.0
Years of working (n = 10)		
Less than five years	4	40.0
5 – 10 years	3	30.0
11 – 20 years	3	30.0
20 and above years	0	0.0
Years spent in the community (n = 10)		
Less than 5 years	1	10.0
5 – 10 years	3	30.0
11 – 20 years	2	20.0
20 years and above	4	40.0

Table 16 Background Information on Municipal Assembly – Winneba Community

Municipal Assembly (N = 9)	Frequency	Percentage (%)
Age (n =9)		
20 – 29	5	55.5
30 – 39	2	22.2
40 – 49	2	22.2
50 and above	0	0.0

Years of working in the assembly (n = 9)		
Less than 5 years	5	55.6
5 – 10 years	3	33.3
11 – 20 years	1	11.1
20 and above	0	0.0
Years of staying in the community (n– 9)		
Less than 5 years	6	66.7
5 – 10 years	1	11.1
11 – 20 years	0	0.0
20 years and above	2	22.2
How old is the Municipal Assembly (n-8)		
Less than 5 years	0	0.0
5 – 10 years	1	11.1
11 – 20 years	2	22.2
20 years and above	6	66.7

Table 17 Background Information on District Health and Sanitation workers –Winneba Community

Health and Sanitation (N = 3)	Frequency	Percentage (%)
Age (n = 3)		
20 – 29	0	0.0
30 – 39	1	33.3
40 – 49	2	66.7
50 years and above	0	0.0
Years of working in the Municipal Assembly (n = 3)		
Less than 5 years	0	0.0
5 – 10 years	1	33.3
11 – 20 years	2	66.7
20 years and above	0	0.0
Years of staying in the Community (n= 2)		
Less than 5 years	0	0.0
5 – 10 years	1	50.0
11 – 20	0	0.0

20 years and above	1	50.0

Table 18 Background Information on Health Practitioners' – Winneba Community

Health Practitioners (n = 8)	Frequency	Percentage (%)
Age (n = 8)		
20 – 29	4	50.0
30 – 39	2	25.0
40 – 49	1	12,5
50 years and above	1	12.5
Years of working in the Municipal Assembly (n = 8)		
Less than 5 years	5	62.5
5 – 10 years	2	25.0
11 – 20 years	0	0.0
20 years and above	1	12.5
Years of staying in the Community (n = 8)		
Less than 5	3	37.5
5 – 10 years	1	12.5
11 – 20 years	1	12.5
20 years and above	3	37.5

Table 19 Responses from respondents on health activities, fishing activities, fish processing activities and the community and alternative livelihood

Municipal Assembly Activity	Municipal Assembly members	Health and Sanitation	Health Practitioners
What is the main commercial activity of the people?	Fishing and farming	Fishing and farming	Fishing and farming
Are children dropping out of school	Yes, Poor family planning practice, thus parents can't take care of their children	Yes, Parental irresponsibilityand broken homes	Yes, some parents have more children than they can cater for

What are the causes of child delinquency in school?	Lack of parental control	Poor standard of living	Lack of parental control
What are the main challenges with your work in the community?	No proper flow of information between the people and the assembly	Lack of adequate financial support	High cost of essential drugs
Health activity			
How many patients visit health facilities a week?	-	-	1600 – 1680
Common diseases in the area	-	Malaria and diarrhea	Malaria, skin diseases, and diarrhea
Causes of diseases	Poor sanitation	Poor sanitation	Poor sanitation
Health and Sanitation activity			
How are sanitation issues at the coast and community?	Very bad	Dirty surroundings	Dirty environment
What is the behavior of the people in relation to sanitation?	Little attention is given to sanitation	Show unconcern	Not encouraging
Fishing activity – Fishermen			
What are the main fish harvesting methods used in this community?	use of net	use of net	use of net
What fishes do they harvest most?	Tuna	Tuna	Tuna
How often do they harvest small pelagic fish (Eban, Kankama, Antebo, Druku, Anter)	Seasonal	Seasonal	Seasonal
Are there particular fish harvesting systems that you are not comfortable with?	Yes, use of chemicals and mosquito nets	Yes, use of chemicals	Yes, use of chemicals

Fishing Activity –Fish Processors	Municipal Assembly members	Health & Sanitation	Health Practitioners
What types of fish processing activities are undertaken in this community?	Smoking, Drying and Salting	Smoking, Drying and salting	Smoking, Drying and Salting
Which fish types do they process most?	Tuna, Herrings & Red Fish	Tuna, Eban, Herrings & Red Fish	Herrings & Red Fish
How often do they undertake processing activity in a week?	Throughout the week except for Tuesdays	throughout	Throughout
In your opinion, which fish type has more consumer demand in this community?	Tuna, & Red fish	Tuna & Red fish	Tuna & Red fish
Community & Alternative Livelihood			
What is the most dominant occupation in this community?	Fishing, Petty trading & Civil Service	Fishing, Petty trading & Civil Service	Fishing, Petty trading & Civil Service
What occupation are women dominated?	Fish mongering & petty trading	Fish mongering & petty trading	Fish mongering & petty trading
What occupation are men dominated?	Fishing, civil service, mosonary & carpentry	Fishing, civil service, mosonary & carpentry	Fishing, civil service, mosonary & carpentry
What resources does the community have, that can be sustainably used for income generation and how?	Salt and large land could be farmed during the lean season	Salt and land	Salt and land for farming

Table 20 Enumeration of ovens - Winneba Community

Location	Round/Mud Oven			Chorkor			Grand Total
	Good	Bad	Total	Good	Bad	Total	
Oyibi	96	47	143	87	59	146	**289**
Zion top right	175	81	256	160	69	229	**485**

Warabeba	52	29	81	28	20	48	**129**
Akosua village	16	8	24	41	14	55	**79**
Total	**339**	**165**	**504**	**316**	**162**	**478**	**982**

This table shows that there were 399 good mud ovens and 165 bad mud ovens. 316 good chorkor stoves and 162 bad chorkor stoves. The grand total for both the mud ovens and chorkor stoves is 982 and all these could be found at the processing sites of Akosua Village, Worabeba, Zion top right and Oyibi.

Table 21 Fish Processors – Winneba Community

LOCATION	WOMEN	MEN	TOTAL
WORABEBA	5	-	**5**
OYIBI	16	-	**16**
AKOSUA VILLAGE	6	-	**6**
ZION STREET	1	-	**1**
KWANDURUM	2	-	**2**
TOTAL	**30**		**30**

There are 30 women in these locations and none of these are men who are fish processors unlike Apam where two men are in to fish processing.

Table 22 General Public – Winneba Community

COMMUNITY	WOMEN	MEN	TOTAL
LOW COST	2	-	**2**
CLIMOVIC	1	-	**1**
NORTH CAMPUS	2	-	**2**
OYIBI	1	1	**2**
NKWANTANAN	-	1	**1**
AKOSUA VILLAGE	-	1	**1**
WINNEBA JUNCTION	-	1	**1**
TOTAL	**6**	**4**	**10**

These were the locations where the public were interviewed or administered questionnairs. There were ten people from the public the distribution was 6 women and 4 men.

7.0 DISCUSSIONS – WINNEBA

7.1 Component 1: FISHING METHODS AND LOGISTICS

The fishing industry in Winneba community is not as busy as it is in Apam. Some of the on-sea fishing methods observed were:

Light fishing: this method of fishing involves fishermen using lighting technologies in their fishing activities.

Hooking: is a method of fishing where the fishermen stay for at least a week offshore using hook and line to catch fishes.

Mid-night fishing: This is done when fishermen stay overnight using round net for fishing.

The **drag method** of fishing is also carried out on the Woarawobeba and Akosua village beaches.

Some of the logistics used by the fishermen in the are nets, hooks and lines, lights, canoes, generators, outboard motors, paddles, anchors etc. During the months of August and September, the harvesting capacity of fish is very high compared to other months. Harvesting of fish in Winneba community is seasonal. Species of fish peculiar to the community are Tuna, Red Fish, Herrings, Eban and Kakanma. These fishes are usually caught in large quantities. The fishermen sell most of their product to their wives and few to other customers. According to the Fisheries Officer for Winneba area, there are about 450 canoes at Winneba landing sites, and the landing sites are Worabeba, Oyibi, Akosua Village, Penkye and Aboadze landing sites. Some of the fishing gears they use are 1 inch watsa nets, ali and poli nets and hook and line. The kind of fishes that are caught per season throughout the year are Eban, Odeuei, Tsukwei, Winneba

They however have to battle with the invasion of their waters by the Chinese Trawlers who catch more fishes than their Ghanaian counterpart due to the logistics they have. For this reason the fishermen admitted to the using unapproved methods of fishing to have bumper catches. As a result this is leading to overfishing in our waters. They also have the challenge of assessing loans from the financial institutions due to the requirements they have to meet which most are not able to satisfy. There are no regulatory standards available therefore compliance issues are absent.

7.2 Component 2: FISH PROCESSING

Majority of the women at Winneba engage in fish processing. Most of the processing activities notable to this community are fish smoking, fish drying and fish salting popularly known as “Momoi”. Logistics they use are; round mud stoves, chokor smokers, fire woods, netted trays for fish smoking whereas salt and round barrels are used for ‘momoi’ making.

For fish processing, the women do not rely on thefishermen entirely, during the lean season, they buy fish from the cold stores or even from Tema to supplement what the fishermen bring from the sea. Thus they work allyear round. Within a week, the fish smokers work at least 5 days in a week; they don’t work on Tuesdays and sometimes on Sundays. The women use various kinds of wood from smoking, these are delivered to them by trucks from as far as the Eastern region. During the bumper season, one woman can smoke as much as 20 to 30 large aluminium pans of fish per day but this can reduce to as low as 5 or even 1pan a day during the lean season. The processors store the smoked fish in baskets and even in netted trays during the bumper season for months and sell during the lean season.

Because of trust issues it’s quite difficult for the women to access loans to expand their businesses especially during the bumper season. Because they usually default in payment of loans. This makes it difficult for neighbors to even agree to gurantee for each other. They carry out their processing in the scotching sun and any time it rains their activities come to a halt. The women do not apply good handling practices to their work, thus there is a lot of loss during the processing and the fishes are prepared on the bare ground which is bad and dangerous to human health.

There is no immediate market in the Winneba community for the processed fish. The processors send the smoked and salted fish to market places such as Akim Oda, Swedru, Accra Takoradi, Koforidua and Cape Coast markets for sale.

The survey identified four Fish Processors Associations namely, Novisi Haborbor at Akosua village, Boafo Yena Association at Woarawobeba community, Osimpam fish mongers Association and Anomansah fish mongers Association.

Plate 6 A sample of good Chorkor Ovens in Winneba community – fish processing site

Plate 7 A sample of good Round/Mud Ovens in Winneba community- fish processing site

These mud ovens though good ones they are showing signs of rain gradually destroying them.

7.3: COMPONENT 3: The Community

Majority of the people in the community are fishermen, fish processors and traders. Due to the nature of their work, illiteracy rate is very high even though there are a number of good Basic Schools and Senior High Schools such as Winneba Senior High School. The people of Winneba do not enjoy proper livelihood for the following reasons; the people who are mainly fishermen, fish processors and petty traders find it difficult to break even because they raise their meager capitals through Microfinance Institutions with high interest rates. Since majority of the people are illiterate or semi illiterate they earn low income which could not sustain them. Quite a number of the children stop school to do menial jobs to support their families; which contribute to high rate of school dropouts. There is a high rate of teenage pregnancy in Winneba because of parental neglect and the girls in search of money to fend for themselves ended up getting pregnant.

The people entertain themselves and visitors with their carnival and other social drumming and dancing activities. They worship God, Allah and the other gods (culture, religion, belief system) and they practice matrilineal family system of inheritance. Ghana Commercial Bank and Microfin Rural Bank are some of the banks identified in the community.

7.4: COMPONENT 4: Health and Sanitation - Winneba

The sanitation issue along the coast is not the best, especially landing sites where the canoes of load their fish. All sorts of waste are disposed of in an irresponsible manner especially at the fishing areas of Winneba. The few dump sites were overflowing and badly managed; as a result of this people dump waste anyhow. Winneba is a low lying area, therefore during the rainy season they have issues with pools of water all over the community; this worsens the situation, causing an outbreak of diseases such as malaria, thyphoid and cholera. The community lacks effective drainage system and there are no bins visible at vantage areas. According to the medical centers, residents of Winneba who are closer to the coast report at the medical centers more than other residents who leave far off from the fishing sub communities.

7.5: COMPONENT 5: Alternative Livelihoods - Winneba

A few of the fishermen and fish processors were engaged in other trades apart from the fishery based business, thogh the fishery business is their main occupation. The women were usually petty traders whereas the men were into livestock rearing.

Winneba has large deposits of salt for either small or medium scale minning, on the other hand there are land resources for productive vegetable farming. The respondents proposed skills training as an ideal assistance.

7.6: COMPONENT 6: Interviews - Winneba

Interviews were carried out to understand the role of the individuals and institutions in the fishery industry and the overall state of the community.

7.6.1 The Medical centers - Winneba

There are quite a number of hospitals and clinics at Winneba. Records on disease occurrence show thyphoid, malaria and cholera. About 1600 people visit the hospital weekly on average, according to values collected from three medical centers. Most of these are usually from the fishing sub communities.

7.6.2: The Schools - Winneba

The education system in Winneba is of good standard with adequate logistics and skilled teachers.

There are social clubs such as drumming and dancing, scout, environmental clubs n some of the schools which builds up the mindset of the children. All the same response to education by the fisherfolk is not very encouraging, most especially because they have too many children and can't cater for all of them in school.

Part time activities carried out by children of fishers is hawking for their parents and taking care of their younger siblings in the absence of their parents. Organisations such as Challenging Heights have a football club for the inhabitants of Winneba asa way of getting the male youth off the street.

7.6.3: The Chief fisherman - Winneba

The chief fisherman lamented about the Chinese trawlers invasion of their waters and no one is helping them drive them away. The situation he said has compelled the Ghanaian fishermen to result to crude methods to harvest fish because the Chinese with their logistics are able to havest more than they do. The methods they use are nets, hook and line. However of late some are using chemicals and dynamites which he said is dangerious. Challenges in fishing are the logistics and funds to procure fishing items that are needed. Suggestions on how to replenish fish stock he said government should involve those who have the best means to solve the problem.

7.6.4: The District Assembly - Winneba

Winneba has a number of development oriented organisations in the community, such as Challenging Heights, International Needs, Plan Ghana and the Rural Enterprise program. All these organisations have in one way or the other carried out a number of interventions in the Winneba community. They have worked in the areas of health care and education more especially. Challenging Heights is mainly working against child labor and trafficking and specializes in rescuing children and reintergrating them back into the community with continuous, psychological, educational and financial support. The Rural Eterprise programme actually provides skills training to community members and sometimes provides seed funding for beneficiaries to start up small enterprise.

7.7: COMPONENT 7: Enumeration of fish smoking stoves - Winneba

In addition to administering questionnaires the survey identified the different types of fish smoking stoves available, identified their locations in the communities and counted all the stoves. There were 339 good round mud ovens and 165 bad ovens totaling 504 whilst chorkor registered 316 good ones and 162 bad ones totaling 478. The grand total of both the round mud oven and chorkor stoves is 982. These were collated from Oyibi, Zion top right, Worabeba and Akosua Village.

Plate 8 Bad Oven (totally collapsed in Winneba community)

Plate 9 Some of the authorized and unauthorized nets use by the fishermen in Winneba Community

Plate 10 Some of the types of canoes used by the fishermen in Winneba Community

Plate 11 A sample of the source of water for fish processing – Winneba Community

Plate 12 A sample of poor drainage at the coastal area at fish processing site – Winneba Community

Plate 13 Environment at the coastal areas – Winneba Community

7.8: SUMMARY OF INTERVENTIONS AT WINNEBA

The very evident intervention is the activities of Challenging Heights in Winneba. They are helping women especially fish processors with alternative livelihoods that can increase their income levels so they can take care of their children. Currently they are establishing a processing center which will be equipped with about fifty fish processing stoves, a cold store, a medical center and a school for the children. They specialize in rescuing children from child

laborb and reintergrating them into the community. There is a MPs common fund that assist some children with scholarships; this is facilitated by the District Assembly

8.0 CONCLUSIONS AND RECOMMENDATIONS

8.1 CONCLUSIONS

From the table of data collected, respondents were interviewed under 7 components/themes on fishing and fish processing industries, alternative livelihood opportunities, education, and health and sanitation issues in both Winneba and Apam.

In general the fishery industry is very similar in both communities. The fishermen harvest fish by either going to sea or using the drag system along the beach area. The drag system is usually carried out during the lean season whereas on-sea fishing is mostly carried out during the bumper season. The fishermen use the ali, poli and watsa nets and hook and lines as fishing gears. The commonest fish harvested in their waters are Herrings, Tuna and Sardinella aurita (Eban). Both communities have local fishermen associations that are a chapter of the Ghana Canoe Fishermen Association.

The main fish processing activities in both communities are fish smoking, drying, salting and frying. Fish smoking and salting are the predominant processing types available. The women process most of the fish they buy from the fishermen. The fish smokers do not totally rely on the fishermen; they also purchase fish from cold stores or even as far as Tema to supplement what they have. The fish smokers can store their fish for as long as 4 to 6 months depending on how well they smoke the fish and usually sell during the bumper season. The salting process can also last for several months. The fish processors sell their fish in major markets at Cape Coast, Takoradi, Accra, Koforidua, Oda etc. They also sell the fish in its fresh state, dried and fried mostly within the communities and its neighbouring towns.

One main issue that cuts across both communities is the poor practice of family planning among couples. Generally child birth is very high in both communities thus parents have too many children but can't provide adequately for them. This is the main driver of poverty in these communities to the extent that parents sell out their children into labor for meager sums. Poverty in both communities is responsible for high dropout rates in schools and increased street hawking by children. Also teenage pregnancy rate is high. There have been efforts to rescue some of these children from labor and assistance to reintergrate them into the community by Challenging Heights. Challenging Heights and the Rural Enterprise Program is also assisting with skills training for women groups. Both District Assemblies have instituted scholarship schemes for some of the children to continue their schooling.

The sanitation situation in both communities is very poor. Waste is disposed off irresponsibly and the people prefer open defecation along the beach. The households do not have toilet facilities but there are a number of public toilets. The drainage system in both communities is poor thus during the rainy season there are issues of floods. There waere a number of waste dups in the communities which are poorly managed and these breeds disese causing insects such as mosquitoes. Some of the prevalent diseases in these areas are malaria, cholera, diarrhea, typhoid and skin diseases. The medical centers informed that most of the cases are reported by people from the fishing areas more than those leaving afar off.

8.2: RECOMMENDATIONS – APAM AND WINNEBA COMMUNITY

The recommendation for this Baseline Survey is as follow:

- There is the need for periodic fish stock assessments in order to better understand the fishery system and for effective planning and progress monitoring.

- There is the need to establish improved methods of landing fish to reduce losses during landing.
- In order to manage illegal fishing practices there must be stringent means in collaboration with the District Assembly and more importantly the Chinese trawlers must be tackled.
- There is the need for training and sensitisation of fish processors in the areas of personal hygiene, healthy fish handling, improved methoods of smoking and storage and in business management.
- Other fish processors such as those into salting and drying of fish also need these training and some improvement inputs such as pavilions and easily washable receptacles for momoi making to facilitate healthy processing of fish.
- There is the need for an intensive sanitation enhancement campaign in collaboration with all stakeholders.
    - Livelihoods such as Salt producing factory, vegetable farming, skills (tie and dye, soap making) training, pottery etc can be promoted in order to divert attention from fishing to other income generating opportunities. This can help reduce pressure on the fish stock.
    - There is the need for a closed season especially during spawning periods of the year.
    - Child mentorship programs could be implemented to improve their desire for education and also for skills training,

ANNEXES

Annex 1

Shows the sample size for the survey in the target & Communities by

DISTRICT	NUMBER OF LOCATION	NUMBERS OF FISHERMEN SURVEY		FISH PROCESSORS SURVEY		NUMBER OF KEY INFORMANTS (OFFICIALS) MASS	
		Men	Women	Men	Women	Men	

Name of group leader:

…….

Annex 2:

SHOWS THE SAMPLE SIZE OR THE SURVEY IN THE TARGET & COMMUNITIES

BY SUVEY METHODOLODY

DISTRICT	NUMBER OF LOCATION	NUMBER OF FISHERMEN SURVEY		NUMBER OF FISH PROCESSORS SURVEY		NUMBER OF GENERAL PUBLIC SURVEY		NUMBER OF STAFF AT THE DISTRICT ASSEMBLY SURVEY		NUMBER OF HEALTH AND SANITATION STAFF SURVEY		NUMBER OF TEACHERS SURVEY IN THE DISTRICT		Grand Total	
		MEN	WOMEN	MEN	WOMEN	MEN	WOMEN	MEN	WOMEN	MEN	WOMEN	MEN	WOMEN	Men	Woman

Name of group leader: ……

Annex 3

BASELINE SURVEY FISHING STOVE SUMMARY / TALLY SHEET

DATE: ……REGION: …….DISTRICT: …….

NAME OF ENUMERATORS: …….

Location	TALLY (ROUND METAL OR MUD OVENS)		TOTAL NO.	TALLY(CHORKOR)		TOTAL NO.	OTHER (SPECIFY)		TOTAL NO.
	Good	Bad		Good	Bad		Good	Bad	

Name of Group Leader: …….

Annex 4:

Sanitation & Health

SNV NETHERLANDS DEVELOPMENT ORGANISATION

SUSTAINABLE FISHERY MANAGEMENT PROJECT

QUESTIONNAIRE FOR HEALTH AND SANITATION

ENUMERATOR: .....

CELL PHONE: .....

RESPONDENT

1. Name: …….....
2. Contact (Telephone Number) …….....
3. Name of the Landing Site: .....
4. Age: 20yrs – 29yrs 30yrs – 39yrs 40yrs – 49yrs 50yrs & above
5. How long have you been working here?

Less than 5yrs 5yrs – 10yrs 11yrs – 20yrs 20yrs & above

6. How long have you lived in this community?

Less than 5yrs 5yrs – 10yrs 11yrs – 20yrs 20yrs & above

HEALTH AND SANITATION ACTIVITY

7. What is the total population of people in the community? .....
8. What is the Gender distribution in the community? Male Female
9. What are the sanitation issues at the coast and community?

.....

.....

10. What is the behaviour of the people in relation to sanitation in the community?

.....

.....

11. Do you sensitize the people in the community on Health & Sanitation? Yes No
12. If yes, how is the community involvement?

.....

13. Is there a Medical Center in the community? Yes No

14. Are there Medical records on high occurring diseases peculiar to these communities?

Yes No

15. If yes, what are these diseases?

.....

16. What are the main challenges with your work in the community?

…….

<u>FISHING ACTIVITY</u> – FISHERMEN

17. What are the main fish harvesting methods fishermen use in this community?

.....

18. Are the main fish harvesting methods used appropriate? Yes No

19. What fishes do they harvest most?

.....

20. How often do they harvest small pelagic fish (Eban, Kankama, Antebo, Druku, Antar)?

……

21. Are there particular fish harvesting systems that you are not comfortable with? Yes No

22. If yes, why? .....……..

23. How do they market their harvested fish?

…….....

.....

24. Are you one of their customers who buy small pelagics? Yes No

25. If yes, in what quantities do you buy the fish and how often?

.....

26. Are you aware if there is Overfishing in the area? Yes No

27. Do the fishermen adhere to Health and Sanitation by-laws of the community? Yes No

28. If no, what actions did your outfit take to sanction them?

.....

.....

<u>FISHING ACTIVITY</u> – FISH PROCESSORS

29. What types of fish processing activities are undertaken in this community?

    …….....

30. What logistics do they use for the processing?

    .....

31. Are these logistics hygienic? Yes No

32. If no, what measures are in place to educate them?

    .....

    .....

    .....

33. Which fish types do they process most?

    .....

34. Are you one of their customers? Yes No

35. How often do they undertake processing activity in a week?

    .....

36. How often do you acquire processed fish?

    .....

37. How much is a pan (package) of fish?

    .....

38. Do seasonal changes affect fish availability fish in the market? Yes No

39. If yes, how?

    …….....

40. Are there particular months fish in general is in short supply and expensive?

.....

41. If yes, why the shortages? .....

.....

42. If yes, what will be your advice to reducing shortage occurrences?

    …….....

43. In your opinion has shortages increased or decreased over the years?

    …….....

44. How do they store your fish?

    …….

45. Which fish species can be stored for longer periods?

…….

46. Where and how do they market their fish?

…….

47. How often do they go to the market to sell their fish?

…….

48. In your opinion, which fish type has more consumer demand in this community?

…….....

.....

49. How can you rate the environment in which these fish processors do their business?

Neat Dirty

COMMUNITY & ALTERNATIVE LIVELIHOOD

50. What trade/occupation types pertain to this community?

…….

51. What is the most dominant occupation in this community?

Fishing Fish Processing Civil Service Petty Trading

Crafts work Industrial work others specify……

52. Which occupation are women dominated?

……

53. What occupation are men dominated?

……

54. What is the family system in this community? Patrimonial Matrimonial

55. Apart from fish, does the community have other benefits from the sea? Yes No

56. What other activities in your opinion can be carried out for income generation that hasn't been given much attention? …….....

57. What resources does the community have, that can be sustainably used for income generation and how?

…….....……

…….

58. What are the major industries and organisations in this community?

…….

59. Do any of the above mentioned organisations have any interaction with the fishing industry? Yes No

60. If yes, which organisations? .....

.....

61. What kind of relationship that exists?

……

……

62. Are there any untapped industries in the community? .....

.....

.....

63. Is there anything of interest to the people in the community? .....

.....

64. In what ways do you think they can add value to their trading? .....

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GENERAL OBSERVATIONS

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Annex 5

SNV NETHERLANDS DEVELOPMENT ORGANISATION

SUSTAINABLE FISHERY MANAGEMENT PROJECT

QUESTIONNAIRE FOR DISTRICT ASSEMBLY

ENUMERATOR: .....

CELL PHONE: .....

RESPONDENT

1. Name: …….....
2. Contact (Telephone Number) …….....
3. What is the name of the District Assembly?

   .....
   .....
4. Age: 20yrs – 29yrs 30yrs – 39yrs 40yrs – 49yrs 50yrs & above
5. How long have you been working at the Assembly?

Less than 5yrs 5yrs – 10yrs 11yrs – 20yrs 20yrs & above

6. How long have you lived in this community?

Less than 5yrs 5yrs – 10yrs 11yrs – 20yrs 20yrs & above

7. How old is the District Assembly?

Less than 5yrs 5yrs – 10yrs 11yrs – 20yrs 20yrs & above

DISTRICT ASSEMBLY ACTIVITY

8. What is the total population of the people in the District? .....
9. What is the Gender distribution? Male Female Children
10. What are the main occupations of the people in the District?

    .....
    .....
11. What are the means of revenue in the District?

    .....

.....
.....

12. How many Basic Schools, Secondary Schools, Tertiary Schools in the District?

Basic Schools Secondary Schools Tertiary Schools

13. Are children dropping out of School? Yes No
14. If yes, is it rampant? Yes No
15. What is the dropout rate in the School? 5% 10% 15%
16. Distribution of dropout rate, Gender wise (please respond in terms of %) Male Female
17. Do the Students take their studies seriously? Yes No
18. What are the days the Students/ Pupil absent themselves most from School?

.....

19. What are the causes of child delinquency in School?

.....

.....

20. Are Parents and Teachers Association in the Schools? Yes No
21. If yes, what is the Parents and Teachers Association doing about the situation?

.....

.....

22. What is the District Assembly itself doing about the situation?

.....
.....
.....

23. What are the main challenges of the Assembly's work in the community?

……

.....
.....

24. Has the District ever recorded child trafficking? Yes No

25. If yes, what was done and is still being done to discourage the practice?

.....

.....

26. What assistance has the Assembly given regarding Health issues?

.....

.....

FISHING ACTIVITY – FISHERMEN

27. What are the main fish harvesting methods used in this community?

.....

28. Are the main fish harvest methods used approatialy? Yes No

29. What fishes do they harvest most?

.....

30. How often do they harvest small pelagic fish (Eban, Kankama, Antebo, Druku, Antar)?

……

31. Are there particular fish harvesting systems that the District Assembly is not comfortable with? Yes No

32. If yes, why? .....……..

.....

33. What effort was made and is still being made to stop the practice?

.....

.....

34. How do they market their harvested fish?

…….....

.....

35. Is the District Assembly aware if there is Overfishing in area? Yes No

36. If yes, what has the Assembly done about it?

.....

.....

FISHING ACTIVITY – FISH PROCESSORS

37. What types of fish processing activities are undertaken in this community?

…….....

38. Are the processes healthy to promote good health? Yes No

39. If no, what measures are put in place to ensure that the right things are done?

.....

.....

40. What logistics do they use for the processing? .....

41. Which fish types do they process most?

.....

42. In what quantity do they acquire fish for processing?

.....

43. How often do they undertake processing activity in a week?

.....

44. How often do you acquire processed fish?

.....
.....

45. How much is a pan (package) of fish?

.....

46. Do seasonal changes affect fish availability in the market? Yes No

47. If yes, how?

.....

.....

.....

48. Are there particular months during which fish in general is in short supply and expensive?

.....

49. If yes, why the shortages? .....

.....

50. If yes, what will be your advice to reducing shortage occurrences?

.....

.....

.....

51. In your opinion has shortages increased or decreased over the years?

.....

.....

52. 51. How do they store fish for processing?

.....

.....

53. Which fish species can be stored for longer periods?

.....

.....

54. Where and how do they market their fish?

…….....

.....

55. How often do they go to the market to sell fish?

.....……

……....

56. In your opinion, which fish type has more consumer demand in this community?

.....

.....

COMMUNITY & ALTERNATIVE LIVELIHOOD

57. What trade/occupation types pertain to these communities? ....

…….

58. What is the most dominant occupation in these communities?

Fishing Fish Processing Civil Service Petty Trading

Crafts work Industrial work others ……

59. Which occupations are women dominated? …….....

60. Which occupations are men dominated? ……...

61. What is the family system in this community? Patrimonial Matrimonial

62. Apart from fish, does the community have other benefits from the sea? Yes No

63. If yes, name them

.....
.....

64. What other activities in your opinion can be carried out for income generation that hasn't been given much attention?

…….....
.....
.....

65. What resources does the community have, that can be sustainably used for income generation and how?

…….....……
…….....
.....

66. What are the major industries and organisations in this community?

…….....
.....

67. Do any of the above mentioned organisations have any interaction with the fishing industry? Yes No

68. If yes, which organisations and what kind of relationship that exists?

……
…….
.....

69. Is there any alternative livelihood in the Communities? .....

.....
.....

70. Has there been any intervention either in the pass or existing by the District Assembly?

Yes No

71. What are these interventions?

.....

.....

.....

72. Are there any untapped industries in the community?

.....

.....

.....

73. Is there anything of interest to the people in the community?

.....

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74. In what ways do you think they can add value to their trading? .....

.....

.....

GENERAL OBSERVATIONS

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Annex 6

SNV NETHERLANDS DEVELOPMENT ORGANISATION

SUSTAINABLE FISHERY MANAGEMENT PROJECT

QUESTIONNAIRE FOR FISH PROCESSORS

ENUMERATOR: .....

CELL PHONE: .....

RESPONDENT

1. Name: …….....
2. Contact (Telephone Number) …….....
3. Age: 20 – 29 30 – 39 40 – 49 50 and above
4. How long have you been in this business?

   Less than 5yrs 5yrs – 10yrs 11yrs – 20yrs 20yrs & above

5. How long have you lived in this community?

   Less than 5yr 5yrs – 10yrs 11yrs – 20yrs 20yrs & above

6. What are the different types of fish smoking stoves available? .....
7. What are their names, if any? .....

   .....
8. Where are they located in the community? .....
9. How many are they together? .....

FISH PROCESSING ACTIVITY

10. How do you access your fish?

    ……

11. Which fish types do you acquire most?

    .....

12. In what quantity do you acquire your fish?

    ……

13. How often do you acquire your fish?

    .....

14. How much is a pan (package) of fish?

……

15. What types of fish processing activities are undertaken in this community?

…….

16. What type of fish processing do you undertake?

…….

17. What logistics do you use for your processing?

…….

18. Are small pelagic fish a main need for your processing activity? Yes No

19. If yes, how? …….....

…….

20. How often do you undertake your processing activity in a week?

……

21. How long does a processing cycle take?

……

22. Do seasonal changes affect fish availability for your work? Yes No

23. If yes, how?

…….....

24. Have you experienced fish shortages? Yes No

25. If yes, how often do you experience shortages?

……

26. If yes, which month?

…….

27. If yes, what will be your advice to reducing shortage occurrences?

…….....

.....

28. In your opinion has shortages increased or decreased over the years?

…….

29. What are the main challenges with your work?

…….

30. How do you store your fish?

……

31. What materials and logistics do you use to store the fish?

……

32. How long do you store the fish?

……

33. Which fish species can be stored for longer periods?

……

34. Where do you market your fish?

……

35. How do you market your fish? (eg. wholesale, retail & hawking)

……

36. How often do you go to the market to sell your fish?

……

37. In your opinion, which fish type has more consumer demand in this community and your market centres and why?

…….....

.....

38. Is there an industrial need for fish (small pelagics; Eban, Kankama, Antebo, Druku, Antar) in this District or Region? ……...

39. What are small pelagics used for on the local scale? …….

40. On average how much profit do you make per day or week?

……

41. Did you inherit this business from a relative? Yes No

42. If yes, at what age? .....

43. Do you have any of your children taking over from you? Yes No

44. Are you doing any other part time business? Yes No

45. If yes, what business is it? ……

46. Do you have a fish processing association in this community? Yes No

47. If yes, what is the name? .....

48. Are you a member of the association? …….....

FISH SMOKING

49. Which fish smoking stove do you use?

……

50. How many stoves do you have?

……

51. Which firewood do you prefer/use most? (nim tree, accasia tree etc?)

.....

52. How do you get your firewood?

……...

53. How much firewood do you use per processing cycle?

……

54. What challenges do you face in using your stove?

……

55. Would you prefer a different stove? Yes No

56. If yes, which stove?

…….

57. And why?

…….

COMMUNITY & ALTERNATIVE LIVELIHOOD

58. Which trade/occupation types pertain to this community?

…….

59. What is the most dominant occupation in this community?

Fishing Fish Processing Civil Service Petty Trading

Crafts work Industrial work others specify……..

60. Which occupations are women dominated?

…….

61. What occupation are men dominated?

…….

62. What is the family system in this community? Patrimonial Matrimonial

63. Apart from fish, does the community have other benefits from the sea?

.....

64. What other activities in your opinion can be carried out for income generation that hasn't been given much attention? …….....

65. What resources does the community have, that can be sustainably used for income generation and how?

…….....……

…….

66. What are the major industries and organizations in this community?

…….

67. Do any of the above mentioned organizations have any interaction with the fishing industry? Yes No

68. If yes, which organizations?

……

69. What kind of relationship that exists?

……

70. Are there any untapped industries in the community? .....

.....

.....

71. Is there anything of interest to the people in the community apart from what exist?

.....

72. In what ways do you think they can add value to their trading?

.....

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GENERAL OBSERVATIONS

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Annex 7

SNV NETHERLANDS DEVELOPMENT ORGANISATION

SUSTAINABLE FISHERY MANAGEMENT PROJECT

QUESTIONNAIRE FOR FISHERMEN

ENUMERATOR: .....

CELL PHONE: .....

RESPONDENT

1. Name: …….....
2. Contact (Telephone Number) …….....
3. Name of Community: .....
4. Age: 20yrs – 29 30yrs – 39yrs 40yrs – 49yrs 50yrs & above
5. How long have you lived in this community?
   Less than5yrs 5yrs - 10yrs 11yrs – 20yrs 20yrs & above
6. How long have you been in this business?
   Less than5yrs 5yrs – 10yrs 11yrs – 20yrs 20yrs & above

THE FISHING INDUSTRY

7. What are the main fish harvesting methods used in this community?
   ……
8. Are the main fish harvesting methods used appropriate? Yes No
9. How many landing sites do you have? …….....
10. What are their names?
    …….....……
    …….
11. Which fishing nets do you use for fishing?
    ……..……
    …….
12. Do you use particular gears for target or particular fishes? Yes No
13. If yes, which gear and which target?
    .....

……

14. What fishes do you harvest most? …….....

15. How do seasonal changes affect fish stock? .....

……

16. How often do you harvest small pelagic fish (Eban, Kankama, Antebo, Druku, Antar)?

……

17. Do small pelagics have demand in this area? Yes No

18. If yes, what is the extent of demand? ……..,,

……

19. Are there particular fish harvesting systems that you are not comfortable with? Yes No

20. If yes, why? .....……

21. How do you market your harvested fish?

……..……

…….

22. Who are your main customers?

……

…….

23. Do you have customers who demand for small pelagics? Yes No

24. If yes, in what quantities do you supply the fish and how often?

……..……

…….

25. If yes, what do they use the small pelagics for?

.....…….....

.....

26. Do you have your own fishing vessel (if yes, how many)? Yes..... No

27. If yes, how many workers assist you on each trip? …….

28. If no, when do you intend procuring one yourself?

.....

.....

29. Do you have a fishermen Association? Yes No

30. If yes what is the name of the Association? …….....

31. Are you part of the Association? Yes No

32. As a fisherman, what are your logistical needs?

……..……

…….

33. What are some of the challenges you face in your line of work? …….

…….

34. Do other boats from neighbouring countries fish in your waters? Yes No

35. If yes, which countries do they come from? …….

36. If yes, do they have particular interest in small pelagics? Yes No

37. Do other Ghanaians from other places fish in your waters? Yes No

38. If yes, why?

…….....

.....

39. Are there regulatory standards available and is compliance adhere to?

.....

.....

.....

40. Apart from the challenges above, do you have any of these obstacles?

    a. Overfishing? Yes No
    b. Habitat modification? Yes No
    c. Changing the ecosystem balance; living organisms & nonliving components of their environment (things like air, water and mineral soil)? Yes No
    d. Climate Change? Yes No
    e. Ocean Pollution? Yes No
    f. Diseases & Toxis? Yes No

41. What measures do you put in place for safety on the sea?

.....

.....

42. Do you have Marine Insurance Policy for yourself and your workers? Yes No

43. If no, why?

.....

.....

44. In your opinion how do you think fish stock could be replenished?

.....

.....

.....
.....

COMMUNITY & ALTERNATIVE LIVELIHOOD

45. What trade/occupation types pertain to this community?

    .....

46. What is the most dominant occupation in this community?

    Fishing Fish Processing Civil Service Petty Trading

    Crafts work Industrial work others specify

47. Which occupations are women dominated?

    .....

48. Which occupations are men dominated?

    .....

49. What is the family system in this community? Patrimonial Matrimonial

50. Apart from fish, does the community have other benefits from the sea?

    .....

51. What other activities in your opinion can be carried out for income generation that hasn't been given much attention?

    …….....
    .....

52. What resources does the community have, that can be sustainably used for income generation and how?

    …….....
    .....
    .....

53. What are the major industries and organisations in this community?

    .....

54. Do any of the above mentioned organisations have any interaction with the fishing industry? Yes No

55. If yes, which organisations?

    .....

56. What kind of relationship that exists?

    .....
    .....

57. Are there any untapped industries in the community? .....

.....

.....

58. Is there anything of interest to the people in the community apart from what exist?

.....

59. In what ways do you think they can add value to their trading?

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GENERAL OBSERVATIONS

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Annex 8

SNV NETHERLANDS DEVELOPMENT ORGANISATION

SUSTAINABLE FISHERY MANAGEMENT PROJECT

QUESTIONNAIRE FOR GENERAL PUBLIC

ENUMERATOR: .....

CELL PHONE: .....

RESPONDENT

1. Name: …….....
2. Occupation …….....
3. Name of Community: .....
4. Age: 20yrs – 29yrs 30yrs – 39yrs 40yrs – 49yrs 50yrs & above
5. How long have you been working in this role?
   Less than 5yrs 5yrs – 10yrs 11yrs – 20yrs 20yrs & above
6. How long have you lived in this community?
   Less than 5yrs 5yrs – 10yrs 11yrs – 20yrs 20yrs & above

THE FISHERY AND PROCESSING INDUSTRY

7. Have you bought fresh fish at the sea shore before? Yes No
8. If yes, what kind of fish was it? .....
9. How often do you buy fish at the seashore? Daily Weekly Biweekly Monthly
10. Are there times you don't get fish to buy at the shore? Yes No
11. If yes, which periods and how often?
    …….
12. Did you have an occasion where you bought spoilt fish? Yes No
13. If yes, what was the cause if you know?
    …….

14. Do you have any issues with the fish landing sites and processing environment?

    Yes No

15. If yes, what are these issues? .....

    ……

16. How do you think it could be resolved?

    .....

17. How often do you buy processed fish? Daily Weekly Biweekly Monthly

18. Do you have any issue with how they are processed?

    .....

19. If yes, what is/are the issue(s)?

    .....

20. Could you suggest any remedy?

    .....

21. Which type of processed fish do you buy often?

    .....

22. Do you have any issue with the way they are processed? Yes No

23. If yes, what was the issue?

    .....

24. Do you know Sardinella fish? Yes No

25. If yes, do you patronise it? Yes No

26. If yes, how often do you patronize it? Daily Weekly Bi-weekly Monthly

27. For what purpose do you patronize it?

    …….....

COMMUNITY & ALTERNATIVE LIVELIHOOD

28. What trade/occupation types pertain to this community?

    …….....

29. What is the most dominant occupation in this community? Fishing Fish Processing

    Civil Service Petty Trading Crafts work Industrial work

    others specify…….

30. Which occupation are women dominated?

…….....

31. Which occupation are men dominated?

…….....

32. What is the family system in this community? Patrimonial Matrimonial

33. Apart from fish, does the community have other benefits from the sea? Yes No

34. If yes, what are these?

.....

.....

35. What other activities in your opinion can be carried out for income generation that hasn't been given much attention? …….....

36. What resources does the community have, that can be sustainably used for income generation and how?

…….....……

……....

37. What are the major industries and organisations in this community?

……

38. Do any of the above mentioned organisations have any relationship with the fishing industry? Yes No

39. If yes, which organisations?

…….....……

…….....

40. What kind of relationship that exists?

…….....

…….....

41. Are there any untapped industries in the community? .....

.....

.....

42. Is there anything of interest to the people in the community? .....

.....

43. In what ways do you think they can add value to their trading? .....

.....

.....

44. Is there any day in the week that the fishermen do not go for fishing? Yes No

45. If yes, for what reason?

.....

.....

GENERAL OBSERVATIONS

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Annex 8

SNV NETHERLANDS DEVELOPMENT ORGANISATION

SUSTAINABLE FISHERY MANAGEMENT PROJECT

QUESTIONNAIRE FOR HEALTH PRACTITIONERS

ENUMERATOR: .....

CELL PHONE: .....

RESPONDENT

1. Name: …….....
2. Name of Health Center: .....
3. Contact (Telephone Number) …….....
4. Age: 20yrs – 29yrs 30yrs – 39yrs 40yrs – 49yrs 50yrs & above
5. How long have you been working here?

   Less than 5yrs 5yrs – 10yrs 11yrs – 20yrs 20yrs & above

6. How long have you lived in this community?

   Less than 5yrs 5yrs – 10yrs 11yrs – 20yrs 20yrs & above

HEALTH ACTIVITY

7. How many Patients visit your facility a day? .....
8. What is the Gender distribution? Male Female Children
9. What are the most common diseases in the area?

   .....

   .....

10. What are the causes of these diseases? .....

    .....

11. In your opinion what are the areas of interest that need attention?

    .....

    .....

12. What is the sanitation situation in the communities? .....

.....

.....

13. What were the earlier interventions in the community? .....

.....

.....

.....

14. What are the main challenges with sanitation in the communities?

…….....

.....

15. What are some of the illnesses that arise as a result of poor sanitation? .....

.....

.....

<u>FISHING ACTIVITY</u> – FISHERMEN

16. What are the main fish harvesting methods used in this community?

.....

17. Are the main fish harvesting methods used appropriate? Yes No
18. What fishes do they harvest most?

.....

19. How often do they harvest small pelagic fish (Eban, Kankama, Antebo, Druku, Antar)?

……

20. Are there particular fish harvesting systems that you are not comfortable with?

Yes No

21. If yes, why? .....……..
22. How do they market their harvested fish?

…….....

.....

23. Are you one of their customers who buy small pelagics? Yes No
24. If yes, in what quantities do you buy the fish and how often?

.....

25. Are you aware if there is Overfishing in the rivers? Yes No

<u>FISHING ACTIVITY</u> – FISH PROCESSORS

26. What types of fish processing activities are undertaken in this community?

…….....

27. What logistics do they use for the processing?

.....

28. Which fish types do they process most?

.....

29. In what quantity do they process fish?

.....

30. How often do they undertake processing activity in a week?

.....

31. How often do you acquire processed fish?

.....

32. How much is a pan (package) of fish?

.....

33. Do seasonal changes affect fish availability in the market? Yes No

34. If yes, how?

…….....……

……

35. Are there particular months fish in general are in short supply and expensive?

.....

.....

36. If yes, why the shortages?

.....

37. If yes, what will be your advice to reducing shortage occurrences?

…….....

38. In your opinion has shortages increased or decreased over the years?

…….....

39. How do you store your fish?

…….

40. Which fish species can be stored for longer periods?

…….

41. Where and how do they market the fish?

…….

42. How often do they go to the market to sell their fish?

…….

43. In your opinion, which fish type has more consumer demand in this community?

…….....

.....

COMMUNITY & ALTERNATIVE LIVELIHOOD

44. What trade/occupation types pertain to this community?

…….

45. What is the most dominant occupation in this community?

Fishing Fish Processing Civil Service Petty Trading

Crafts work Industrial work others specify……

46. Which occupations are women dominated?

…….

47. What occupation are men dominated?

…….

48. What is the family system in this community? Patrimonial Matrimonial

49. Apart from fish, does the community have other benefits from the sea?

.....

50. What other activities in your opinion can be carried out for income generation that hasn't been given much attention? …….....

51. What resources does the community have, that can be sustainably used for income generation and how?

…….....……

…….

52. What are the major industries and organisations in this community?

…….

53. Do any of the above mentioned organisations have any interaction with the fishing industry? Yes No

54. If yes, which organisations and what kind of relationship that exists?

……

……

55. Are there any untapped industries in the community?

.....

.....

.....

56. Is there anything of interest to the people in the community that does not yet exist?

.....

.....

57. In what ways do you think they can add value to their trading? .....

.....

.....

GENERAL OBSERVATIONS

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Annex 9

SNV NETHERLANDS DEVELOPMENT ORGANISATION

SUSTAINABLE FISHERY MANAGEMENT PROJECT

QUESTIONNAIRE FOR SCHOOLS (TEACHERS)

ENUMERATOR: .....

CELL PHONE: .....

RESPONDENT

1. Name: …….....

2. Contact (Telephone Number) …….....
3. Name of School: .....
4. Age: 20yrs – 29yrs 30yrs – 39yrs 40yrs – 49yrs 50yrs & above
5. How long have you been teaching here?

Less than 5yrs 5yrs – 10yrs 11yrs – 20yrs 20yrs & above

6. How long have you lived in this community?

Less than 5yrs 5yrs – 10yrs 11yrs – 20yrs 20yrs & above

TEACHING ACTIVITY

7. How many Pupil or Students do you have in your class? .....
8. What is the Gender distribution? Male Female
9. Is it difficult to teach in this community? Yes No
10. Do you have child delinquency in the School, if yes, why? .....

    .....

    .....

11. What is the dropout rate in the School? 5% 10% 15%
12. Distribution of dropout rate, Gender wise: Male …….. Female……(give the %)
13. Do the Students take their studies seriously? Yes No
14. What are the days Students/ Pupil absent themselves from School the most?

    .....

15. What are the causes of child delinquency in School? .....

.....

.....

16. Do you have Parents and Teachers Association in the School? Yes No
17. If yes, what is the Parents and Teachers Association doing about the situation?

.....

.....

18. What are some of the extra curriculum activities in the School?

.....

.....

19. Do you have enough skill labour and logistics in the School? Yes No
20. What are the main challenges with your work in the community?

……..……

……..……

…….

<u>FISHING ACTIVITY</u> – FISHERMEN

21. What are the main fish harvesting methods used in this community?

.....

22. Are the main fish harvesting methods used appropriate? Yes No
23. What fishes do they harvest most?

.....

24. How often do they harvest small pelagic fish (Eban, Kankama, Antebo, Druku, Antar)?

……

25. Are there particular fish harvesting systems that you are not comfortable with? Yes No
26. If yes, why? .....……..
27. How do they market their harvested fish?

…….....

.....

28. Are you one of their customers who buy small pelagics? Yes No
29. 29. If yes, in what quantities do you buy the fish and how often?

.....

30. Are you aware if there is Overfishing in the area? Yes No

<u>FISHING ACTIVITY</u> – FISH PROCESSORS

31. What types of fish processing activities are undertaken in this community?

…….....

32. What logistics do they use for the processing?

.....

33. Which fish types do they process most?

.....

34. In what quantity do they acquire fish for processing?

.....

35. How often do they undertake processing activity in a week?

.....

36. How often do you acquire processed fish?

.....

37. How much is a pan (package) of fish?

.....

38. Do seasonal changes affect fish availability in the market? Yes No

39. If yes, how? .....

…….....……

……

40. Are there particular months during which fish in general are in short supply and expensive?

.....

41. If yes, why the shortage in the markets?

.....

.....

42. If yes, what will be your advice to reducing shortage occurrences?

…….....

.....

43. In your opinion has shortages increased or decreased over the years?

…….....

44. How do they store their fish? .....

……

45. Which fish species can be stored for longer periods? .....

……

46. Where and how do they market their fish? .....

……

47. How often do you go to the market to buy fish?

……

48. In your opinion, which fish type has more consumer demand in this community?

…….....

.....

COMMUNITY & ALTERNATIVE LIVELIHOOD

49. What trade/occupation types pertain to this community?

……

50. What is the most dominant occupation in this community?

Fishing Fish Processing Civil Service Petty Trading Crafts work Industrial work others specify……

51. Which occupations are women dominated?

……

52. Which occupations are men dominated?

……

53. What is the family system in this community? Patrimonial Matrimonial

54. Apart from fish, does the community have other benefits from the sea?

.....

55. What other activities in your opinion can be carried out for income generation that hasn't been given much attention? …….....

56. What resources does the community have, that can be sustainably used for income generation and how? …….....

……

57. What are the major industries and organisations in this community?

……

58. Do any of the above mentioned organisations have any interaction with the fishing industry? Yes No

59. If yes, which organisations and what kind of relationship that exists?

……..……

…….

60. Are there any untapped industries in the community?.....

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61. In your opinion is there anything of interest to the people in the community?

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62. In what ways do you think they can add value to their trading? .....

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GENERAL OBSERVATIONS

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