

# State of our fishery -GHANA

Emphasis on strengthening data collection in the  
artisanal sector



# Fisheries sector

- The Fisheries sector accounts for about 5% of the country's Agricultural Gross Domestic Product (AGDP). Fish contributes 60% of annual protein intake of Ghanaians.
- In addition to food security, the marine fisheries sector is estimated to generate approximately US \$1 billion in total revenue each year. The latest figures indicate that the sector represents around 2.6% of Ghana's GDP (Fisheries and Aquaculture Development Plan 2011-2016 – *GOG 2011*)

# The marine sector of the fishery



Artisanal fishery – Canoe fishery using a variety of gears including the beach seine. Over 9,500 canoes (2014 register)

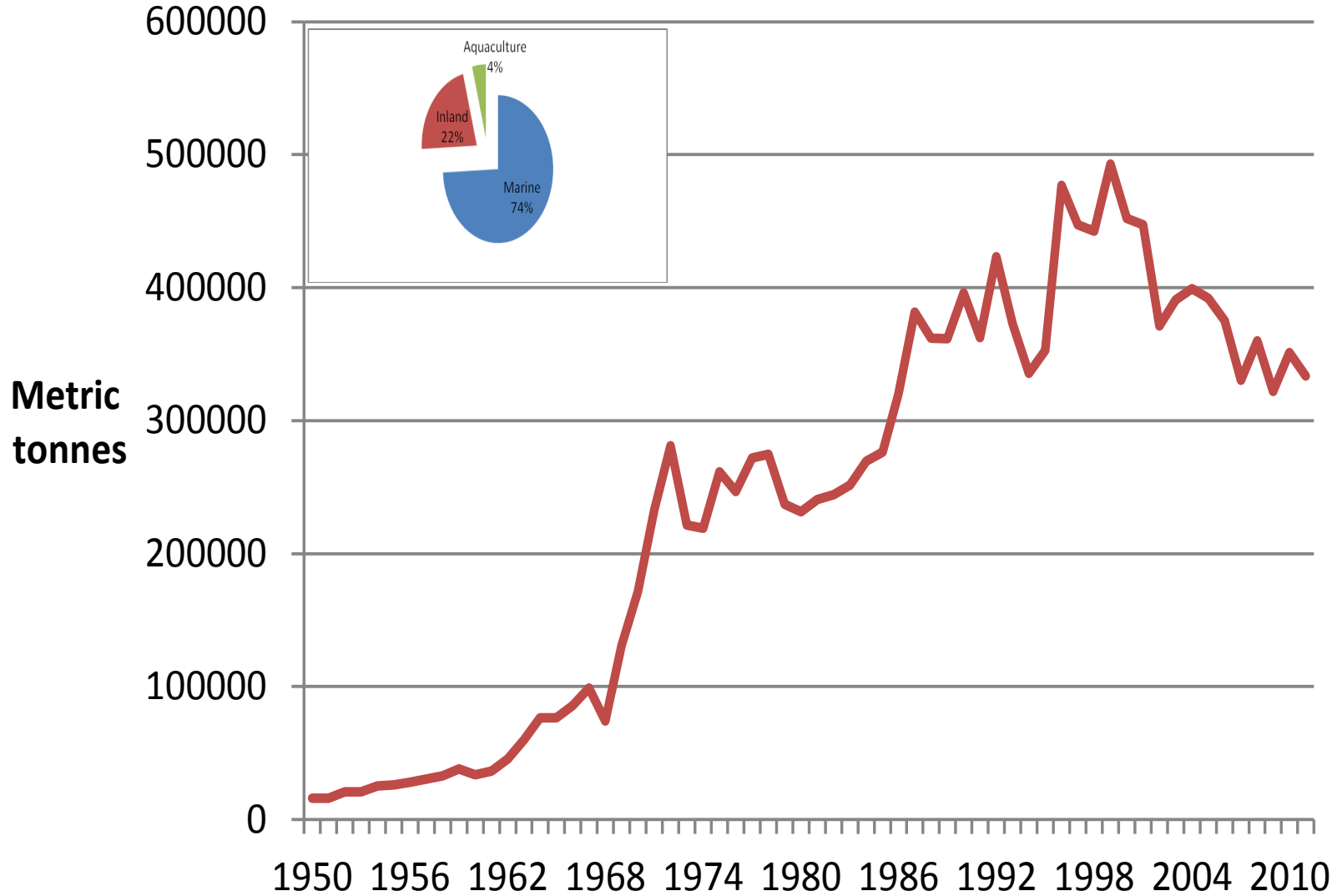
Inshore fishery– operated from crafts with inboard engines with wooden hull (403 registered in 2014 (2014))



Industrial comprising the 107 bottom trawlers 2 shrimpers and 37 tuna vessels 2014



# Total catch





# Artisanal fleet





# INSHORE FLEET



# Tuna Purse seiner





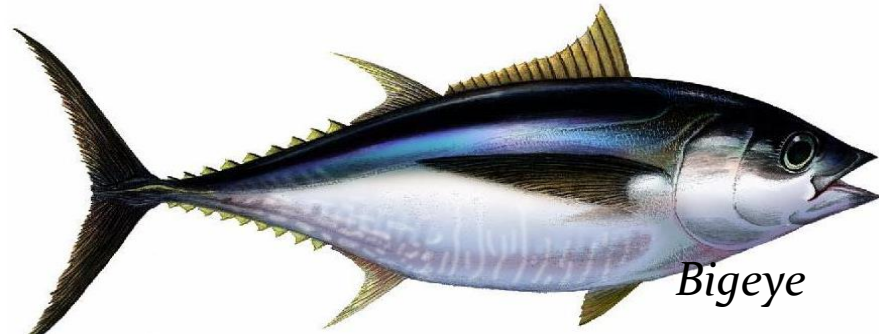
# Ghana's marine fish stocks



*Anchovy*



*Flat Sardine*



*Bigeye*



*Yellowfin*



*Red Snapper*

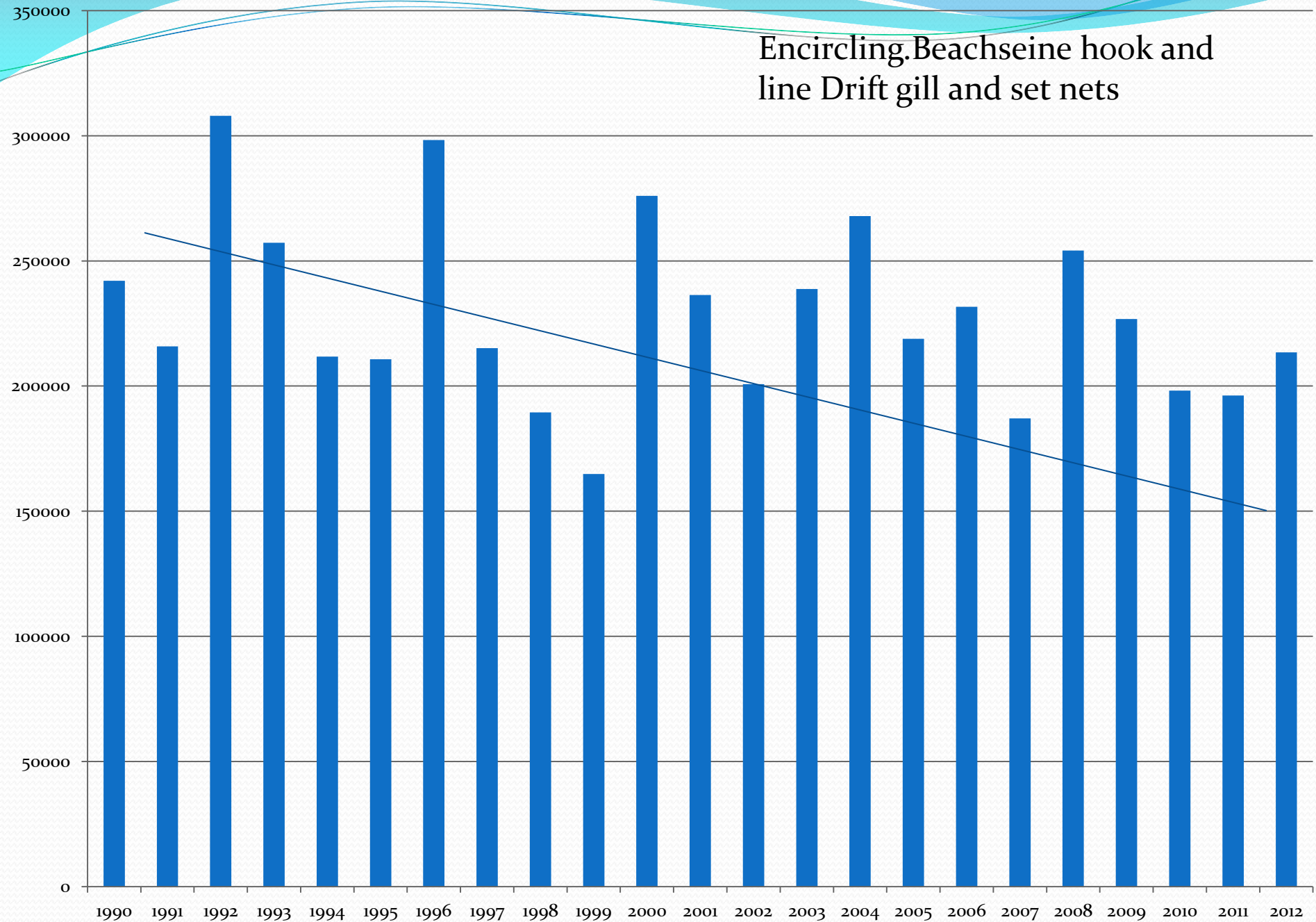


*Grouper*

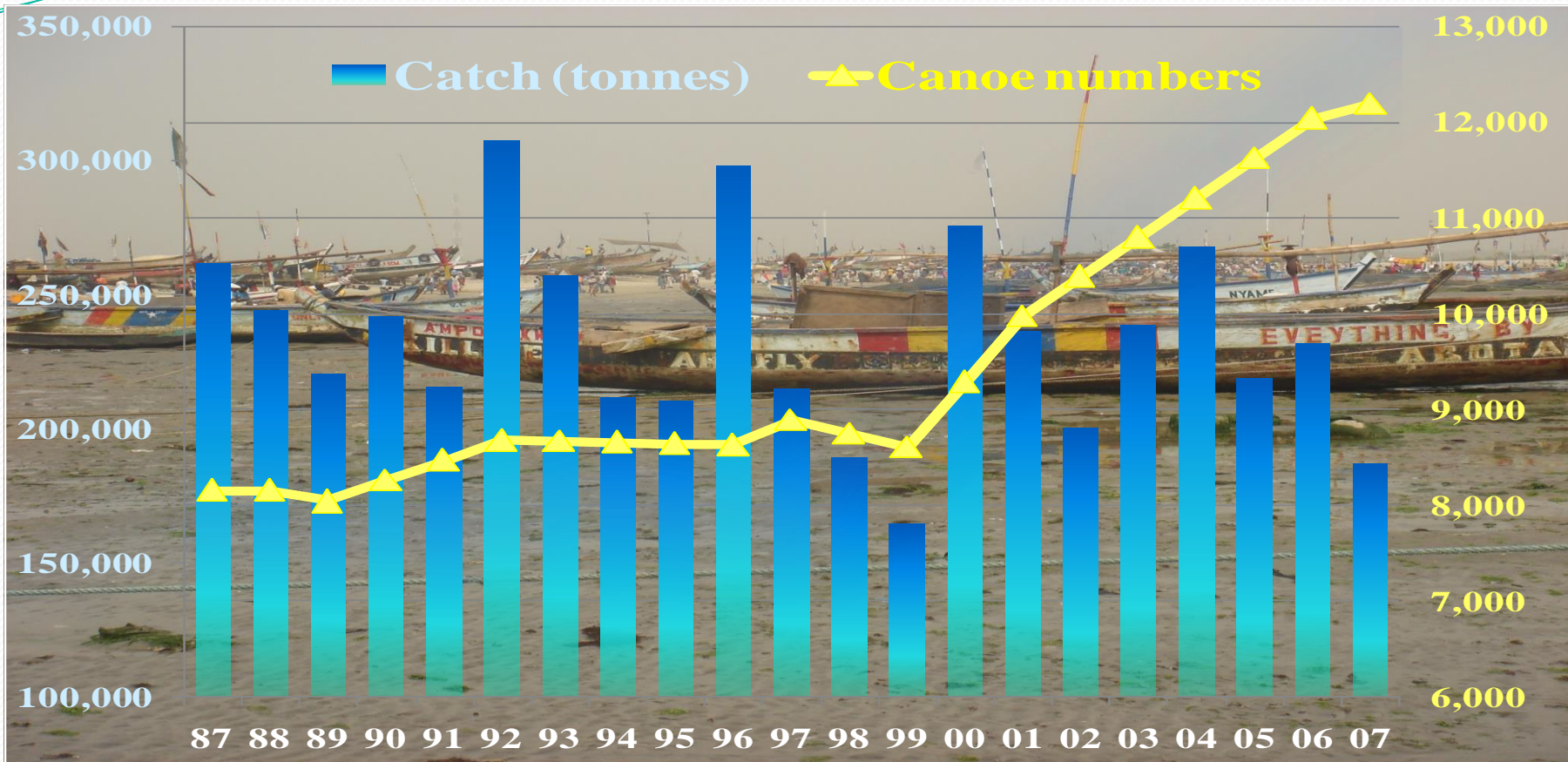


# ARTISANAL

Encircling. Beach seine hook and line  
Drift gill and set nets



## Trend in Catch and Effort of Canoes



Catch levels have been fluctuating. The overall trend has been downwards as canoe numbers increase.



# Some causes of declines in fish abundance

## Man-made

- Overcapacity
- Over-exploitation
- Use of illegal and unorthodox methods

## Natural

- Unexpected interactions in ecosystem
- Unfavourable climatic changes/upwellings

# Indications from resource surveys

- Demersals are generally exploited in the IEZ (30-50 m) Beyond, there seems to be room for expansion as indicated from Surveys conducted from 2000-2006.(Fridtjof-Nansen ) beyond the 50 metre depth.
- Whereas the offshore bottom fisheries present an opportunity for exploitation, such exploitation must be marched with the capacity to fish there and probably more costs that might be associated with this.
- 2016 results Fridtjof Nansen 1-20 April 2016-More resources in inner shelf More grunts ....More plastics off Accra.. Environment threatened



# data collection scheme- Ghanaian perspective

- Objectives
  - Assess size and structure and distribution of fisheries
  - Stock trends
  - Catch and effort variability
  - Market and income trends
  - Socio-economic trends of fisher-folks
  - etc
- HOW IS IT COLLECTED
  - A scheme/system which should incorporate basic knowledge on fisheries and strategies. logistics manpower and funds
- WHY IS IT USEFUL
  - Planning purposes in particular for any economy

# WHY COLLECT FISHERIES STATISTICS?

- Create database on the fisheries sector
- Assess the performance of the sector
- Advice government on intervention measures for the fishing industry
- For investment opportunities
- Meet our national and international obligations
- For Planning and Developmental purposes
- Assessment of the fishery resources



# WHAT FISHERIES STATISTICAL DATA ARE COLLECTED?

- Catch and species composition of the catch
- Fishing Effort
- Price of fish
- Number of operating fishing crafts
- Types and sizes of fishing crafts
- Types of gears and their target species
- Areas of operation of fishing crafts
- Number of fishermen on fishing craft
- Information on landing sites

We need to do more in the socio-economic area??

# HOW DO WE COLLECT FISHERIES DATA?

- Canoe Frame Survey
  - Taking an inventory of record on fisheries activities, the fishers and stakeholders of the artisanal sector at each landing site
  - Information recorded include number and types of canoes, number of fishers, dependants of fishers, level of motorization of canoes, prices of canoes and fishing gears
  - It is conducted every two – three years and usually in April or May when there is less migration of fishers
  - Canoe frame survey data is necessary for design of catch assessment survey for the artisanal sector
  - Routine data collection
  - Need for stratification .2015 onwards. Relative error in some minor strata high

# Survey methodology

a complete enumeration (head counts) of all canoes and gears operated on respective canoes were carried out by officers of the fisheries department at each landing beach (FRAME SURVEY)

Baseline line information

Interviews were also conducted and questionnaires administered WITH THE PERMISSION AND SUPPORT OF ALL CHIEF FISHERMEN AND THEIR SECRETARIES

Banerji 1974—Fisheries statistics in West Africa Rome WS/E7 100 16PP  
Conducted every 2-3 years

# CANOE FRAME SURVEY

## 2004

Region	Fishing Villages	Landing Sites	Purse Seine	Beach Seine	Set Net	Hook & Line	Drift Gill Net	Total
Volta	29	63	119	384	230	0	3	736
G/Accra	48	68	1549	158	218	586	81	2781
Central	43	103	1641	198	1788	280	63	4450
Western	75	100	1143	163	768	67	373	3246
<b>Total</b>	<b>195</b>	<b>304</b>	<b>4571</b>	<b>903</b>	<b>3004</b>	<b>933</b>	<b>520</b>	<b>11213</b>



# CANOE FRAME SURVEY 2013

Region	Fishing Villages	Landing Sites	Purse Seine	Beach Seine	Set Net	Hook & Line	Drift Gill Net	Total
Volta	29	49	123	423	30	0	294	887
G/Accra	44	59	1410	194	610	42	330	2449
Central	42	98	975	221	349	190	1578	3895
Western	74	96	877	236	163	1004	679	5014
<b>Total</b>	<b>186</b>	<b>302</b>	<b>3085</b>	<b>1574</b>	<b>1142</b>	<b>1236</b>	<b>2861</b>	<b>12728</b>

## COMPARISM OF RESULTS 2001 ,2004, 2013

	No fishermen	Canoes	Landing beaches
2001	123156	9981	304
2004	124219	11213	334
2013	14400	12728	308

# ESTIMATION OF CANOE CATCH STATISTICS

## Canoe Catch Assessment Survey

- Method for collecting sample data for estimation of canoe catch and effort statistics
- Canoe frame survey data is important in the design of the catch assessment data
- A three stage sample survey is used

# Primary stage (sampling sites and gears)

- Whole coastal area divided into 4 regions (i.e MAJOR STRATA) VOLTA , GREATER-ACCRA, CENTRAL AND WESTERN REGIONS
- At the MINOR STRATA –DISTRICTS Sampling sites are selected.
- A certain number of CANOE/GEARS for each sampling site are selected within the minor starta.



## Secondary Sampling Units: (Sampling Days For Gears)

- There are recorders (Technical Assistants) at the sampling sites (selected landing beaches) who take records of the landings
- Sampling is done at least 5 days in week at a sampling site
- No sampling is done on fishing holidays mostly Tuesday.

**TODAY, THIS IS WHAT WE SEE !!! FOOD FOR  
THOUGHT NOT FOOD FOR OUR TABLES**

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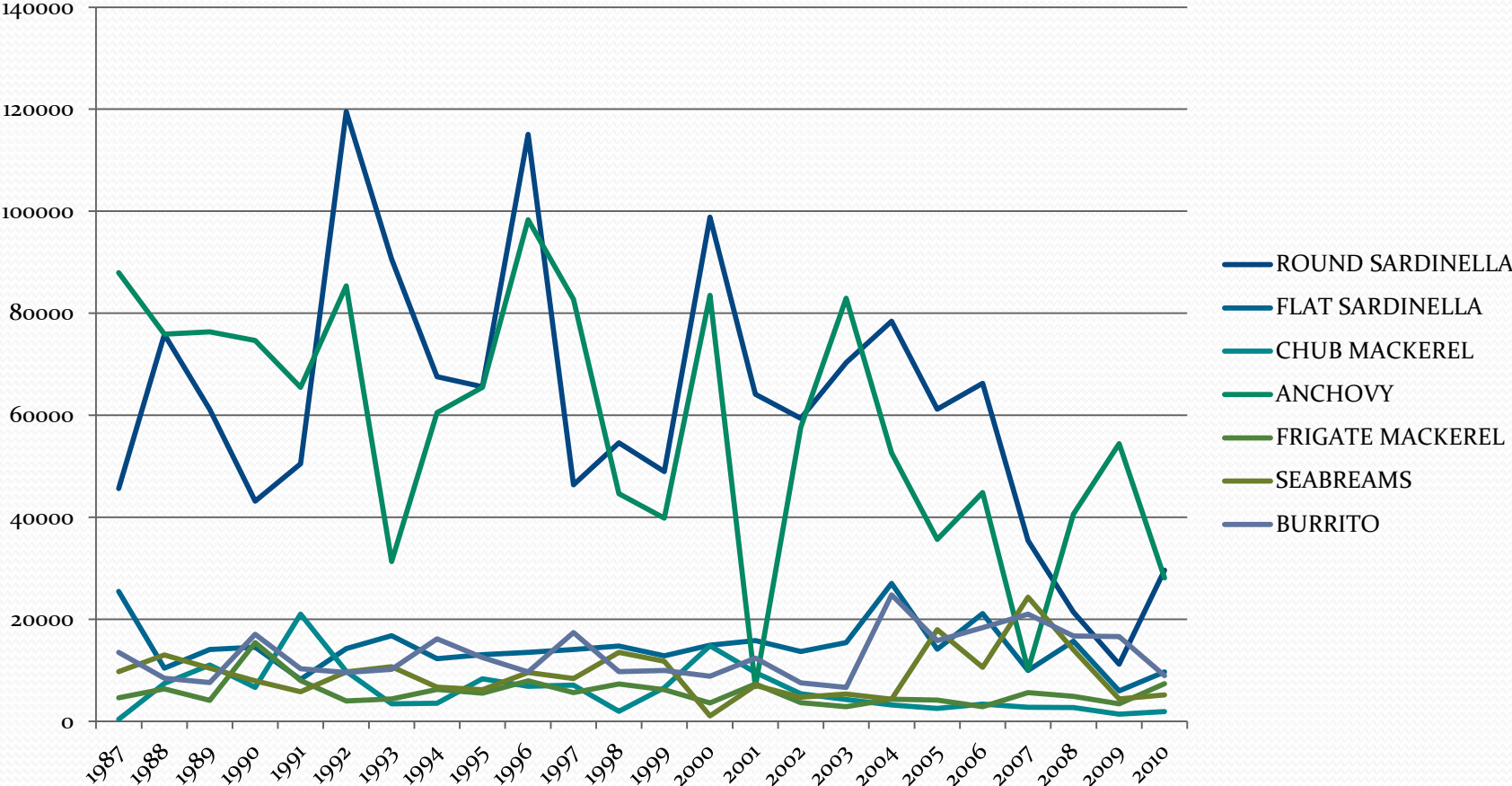


**Summary of sustainable levels in relation to current fleet numbers from computations based of catch and effort data from the fishery –“Shaeffers” model MSY**

	<b>No of units in 2014</b>	<b>MSY mt</b>	<b>Units required to sustain fishery</b>
<b>Artisanal</b>	<b>12,728*</b>	<b>239,913</b>	<b>9,095</b>
<b>Inshore</b>	<b>403</b>	<b>13,713</b>	<b>272</b>
<b>Industrial</b>	<b>107</b>	<b>30,637</b>	<b>48</b>
<b>*cfs2013</b>			



# Current situation of some major species





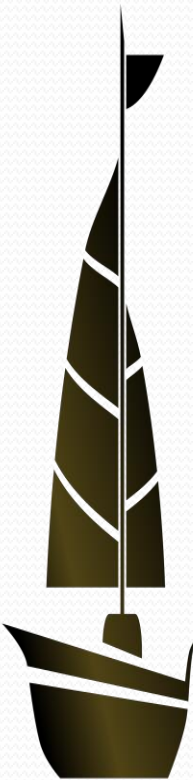
# Inadequate information on Fisheries Biology and Stocks Artisanal Statistics)

- Develop a Data Collection Regulation aimed at gathering fisheries data thru' recruitment and deployment of personnel;
- stratify sampling since some areas have a large relative error;
- Who goes where ??

# In conclusion

- Improving data collection should be enhanced
- Modern techniques hence should be encouraged!!

*Thank you*



# Link to cfs 2013

- Data collection schemes