GOAL 2019
Shrimp Review

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University of Florida

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Darryl Jory, Editor Emeritus, Global Aquaculture Alliance
Shrimp Aquaculture Production by World Region (2000-2017)

FAO Data

Source: FAO (2019).

Southeast Asia includes Thailand, Vietnam, Indonesia, Bangladesh, Malaysia, Philippines, Myanmar and Taiwan.

Species included are *L. vannamei*, *P. monodon* and Other. *M. rosenbergii* is excluded.
World Shrimp Aquaculture Production
FAO versus GOAL Data

Major differences are related to Chinese data

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Species included are *L. vannamei*, *P. monodon* and Other. *M. rosenbergii* is excluded.
World shrimp farming production increased 11% in 2018.

U.S. Composite Import Price declined 12% in 2018


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Production of *L. vannamei* in China

Estimates Provided by GOAL Survey Respondents, 2010-2018

Sources: FAO (2019); GOAL (2011-2019).
Production of *L. vannamei* in China

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**Sources:**
- FAO (2019)
- GOAL (2011-2019)
FAO Revised China’s Shrimp Production Estimates Down
Comparing FAO (2018) vs. FAO (2019) – All Species

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Shrimp Aquaculture in Asia: 2013 - 2021

Species included are *L. vannamei*, *P. monodon* and Other. *M. rosenbergii* is excluded.
Shrimp Aquaculture in Latin America: 2013 - 2021

Species included are *L. vannamei*, *P. monodon* and Other. *M. rosenbergii* is excluded.

Ecuador has experienced strong growth in the last few years; expectations through 2021 are positive as well (CAGR = 13% during 2013-2021).

Species included are *L. vannamei*, *P. monodon* and Other. *M. rosenbergii* is excluded.
World Shrimp Aquaculture Production by Species (1997-2021)

Excluding *M. rosenbergii*

Shrimp Aquaculture in Asia by Species (1997-2021)
Including *M. rosenbergii*

World Landings of Wild-Caught Shrimp by Species

Source: FAO (2019).
World Production of Shrimp: Capture Fisheries and Aquaculture

Aquaculture accounted for 55% of world shrimp supplies in 2017.

Species included are *L. vannamei*, *P. monodon* and Other. *M. rosenbergii* is excluded.
China includes freshwater production of *L. vannamei*.
**World Production of Shrimp by Species**

Capture Fisheries & Aquaculture Combined

- **L. vannamei** is the most important species in the world, with virtually all production coming from aquaculture.

- Percentages indicate the share of **L. vannamei**.


Species included are **L. vannamei**, **P. monodon** and Other. **M. rosenbergii** is excluded.

China includes freshwater production of **L. vannamei**.
Trade
U.S. Shrimp Imports

Down **12%** between 2011-13, **Up 39%** between 2013-19

Imports from Thailand declined sharply (by **79%**) between 2010 and 2019.

India and Indonesia have become the top exporters to the U.S. market, accounting for 58% of imports in 2019.

India’s exports have increased at a **CAGR of 30%** between 2008 and 2019.

Source: USDC/NMFS (2019)

* Estimate
U.S. Landings of Wild-Caught Shrimp

Source: USDC/NMFS (2019)
Nominal prices increased sharply in 2013
Source: USDC/NMFS (2019)
Real prices increased sharply in 2013.

Source: USDC/NMFS (2019)
European Shrimp Imports from Extra-EU Countries

Down 9% between 2010-15; Up 6% between 2015-19

The European market contracted during 2010-2015 but it has partially recovered since then, driven by imports from Ecuador, Argentina, Vietnam and India. However, the U.S. market has experienced faster growth in recent years.

Source: Eurostat (2019)

* Estimate
Japanese Shrimp Imports

Down 23% between 2011-19

Source: Japan Customs (2019)

* Estimate
Chinese Shrimp Imports
Official Trade Channels

Sources: World Integrated Trade Solution (2019); International Trade Center (2019); Chinese Customs (2019).
* Estimate.
China – Exports and Imports of Frozen Shrimp
Official Trade Channels

Sources: World Integrated Trade Solution (2019); International Trade Center (2019); Chinese Customs (2019).
* Estimate.
Composition of Shrimp Aquaculture by Size Categories

World 2010 vs. World 2017 vs. World 2018

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Composition of Shrimp Aquaculture by Size Categories

World 2010 vs. World 2017 vs. World 2018

Expected Trends in Shrimp Aquaculture
Size Categories – GOAL Survey 2019

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<thead>
<tr>
<th>Size Category</th>
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<td>Stable / Increase</td>
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<tr>
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<td>Increase</td>
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Composition of Shrimp Aquaculture by Product Form
Aggregate 2018

Source: GOAL (2019).
## Expected Trends in Shrimp Aquaculture
### Product Forms – GOAL Survey 2019

<table>
<thead>
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<th>Product Form</th>
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Issues and Challenges in Shrimp Aquaculture
GOAL 2019 Survey – All Countries

- **Diseases**
- **Production costs - Fishmeal/Food**
- **International trade barriers**
- **Access to disease-free broodstock**
- **Environmental management**
- **Production costs - Fuel**
- **Seed stock quality & availability**
- **Production costs - Others**
- **Banned chemicals / antibiotic use**
- **Access to Credit**
- **Feed quality and availability**
- **Market coordination**
- **Product quality control**
- **Infrastructure**
- **Conflicts with other users**
- **Public Relations Management**

Asterisks indicate a Top 3 issue in GOAL 2007 Survey

- ***International market prices***
- ***Access to disease-free broodstock***
- ***Banned chemicals / antibiotic use***
- ***Production costs - Feed/Fishmeal***

**Not Important**

**Moderately Important**

**Extremely Important**

Asterisks indicate a Top 3 issue in GOAL 2007 Survey
Issues and Challenges in Shrimp Aquaculture

GOAL 2019 Survey – Asia

Asterisks indicate a Top 3 issue in GOAL 2007 Survey

- Diseases
- ***Production costs - Feed/Fishmeal
- Access to disease-free broodstock
- ***International trade barriers
- Environmental management
- Seed stock quality & availability
- ***International market prices
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- Production costs - Fuel
- Production costs - Others
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- Access to Credit
- Product quality control
- Infrastructure
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- Public Relations Management

Importance Levels:
- Not Important
- Moderately Important
- Extremely Important
Issues and Challenges in Shrimp Aquaculture
GOAL 2019 Survey – Latin America

Asterisks indicate a Top 3 issue in GOAL 2007 Survey

- **International market prices**
- **Production costs - Feed/Fishmeal**
- **Production costs - Fuel**
- **International trade barriers**
- **Access to Credit**
- **Access to disease-free broodstock**
- **Diseases**
- **Production costs - Others**
- **Seed stock quality & availability**
- **Infrastructure**
- **Environmental management**
- **Product quality control**
- **Feed quality and availability**
- **Banned chemicals / antibiotic use**
- **Market coordination**
- **Public Relations Management**
- **Conflicts with other users**

Not Important | Moderately Important | Extremely Important
Top Issues and Challenges in Shrimp Aquaculture – GOAL 2019 Survey

Asia vs. Latin America

- Diseases
- Production costs - Feed/Fishmeal
- International market prices
- International trade barriers
- Production costs - Fuel
- Access to disease-free broodstock
- Seed stock quality & availability
- Production costs - Others
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LATIN AMERICA - Important

ASIA - Not Important
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**Asia vs. Latin America**

- **Extremely Important**
- **Moderately Important**
- **Important**
- **Not Important**
Global Economic Conditions Will Be Better in 2020 Compared to 2019
GOAL Survey 2019

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<th>Americas</th>
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<td>Australia, Madagascar</td>
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The Global Shrimp Market Will Strengthen in 2020 Compared to 2019
GOAL Survey 2019

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Feed Prices Will Be Lower in 2020 Compared to 2019
GOAL Survey 2019

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Conclusions

Top 4 Challenges to Growth

Asia
Diseases (2018 – same)
Costs – Feed (2018 - Antibiotic Use)
Access to Disease-Free Broodstock (2018 - International Prices)
Trade Barriers (2018- Costs-Feed)

Americas
International Market Prices (2018 - same)
Costs-Feed (2018 - same)
Costs-Fuel (2018 - Disease)
Trade Barriers (2018 - Access to Credit)
Conclusions

Real Shrimp Prices - Lowest in over 30 years

Global Shrimp Production Expectations

2018-19  +1%

2018-2021  +3.5% per year

2021 is expected to be +11% above 2018

The Global Market should be able to absorb these modest increases without further price declines...but there are disease uncertainties, a serious trade war, and global economic expectations, especially for China, are difficult to assess.
Thank You!
Appendix
Yields fluctuated in much of Asia during 2013-2017. Compared to 2013, more robust growth is expected in the Philippines.
Shrimp Aquaculture in Other Reporting Countries: 2013 - 2021

Species included are L. vannamei, P. monodon and Other. M. rosenbergii is excluded.

Although declines were reported for 2019, both Saudi Arabia and Iran are predicted to increase production of L. vannamei. Growth is also expected in Egypt and Australia.
P. Monodon vs. L. vannamei

U.S. Wholesale Prices

Spanish Shrimp Imports
Down 16% between 2011-13; Up 13% between 2013-17; Down 6% between 2017-19

Source: Eurostat (2019)
* Estimate
French Shrimp Imports

Down 9% between 2010-19

Source: Eurostat (2019)
* Estimate
## Worldwide Top Issues and Challenges in Shrimp Aquaculture

**2019 Survey vs. 2018 Survey**

<table>
<thead>
<tr>
<th>Issue</th>
<th>2018 Importance</th>
<th>2019 Importance</th>
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**Graph:**
- 2018: Orange
- 2019: Green

**Not Important** | **Moderately Important** | **Extremely Important**
Composition of Shrimp Aquaculture by Size Categories
Aggregate 2018

Source: GOAL (2019).
Disease problems in Asia led to the harvesting of smaller sizes since 2011. Survey participants expect this trend to continue in the near future.

### Composition of Shrimp Aquaculture by Size Categories

#### Comparison of Survey data for Asia

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### GOAL

- **GOAL 2008**
- **GOAL 2009**
- **GOAL 2010**
- **GOAL 2011**
- **GOAL 2012**
- **GOAL 2013**
- **GOAL 2014**
- **GOAL 2015**
- **GOAL 2016**
- **GOAL 2017**
- **GOAL 2018**
- **GOAL 2019**

### Comparison of Survey data for Asia

- **7%**
- **3%**
- **4%**
- **6%**
- **9%**
- **12%**
- **15%**
- **19%**
- **27%**
- **52%**
- **37%**
- **47%**

Disease problems in Asia led to the harvesting of smaller sizes since 2011. Survey participants expect this trend to continue in the near future.
There was also a temporary trend towards smaller sizes in Latin America in 2011 and 2012.
Composition of Shrimp Aquaculture by Product Form
Comparison of Survey data for Asia
The growing share of the green head-on form reflects an increased presence of Latin American shrimp in European and Asian markets.