



Mr. Jose Thomas: Owner of the Choice Group of companies, a pioneer in seafood exports and founder of Choice group of Educational institutes Cochin. He Introduced India's first state-of-the-art shrimp processing plant using IQF technology, exporting ready to eat shrimp for leading US companies. Also leads in shipping business arena, with eminent shipping companies like Maldives Shipping, US lines, Ceylon Shipping Corporation and was appointed as the South India Agent of Hyundai Merchant Marine, the Korean shipping giant. He is also into the retail industry of fish and meat industry also successful in the field of construction.

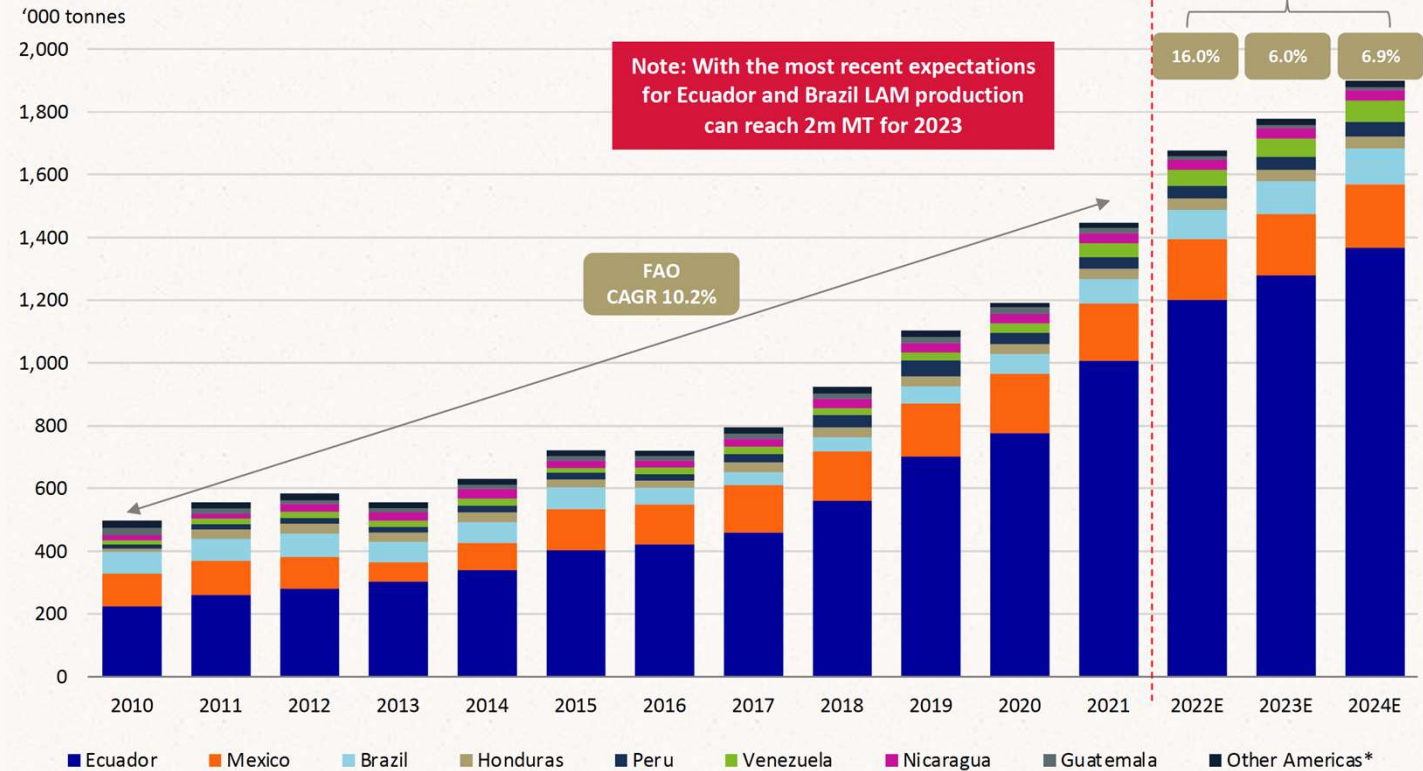


Global Aquaculture Trends

Considerable expansion in production, but a deceleration of shrimp supply growth in the Americas

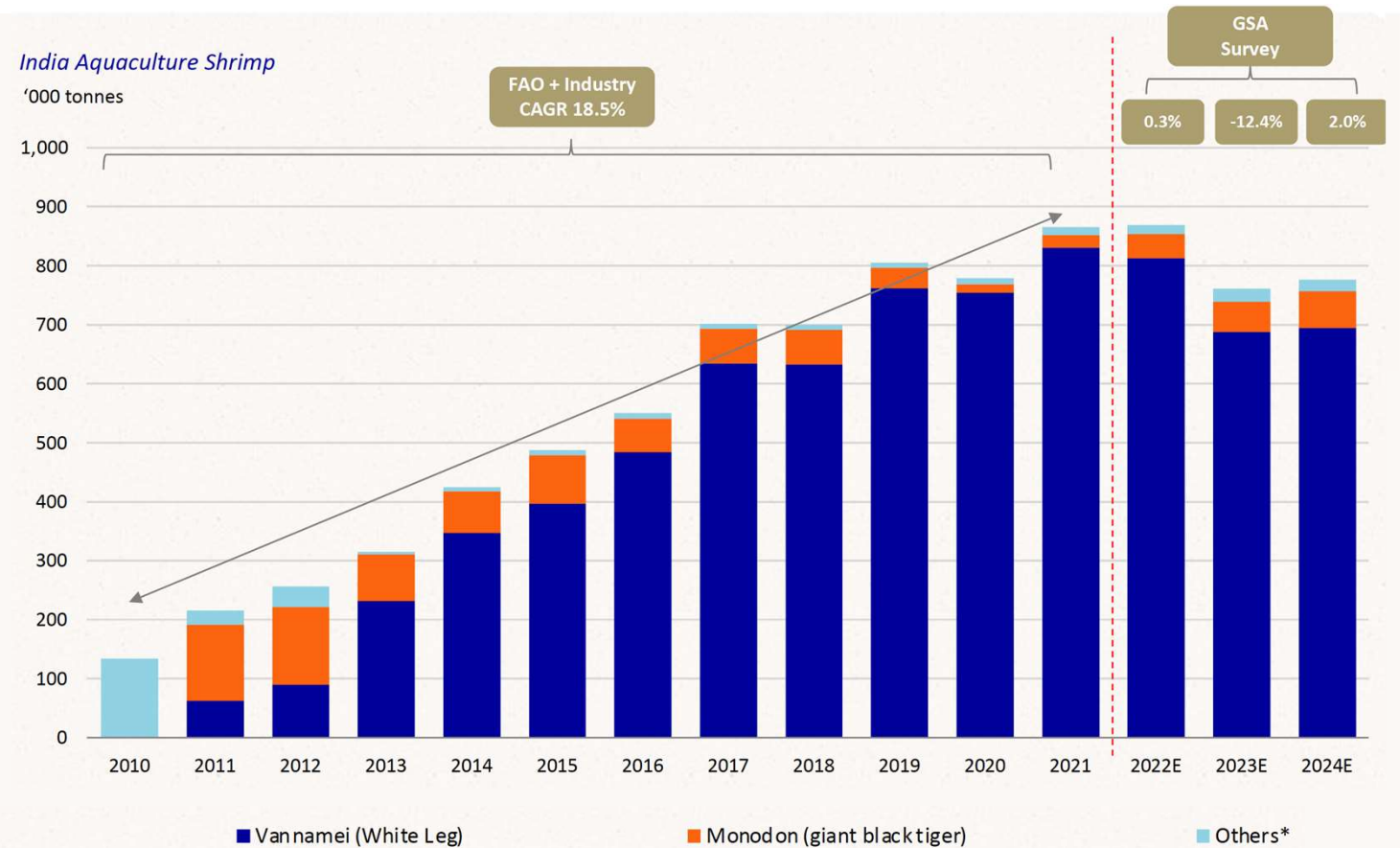


Americas Aquaculture Vannamei (White Leg) Shrimp FAO



Source: Rabobank, FAO, GOAL Survey 2023
Other Americas* Colombia, Costa Rica, Cuba, Panama,

Indian vannamei production to contract sharply in 2023; while a few more farmers are choosing to switch to monodon



Source: Rabobank, FAO, GOAL Survey 2023
Note: 2010 - FAO Data, 2011 to 2019 - Manoj Sharma, Industry Expert, 2020 to 2024 - GOAL Data
Note* Others include Giant river prawn, Indian white prawn, Penaeus shrimps nei, River prawns nei

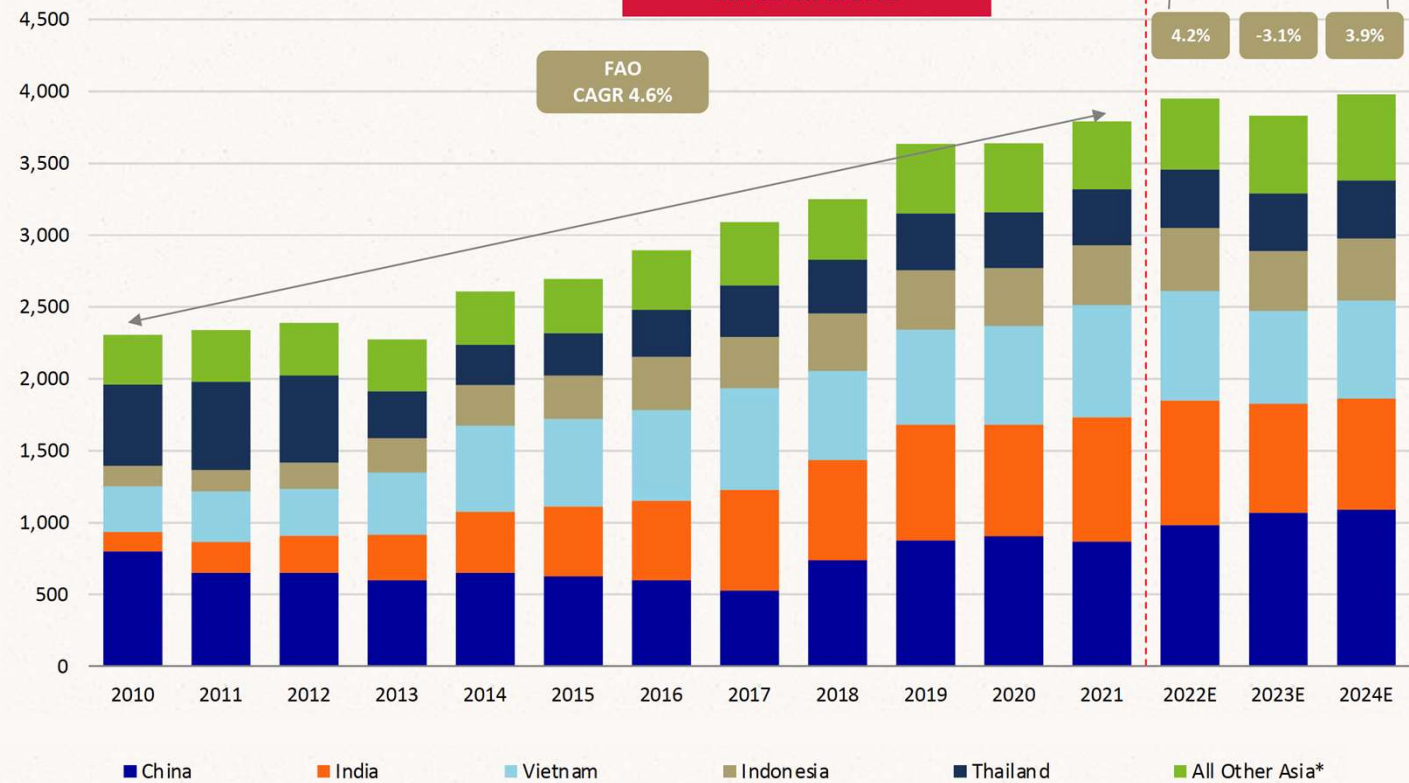
Note: We did not use FAO data for 2021 for India as it conflicted with all other sources

Asia total: Shrimp supply to decline in 2023, the first decline in shrimp production since 2013



SE Asia Aquaculture Shrimp

'000 tonnes



Source: Rabobank, FAO, Robins McIntosh, CP Foods, GOAL Survey 2022

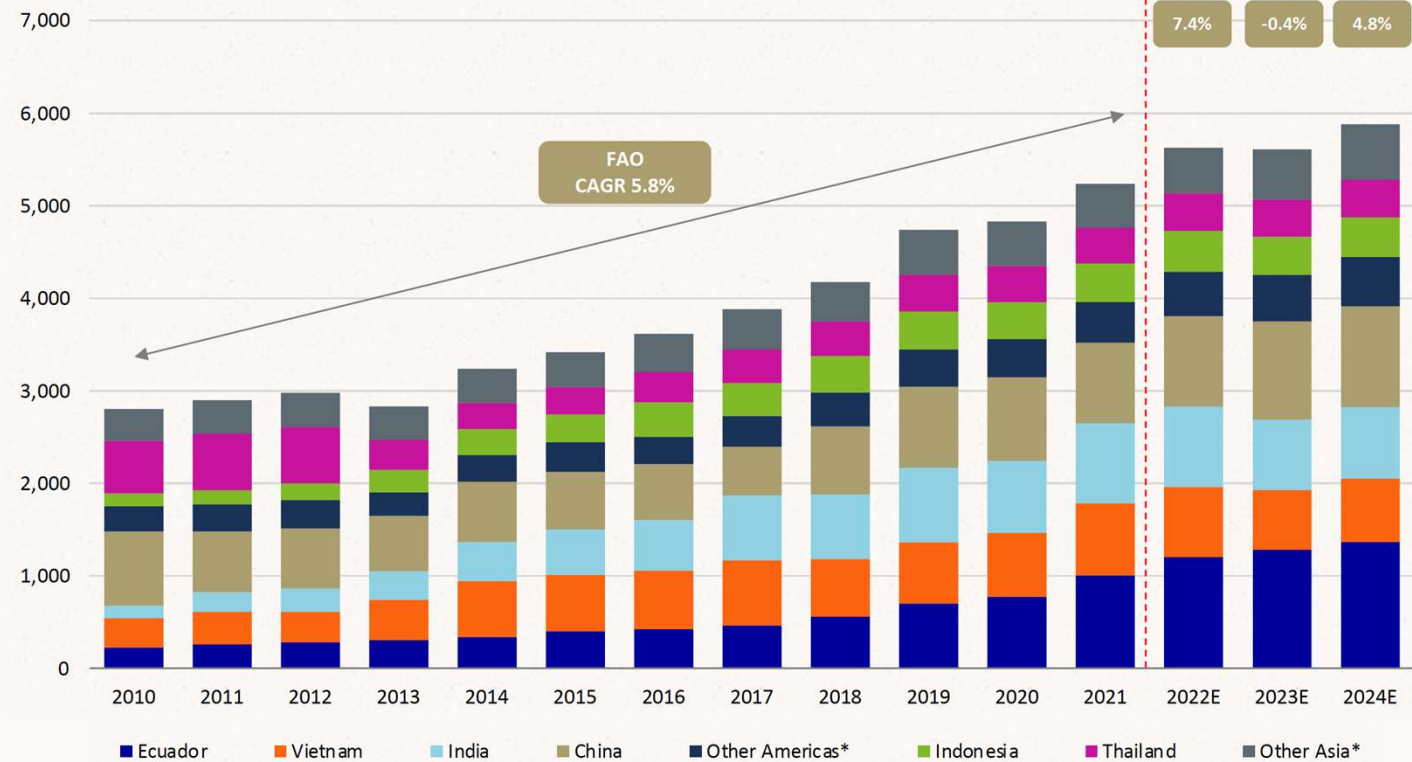
Note* All Others include Bangladesh, Myanmar, Brunei, Japan, South Korea, Taiwan, Philippines, Malaysia, Saudi Arabia and Iran

After a strong 2022, global shrimp supply to be flat or slightly lower in 2023; but a return to growth expected in 2024



Global Aquaculture Shrimp

'000 tonnes



Source: Rabobank, FAO, Robins McIntosh, CP Foods, GSA Survey 2022

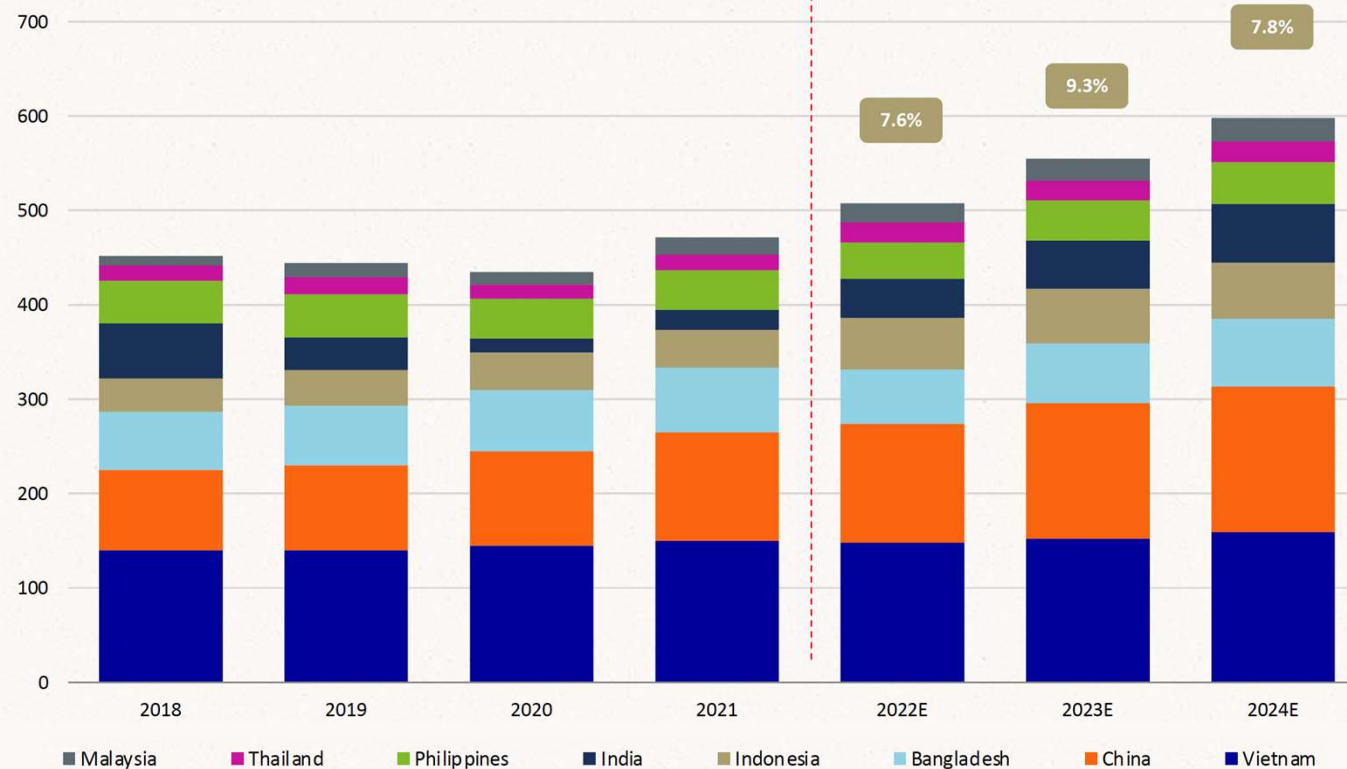
Note* Other Americas include Mexico, Honduras, Peru, Venezuela, Brazil, Guatemala, Nicaragua, Colombia, Costa Rica, Cuba, Panama,
Note* Other Asia include Bangladesh, Myanmar, Brunei, Japan, South Korea, Taiwan, Philippines, Malaysia, Saudi Arabia and Iran

Focusing on monodon only, the comeback continues across Asia



Monodon (Giant Black Tiger) - Aquaculture Shrimp FAO

'000 tonnes



Source: Rabobank, FAO, GOAL Survey 2023

After a very strong 2022, modest supply decline predicted for 2023 and optimistic for 2024



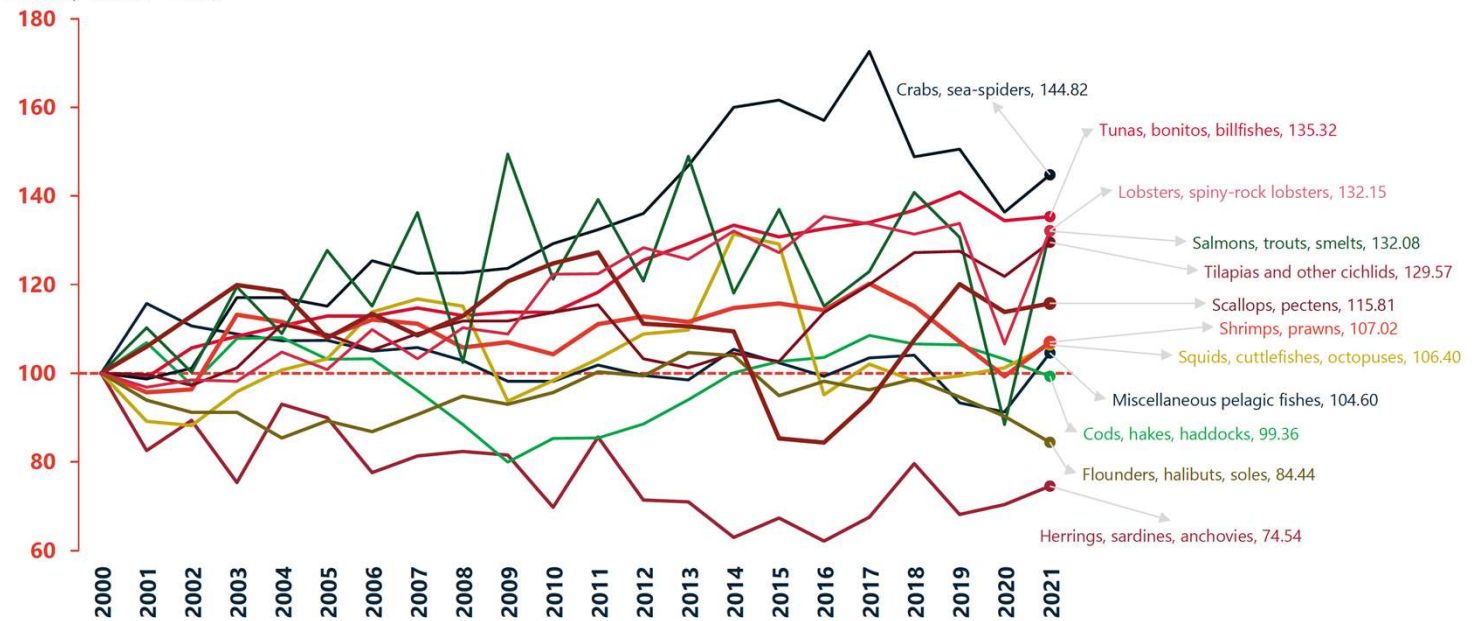
Region	CAGR 2010-2021	2022 expected	2023 expected	2024 expected
India	18.5%	0.3%	-12.4%	2.0%
Ecuador	14.7%	19.7%	6.3%	6.5%
Vietnam	8.4%	-2.4%	-15.1%	5.6%
China	0.7%	13.0%	8.8%	1.9%
Indonesia	10.5%	4.8%	-5.1%	3.6%
Thailand	-3.4%	5.3%	-2.2%	1.3%
Total	5.8%	7.4%	-0.4%	4.8%

Source: Rabobank, 2022

Growth by Category

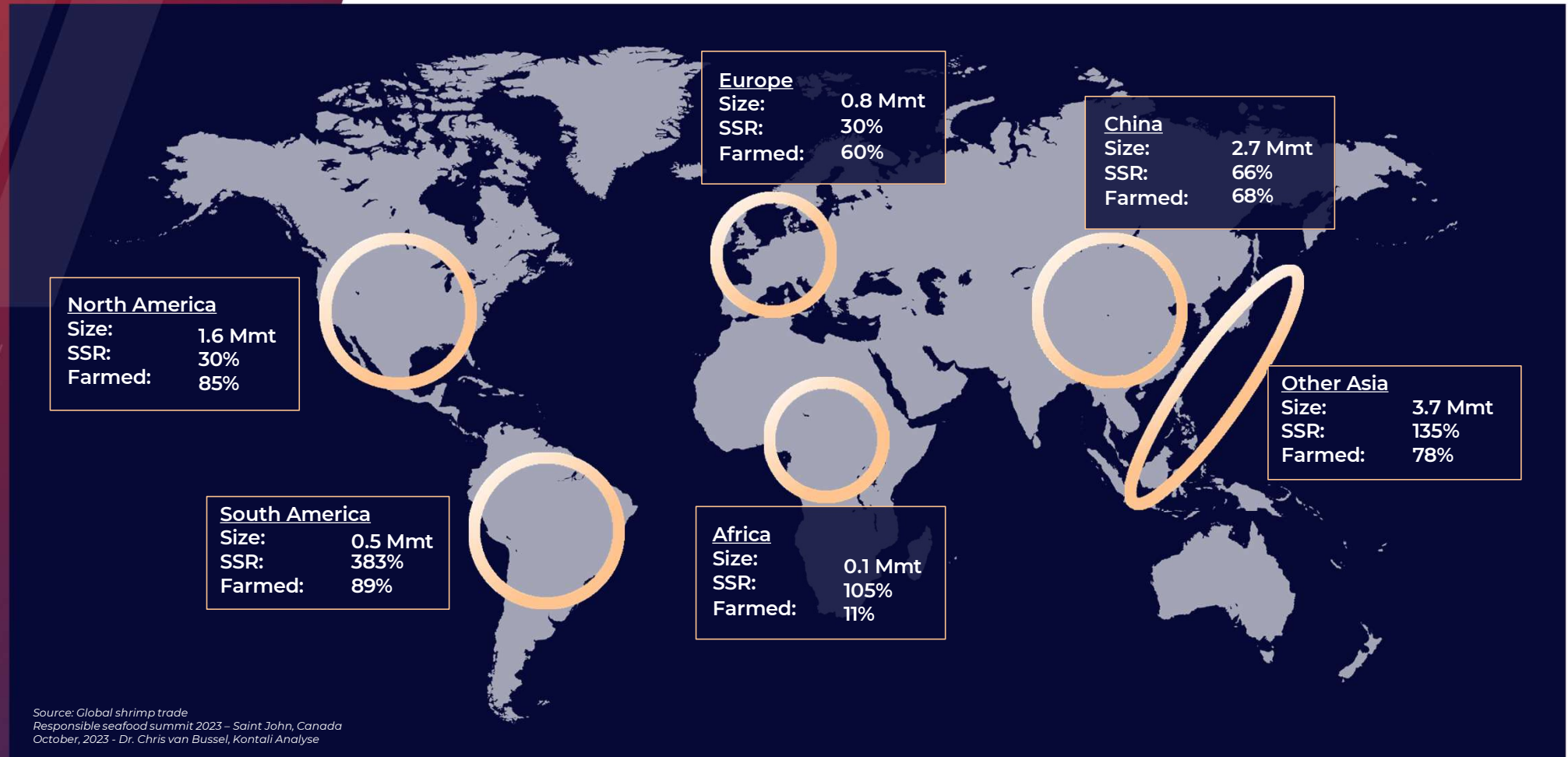
Main groups, Catches

Index, 2000 = 100



Global shrimp market in 2023

Size, self sufficiency rate and supply origin

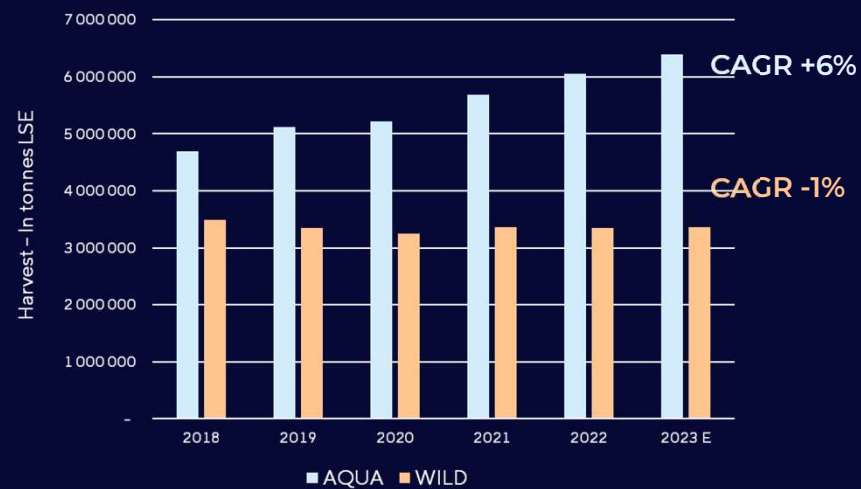




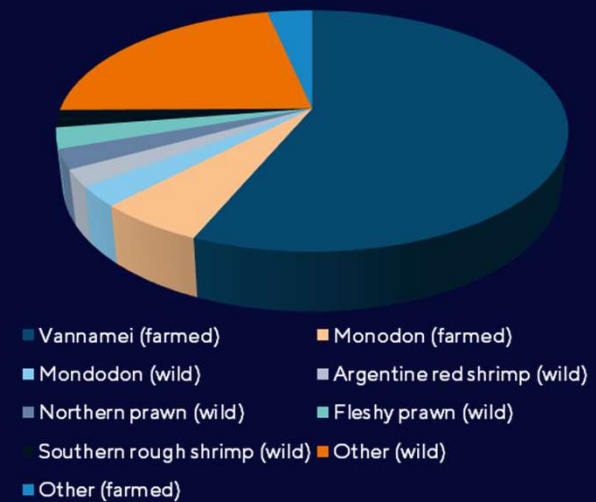
Global Shrimp Supply

Origin & species

Production of shrimp



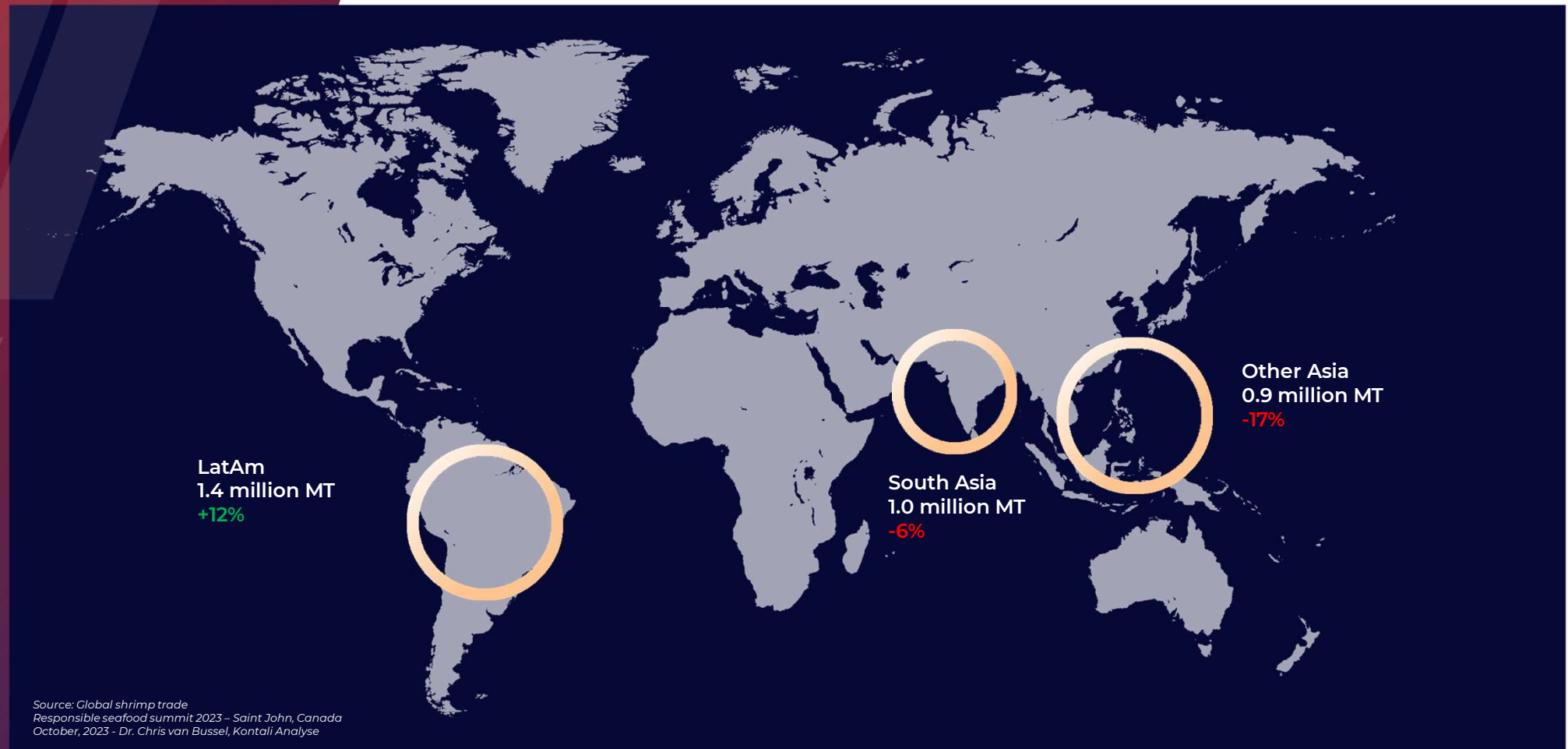
Species distribution



Source: Global shrimp trade
Responsible seafood summit 2023 - Saint John, Canada
October, 2023 - Dr. Chris van Bussel, Kontali Analyse

Global exports of vannamei shrimp (LSE)

sum last 12 months and YoY change





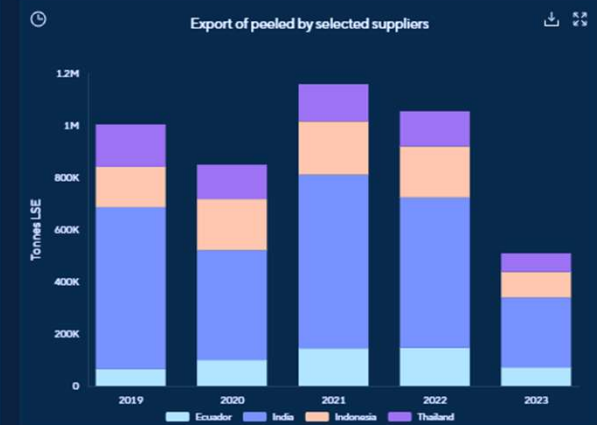
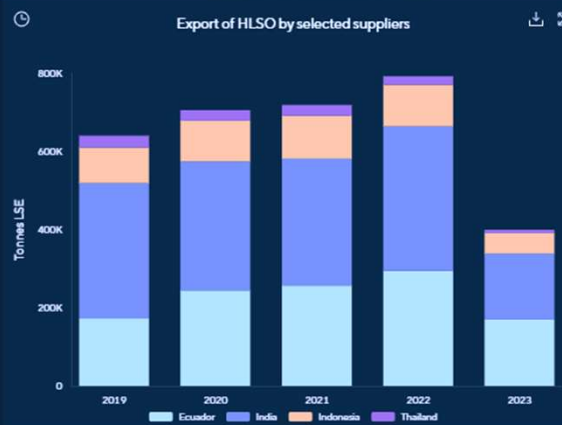
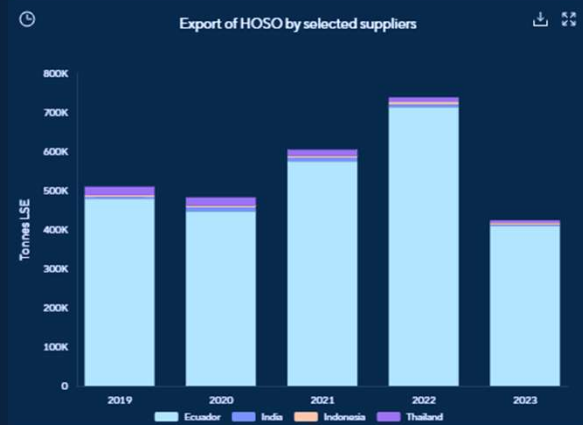
Global exports of vannamei shrimp (LSE)

HOSO

HLSO

PLD

Vannamei exports by products

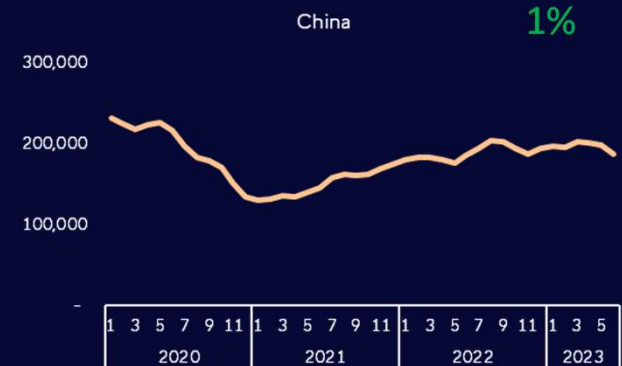
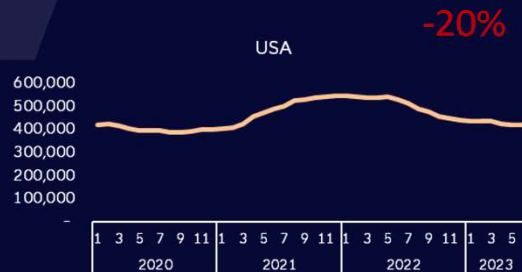
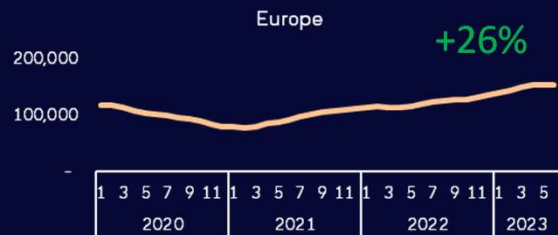


Source: Global shrimp trade
Responsible seafood summit 2023 – Saint John, Canada
October, 2023 - Dr. Chris van Bussel, Kontali Analyse



South Asian exports of vannamei shrimp (LSE)

sum last 12 months and YoY change



Last 12 months (YoY)

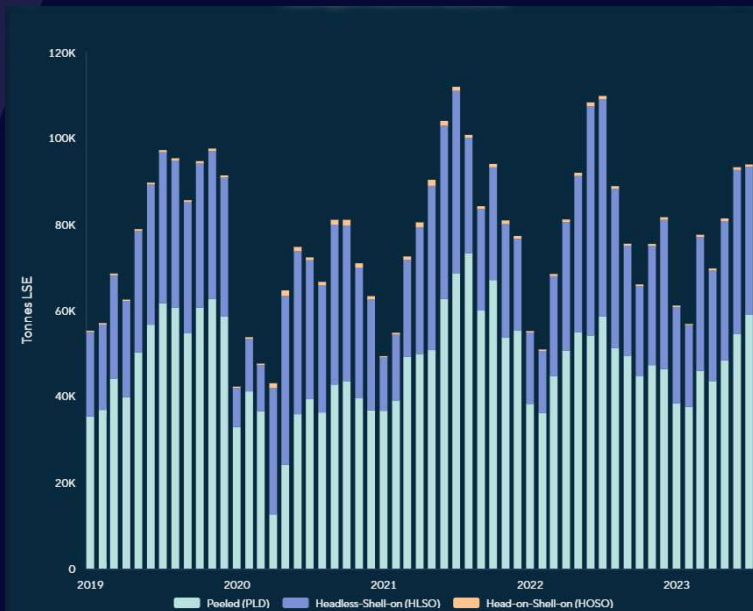
Production: 1.2 million MT +4%

Export: 1.0 million MT -6%

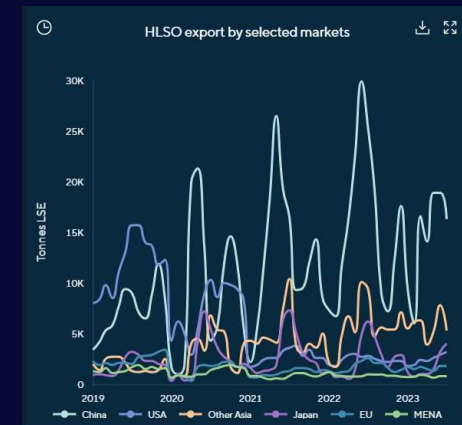
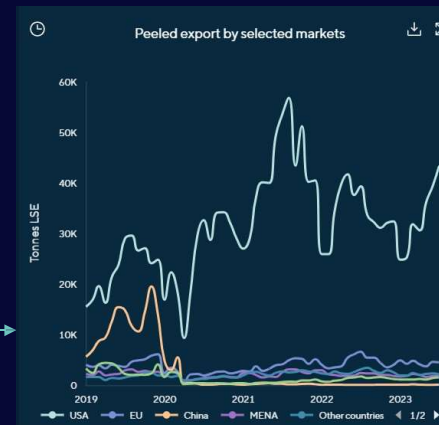
Source: Global shrimp trade
Responsible seafood summit 2023 – Saint John, Canada
October, 2023 - Dr. Chris van Bussel, Kontali Analyse

India exports of vannamei shrimp (LSE)

Volume is not changing, but more HLSO in mix



PLD is going to USA,
HLSO to (reprocessing) in China/Asia



Source: Global shrimp trade
Responsible seafood summit 2023 – Saint John, Canada
October, 2023 - Dr. Chris van Bussel, Kontali Analyse



Vannamei supply to market (LSE) - USA



Source: Global shrimp trade
Responsible seafood summit 2023 – Saint John, Canada
October, 2023 - Dr. Chris van Bussel, Kontali Analyse



Summary & Outlook

Global estimates

- Shrimp supply in 2023 is 9.5 Mmt (5.5 Mmt vannamei).
- Monthly vannamei supply to come down in H2
 - *due to stocking / harvesting patterns (-13% lower Dec vs. July)*
 - *this is still 6% YOY increase for H2*
 - *puts some relief on global oversupply*

China

- Largest shrimp market 2.6 Mmt shrimp (1.6 Mmt vannamei)
- Vannamei supply keeps growing, both import & domestic production and decreased (re)export
 - *9% CAGR in last 5Y*
 - *18% in last 12 months*
- Imports volumes not likely to slow down
 - *low farm-gate prices in China depress supply growth for high cost producers*

USA

- Slowly picking up imports, again at 100 Kmt / month
- Reducing import of HLSO products, while increasing PLD imports

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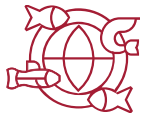
Tilapia

Tilapia farming is important to India for several reasons:



High Nutritional Value

- Good source of protein, low in fat, and rich in essential nutrients like vitamins and minerals.
- India can benefit from the availability of a nutritious and affordable protein source.



Diversity in Aquaculture

- Complements existing practices that primarily focus on species like shrimp, carp, and catfish
- help diversify the country's aquaculture portfolio and reduce dependence on a limited range of species, thereby minimizing disease risks and market fluctuations.



Economic Opportunities

- Lucrative for small-scale farmers and entrepreneurs, particularly in rural areas
- easy to set up, and the fish grow quickly



Tilapia

Tilapia farming is important to India for several reasons:



Export Potential

- The global demand for tilapia has been growing due to its mild taste, versatility in cooking, and affordability



Drought-Resistant

- This adaptability is essential in India, where water availability can be inconsistent, and it can reduce the risk associated with traditional aquaculture practices.



Food Security

- By offering a variety of protein sources, India can better meet the dietary needs of its population, particularly in regions where other protein sources are scarce.



Environmental Benefits

- Requires less fishmeal and other resources to produce a unit of fish protein compared to some other species and thus, can help reduce the environmental impact of aquaculture practices in India.





Challenges

- Competition with established fish species
- Disease management
- Ensuring sustainable farming practices
- Regulations and quality control measures needed to ensure food safety and environmental sustainability.



Government Initiatives

- The Indian government has launched a number of initiatives and projects to boost aquacultural output in the country.
- The Blue Revolution Plan, the National Fisheries Development Board (NFDB), and the Fish Farmers Development Agency (FFDA) are among the major projects promoting tilapia farming through various schemes and financial incentives to encourage small-scale and rural aquaculture.