



Certification and Traceability: Emerging requirements for international and domestic markets

August 2009

Koji Yamamoto
NACA, Coastal Aquaculture Program
koji@enaca.org



Outline

- 1. Market & Consumer Trends**
- 2. Traceability**
- 3. Agreements & Guidelines**
- 4. Certification Schemes**
- 5. Case study – Thailand**





Market and Consumer Trends

- **Global recession**
 - Lower price
 - Less consumption of high value commodities
 - Shift towards lower price commodities

- **Increased consumption of seafood**
 - Increased health conscious consumer
 - BSE (MCD) scare
 - Bird Flu scare
 - Japanese food / sushi trends
 - Increased wealth and infrastructure (e.g. China)
 - Increased application of hydrocolloids



Market and Consumer Trends

- **Concern/Issues**
 - Sustainability of capture fisheries & aquaculture
 - Role of aquaculture in food security
 - Social impacts and environmental sustainability of commercial or industrial aquaculture

- **=> Response by Society**
 - Society looks for “Sustainability, Safety, Quality, and Equity” of the products and production processes.
 - Negative environmental and social impacts of aquaculture will further increase criticism.





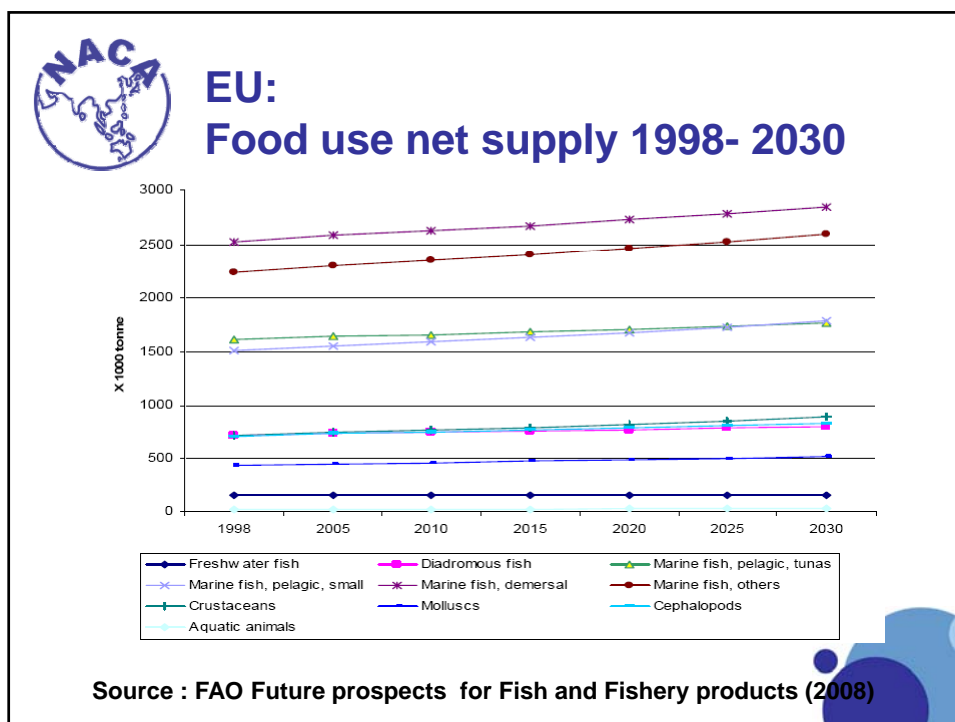
Market and Consumer Trends

- **=> Response by Aquaculture Sector**
 - Restricted aquaculture expansion will tend towards increasing intensification
 - Continued diversification of species and need for their responsible use
 - Continued diversification of production systems
 - Enhanced regulation and better governance
 - Drive for better management



EU

- Estimates fish consumption, production and trade for 28 countries in Europe from 1989 to 2030 shows an increasing demand for seafood products: rising consumption per capita, coupled with the population increase, means that the net supply will have to increase by 1.6 million tons (FAO).
- Increasingly trends for looking good quality portion-size fish, boneless, skinless, odorless fish fillets, steaks, prawns and other products that are quick and easy to prepare (Ready-to-cook, partly-cooked or even ready-to-eat).
- Most European countries generate well over half of their total seafood turnover through supermarket sales (UK, France and Germany >70%).
- The European demand for organic proteins of all kinds has grown quite dramatically over the last decade



EU: Shrimp (Demand ↘)

- The economic crisis continues to influence the European shrimp market. Due to relatively high price commodity, sales of shrimp products suffer from loss of purchase power (e.g. less eating out). Price are low at the moment, and there is hardly any hope for price increases later this year. (Globefish)

	Jan-Mar					
	2004	2005	2006	2007	2008	2009
Grand Total	155 047	157 860	166 598	175 543	159 453	154 459
DENMARK	27 906	31 480	32 843	26 560	23 886	23 286
SPAIN	27 584	24 513	30 412	34 433	25 892	22 000
FRANCE	21 451	20 469	19 706	21 438	24 076	20 980
UNITED KINGDOM	18 124	20 612	20 471	18 187	17 407	17 122
BELGIUM (and LUXBG -> 1998)	13 304	12 812	13 667	17 035	15 999	16 379
NETHERLANDS	12 694	10 758	9 244	11 815	10 525	13 950

Source EUROSTAT

Source : Globefish: Shrimp Market Report - July 2009



US: Shrimp

- The economic downturn has negatively affected seafood consumption (tourism and the restaurant business). Strategies adopted by households is the reduction of casual dining in restaurants, preferring to eat more at home. (Globe fish)
- 2007-2008, imported volume increased in various categories of shrimp, except frozen preparations and 15 or less count of headless shell-on frozen.

Imports Shrimp: USA						
	2003	2004	2005	2006	2007	2008
	(1000 tonnes)					
Thailand	133.2	132.1	160.9	193.7	188.3	182.4
Indonesia	21.7	47.0	52.0	50.7	59.1	64.0
Ecuador	34.0	37.5	49.6	59.4	59.1	56.3
Viet Nam	57.4	37.1	42.9	37.1	39.3	47.9
China	81.0	66.0	45.2	68.2	48.4	47.6
Mexico	25.5	29.0	28.1	35.4	40.6	34.5
Malaysia	1.3	12.7	17.2	20.3	22.8	30.1
India	45.5	41.0	35.7	27.3	20.8	15.2
Bangladesh	9.1	17.4	15.8	19.4	14.9	13.7
Guyana	11.4	8.4	8.8	7.8	8.9	9.1
Peru	1.5	2.9	4.5	5.3	7.2	7.5
Venezuela	10.0	16.3	11.4	9.9	10.8	7.1
Honduras	9.7	11.0	10.5	9.3	7.3	5.7
Canada	6.5	8.2	7.7	7.1	6.0	5.0
Others	57.7	51.0	36.1	31.4	23.4	17.9
Total	504.5	517.6	528.8	590.3	556.9	564.2

Source: HMFS; GLOBEFISH All 19129

Source : Globefish: Shrimp Market Report - May 2009

Imports Shrimp: USA				
Product	2007		2008	
	tonnes	1000 USD	tonnes	1000 USD
Breaded frozen	36491.2	183623.0	37866.5	192140.4
Other prep. frozen	99933.9	702675.5	90533.1	696577.1
Other preparations	1224.0	6013.4	1251.4	6304.3
Peeled frozen	17692.0	132003.4	190891.3	1364479.9
Frozen shell-on	235981.0	1643083.2	244891.6	1789174.8
+ 15	24711.6	314060.6	22793.5	285141.3
1500	20409.7	200532.7	21535.7	200273.0
21025	20446.9	237480.2	30217.2	260927.0
26000	32975.3	220358.1	34413.2	245527.0
31400	42751.7	251583.4	42477.0	264408.1
41750	29140.6	147688.2	31460.6	181049.7
51600	31046.8	152079.8	31740.9	173516.5
61700	14459.1	61975.0	17965.6	93126.6
> 70	12039.3	47325.4	11887.9	56203.9
Other	4712.8	40148.1	6404.1	53008.8
Total general	516935.7	3944377	564240	4097716

Source: HMFS



Non high value fish

(Demand ↗)

Exports

Pangasius: Viet Nam

	Jan-Dec				Jan-April	
	2005	2006	2007	2008	2008	2009
	(1000 tonnes)					
EU	55.2	123.2	172.8	224.3	63.2	64.3
Russia	na	42.7	48.7	118.2	28.0	0.0
Ukraine	na	na	23.0	74.4	11.5	12.4
Asean	22.0	28.5	33.8	34.0	12.2	13.2
China & HK	16.5	17.7	18.2	18.5	5.4	5.6
USA	14.8	24.3	21.2	24.2	10.7	11.4
Mexico	6.6	9.8	14.3	23.2	7.3	7.6
Egypt	na	na	6.3	26.6	7.7	8.1
Others	25.6	40.4	48.7	97.6	16.6	40.3
Total	140.7	286.6	387.0	640.8	162.6	162.9

Source: Vietfish

Source : Globefish: Pangasius Market Report - July 2009

Imports

Fresh Tilapia Fillets: USA

	2003	2004	2005	2006	2007	2008
	(1000 tonnes)					
Ecuador	9.4	10.2	10.6	10.9	11.9	8.5
Honduras	2.9	4.0	6.6	7.3	7.9	8.3
Costa Rica	4.0	4.1	3.7	2.7	4.8	5.6
China	0.9	0.0	0.0	0.0	0.0	3.1
Taiwan PC	0.3	0.1	0.0	0.0	0.0	0.6
Brazil	0.2	0.3	1.0	1.0	0.2	0.5
El Salvador	0.2	0.3	0.3	0.2	0.3	0.5
Panama	0.1	0.1	0.1	0.1	0.0	0.0
Others	0.1	0.4	0.5	0.9	1.1	2.1
Total	18.0	19.5	22.7	23.1	26.2	29.2

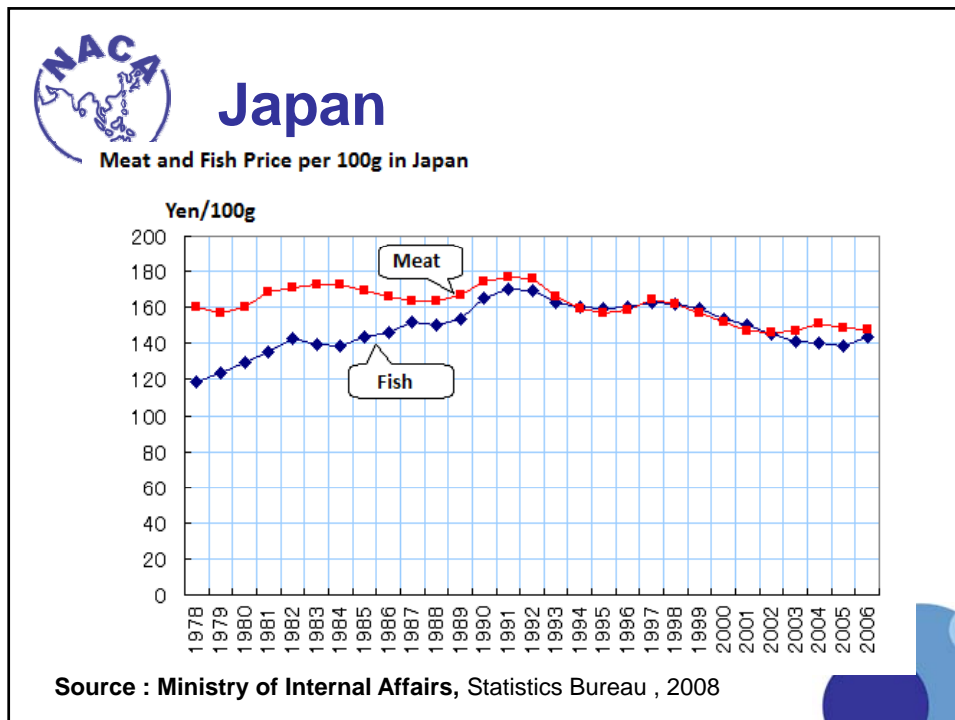
Source: GLOBEFISH

Imports

Whole Frozen Tilapia: USA

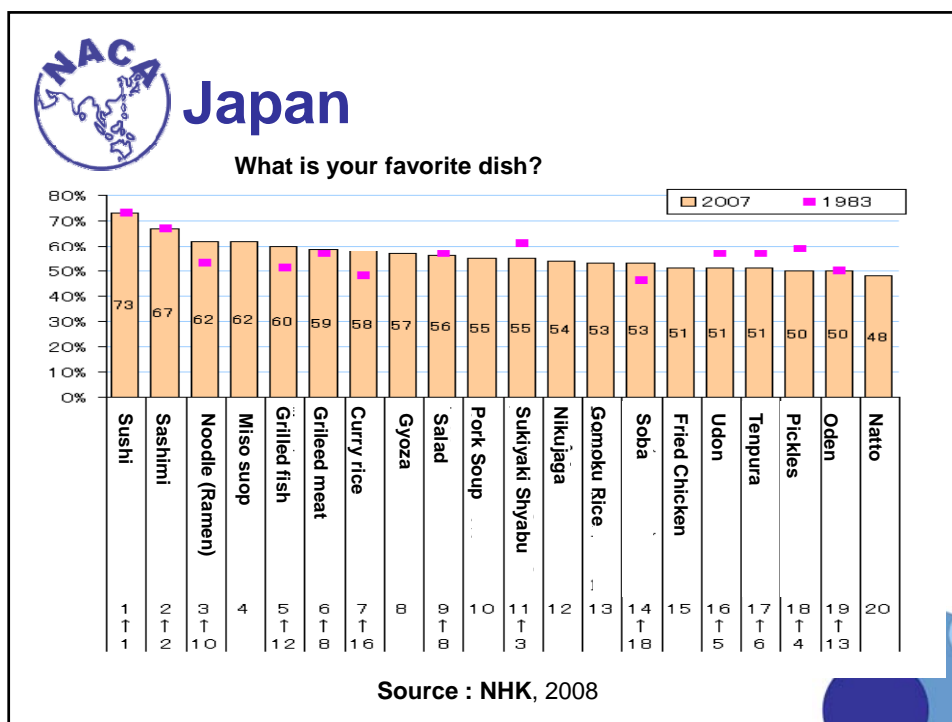
	2003	2004	2005	2006	2007	2008
	(1000 tonnes)					
China	28.8	31.8	30.9	40.5	32.5	29.0
Taiwan PC	19.7	24.9	24.1	18.3	13.5	15.9
Ecuador	0.1	0.1	0.1	0.1	0.2	0.2
Hong Kong	0.1	0.1	0.0	0.2	0.1	0.2
Thailand	0.1	0.1	0.2	0.6	0.2	3.3
Panama	0.1	0.1	0.5	0.4	0.1	0.3
Indonesia	*	*	0.2	0.3	0.0	0.2
Others	0.1	0.2	0.5	0.4	0.3	0.5
Total	49.0	57.3	56.5	60.8	46.9	49.6

Source: GLOBEFISH, *) included under others



 **Japan**

- **Less fish cooking/eating at home**
 - Majority of family with children eats fish dish less than 2 days per week for a dinner (Source: NHK 2007)
 - Top 3 reasons;
 1. Fish is more expensive than meat (more waste during cooking preparation)
 2. Children do not like fish
 3. More effort for cooking preparation
 (Source: Japanese Fisheries Association, 2004)



Traceability

- Definitions**
 - The Codex Alimentarius has defined traceability as the "ability to trace the history, application or location of an entity by means of recorded identifications."
 - ISO defines traceability as the ability to trace and follow food, feed, and ingredients through all stages of production, processing and distribution. (ISO 8402)
 - Traceability refers to the completeness of the information about every step in a supply chain.



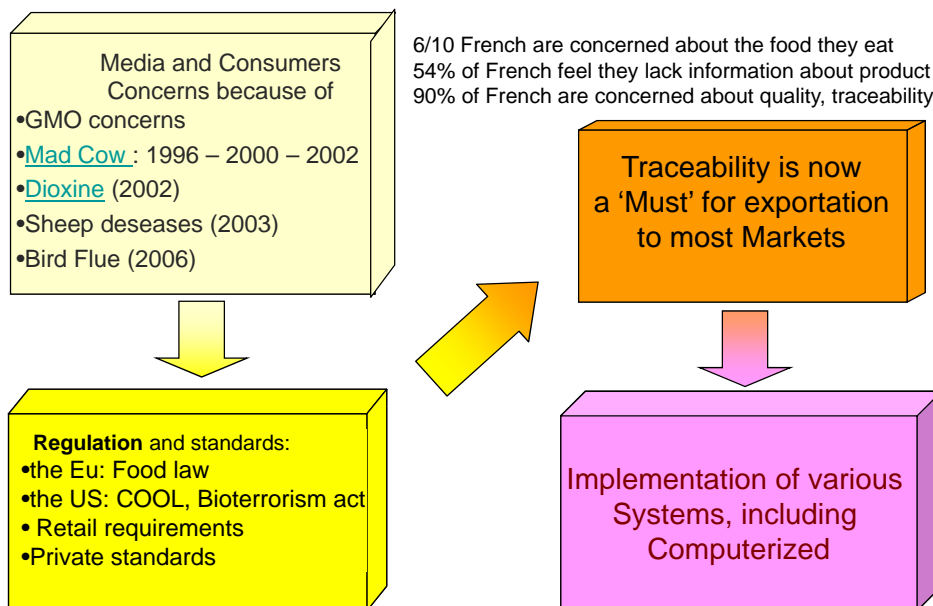
Traceability

- **Rationale**

- Sanitary: To allow Hazards Management and product recall or withdraw if necessary.
- Quality product information: Traceability can provide relevant Quality Information asked by consumers.
- Support any Quality Standards: To insure the Safety, Quality and Origin of a product.



Traceability incentives

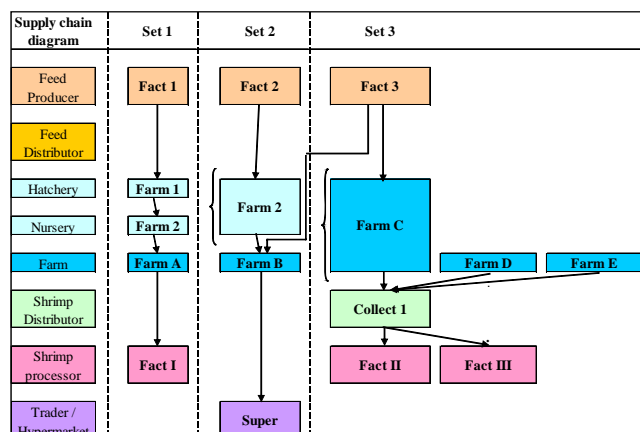


Source: Vincent Andre, DOF Thailand



Traceability

- Challenging for segmented (long) market chain (i.e. small scale)
- Various ongoing attempts & efforts by the sector and governments to support implementation of Traceability system



International Agreement


- GATT (1948, Article XXII:b)
- Codex Alimentarius (FAO/WHO, 1962)
- TBT Agreement (GATT, Tokyo Round, 1974-1979)
- SPS/TBT Agreements (WTO, 1995)
- ISO 9000:2000 (QMS) and 22000:2005 (FSMS)
- Code of Conduct For responsible fisheries (FAO, 1994. Article 11)
- COFI and its two sub committees
- OIE aquatic code

Source: Lahsen Ababouch (FAO)



Fisheries agreements

- **FAO Code of Conduct for Responsible Fisheries**
 - Sets out general 'scope' for responsible aquaculture
- **Principles for responsible shrimp farming**
 - FAO/NACA/WWF/WB etc. initiative as more detailed basis for scoping responsible shrimp aquaculture
- **UN Global Compact**
 - UN Global voluntary corporate responsibility initiative
- **International Ecolabelling Guidelines**
 - Basis for sustainable capture fisheries
- **Aquaculture Certification Guidelines**
 - FAO/NACA initiative. Detail
- **ASEAN Shrimp Alliance**
 - Inter-governmental agreement to establish shrimp production standards for ASEAN countries





Certification Schemes

1) Government Programme

- **Thai Quality Shrimp - Thailand**
 - Codes of Conduct (CoC) and Good Aquaculture Practice (GAP)
 - 5 Step Control Points for "Q-mark"
- **SSoQ – Bangladesh**
 - Certification Standards for shrimp operators (hatcheries, farmers, depots or transporters, processors)
 - Voluntary process certification
- **China PR**
 - ChinaGAP - pilot stage for Aquaculture
 - Green Food Standard
- **Vietnam**
 - CoC/GAP
- **Accredited Fish Farm Scheme – Hong Kong**
 - governmental scheme developed by the Agriculture, Fisheries and Conservation Department (AFCD)











2) Industry/Retailer

- **GAA (ACC)**
 - GAA :standard setting, ACC: certifier
 - US: Wal-Mart & Darden, UK: Lyons Seafood Ltd
 - Shrimp, Catfish, Tilapia
- **GlobalGAP**
 - A pre-farm-gate-standard
 - Shrimp, Salmon, Pangasius , Tilapia
- **Safe Quality Food (FMI)**
 - Representing food retailers and wholesalers
 - SQF1000 & SQF2000
- **Carrefour Quality Line**
 - Thailand: SIAM Natural Resources Company





GLOBALG.A.P.












3) Organic


Certification Schemes

- **IFOAM**
 - Global umbrella organisation (750 members)
 - IFOAM Basic Standards includes “Aquaculture Production Standards” Standards for standards
 - ISEAL member
- **Naturland (Germany)**
 - Several aquaculture commodities, include shrimp, first standards set in 1999. (2 clusters in India, farm in Thailand)
- **Soil Association (UK)**
 - The soil association has prepared general standards for aquaculture, mainly focused on salmon trout and shrimp farming
- **Thailand**
 - ACT, & Government scheme
 - Private certification body, started 1995 as a network of 85 NGOs, Accredited by IFOAM, ISO, Agriculture include shrimp













4) other sustainability related initiatives

- **WWF Aquaculture Dialogues**
 - Salmon, Shrimp, Tilapia, Molluscs, Trout, Barramundi
 - Aquaculture Stewardship Council (ASC)
- **ISEAL Alliance**
 - Set voluntary standards in sectors ranging forestry, agriculture, fisheries, manufacturing and textiles.
- **FEAP Code of Practice**
 - Focus on sustainable production, not for certification
- **IFAT**
 - Network of Fair Trade Organizations
 - Has label to be used by its member organizations
- **Marine Stewardship Council (MSC)**
 - Not yet certifying aquaculture products, but covering some 'enhanced' fisheries
- **Monterey Bay Aquarium Seafood Watch**
 - Categorize commodities based on their sustainability, working on sustainability standards for aquaculture



Certification Schemes

And More ...



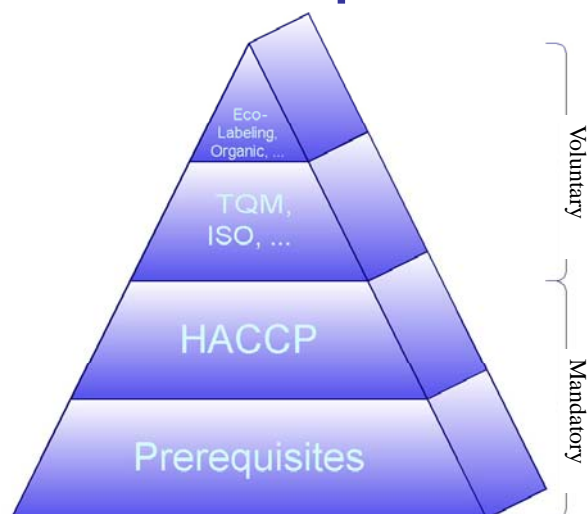


Implications of Private Scheme

- Many schemes confuse consumers
- Additional burden for Small scale businesses and developing countries?
- Risk of anti-competitive behavior
- Definition of boundaries between private and public sectors. Who is responsible for what?



Practical implementation



Source: Lahsen Ababouch (FAO)



Case Study: Thailand

- **85% of shrimp farmers in Thailand are small-scale farmers**
- **Mostly *P.vannamei***
- **Increasing cost of production**
- **Lower market price**
 - Increased production from the country & region
 - Global economic recession
- **Challenging to access good market**
- **Farmer group**
 - Cooperative, association, club,







Ongoing Project in Thailand

To operationalise an organisational model for exploring commercial mechanisms required for giving small farmers access to profitable markets.

Project partners

Farmers Cooperative	Processing plant
EU buyer	WWF
NACA	Fair-trade (in discussion)

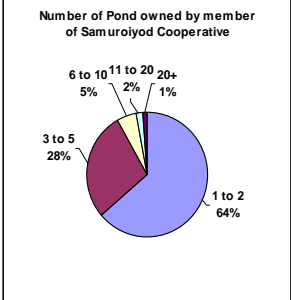



Cooperative structure in Thailand

: Samroi-yod Shrimp farming cooperative

- **History**
 - Established in March 2006 (Growing, 140 farmer mostly small scale)
- **Administration**
 - Register under Ministry of Agriculture and Cooperatives
 - Monthly committee meeting, General assembly (all member) twice a year, usually combined with a workshop
 - Committee voted by the general assembly.
- **Financial**
 - Audit by Ministry of Agriculture and Cooperatives
 - Transparent with members
- **Shrimp Farming**
 - *P.vannamei*
 - Semi-intensive



Number of Ponds	Percentage
1 to 2	64%
3 to 5	28%
6 to 10	5%
11 to 20	2%
20+	1%





Status and Outcome of the pilot project

- 20 farms from the cooperative engaged
- Provide technical and scientific support, GAP, BMP, industry requirements
 - food safety
 - environmental protection
 - Low stocking density, Recycling water
 - Environmental monitoring
 - Internal control
 - Record keeping
- Product sold to EU (with premium)
- Testing Shrimp Aquaculture Dialogue standards (coordinated by WWF) and its development
- Started contact & discussion with Social oriented Scheme (e.g. Fairtrade)





