# CFC/FAO/INFOFISH/SIPPO ORGANIC AQUACULTURE PROJECT

Tarlochan Singh INFOFISH

# Organic Aquaculture in Myanmar, Thailand and Malaysia

**Duration** : 36 months

**Location** : Union of Myanmar, Thailand and Malaysia

**Estimated total costs** : US\$ 1,401,875

Financing from the Common Fund : US\$ 835,217

Counterpart contributions in : US\$ 432,783 \*

cash and in kind

**Co-financing** : US\$ 133,875 \*

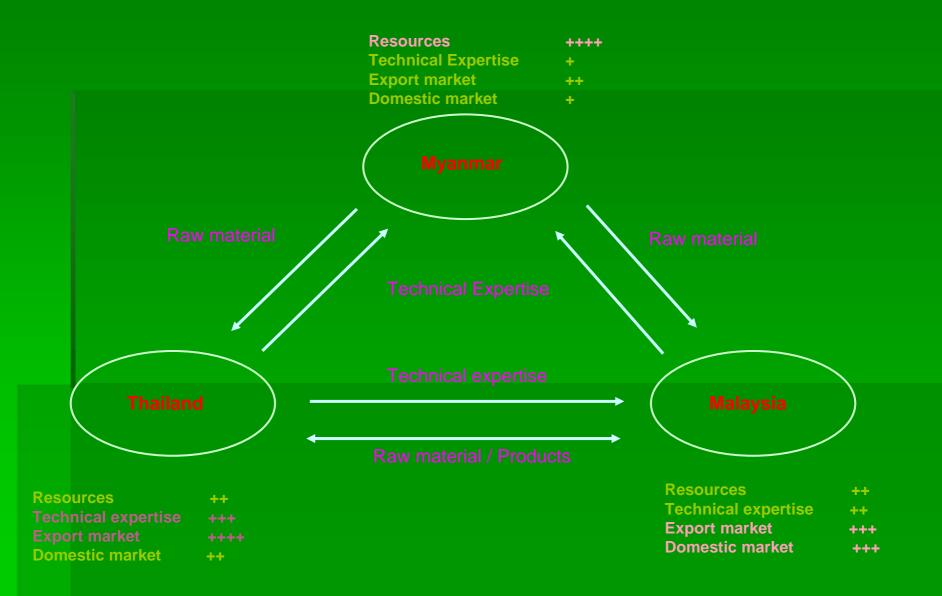
Project Executing Agency (PEA) : INFOFISH\*\*

Supervising Body : Sub-Committee on Fish Trade of the FAO Committee

of Fisheries, as the designated International

Commodity Body (ICB) for Fishery Products.

# Status of Aquaculture Resources, Technical know-how and domestic/export market Opportunities - Myanmar, Malaysia and Thailand



# The objectives of the project

Four broad objectives are considered in the present project:

- 1. To contribute to the sustainable development of the aquaculture sector by ensuring safety of aquaculture products from the Asia-Pacific;
- 2. To increase the knowledge about certification and marketing of organic aquaculture products;
- To facilitate transfer of technology to small-medium scale sectors of production and marketing of organic/ aquaculture products;
- To encourage investment in sustainable, eco-friendly aquaculture and domestic marketing and export-processing of produce.

ANNEX 2

Year 3

#### WORKPLAN

Year 2

Year 1

Component/Activity

| $\rightarrow$ | Component/Activity   |          | _       | _      | _        |         | ear |         | _        |    | _           |          | _  |           |          |               |          | rear z   |          |          |         | _       | _        | -       | _        | _  | _        |          | real |    | _  | $\overline{}$  |          |          |    |
|---------------|--|----------|---------|--------|----------|---------|-----|---------|----------|----|-------------|----------|----|-----------|----------|---------------|----------|----------|----------|----------|---------|---------|----------|---------|----------|----|----------|----------|------|----|--|----------------|----------|----------|----|
| ۱ ۵           | Market etudies and expert trials   | 1        | 2       | 3      | 4        | 5 6     | 1   | 7 8     | 9        | 10 | 11          | 12       | 13 | 14        | 15       | 16            | 17       | 18       | 19       | 20 2     | 21 :    | 22 2    | 3 24     | 25      | 26       | 27 | 28       | 29       | 30   | 31 | 32   | 33             | 34       | 35       | 36 |
| a)            | Market studies and export trials   |          |         |        |          |         |     |         |          |    |             |          |    |           |          |               |          |          |          |          |         |         |          |         |          |    |          |          |      |    |  |                |          |          |    |
| 1             | Market studies (Act a.1.1)   |          |         |        |          |         |     |         |          |    |             |          |    |           |          |               |          |          |          |          |         |         |          |         |          |    |          |          |      |    |  |                |          |          |    |
| - 1           | Visits to Major Markets (Act a.2.1)  | ŀ        | $\top$  | $\top$ | $\dashv$ |         |     |         |          |    |             |          |    |           |          |               |          |          |          |          |         |         |          |         |          |    |          |          |      |    |  |                | ı I      |          |    |
| - 1           | Market oriented products (Act a.2.2)   |          |         | 十      | 十        | 7       |     |         |          |    |             |          |    |           |          |               |          |          |          |          |         |         |          |         |          |    |          |          |      |    |  |                | ı I      |          |    |
|               | Organic certification initiatives (Act a.2.3)  |          |         |        |          |         | 十   | $\top$  | $\vdash$ |    |             |          |    |           |          |               |          |          |          |          |         |         |          |         |          |    |          |          |      |    |  |                | ı I      |          |    |
| 5             | Trade fair participation (Act a.2.4)   |          |         |        |          |         |     | Г       |          |    |             |          |    |           |          |               |          |          |          |          |         |         |          |         |          |    |          |          |      |    |  |                | ı I      |          |    |
| 6             | Trial marketing (Act a.3.1)  |          |         |        |          |         |     |         |          |    |             |          |    |           |          |               |          |          |          |          |         |         |          |         |          |    |          |          |      |    |  |                | ı I      |          |    |
| 7             | Product Promotion/ publicity (Act a.3.2)   |          |         |        |          |         |     |         |          |    |             |          |    |           |          |               |          |          |          |          |         |         |          |         |          |    |          |          |      |    |  |                |          |          |    |
| 8             | Monitoring of exports (Act a.3.3)  |          |         |        |          |         |     |         |          |    |             |          |    |           |          |               |          |          |          |          |         |         |          |         |          |    |          |          |      |    |  |                | $\Box$   |          |    |
|               |  |          |         |        |          |         |     |         |          |    |             |          |    |           |          |               |          |          |          |          |         |         |          |         |          |    |          |          |      |    |  |                | $\Box$   |          |    |
|               |  |          |         | T      |          |         |     |         |          |    |             |          |    |           |          |               |          |          | $\Box$   |          | T       |         |          |         |          |    |          |          |      |    |  |                |          |          |    |
| b)            | Technology transfer  |          |         |        |          |         |     |         |          |    |             |          |    |           |          |               |          |          |          |          |         |         |          |         |          |    |          |          |      |    |  |                |          |          |    |
|               |  |          |         |        |          |         |     |         |          |    |             |          |    |           |          |               |          |          |          |          |         |         |          |         |          |    |          |          |      |    |  |                |          |          |    |
| - 1           | Organic/ Aquaculture products activities in the region (Act b.1.1)                         |          |         |        |          |         |     |         |          |    |             |          |    | $\square$ |          | _             | $\dashv$ |          |          |          |         |         |          |         |          |    |          |          |      |    |  |                | .        |          |    |
| - 1           | Feasibility studies (Act b.1.2)  |          |         |        |          |         |     |         |          |    |             |          |    |           |          | $\rightarrow$ |          |          |          |          |         |         |          |         |          |    |          |          |      |    |  |                |          |          |    |
| - 1           | Organic productionn (Act b.1.3)  |          |         |        |          |         |     |         |          |    |             |          |    |           |          | $\dashv$      |          | +        | $\dashv$ | +        | +       | +       | +        | +       | $\vdash$ |    | $\vdash$ | $\vdash$ |      |    | <del>                                     </del> | Н              | $\dashv$ | $\dashv$ | —  |
|               | Marketing trials (Act b.1.4)   |          |         |        |          |         |     |         |          |    |             |          |    |           | $\dashv$ | $\rightarrow$ | $\dashv$ |          |          | $\vdash$ | +       | +       | +        | +-      | -        |    | ₩        |          |      |    |  |                | ı I      |          |    |
| - 1           | Compilation of documentation (Act b.1.5)   |          |         |        |          |         |     |         |          |    |             |          |    |           |          | -             | $\dashv$ | +        | $\dashv$ |          |         |         |          |         |          |    |          |          |      |    |  |                |          |          |    |
| - 1           | Workshops/Industry Seminars (Act b.2.1)  |          |         |        |          |         |     |         |          |    | _           | -        |    |           |          |               |          |          |          |          |         |         |          |         | $\vdash$ | 1  |          |          |      |    |  |                |          |          |    |
| 15            | Feasibility/documents (Act b.2.2)  |          |         |        |          |         |     |         |          |    |             |          |    |           |          |               |          |          | -        | +        | +       | +       | $\dashv$ |         |          |    |          |          |      |    |  |                |          |          |    |
| $\dashv$      |  | $\dashv$ | +       | +      | +        | +       | +   | +       | $\vdash$ |    |             |          |    | $\vdash$  | $\dashv$ | $\dashv$      | $\dashv$ | $\dashv$ | $\dashv$ | +        | +       | +       | +        | +       | $\vdash$ |    | $\vdash$ |          |      |    | $\vdash$   | Н              | $\dashv$ | $\dashv$ | _  |
| c)            | Investment promotion   |          |         |        |          |         |     |         |          |    |             |          |    |           |          |               |          |          |          |          |         |         |          |         |          |    |          |          |      |    |  |                |          |          |    |
|               | 1,000,000,000,000,000  |          |         |        |          |         |     |         |          |    |             |          |    |           |          |               |          |          |          |          |         |         |          |         |          |    |          |          |      |    |  |                |          |          |    |
| 16            | Assessment of investment needs for organic/ aquaculture (Act c.1.1)                        | )        |         |        |          |         |     |         |          |    |             |          |    |           |          |               |          |          |          |          |         | L       |          |         | ╛        |    |          |          |      |    |  |                |          |          |    |
| 17            | Investment seminars (Act c.2.1)  |          |         |        |          |         |     |         |          |    |             |          |    |           |          |               |          |          |          |          |         |         |          |         | L        |    |          |          |      |    |  |                | .        |          |    |
|               | Linkage promoters/Financiers (Act c.2.2)   |          |         |        |          |         |     |         |          |    |             |          |    |           |          |               |          |          |          |          |         |         |          |         |          |    |          |          |      |    |  |                |          |          | _  |
| 19            | Formulation of investment projects (Act c.2.3.)  |          |         |        |          |         |     |         |          |    |             |          |    |           |          |               |          |          |          |          |         |         |          |         |          |    |          |          |      |    |  |                |          | T        |    |
|               |  | $\perp$  | $\perp$ | 4      | $\perp$  | $\perp$ | 퇶   | $\perp$ | $\perp$  |    |             |          |    |           |          | _             |          | _        | _        | $\perp$  | $\perp$ | $\perp$ | $\perp$  | $\perp$ | $\perp$  |    |          |          |      |    |  | Ш              | $\sqcup$ | _        |    |
| .             | To be also and the constitution of the   |          |         |        |          |         |     |         |          |    |             |          |    |           |          |               |          |          |          |          |         |         |          |         |          |    |          |          |      |    |  |                |          |          |    |
| a)            | Technology and Information Dissemination   |          |         |        |          |         |     |         |          |    |             |          |    |           |          |               |          |          |          |          |         |         |          |         |          |    |          |          |      |    |  |                |          |          |    |
| <sub>20</sub> | Training in marketing/technical  |          |         |        |          |         |     |         |          |    |             |          |    |           |          |               |          |          |          |          |         |         |          |         |          |    |          |          |      |    |  |                |          |          |    |
| - 1           | databasement (Act d.1.1)   |          |         |        |          |         |     |         |          |    | <del></del> | $\vdash$ |    | $\vdash$  | $\dashv$ | $\dashv$      |          |          |          |          |         |         |          |         |          |    |          |          |      |    |  |                |          |          |    |
| - 1           | Assistance in setting up technical/QC  |          |         |        |          |         |     |         |          |    |             |          |    |           |          |               |          |          |          |          |         |         |          |         |          |    |          |          |      |    |  |                | . 1      |          |    |
| - 1           | facilities (Act d.1.2)   |          |         |        |          |         |     |         |          |    | _           |          |    | $\vdash$  | $\dashv$ | $\dashv$      |          |          |          |          |         |         |          |         |          |    |          |          |      |    |  |                | . 1      |          |    |
|               | Training in product safety/environment.  |          |         |        |          |         |     |         |          |    |             |          |    |           |          |               |          |          |          |          |         |         |          |         |          |    |          |          |      |    |  |                | . 1      |          |    |
| - 1           | Monitoring and lab techniques (Act d.1.3)  |          |         |        |          |         |     |         |          |    | <del></del> | 1        |    |           |          |               |          |          |          |          |         |         |          |         | 1        |    |          |          |      |    |  |                |          |          |    |
| - 1           | Regional Workshop (Act d.1.4)  |          |         |        |          |         |     |         |          |    |             |          |    |           |          |               |          |          |          |          |         |         |          |         |          |    |          |          |      |    |  |                | . 1      |          |    |
| - 1           | Regional vvorksnop (Act d.1.4) Continuous monitoring of imports/technical;                 |          |         |        |          |         |     |         |          |    |             |          |    |           |          |               |          |          |          |          |         |         |          |         |          |    |          |          |      |    |  |                |          |          |    |
| - 1           | continuous monitoring of imports/ technical;<br>trade; market regulations etc. (Act d.1.5) |          |         |        |          |         |     |         |          |    |             |          |    |           |          |               |          |          |          |          |         |         |          |         |          |    |          |          |      |    |  | $\vdash\vdash$ |          |          |    |
|               | trade, market regulations etc. (Act 0.1.5)   |          |         |        |          |         |     |         |          |    |             |          |    |           |          |               |          |          |          |          |         |         |          |         | 1        |    |          |          |      | 1  | I  | ıl             | ıΙ       | - 1      |    |

#### Certified Naturland Organic Aquaculture Projects

Ireland, Norway: Organic Salmon, Cod



Germany, Spain: trout, char France, Greece: Seabass & Seabream

Israel: Tilapia, Seabass &

Seabream

Vietnam, Indonesia, Thailand: Shrimp (Black Tiger)

Ecuador, Peru: Shrimp (Western White)

### Principles of organic aquaculture

Absence of GMOs (genetically modified organisms) in stocks and feed prime material

focussing on vegetable feed ingredients (e.g. soy beans) and feed additives derived from bio-technology, as well as on transgenic, triploid and all-female stock

- Limitation of stocking density considering ecological capacity of site and species-specific behaviour of animals (Shrimps: 15 PL/ m3, resp. max. 800kg/ha per production cycle)
- Origin of vegetal feed and fertiliser from certified organic agriculture, no artificial feed ingredients

basic principle of organic production: networking of organic operations

### Standard-Principles of organic aquaculture

 Criteria for fishmeal sources; in general, decreased protein and fishmeal content of diets

permitted are trimmings of fish processed for human consumption or by-catches; no dedicated fishmeal harvesting operations (Shrimps: max. 20% fishmeal/-oil and max. 25% total protein)

No use of inorganic fertilisers

basic principle of organic production: recycling of nutrients instead of intensive input

- No use of synthetic pesticides and herbicides
   basic principle of organic production: maintaining natural diversity on the farm area
- Restriction on energy consumption (e.g. regarding aeration) as a general trend; de-intensification of operations, lowering of input

### Standard-Principles of organic aquaculture

- Preference for natural medicines
   no prophylactic use of antibiotics and chemotherapeutics, no use of such substances in invertebrate aquaculture
- Intensive monitoring of environmental impact, protection of surrounding ecosystems and integration of natural plant communities in farm management

focussing on the effluents of farms and the design of pond farms

Processing according to organic principles
 basic requirement for a final products to be certified as organic.

# **Naturland Social Standards**

- 1. Employment conditions
- contracts
- equal treatment
- wages, in kind payment
- working hours
- social benefits
- 2. Human Rights

3. Forced labour

- 4. Freedom of Association, Access to Trade Unions
- 5. Equal treatment and opportunities
- 6. Child labour

7. Health and Safety

# **Participating Companies**

#### **Malaysia**

- Handai Utama Enterprise, Gelang Patah Farm, Johor (research centre)
- LKIM Brackishwater Shrimp Culture Project, Sebatu, Melaka (shrimp)
- Tilapia Cage Culture Farm, Sg Como, Terengganu (tilapia)
- Projek Udang Galah MoA Inc., LPP, Kedah) (freshwater prawns)

#### **Myanmar**

- Toe Myint Aung Co Ltd (shrimp)
- Pale Nadi Co. Ltd (shrimp)
- Pyae Phyo Kyaw Company Ltd (shrimp)
- Arsha Thar International Co Ltd (freshwater prawns)

#### **Thailand**

- Samutsongkram Marine Shrimp Aquaculture Research and Development Center (research centre)
- Sureerath Farm (shrimp)
- Bunjonk Farm (shrimp & fish hatchery)
- Surakij Farm (shrimp)

# Main Issues

- Organic feed
- Traceability of feed ingredients
- Stocking densities/standing biomass
- Organic processing



### Steps to organic aquaculture certification

#### 1. Exchange of information

The first step towards certification is the exchange of information. Naturland provides detailed information about technical and formal aspects of certification.

The interested farm/organisation is then requested to present itself:

Naturland will forward a basic questionnaire. The questionnaire assists in obtaining basic data about the operation, as well as the preconditions and prospects for conversion towards organic aquaculture.

#### 2. Pre-evaluation visit

The pre-evaluation visit will be conducted by Naturland according to a detailed agenda. The purpose of the visit is to get an impression of the situation on site and to discuss the steps towards conversion with all parties involved, setting up the conversion plan.

Moreover, the pre-evaluation visit is supposed to assist the farm/organization in preparing for the oncoming inspection.

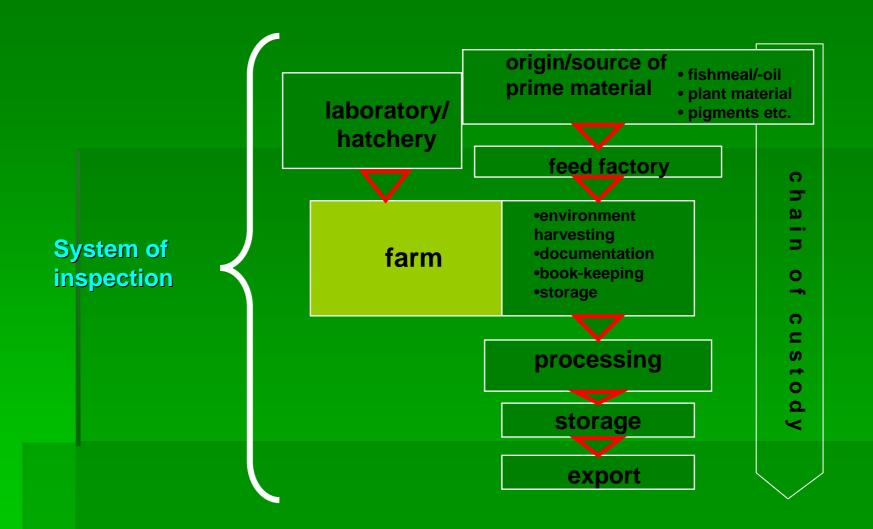
#### 3. Inspection

In case an agreement is reached, Naturland will order an inspection of the farm/ organisation by an independent inspection body. Before the inspection is scheduled, a cost estimation will be issued by the inspection body.

In the field of organic aquaculture, Naturland is cooperating with a number of inspection bodies, according to the type and location of the respective project. This safeguards a good flexibility and international presence of the Naturland certification program.

Naturland entrusts the chosen inspection body with the first inspection as well as the annual follow-up inspections.

Following the inspection, the inspector will issue the inspection report to Naturland, listing and evaluating the findings. Herein, recommendations regarding certification and/or conditions are submitted to the Naturland certification committee. The farm/company is given the chance to comment on the report.



#### 4. Contracts

Assuming a positive decision by the certification committee, a contractual partnership between a farm/organisation and the Naturland Association can be established. At this point, a producer contract between the farm/ organisation and Naturland will be concluded. Herein, the farm/company commits itself to comply with the Naturland standards and is entitled to declare itself a Naturland® partner. The legal basis for the use of the Naturland® trade mark for labeling products is governed by a separate contract, the so called sublicense contract with the Naturland® Zeichen GmbH (Naturland trade mark company).



#### 5. Certification

The inspection report, together with further data and information, is forwarded to the Naturland Certification Committee. This committee is independent from Naturland association, but Naturland provides advice. The decision of the committee is binding for Naturland's management.

The certification committee decides on the admission and certification of new farms as Naturland members. It also decides on the annual renewal of certification.

The committee's decision is communicated to the farm/company by the certification letter, containing also the conditions the certification is subjected to.



#### 6. The Naturland® Zeichen GmbH

This company works closely with the association. Its exclusive task is the administration and control of licenses, governing the use of the Naturland® trade mark (logo).



### Cost of certification for aquaculture enterprises



Pre-evaluation visit

- Membership fee (annual)
  - a) US\$ 500
  - b) smaller fees for small companies
- License fee (as an average)
  - a) 1% of the net sale price
- Annual inspection costs (as an average)
  - a) US\$ 100 350 per day
  - b) travel expenses



# **SUSTAINABILITY** is becoming a **Standard in the International Market**

- Global demand for fish is growing faster than supply and sustainability becomes a big question mark
- While sustainable aquaculture is the main answer, organic farming will possibly be the most sustainable and high-end product group in the market.
- Organic is where both marketers and consumers feel comfortable with - in the western and developing world

# Certification Moving Fast in the Market

- Sustainability has become a standard for British supermarkets
- Today there are over 450 MSC certified fishery products on the market compared to 50 five years ago (93 in the USA; 85 in the UK).

# Sustainability & Selling Green Foods

- Sustainability and eco-label certification are fast becoming important reflections of the financial health of a company... says an analyst.
- Investors and major retailers in the west do not want to be exposed to negative press because of product that comes from unsustainable sources
- The Dutch Rabobank (agricultural bank) recently added sustainability to its credit approval system

# **Price Premium**

- Price premiums have been noted for MSC certified Alaskan pollack, NZ hoki and wild salmon
- Certified organic products have joined that group

## **Estimates on Global Organic Food Market**

- Organic Food and Beverage: US\$ 30 billion
- Organic Fisheries: US\$ 600 million (2% of the total)

# Organic Food Market in the West

**USA: US\$ 12-20 billion** 

EU : >U\$\$ 20 billion

#### Farmed Organic Fishery Products

- Black tiger shrimp: Vietnam, Bangladesh, India
- White vannamei shrimp: Ecuador, Peru
- Freshwater shrimp : USA, Bangladesh
- <u>Tilapia</u>: China, Israel, Brazil, Honduras
- Pangasius catfish (basa): Vietnam
- Carps: Israel (domestic market) East and Southern Europe
- Trout and sea bream: Eastern, Western and Southern Europe
- Cod: Norway
- Atlantic salmon: U.K., Ireland, Chile
- Mussels: New Zealand

# Value added organic products introduced in the German market

- Deutsche See is launching what it claims to be the first fish fingers entirely from organic production. The Pangasius fish comes from fish farms in Vietnam and breading is made from organically grown ingredients.
- The product carries the certification of Naturland

# 2007 Chinese New Year Celebration in Southeast Asia



# ORGANIC LOUYEESANG

RM 68.80 (for 5-6 person) RM 38.80 (for 3-4 person)

Tradition has it that the higher the Yee Sang is tossed, the better the New Year would be.

This Chinese New Year, toss organic Lou Yee Sang at Country Farm Organics with your loved ones - a wise and healthy choice to begin the New Year!

Our chefs carefully select and prepare each organic and natural ingredient to ensure that your prosperous dish is absolutely free of pesticides and other unhealthy invaders. Toss your way to a prosperous year ahead!

### <u>CFC/INFOFISH/FAO Organic Aquaculture Project</u> <u>Marketing Components / Activities</u>

- Market surveys and market reports
- Identification of potential buyers and market outlets.
- Familiarization with potential markets through field visits
- Promotion through major/special seafood expositions and business meetings with identified buyers
- Sample shipments
- Point -of- sale display (fresh/chilled organic products) in the local and regional markets (Thailand /Malaysia/Singapore)

# The Organic Approach





**Coop 2005 Purchases of Organic Shrimps from State Owned Enterprise 184 and Camimex** 

