Organic Shrimp Farming – a strong proposition



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A few initial thoughts...



Organic is considered as...

- ...a market-driven initiative
- ...mainly for educated, critical consumers in the North/West
- ...aiming for a niche market
- ...more expensive (premium price)
- ...mainly about not using pesticides, GMOs etc.
- ...providing safer food (less residues)



Organic is... Organic is...

...a market-driven initiative

a grass-root movement,

...mainly for educated, critical consumers in the North/West

...mainly inititiated by small family farmers and NGOs

...aiming for a niche market

...fundamentally a social and a political movement

...more expensive (premium price)

...aiming to change the global food industry and the way we treat the planet ...mainly about not using pesticides, GMOs etc.

... with the side-effect to provide healthy food for the masses.

...providing safer food (less residues)

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Association for organic farming

Founded in 1982

One of the largest international organic associations

Diverse areas of activity:

- agriculture
- processing
- forestry
- aquaculture textiles
- cosmetics
- fair partnerships
- capture fishery





Content



- The organic concept in shrimp farming
- Regulatory background of certified organic aquaculture
- Differences EU/Public and Private organic labels
- Challenges
- Organic certification in RAS aquaculture

Naturland certified farms/companies



Germany:

- 1800 farms/companies
- ✤ 140.000 ha

International:

 250 farms/companies, with many cooperatives (ca. 44.000 small scale farmers)

✤ 137.000 ha

✤ in > 30 countries











- -Chemicals/Antibiotics
- -Pollution by farm effluents
- -Human right and general legal issues

Etc.



Organic Aquaculture Initiatives and Certification



From mid 90ties, European organic associations developed standards for organic aquaculture and implemented them in pilot projects. In 2010 an EU Organic Aquaculture Regulation has been set into force.



Sustainability and the "window of opportunity"





Organic principles as strategies towards sustainability



- no use of synthetic pesticides
 - Iow/limited stocking density
 - Feed and fertiliser from certified organic agriculture
 - protection of biodiversity on and around the farms
 - no use of inorganic fertilisers
 - no GMOs in stock and feed
 - restriction of energy consume (e.g. regarding aeration)
 - preference for natural medicines, restriction of others
- social and stakeholder conduct
 - processing according to organic principles

Organic Shrimp Farming Concept



Why going organic?

The **EU organic regulation** is describing the **dual role of organic farming**: responding to "specific market" demands, and delivering "public goods" (environmental protection, animal welfare, rural development).

| 20.7.2007 | EN Official Journal of the European Union | | L 189/1 | | |
|-----------|--|--|--|--|--|
| | I (Acts adopted under the EC Treaty/Euratom Treaty whose publication) | on is ob | ligatory) | | |
| | REGULATIONS | (1) Organic production is an overall system of farm manage- ment and food production that combines best environ- mental practices, a high level of biodiversity, the preservation of natural resources, the application of high animal welfare standards and a production method in line | | | |
| | Council Regulation (EC) No 834/2007 | | with the preference of ce | ertain consumers for products | |
| | of 28 June 2007 | | produced using natural s | ubstances and processes. The | |
| 01 | n organic production and labelling of organic products and repealing | | organic production method | thus plays a dual societal role, | |
| | | | where it on the one hand responding to a consumer and on the other hand deliv the protection of the envir well as to rural development | provides for a specific market demand for organic products, ers public goods contributing to onment and animal welfare, as nt. | |



Relation Naturland Standards – EU Organic Regulation





EU Organic Regulation



EN

Official Journal of the European Union

COMMISSION REGULATION (EC) No 710/2009

of 5 August 2009

amending Regulation (EC) No 889/2008 laying down detailed rules for the implementation of Council Regulation (EC) No 834/2007, as regards laying down detailed rules on organic aquaculture animal and seaweed production

Section 7

Organic production of penaeid shrimps and freshwater prawns (Macrobrachium spp.):

| Establishment of production unit/s | Location to be in sterile clay areas to minimise environmental impact of pond construction. Ponds to be built with the natural pre-existing clay. Mangrove destruction is not permitted. |
|------------------------------------|--|
| | |

Naturland Standards

V. Supplementary regulations for the pond culture of shrimps (e.g. *Litopenaeus vannamei, Penaeus monodon, Macrobrachium rosenbergii*)

1. Site selection, protection of mangroves

1.1 Mangrove plant communities have to be protected. Mangroves are considered as extremely important ecosystems that, at the same time, are endangered world-wide by human activities. Therefore, it is not permitted to remove or damage mangrove forest for purposes of construction or expansion of shrimp farms.

Any measure carried out by the farm or on the farm's demand likely to influence adjacent mangrove forest (e.g. construction of pathways and channels to the farm area) shall be announced to and approved by Naturland.

1.2 Farms (here: independent, coherent production units), which in parts occupy former mangrove area, can be converted to organic aquaculture according to Naturland standards if the former mangrove area does not exceed 50% of total farm area.²⁰

A pre-condition, however, is that in any case the relevant legal requirements for land use, reforestation etc. have been observed.²¹

The former mangrove area in property of the farm shall be reforested to at least 50% during a period of maximum 5 years. The harvest of this area is not permitted to be labelled and marketed as an organic product according to Naturland standards, until Naturland's certification committee has confirmed the successful completion of reforestation.

Furthermore, the yearly progress in reforestation activities as laid down in the conversion plan shall be confirmed by the certification committee.

Standards Aquaculture

Version 05/2016

²⁰ Under specific geographical or historical conditions exceptions can be made for extensive "mangrove aquaculture systems".

²¹ Ecuador: protection of mangrove since 1994 (D.G. 1907.94)



Mapping, monitoring, reforestation





Mangrove Protection and extensive "Silvo-Aquaculture"





Application of Standards along the whole production and supply chain, including providers of inputs and final processing





Naturland Standards for Organic Aquaculture

Version 11/2014

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In 2011 (last complete census), 225 Organic aquaculture companies were operating in 26 countries and producing more than 100,000 t of finand shellfish, with ca. 1 billion \in value.





Certified organic aquaculture products in 2011



China: shrimp, carp, algae, mussels, turtles...

Norway, Ireland, UK: salmon, trout, mussels

> Austria, Germany, Italy, Spain, France, Denmark, Spain: trout, charr, carp

Greece, Croatia, France, Italy: seabass, seabream, meagre

Ecuador, Peru, Brasil, Costa Rica: shrimp (Western White)

Chile: mussels

Vietnam, India, Bangladesh, Indonesia, Thailand, Madagascar: shrimp (Black Tiger & Freshwater), pangasius, tilapia, gourami, microalgae

Before you can certify – talk, inform, consult, understand...

???



no use of synthetic pesticides

- Iow/limited stocking density
 - feed and fertiliser from certified organic agriculture
 - protection of biodiversity on and around the farms
 - no use of inorganic fertilisers
 - no GMOs in stock and feed
 - restriction of energy consume (e.g. regarding aeration)
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Expectations in the value chain









EU Organic Regulation about RAS



"(11) Recent technical development has led to increasing use of closed recirculation systems for aquaculture production, such systems **depend on external input and high energy** but **permit reduction of waste discharges and prevention of escapes**.

Due to the principle that organic production should be as close as possible to nature the use of such systems should not be allowed for organic production until further knowledge is available. Exceptional use should be possible only for the specific production situation of hatcheries and nurseries."

Disadvantages: external input, high energy demand Advantages: Reduction of environmental impact Open question: in how far are RAS "as close as possible to nature"? State of Regulation: RAS only permitted for hatcheries.

Possible objections against the current EU position:

RAS are not (only) the consequence of "recent technical development", but of limitations for other forms of aquaculture growth, urbanization, population growth, climate change, preference for regional products etc..

Overall higher energy consumption by RAS is not proven to be "hard fact" yet.

Other types of organic farming have also "artificial" elements and consume energy (e.g. green houses, heavy machinery, transport).

Naturland's perspective regarding organic RAS – Pro's, Con's and Open Questions

Pro's:

- Options to close the nutrient cycle, including CO2
- Farming usually without problematic input, treatments etc.
- Usually very low mortalities >>> animal welfare (?!)
- RAS size adaptable to local market, cooperation with local value chains
- Sociocultural aspects ("Urban Farming"...)
- Regionality
- No conflicts with other interest groups/stakeholders (e.g. tourism)
- Most important growth potential for aquaculture in Europe

Con's:

- Consumer expectation >>> not "close to nature", but regional...(?!)
- High stocking densities >>> animal welfare (?!)
- High level of technical infrastructure >>> Climate footprint (?!)

Economic Viability and Profitability (?!)

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Next Steps



Project (1): capturing the **positions of the organic sector** (organisations, NGOs, retail) regarding RAS Project (2): Development of **certification criteria** for RAS





Thank you very much for your kind attention!



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