



Shrimp Aquaculture Dialogue

Criteria proposed in Belize
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- *P. vannamei*
- Semi-intensive and intensive farming

- 58 participants
 - Producers
 - Feed suppliers
 - NGOs
 - Governmental organizations
 - Buyers / distributors
 - Scientists





Principle 1: Site Selection - Targeted impacts

- The ecological consequences of transforming a natural ecosystem, especially mangroves, into farming ponds
- Salinization of water tables and agricultural land
- Coastal water pollution by pond effluent
- Social conflicts in some regions





Principle 1: Site Selection - Proposed criteria

- Resource rights
- Environmental Impact Assessment (EIA)
- Points raised
 - Performing only an EIA may not be enough to eliminate impact on the mangroves
 - The Dialogue may define the minimum EIA criteria
 - A compliance plan may also be necessary





Principle 2: Design and Construction - Targeted impacts

- The ecological consequences of transforming a natural ecosystem, especially mangroves, into farming ponds
- Salinization of water tables and agricultural land
- Coastal water pollution by pond effluent





Principle 2: Design and Construction - Proposed criteria

- **Habitat conservation**
- **Erosion prevention:** the farm must be designed and built with erosion prevention in mind
- **Points raised**
 - The habitat should only be cleared for the purpose of creating canals
 - The habitat must be restored (i.e. the mangroves must be replanted elsewhere and must truly take root)
 - No more than 2% of the mangrove can be destroyed and a 1.5 ratio for mitigation (these numbers are only suggestions)
 - Apply best practices in construction





Principle 3: Water Use - Targeted impacts

- Salinization of water tables and agricultural land
- Coastal water pollution by pond effluent
- Social conflicts in some regions





Principle 3: Water Use - Proposed criteria

- **Source:** zero impact on the aquifer and fresh water
- **Energy efficiency:** the farm must optimize its energy use during operations to maintain water quality
- **Efficiency in terms of nutrients:** the farm must minimize the discharge of nutrient waste into receiving waters

- **Points raised**
 - If there is a impact on the aquifer, it must be possible to treat the seepage problem at the pond level
 - Use of briny groundwater is permitted
 - Nutrient assessment or apply a water analysis program and identify the parameters (N, P, etc.)





Principle 4: Broodstock and Post-larvae - Targeted impacts

- Biodiversity issues after wild broodstock and post-larvae are caught
- Introduction of pathogens that lead to severe epidemics in farms with serious economic consequences for producing countries





Principle 4: Broodstock and Post-larvae - Proposed criteria

- Origin of the broodstock and/or post-larvae
- Points raised
 - No use of wild post-larvae
 - Post-larvae and broodstock imported in conformity with recognized international guidelines in order to limit the spreading of diseases
 - Development of domestic stocks
 - Mandatory disease prevention by using “healthy” stock





Principle 5: Feed Management - Targeted impacts

- The use of fish meal in shrimp feed
- Coastal water pollution by pond effluent





Principle 5: Feed Management - Proposed criteria

- **Comply with regulations**
- **Feed ingredients and origin**
- **Resource efficiency**

- **Points raised**
 - Fish meal, oils, and by-products must come from sustainable, well-managed sources
 - Many shrimp consuming nations have no GMO restrictions; the restrictions may be market-based





Principle 6: Health Management - Targeted impacts

- Introduction of pathogens that lead to severe epidemics in farms with serious economic consequences for producing countries
- Coastal water pollution by pond effluent





Principle 6: Health Management - Proposed criteria

- **Biosecurity plan in force**
- **Survival**

Points raised

- The Dialogue may develop minimum criteria that apply to biosecurity plans based on Dr. Carlos Pantoja's presentation and contributions by the Dialogue
- Prophylactic use of antibiotics is prohibited
- The accepted standards for vector/predator control must be discussed





Principle 7: Health and Safety - Targeted impacts

- Coastal water pollution by pond effluent





Principle 7: Health and Safety - Proposed criteria

- **Use of unauthorized medication and chemical products**
- **Regulations:** following the requirements of the competent authorities in producing and importing countries
- **Points raised**
 - Question of maintaining a “Feed Safety Principle”; if it is not maintained, the chemicals must be considered in another area (e.g. the principle regarding water use)
 - Pesticide use is prohibited





Principle 8: Social Responsibility - Targeted impacts

- Social conflicts in some regions





Principle 8: Social Responsibility - Proposed criteria

- **Conditions for use**
- **Community involvement, conflict resolution, complaint procedures, and whistle blower protection**
- **Environment**
 - Waste management, materials sourcing, contribution to local and regional conservation initiatives, wildlife and biodiversity conservation
 - The previous point to be linked with the EIA





The Central America and Mexico Steering Committee

- 3 producers
- 3 NGOs
- 1 government agency
- In total, 4 countries from the region are represented: Belize, Nicaragua, Mexico, & the United States





Thank you

