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Market Study



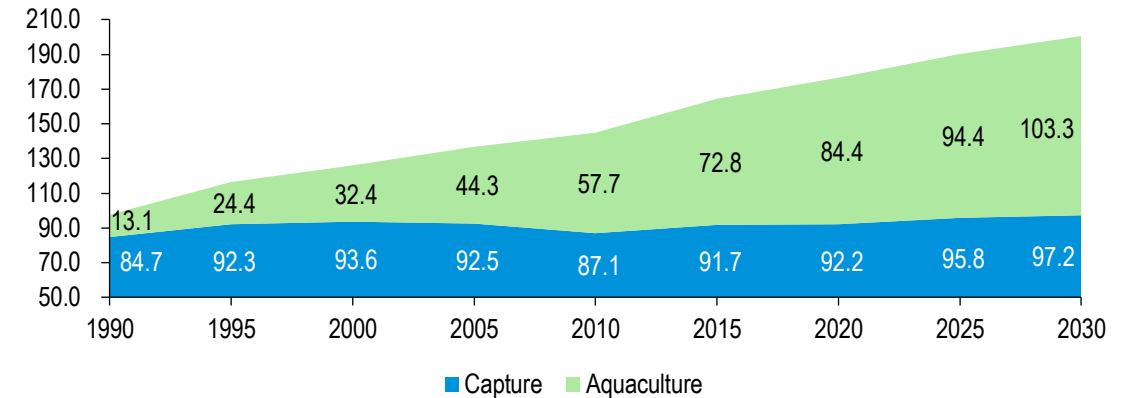


# Global fish market supply and demand (1/2)

## Global fish supply

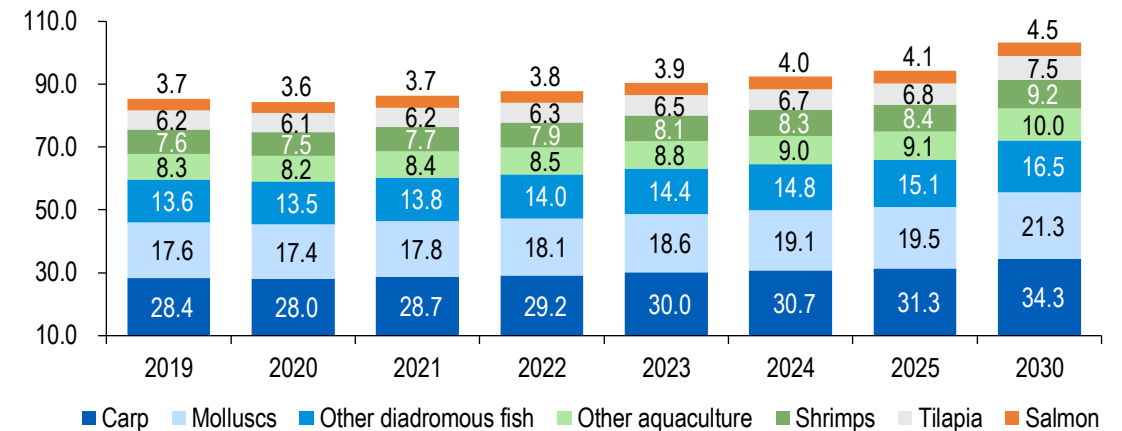
- ▶ Total fish production has significantly expanded in the past three decades going from **97.7m** tons in **1990** to an all-time record of about **180.0m** tons in **2021**, with an annual growth rate of **1.8%**.
- ▶ According to FAO, the growth of total fish production is significantly driven by the growth of the aquaculture production. Aquaculture production increased tremendously from **13.1m** tons in **1990** to **86.3m** tons in **2021**. Based on OECD-FAO forecasts, aquaculture production is forecasted to reach **103.3m** tons by **2030**.
- ▶ There was a decline in the total production in **2019** and **2020** by **1.1m** tons and **1.2m** tons, respectively. The decline was due to a decline in captured fish of pelagic species on China and the impacts of COVID-19 pandemic on the sector on **2020**.
- ▶ The global aquaculture production declined by **1.0m** ton in **2020** due to the pandemic. COVID-19 pandemic in **2020** not only impacted production for export markets, but also reduced availability of workers, supplies and inputs (including feed, fingerlings and ice).
- ▶ The efforts to mitigate the spread of COVID-19 have resulted in reduced demand for aquatic foods, and disruptions to production, supply chains and markets. In some countries, the decline in demand led to lower prices. Consequently, many fishing fleets stopped operating or reduced their activities, as work became unprofitable during periods in **2020** and **2021**.
- ▶ China is the leading producer and accounted for **(58%)** of the overall total in **2021**, followed by India, Indonesia, and Vietnam.
- ▶ Carp is expected to contribute with the highest portion of aquaculture production until **2030**. According to FAO, the farmed salmonids and tilapia are expected to have the highest average growth rate from **2021** to **2031** compared to other species.

## Global fish production (M Tons)



Source: OECD - FAO Outlook 2021-2030

## Global aquaculture production by type (M Tons)



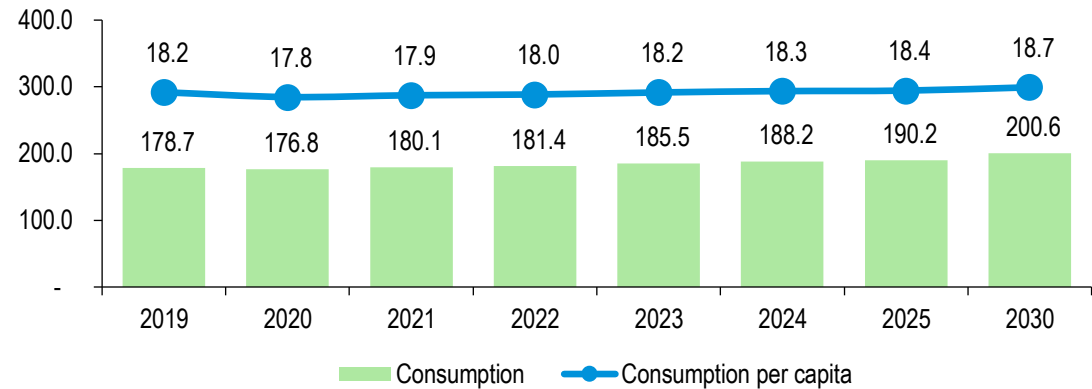
Source: FAO

## Global fish market supply and demand (2/2)

### Global fish Demand

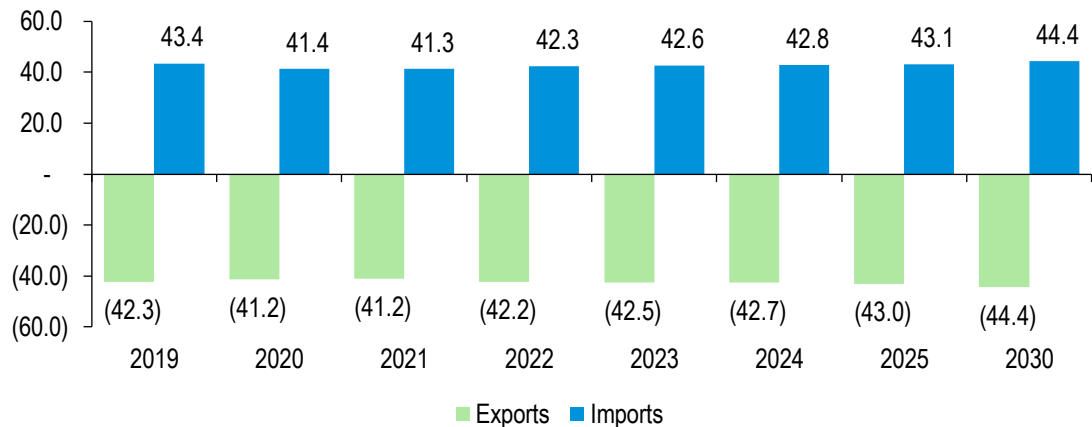
- ▶ The total consumption of seafood in the world grew by a **10-year CAGR of 2.7%** from **152.5m tons** in **2011** to **180.1m tons** in **2021**. The total consumption is expected to reach **200.6m tons** by **2030** as per FAO estimations.
- ▶ Demand is expected to grow in next decade, however, at lower rate (falling from **2.0%** annually during **2012-2021** to **1.4%** annually in **2022-2030**). This slowdown is mainly due to lower production growth, rather high fish prices relative to some lower meats prices and a deceleration in population growth.
- ▶ Total fish food consumption should rise in all continents, except Europe (**-0.4%**) where an initial decline in consumption in Ukraine and Russia due to the war is expected.
- ▶ Future increase in fish food consumption primarily originate from aquaculture production. The main drivers of increased consumption are rising household incomes, population growth, urbanization and an increase in recognition of fish as healthy and nutritious food.
- ▶ As the most populous continent and major producer, Asia is anticipated to account for **76%** of the additional fish consumed by **2031** as well as the largest share (**72%**) of the available total food fish in **2031**. Africa, America and Europe will each account for **9%** of total food fish consumed by **2031**, while only **1%** will be consumed in Oceania. Being the largest fish producer, China will also remain by far the world's largest fish consuming country, projected to account for **37%** of the total food fish consumed in **2031**.
- ▶ Fish consumption per capita is estimated to have an upward trend on all continents except Africa. Per capita consumption is projected to decline in Africa, due to higher population growth than the growth in the supply of fish food.
- ▶ Asian countries are expected to remain the key suppliers to world markets. By **2030**, they are expected to account for **47%** of total trade of fish for human consumption. China alone will be the largest exporter with a share of **17%** by **2030**.
- ▶ Africa represents **14%** of total imports while other importers are United states, Japan, Thailand, and China.

### Global fish consumption (M Tons) and per capita (kg/person)



Source: OECD - FAO Outlook 2021-2030

### Global fish imports and exports (M Tons)



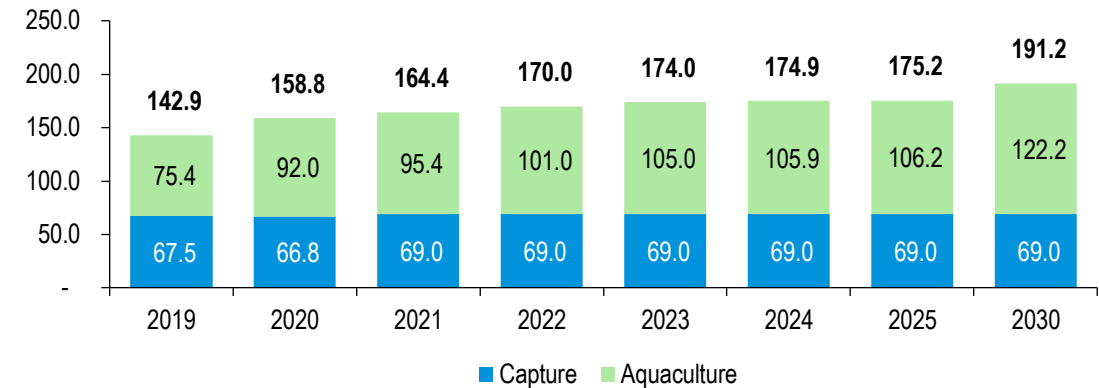
Source: OECD - FAO Outlook 2021-2030

# KSA fish market supply and demand (1/3)

## KSA fish supply

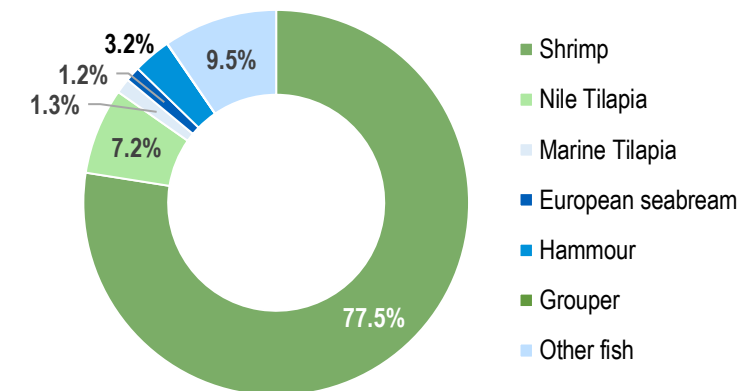
- ▶ Total fish production in KSA increased by 3.5% to **164.4k** tons in **2021** compared to **2020**. Historically, the fish captured in Saudi Arabia grew at a **10-year CAGR** of **0.7%** from **64.5k** tons in **2011** to **69.0k** tons in **2021**. As of **2021**, the captured fish covered **41.9%** of local production, which implies that aquaculture production has **58.1%** of the market share.
- ▶ The reason behind the slow growth of the fish captured is the continuous temporary fishing bans imposed by the Ministry of Agriculture, Water and Environment. The ministry imposed temporary bans during the period from **2015** to **2021** to protect the marine life. The bans were imposed on the fishing of certain species of shrimp, mackerel, and crustaceans.
- ▶ Saudi Arabia is focusing on aquaculture production as it introduced “Vision 2030” in **2016** to increase aquaculture production to **600k** tons by **2030**. It is an initiative that has encouraged a surge in private sector investments in the aquaculture sector’s pre-harvest, production, and post-harvest segments.
- ▶ Therefore, the aquaculture production was driving the whole fish production historically in KSA as the aquaculture production grew at a **10-year CAGR** of **19.5%** from **16.1k** tons in **2011** to **95.4k** tons in **2021**.
- ▶ Moreover, Saudi Arabia signed a memorandum of understanding to promote and encourage joint investment during the Omani-Saudi Investment Forum in August **2021**. The memorandum was signed between Oman Fisheries Development Company and National Aquaculture Group in Saudi Arabia “NAQUA” to establish a shrimp farming project, including hatchery unit, breeding sites, processing plant, etc.
- ▶ To lessen reliance on imports, the government has launched a number of production-oriented projects to fulfill the country's rising per capita seafood consumption. National food security is a significant component of the government's aim to improve the region's quality of life, and one of its strategic initiatives is to improve the efficiency and competitiveness of locally produced food products.
- ▶ The aquaculture production in Saudi Arabia mainly focuses on shrimp farming as it contributed by **77.5%** of total production, followed by Nile Tilapia which contributed by **7.2%** of production as of **2019**. There is no data about salmon production in Saudi Arabia, however, it is included in “Other fish” in the pie chart.

## KSA fish production (000' Tons)



Source: OECD - FAO Outlook 2021-2030

## KSA aquaculture production by type (%), 2019



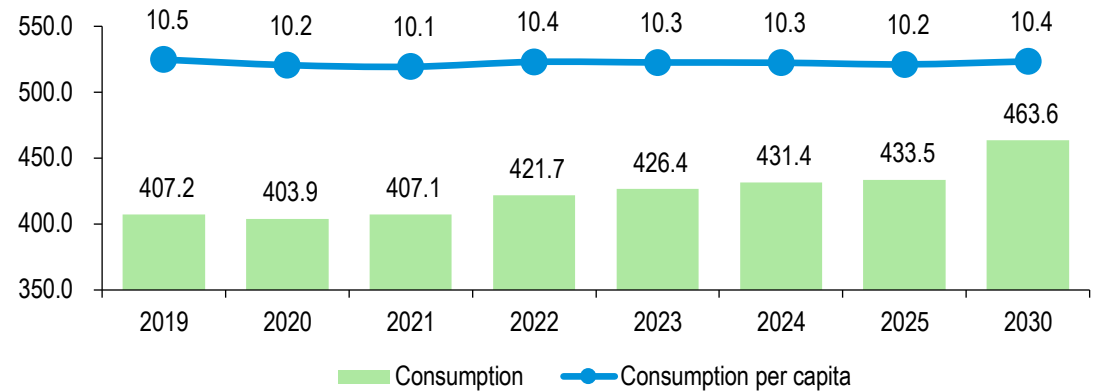
Source: KSA General Authority for Statistics

## KSA fish market supply and demand (2/3)

### KSA fish demand

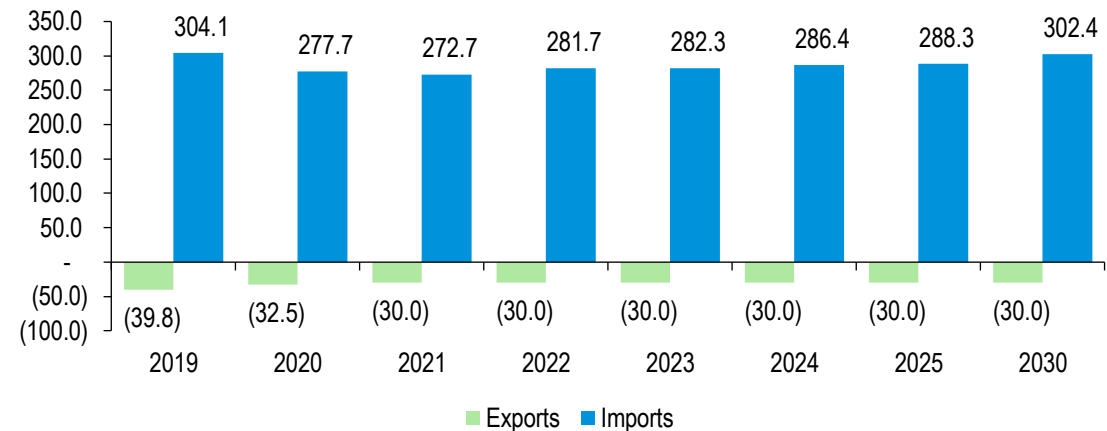
- ▶ The total consumption of seafood in Saudi Arabia grew by a **10-year CAGR of 2.9%** from **307.0k tons in 2011 to 407.1k tons in 2021**. According to FAO, the seafood consumption per capita in Saudi Arabia is **10.3 kg/person** which is considerably lower than the global average seafood consumption per capita of **17.8 kg/person**. This gap provides a room for the consumption in Saudi Arabia to increase further in the upcoming years **supported by the following drivers**.
- ▶ With the rise in public awareness programs to increase consumption of sea food products, changing diet patterns, and the growing young population, the region represents a growing sea food market with significant potential for increased local consumption of sea food products.
- ▶ One of the major drivers of the seafood consumption in KSA is the changing diet patterns due to the increase in disposable income per capita. According to King Saud University survey in **2016**, **88%** of the people consumed fish in their diet per month, and **81%** of the surveyed population stated that fish is a better source of protein than red meat. Accordingly, Saudis included fish in their diets at an average of **1.2-1.4 meals per week at home** and **0.7-0.8 meals per week at restaurants**.
- ▶ The changing diet patterns is driven by high per capita income of approximately **USD 21,784 / year** which gives large numbers of Saudis the ability to shop for high-quality food products at retail outlets. Saudis spend approximately **27%** of their income on food.
- ▶ The Saudi population is growing at a rate of **2.9%** annually paves the way for increasing seafood consumption. In addition, raising public awareness of the health benefits of seafood is one of the drivers of the consumption in KSA.
- ▶ To cater for the growing consumption, Saudi Arabia is largely dependent on imports to meet the demand for sea food in the region. The consumption in Saudi Arabia is covered only by **40.4%** from local production while **59.6%** is covered from imports. With the rising inflation in KSA and around the world, sea food has become unaffordable in Saudi Arabia. To avoid increasing prices and ensure food security, the government of Saudi Arabia are promoting aquaculture production in the country. The government's commitment to the aquaculture industry introduced the plan "Vision 2030" in **2016** to increase aqua production to **600k ton by 2030**.
- ▶ Major exporters to Saudi Arabia are Oman, Norway, Myanmar, and China. On the other hand, major importers from Saudi Arabia are Kuwait and Bahrain.

### KSA fish consumption (000' Tons) and per capita (kg/person)



Source: OECD - FAO Outlook 2021-2030

### KSA fish imports and exports (000' Tons)



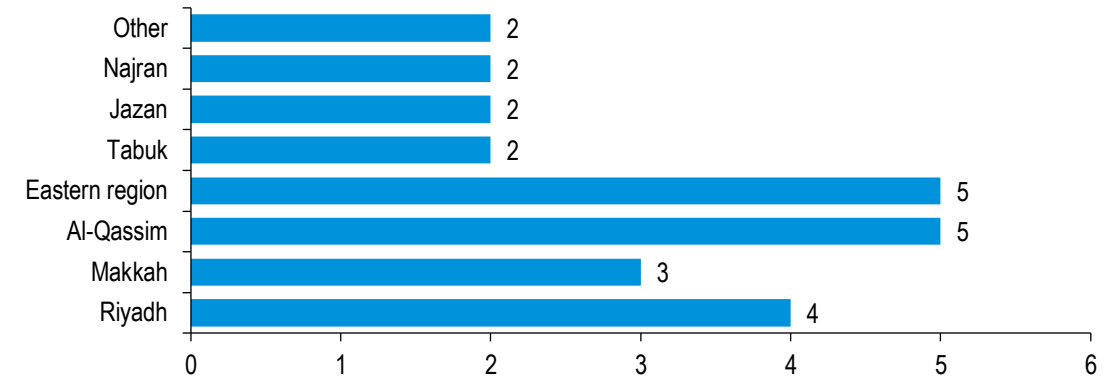
Source: OECD - FAO Outlook 2021-2030

# KSA fish market supply and demand (3/3)

## Production and consumption analysis by region

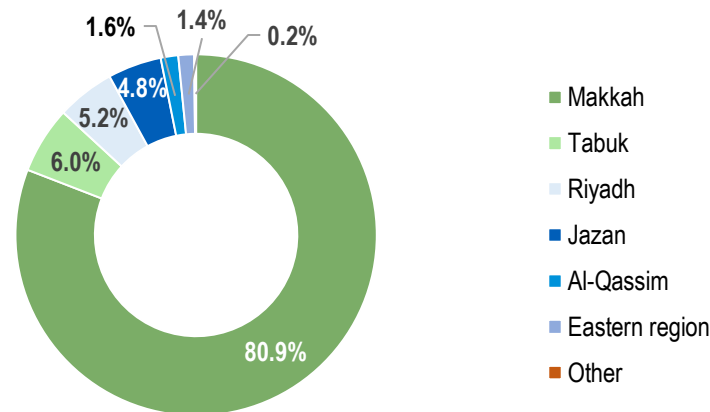
- ▶ Eastern region, Al-Qassim, Riyadh, and Makkah have the highest number of fish farms.
- ▶ However, Makkah is the first in terms of number of fishponds among other administrative regions where it reached **1,134 ponds (39%)** out of total number of fish pond in the Kingdom, followed by Riyadh region where the number of fish ponds was **461 ponds (16%)** out of the total number of fish ponds in the Kingdom.
- ▶ In addition, Makkah has the highest consumption of aquaculture products. Makkah is considered as a holy capital of Saudi Arabia as during the Hajj season, the demand of sea foods increase where around **2.5 million** pilgrims visit Makkah annually.
- ▶ The abundance of fish supplies, with the abundant demand at fish restaurants during the blessed month of Ramadan create a state of price stability which even attract more consumers.

## Number of fish farms by region (#), 2019



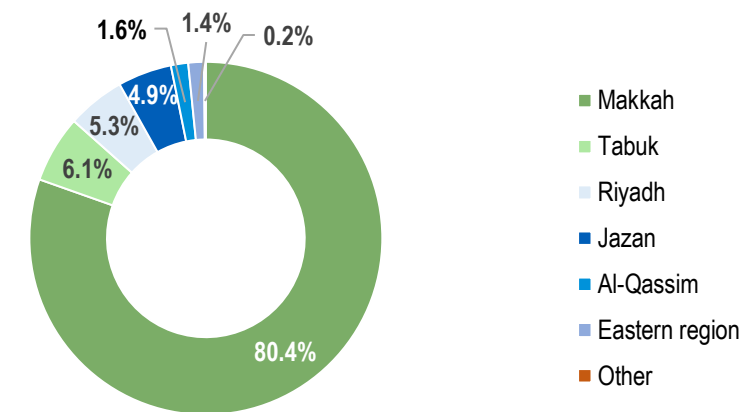
Source: KSA General Authority for Statistics

## KSA aquaculture production by region (%), 2019



Source: KSA General Authority for Statistics

## KSA aquaculture consumption by region (%), 2019



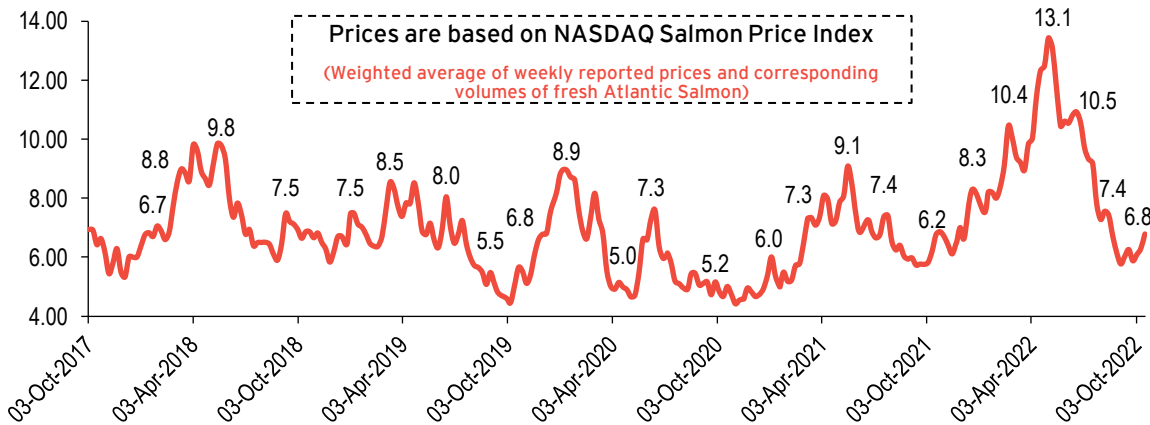
Source: KSA General Authority for Statistics

# Salmon market overview

## Salmon market overview

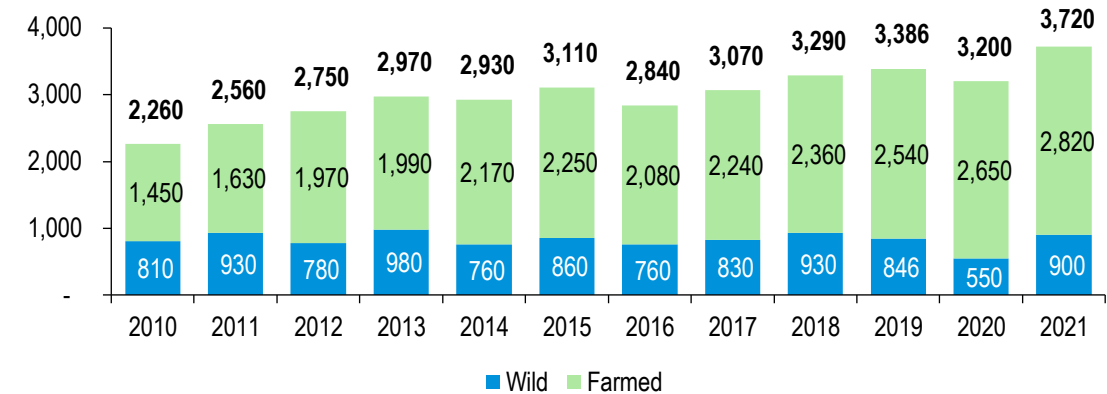
- ▶ Total global salmon production reached **3.7m** tons by **2021**. Historically, the farmed salmon dominated the overall salmon production compared to the wild capture. As of **2021**, the captured salmon covered **24.2%** of total production versus farming which represents **75.8%** of the market.
- ▶ Although salmon capture declined in **2020** due to the pandemic, farmed salmon remained resilient and recorded growth. Salmon has weathered the restrictions well due to the geographical diversity of its markets and the diverse range of products.
- ▶ As salmon is perishable and marketed fresh, all production in one period must be consumed in the same period. In the short term, the production level is difficult and expensive to adjust as the production cycle is three years long. Therefore, the demand shifts according to the season. This is the main reason for the price volatility in the market.
- ▶ In the second quarter of **2022**, salmon prices reached levels not seen in some **40** years. These high levels are part of the ongoing rapid inflation, driven in part by rising costs of inputs and logistics, but also reflecting the strong recovery of demand for salmon worldwide.

## Global Salmon average prices (USD/kg)



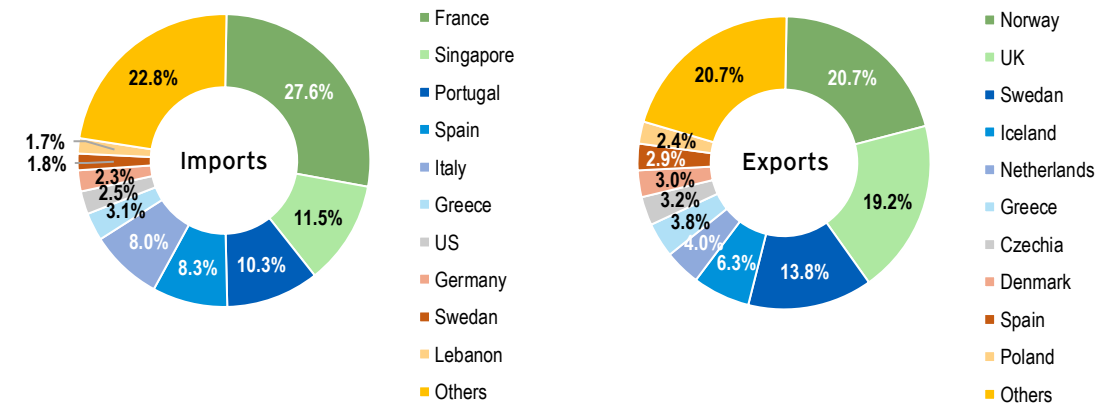
Source: Reuters

## Global Salmon production (000' Tons)



Source: Salmon industry handbook - MOWI

## Global Salmon exporting and importing countries (%), 2021



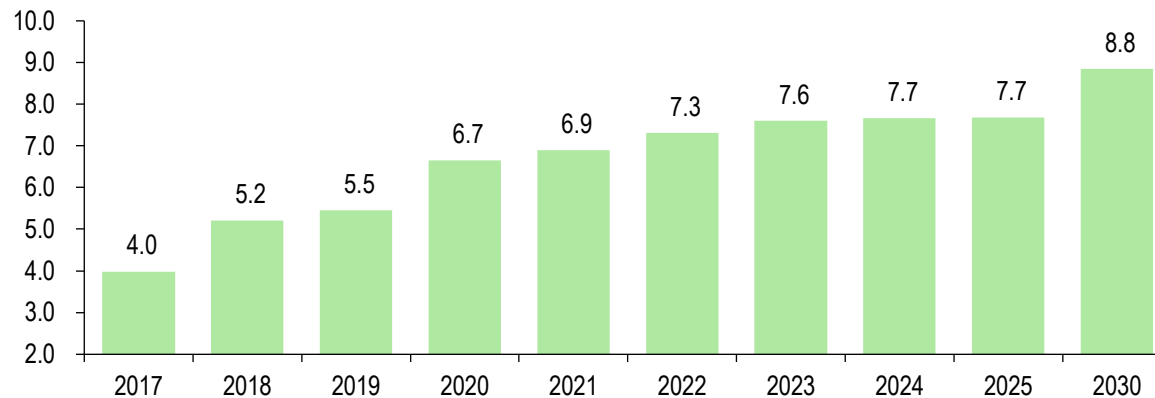
Source: Statista

# Nile Tilapia market overview

## Nile Tilapia market overview

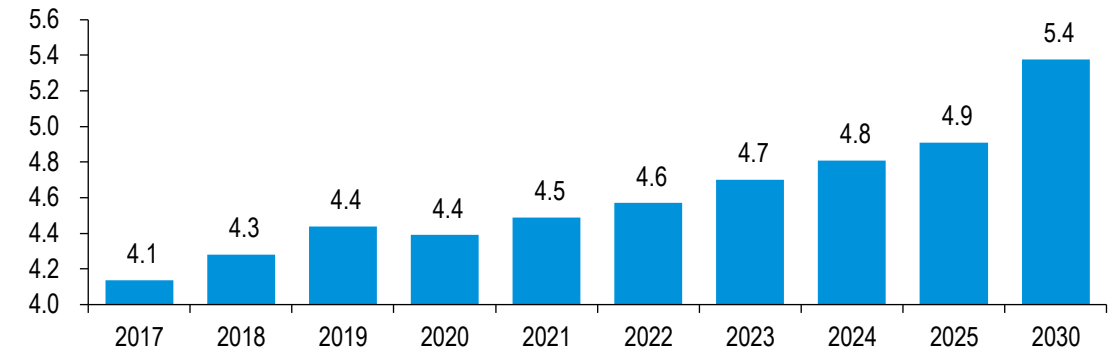
- ▶ In recent years, global Tilapia production growth has slowed relative to the long-term trend. This has been attributed to the maturation of the industry and a number of constraints on growth in China.
- ▶ In **2020**, the global Tilapia production decreased slightly due to challenges from the pandemic which affected labor and logistics. Moreover, an exceptionally hot summer in **2021-2022** led to fish die offs and fingerling shortages in the Chinese farming region of Guangdong, contributing to a further reduction in China's share of global supply.
- ▶ China remains the world's largest producer, but growth has generally been more rapid in the other significant producers in East and Southeast Asia, including Indonesia and the Philippines. Egypt also has large tilapia sector that is focused on supplying the domestic market.
- ▶ In KSA, Nile Tilapia production contributes by **7.2%** to the total aquaculture production. The production is forecasted to reach **8,800 tons** by 2030.
- ▶ Riyadh has the highest production and consumption of Nile Tilapia followed by Al-Qassim.

## KSA Nile Tilapia production from aquaculture (000' Tons)



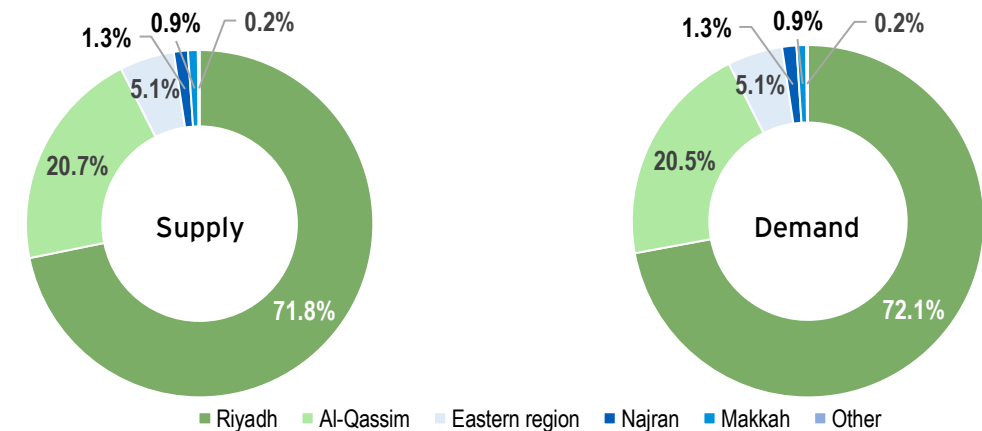
Source: KSA General Authority for Statistics & OECD

## Global Nile Tilapia production from aquaculture (M Tons)



Source: KSA General Authority for Statistics

## KSA Nile Tilapia supply and demand by region (%), 2019

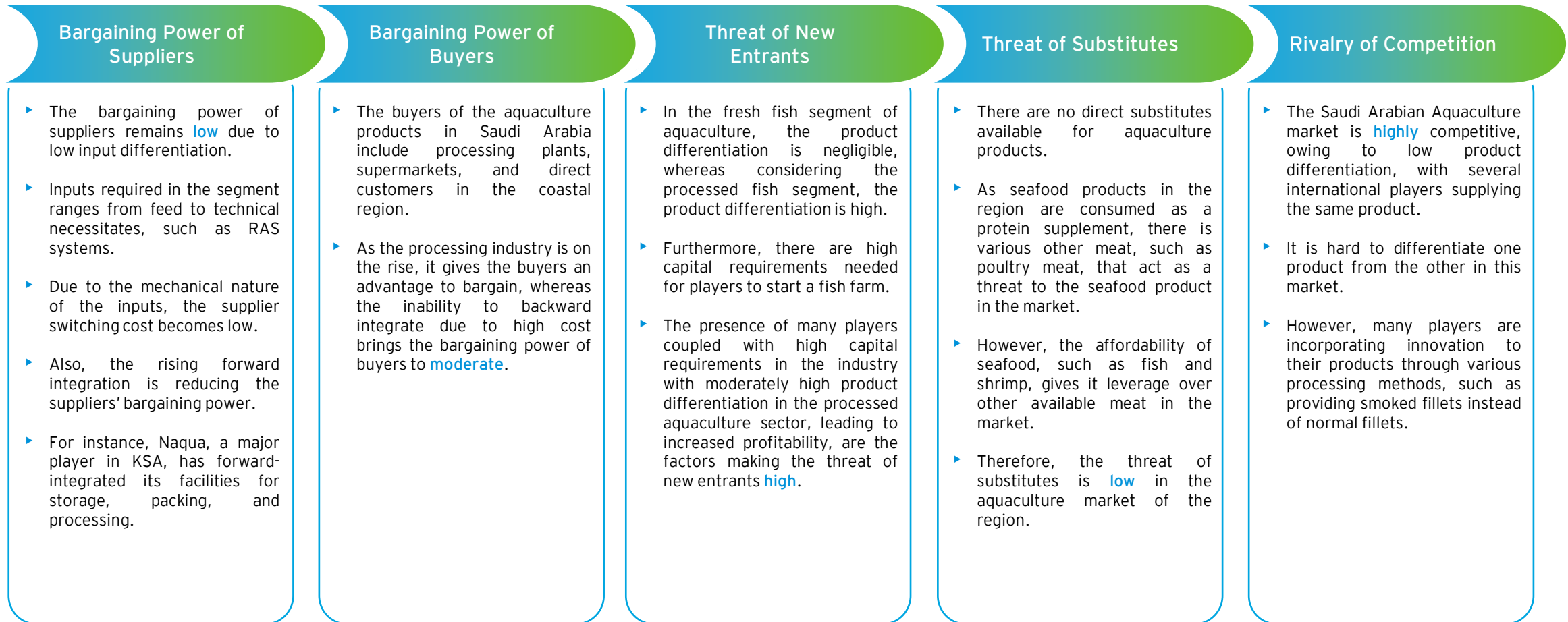


Source: KSA General Authority for Statistics



# KSA Aquaculture market competitive analysis (1/7)

## Porter's five forces analysis



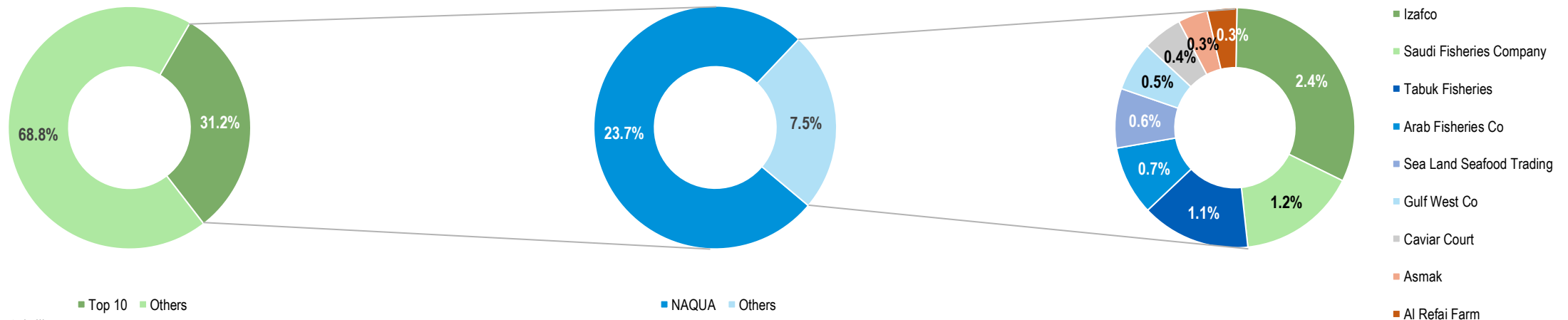
Source: Mordor Intelligence

# KSA Aquaculture market competitive analysis (2/7)

## Competitive & market share analysis

- ▶ The Saudi Arabian market is **fairly fragmented** with domestic players dominating the market and adopting strategies for enhanced production of aquaculture in the country. The notable players accounted for **31.2%** while others accounted for **68.8%** in 2020.
- ▶ Naqua, Izafoo, Saudi Fisheries Company, and Tabuk Fisheries are the major companies in the market, with aqua farms engaged in producing and supplying aqua products to consumers.
- ▶ To achieve Vision 2030, the government anticipates increasing the production to **600,000** metric tons by 2030. The Ministry of Environment, Water and Agriculture has launched **5** key initiatives with an investment of **SAR 1.3 billion** to boost the aquaculture industry in the country.
- ▶ The major players in the market are adopting strategies of partnership to increase their market share and obtain a strong position in the market. For instance, in **2021**, NEOM Company and Tabuk Fish Company signed a memorandum of understanding (MoU) aimed at expanding local aquaculture production and applying the new generation of aquaculture technologies.
- ▶ The MoU included developing a fish farm to promote the aquaculture industry in the region, within artificial lakes and natural waters, and establish a solid infrastructure in the Kingdom.








## KSA Aquaculture market shares (%), 2020



Source: Mordor Intelligence

# KSA Aquaculture market competitive analysis (3/7)





## Competitive & market share analysis

Company name	Description	Revenue	Products
  	<ul style="list-style-type: none"> <li>▶ NAQUA is the largest and leading aquaculture producer in KSA that offers its consumer products grown in Saudi farms, which are located by the coast of the Red Sea in Saudi Arabia. It is one of the world's largest fully-integrated marine farms, specializing in shrimp and fish production.</li> <li>▶ The company operates in four segments, namely shrimp, fish, sea cucumber, and feed and the products are in fresh and frozen forms.</li> <li>▶ The company has one of the largest Shrimp processing plants in the world, which has a capacity of 800 million tons of shrimp per day.</li> <li>▶ The company's shrimps, fish, and sea cucumber reach around 32 countries in the world.</li> </ul>	<b>USD 413m</b> (Global, 2020)	  
	<ul style="list-style-type: none"> <li>▶ IZAFCO LLC is a leading seafood supplier that works in fresh chilled and frozen seafood products and has a significant market presence in all types of fresh and frozen seafood products in Saudi Arabia and other Gulf countries.</li> <li>▶ The company selects fish and other seafood, and they are preserved/frozen in its state-of-the-art processing plant.</li> <li>▶ Its product portfolio has fresh and frozen products that allow them to expand its customer base. Fishes, such as Snapper, Grouper, Tuna, Emperor fish, Trevallies, Croakers, Catfish, Queen Fish, King Fish, Ribbon Fish, Indian Mackerel, Tilapia, Grey Mullet, etc., are included.</li> </ul>		 

Source: Mordor Intelligence

# KSA Aquaculture market competitive analysis (4/7)

## Competitive & market share analysis





Company name	Description	Revenue	Products
 <p><b>Saudi Fisheries Company</b></p>	<ul style="list-style-type: none"> <li>Saudi Fisheries Company is one of the leading seafood companies that was founded in 1980 and is headquartered in Riyadh, the Kingdom of Saudi Arabia.</li> <li>The company's seafood products include hareed, hamour, zubaidi, shaour emperor, red sea bream, dennis seabream, qarous sea bass, crab, peeled shrimp, lobster, squid, and salmon. It also offers meal products, including salmon grilled with rice, sweet sour shrimp with rice, and tempura fish.</li> <li>In addition, the company is involved in the operation of fish and shrimp farms; ice production and storage facilities; and operation and management of seafood restaurants. Furthermore, it engages in the sorting, cleaning, and chopping of fish, preservation, cooking, and packing; and provision of logistic services.</li> <li>Saudi Fisheries is a publicly listed company in Saudi Arabia with market capitalization of SAR 1.3b and achieved total revenue of SAR 47.5m in 2021.</li> </ul>	SAR 47.5m (KSA, 2021)	  
 <p><b>Tabuk Fisheries Company</b></p>	<ul style="list-style-type: none"> <li>Tabuk Fisheries Co. is one of the largest fishery companies that started its activities for the cultivation of various species of fish with floating cages systems in seawater.</li> <li>The company has expanded the number of farms cages and has reached three farms with a production volume of about 5000 tons per year.</li> <li>The company is currently engaged in studies and research on new varieties of fish. It has been successful in the development and farming of the European fish (the Danish fish), the local Sibeti fish, Hamour fish, and the Asian prawn, and it is now carrying out studies and researches, and contracts with foreign companies to start cultivating new varieties, such as European bass, in the production of Asian bass and Hamour.</li> <li>The company seeks to support the 2030 vision of the Kingdom of Saudi Arabia, which is based on achieving sustainable development, including the development of the fisheries sector to produce 600 thousand tons of fish annually over the next 15 years</li> </ul>	N/A	 

Source: Mordor Intelligence



# KSA Aquaculture market competitive analysis (5/7)







## Competitive & market share analysis

Company name	Description	Revenue	Products
	<ul style="list-style-type: none"> <li>Arab Fisheries Co. has been in the seafood industry for more than 25 years, supplying fish, Molluscs and Crustaceans.</li> <li>Its annual production capacity for the Arabian Factory is 2236 tons fish and about 420 tons of shrimp while farm Wadi Rayan has the capacity of 400 tons and the Wadi Natrun hatchery has the capacity of 4 million tons in Egypt.</li> <li>It provides services, like Sorting and Cleaning, Manufacturing, Freezing, Packaging, and Storage.</li> <li>The company uses the latest and best machines for the process of sorting and cleaning, and processing of fish and shrimp. It uses a plate freezer or blast freezer for the freezing process and the template is determined based on client request.</li> </ul>	<p>USD 5.1m (2020)</p>	
	<ul style="list-style-type: none"> <li>Sea Land Seafood Trading Co. is a seafood distribution company located in Saudi Arabia. It is a UAE-based seafood distribution company established in 2006. It extended its service to the KSA started in 2010 and soon became one of the top leading seafood suppliers in the region.</li> <li>The company has a diverse portfolio of products that include Salmons, Shrimps, Lobsters, Squids, Crabs, and Fillets.</li> <li>It provides services to the supply to the finest hotels, restaurants, institutions, and wholesale segments of the market and is well equipped to meet the ever-growing global demand for best quality seafood varieties with high standards.</li> <li>It also exports to the commodity market in MENA to cater to demanding multinational retail and restaurant chains.</li> </ul>	<p>USD 1.9m (KSA, 2020)</p>	

Source: Mordor Intelligence

# KSA Aquaculture market competitive analysis (6/7)







## Competitive & market share analysis

Company name	Description	Revenue	Products
 	<ul style="list-style-type: none"> <li>▶ Gulfwest Company Limited is a food importer and distributor in the Kingdom of Saudi Arabia, which provides services to foodservice and retail business segments.</li> <li>▶ The company imports chilled, frozen, and ambient food products from across the continents. It has four distribution centers located in Jeddah, Riyadh, Dammam, and Madinah Al-Munawwara, which helps cover the entire geographical territory of Saudi Arabia.</li> <li>▶ The products include Salmon, Tuna, and Lobsters in its product portfolio. The company has partnered with reputed and trusted brands, like Seafresh, Simplot, Salud, Goldfish, etc., to provide a wide array of products.</li> <li>▶ GulfWest's customers include high-end restaurants, star hotels, hypermarket chains, fast food chains, airline caterings, hospitals, and Guest Palaces, etc.</li> </ul> <hr/> <ul style="list-style-type: none"> <li>▶ Caviar Court is the Middle East's only caviar production facility. It was established by Dr Abdullah Al Faris, a Saudi entrepreneur, who initiated the idea of cultivating and harvesting sturgeon caviar in Saudi Arabia.</li> <li>▶ Caviar Court offers a variety of sturgeon caviar species that include Acipenser Gueldenstaedtii, Acipenser Baerii, and other crossbreeds.</li> <li>▶ The company's processing plant is equipped with new modern machinery of European origin. The plant also produces a variety of sturgeon products, such as sturgeon fillet, hot smoked sturgeon, cold smoked sturgeon, fish sausages, and hotdogs.</li> <li>▶ Caviar Court boasts a state-of-the-art caviar and fish processing plant. It is designed and built by the religious sanitary norms that satisfy all generally accepted hygiene standards, such as in force in Europe, the United States, and other countries.</li> </ul>	<p>USD 41.3m (2020)</p>	  
		<p>USD 7.0m (Global, 2020)</p>	

Source: Mordor Intelligence

# KSA Aquaculture market competitive analysis (7/7)

## Competitive & market share analysis

Company name	Description	Revenue	Products
	<ul style="list-style-type: none"> <li>▶ ASMAK, a UAE-based company, is a leading provider of fresh and frozen seafood across the Middle East.</li> <li>▶ The company provides various products to customers from fresh, frozen, breaded, and value-added seafood, including shrimp, fish, crab, calamari, fresh salmon, salmon fillet, salmon skewers and etc.</li> <li>▶ The company brands its products under the name “asmak”, maintaining a focus on processing, distribution, and exports across MENA, including Saudi Arabia and key global markets. The products are sold under various categories, which include classic, bites, chilled, fresh, and smoked.</li> </ul>	USD 20.0m (Global, 2020)	 
	<ul style="list-style-type: none"> <li>▶ Al Refaei International Co. Ltd is a company that functions under different financial, administrative, and technical sectors, and it has more than 40 years in the Saudi market.</li> <li>▶ The company has classified its operations in several areas, including housing, building, fishing, etc. The company has a fish project for the cultivation, fishing, and marine neighborhoods of Amj province in Tabuk region. This is the only project of its kind in Saudi Arabia, which is a group of hatcheries, ponds, floating cages, and fences inside the Red Sea.</li> <li>▶ Al Refaei also has centers for the marketing and distribution of fish, shrimp, and marine neighborhoods products in the Saudi market and the rest of the Gulf markets.</li> <li>▶ The company owns jumbo restaurants to sell cooked and fresh fish and these restaurants have gained fame and reputation throughout the Kingdom.</li> </ul>	N/A	 

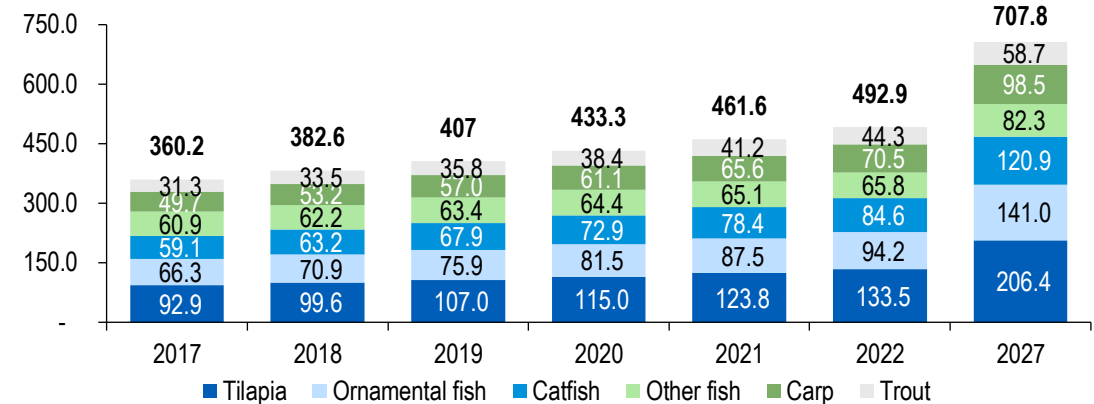
Source: Mordor Intelligence

# Aquaponics market overview (1/4)

## Aquaponics market overview

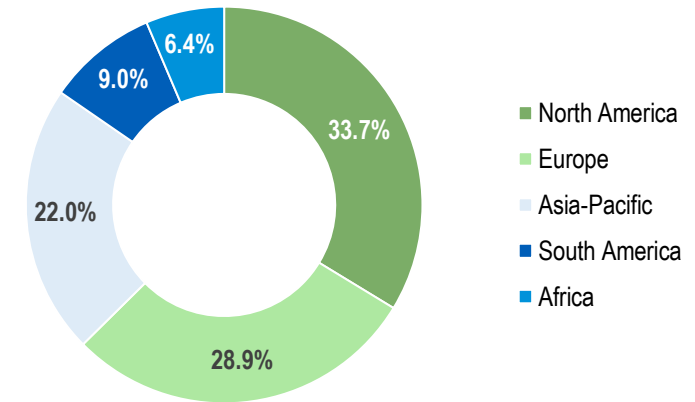
- ▶ Aquaponics is a farming system that combines aquaculture and hydroponics. It is environmentally friendly since it uses less land than traditional farming, reduces the need for pesticides and fertilizers, and has a smaller carbon footprint.
- ▶ In addition, shortage of water, and bad-quality soil, achieving higher cultivation of these crops poses a serious challenge for the farmers. Thus, the aquaponics overcome conventional open-field agriculture problems. This stimulates the demand and market of aquaponics systems in order to attain higher cultivation and to meet the increasing demand for fresh produce.
- ▶ Therefore, the global aquaponics market is projected to witness significant growth owing to increasing demand for nutrition and shift in the dietary pattern of the global population toward consumption of fresh fruits and vegetables. In countries with unfavorable climatic conditions for open land farming, aquaponics provides a sustainable option for the cultivation of fresh produce.
- ▶ Tilapia is one of the most popular fish species raised in aquaponics systems. Tilapia market revenues are expected to reach **USD 206.4m** by **2027**.
- ▶ Tilapia is often preferred in aquaponics because of its resistance to diseases and parasites, it can handle a wide range of water quality and temperature challenges, and it can survive longer in a toxic water environment with low oxygen or high ammonia levels.
- ▶ The Saudi Arabia aquaponics market is expected to grow at a **7-year CAGR of 10.0%** from **USD 4.3m** in **2019** to **USD 8.3m** in **2026**.
- ▶ The market is expected to surge in the country because of its limited water supplies, excellent environmental conditions. The kingdom is also a major importer of fresh herbs and salads. With the adoption of aquaponic technology, the kingdom is expected to produce a chunk or percentage of its aquaponic product. The government has been investing a significant sum of capital into the market, in the last few years. With the vision **2030**, the kingdom had been aiming to diversify its economy from oil and gas and become a major player in the agriculture sector.
- ▶ Saudi Arabia has a desert climate and has very low annual rainfall. This creates water scarcity in the region. The aquaponics technology enables the conversion of aquatic by-products into manure for herbs, fruits, and vegetables.

## Global aquaponics market (USD million)



Source: Mordor Intelligence

## Global aquaponics market by geography (%), 2021

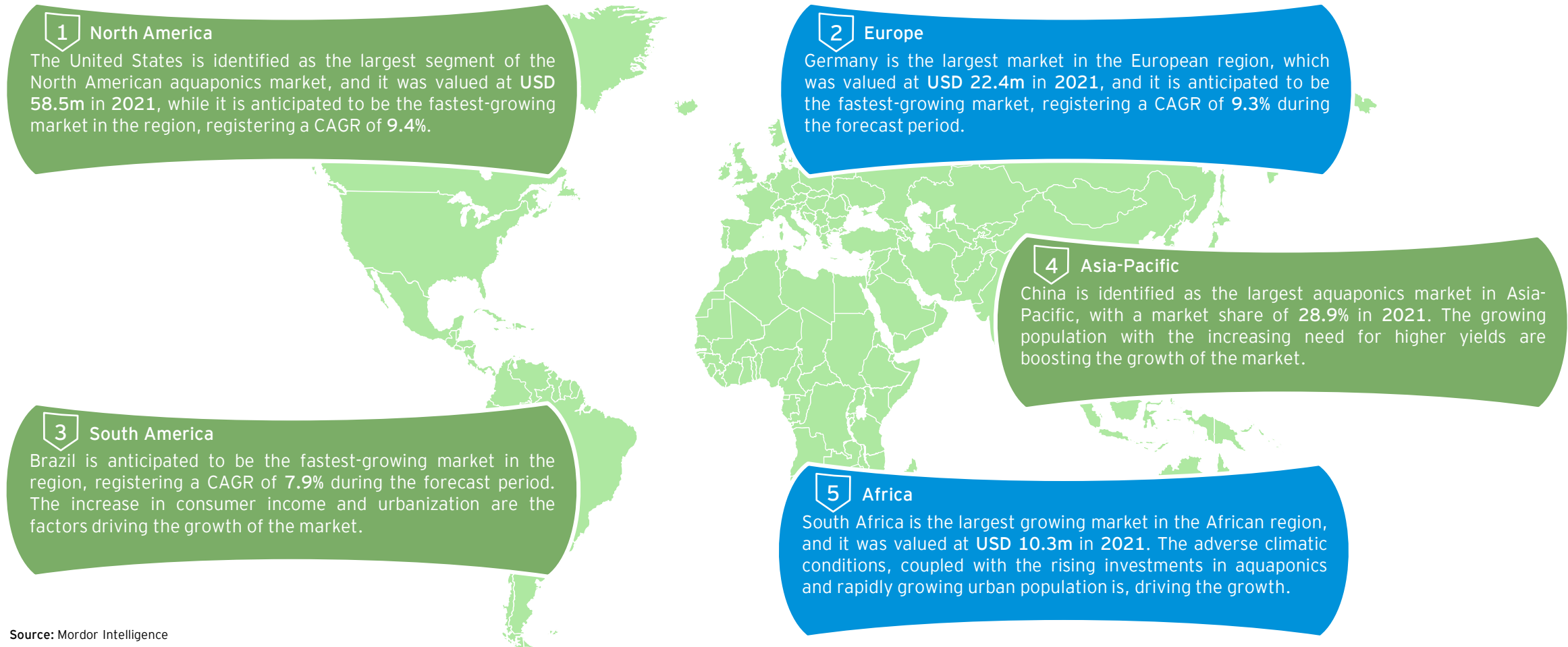


Source: Mordor Intelligence



# Aquaponics market overview (2/4)




## Aquaponics market overview by geography



Source: Mordor Intelligence

# Aquaponics market overview (3/4)




## Competitive analysis - International players

Company name	Description	Products
	<ul style="list-style-type: none"> <li>Superior Fresh Farm is one of the global leaders and operators of hydroponic farming facilities in North America.</li> <li>The company delivers its crops of utmost quality with significantly lower carbon footprint, compared to its competitors. It aims to provide a minimum of 25% of the overall fresh produce in the region by 2025.</li> </ul>	Power blend Baby Arugula Arugula mix Spring mix Citrus Splash Midwest Medley
	<ul style="list-style-type: none"> <li>Ouroboros Farms is an expert in aquaponics, and it is one of the largest commercial aquaponic farms in the United States. The company offers farm tours, aquaponics classes, and aquaponics produce and supplies.</li> <li>The company has a 23,000 sq ft, 60,000-gallon aquaponic farm. Aquaponics produces vegetables of exceptional quality, especially leafy greens. The company mostly grows lettuce, herbs, and vegetables.</li> </ul>	Lettuce Parsley Basil Garlic Kale Mint
	<ul style="list-style-type: none"> <li>Springworks Farm combines aquaponics and other sustainable farming methods to bring fresh produce and green jobs to mid-coast Maine. The company's flagship farm in Lisbon surrounds a 6,000 sq ft aquaponic greenhouse and farm stand.</li> <li>The company is the largest aquaponics greenhouse in the Northeast region of the United States, producing over 1 million heads of organic lettuce and 60,000 pounds of tilapia every year.</li> </ul>	Lettuce Basil Kale Tilapia

Source: Mordor Intelligence

# Aquaponics market overview (4/4)

## Competitive analysis – Local players

Company name	Description	Products
	<ul style="list-style-type: none"> <li>Pure Harvest Smart Farms, Ltd engages in the production and sale of premium fruits and vegetables in the challenging climates using world-leading controlled-environment agriculture technologies. The company was founded in 2016 is based in Abu Dhabi, United Arab Emirates.</li> <li>It distributes its products to Saudi Arabia.</li> </ul>	<p><b>Tomatoes</b> <b>Cherry tomatoes</b></p>
	<ul style="list-style-type: none"> <li>Red Sea Farms offers products and services designed to help farms grow food sustainably using fewer water resources. They sell organic and pesticide-free tomatoes and other produce grown in greenhouses.</li> <li>Red Sea Farms build new sustainable greenhouses as well as retrofit existing greenhouses with our patent-pending saltwater-cooling and Coretex control system technologies.</li> </ul>	<p><b>Tomatoes</b> <b>Cucumber</b> <b>Bell Peppers</b></p>
	<ul style="list-style-type: none"> <li>Ash-Sharqiyah Development Co. engages in the agricultural business in Saudi Arabia and internationally. The company is involved in growing vegetables in greenhouses and outdoors. It also engages in production of mixed farming and hydroponics for vegetable production activities. In addition, the company is involved in operation of irrigation systems for agricultural projects and activities relating animal production. Ash-Sharqiyah Development Co. was founded in 1986 and is based in Dammam, Saudi Arabia.</li> </ul>	<p><b>N/A</b></p>

Source: Companies websites & Capital IQ