FOOD PREMIUMIZATION IN EMERGING ASIAN ECONOMIES: EVIDENCE FROM SHRIMP AND SALMON

—INDIA'S POTENTIAL AS A CONSUMER MARKET—

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SUMMARY

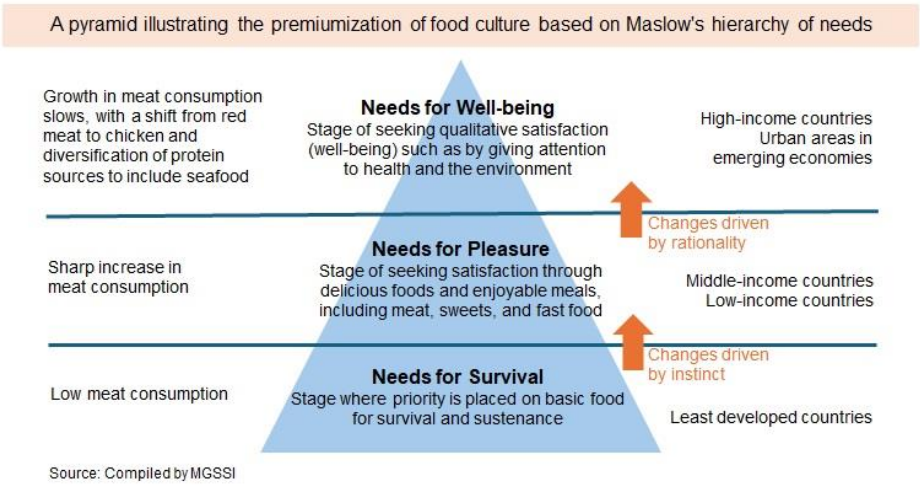
- In the US, where food premiumization is well advanced, demand for shrimp and salmon is rising, driven by a growing focus on well-being. Consumption levels of shrimp and salmon are correlated with income, suggesting that economic development in emerging economies will support further growth in demand.
- In emerging Asian economies, salmon consumption remains limited but has grown rapidly in recent years, while shrimp consumption has already been expanding domestically, even though these economies are also shrimp exporters. A per-capita GDP of around $3,000 appears to be a threshold at which consumption begins to expand.
- In India, one of the world's leading shrimp exporters, domestic consumption has yet to expand. However, income levels are expected to reach this threshold by 2026, raising the possibility of future growth in domestic demand for shrimp and salmon. While the development of cold-chain infrastructure remains a challenge, India is drawing attention not only as an exporter but also as a potential consumer market.

1. CONSUMPTION OF SHRIMP AND SALMON FOR WELL-BEING

1-1. Introduction: Food Premiumization

Global food demand can be divided into three stages, as shown in Figure 1. As income rises, demand tends to move upward through these stages toward more premium food products. This report refers to this shift as "food premiumization."

Figure 1: Ongoing evolution of global food demand (premiumization)



In the US, which has already achieved an advanced economy and reached the stage of pursuing the highest level of well-being, consumers are shifting from red meats like beef and pork to chicken. Additionally, seafood consumption is expanding as it is being chosen as an alternative to meat.[1] In the seafood category, shrimp and salmon are the most consumed items. According to the National Oceanic and Atmospheric Administration (NOAA), per-capita seafood consumption in 2022 was 9.4 kg, with shrimp accounting for approximately 2.5 kg and salmon for approximately 1.5 kg. Together, these two items alone comprised approximately 40% of total seafood consumption.

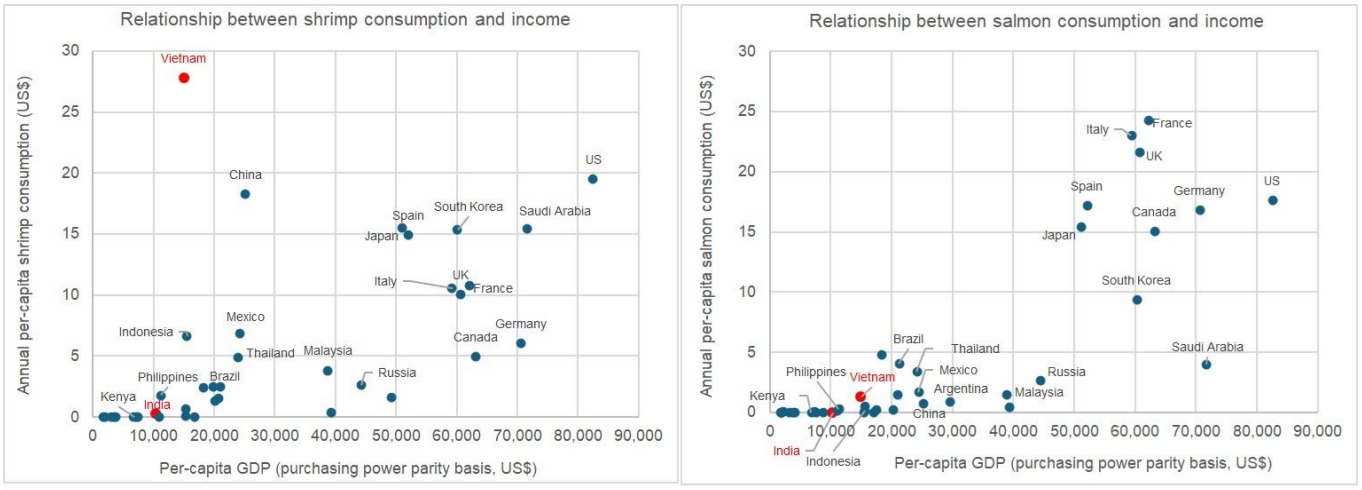
The trend toward "food premiumization" that emphasizes well-being, as seen in the US, is also appearing in emerging Asian economies, where consumption of shrimp and salmon is beginning to increase. This report presents data illustrating this situation[2] and examines the potential for growth in shrimp and salmon consumption in India.

1-2. Global shrimp and salmon consumption and its correlation with income

Figure 2 illustrates the relationship between per-capita consumption of shrimp and salmon and per-capita GDP, which serves as an indicator of income levels, across the 50 most populous countries in 2023.

While some countries show exceptionally high consumption relative to their per-capita GDP—most notably shrimp consumption in Vietnam—both shrimp and salmon exhibit strong correlations with income levels, with a correlation coefficient[3] of 0.56 and 0.79, respectively. Overall, countries with higher income levels tend to record

Figure 2: Relationship between shrimp/salmon consumption and income levels



Notes: Per-capita consumption was calculated by dividing the value obtained from "production value + import value - export value" by the population. Therefore, when export value is large, the result becomes negative; however, only positive values are displayed here.
Per-capita GDP was calculated using purchasing power parity for international comparison. Furthermore, to analyze the relationship with consumption (nominal value) for a single year, nominal data (not adjusted for inflation) was used.
Source: Compiled by MGSSI based on data from FAO and IMF

[1] Per-capita consumption of seafood increased from 6.8 kg in 1990 to 9.4 kg in 2022, according to the National Oceanic and Atmospheric Administration (NOAA).

[2] Data on per-capita consumption (supply volume) of total seafood and crustaceans worldwide is available on FAOSTAT Food Balance, but there is no data broken down to individual seafood items such as shrimp or salmon. Therefore, this analysis estimates per-capita consumption for shrimp and salmon within the scope of data available through the FAO's FishStat database. Specifically, assuming all domestic production and imports are consumed domestically except for exports, the consumption value was calculated by adding import value to production value and subtracting export value (production value + import value - export value). This value was then divided by the population to estimate per-capita consumption. It should be noted that consumption was calculated on a value basis rather than a volume basis because the degree of product processing differs between imported and exported items, making it unfeasible to simply add their weights together.

3 The correlation coefficient is a measure indicating the relationship between two types of data. It is calculated by dividing the covariance of the two data sets by the product of their respective standard deviations. Values range from -1 to +1, with values closer to 1 or -1 indicating a strong correlation, and values closer to 0 indicating a weak correlation.

higher consumption of shrimp and salmon. This suggests that, in emerging economies, consumption of these products is expected to expand as incomes rise in the future.

2. SHRIMP AND SALMON CONSUMPTION INCREASING IN EMERGING ASIAN ECONOMIES

2-1. Current consumption levels of shrimp and salmon

In fact, consumption of shrimp and salmon has begun to increase in emerging Asian economies. Per-capita shrimp consumption in China and Vietnam is already comparable to or exceeds levels in the US and Japan, as illustrated in Figure 3. Although Indonesia's per-capita consumption of shrimp and salmon lags behind consumption levels in the US and Japan, its total consumption in value terms is approaching that of Japan.

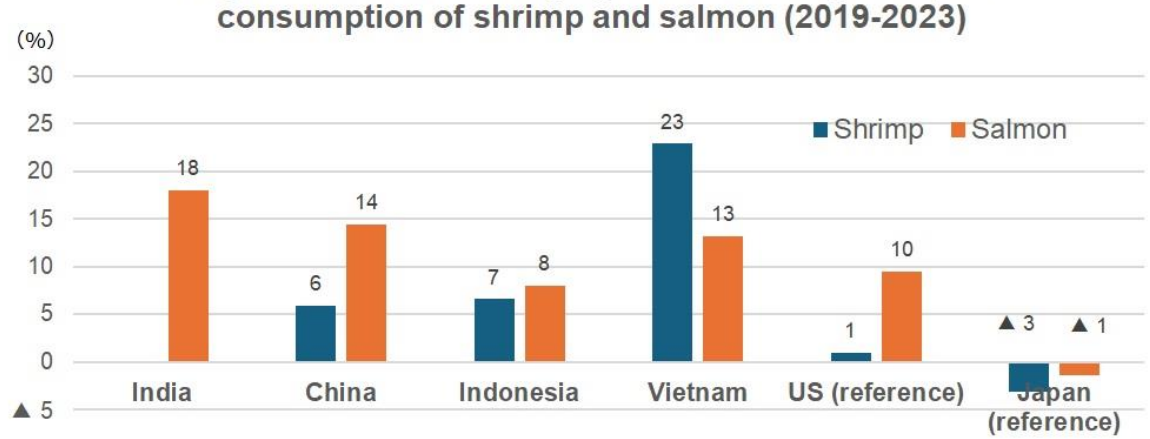
Regarding salmon, as of 2023, per-capita consumption remained low at around $1 in each of the emerging Asian economies shown in the figure, including China. However, as seen from Figure 4, consumption has increased significantly compared to 2019, before the COVID-19 outbreak.

Figure 3: Shrimp and salmon consumption in emerging Asian countries (2023)

	Population (1,000 people)	Shrimp		Salmon	
		Total consumption (US$1,000)	Per-capita consumption (US$)	Total consumption (US$1,000)	Per-capita consumption (US$)
India	1,438,070	372,474	0.259	3,571	0.002
China	1,409,670	25,742,949	18.262	1,093,257	0.776
Indonesia	278,696	1,841,073	6.606	45,418	0.163
Vietnam	100,309	2,789,554	27.810	130,298	1.299
US (for reference)	337,014	6,577,231	19.516	5,928,656	17.592
Japan (for reference)	124,482	1,927,338	15.483	1,917,490	15.404

*Total consumption was calculated as "production value + import value - export value." Per-capita consumption is total consumption divided by the population.
Source: Compiled by MGSSI based on FAO and IMF data

Figure 4: Annual average growth rate for per-capita consumption of shrimp and salmon (2019-2023)



Note: Per-capita consumption was calculated by dividing the value obtained from "production value + import value - export value" by the population. Therefore, when the export value is large, the result becomes negative. Per-capita shrimp consumption in India is not shown here because the 2019 value was negative.
Source: Compiled by MGSSI based on FAO and IMF data

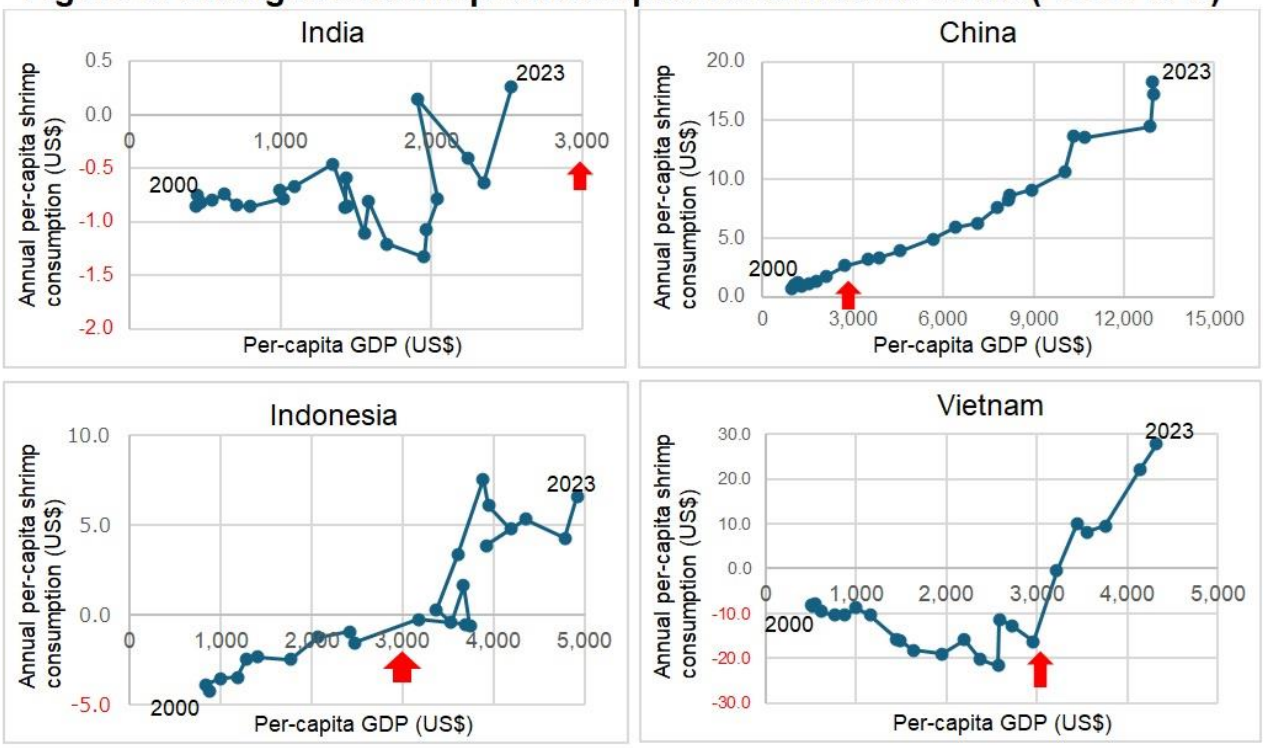
2-2. The trend in shrimp consumption growth

To examine how shrimp consumption has expanded in emerging Asian economies where the scale of consumption has already become quite large, Figure 5 shows the changes in per-capita consumption and per-capita GDP since 2000 by country.

In countries other than China, shrimp consumption figures show negative values, reflecting the fact that these countries are shrimp exporters. In such countries, domestically produced or imported raw materials are processed to add value and then exported to developed markets. As a result, export values often exceed both production and import values, making domestic consumption figures more likely to appear negative. In recent years, however, shrimp consumption has turned positive even in these exporting countries. Domestic production and imports have increased relative to exports, allowing surplus supply to flow into domestic markets and indicating an expansion of domestic demand.

Exporting countries, in particular, have developed highly advanced aquaculture and processing infrastructure to support supply for international markets. This infrastructure also provides stable supply and price competitiveness in domestic markets, creating conditions conducive to the expansion of domestic demand. As noted earlier, this is likely a key factor behind Vietnam's relatively high shrimp consumption compared with its income level.

Figure 5: Changes in shrimp consumption and income levels (2000-2023)



Notes: Per-capita consumption was calculated by dividing the value obtained from "production value + import value - export value" by the population. Therefore, when export value is large, the result becomes negative.
For per-capita GDP, inflation-adjusted real values are usually used in time-series analysis. However, in this case, unadjusted nominal data was used deliberately to analyze the relationship with consumption (nominal values).
Source: Compiled by MGSSI based on FAO and IMF data

While this may not apply to China, which is a net importer of shrimp, in Indonesia and Vietnam, shrimp consumption began to increase significantly once per-capita GDP exceeded and steadily remained above $3,000. This income threshold appears to be one indicator of the start of expansion in domestic demand in shrimp-exporting countries. India, one of the world's leading shrimp exporters, is expected to see its per-capita GDP exceed $3,000 in 2026, according to the IMF. While shrimp consumption in the country has not yet stabilized at a consistently positive level at present, it is highly likely to grow as incomes rise in the future.

3. INDIA'S POTENTIAL

3-1. Potential for growth in the consumption of shrimp and salmon in India

One sign of expanding consumption within India is the shift in consumer demand. In urban areas, particularly among high-income households, a growing health consciousness is fueling a trend toward choosing seafood as a white meat alternative to chicken. This trend has gained momentum since the COVID-19 pandemic. In addition to the consumption of locally common freshwater fish, there is significant room for growth in the consumption of shrimp and salmon. Additionally, while the consumption of livestock meat is subject to numerous religious restrictions and can be sensitive, seafood consumption tends to face fewer such constraints, making it another favorable factor.

Supply-side developments are also helping to boost demand. In urban areas, in addition to the expansion of upscale supermarkets, a range of new services has emerged, including online delivery of livestock and seafood products by startups such as FreshToHome, Licious, and Zappfresh, as well as B2B platforms specializing in seafood, such as Captain Fresh. These developments are making seafood products increasingly accessible (Figure 6). Many of these startups are also increasingly pursuing initial public offerings (IPOs). DSM Fresh Foods, founded in 2015 and the operator of Zappfresh, completed its IPO in October 2025 and has announced plans to use the funds raised to strengthen investment in regions with high levels of seafood production and consumption. Captain Fresh, established in 2019, is likewise planning an IPO.[4]

Figure 6: Retail formats for seafood in urban areas of India

Left/Center: Fish sales counter at upscale supermarket Lulu Hypermarket.
Right: Online grocery delivery service Licious is expanding its network of physical stores.
Source: Photos taken by the author (September 30, 2025, in Bengaluru)

[4] Refer to Entrakr (October 9, 2025) for Zappfresh, and refer to Business Standard (August 18, 2025) for Captain Fresh.

Additionally, IKEA's sale of Norwegian salmon at its Indian stores, priced at 1,395 rupees (approximately 2,400 yen) for a 250g fillet,[5] represents an example of demand development despite its high price. Furthermore, moves to explore applying aquaculture technology utilizing cold heat generated at coastal LNG bases to India,[6] along with the start of imports by Chile's AquaChile beginning in August 2025,[7] indicate that diversification of salmon supply is progressing both domestically and internationally.

The external environment is also favorable. In August 2025, the Trump administration imposed additional tariffs totaling 50% on imports from India as a sanction against the country's purchases of Russian crude oil. This measure has dealt a severe blow to India's shrimp industry, which is highly dependent on the US market. Facing a sharp decline in exports to the US, the industry has been forced to postpone harvests and scale back processing plant operations. Under these circumstances, momentum is building to diversify export destinations beyond the US and to develop the domestic shrimp market.

3-2. Challenges India must overcome to expand consumption

The biggest challenge to overcome for expanding seafood consumption in India is the development of cold chain infrastructure, including nationwide refrigerated logistics and cold storage facilities to maintain quality.

Unlike livestock products that can be transported live, seafood requires refrigerated transport from its place of origin. However, in India, with its vast territory, long-distance transport to inland areas incurs high costs, resulting in higher prices.[8] Furthermore, the primary retail format for seafood is the outdoor wet market, typically lacking refrigeration facilities. It is customary for seafood to be displayed and sold on ice under the scorching sun in the early morning. Even modern supermarkets rarely have dedicated fish counters, and when they do, unstable power supply and the practice of turning off refrigerators overnight pose significant hurdles.

That said, according to the India Brand Equity Foundation (IBEF), a trust established by India's Ministry of Commerce and Industry, the country's cold chain market, valued at $26.6 billion in 2024, is projected to continue growing at an annual rate exceeding 10% to reach an estimated $70.5 billion by 2033.[9] Currently, most cold storage facilities are concentrated in northern states like Uttar Pradesh,[10] where seafood consumption is low. Moreover, they are primarily used for pharmaceuticals, with livestock and aquatic products taking up only 5% of storage capacity.[11] As storage facilities for seafood increase across large parts of India, stable supplies of shrimp and salmon will become possible, making price stabilization and consumption growth a realistic prospect.

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[5] IKEA website (Accessed December 12, 2025)

[6] According to the France-based International Institute of Refrigeration, the application of "cold energy" derived from the LNG regasification process to salmon farming is being considered in South Korea and other countries (Website accessed January 4, 2026).

[7] The commencement of exports appears to have been prompted by the establishment of a certification system in 2023 by India and Chile for salmon imports to India (Fish Farming Expert, July 18, 2023) (The Economic Times, August 27, 2025). Historically, the primary export destination for Chilean salmon has been the US, while in Asia, exports were limited to Japan and Southeast Asia. AquaChile does not currently have a base in India and is believed to be supplying the Indian market from its bases in Singapore and Vietnam.

[8] Prices observed during an on-site survey conducted at a high-end supermarket in Bengaluru at the end of September 2025 showed freshwater fish were generally inexpensive, with Basa selling for 159 rupees per kg (approximately 270 yen), Rohu for 229 rupees (approximately 390 yen), Catla for 249 rupees (approximately 420 yen), and Tilapia for 169 rupees (approximately 290 yen). On the other hand, marine products included mackerel selling for a discount price of 299 rupees (approximately 510 yen), but white prawns (medium) priced at 469 rupees (approximately 800 yen), red crab (whole) at 599 rupees (approximately 1,020 yen), and Indian salmon at 799 rupees (approximately 1,360 yen) were relatively expensive. Notably, Norwegian salmon was extremely costly at 1,999 rupees (approximately 3,400 yen) for a whole fish and 2,999 rupees (approximately 5,100 yen) for a fillet.

[9] From Farms to Fridges: How Cold Chain Infrastructure is Transforming India's Agriculture (November 4, 2025)

[10] India's nationwide cold storage capacity in 2023 was 39 million tonnes, with Uttar Pradesh (15 million tonnes), West Bengal (6 million tonnes), Gujarat (4 million tonnes), and Punjab (2.6 million tonnes) ranking as the states with the largest capacities (Government of India).

[11] It is reported that 68% of refrigerated storage capacity is allocated to pharmaceuticals, while meat and seafood account for 5% (Logistics Insider "Cold Chain Report 2021" p.23)

3-3. India as a consumer market

As shown in Figure 4, per-capita consumption of shrimp in India stands at $0.259, while that of salmon is just $0.002, indicating that neither has become established as part of the country's food culture.

In recent years, however, signs of expanding consumption have begun to emerge in India. These developments reflect not only a growing consumer focus on well-being when choosing seafood, but also the emergence of new services supporting seafood supply, the diversification of both domestic and international salmon supply, and rising momentum to develop domestic demand for shrimp. Consumption levels of shrimp and salmon are closely correlated with income. Given that consumption has already begun to expand in neighboring emerging Asian economies as income levels rise, a similar expansion in India—where economic growth has been particularly strong—appears increasingly likely.

India's total population is exceptionally large, at around 1.4 billion, meaning that even a modest increase in consumption could have a significant market impact. Vegetarians account for only about 30% of the population, concentrated mainly in the northwest, while the remaining roughly 70%, or about 1 billion people, are non-vegetarians. If all non-vegetarians were to spend just $2 per year each on shrimp and salmon, the resulting market would be comparable in size to that of Japan. Viewed from this perspective, India—long regarded primarily as a shrimp exporter—can also be seen as a potentially massive seafood consumption market, underscoring its considerable long-term demand potential.