

Current Status of the Sea Cucumber Fisheries and Aquaculture Development in Honduras

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Outline

- I. Background
- II. Investigation Purpose (Study)
- III. Current Regulations and Management
- IV. Industrial Fishing
- V. Market and Product Details
- VI. Illegal Catch
- VII. Advances in Aquaculture

I. Background

- The sea cucumber industry started legally in the first trimester of 2012.
- It is known that before this time, few permits were give, also there was ilegal catch and smuggling.
- It began under the concept of study or investigation, as an alliance between private sector and Government.



II. Investigation Purpose

- The purpose of the investigation is (was) to determine the sea cucumber population status and distribution in the Caribbean of Honduras.
- Also collect information such as density, size, sex, type of substrate, etc. of the fishing areas.



Dirección General de Pesca (DIGEPESCA)

DIGEPESCA

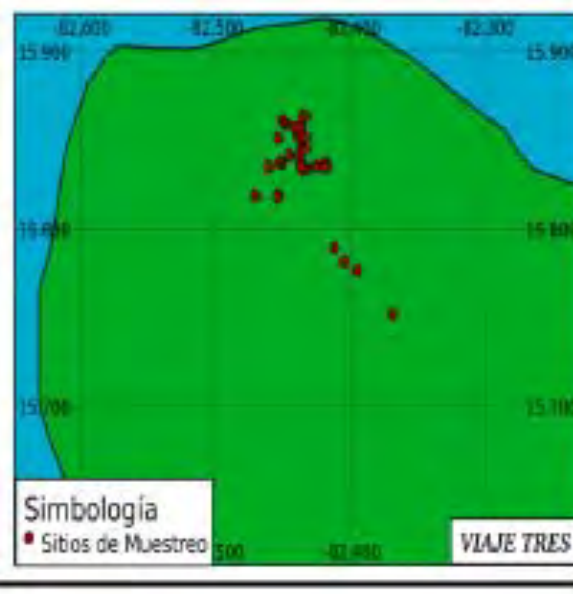
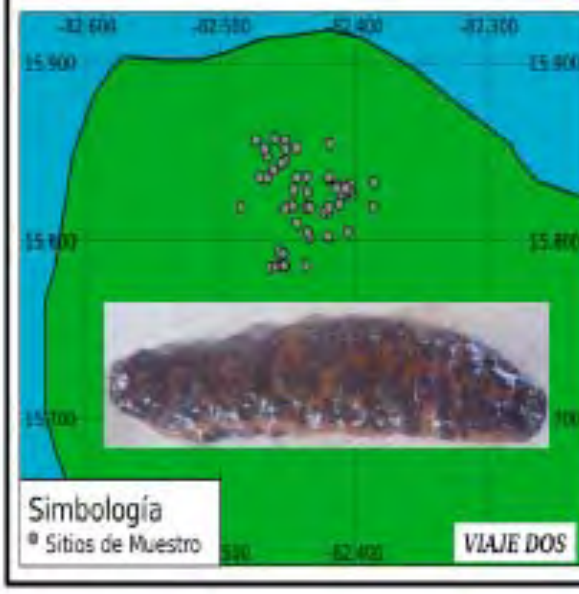
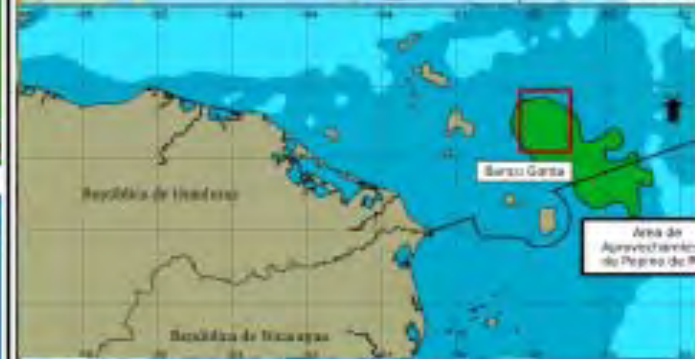
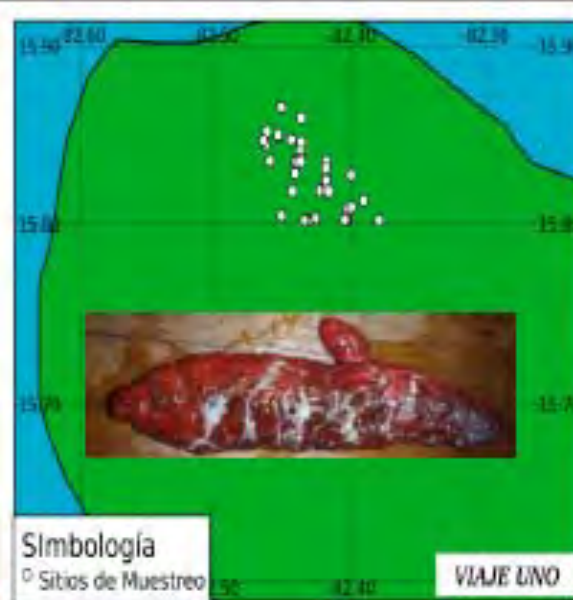
- General Direction of Fisheries
- Direction under the Ministry of Agriculture and Livestock
- Incharge of fisheries and aquaculture regulations, inspection, licensing, etc



Investigation Results

- Eventhough is been little more than 2 years of study, according to fisheries authorities data collected is to few.
- According to fisheries authorities, beside few data, it is also bias.
- To many permits given specially when is under study.
- Sea cucumber is a delicate matter at this moment within the authorities and industry.
- There are actually meetings held to decide the future of the industry.

ZONAS DE PESCA DE PEPINO DE MAR





III. Current Regulations and Management

- Is important to mentioned that since this industry is under study, it is believe there is no clear or proper structure, management plans, nor regulations.
- However, it is mentioned that marine reserves or protected areas must be respected.
- An inspector (Biologist) are suppose to be on board in every journey.
- In order to support the study, a 0.15 USD/Lbs must be given to the Government.

Cont....

- Permits are given to vessels through the processing plants which are listed in the study. However it is believe that any processing plant that is legally stablsh and registered with the authorities, they can export as well.
- All exports must be done only through a processing plant.
- There is no additional permit granted to any other, such as traders, a proforma invoice of a processing plant is needed in order to export.

Cont...

- Some of the regulations established in the licensing for investigation (Industrial) are:
 - 1. A quota of 40,000 Lbs of processed (Pre-cooked and frozen) per boat per journey.
 - 2. A maximum of 35 divers per boat.
 - 3. A maximum of 8 small boats, either with off board engine (15hp) or paddle.
 - 4. Maximum catch depth of 70 feet.

IV. Industrial Fishing

- 100% of diver and boat tripulation are male.
- 95% of the divers are below 30 years old.
- Boat size vary, are same ones as the ones use to catch lobster and conch previously.
- Each journey takes 22-26 days aproximately.
- Two main species catch are *Holothuria mexicana* and *Isostichopus badionotus*.
- Vessels are equipped with the necessary tools:
 - Small Boats and engines
 - Big Gas tank for the cooking of the product.
 - Around 4 rectangular pots for cooking with capacity of approximately 400 lbs.
 - Cold storage.
 - Air pump engines.





Processing On Board

- After the catch and once the product is brought on board:
 1. Cook for 50 *minutes* *H. mexicana* and 30 minutes *I. badionotus*.
 2. Salt product in containers for 12-16 hours.
 3. Store the product in the cold storage (Pre-cooked).



V. Market and Product Details

Main Markets

- Asia (Hong Kong, Taiwan, South Korea, Singapore).
- United States (Mainly the State of California)
- Canada

Export Presentation

- Pre-Cook Frozen mainly
- Pre-Cook frozen with Skin-off.
- Dried

Cont...

Processing Plant Classification

- Classify in sizes by species:
 1. For *H. mexicana*
 - Small (S)= 7-9cm
 - Large (L)= 10-18cm
 - Extra Large (XL)= 18cm
 2. *I. Badionotus*
 - Grade A
 - Grade B
- Packed in boxes of 50lbs/each.









VI. Illegal Catch

- High presence of asians brokers, and several with drying facilities.
- In most cases vessels sells part of their product to middleman before they deliver to processing plants.
- Most of their exports is dried product.
- Smuggle also occur between neighbor countries.



VII. Advances in Aquaculture

- An initiative was taken by the government of Honduras in February 2012, which held a meeting with some Central American authorities, in order to incentivize and start sea cucumber aquaculture facility.
- A formal proposal was given to the Honduran Government in 2012, with the support of Taiwan Technical mission, without any positive results so far.

Some other species found



Cont...



Cont...



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- I Appreciate your Attention
 - Thank you!!!
 - Gracias!!!
 - Xie Xie!!!



Taiwan Technical Mission (Taiwan-ICDF)

Secretaría de Agricultura y Ganadería

*Project of Production, Development and
Research of Applied Aquaculture in the
Caribbean of Honduras*

Presented by:
Ricardo Zúniga

October 2012

Background

- **Aquaculture in the World:**
 - Contributes GDP.
 - Annual Growth: 300%
 - Reliable alternative since the overexploitation of marine resources.
 - Increasing Demand Worldwide.
- **Aquaculture in Honduras:**
 - Few Background (time, techniques, species).
 - Poor diffusion.
 - Lack of productive and investigation initiatives.
 - GDP contribution.
 - High productive potential..

Background

- **Innovation of Non traditional aquaculture products:**
- Lack of knowledge in production and commercialization techniques.
- Wide amount of species with potential for production and market value.
- **Honduras Potential:**
- Geographic Ubication.
- Favorable climate conditions.
- Existance of species with with commercial value (sea cucumber, Octopus, Eel, Snook).
- Wide amount of water resources (freshwater, marine).

Objective

- Promote the production and research of applied aquaculture with non traditional species in order to diversify the income of coastal communities, decreasing the pressure of fisheries resources and stimulating the sustainable development of the Honduran Caribbean, with projection to all Central America.

Methodological Strategy

Phase I: Applied Investigation

- Species Identification
- Reproduction in Captivity.
- Evaluation of techniques for management and production.
- Validation of the utilized techniques of whole process chain.
- Involvement of national and regional universities (UNAH, UNA, CINVESTAV).



Methodological Strategy

Phase II: Production and Development

- Establishing of reproduction and nursery area.
- Pre Grow-out
- Grow-out (Tanks and Sea Ranching)
- Involvement of the coastal communities (Technology transfer and Extension).
- Pilot Projects of production.



Methodological Strategy

Phase III: Processing and Commercialization

- Implementation of techniques for processing.
- Establishing canals for commercialization.



Integration of Different Species

Processes working out

- Snook Culture
- Eel Culture
- Octopus Culture
- Sea Cucumber culture



Implication of establishing separated Centers

- Geographical dispersion of the production centers (variable conditions).
- Increase in the investment of the centers (infrastructure, area, equipment, resources and personnel).
- Duplicity of efforts.
- Limited coordination, innovation and management.
- Lack of proper technical personnel.

Integration of Different Species

Processes working out

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Implications of integrating Centers

- Integrated systems under optimal conditions.
- Optimzing the investment and maximize the utilization of resources.
- Concentration of efforts in one whole system.
- Take better use of installed technicall capacity.
- Integrated system autosustainable.
- Scientific studies and research.



Governments

Universities and Institutes

Taiwan ICDF

Regional Research Center for Development

Expected Results

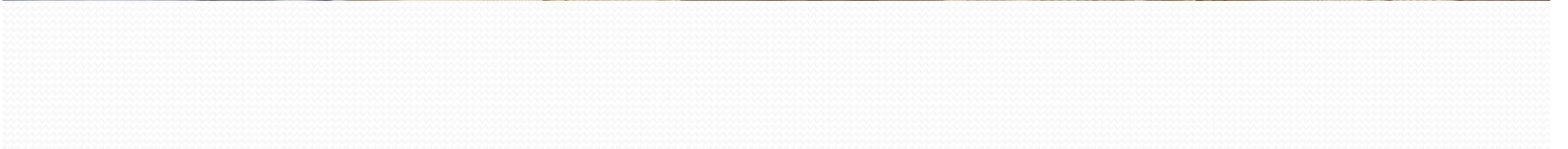
- Establishing of new reproduction techniques, management and production of non traditional aquaculture species.
- Technology Transfer of innovative aquaculture in the region (education at different levels).
- Generation of new income opportunities in the coastal communities.
- Access conformation to new markets.
- Enforcement of the structure and technical capacity of the agriculture sector of the country (agriculture, aquaculture, agribusiness, research).
- Increment to GDP.
- Strength and consolidate diplomatic and multilateral at an international level.













Muchas Gracias!
Thank you!
Xie Xie!

*Developing a new Honduras with Opportunities for
Everyone!*