



# Smoked Bonito Value Chain

Prepared by  
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**Training Workshop on Value Chain  
Approach to Fisheries**

Suriname, July 18<sup>th</sup>-22<sup>nd</sup>, 2016

# Presentation Outline

- ✿ Introduction
- ✿ What is value added
- ✿ Mapping the value chain
- ✿ Estimating value added
- ✿ Some issues in the chain
- ✿ Questions?



# Case Group

The **Women In Fishing Association (WIFA)** was established in 2004.

The aim of the association is to empower the women in the fishing industry and to improve their standard of living in the various communities.





# Community Overview

- Guayaguayare is located within the South Eastern Coast of Trinidad.
- The area is rural, and is considered both as an agricultural and fishing community.
- The area is popular for its beaches and sport fishing.
- Guayaguayare however, is known mainly for its exploration and production of oil and gas.
- The 2012 Human Development Atlas has indicated that the Mayaro/Rio Claro region suffers from :-
  - Low education levels
  - Low Income levels
  - Poor sanitation
  - Poor health standards
  - High adolescent fertility rates
  - High poverty rates



# PRESENT STATUS OF WIFA

Presently WIFA operates a modest facility consisting of an ice/sales room, salt room, processing area , packaging room and a smoking gallery.

The major activity of WIFA is smoking Tuna, Bonito and Zapate’.



# SERVICES PROVIDED

- SMOKED FISH  
(READY TO COOK)
- ICE FOR SALE
- ICE BOX RENTAL
- BOTTLED WATER SALE
- PAN DRESSED FISH



# Bonito

*(Euthynnus alletteratus)*



**For all practical purposes Bonito is considered a by-catch species in T&T.**

**In a consumer survey conducted in early 2016 (sample size 572) 15.4% were not familiar with the species. In the fresh market it does not fetch a high price.**

# Bonito

## *(Euthynnus alletteratus)*

- Maturity at: 42 cm in length
- Max Published Size: 122 cm and 35 pounds
- TnT Record: 18 pounds (unofficial)
- TnT Season: Year round
- IUCN status: Least concern
- 
- General Information: Found close inshore or near the continental shelf.
- They spawn in the months of April through November in the Atlantic Ocean.
- There is little regulation of the fishery, no size or bag limits, and no closed season.
- The flesh is coarse in texture, strong in flavor, and dark in color if compared to Bluefin or Yellowfin tuna.
- Utilized fresh, dried-salted, smoked, canned and frozen.





# Value Added

**Value added from an accounting perspective can be defined as sale price minus purchased inputs cost and other expenditure incurred:**

***Value added = sale price of final product – (purchased inputs + other expenditure incurred)***

# The WIFA Bonito Value Chain

**Input Providers**



**Fisher folk**



**Processor  
Wholesaler  
Retailer**



**Consumers**

A striking feature of this value chain is its shortness, with the processor also being wholesaler and retailer.

The chain is further integrated with the primary fish supplier being the husband of the driving force of WIFA.

# The WIFA Bonito Value Chain – Other Key Actors

**Input Providers**



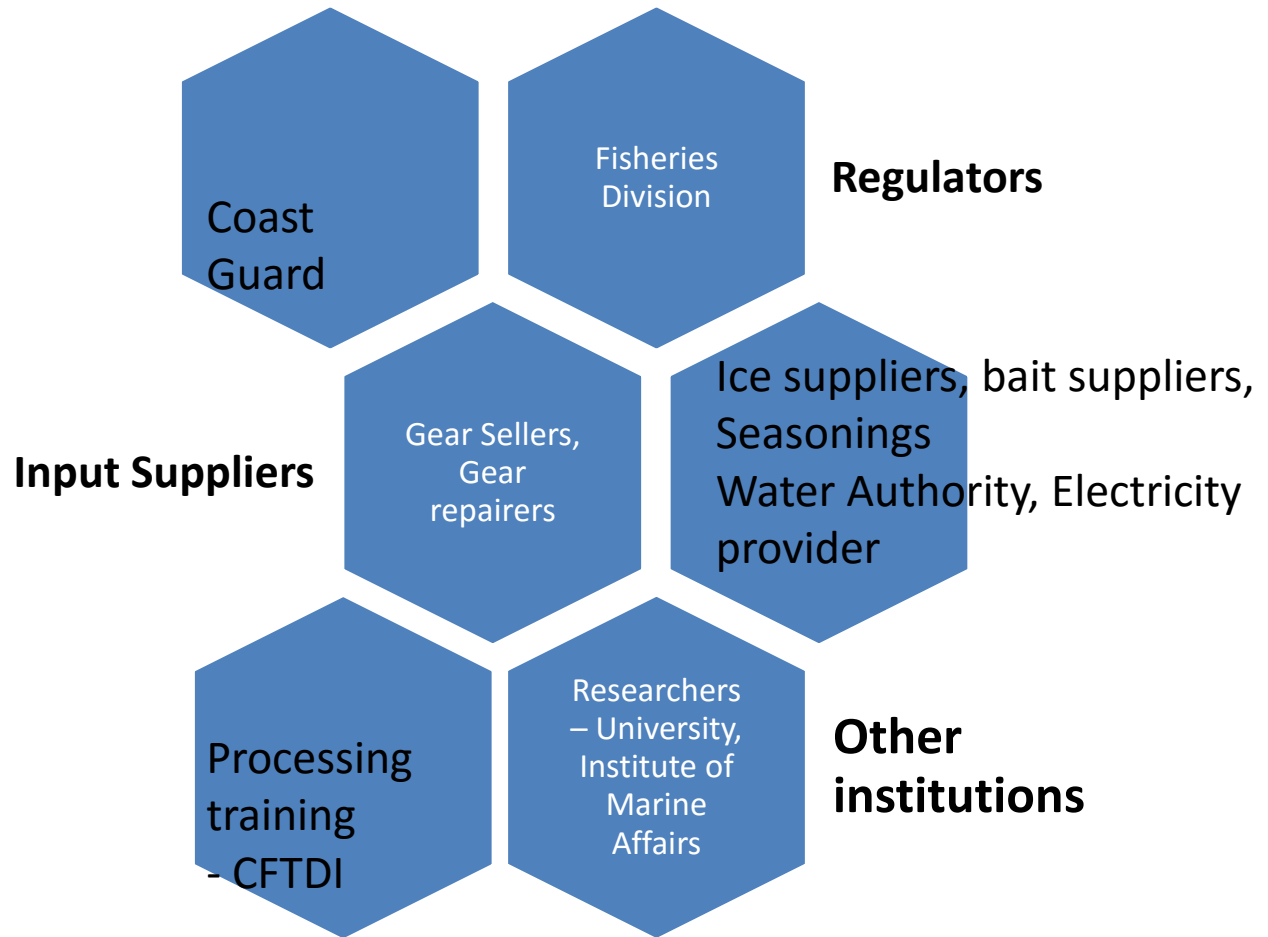
**Fisher folk**



**Processor  
Wholesaler  
Retailer**



**Consumers**



# Information Flows Among Actors

**Input Providers**



**Fisher folk**



**Processor  
Wholesaler  
Retailer**



**Consumers**

**Information on:**

- 1. Volumes landed and volumes demanded**
- 2. Consumer demand**
- 3. Market signals (packaging, pricing, attributes)**
- 4. Input availability**

# Smoked Bonito Value Chain



**Whole Bonito entering the process facility after being weighed. Generally, the preferred size of the fish for this process is 3lbs.**

# Smoked Bonito Value Chain



**Bonito being cleaned and filleted. It is then seasoned and cured for a few days with various spices before stacking in smoking chamber**

# Smoked Bonito Value Chain



**Bonito fillet  
before  
smoking**

# Smoked Bonito Value Chain



**A bucket of seasoning used to marinate the fish and one of coconut husk for smoking chamber.**



# Smoked Bonito Value Chain



**Stacking the smoking chamber with coconut husk. N.B the appropriate technology used for the smoking chamber – an np oil drum.**

# Smoked Bonito Value Chain



**Smoking chamber where the bonito is placed for three hours per batch.**

# Smoked Bonito Value Chain



**Bonito in smoking chamber**

# Smoked Bonito Value Chain



**Smoked fillet after  
removal from  
smoking chamber**

# Smoked Bonito Value Chain



**Fillets after being removed from smoking chamber**

# Smoked Bonito Value Chain

**Smoked bonito fillets being weighed and vacuum sealed.**



# Calculating Value Added

$$V_{\text{added}} = \text{CP} - (\text{P}_F + \text{P}_E + \text{M}_C)$$

Where:

$V_{\text{added}}$  = Value added by processing per pound of smoked bonito;

$\text{CP}$  = Consumer price /lb of finished product

$\text{P}_E$  = The processor's expenditure;

$\text{P}_F$  = The price received by fishermen from processor per pound of bonito;

$\text{M}_C$  = The marketing cost per pound of smoked bonito;

# Calculating Value Added

- Based on the author's calculations the conversion ratio of the smoked bonito value chain, which is from fresh fish to smoked fillet, is 1 to 0.67. So a 3 lb bonito, which appears to be the preferred size for the activity, would yield two 1 lb marketable smoked fillets.
- Ex-vessel price of Bonito = up to TT\$3/lb
- Equivalent Bonito fillet = up to TT\$4.50/lb
- Smoked Bonito Sale Price = TT\$25/lb
- **Marketing Margin = TT\$20.50/lb**

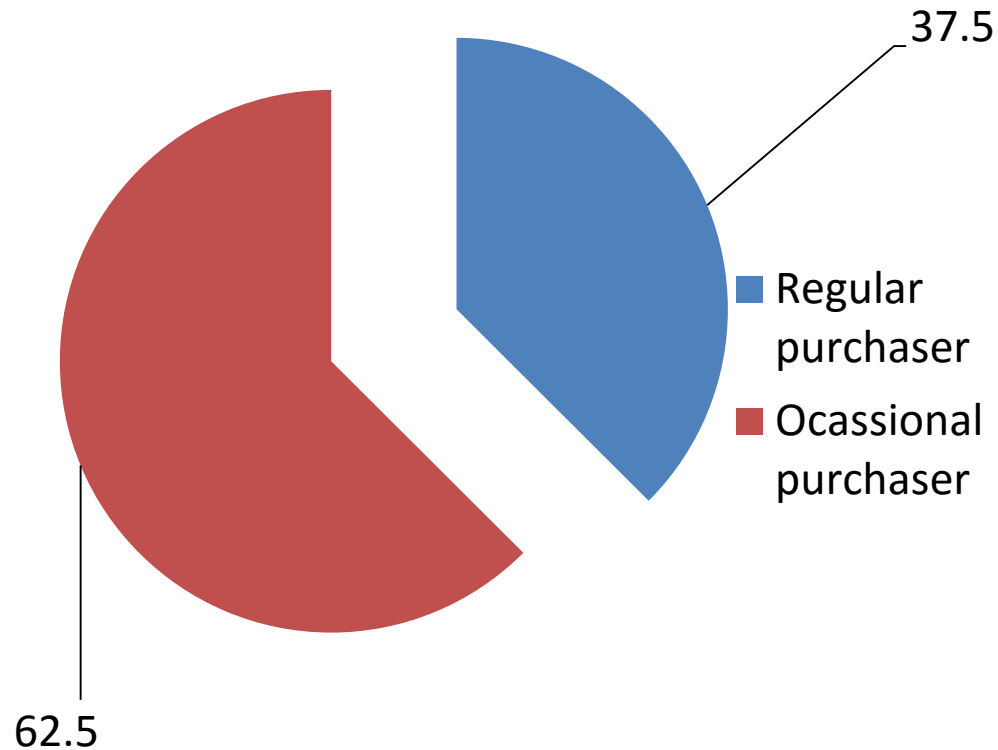


# Calculating Value Added

- **Marketing Margin = TT\$20.50/lb**
- **Marketing Profit?**
- Detailed cost information is not available for all inputs
  - Fish
  - Seasonings
  - Curing containers
  - Coconut husks
  - Water electricity
  - Bags
  - Labels
  - Vacuum sealer equipment
  - Wages
  - Location rent

# Market Survey

- **Figure:** Percentage of regular and occasional fish purchasers





# Market Survey

- The purchase of chilled fish is significantly affected by:
  - Age
  - Education
  - Household size
  - Religion
- The purchase of frozen fish is significantly affected by:
  - Age
  - Family income



# Consumer Preferences

**Table :** Point Scores of Fish attributes

Attributes	Point Score	Mean	Rank
Freshness	2383	4.63	1
Taste	2173	4.22	2
Color of flesh	2144	4.16	3
Price of fish	2136	4.15	4
Species/type	2050	3.98	5
Appearance	2027	3.94	6
Local catch	1958	3.74	7
Size of fish	1855	3.60	8
Imported catch	1454	2.82	9



# Market Survey

- The traditional outlet is the preferred retail outlet for Trinidadians when shopping for fish, with more than 75% of the sample choosing this format.
- Shoppers who purchased fish at the modern retail outlets are much more price and appearance conscious than those who shop at traditional outlets.
- Consumers may no longer be only price focused in their purchases. As the results of this study suggest for both traditional and modern outlet shoppers freshness is the predominant attribute when purchasing fish.
- A strategy therefore that combines the attributes of freshness and being a “local catch” will be useful.



# SWOT Analysis

- **Strengths**

- Partial vertical integration of fishing and processing
- Processing training and experience
- Niche market clearly identified
- Strong demand for product
- Experimentation with other fish species



# SWOT Analysis

- **Weaknesses**

- Significant labour shortage
- Intermittent supply flows
- Lack of basic inputs – labels etc, vacuum sealer
- Poor promotion
- High operational costs
- Varied business enterprise shares time and investment
- As a food handling facility there is need for certification (ISO, HACCP) etc. to improve the acceptability of the product in a wider environment;
- Keyperson dependency
- Variable water supply



# SWOT Analysis

- **Opportunities**

- Smoke other fish species, especially in the off season
- Market diversification /Expanding health-conscious consumers
- Use of contracts as a means of improving the regularity of raw material supplies





# SWOT Analysis

- **Threats**

- Cheaper imports of similar product forms
- Less demand based on economic downturn
- Increasing input costs e.g. fuel, electricity
- Market risk: Dependency on a single market
- Supply risk: Climate change and potential change in landings composition and volume
- Traceability does not appear to be a major concern to the processor, however in the contemporary food industry it is a must
- Increasing discard of Bonito as other species become relatively more valuable



# Future Projects

WIFA is continuously striving to improve its products and systems.

They have a vision for expansion and specifically require:-

- A chimney
- A covering for the ice storage unit.
- Labelling for the products
- Marketing for salted fish (new product)
- Chest freezer
- A standing freezer



# Links to Attributes Consumers Value?

- Colour
- Saltiness
- Smell
- Price
- Time
- Form
- Certification
- Place



**Thank you!**

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