Aquaculture in Peru: Status, Perspectives and Challenges

Purpose: Information
Submitted by: Peru
Aquaculture in Peru: Status, perspectives, challenges

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Peru as a Country for Aquaculture

Mega diversity: environments and species
Abundant fresh water resources (3.5%)
Productive sea: one of the highest in the world
Important marine and continental fisheries activity.
Producer of first strategic feed ingredients: Fish meal and fish oil. Competitive opportunity.
Access to a wide variety of foreign markets and stable economy
**Recent evolution of Peruvian aquaculture**

**Fast growth:**
- Higher Yields
  - Technology
  - New systems
- More ventures and investments
- Gains in competitiveness
- Aquaculture promotion law
- Access to various markets
- Impacts of climatic and oceanic events (El Niño)

**Main species and production areas**

- **High concentration:**
  - 95% of production is based in 3 species: Trout, shrimp and scallops
  - 90% comes from 4 regions: Puno, Tumbes, Piura and Ancash
  - 50% from marline or brackish waters (average in past years: 75%)
  - 50% from fresh water (trout from lake Titicaca)
  - Around 70% is undertaken by small and medium scale producers. Big companies account other 30%
Aquaculture exports (US $) 2003 - 2015
Source: PROMPERU

Local sales of aquaculture products in Peru 2000 - 2015 (metric t.)
Source: Aquaculture Information Network - INIA

Value: 200 $ US
Consumption per capita of fish in Latin America (2011–2013)

Source: FAO, SOFIA 2014

National Seafood Demand

<table>
<thead>
<tr>
<th>Country</th>
<th>Consumption kg/cap/yr</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Argentina</td>
<td>5.0</td>
<td>stable</td>
</tr>
<tr>
<td>Bolivia</td>
<td>&lt;1.0</td>
<td>+</td>
</tr>
<tr>
<td>Brazil</td>
<td>9.0</td>
<td>+ 4 kg in 8 yrs</td>
</tr>
<tr>
<td>Chile</td>
<td>6.0</td>
<td>stable</td>
</tr>
<tr>
<td>Colombia</td>
<td>6.1</td>
<td>+ 2.1 kg in 6 yrs</td>
</tr>
<tr>
<td>Guyana</td>
<td>34.0</td>
<td>stable</td>
</tr>
<tr>
<td>Mexico</td>
<td>13.2</td>
<td>-2 kg in 13 yrs</td>
</tr>
<tr>
<td>Uruguay</td>
<td>6.0</td>
<td>stable</td>
</tr>
<tr>
<td>Paraguay</td>
<td>5.0</td>
<td>stable</td>
</tr>
<tr>
<td>Peru</td>
<td>22.7</td>
<td>+</td>
</tr>
</tbody>
</table>

National Seafood Demand Map

Source: FAO, SOFIA 2014

Annual Fish Consumption (kg/cap.) per regions 2014

Source: ENAHO 2014
National Seafood Future Demand

Peruvian population should grow up to 40 million people by year 2050
National seafood requirements > 1,000,000 t.

increase of aquaculture production becomes crucial, especially for food safety of rural populations.

Despite high levels of fishing activities, the country already imports aquaculture products.

Institutional frame for Aquaculture:

- Ministerio de la Producción
- Regional Directorates of Production
- Instituto del Mar del Perú (IMARPE)
- Instituto de Investigaciones de la Amazonía Peruana (IIAP)
- Fondo Nacional de Desarrollo Pesquero (FONDEPES)
- Instituto Tecnológico de la Producción (ITP) + CITES
- Servicio Nacional de Sanidad Pesquera (SANIPES)
- Comisión de Promoción del Perú para Exportación y Turismo (PROMPERU)
- Consejo Nacional de Ciencia, Tecnología, Innovación Tecnológica (CONCYTEC)
- Universities, NGO’s
Specific Legal Framework

1. General Law for Aquaculture Development
2. Specific regulations for the Aquaculture General Law
3. Law for Highland Areas Development
4. National Plan for Aquaculture Development (PNDA)
5. National Program for Aquaculture Science, Technical Development and Innovation
6. Other regulations applied by responsible administration agencies on: water management, environment enforcement, health and sanitary protocols, taxes, etc.

National Plan for Aquaculture Development (PNDA)

Defines the vision, mission, guiding principles and strategic objectives, guidelines, indicators, targets and establishes an action plan for its implementation:

- Production quality
- Promote investments
- Critical inputs: seed and foods
- Education, training, transfer
- Health & sanitary services
- Promote R & D + i
- Policies, organization, capacities
- Financial resources
Goals:
To prioritize, organize and systematize research and technological development in aquaculture.

Particularly:
• Consolidate developed crops
• Develop rearing of new species
• Reinforce sustainability and competitiveness
• Training of human resources
• Technology transfer to producers

Options for Diversification of Peruvian Mariculture

- Rock Seabass (*Paralabrax humeralis*)
- Seaweed: *Macrocystis Chondracanthus*
- Peruvian Grunt (*Anisotremus scapularis*)
- Yellowtail (*Seriola lalandi*)
- Peruvian abalone (*Concholepas concholepas*)
- Sea urchin (*Tetrapigus niger*)
- Snook (*Centropomus nigrescens*)
- Flounder (*Paralichthys adspersus*)
Options for Diversification of Freshwater Aquaculture

- Paiche (Arapaima gigas)
- Gamitana (Colossoma macropomun)
- Sábalo (Brycon sp.)
- Paco (Piaractus brachypomum)
- Churo (Pomacea maculata)
- Doncella (Pseudoplatystoma fasciatum)

Perspectives

- To be a modern activity that provides products that contributes to national food security and serve to cope with the growing demands of foreign markets
- To be diversified in terms of production areas, species, products, and productive systems
- To be developed using the best applications of science and technology, creating or adapting the most suitable rearing systems for each specific requirement
- To be efficient in the use of space, water and natural resources, well oriented to sustainability and competitiveness, and taking advantage of the country's strengths (i.e.: biodiversity, availability of critical raw materials)
- To have proactive and organized governance and institutions, providing stable policies and rules for development, according to the particularities of each production model.
Founding R&D for Aquaculture Development

Several programs and funds are available today to support the aquaculture projections in the country:

- National innovation program for fisheries and aquaculture – PNIPA, founded by WB, and directed to improve systems performance, innovation and value chains in fisheries and aquaculture
- Aquaculture Centers for Productive Innovation and Technology Transfer (CITES)
- Other:
  - Competitive projects, currently promoted through diverse agencies,
  - Funds for courses, workshops, and other types of technical meetings, internships, specific missions and technological advisories
  - Incentives for publication in indexed journals.
  - Tax incentives for companies investing in R + D + i.
  - Other National and International Cooperation Initiatives.

Opportunities for Cooperation

APEC Economies account for over 90% of global aquaculture production and approximately 70% of global consumption of fish products (OFWG 2013)

Existing proposals are related to strengthen the role of sustainable aquaculture and sustainable fisheries in food security and related trade

Ocean and Fisheries Working Group (OFG) has the Mission to promote cooperation amongst its members, governments, academia, private industry and regional and international organizations to advance this process (Strategic Plan 2016 – 2018).
Particular Opportunities for Cooperation

✓ OFWG Strategic Plan (Medan 3013) and working priorities:
  • Food security,
  • Free & Open trade Investment,
  • Sustainable development & Protection of marine environment,
  • Climate change,
  • Blue economy

✓ Recommended cooperation with other relevant APEC fora:
  • Public Partnership for food security,
  • Public Partnership for science, technology and innovation
  • Committee on trade and investment

✓ Aquaculture involves several of above mentioned priorities

✓ Participation on the Global Food Safety Program: aiming to incorporate small-scale aquaculture producers, to international food safety standards in their production and logistics processes (APEC & World Bank initiative).

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Thanks you