



REPUBLIC OF GHANA

MINISTRY OF FISHERIES AND AQUACULTURE DEVELOPMENT

SECTOR MEDIUM-TERM DEVELOPMENT PLAN (2014-2017)

NOVEMBER, 2014

**DEVELOPED BY:
MOFAD PPMED IN COLLABORATION
WITH FISHERIES COMMISSION**

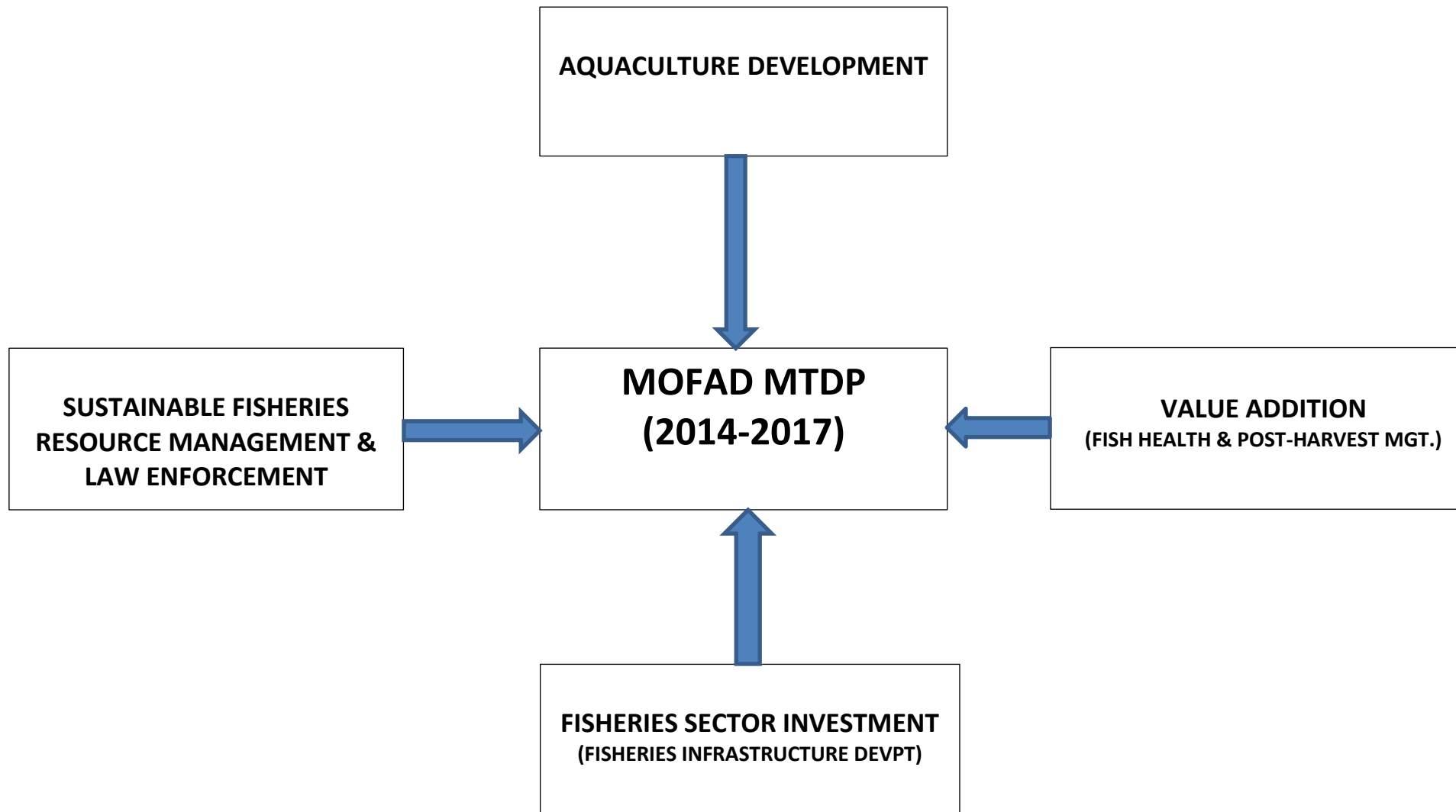


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EXECUTIVE SUMMARY

Purpose

The **2014-2017 Sector Medium Term Development Plan (SMTDP)** of the Ministry of Fisheries and Aquaculture Development (MOFAD) focuses on the implementation of ***development interventions*** that are intended to drive the fisheries sector and industry to contribute more effectively to the overall development of Ghana.

The Plan serves as a sector specific ***development compass*** that directs/guides the **operations** of the Ministry, the private sector (fisheries industry players), and collaborating agencies in the development of the fisheries sector. It is also a “***medium term road map***” that is intended to guide Government investment and Development Partner support to revamp the fisheries sector for 2014-2017 and beyond. The overall goal of this Plan is to ***consolidate the sector gains*** made for the period **2010-2013**, and ***accelerate the contribution of the fisheries sector to national development*** through the ***implementation of target-specific and growth inducing strategies and interventions***.

Sector Goal

The goal of MOFAD is *promotion of accelerated Fisheries Sector Development as a viable economic segment* that will contribute to the overall development of Ghana in line with Medium to Long term National Development Policy Frameworks.

The main objective of the Plan is to ***enhance operational effectiveness and efficiency*** of MOFAD and all Plan implementing partners towards the ***achievement of stated sector policy objectives and time-bound targets, output and outcomes*** of the fisheries sector that are in line with the overall medium term development Goals and policy objectives of the Ghana Shared Growth and Development Agenda (GSGDA II).

Policy base

The Plan derives its ***policy base*** from the thematic focus areas and broad policy objectives and strategies of GSGDA II that are ***relevant*** to the ***mandate and functions*** of MOFAD. It is also informed by the Ghana National Aquaculture Development Plan (GNADP) of the Ministry of Food and Agriculture (2012-2016)¹, the Sustainable Marine Resource Management Framework of MOFAD (2015-2019), Government medium to long term National Development Policy initiatives, and Research works on Topical Issues relating to ***accelerated transformation*** of the aggregate economy of Ghana and the fisheries sector in particular. In this way, the Plan harmonizes Government priority

¹ The GNAP is a derivative of the Food and Agriculture Sector Development Policy (FASDEP II), and the Medium-Term Agriculture Sector Investment Plan (METASIP)

development policies that underpin the growth potentials of the fisheries sector and industry into a coherent and integrated set of development interventions for implementation. It adopted ten (10) Key sector specific Development Issues, five (5) core Policy objectives, and twelve (12) strategies from GSGDA II and translated them into a fisheries sector POLICY RESULTS MATRIX for implementation.

The relevant GSGDA II Policy Objectives that guided the development this Plan are indicated in Table 1.

Table 1: Adopted GSGDA II Policy Objectives (2014-2017)

POLICY CODE	GSGDA II POLICY OBEJCETIVE
030701 - 7.1	Enhance fish production and productivity
030702 - 7.2	Promote Aquaculture Development
020105 - 1.5	Expand opportunities for job creation
030105 - 1.5	Improve institutional coordination for agriculture (<i>fisheries sector</i>) development
031202 - 12.2	Improve policy and institutional framework for effective coastal resource management
031301 - 13.1	Ensure sustainable use of wetlands and water resources

Source: Ministry of Finance, Budget Division.

Components

Within its architectural design, the MOFAD MTDP identified the key development challenges facing the fisheries sector/industry, prioritized them, and adopted specific strategies from GSGDA II to resolve them under five components (Programme Areas) outlined in **Chapter 4**. The five prioritized integrated programme areas are:

- P1 *Aquaculture Development*
- P2. *Fisheries Resources Management*
- P3 *Fisheries Law Enforcement*
- P4. *Aquatic Animal Health & Post-Harvest Management*
- P5. *Management and Administration*

Structure

MOFAD 2014-2017 MTDP was developed based on Guidelines issued by NDPC. It is structured into seven (7) interrelated chapters as follows: (1) Profile and Background, (2): Sector Development Priorities, (3): Development Goal and Strategies, (4) Programmes and Sub-programmes, (5) Annual Action Plan, (6) Monitoring and Evaluation Framework, and (7) Communication Framework.

Plan formulation process

The 2014-2017 MOFAD MTDP was formulated through a structured **target-specific stakeholder consultations** with sector MDAs, private sector/industry players, fishing communities, Research Institutions, and the academia. The objective is to forge an *organic Plan implementation partnership with stakeholders, promote ownership*, and enhance implementation effectiveness.

Focus

The operational focus of this Plan is on: (i) reviewing of existing Fisheries Laws and Regulations (Fisheries Act, Act 625, 2002) in line with emerging domestic and international issues, (ii) augmenting fish production through Accelerated Aquaculture Development (i.e. from **38,547mt** in 2014 to a production target of **100,000mt** by 2017), (iii) creating an additional **900 direct job** opportunities and **2,552** indirect jobs for women through Aquaculture *Nucleus-Outgrower Input Support Scheme*, (iv) reducing “**fishing efforts**” and Illegal, Unreported and Unregulated (IUU) fishing activities through effective enforcement of fisheries laws and regulations that promote the regeneration of fisheries resources, (v) reducing the importation of fish and fishery products through increased Aquaculture production, (vi) re-engineering, transforming, and positioning the Fisheries Industry as a viable economic segment to attract private sector investment, and (vii) enhancing human capital and Institutional Capacity to improve effectiveness and efficiency in the overall Fisheries Sector management and development.

Key development issues

The prioritized key development issues that underpin the development of the fisheries sector that MOFAD 2014-2017 MTDp seeks to resolve include: (1) *consistent decline in national output and dwindling stock levels of aquatic resources*, (2) *increasing national fish consumption deficit resulting into importation of fish and fishery products*, (3) *over exploitation of fish stocks in all water bodies*, (4) *weak enforcement of fisheries Laws and Regulations*, (5) *inadequate fishing infrastructure to stimulate fisheries sector development*, (6) *weak collaboration with communities in the co-management of fisheries resources*, (7) *inadequate supply of prescribed fishery inputs*, (8) *inadequate skilled labour in fisheries sector management*, (9) *lack of a comprehensive fish health policy and coherent sanitation inspection System*, and (10) *weak institutional capacity to implement Government policy initiatives to promote the development of the fisheries sector*.

Strategic Interventions

The major policy strategies and interventions contained in this Plan to resolve the identified issues include: (1) promoting the general principles of responsible fisheries by focusing on maximum allowable fish catches that will enable the resources to regenerate over time, (2) establishing Aquaculture ***Nucleus-outgrower Input-support scheme*** to augment fish production and reduce the importation of fish, (3) developing a national aquaculture suitability map to stimulate private sector investment, (4) establishing co-management mechanisms with fishing communities to promote sustainable fisheries resources management, (5) establishing monitoring, control and surveillance systems for effective enforcement, of fisheries laws and regulations, (6) upgrading and expanding existing fish landing sites and related infrastructure, (7) establishing education infrastructure (Fisheries College) to promote Technical skills training and internship for extension officers and

technicians, (8) encouraging the private sector to increase investment in aquaculture production through *specialized extension service delivery and economic incentives*, (9) transforming the fisheries industry from net importer to net exporter of fish and fishery products by the year 2025, (10) promoting aquatic animal health and introducing new technologies to reduce post-harvest losses, (11) promoting research into **Topical Issues** on aquatic resources and sustainable fisheries sector management, and (12) strengthening **organic partnership/collaboration** with industry players for effective fisheries sector Policy/Plan implementation.

Under the Sustainable Fisheries Resource Management component, the Plan adopts: (a) **curative**, (b) **preventive**, and (c) **growth** strategies to combat the depleting rate of fishery resources especially in the Marine-sub sector.

Key Expected Policy Outputs/Outcomes

At the terminal point of the Plan (Dec.2017), the expected **key Policy outputs and outcomes** to be realized from the implementation of the Annual Action Plans (Chapter 4) are indicated in **Table 2**.

Table 2: Projected Policy Outputs/Outcomes

Programme/Item	Time Frame/Target			
	2014	2015	2016	2017
P1. Aquaculture Development				
1. Fish production (mt)	38,547	52,000	68,000	100,000
2. Job creation (annual)#	250	350	200	100
3. Indirect jobs (women)#	280	450	520	580
4. Private sector Investment (%) ²	5	10	25	45
5. Functional public hatcheries #	1	3	3	3
6. Reduction in fish imports (%)	5	7	10	15
P2 Sustainable Fisheries Resource Management				
1. Reduction in "Fishing efforts" (%) ³	2	5	7	10
2. Marine Survey completed	-	1	-	-
3 Fisheries Database established	-	1	-	-
4. Reduction in Rate of Marine Depletion (%)	-	2	4	5
5. Rate of comm. Part in Marine Re. Mgt) (%)	2	10	14	35

Table 2: Projected Policy Outputs/Outcomes

² Private sector investment in Aquaculture is expected to be driven by the Zonation of the Volta Lake into potential Aquaculture production areas, stable input prices, and increasing demand for fish.

³ Reduction in "fishing efforts" is through vessel and canoe registration/licensing and management.

Programme/Item	Time Frame/Target			
	2014	2015	2016	2017
P3 Fisheries Law Enforcement				
1. Rate of law compliance (%)	20	35	42	61
2. Reduction in IUU activities (%)	10	25	32	51
3. Rate of Comm. Part. in FLE (%)	15.5	35.2	45	60
4. No of Judges/Prosecutors trained	5	25	25	25
P4 Aquatic Animal Health and Post –Harvest Management				
1. Improvement in biosecurity measures (%)	-	5	7	10
2. Rate of compliance (fish Health& San) (%)	1	5	7	10
3. Increase in value addition (%)	2	3	5	5
4. Post-Harvest loss Reduction (%)	2	3	4	5
5. Functional Aquatic database	-	-	1	-
6. Fish Disease Control Warning System	-	1	-	-
P5 Fisheries Infrastructure Development				
1. Fisheries College at Anomabo (%)	20	45	100	-
2. Development of landing sites	2	4	4	4
3. Turnkey Fish Processing Plant at Elmina	-	1	-	-
4. Fisheries Laboratories	-	2	1	1
5. Establishment of FEU Offices	2	2	2	4
6. Cold Chain Facilities	1	2	2	1

The total estimated cost of operations for 2014-2017 period is **GH¢ 107,108,300.00.** as indicated in Table 3

Table 3: Indicative Budget by Programmes (2014- 2017)

Programme	INDICATIVE BUDGET (GH¢)					
	2014	2015	2016	2017	Total	% Share
Aquaculture Development	631,000.00	2,901,700.00	2,215,400.00	1,200,000.00	6,948,100.00	6.5
Fisheries Resources Management	774,000.00	2,958,000.00	1,971,000.00	689,000.00	6,392,000.00	6.0
Fisheries Law Enforcement	217,000.00	967,000.00	1,147,000.00	416,000.00	2,747,000.00	2.6
Aquatic Animal Health & Post-Harvest Management	244,000.00	973,000.00	644,000.00	439,000.00	2,300,000.00	2.1
Fisheries Infrastructure	5,260,000.00	49,707,000.00	24,930,000.00	615,000.00	80,512,000.00	75.2
Management & Administration	1,429,000.00	2,555,300.00	2,210,500.00	2,014,400.00	7,420,200.00	7.7
Grand Total	8,555,000.00	60,062,000.00	33,117,900.00	5,373,400.00	107,108,300.00	100.0

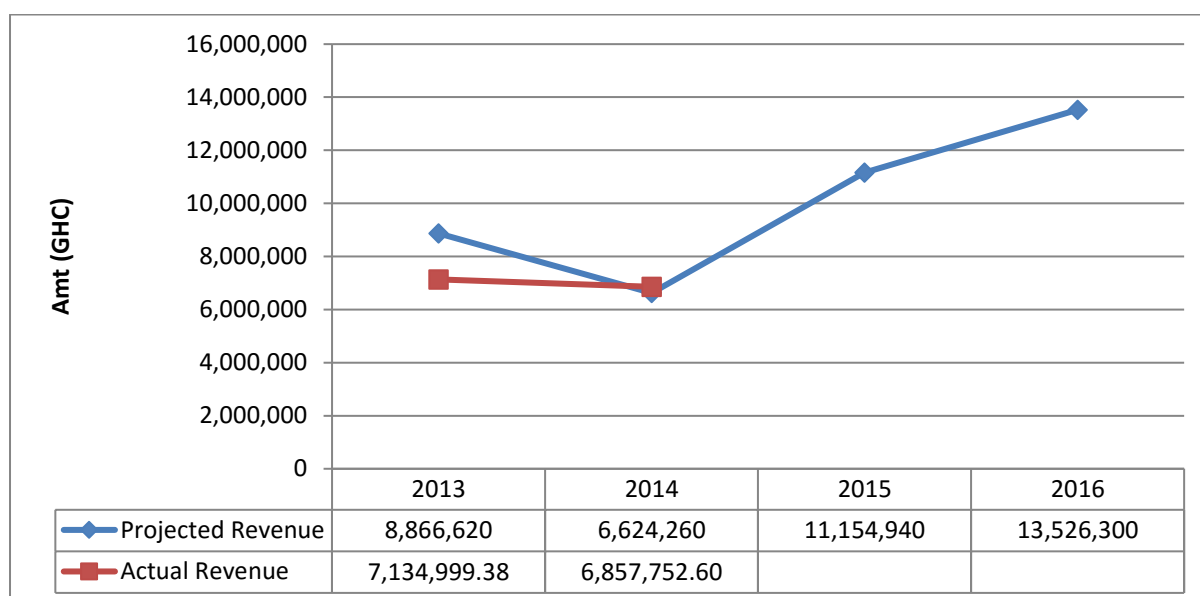
Financing the Plan

Four (4) main sources of financing MOFAD 2014-2017 MDDP have been identified. These are:

- (1) Government of Ghana.
- (2) Internally Generated Funds/Revenue (IGF).
- (3) Private sector (especially investment in Aquaculture development
- (4) Development Partners support to Projects/Programmes.

During Plan implementation, the Ministry will improve upon the management and efficient use of financial and human resources. The projected IGF for 2014-2017 is shown in Fig. 1.

Fig. 1 IGF projection (2014-2016)



Source: MOFAD PPED/FC

Monitoring and Evaluation (M & E) Framework

The Monitoring & Evaluation Framework (with fisheries sector specific performance indicators) and the Communication component of this Plan will guide effective Plan implementation and period performance assessment.

Specifically, the M&E component of the Plan will assist MOFAD and stakeholders to track Plan implementation progress, eject corrective (measures where necessary), and periodically evaluate/assess the overall performance of the Plan against stated Policy Objectives, Targets and expected Outputs/Outcomes. There will be Mid-year, Annual, and Terminal evaluation of the Plan to provide input for evidence-based policy decision making. The evaluations will be informed by timely production of Fisheries Sector statistics in collaboration with key stakeholders including the Ghana Statistical Service and the Ministry of Food and Agriculture.

The M E Reports generated will be published on Mid-Year and Annual basis and disseminated to all stakeholders including the Office of the President, NDPC, the Ministry of Finance, and Private sector Fisheries Associations.

Plan Implementation Collaboration

During Plan implementation (2014-2017), MOFAD will deepen collaboration with key stakeholders (MDAs, DAs, and fishing communities) to steadily reverse the depleting fishery resources due to over exploitation especially in the marine sub-sector, and promote the overall development of the Fisheries Sector and Industry. The objective of enhancing Plan implementation collaboration is to remove duplication of development efforts, maximize the use of financial and human resources, **improve operational effectiveness and efficiency**, and promote collective responsibility to drive the realization of policy outputs and outcomes. The twin principles of “**collective responsibility and shared benefits**” (growth) will therefore be cardinal.

Pre-conditions for Achieving Targets/Policy Results

The **Conditions precedent** to the realization of the pre-determined targets, outputs & outcomes and the overall Medium-Term Goal and Objectives of MOFAD MTDP include: (1) **deliberate and continuous** Government commitment to investment in Fisheries Sector infrastructure, (2) ability of the private sector to **take adequate advantage** of the unfolding Government policy initiatives to **increase investment** especially in Aquaculture development, (3) **productivity increase** in the Fisheries Sector through specialized skills training, (4) promoting private sector participation in the development of the Fisheries sector, (5) deepening organic collaboration among stakeholders, and (6) enhancing the ability of MOFAD and NDPC to **track Plan implantation progress and periodically evaluate performance** with “**quantitative and scientific development measurement tools**”.

Specifically, the achievement of Targets and pre-determined Policy Outputs and Outcomes outlined in this 2014-2017 Plan are underpinned by a number of pre-conditions (“iff”) including the following:

1. Government and MOFAD are prepared to **consolidate the (2010-2013) development policy gains** made and are collectively desirous to expand the fisheries sector development scope on annual basis (from 2014 to 2017 and beyond).
2. Government commitment to **invest and develop the fisheries sector** to contribute to national development remains irrevocable.
3. Government and its functionary Agencies are fully committed to **reducing financial and human resource wastes** in the management of targeted development interventions.
4. MOFAD is committed to increasing programme/project implementation **effectiveness** and **efficiency** strategies to improve the use of development resources.
5. MOFAD is committed to deepening organic collaboration with stakeholders to position the fisheries sector and industry as a viable sub-economic segment to attract private investment, particularly in Aquaculture development.

6. Enhancing Fisheries infrastructure development remains a major priority on the national development agenda of Government.
7. MOFAD (with support from Ministry of Finance) is committed to implementing more effective revenue mobilization strategies to increase IGF by 40 % (2014 = base year) to support Government medium to long term development efforts in the fisheries sector.
8. The expected **increase** in **labour productivity** in the fisheries sector during 2014-2017 Plan period and beyond is stimulated by MOFAD
9. MOFAD and the Fisheries Commission will **enhance institutional capacity** to promote efficient service delivery in the fisheries sector.

CHAPTER 1

INTRODUCTION /BACKGROUND /(CURRENT SITUATION)

1.1 INTRODUCTION (BACKGROUND)

This Sector Medium Term Development Plan (SMTDP) of the Ministry of Fisheries and Aquaculture Development (MOFAD) was developed based on the **Guidelines** issued by NDPC to MDAs for the preparation of **2014-2017 Sector Medium Term Development Plans** (SMTDPs).

The Plan derives its operational focus and **policy base** from the **thematic areas** and the **broad Policy Objectives and Strategies of GSGDA II** that are relevant to the **mandate and functions** of MOFAD. The Plan therefore translates the relevant **broad sector policy objectives and strategies** into **target specific sector policies** and “**drivers**” for implementation.

The Plan serves as a sector specific **development compass** that directs/guides the **operations** of the Ministry and the various Divisions and Units under the Fisheries Commission for 2014-2017.

The main objective of this Plan is to **enhance operational implementation effectiveness and efficiency** towards the **achievement of stated sector policy objectives and time-bound targets** that are in line with the overall broad medium term development objectives of GSGDA II. It identified the (current) development challenges facing the fisheries sector and adopted sector specific strategies from GSGDA II to resolve them.

Although the “responsibility onus” for achieving **planned targets, outputs and intermediate outcomes** at the terminal point (2017) lies solely on MOFAD, the Plan however identifies stakeholders as **organic partners** in the course of its implementation. The objective of forging and **deepening Plan implementation partnership** is to **enhance co-ordination and cross-sector collaboration** to promote **Effectiveness, Efficiency, and Measurement for Results (EEMR)**. The M & E component of this Plan (Chapter 6) is to **track Plan implementation progress** and **periodically assess Plan/sector performance** over time.

1.2 MTDP Structure

The 2014-2017 MTDP of MOFAD is structured into 7 inter-related Chapters as follows: **1:** Profile/Background, **2:** Prioritization of Development Issues, **3:** Development Goal, adopted GSGDA II Policy Objectives and Strategies, **4:** Development Programmes and Sub-programmes, **5:** Sector Annual Action Plan, **6:** Monitoring and Evaluation Framework, and **7:** Communication Strategy.

1.3. MOFAD Profile

In pursuance of Government commitment to develop the full potentials of the Fisheries Sector to contribute more effectively to national development, MOFAD was created in **January, 2013** by E.I. 1 Civil Service (Ministries) Instrument 2013. The Ministry is mandated formulate and implement policies and strategies to resolve the challenges facing the fishing sector in Ghana. The policies and development interventions outlined in this Plan for implemented focus on supporting Government efforts to achieve: *(1) national food security, (2) employment creation, (3) income poverty reduction, (4) improved foreign exchange earnings through reduction in fish imports, and (5) transformation of the fisheries sector and industry into a viable economic segment to attract private sector investment.*

1.3.1. Vision

MOFAD aspires to be a visible dynamic Ministry that promotes Accelerated Fisheries Sector Development to enable it contribute to National Development through Sustainable Management of Aquatic Resources, Scientific Research, Enforcement of Fisheries Laws and Regulations, and accelerated Aquaculture Development.

1.3.2. Mission

MOFAD exists to support the development and sustainable management of the Fisheries Sector through Scientific Innovations, provision of Policy Guidelines, Institutional Capacity Enhancement for efficient service delivery, promotion of organic collaboration with relevant stakeholders to transform the fisheries sector and industry into a viable economic segment.

1.3.3. Sector Goal

The goal of MOFAD is *promotion of accelerated Fisheries Sector Development as a viable economic segment* that will contribute to the overall development of Ghana in line with Medium to Long term National Development Policy Frameworks.

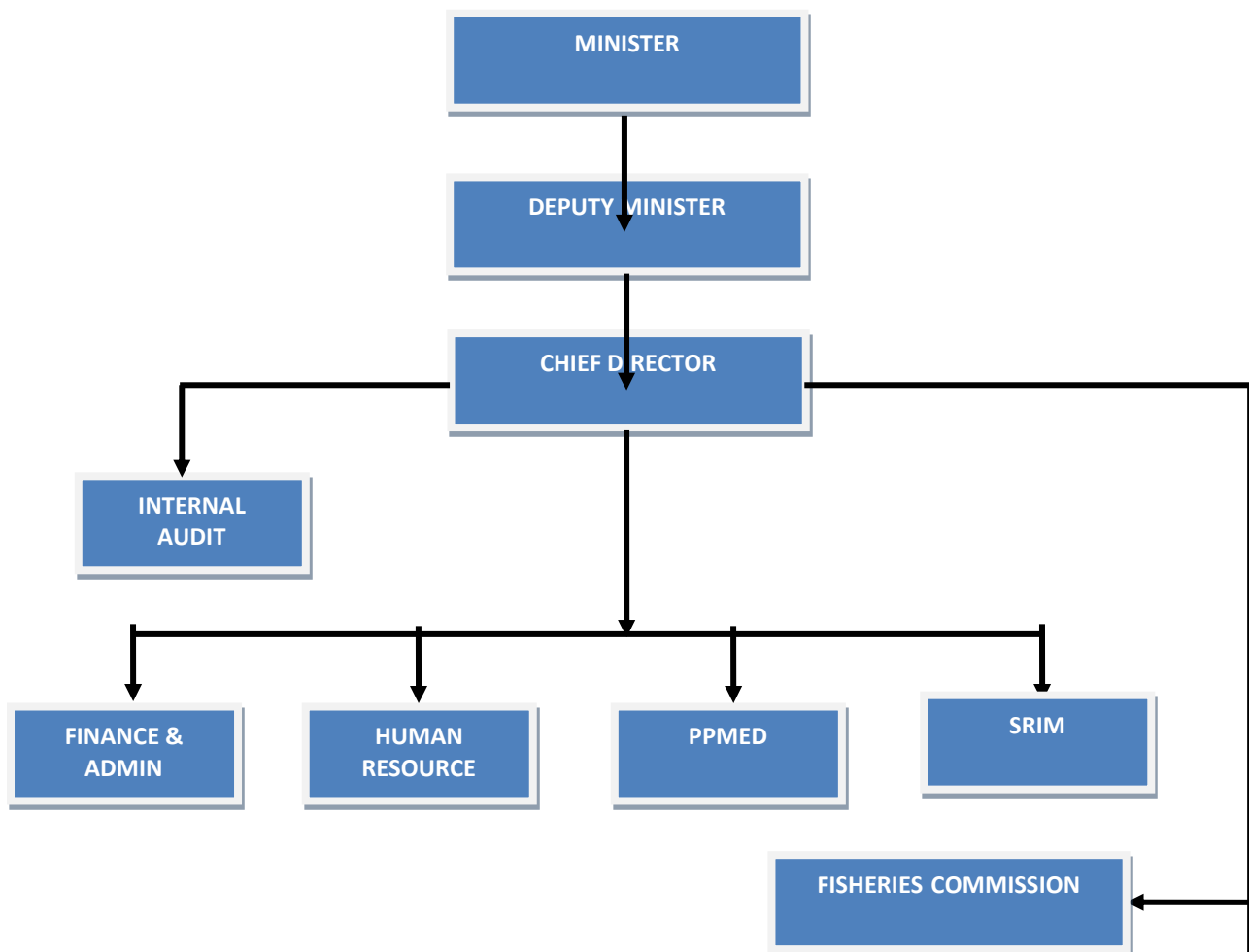
1.3.4. Functions

In line with its mandate, MOFAD performs the following integrated functions:

- **Formulate and implement policies and strategies** for the regulation, management and development of the fisheries sector.
- Review existing fisheries Laws and Regulations in line with domestic and international emerging issues for the protection of Aquatic Resources.
- Develop strategies to promote Aquaculture Development
- Enforce Fisheries Laws and Regulations to protect aquatic/fisheries resources.
- **Establish functional Fisheries Resource Data base** to promote evidence-based decision making on fisheries sector transformation/development.
- **Promote sustainable management of aquatic resources** for national benefits.

- Develop Sector Medium to Long Term Development Plans consistent with National Development Policy Frameworks.
- Develop sector specific Monitoring and Evaluation System/Plans to evaluate/assess sector performance over time.
- **Conduct socio-economic studies** and Research on topical issues for policy formulation and review.
- **Coordinate all development interventions** relating to the development of the fisheries sector.
- Have **Oversight responsibility of all agencies in the Fisheries Sector** including the Fisheries Commission

Fig. 1. MOFAD Organogram/Structure.



1.3.5. Directorates and Agency/Divisions

MOFAD has a four line Directorate as prescribed by the Civil Service Law (PNDC Law 327, 1993).

These are:

- Finance and Administration (F & A)
- ***Policy, Planning, Monitoring and Evaluation (PPME)***
- Human Resource Management (HRM)
- Research, Statistics & Information Management (yet to be establish)

Agency

The Fisheries Commission (F.C) is the only agency under the Ministry with the following Divisions and Units:

Divisions

- Administration and Operation
- Marine Fisheries Management
- Inland Fisheries Management and Aquaculture
- Fisheries Law Enforcement (Monitoring, Control and Surveillance)
- Fisheries Scientific Survey

Units

- Fish Health
- Post-Harvest Management

The Fisheries Commission also has 10 Regional and 40 Zonal offices nationwide. The Directorates of the Ministry and Divisions /Units under the Fisheries Commission perform inter-related and complementary functions.

1.4 Performance Review: Jan.-Dec. 2013 (Situation Analysis)

MOFAD was created in January, 2013. This Performance Review (under GSGDA I) is for the period **1st January - 31st December, 2013.** It focuses on relevant sector policies/strategies adopted from GSGDA I and implemented during the one year period. The GSGDA I Thematic areas that informed the operations of MOFAD during the review period were:

- Accelerated Agriculture Modernization.
- Sustainable Natural Resource Management.
- Transparent and Accountable Governance.

1.4.1 Policy Focus

The **specific GSGDA I policy objectives** implemented by MOFAD under the two thematic areas were:

- ✓ *Enhance fish production and productivity.*
- ✓ *Promote Aquaculture Development.*
- ✓ *Improve institutional coordination for agriculture (fisheries) development.*

1.4.2 Operational Scope

During the period **January-December 2013**, MOFAD implemented five (5) major programmes as follows:

- ❖ P1 – MANAGEMENT & ADMINISTRATION
To provide fisheries sector policy direction and support services for efficient service delivery.
- ❖ P2 – FISHERIES RESOURCE MANAGEMENT
To improve sustainable management of fisheries/aquatic resources.
- ❖ P3 – AQUACULTURE DEVELOPMENT
To increase domestic fish production to reduce fish imports and create jobs.
- ❖ P4 – MONITORING, CONTROL & SURVEILLANCE
To ensure compliance with fisheries laws and regulations that protect fisheries resources in a sustainable manner.
- ❖ P5 – FISH HEALTH AND POST-HARVEST
To ensure the production of safe and quality fish and reduce post-harvest losses.

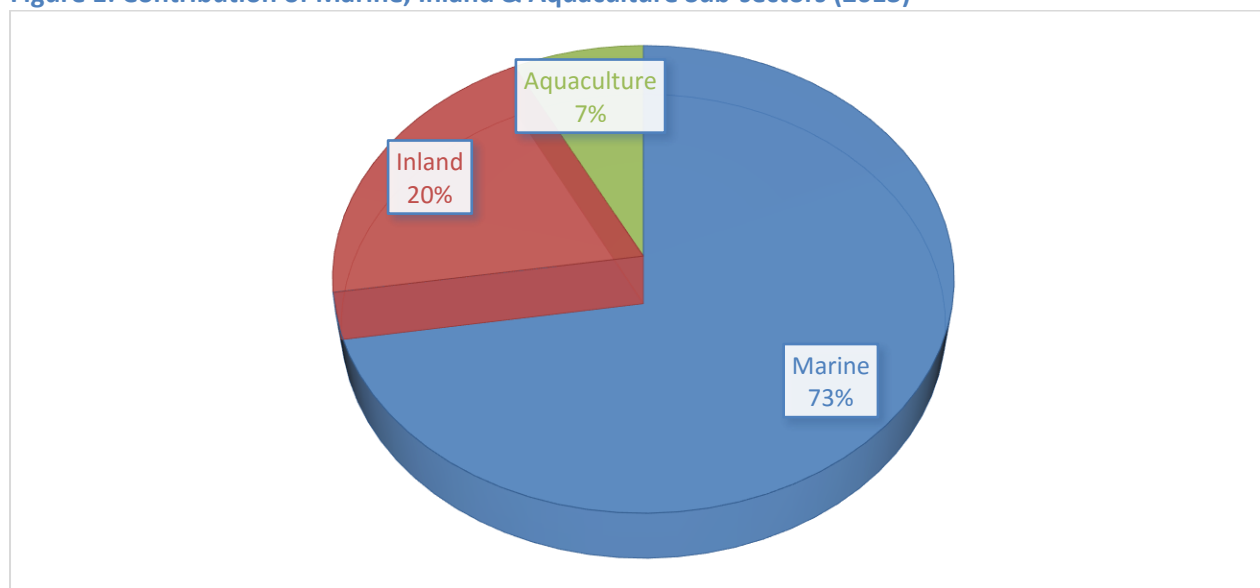
1.4.3 Sub-Sector Performance - 2013 (Selected Statistics)

There are three sub-sectors under the Fisheries Sector. These are **Marine**, **Inland** and **Aquaculture**.

Marine

The Marine Fisheries sub-sector is the largest production sector of the fisheries industry in Ghana. In 2013, it accounted for about **73%** of the total fish produced. During the same period, **Inland Fisheries** and **Aquaculture** recorded **20%** and **7%** of total fish production respectively as indicated in Fig. 1.

Figure 1: Contribution of Marine, Inland & Aquaculture Sub-sectors (2013)



The marine fisheries resources are exploited by artisanal canoes, Semi-industrial and industrial vessels. Production levels of the categories of marine vessels are shown in Fig. 2.

Fig.2 Marine Fish Production Fishing Crafts.

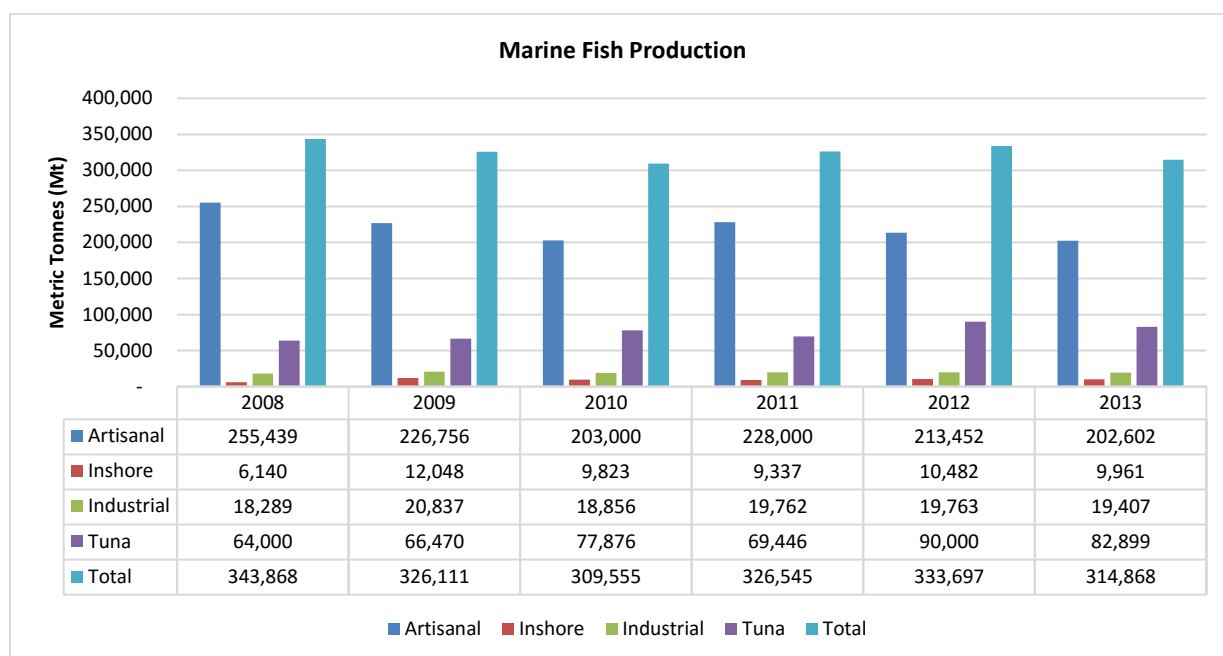


Figure 2: Marine Fisheries Production

From Fig 2, Artisanal Marine fishers form the bulk of fishers in the marine sub-sector and their operations produced about 70% of the total marine catches in 2013. In terms of current trends, fish production from the artisanal fisheries sub-sector declined from **255,439mt** in 2008 to **202,602** in 2013, an average decline of **20.7%**. Total marine fish production also declined from 333,697 (mt) to 314,868mt representing **8.4%** fall.

Table 1 Number of vessels in operation (2008-2013)

Type of Vessels	2008	2009	2010	2011	2012	2013
Inshore	399	264	288	221	288	388
Trawlers	73	52	68	75	87	89
Tuna	42	44	48	39	33	32
Shrimpers	2	1	3	1	0	0
Carriers	-	1	2	2	2	2
Total	516	362	409	338	410	511

Source: FC Annual Report (2009-2013).

Total number of vessels in operation fluctuated from 2008 to 2013. There was 51% increase in the number of operational vessels from 2011 to 2013. Also the sharp increase in total vessels from 410 (2012) to 511 (2013) was due mainly to about 35% increase in inshore vessels.

Active Vessels that were in operation during 2008-2013 period are shown in Fig. 3

Fig.3 Active Fishing Vessels (2008-2013)

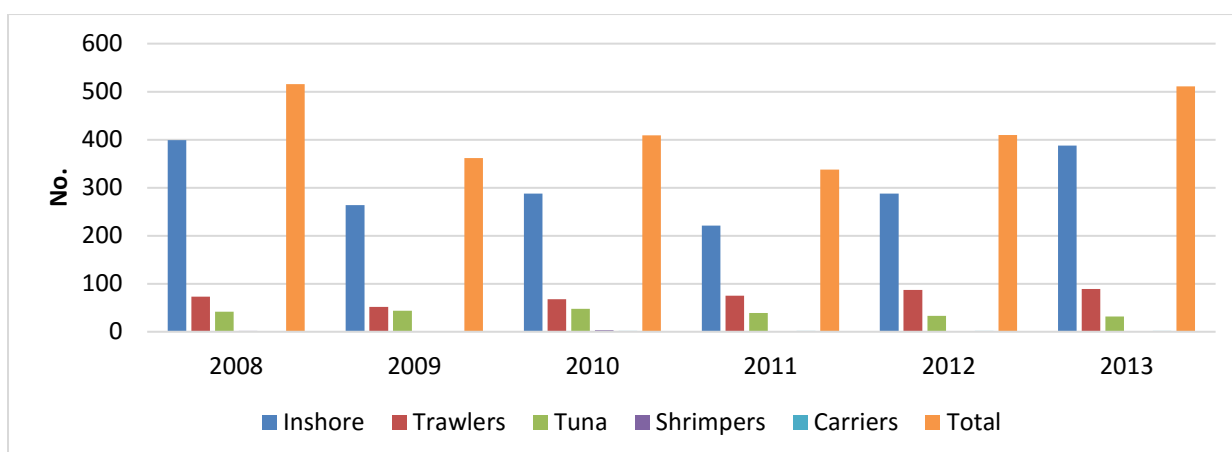
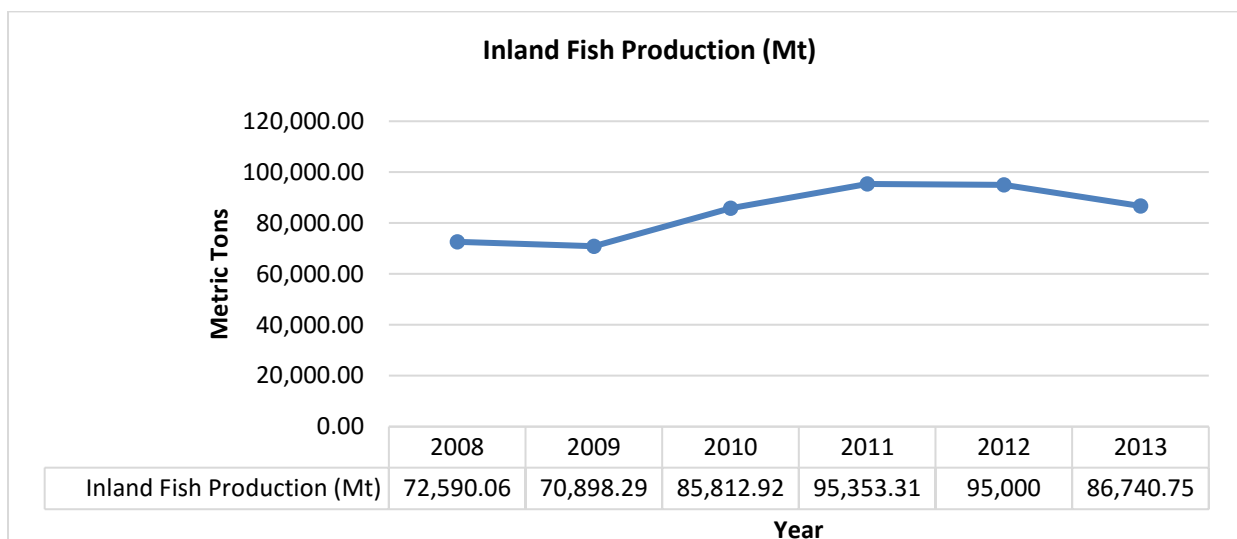


Figure 3 shows operational fishing vessels from 2008 to 2013.

Inland Fisheries

Inland fisheries comprise **inland capture and culture-based fisheries**. The Volta Lake, lagoons, reservoirs, irrigation dams and dugout-wells and other inland water bodies are the main sources of inland fish production. The Volta Lake, has a surface area of **8,480km²** and **5,200km** shoreline, and contributes about **90%** of the total inland fish production. Inland fish production from 2008-2013 is shown in Fig. 4.

Fig. 4: Trends in Inland Capture Fisheries Production (2008 – 2013)



Source: Fisheries Commission Annual Report (2013)

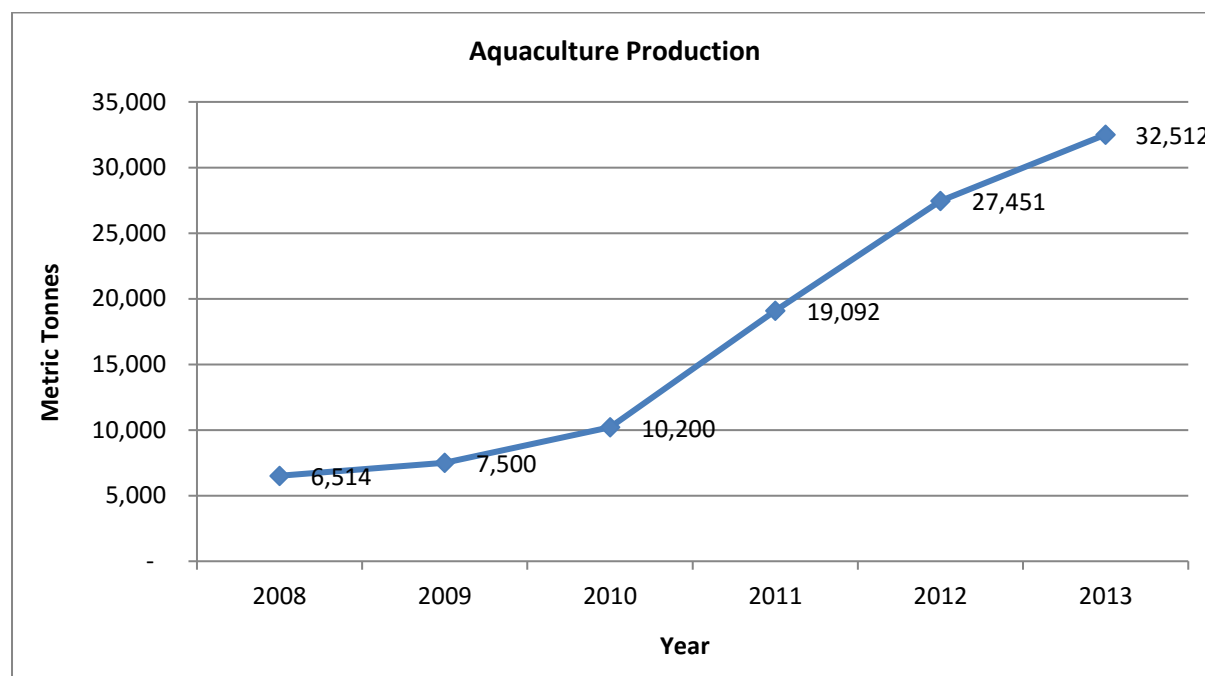
Available statistics (Fig.4) indicates a declining trend of inland fish production from **95,353mt in 2011 to 86,740mt** in 2013; representing 9% reduction. This was accounted for among others, by low fish stock levels.

Aquaculture

Production from aquaculture is usually obtained from **cages, ponds, dams, dugouts and reservoirs**. Operations from dams, dugouts and reservoirs occur mainly in the Northern, Upper East and West

Regions where culture-based fisheries activities are pronounced. There are about **3,000 small-scale aquaculture fish farmers** who operate ponds. There are an estimated **200** medium to large-scale commercial operators who target urban upscale markets, using cage technologies. Fig 5 shows trends in Aquaculture production during the period under review.

Fig. 5: Trends in Aquaculture Production in Metric Tons (2008 -2013)



Source: Fisheries Commission Annual Report (2013)

Fig. 5 indicates an increasing aquaculture production trend from **6,514mt** in 2008 to **32,512mt** in 2013; an increase of about **39.9%**. The Increase was accounted for by a number of factors including:

- *Large number of new entrants (medium to large scale high technology cage culture operators)*
- *Increase in demand for Aquaculture fish products especially in urban areas.*
- *Improvement in technology/Innovations (e.g. domestic feed production plants).*
- *Aquaculture as an attractive and viable economic venture to private sector operators.*
- *improved extension service delivery to the Aquaculture sub-sector.*

Fish Health

The main objective of the Fish Health sub-sector is to ensure the production of **safe and quality fish and fishery products**. Its operational scope cuts across the entire fish production value chain and other sectors. It focuses mainly on promoting **fish health and sanitation** (from production to consumption). It deals primarily with **prevention, protection and education** on the spread of fish diseases and control measures. A major operational demand of this sub-sector is the establishment of an **Early Warning System** to **detect, prevent, and control** the outbreak of fish diseases in Ghana and the sub-region. One main function of the Fish Health is certification of export of fish and fishery products.

During the period under review, the fish Health Unit achieved the following:

- Provided extension services to **12** hatcheries and **16** out-grower farmers and fish production facilities.
- Generated **GH¢11,000.00** as revenue from issuance of veterinary/fish health certificates.

The inspection of Hatchery facilities revealed that about **58.3%** of the units were observing fish disease control and sanitation measures. This has serious implication for mortality rate of fingerling production.

1.4.4 Programme implementation Challenges (2013)

MOFAD encountered a number challenges during the implementation of programmes and projects in 2013. The major challenges included:

- *Absence of a comprehensive Sector Medium Term Development Plan (2010-2013) to Guide the operations of the Ministry and key collaborating Agencies.*
- *Lack of a committed political decision on the Fisheries Ministry to prevent the “Close-Open, Close-Open, Close-Open, syndrome” of MOFAD.*
- *Inadequate personnel with **requisite technical skills***
- *Inadequate budgetary allocation to enhance service delivery*
- *Delays in the release of approved/budgeted operational funds*
- *Lack of office accommodation to enhance labour productivity*
- *Slow pace of prosecution of fisheries infractions at the courts*
- *Weak inter-sector collaboration to promote the development of the fisheries sector*
- *Inadequate research on topical issues affecting the Fisheries Sector*
- *Lack of a functional fisheries sector database for evidence-based decision making*
- *Absence of an **M & E System/Plan with customized indicators** to track programme implementation assess sector performance over time.*

The Ministry has therefore developed strategies in the 2014-2017 Sector Medium Term Development Plan to resolve the major challenges it uncounated during the implementation of programmes and projects in 2013.

1.4.5 Key Development Issues

The Situation Analysis conducted (2008-2013) revealed the following key development issues confronting the Sector. They include:

- *consistent decline in the production of aggregate fish output resulting from dwindling stock levels of aquatic resources,*
- *Increasing national fish consumption deficits resulting into higher volume of importation of fish and fishery products,*
- *Weak enforcement of Fisheries Laws and Regulations resulting into depletion stock of fisheries resources,*
- *Inadequate fisheries infrastructure,*
- *over exploitation of fish stocks on all water bodies,*
- *absence of defined and managed fish farming zones for targeted interventions,*
- *weak collaboration with communities in the management of fisheries resources,*
- *lack of alternative livelihood opportunities for fishing communities,*
- *lack of a national aquaculture suitability map,*
- *Inadequate skilled labour,*
- *low private sector investment in aquaculture production,*
- *limited access to credit facilities by small and medium scale Aquaculture fish farmers,.*
- *inadequate supply of prescribed fishery inputs,*
- *lack of reliable data for evidence-based policy formulation and review especially in Inland fisheries,*
- *inadequate number of laboratories and fish health facilities,*
- *High Post-Harvest losses in the fisheries sector.*

The identified issues have been prioritized in **Chapter 2**. The strategic focus of this Plan is to adequately address these issues so as to accelerate the development of the Fisheries sector and industry to contribute more effectively to the overall national development efforts of Government.

CHAPTER 2

PRIORITISATION OF KEY DEVELOPMENT ISSUES

2.1 INTRODUCTION

A number of sector specific challenges confront the development of the fisheries sector and industry. These development challenges underpin the “capacity utilization” of the sector as well as effective tapping of its potentials to contribute more effectively to national development. The *issues* identified in **Chapter 1** (Section 1.4.5) have been prioritised using *weighting techniques* in terms of their expected policy outputs/outcomes.

2.2. Prioritized Key Development Issues

The issues to be resolved during the 2014-2017 Plan implementation, have been prioritized as follows:

- Consistent decline in national output and dwindling stock levels of aquatic resources.
- Over exploitation of fish stocks on all water bodies.
- Increasing national fish consumption deficits resulting into higher levels of importation of fish and fishery products.
- Inadequate number of laboratories and fish health facilities
- Inadequate skilled labour for extension service delivery.
- Inadequate supply of prescribed fishery inputs.
- Inadequate fishing infrastructure.
- Weak collaboration with communities in the management of fisheries resources.
- Absence of defined and managed fish farming zones for targeted interventions.
- Weak enforcement of Fisheries Laws and Regulations.
- High Post-Harvest losses.
- Lack of a national aquaculture suitability map
- Lack of alternative livelihood opportunities for fishing communities.
- . Limited access to credit facilities by small and medium scale fish farmers
- Lack of reliable data for Policy formulation and review especially in the Inland fisheries.

The five (5) Programmes contained in this MTDP have been designed to resolve the prioritized issues identified.

2.3. Cross cutting issues

Sector-wide and Integrated approaches to solving development challenges as well as “***development policy consistency checks***” were among the “tools” used in analysing ***cross cutting issues*** in the fisheries sector and industry. The major cross cutting issues addressed in this Plan are:

- *Employment creation.*
- *Sector contribution to GDP.*
- *Impact of Oil and Gas development on the fisheries sector.*
- *Infrastructure Development.*
- *Climate change resilience.*
- *Institutional Capacity Enhancement for efficient service delivery.*
- *Ensuring Gender equity in Fisheries sector development.*
- *Cross sector Plan implementation collaboration and co-ordination*

Sector specific **Goal**, and the linkage among **Key Development Issues**, adopted **GSGDA II Policy Objectives, and Strategies** are the focus of **Chapter 3**.

CHAPTER 3

DEVELOPMENT GOAL, GSGDA II ADOPTED POLICY OBJECTIVES AND STRATEGIES

3.1 Introduction

The National Medium Term Development Policy Framework - **GSGDA II** - identified seven **Development Themes** (thematic areas) to guide the 2014-2017 Medium Term National Development Planning in Ghana. These are

- Ensuring and sustaining Macroeconomic Stability.
- Enhancing Competitiveness of Ghana's Private Sector.
- **Accelerated Agriculture Modernization and Sustainable Natural Resource Management.**
- Infrastructure and Human Settlement.
- Oil and Gas Development.
- Human Development, Productivity and Employment.
- **Transparent and Accountable Governance.**

Based on the prioritised key development issues of the fisheries Sector (Chapter 2), "**Accelerated Agriculture Modernization and Sustainable Natural Resource Management, Infrastructure and Human Settlement, Oil and Gas Development, Human Development, Productivity and Employment, and "Transparent and Accountable Governance"**" are the most relevant Thematic Areas that informed the development of this Plan.

3.2 Sector Development Goal

The goal of MOFAD is *promotion of accelerated Fisheries Sector Development as a viable economic segment* that will contribute to the overall development of Ghana in line with Medium to Long term the National Development Policy Frameworks..

3.3. Policy Objectives

The relevant GSGDA II Policy Objectives that guided the development this Plan are indicated in Table 1.

Table 1: Adopted GSGDA II Policy Objectives (2014-2017)

POLICY CODE	GSGDA II POLICY OBEJCETIVE
030701 - 7.1	Enhance fish production and productivity
030702 - 7.2	Promote Aquaculture Development
020105 - 1.5	Expand opportunities for job creation
030105 - 1.5	Improve institutional coordination for agriculture (fisheries sector) development
031202 - 12.2	Improve policy and institutional framework for effective coastal resource management
031301 - 13.1	Ensure sustainable use of wetlands and water resources

Source: Ministry of Finance, Budget Division.

The linkage between GSGDA 11 Policy Objectives, Adopted Strategies and Key Sector Development Issues are contained in Table 3.

3.4 Sector Strategies

The policy drivers (strategies) of the Plan to translate the Policy Objectives into measurable Results include:

1. *Promote the general principles of responsible fishery with emphasis on the enforcement and compliance to the maximum allowable fish catches that will enable the resources to rejuvenate/renew themselves.*
2. *Enhance linkage between smallholder fish producers and industry.*
3. *Promote policy on the establishment of co-management mechanisms with local communities for fisheries resource management.*
4. *Review policy on agreements on fishing within Ghana's territorial waters/EEZ to ensure sustained Livelihoods and long-term interests of fishing communities;*
5. *Ensure effective monitoring, controls; establish surveillance systems and compliance with applicable laws and regulations on managing fishery resources.*
6. *Establish a fisheries college to train extension officers and technicians for marine and inland fisheries.*
7. *Expand and upgrade existing fish landing sites and related infrastructure for storage, processing and exports.*
8. *Revamp the current fleet of fishing crafts with modern equipment including appropriate storage and processing facilities.*
9. *Ensure Credit lines for improvement in the livelihoods of fishing communities.*
10. *Develop credit guarantee schemes for fish farmers.*
11. *Set up a training school for fish farming.*
12. *Support the expansion and addition of more hatcheries to guarantee quality and sufficient fingerlings to fish farmers.*
13. *Develop insect protein as protein supplement in fish feed.*
14. *Develop and implement out grower schemes to benefit small scale fish farmers.*
15. *Promote and encourage the establishment of more feed mills in Ghana.*
16. *Set up laboratories in all fish production zones in the country.*

Table 3: Development Goal, Adopted Policy Objectives and Strategies

Table 2. Key Development Issues, Adopted GSGDA II Policy Objectives and Strategies

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CHAPTER 4

DEVELOPMENT PROGRAMMES AND SUB-PROGRAMMES

4.0 INTRODUCTION

This section focuses on the main development programmes and sub-programmes to be implemented during the 2014-2017 Plan period.

4.1 DEVELOPMENT PROGRAMMES

During the Plan period (2014-2017), MOFAD will implement key operations and projects under five (5) prioritized programmes areas as follows:

1. *Aquaculture Development.*
2. *Fisheries Resource Management.*
3. *Fisheries Law Enforcement (Monitoring, Control & Surveillance).*
4. *Aquatic Animal Health and Post-Harvest Management.*
5. *Management & Administration.*

4.2 Brief Programme Description

4.2.1 AQUACULTURE DEVELOPMENT

Aquaculture Development is the Flagship Programme of MOFAD 2014-2017 SMTDP. The principal focus of the Aquaculture component is to develop Aquaculture as ***economically viable enterprises*** through strategic investment, and institutional capacity enhancement for efficient service delivery to fish farmers in this Sub-sector. The medium to long term objectives of the Aquaculture Development programme are to:

- increase domestic fish production so as to reduce the importation of fish and fishery products,
- promote Aquaculture as a viable industry to attract private capital,
- introduce value-addition technologies/techniques to increase the quality of domestic fish production,
- introduce “***spatial dimensions***” into the fisheries sector through zonation of inland water bodies, particularly the Volta Lake, and
- create job opportunities for the youth, particularly unemployed youth and women.

The broad strategies to accelerate Aquaculture Development include:

- building capacity in infrastructure maintenance,
- promoting sanitation and value addition in aquaculture fish production chain,
- developing economic incentives to attracting private sector investment,
- developing Aquaculture Legal /Policy Framework and Guidelines, and
- improving genetic quality of tilapia fingerlings and brood stock.

Sub-components

There are five (5) sub-components of the Aquaculture Development Programme. These are:

1 *Nucleus-Outgrower Input Support Scheme Scheme*

The implementation of the Nucleus-Outgrower Scheme is critical to the achievement of the overall medium to long term goal and targets of this sub-component. The Scheme aims at providing financial support to Nucleus and out-grower fish farmers on credit basis through a well-structured revolving financial mechanism (***start-up capital***). The main objective of the scheme is to augment domestic fish production to offset fish imports. The medium term focus is to increase aquaculture fish production from **38,547mt** (2014) to **100,000mt** (2017) and create **900** additional direct jobs for unemployed persons (particularly the youth); and over **2,250** indirect jobs for women fish processors and traders along the fish production value chain by December 2017.

2 *Zonation of priority Areas for development*

This sub-component aims at promoting the ***development of high priority Aquaculture production zones*** along the Volta Lake. Under the Aquaculture zonation agenda, a ***National Aquaculture Suitability Map*** (NASM) will be developed to guide investment in the ***Aquaculture*** sector. Extension service delivery targeting existing and new entrant fish farmers will be enhanced. The zonation will also take into account “spatial ***“development and climate change issues”*** in the inland fisheries sub-sector and industry.

3 *Institutional Capacity Enhancement*

The Institutional capacity Enhancement sub-component aims at building appropriate structures and training fish farmers on various Aquaculture models. The key strategies include promoting private sector participation and investment in Aquaculture development through policy incentives, providing requisite Technical

and Managerial training for both Nucleus and out-growers, and providing efficient extension service delivery to enhance fish production.

4 *Improving Market Access*

The main focus of this sub-component is to develop programmes and projects to ***promote market access*** to farmed fish. This component has the twin objective of (1) *providing ready market opportunities for fish producers* and (2) ensuring stable average farm-gate pricing for fish produce. Under the component, access to market information by fish farmers will be enhanced. An effective marketing strategy will be put in place to ensure that ***fluctuations in farm-gate fish prices*** do not have adverse effects on the income levels of fish farmers to create investment disincentives in the Aquaculture sub-sector.

5. *Increasing Private investment in Aquaculture*

The private sector is a principal actor in government efforts to promote the fisheries industry as a viable economic segment. The objective of this component is ***to promote Private sector participation in domestic fish production***. The core element of this component is to implement strategies that will attract increased private sector investment in the fisheries sector. Improving ***domestic investment climate*** and forging a ***viable economic partnership*** between the private sector and Government to accelerate Aquaculture development are essential “***drivers***” of this component. One major “drive” is the promotion of PPP to develop shrimp production.

The key operations to be implemented under the Aquaculture Development Programme will be guided by the following:

- *demand driven production,*
- *improved distribution channel (ice plants, refrigerated vans, cold stores, sales/marketing points),*
- *adequate economic incentives to private operators (input support),*
- *availability of Guidelines and regulatory framework*
- *improved infrastructural network,*
- *increase in fingerling production, and*
- *improved sanitation in fish processing,*
- Public education on “cost benefit analysis” of Aquaculture businesses, and
- *relatively stable input prices (e.g. Fish feed)*

4.2.2 SUSTAINABLE FISHERIES RESOURCE MANAGEMENT (SFRM)

The main objective of this programme is to halt the declining stock levels of aquatic resources. Emphasis is being placed on the control of “**fishing efforts**” and aligning it to the available stocks. The operational focus of this sub-sector is on co-management and institutional reforms that will protect the aquatic resources for future generations. The legal instruments binding the Fisheries Sector will be enforced by the Monitoring, Control and Surveillance Division of the Fisheries Commission.

The legal instruments to be implemented include gear restrictions, licensing and other effort controls. Key areas of the 2015-2019 Sustainable Marine Resource Management Framework will also implement under the SFRM Framework. The main focus will be on “**curative, preventive and development**” strategies.

4.2.3 FISHERIES LAW ENFORCEMENT

The main objective of this component is to ensure **Total compliance** with Fisheries Laws and Regulations that protect the Fisheries Resources in a sustainable manner. To operationalize this component, guidelines for combating IUU fishing will be developed through stakeholder consultations. The State of the art equipment and logistics will also be put in place to enhance law enforcement. Collaboration with key stakeholders will be enhanced at Regional, Sub-regional and National levels. Improving the judicial arrangements for speedy adjudication of fisheries infractions, and promotion of voluntary compliance are key focus areas of this component.

4.2.4 AQUATIC ANIMAL HEALTH AND POST-HARVEST MANAGEMENT

Fish Health and disease control are areas of concern for the Government of Ghana. This component is an integrated area that deals specifically with fish disease control and management of post-harvest losses. The objectives of this component are to: (1) ensure **safe and quality fish production** for domestic consumption and export, and (2) reduce post-harvest losses. Specific operational areas for promoting Fish Health include **disease detection, diagnosis, prevention** and **control** and the establishment of a Fish Inspection System. Infrastructure demands include functional laboratories, and scientific equipment support.

The objectives for post-harvest management are to: (1) **reduce high post-harvest losses, (2) increase returns on investment**, and (3) **ensure safety sanitation standards in the fisheries industry**. The scope of this component covers interventions from production, value addition to marketing of fish along the value chain. Infrastructure needs include cold chain facilities, and landing sites. To achieve

the objectives and targets set under this component (Action Plan) specialized trainings and sensitisation for Fish Health and Post-Harvest management practitioners will be undertaken.

4.2.5 MANAGEMENT AND ADMINISTRATION

The Management and Administration component of the Plan is intended to increase efficiency and effectiveness of planned operations of the five core programmes towards the achievement of key results. It also focuses on regular monitoring and evaluation of the entire Plan through a feedback mechanism.

Core interventions include Sector Policy/performance Reviews, Planning and Budgeting, Human Resource Management, Financial Management, Logistics and Administrative service delivery and periodic performance assessment of the MOFAD 2014-2017 MTDP against targets, goals and objectives. A Legal Unit will be created to enhance effective management of the legal issues that may impeach on law enforcement and revenue generation within the sector.

The Annual Programme of Action (POAs) that are intended to translate planned operations into measureable fisheries sector development results are captured in Chapter 5.

CHAPTER 5

PROGRAMME OF ACTION (2014-2017)









The core operations (Programme of Action) to be implemented by MOFAD and its Agencies during the Plan period (2014-2017) are:

1. *Aquaculture Development.*
2. *Fisheries Resource Management.*
3. *Fisheries Law Enforcement*
4. *Aquatic Animal Health and Post-Harvest Management.*
5. *Management & Administration.*

Table 4 shows the linkages among the **Sector Policy Objectives, Programme and Sub-Programme Areas, Operations Expected Policy Outputs/Outcomes, Time Frame, and Collaborating Institutions**, while **Table 5** contains **Indicative Budgets** of the 5 programmes.

PROGRAMME OF ACTION (2014-2017)

Table 4.1: P1 - AQUACULTURE DEVELOPMENT

NO	GSGDA II POLICY OBJECTIVE	PROGRAMME / SUB PROGRAMME	OPERATION / PROJECT	EXPECTED OUTPUT/OUTCOME	TIMELINE (2014 - 2017)				COLLABORATORS
					2014	2015	2016	2017	
P1	Promote Aquaculture Development (030712-7.2)	Aquaculture Development	1. Train & Equip stakeholders on Nucleus-Outgrower scheme and Input-Support scheme	250 participants					MOFAD, MOFA, MOEST, VRA, EPA, Private Sector Agencies, Fish Farmers Associations
			2. Provide Extension Services to Fish Farmers	250 Fish Farmers annually					
			3. Sensitize Stakeholders on National Aquaculture Guidelines, Code of Practice and Zonation of the Volta Lake	120 participants					
			4. Provide logistic support to Tilapia Volta Breeding Program (TIVO)	50 hatcheries					
			5. Monitor operations of Input Support and Nucleus-Outgrower schemes (Hatchery Operations in regions and zones)	Nucleus-Outgrower Scheme M&E Reports					
			6. Train Staff in hatchery mgt.	30 staff					
			7. Sensitize regional directors and stakeholders on Nucleus Outgrower and Input Credit Scheme	140 participants					
			8. Sensitize Selected Nucleus Outgrowers on Nucleus Outgrower Scheme	120 participants					



























NO	GSGDA II POLICY OBJECTIVE	PROGRAMME / SUB PROGRAMME	OPERATION / PROJECT	EXPECTED OUTPUT/OUTCOME	TIMELINE (2014 - 2017)				COLLABORATORS	
					2014	2015	2016	2017		
P1	Promote Aquaculture development (030712-7.2)	Aquaculture Development	9. Train fish farm managers in hatchery mgt.	155 fish farm managers					MOFAD, MOFA, MOEST, VRA, EPA, Private Sector Agencies, Fish Farmers Associations	
			10. Sensitize Aquaculture operators on the formation of National Aquaculture Associations	10 Regional Associations						
			11. Train staff in mechanical pond construction	20 Staff						
			12. Conduct Quarterly M&E Exercises at regional aquaculture operations	Quarterly M&E Reports						
			13. Conduct Feed trials in ponds	10 Trials						
			14. Train pond construction gangs	40 Gangs						
			15. Train private sector operators on aquaculture and hatchery management	120 participants						
			16. Train staff in cage culture	20 participants						
			17. Procure bloodstock and other logistics for fingerlings production	10,500						
			18. Produce Tilapia and catfish fingerlings	9,500,000 fingerlings annually						
19. Provide extension services for fingerling producers	50 hatcheries annually									
20. Stock 20 Community Dams with 1,200,000 fingerlings in the 3 Northern Regions annually	1. 20 dams 2. 3,600,000 fingerlings									

Table 4.2: P2 - FISHERIES RESOURCE MANAGEMENT

NO	GSGDA II POLICY OBJECTIVE	PROGRAMME / SUB PROGRAMME	OPERATION / PROJECT	EXPECTED OUTPUT/OUTCOME	TIMELINE (2014 - 2017)				COLLABORATORS
					2014	2015	2016	2017	
P2	Improve policy & Inst. Framework for coastal Resource Management (031202-12.2)	P2.1 Marine Fisheries Resource Management	1. Organise 4 regional sensitizations on the impact of climate change	120 Participants					
			2. Conduct quarterly M&E visits on programme implementation	Quarterly Reports					
			3. Implement phase registration and licensing of all marine fishing vessels	Vessel Licensing Implementation Report					
			4. Organise 1 national & 4 regional campaigns on new Guidelines for vessel licensing & registration	150 Participants					
			5. Complete vessel registration, licensing and Embossment	9841 canoes, 144 Industrial & 401 Semi-industrial vessels					
			6. Conduct Sardinella survey during the major and minor fishing season	Survey Reports					
			7. Sensitize coastal fishers on Community Based Fisheries Management	120 Communities					
			8. Collect, analyse and disseminate data on marine resources	Marine Resource Statistics (2014-2017)					

NO	GSGDA II	PROGRAMME	OPERATION / PROJECT	EXPECTED	TIMELINE (2014 - 2017)	COLLABORATORS
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	POLICY OBJECTIVE	/ SUB PROGRAMME		OUTPUT/OUTCOME	2014	2015	2016	2017		
P2	Improve Inst. Co-ordination for fisheries sector devpt. (030105-1.5)	P2.2 Inland Fisheries Resource Management	1. Sensitize Inland fishers on Community-Based Fisheries Management	60 Communities						
			2. Implement phase registration and licensing of all inland fishing vessels	Inland Fishing Vessel Report						
			3. Conduct Quarterly Monitoring Visits on Programme Implementation	Monitoring Reports						
			4. Sensitize 115 Stakeholders on Impact of Climate Change in the Six (6) regions	115 Participants						
			5. Organize Refresher Course for thirty (30) Staff in six (6) regions	30 Staff						
			6. Collect, analyse and disseminate data on inland water resources	Inland Water Resources Statistics Report						

NO	GSGDA II	PROGRAMME	OPERATION / PROJECT	EXPECTED	TIMELINE (2014 - 2017)	COLLABORATORS
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	POLICY OBJECTIVE	/ SUB PROGRAMME		OUTPUT/OUTCOME	2014	2015	2016	2017	
P2	Improve Inst. Co-ordination for fisheries sector devpt. (030105-1.5)	P2.3 Fisheries Research And Development	1. Monitor sea surface temperature and salinity at 8 coastal stations	12 Surface Temperature and salinity Reports					
			2. Undertake data collection on fish catch returns	Statistics on Fish catch returns (2014-2017)					
			3. Undertake biological studies of commercially important pelagic species	Biological Study Report					
			4. Collect data on plankton and ichthyoplankton in selected sites along the coast	Marine Plankton Report					
			5. Undertake nutrient analyses of the marine environment	Nutrient Analysis Reports					
			7. Organise stakeholder forum for 80 persons from the fishing industry	80 participants					
			8. Organise refresher course for 20 Technical Assistants in the 4 coastal regions	20 staff trained					
			9. Undertake fisheries trawl survey in the coastal waters	Trawl Survey Reports					
			10. Undertake algal bloom monitoring along the coast	Monitoring Reports					
			11. Undertake artisanal marine gear survey at the 330 fish landing sites	Marine Gear Survey Report					

Table 4.3: P3 - FISHERIES LAW ENFORCEMENT

NO	GSGDA II POLICY OBJECTIVE	PROGRAMME / SUB PROGRAMME	OPERATION / PROJECT	EXPECTED OUTPUT/OUTCOME	TIMELINE (2014 - 2017)				COLLABORATORS
					2014	2015	2016	2017	

P3	Improve Inst. Co-ordination for fisheries sector devpt. (030105-1.5)	P4.1 Fisheries Law Enforcement (MCS)	1. Train Judges and Prosecutors on Fisheries Laws annually	80 prosecutors & judges						MOFAD, MARINE POLICE, GHANA NAVY, MINISTRY OF DEFENCE, MINISTRY OF JUSTICE AND ATTORNEY GENERAL'S DEPARTMENT
			2. Expand Vessel Monitoring System (VMS)	150 vessels equipped with VMS devices						
			3. Establish and Operationalize Aerial Surveillance System and train staff on use	Aerial Surveillance System						
			4. Undertake Patrols on water bodies (Sea / Volta Lake)							
			5. Hold National Stakeholder consultations on FEU operations	5 Consultations						
			6. Expand and Integrate Fisheries Observer Program into FEU operations							
			7. Train FEU staff on Fisheries Laws and Enforcement	40 Staff						
			8. Conduct Land Patrols on landing beaches							
			9. Sensitize Communities on voluntary compliance	120 Fishing Communities						
			10. Sensitize Fishers and Stakeholders in all regions on Fisheries Laws and Regulations	10 Regional sensitizations						
			11. Train staff in gear technology	40 Staff						









Table 4.4: P4 - AQUATIC ANIMAL HEALTH AND POST-HARVEST MANAGEMENT


NO	GSGDA II POLICY OBJECTIVE	PROGRAMME / SUB PROGRAMME	OPERATION / PROJECT	EXPECTED OUTPUT/OUTCOME	TIMELINE (2014 - 2017)				COLLABORATORS
					2014	2015	2016	2017	
P4	Enhance Fish Production and	Aquatic Animal Health & Post-	1. Train Fisheries staff on health & sanitary measures	25 Regional staff trained annually					MOFAD, Ghana Aquaculture

Productivity (030701-7.1)	Harvest Mgt <i>P4.1 Fish Health and Sanitation</i>	2. Organize education campaign on health and sanitary practices for hatchery operators and grow-out	150 participants sensitized on fish health and sanitary practices						Assoc., Fish Processors Associations, Fish Exporters
		3. Develop guidelines and train fish farmers on biosecurity measures	1. Biosecurity guidelines developed 2. 120 fish farmer trained						
		4. Conduct quarterly inspections on fish production	Fish production inspection report						
		5. Conduct random sampling of aquatic environment	Report on Aquatic environment (2015-2017)						
		6. Identify, Investigate and Document diseases of economic importance	Fish Disease Register						
		7. Develop Early Warning System for fish disease control	Emergency Preparedness Framework						
	<i>P4.2 Post-Harvest Management</i>	1. Provide Training on Post-harvest Management to Fish Processors Associations	85 Fish Processors Associations trained						MOFAD, Fish Processors Associations, Fish Exporters
		2. Organise Seminars to introduce Improved Technologies to Fish Processors	120 participants sensitized						

Table 4.5: P5 - MANAGEMENT AND ADMINISTRATION


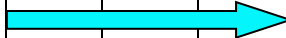


NO	GSGDA II POLICY OBJECTIVE	PROGRAMME / SUB PROGRAMME	OPERATION / PROJECT	EXPECTED OUTPUT/OUTCOME	TIMELINE (2014 - 2017)				COLLABORATORS
					2014	2015	2016	2017	









P5	Improve Inst. Co-ordination for fisheries sector devpt. (030105-1.5)	P5.1 Finance & Administration	1. Attend Six (6) Int. Conferences on Fisheries Sector Development	1. Accelerated Aquaculture Development Report 2. Modern Fisheries Infrastructure Devpt Report					
			2. Organize Annual WARFP Review Meeting for 45 Regional Participants for 4 days	Annual WARFP Performance Report					
			3. Purchase Stationery and fuel for service delivery (MOFAD HQ, 10 FC Reg. Offices)	20% increase in efficiency rate of service delivery					
			4. Carry out Fisheries Infrastructure Inspection (M&E) annually	Fisheries Infrastructure M&E Report					
		5. Conduct Procurement and Financial Compliance Audit for MOFAD Cost Centers	MOFAD Internal Audit Report						
		P5.2 HRM	1. Recruit and Train 40 technical staff for MOFAD Headquarters	40 Technical Staff trained (2015=25; 2016=10; 2017=5)					
2. Train 12 PPMED staff on Quantitative Policy Analysis & Public Sector M & E	12 M&E staff trained								
			3. Train 30 staff on Public Administration	30 Administrative staff trained (2015=20; 2016=10)					












NO	GSGDA II POLICY OBJECTIVE	PROGRAMME / SUB PROGRAMME	OPERATION / PROJECT	EXPECTED OUTPUT/OUTCOME	TIMELINE (2014 - 2017)				COLLABORATORS
					2014	2015	2016	2017	
P5	Improve Inst. Co-ordination for fisheries sector	P5.2 HRM	4. Develop MOFAD Human Resource Policy & Capacity Devpt Plan	Human Resource Devpt Policy					

	devpt. (030105-1.5)		5. Train 18 technical officers on fishery sector development related courses	18 Technical Officer trained in Aquatic Animal Health & Aquaculture Devpt (2015=5; 2016=8; 2017=5)						
			6. Train 10 Reg. Directors & Accountants each on GIFMIS and Financial Regulations	20 FC Regional Officers trained						
		P5.3 PPME	1. Hold annual stakeholder meeting on MOFAD 2014-2017 MTDP performance	MOFAD 2014-2017 MTDP Annual Performance Reports						
			2. Conduct performance-based assessment of 5 programmes (2014-2017 MTDP)	Annual Programme Performance Assessment Reports						
			3. Organize 5-day workshop to develop MOFAD Annual Budgets	Annual Budgets developed and submitted to MOF & NDPC						
			4. Review and develop New Aquaculture Accelerated Development Policy Framework (NAADPF)	Medium-Term Accelerated Aquaculture Development Policy Framework (2015-2018)						
			5. Develop Functional Fisheries Sector Database for evidence-based decision making	Fisheries Sector Database						
			6. Hold 5-day meeting to review IGF items (fees/charges) and submit to Parliament	IGF Reports on Fees & Charges (2015-2017)						

NO	GSGDA II POLICY OBJECTIVE	PROGRAMME / SUB PROGRAMME	OPERATION / PROJECT	EXPECTED OUTPUT/OUTCOME	TIMELINE (2014 - 2017)				COLLABORATORS
					2014	2015	2016	2017	
P5	Improve Inst. Co-ordination for fisheries sector	P5.3 PPME	7. Conduct Fisheries Sector M&E exercises at Project sites & Regions	M&E Quarterly & Annual Reports					

	devpt. (030105-1.5)										
			8. Organize 5-day stakeholder consultative meeting on M&E Reports	Annual M&E Review Reports							
			9. Hold 3-day MOFAD Performance review workshop	Annual M&E Review Reports							
			10. Conduct Survey on Clam Supply Chain in Ada	Survey Report							
		P5.4 Communications/PR	1. Organize Mid-Year & Annual sensitization meetings with stakeholders on MOFAD operations and performance	Report on stakeholder sensitization							

NO	GSGDA II POLICY OBJECTIVE	PROGRAMME / SUB PROGRAMME	OPERATION / PROJECT	EXPECTED OUTPUT/OUTCOME	TIMELINE (2014 - 2017)				COLLABORATORS
					2014	2015	2016	2017	
P5	Improve Inst. Co-ordination for fisheries sector devpt. (030105-1.5)	Management & Administration (Fisheries Infrastructure Devpt)	1. Provide Fisheries Education Infrastructure	1.1 Phase 2 of Fisheries College, Anomabo completed and operationalized					
			2. Provide Office Accommodation & Logistics to enhance service delivery	2.1 Ministerial Office (Old Min. of Transport Block) rehabilitated					
				2.2 Ministerial Office Complex Completed					
				2.3 Office Furniture & Equipment purchased					
				2.4 Computers & Accessories purchased					
				2.5 FC Regional Offices & Apartments rehabilitated					
			3. Purchase vehicles to enhance service delivery	3.1 Eighteen (18) Vehicles purchased (2015=12, 2016=6)					
				3.2 Thirty-seven (37) motorbikes purchased					

NO	GSGDA II POLICY OBJECTIVE	PROGRAMME / SUB PROGRAMME	OPERATION / PROJECT	EXPECTED OUTPUT/OUTCOME	TIMELINE (2014 - 2017)				COLLABORATORS
					2014	2015	2016	2017	
P5	Improve Inst. Co-ordination for fisheries sector devpt. (030105-1.5)	Management & Administration (Fisheries Infrastructure Devpt)	4. Provide Fish Health & Post-Harvest Facilities	4.1 Turnkey Fish Processing Plant at Elmina functional					
				4.2 Ten (10) Fish Landing sites at selected communities completed					
				4.3 Six (6) Cold Chain facilities in selected communities functional					
				4.4 Works on Fisheries Lab at Tema completed					
				4.5 Two (2) Mobile Lab Vans purchased					
				4.6 Fish Certification Equipment purchased					
			5. Provide Logistics for Aquaculture Development	5.1 Three (3) Hatcheries rehabilitated					
				5.2 Aquaculture Equipment purchased					
				5.3 Equipment for Input Support Scheme purchased					
			6. Provide Equipment Support for Research Operations	6.1 Research Vessel purchased					
			7. Provide Logistics/ Equipment for farmers day annually	7.1 Vehicles and Equipment purchased for Fish Operation Excellence					

Summary of 2014-2017 MTDP Indicative Budget by Programme

No.	Programme	Amount (GH¢)	% Share
1	P1 - Aquaculture Development	6,149,000.00	5.77
2	P2 - Fisheries Resource Management	6,392,000.00	6.00
3	P3 - Fisheries Law Enforcement	2,747,000.00	2.58
4	P4 - Aquatic Animal Health& Post-Harvest Management	2,300,000.00	2.16
5	P5 - Management & Administration	88,929,200.00	83.49
Grand Total		<u>106,517,200.00</u>	<u>100.00</u>

INDICATIVE BUDGET ESTIMATES (2014-2017)

Table 4.6: INDICATIVE BUDGET FRAMEWORK (2014-2017) – P1 AQUACULTURE DEVELOPMENT

NO.	PROGRAMME / SUB PROGRAMME	OPERATION / PROJECT	OUTPUT/OUTCOME	INDICATIVE BUDGET (GH¢ m)				TOTAL (GH¢)
				2014	2015	2016	2017	
P1	AQUACULTURE DEVELOPMENT	1. Train & Equip stakeholders on Nucleus-Outgrower scheme and Input-Support scheme	250 participants		0.520	0.730	0.400	1,650,000.00
		2. Provide Extension Services to Fish Farmers	250 Fish Farmers annually	0.271	0.278	0.281	0.268	1,098,000.00
		3. Sensitize Stakeholders on National Aquaculture Guidelines, Code of Practice and Zonation of the Volta Lake	120 participants		0.155	0.130		285,000.00
		4. Provide logistic support to Tilapia Volta Breeding Program (TIVO)	50 hatcheries		0.225	0.226		451,000.00
		5. Monitor operations of Input Support and Nucleus-Outgrower schemes (Hatchery Operations in regions and zones)	Nucleus-Outgrower Scheme M&E Reports		0.040	0.052	0.032	124,000.00
		6. Train Staff in hatchery mgt.	30 staff		0.122			122,000.00
		7. Sensitize regional directors and stakeholders on Nucleus Outgrower and Input Credit Scheme	140 participants		0.213			213,000.00
		8. Sensitize Selected Nucleus Outgrowers on Nucleus Outgrower	120 participants		0.122			122,000.00

NO.	PROGRAMME / SUB PROGRAMME	OPERATION / PROJECT	OUTPUT/OUTCOME	INDICATIVE BUDGET (GH¢ m)				TOTAL (GH¢)
				2014	2015	2016	2017	
		Scheme						
		9. Train fish farm managers in hatchery mgt.	155 fish farm managers		0.227			227,000.00
P1	AQUACULTURE DEVELOPMENT	10. Sensitize Aquaculture operators on the formation of National Aquaculture Associations	10 Regional Associations		0.065			65,000.00
		11. Train staff in mechanical pond construction	20 Staff		0.034			34,000.00
		12. Conduct Quarterly M&E Exercises at regional aquaculture operations	Quarterly M&E Reports	0.032	0.038	0.035	0.031	136,000.00
		13. Conduct Feed trials in ponds	10 Trials		0.043	0.058		101,000.00
		14. Train pond construction gangs	40 Gangs		0.036			36,000.00
Sub-total				0.303	2.118	1.512	0.731	<u>4,664,000.00</u>

NO.	PROGRAMME / SUB PROGRAMME	OPERATION / PROJECT	OUTPUT/OUTCOME	INDICATIVE BUDGET (GH¢ m)				TOTAL (GH¢)
				2014	2015	2016	2017	
P1	AQUACULTURE DEVELOPMENT	15. Train private sector operators on aquaculture and hatchery management	120 participants		0.093	0.090		183,000.00
		16. Train staff in cage culture	20 participants		0.045	0.043		88,000.00
		17. Procure broodstock and other logistics for fingerlings production	10,500		0.143	0.158	0.108	409,000.00
		18. Produce Tilapia and catfish fingerlings	9,500,000 fingerlings annually		0.095	0.097	0.091	283,000.00
		19. Provide extension services for fingerling producers	50 hatcheries annually		0.025	0.035	0.016	76,000.00
		20. Stock 20 Community Dams with 1,200,000 fingerlings in the 3 Northern Regions annually	1. 20 dams 2. 3,600,000 fingerlings		0.146	0.148	0.152	446,000.00
		Sub-total			0.547	0.571	0.367	<u>1,485,000.00</u>
		GRAND TOTAL						<u>6,149,000.00</u>

Table 4.7: INDICATIVE BUDGET FRAMEWORK (2014-2017) – P2 FISHERIES RESOURCE MANAGEMENT

NO	PROGRAMME / SUB PROGRAMME	OPERATION / PROJECT	OUTPUT/OUTCOME	INDICATIVE BUDGET (GH¢ m)				TOTAL (GH¢)
				2014	2015	2016	2017	
P2	FISHERIES RESOURCE MGT.	1. Organise 4 regional sensitizations on the impact of climate change	120 Participants		0.063	0.083		146,000.00
	P2.1 MARINE FISHERIES RESOURCE MANAGEMENT							
		2. Conduct quarterly M&E visits on programme implementation	Quarterly Reports		0.062	0.073	0.069	204,000.00
		3. Implement phase registration and licensing of all marine fishing vessels	Vessel Licensing Implementation Report	0.182	0.145			327,000.00
		4. Organise 1 national & 4 regional campaigns on new Guidelines for vessel licensing & registration	150 Participants		0.095			95,000.00
		5. Complete vessel registration, licensing and Embossment	9841 canoes, 144 Industrial & 401 Semi-industrial vessels		0.248			248,000.00
		6. Conduct Sardinella survey during the major and minor fishing season	Survey Reports		0.053	0.062		115,000.00
		7. Sensitize coastal fishers on Community Based Fisheries Mgt.	120 Communities		0.262	0.185		447,000.00
		8. Collect, analyse and disseminate data on marine resources	Marine Resource Statistics (2014-2017)	0.161	0.168	0.218	0.229	776,000.00
sub-total				0.343	1.096	0.621	0.298	2,358,000.00

NO	PROGRAMME / SUB PROGRAMME	OPERATION / PROJECT	OUTPUT/OUTCOME	INDICATIVE BUDGET (GH¢ m)				TOTAL (GH¢)
				2014	2015	2016	2017	
P2	P2.2 INLAND FISHERIES RESOURCE MGT.	1. Sensitize Inland fishers on Community-Based Fisheries Mgt.	60 Communities		0.214	0.318		532,000.00
		2. Implement phase registration and licensing of all inland fishing vessels	Inland Fishing Vessel Report		0.056			56,000.00
		3. Conduct Quarterly Monitoring Visits on Programme Implementation	Monitoring Reports	0.032	0.045	0.038	0.031	146,000.00
		4. Sensitize 115 Stakeholders on Impact of Climate Change in the Six (6) regions	115 Participants		0.285			285,000.00
		5. Organize Refresher Course for thirty (30) Staff in six (6) regions	30 Staff		0.024			24,000.00
		6. Collect, analyse and disseminate data on inland water resources	Inland Water Resources Statistics Report		0.044	0.047		91,000.00
	sub-total			0.032	0.668	0.403	0.031	<u>1,134,000.00</u>
	P2.3 FISHERIES RESEARCH AND DEVELOPMENT	1. Monitor sea surface temperature and salinity at 8 coastal stations	12 Surface Temperature and salinity Reports	0.026	0.038	0.048	0.039	151,000.00
		2. Undertake data collection on fish catch returns	Statistics on Fish catch returns (2014-2017)	0.028	0.038	0.039	0.040	145,000.00
		3. Undertake biological studies of commercially important pelagic species	Biological Study Report		0.064	0.071		135,000.00

NO	PROGRAMME / SUB PROGRAMME	OPERATION / PROJECT	OUTPUT/OUTCOME	INDICATIVE BUDGET (GH¢ m)				TOTAL (GH¢)
				2014	2015	2016	2017	
P2	P2.3 FISHERIES RESEARCH AND DEVELOPMENT	4. Collect data on plankton and ichthyoplankton in selected sites along the coast	Marine Plankton Report		0.280	0.330		610,000.00
		5. Undertake nutrient analyses of the marine environment	Nutrient Analysis Reports	0.280	0.320			600,000.00
		7. Organise stakeholder forum for 80 persons from the fishing industry	80 participants		0.012			12,000.00
		8. Organise refresher course for 20 Technical Assistants in the 4 coastal regions	20 staff trained		0.009			9,000.00
		9. Undertake fisheries trawl survey in the coastal waters	Trawl Survey Reports		0.152	0.169		321,000.00
		10. Undertake algal bloom monitoring along the coast	Monitoring Reports	0.065	0.071	0.055		191,000.00
		11. Undertake artisanal marine gear survey at the 330 fish landing sites	Marine Gear Survey Report		0.210	0.235	0.281	726,000.00
			sub-total	0.399	1.194	0.947	0.360	<u>2,900,000.00</u>
				Grand Total				<u>6,392,000.00</u>

Table 4.8: INDICATIVE BUDGET FRAMEWORK (2014-2017) – P3 FISHERIES LAW ENFORCEMENT

NO.	PROGRAMME / SUB PROGRAMME	OPERATION / PROJECT	OUTPUT/OUTCOME	INDICATIVE BUDGET (GH¢ m)				TOTAL (GH¢)
				2014	2015	2016	2017	
P3	FISHERIES LAW ENFORCEMENT (MCS)	1. Train Judges and Prosecutors on Fisheries Laws annually	80 prosecutors & judges		0.067	0.071		138,000.00
		2. Expand Vessel Monitoring System (VMS)	150 vessels equipped with VMS devices	0.079	0.083	0.085	0.081	328,000.00
		3. Establish and Operationalize Aerial Surveillance System and train staff on use	Aerial Surveillance System		0.113	0.142		255,000.00
		4. Undertake Patrols on water bodies (Sea / Volta Lake)		0.107	0.125	0.310	0.090	632,000.00
		5. Hold National Stakeholder consultations on FEU operations	5 Consultations		0.028	0.030		58,000.00
		6. Expand and Integrate Fisheries Observer Program into FEU operations			0.015	0.015	0.015	45,000.00
		7. Train FEU staff on Fisheries Laws and Enforcement	40 Staff		0.054			54,000.00
		8. Conduct Land Patrols on landing beaches		0.031	0.035	0.038	0.041	145,000.00
		9. Sensitize Communities on voluntary compliance	120 Fishing Communities		0.181	0.184	0.189	554,000.00
		10. Sensitize Fishers and Stakeholders in all regions on Fisheries Laws and Regulations	10 Regional sensitizations		0.241	0.244		485,000.00
		11. Train staff in gear technology	40 Staff		0.053			53,000.00
		Sub-total		0.217	0.995	1.119	0.416	<u>2,747,000.00</u>

Table 4.9: INDICATIVE BUDGET FRAMEWORK (2014-2017) – P3 AQUATIC ANIMAL HEALTH & POST-HARVEST MANAGEMENT

NO.	PROGRAMME / SUB PROGRAMME	OPERATION / PROJECT	OUTPUT/OUTCOME	INDICATIVE BUDGET (GH¢ m)				TOTAL (GH¢)
				2014	2015	2016	2017	
P4	AQUATIC ANIMAL HEALTH & POST-HARVEST MGT <i>P4.1 FISH HEALTH AND SANITATION</i>	1. Train Fisheries staff on health & sanitary measures	25 Regional staff trained annually		0.179	0.182	0.185	546,000.00
		2. Organize education campaign on health and sanitary practices for hatchery operators and grow-out	150 participants sensitized on fish heal and sanitary practices	0.145	0.152	0.162	0.105	564,000.00
		3. Develop guidelines and train fish farmers on biosecurity measures	1. Biosecurity guidelines developed 2. 120 fish farmer trained		0.015			15,000.00
		4. Conduct quarterly inspections on fish production	Fish production inspection report	0.077	0.082	0.092	0.056	307,000.00
		5. Conduct random sampling of aquatic environment	Report on Aquatic environment (2015-2017)		0.032	0.038	0.040	110,000.00
		6. Identify, Investigate and Document diseases of economic importance	Fish Disease Register	0.022	0.024	0.018	0.053	117,000.00
		7. Develop Early Warning System for fish disease control	Emergency Preparedness Framework		0.340			340,000.00
	<i>P4.2 POST-HARVEST MANAGEMENT</i>	1. Provide Training on Post-harvest Mgt to Fish Processors Associations	85 Fish Processors Associations trained		0.095	0.090		185,000.00
		2. Organise Seminars to introduce Improved Technologies to Fish Processors	120 participants sensitized		0.054	0.062		116,000.00
			Sub-total	0.244	0.973	0.644	0.439	<u>2,300,000.00</u>

Table 4.10: INDICATIVE BUDGET FRAMEWORK (2014-2017) – P5 MANAGEMENT AND ADMINISTRATION

NO	PROGRAMME / SUB PROGRAMME	OPERATION / PROJECT	OUTPUT/OUTCOME	INDICATIVE BUDGET (GH¢ m)				TOTAL (GH¢)
				2014	2015	2016	2017	
P5	MANAGEMENT AND ADMINISTRATION	1. Attend Six (6) Int. Conferences on Fisheries Sector Development	1. Accelerated Aquaculture Devpt Report 2. Modern Fisheries Infrastructure Devpt Report	0.159	0.3153	0.3154	0.3152	1,104,900.00
		2. Organize Annual WARFP Review Meeting for 45 Regional Participants for 4 days	Annual WARFP Performance Report	0.036	0.038	0.054	0.025	153,000.00
		3. Purchase Stationery and fuel for service delivery (MOFAD HQ, 10 FC Reg. Offices)	20% increase in efficiency rate of service delivery	0.825	1.1000	0.9221	0.895	3,742,100.00
		4. Carry out Fisheries Infrastructure Inspection (M&E) annually	Fisheries Infrastructure M&E Report	0.018	0.024	0.012	0.028	82,000.00
		5. Conduct Procurement and Financial Compliance Audit for MOFAD Cost Centers	MOFAD Internal Audit Report		0.022	0.035	0.0182	75,200.00
	P5.1 Finance & Admin	1. Recruit and Train 40 technical staff for MOFAD Headquarters	40 Technical Staff trained (2015=25; 2016=10; 2017=5)		0.045	0.028		73,000.00
		2. Train 12 PPMED staff on Quantitative Policy Analysis & Public Sector M & E	12 M&E staff trained		0.017	0.045		62,000.00
		3. Train 30 staff on Public Administration	30 Administrative staff trained (2015=20; 2016=10)		0.055	0.025		80,000.00
		4. Develop MOFAD Human Resource Policy & Capacity Devpt Plan	Human Resource Devpt Policy		0.024			24,000.00
	P5.2 Human Resource Mgt.	5. Train 18 technical officers on fishery sector development related courses	18 Technical Officer trained in Aquatic Animal Health & Aquaculture Devpt (2015=5; 2016=8; 2017=5)		0.052	0.072	0.062	186,000.00
		6. Train 10 Reg. Directors & Accountants each on GIFMIS and Financial Regulations	20 FC Regional Officers trained		0.035	0.03		65,000.00
		Sub-total		1.038	1.727	1.539	1.343	<u>5,647,200.00</u>

NO	PROGRAMME / SUB PROGRAMME	OPERATION / PROJECT	OUTPUT/OUTCOME	INDICATIVE BUDGET (GH¢ m)				TOTAL (GH¢)
				2014	2015	2016	2017	
	<i>P5.3 Policy, Planning, Monitoring and Evaluation</i>	1. Conduct performance-based assessment of 5 programmes (2014-2017 MTDP)	Annual Programme Performance Assessment Reports		0.045	0.051	0.053	149,000.00
		2. Organize 5-day workshop to develop MOFAD Annual Budgets	Annual Budgets developed and submitted to MOF & NDPC	0.054	0.072	0.068	0.055	249,000.00
		3. Review and develop New Aquaculture Accelerated Development Policy Framework (NAADPF)	Medium-Term Accelerated Aquaculture Development Policy Framework (2015-2018)		0.08			80,000.00
		4. Develop Functional Fisheries Sector Database for evidence-based decision making	Fisheries Sector Database		0.036			36,000.00
		5. Hold 5-day meeting to review IGF items (fees/charges) and submit to Parliament	IGF Reports on Fees & Charges (2015-2017)		0.022			22,000.00

NO	PROGRAMME / SUB PROGRAMME	OPERATION / PROJECT	OUTPUT/OUTCOME	INDICATIVE BUDGET (GH¢ m)				TOTAL (GH¢)
				2014	2015	2016	2017	
P5	<i>P5.3 Policy, Planning, Monitoring and Evaluation</i>	6. Conduct Fisheries Sector M&E exercises at Project sites & Regions	M&E Quarterly & Annual Reports	0.28	0.392	0.401	0.455	1,528,000.00
		7. Organize 5-day stakeholder consultative meeting on M&E Reports	Annual M&E Review Reports		0.022	0.035	0.018	75,000.00
		8. Hold 3-day MOFAD Performance review workshop	Annual M&E Review Reports		0.052	0.054	0.038	144,000.00
		9. Conduct Survey on Clam Supply Chain in Ada	Survey Report		0.04			40,000.00
	<i>P5.4 Communications & Public Relations</i>							
		1. Organize Mid-Year & Annual sensitization meetings with stakeholders on MOFAD operations and performance	Report on stakeholder sensitization	0.057	0.067	0.063	0.052	239,000.00
		Sub-total		0.39	0.83	0.67	0.67	<u>2,562,000.00</u>
P5	<i>P5.5 Capital Expenditure/Assets</i>	1. Provide Fisheries Education Infrastructure.	1.1 Phase 2 of Fisheries College, Anomabo completed and operationalized.	1.200	16.100	10.500		27,800,000.00
		2. Provide Office Accommodation & Logistics to enhance service delivery.	2.1 Ministerial Office (Old Min. of Transport Block) rehabilitated.		0.475			475,000.00
			2.2 Ministerial Office Complex Completed.		4.700	4.600		9,300,000.00
			2.3 Office Furniture & Equipment purchased.	0.620	0.475	0.650	0.350	2,095,000.00
P5	<i>P5.5 Capital Expenditure/Assets</i>	2. Provide Office Accommodation & Logistics to enhance service delivery.	2.4 Computers & Accessories purchased.	0.470	0.355			825,000.00

NO	PROGRAMME / SUB PROGRAMME	OPERATION / PROJECT	OUTPUT/OUTCOME	INDICATIVE BUDGET (GH¢ m)				TOTAL (GH¢)
				2014	2015	2016	2017	
			2.5 Ten (10) FC Regional Offices & 15 Apartments rehabilitated.		0.450	0.280	0.165	895,000.00
		3. Purchase vehicles to enhance service delivery.	3.1 Eighteen (18) Vehicles purchased (2015=12, 2016=6).		1.692	0.850		2,542,000.00
			3.2 Thirty-seven (37) motorbikes purchased.		0.555			555,000.00
		4. Provide Fish Health & Post-Harvest Facilities.	4.1 Turnkey Fish Processing Plant at Elmina functional.	2.500	1.811			4,311,000.00
			4.2 Ten (10) Fish Landing sites at selected communities completed.		9.630	6.751		16,381,000.00
			4.3 Six (6) functional Cold Chain facilities in selected communities.	0.150	0.400			550,000.00
			4.4 Works on Fisheries Lab at Tema completed.	0.220	0.400			620,000.00
			4.5 Two (2) Mobile Lab Vans purchased.		0.334	0.334		668,000.00
			4.6 Fish Certification Equipment purchased.		0.450			450,000.00
			Sub-total	5.160	37.827	23.965	0.515	<u>67,467,000.00</u>

NO.	PROGRAMME / SUB PROGRAMME	OPERATION / PROJECT	OUTPUT/OUTCOME	INDICATIVE BUDGET (GH¢ m)				TOTAL (GH¢)
				2014	2015	2016	2017	
P5	<i>P5.5 Capital Expenditure/Assets</i>	5. Provide Logistics for Aquaculture Development.	5.1 Three (3) Hatcheries rehabilitated.		3.000			3,000,000.00
			5.2 Aquaculture Equipment purchased.		0.150	0.050		200,000.00
			5.3 Equipment for Input Support Scheme purchased.		1.630	0.815		2,445,000.00
		6. Provide Equipment Support for Research Operations.						
			6.1 Research Vessel purchased.		7.000			7,000,000.00
		7. Provide Logistics/Equipment for farmers' day annually.						
			7.1 Vehicles and Equipment purchased for Fish Operation Excellence.	0.100	0.100	0.100	0.100	400,000.00
		Sub-total		0.100	11.880	0.965	0.100	<u>13,045,000.00</u>

Summary of Programme 5

<i>Expenditure Item</i>	Total Amount (GH¢)
1. Assets / CAPEX	80,512,000.00
2. Goods & Services	8,417,200.00
Grand Total	<u>88,929,200.00</u>

CHAPTER 6

MONITORING AND EVALUATION FRAMEWORK

6.1 Introduction

The Government of Ghana is committed to “prudent management and accountability practices” that increase effectiveness and efficiency of service delivery in the Ghana public service. Within the context of “Transparent and Accountable Governance”, Government and its functionary agencies are further committed to linking development “input resources” to the achievement of time-bound target-specific outputs and outcomes towards the realization of medium to long term national development goals and objectives.

6.2 Purpose

The M & E Framework of the Ministry of Fisheries and Aquaculture Development will enable it monitor *Plan implementation progress* and introduce corrective measures where necessary. The framework will also assist MOFAD to *periodically assess sector performance against stated medium term policy objectives and targets outlined in the 2014-2017 MTDP.*

The indicators contained in the M&E framework will also enable stakeholders in the sector to track the implementation progress of the 2014-2017 Plan and evaluate performance on 1) Annual, 2) Mid-term and 3) Terminal basis.

The 2014-2017 M & E Framework of MOFAD involves the following:

- *identification of primary and secondary stakeholders*
- *formation of sector M & E Team*
- *development of data collection instruments*
- *budgeting for planned M & E activities*
- *field work/data collection*
- *analysis of data using relevant statistical tools*
- *establishing a function Data base to promote evidence-based decision making*
- *preparing and disseminating M & E Reports to stakeholders*
- *Developing the M&E work plan and budget*
- *Providing tools for M&E data collection and analysis*

6.3 Performance Indicators

The indicators to be used to measure the relative changes that are occurring or have occurred during MOFAD MTDP implementation are classified into the following categories:

- *process indicators*
- *input indicators*
- *output indicators*
- *outcome indicators*
- *impact indicators*
- *base line data*

6.4 Stakeholder Analysis

Two categories of stakeholders have been identified and assigned specific roles and responsibilities in the implementation of MOFAD 2014-2017 MTDP. They are: **Primary stakeholders** consisting of institutions, agencies and individuals who would assist MOFAD in the direct implementation of the MTDP. **Secondary stakeholders** on the other hand, are institutions and agencies who will facilitate the implementation of the Plan because they have **interest and will benefit** from the achievement of the Results (outputs & outcomes)

Table 6.1 Roles and Responsibilities of Primary and Secondary Stakeholders

No.	Institution	Responsibility
1	Min. of Food & Agriculture	Assist in sector policy formulation, MTDP implementation, sector performance assessment and data collection
2	Min. of Finance	Provide adequate financial support to implement programmes and projects
3	Office of the President	Provide political support to enhance Plan implementation
4	NDPC	Support sector policy review and development of plans
5	Min. of Justice & Attorney General's Dept.	Assist in the training of Judges and Prosecutors to enhance adjudication of Fisheries infractions
6	MESTI	Support the implementation of climate change initiatives
7	MWRWH	Assist in the implementation of marine resource mgt.
8	Marine Police	Assist fisheries law enforcement
9	Ghana Navy	Assist fisheries law enforcement
10	Ghana Air Force	Assist fisheries law enforcement
11	National Fisheries Association of Ghana	Assist fisheries law enforcement
11	Landing Beach Committees	Support the implementation of fisheries resource mgt. programmes
12	National Aquaculture Fish Farmers Associations	Assist in the implementation of Aquaculture Development programmes
13	District Assemblies	Assist in the implementation of fisheries development programmes and law enforcement
14	Min. of Transport	Supports fisheries infrastructure development projects
15	Donor Partners	Supports fisheries infrastructure development projects

6.5 Reporting System

The PPMED will collect data on Plan implementation progress, produce and disseminate MTDP performance reports to all relevant stakeholders including NDPC, MOF and Office of the President.

The report system will be Quarterly, Mid-year, Annual and Terminal Programme Performance Reports. The focus of these reports will be on the following:

- *the relative development changes that have occurred or are occurring during Plan implementation as measured against stated/predetermined Targets and stated policy objectives,*
- *impact/beneficiary assessment of the five core programmes being implemented, and*
- *proposals on Policy shift/deepening strategies.*

6.6 MOFAD 2014-2017 MTDP INDICATOR FRAMEWORK

Table 6.2: MOFAD 2014-2017 MTDP INDICATOR FRAMEWORK

№	Indicators	Indicator Type	Baseline	Targets					Data Sources	Monitoring Frequency	Responsibility
			2013	2014	2015	2016	2017				
P1	Aquaculture Development										
1	No. of Fingerlings produced	Output						Primary	4	MOFAD/FC	
2	Quantity of fish produced (mt)	Output		38,547	52,000	68,500	100,000	Primary	4	MOFAD/FC	
3	Employment Opportunities Generated	Output		900	1008	1200	1400	Primary	1	MOFAD/FC	
4	No. of new fish farm entrants	Output							2	MOFAD/FC	
5	No. of Cages	Output							1	MOFAD/FC	
6	% change in Private Sector Investment	Input								MOFAD/FC	
7	No. of fish feed production units (local)	Output	1	1	3	5	7	Primary	1	MOFAD/FC	
8	No. of Ponds	Output						Primary	1	MOFAD/FC	
9	No. of Functional Hatcheries	Output						Primary	1	MOFAD/FC	
10	No. of High Priority Aquaculture Zones established	Output									
11	No. of skilled personnel employed	Output						Primary			
12	No. of Aquaculture Associations formed										
P4.1	Fish Health										
	Rate of compliance to Bio-security Measures										
1	No. of hatcheries disinfected										
2	No. of hatcheries abiding with water quality control measures										
3	No. of fish laboratories										
4	% change in fish mortality										

P4.2	Post-Harvest									
1	No of functional fish processing plants									
2	No of cold chain stores									
3	Rate of Compliance to Sanitary procedures									
4	No of communities using new technologies									
5	% change in value addition to farmed fish									
6										
P2	Fisheries Resource Mgt.									
1	No. of Canoes									
2	No. of Semi-Industrial Vessels									
3	No. of Industrial Vessels									
4	Quantity of Fish Produced (mt)									
5	% Change in Fish Stock Level									
P5	Management & Administration									
1	No. of Skilled Personnel Recruited									
2	No. of Professional Staff									
	<i>Fisheries Infrastructure</i>									
3	No. of Landing Sites									
4	No. of Fisheries Educational Institutions									
5	No. of enrollment									
P3	Fisheries Law Enforcement									
1	No. of Judges/Prosecutors trained									
2	No. of VMS-fitted Vessels									
3	No. of Fisheries Infractions Adjudicated									

CHAPTER 7

COMMUNICATION FRAMEWORK

7.1 Introduction

This section establishes the relationship existing between MOFAD and stakeholders regarding the “*marketing*” of the **2014-2017 Sector MTD**P. The section also spells out the expected roles, means and mechanisms for awareness creation, and performance information dissemination (achievements and challenges) of the Plan to stakeholders.

The Communication component of this Plan focuses on the key activities MOFAD will implement to showcase Plan performances over time (2014 – 2017).

7.2 Objective

The objectives of the communication strategy are:

- (i) To sensitize the Ghanaian public on the five (5) Programme components of the Plan.
- (ii) To create a platform for stakeholder to be aware of their specific collaborative roles and responsibilities in effective Plan implementation.
- (iii) To build organic partnership with stakeholders to enhance Plan implementation and M&E work
- (iv) To involve stakeholders in Plan performance review
- (v) To engage stakeholders in development dialogue regarding Sustainable Fisheries Resource Management, Efficient Fisheries Law Enforcement, Fish Health and Sanitation, and the overall transformation and development of the fisheries sector and industry.

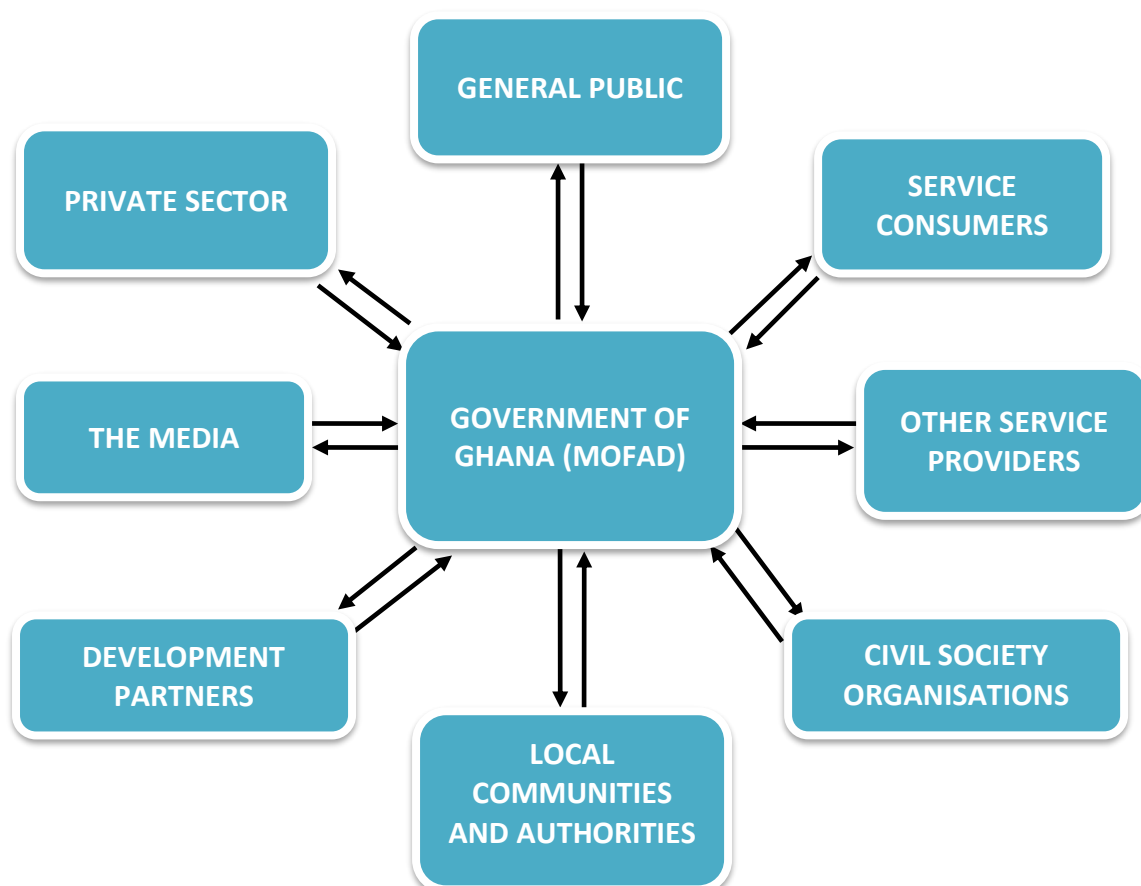
7.3 Sector benefits

The implementation of the Communication Strategy and M & E Framework of this Plan will enable MOFAD achieve the following:

- *demonstrate accountability,*
- *show development Results,*
- *win public/stakeholder confidence,*
- *form organic partnership with stakeholders to enhance implementation of development interventions, and*
- *enhance sector service delivery over the Plan period.*

Fig. 1 shows the various stakeholders taken into account in the development of the Communication strategy of the Plan.

Fig 1: COMMUNICATION COVERAGE/SCOPE



7.4 Communication channels

1. Interpersonal communication:

This involves direct contact by mouth, letters, memoranda, telephone conversations, telefax messages, conference calls, Protocol, newsletters, large conferences, networking and press releases.

2. Media:

The media is one of the most effective ways of disseminating development information. It takes the form of print and electronic communication. It also include Notice Board, Handouts, Newsletters, Brochures, Float File, Information racks, Audio visuals like slides, video clips and documentaries, Seminars, symposia and spot-lights as vital tools.

3. Public Advocacy:

This involves information on bill boards, seminars, press releases and fliers

7.5 Communication Tools and Strategies

The communication strategy to be adopted by MOFAD includes the following:

- ✓ *Multi-media approach, including outreach activities*
- ✓ *Publicity (seminars, press conferences/Releases publications)*
- ✓ *Advocacy (Sensitization, and education)*
- ✓ *Durbars/Outreach Programmes*

Table 7.1: Communication Action Plan (2014-2017)

Objective	Planned Activity	Target Population	Expected Outcome	Responsibility
Create public awareness on Goal and Core Components of MOFAD 2014-2017 MTDP	1. Organise 10 Regional sensitization/Advocacy durbars on 2014-2017 MTDP. 2. Carry out Advocacy and sensitization workshops for 10 & 25 fishing communities along the Volta Lake and Coastal Areas respectively.	Coastal & Inland fishing communities, Media	Information on 2014-2017 MTDP by primary stakeholders enhanced	MOFAD, NDPC, Media
Enhance Private Sector investment in Aquaculture Development	3. Organise seminars for private sector organisation on Gov't Policy for promoting Aquaculture Development.	Private Sector Organisations, Media	Reports	MOFAD, NDPC, Media
Promote fisheries law enforcement	4. Organise 20 community durbars on law enforcement and sustainable fisheries resource management	Coastal and Inland fishing communities, Media	25 Fisheries resource Co-management committees formed	MOFAD, FC, Fishing Communities, FEU
Promote fish health and sanitation	5. Hold sensitisation workshop on fish disease detection, prevention and control.	Hatchery production units, Aquaculture farmers and fish processors, Fish Meal producers, Media	Participants knowledge on fish disease control and sanitations processes and post-harvest management enhanced	Fish Health & Post-Harvest Units, MOH, Dept. of Veterinary
Promote participatory review of 2014-2017 MTDP performance	6. Hold Mid-year and Annual Performance Review meetings on MTDP with Stakeholders	NAFAG, OoP, Parliament, MOF, NDPC, Media, NAFPTA, DPs, Private Sector Organisations	MOFAD 2014-2017 MTDP Performance Review Reports.	MOFAD, FC

ANNEX

TECHNICAL NOTE

Appendix I. Explanation of Fisheries Monitoring, Control, and Surveillance

The following is an excerpt from Chapter 1 of Flewwelling, et al (2002):

Simply stated, MCS is the mechanism for implementation of agreed policies, plans or strategies for oceans and fisheries management. MCS is an aspect of oceans and fisheries management that is often undervalued. In reality, it is key to the successful implementation of any planning strategy. The absence of MCS operations render a fisheries management scheme incomplete and ineffective.

Since the 1981 MCS Conference, the definition of MCS has been enhanced to promote the concept that MCS covers more than just fisheries enforcement - it is an integral and key component for the implementation of fisheries management plans. It encompasses not only traditional enforcement activities but also the development and establishment of both data collection systems, the enactment of legislative instruments and the implementation of the management plan through participatory techniques and strategies. A 1993 workshop in Ghana offered the following clarifications.

- a) **Monitoring** includes the collection, measurement and analysis of fishing activity including, but not limited to: catch, species composition, fishing effort, by-catch, discards, area of operations, etc. This information is primary data that fisheries managers use to arrive at management decisions. If this information is unavailable, inaccurate or incomplete, managers will be handicapped in developing and implementing management measures.
- b) **Control** involves the specification of the terms and conditions under which resources can be harvested. These specifications are normally contained in national fisheries legislation and other arrangements that might be nationally, sub regionally, or regionally agreed. The legislation provides the basis for which fisheries management arrangements, via MCS, are implemented. For maximum effect, framework legislation should clearly state the management measures being implemented and define the requirements and prohibitions that will be enforced.

- c) **Surveillance** involves the regulation and supervision of fishing activity to ensure that national legislation and terms, conditions of access, and management measures are observed. ***This activity is critical to ensure that resources are not over exploited, poaching is minimized and management arrangements are implemented.***

These wider definitions amplify the importance of all aspects of MCS.

The Fisheries Law Enforcement (FLE) component of the Plan focuses on the following:

1. Monitoring - *Observation, data collection & analysis on vessels fitted with Vessel Monitoring System (VMS)*
2. Control - *Ensuring that vessels/trawlers fish within (i) Inshore Exclusive Zone (IEZ), or Exclusive Economic Zone (EEZ). (That is complying With the Fisheries Laws & Regulations*
3. Surveillance - *Beach combing exercise*
4. Prosecution - *Law enforcement (i.e ensuring that those not complying with the Law and Regulations are prosecuted.*

The FLE component reinforces the operations and therefore supports the achievement of the objectives of Sustainable Fisheries Resources Management.

1.2 Plan Development Methodology/Approach

In the development of MOFAD 2014-2017 MTDP, the following approaches were used:

1. *Augment Cobb-Douglass production function was used to estimate Aquaculture production.*
2. *A Recursive method was used to set the Annual Targets of the Plan, taking into account a three-year historical performance trend of the fisheries sector as well the overall productivity index of the fisheries industry and projected increase in private sector investment in Aquaculture.*
3. *The Gopex Planning Model and the Okawa Indicative Planning Methodology (1985) were employed.*
4. *Modules and Techniques in development policy and planning (1994) and Sector-Wide approach were used.*
5. *Quantitative development policy modeling approach and policy simulation were employed to arrive at realistic/achievable targets for the Plan period (2014-2017).*
6. *ECONOMATE-X (Version 8) was used for the estimation and trend analysis & forecasting*
7. *Causality Test methods with minimum proxy variables were employed to provide scientific bases for estimation of Targets and Outputs*