

**Shrimp Aquaculture Dialogue
Central America & Mexico**

Proposed consolidated criteria and indicators

May 26th, 2008

Introduction

The objective of this document is to present a consolidated version of the outcomes of breakout sessions organized during the Dialogue held in Belize City, Belize April 1 and 2. Steering committee agrees on this document and will consider it as a base of discussion for the development of standards for responsible shrimp farming.

Principle 1: farm siting

Criteria	Proposed indicators	Notes
Right to use resources	Valid permit / licence available	<ol style="list-style-type: none"> 1. EIA must address wildlife and effluent... 2. Farms shall not be sited in areas where measurable negative effects on the aquifer are likely to occur. 3. For the siting of new farms or expansions of existing farms to identify possible negative environmental effects. 4. How to consider Ramsar Convention and the high tide limit? 5. As there are no standards available for EIA, Dialogue could develop minimum criteria for an EIA 6. All existing farms should do an Environmental Compliance Plan, new farms that do an Environmental Impact Study should also have an Environmental Compliance Plan.
	Valid title available	
Environmental Impact Assessment: All farms should do an EIA to determine best location and possible negative environmental impacts.	Available EIA	

Principle 2: Farm design and construction

Criteria	Proposed indicators	Notes
Habitat conservation	Wetland/Wetland conversion	<ol style="list-style-type: none"> 1. Where legal destruction of environmentally sensitive areas would occur full mitigation of ecological value which is quantifiable and verified must take place 2. may only be cleared for the purpose of creating canals, 3. must be restored (i.e. mangroves must replanted elsewhere and they actually take hold). 4. 2% maximum mangrove destruction and 1.5 ratio for mitigation (these are suggesting number only) 5. Incorporate good construction practices.
Erosion prevention: Farm design and construction must prevent erosion.	<i>To be determined</i>	

Principle 3: Water use

Criteria	Proposed indicators	Notes
Source: No impact on aquifer and freshwater	Water level	<ol style="list-style-type: none"> 1. Impact on aquifer is intended to address seepage from the pond 2. Use of brackish ground water is allowed 3. To evaluate the discharge of nutrient into receiving water, either a nutrient balance, either a water analyse programme should be conducted and parameter identified (N, P, etc..)
	Salinization	
	Cubic meters per kg shrimp produced	
Energy efficiency: Farm must optimize energy use in maintaining water quality.	KW/ ton of product	
Nutrient efficiency: Farm must minimize the discharge of nutrient into receiving water.	See note 3	

Principle 4: Broodstock and Postlarvae

Criteria	Proposed indicators	Notes
Source of brood stock and/or post-larvae	Supply traceability document on the source of the PL	<ul style="list-style-type: none"> • No wild caught post larvae • Consideration of importing post larvae and brood stock that should follow international recognised guidelines to prevent dispersion of diseases • Develop domesticated strains • Must prevent disease through use of SPF/SPR /disease and genetic screening for best match and free of disease, enhance biosecurity through better hatchery design
	% of total PL that come from breeding program vs total PL used	

Principle 5: feed management

Criteria	Proposed indicators	Notes
Comply with law.	Documentation.	<ol style="list-style-type: none"> 1. Use of shrimp by products on the preparation of feeds [because of biosecurity reasons and consumer perception]. 2. Use of natural productivity if it is a more extensive type of culture. 3. Final product form and by product efficiency. Concept: Make sure there is no or little waste. The shrimp farmer gets to sell the whole product. 4. Fishmeal, fish oil, and fisheries by-products must be sourced from sustainable, well managed fisheries or as defined by. 5. Use of appropriate diets and ingredients 6. GMO: many shrimp consuming countries have no GMO restrictions; restrictions could be based on markets
Feed ingredient and sources.	GMO	
	Supply traceability document.	
Resources efficiency	Fish meal/Oil (inclusion levels, i.e., Feed Fish Equivalent Ratio	
	FCR	

Principle 6: health management

Criteria	Proposed indicators	Notes
Biosecurity plan* in place.	Indicators comply with minimum standard components.	<ol style="list-style-type: none"> 1. A country should strive to have a biosecurity plan as a whole. 2. A biosecurity plan should include a minimum of standard components (i.e., use of “clean” stocks, health monitoring program, BMP’s to avoid stress, water treatments to prevent entrance of disease vectors, responsible use of chemotherapy, antibiotic/probiotic treatments internationally accepted or permitted compounds when necessary to control a disease outbreak, contingency plan, etc., good neighbor policy, notification to local and international authorities of disease outbreaks due to listed diseases). 3. Prophylactic use of antibiotics is prohibited. 4. Accepted standards for vector/predator control to be discussed.
Survival.	Increased survival rate.	
	Disease outbreaks (standard: reduced).	

* Dialogue could develop minimum criteria for a biosecurity plan based on Dr Carlos Pantoja presentation in Belize, April 1st and on the Dialogue input:

- Maintain adequate water quality.
- Improve culture techniques & farm design to reduce stress, minimize handling.
- Sanitation among culture units & between crops
- Adequate feeds.
- Chemotherapy & antibiotics when necessary.
- Probiotics, immunostimulants.
- Use resistant stocks where pathogen enzootic.
- Avoidance where pathogen can be excluded.
 - ✓ use stocks that test negative for significant pathogens.
 - ✓ use SPF stocks when available.

Principle 7: food safety

Criteria	Proposed indicators	Notes
Non-approved chemicals and therapeutics use	Residue of banned chemicals and therapeutics in shrimp tissue	<ol style="list-style-type: none"> 1. Comment during the dialogue if a “food safety Principle” should be maintained; if not, chemical use should be considered in another sector like Principle on Water use. A new principle could focus on biodiversity. 2. Pesticides are prohibited
Food Safety Regulations	Compliance with the requirements of the recognized competent health authority of both the producing and importing countries	

Principle 8: social management

Criteria	Proposed indicators	Notes
Employment condition	Valid permit in accordance with national regulation	
	The condition of the employee living and working environment.	
	Child labour.	
	Worker injuries and worker training opportunities.	
Community involvement, conflict resolution, complaint procedures and whistle blower protection.	Procedures for community involvement, conflict resolution, complaints and whistle blower protection.	
Environment	<i>To be determined</i>	<ol style="list-style-type: none"> 1. Waste management 2. Materials sourcing 3. Contribution to local and regional conservation initiatives 4. Wildlife and biodiversity conservation 5. Above point to be linked with the EIA