Aquaculture in Saudi Arabia

- Quest for Food Security
- Local Consumption of Seafood
- Efforts to Export Seafood
- Key Players
- Opportunities & Recommendations
SAUDI ARABIA IS TARGETING 600,000 TONS BY 2030

Saudi Arabia produced 131 tons of fish in 2018. In line with Vision 2030, the Ministry of Environment, Water and Agriculture (MEWA) set a program targeting 600,000 tons of capture and aquaculture products by 2030. The kingdom will increase the fish consumption of the population by undertaking large scale awareness campaigns.

Annual fish consumption per capita increased from 3 kg in 1977 to 6.5 kg in 1998 and touching around 8 kg in 2007. In 2010 per capita supply was just 11.5 kilograms in the Kingdom. To enable the ramp-up, the program shall spend SAR 1.3 BN ($346,500,000) in order to unlock the Aquaculture sector potentials.

This makes aquaculture in the Red Sea the main source of supply of seafood in the largest Arab economy, and world’s largest exporter of Oil. Total fisheries production is limited, expected to stabilize at 70,000 tons per year in Saudi Arabia. In 2017 alone, KSA imported $378.7 million worth of fish.

The Red Sea’s underwater eco-system is home to over 1,200 species of fish, 10% of which are found nowhere else in the world.

**FIGURE 1**

Saudi Arabia’s estimates for total fish production (metric ton)
Saudi Arabia is a vast landmass (2.15 million km²). Nevertheless, only about 2 percent of the country’s enormous land is arable. The average summer temperature is about 45° C, but readings of up to 54° C are not unusual.

This makes the country highly dependent on imported food to meet local demand. In 2015, the Kingdom of Saudi Arabia was estimated to import 80% of its food supply.

That dependence is increasing as population continues to grow. The current population is estimated at about 33.5 million and is forecasted to reach 46 million by 2050.

In the 1970s, Saudi Arabia encouraged desert farming by providing substantial subsidies. This resulted in acute drop in water levels in agricultural areas. Experts estimate that four-fifths of the Saudis’ ground water is now gone. Eventually, Saudi Arabia abandoned a 30-year program to grow wheat that achieved self-sufficiency but depleted the scarce non-renewable water resources.

The country now a days primarily meets water demand through sea water desalination to ensure long-term water security. That being said, it is obvious that water scarcity for food production is a serious issue, therefore, Saudi Arabia is looking for new sources to produce food locally. In this context, the red sea has a good potential to ensure long-term local food production.

Nevertheless, this is not without challenges as the total fisheries production is expected to stabilize at 70,000 tons per year in Saudi Arabia.

**FIGURE 2**

Saudi Arabia’s Fisheries production (metric ton)

![Figure 2](image-url)
Seafood consumption in Saudi Arabia is expected to further grow by 8% per annum until 2030. Growing local consumption, driven by population growth and increase in consumption per capita, is expected to generate an additional demand of 555,000 tons in 2030.

As mentioned before; however, the total fisheries production is expected to stabilize at 70,000 tons per year in Saudi Arabia.

Pollution as a matter of fact is having a dramatic effect on the Red Sea fish stocks. It was reported in 2013 that the Red Sea had lost up to 70% of its fishing wealth. Thus, it is not surprising to know that the domestic fishing industry in Saudi Arabia, from Red Sea and Arabian Gulf, does not cover more than 40% of the local demand.

Saudi Arabia is also imposing stricter safety regulations on imports. For example, Saudi Arabia in 2018 suspended temporary imports of seafood from Myanmar & Vietnam. Imports from Pakistan and India were also suspended in previous years.

The above lead to a fresh wave of investments in the aquaculture sector of Saudi Arabia. In fact, Aquaculture is now one of the fastest growing food sectors in the kingdom with a recorded CAGR of 12%.
SAUDI ARABIA’S IS LOCATED WITH A 1,800 KM COASTLINE ALONG THE RED SEA

THE RED SEA HAS FAVORABLE CONDITIONS FOR AQUACULTURE:

- 7.04 mg/l pristine water and adequate DO
- 35 to 41 ppt salinity depending on the location
- Suitable cage depth of 20 to 50m
- 0.5 to 1 m low wave heights
- Water temperature of 18 to 30°C
SAUDI ARABIA’S EFFORTS TO EXPORT SEAFOOD

The shrimp aquaculture industry in specific is developing very fast. According to MEWA, Saudi Arabia exported more than 37,000 tons of seafood in 2017. This is about $266 million worth of seafood exports.

In December 2018, Saudi Arabia exported nearly 30,000 tons of shrimp to China.

Saudi Arabia aims to export 80,000 tons of shrimp to China by 2020 and generate about $533 million. Shrimps are also exported to the EU, Japan and USA but in smaller quantities. It is worth mentioning that the aquaculture industry is still in the early development phase. This becomes rather clear when compared to the Oil sector. Total Saudi Arabia’s annual seafood exports so far are less than one day’s worth of petroleum exports.

FIGURE 3
SAUDI ARABIA’S shrimp exports (ballooned in 2017)

The National Aquaculture Group (NAQUA) is the largest farm in Saudi Arabia. The facility consists of 16 farms to produce shrimps, and 3 additional facilities to produce fish. Fish farms consist of 14 to 20 circular cages each. NAQUA can produce about 100,000 metric tons of seafood a year, and it is currently behind all shrimp exports to China.

NAQUA in 2015 became the Middle East’s first aquaculture facility to earn Best Aquaculture Practices certification. To ensure consistent safety and quality, BAP certification will be mandatory for all aquaculture facilities by 2020.
The following organizations are involved in the development of the aquaculture sector in Saudi Arabia:

**TABLE 1: Main Aquaculture players in the Red Sea**

<table>
<thead>
<tr>
<th>Current Fish Farms</th>
<th>Capacity</th>
<th>Products</th>
</tr>
</thead>
<tbody>
<tr>
<td>Saudi Fisheries</td>
<td>5,000</td>
<td>Asian Seabass, Mediterranean Seabream and Sobaity</td>
</tr>
<tr>
<td>Tharawat Seas</td>
<td>5,000</td>
<td>Mediterranean Seabream</td>
</tr>
<tr>
<td>Naqua</td>
<td>100,00</td>
<td>Asian Seabass &amp; P. Vannamei shrimp</td>
</tr>
<tr>
<td>Tabuk Fisheries</td>
<td>5,000</td>
<td>Mediterranean Seabream</td>
</tr>
<tr>
<td>Jazadco</td>
<td>2,500</td>
<td>P. Vannamei shrimp</td>
</tr>
<tr>
<td>Red Sea Aquaculture</td>
<td>3,200</td>
<td>P. Vannamei shrimp</td>
</tr>
<tr>
<td>Asmak</td>
<td>1,500</td>
<td>Mediterranean Seabream, Subaity &amp; Asian</td>
</tr>
<tr>
<td>Island Prawn</td>
<td>2,000</td>
<td>P. Vannamei shrimp</td>
</tr>
</tbody>
</table>

**TABLE 2: Organizations involved in aquaculture**

<table>
<thead>
<tr>
<th>Organization</th>
<th>Description</th>
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<tbody>
<tr>
<td>MEWA</td>
<td>Ministry of Environment, Water &amp; Agriculture - Develop, set policies and regulate aquaculture sector</td>
</tr>
<tr>
<td>ADF</td>
<td>Saudi Agricultural Development Fund – Provides loans &amp; credit for agricultural sector</td>
</tr>
<tr>
<td>SAS</td>
<td>Saudi Aquaculture Society</td>
</tr>
<tr>
<td>JFRC</td>
<td>Jeddah Fisheries Research Center - focuses on aquaculture research and development programs</td>
</tr>
<tr>
<td>SAMAQ</td>
<td>Saudi Arabia National Aquaculture product certification and labeling scheme</td>
</tr>
<tr>
<td>SAGIA</td>
<td>Saudi Arabian General Investment Authority – Attract &amp; promote investment</td>
</tr>
</tbody>
</table>

**TABLE 3: Active universities in aquaculture**

<table>
<thead>
<tr>
<th>Universities</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>KAUST</td>
<td>King Abdullah University of Science and Technology</td>
</tr>
<tr>
<td>KAU</td>
<td>King Abdulaziz University</td>
</tr>
</tbody>
</table>
It was announced in 2018 that Saudi Arabia’s Ministry of Environment, Water and Agriculture is offering more than 20 locations for aquaculture investment over 2,400 kilometers in the Red Sea.

This should encourage Norwegian companies to concentrate on Saudi Arabia’s market and intensify contacts with active parties in the aquaculture sector to show real interest and eventually reach stronger cooperation.

Moreover, a consistent knowledge & technology transfer program is likely to open doors for long term co-operation between Norway and Saudi Arabia to build a successful aquaculture industry.

Norwegian companies and technologies are well received and regarded experienced and competent, but not without serious challenges.

**Patience** is important. Sense of time differs largely, and things process at a much slower pace in the Middle East. Norwegian businesses should expect decision-making to take longer than what they are used to. **Flexibility** is also critical. For instance, several elements can be manufactured locally to allow for higher local content and reduce cost. Norwegians manufacturer are encouraged to accept this.

Most importantly, the market is very **competitive** and price sensitive due to competition from Europe and China.

As an example, Chinese aquaculture Guangdong Evergreen Group is currently in discussions with Saudi Arabia to build a $300 million aquaculture farm in the desert. The farm would be the single largest investment in an aquaculture development in the world and will be producing shrimp and tilapia.