

Into the blue

WITH WILD FISH STOCKS BEING DEPLETED, AQUACULTURE PRESENTS A SUSTAINABLE SOLUTION TO MEETING RISING CONSUMER DEMAND

BY IGA MOTYLSKA

PHOTOGRAPHY UNSPLASH/JAKUB KAPUSNAR

Aquaculture

The average South African eats between 5 kg and 10 kg of fish and seafood each year, according to the State of World Fisheries and Aquaculture (SOFIA) 2016 report by the UN's Food and Agriculture Organisation (FAO). The black mussels drenched in a garlic-butter sauce on your plate at the restaurant or the kabeljou on ice at your local supermarket are products of aquaculture. Even the seaweed in your lunchtime salmon hand-roll is farmed.

The world is experiencing a blue revolution. As wild-capture fisheries struggle to meet the growing global demand for fish and seafood, while adhering to environmental restrictions in place to prevent the further over-exploitation of fish reserves, the aquaculture sector is growing rapidly.

In fact, 2014 was the first time in history that the world ate more farmed than wild-captured fish and seafood – around 73.8 million tons (valued at \$160.2 billion), according to SOFIA. Sadly though, the 'state of the world's marine fish stocks has not improved overall, despite notable progress in some areas', according to the report.

Asia produces 89% of the world's aquaculture, Africa accounts for 2% and SA's commercial aquaculture industry contributes less than 1%. Though still a nascent sector, the Department of Agriculture, Forestry and Fisheries (DAFF) reported that the 233 commercial farms, which cultivate 13 fish species collectively, produced 5 209.6 tons in 2014.

'The value of farmed fish products exported in 2013 was R250 million, in 2014 it tripled to R757 million and in 2015 was recorded at R487.49 million,' says Khumo Morake, director of aquaculture technical services at the DAFF. Despite the growing focus on aquaculture in SA in recent years, a 2016 WWF-SA report states that 42% of the country's key commercial fish resources were

over-exploited. Global trends indicate that wild fish stocks have been growing at a modest 1% per annum, while aquaculture has grown by 5.8% annually between 2005 and 2014, according to SOFIA.

The DAFF and the Department of Trade and Industry have focused on developing the aquaculture sector as an important substitute for wild-capture fisheries, while simultaneously reducing human impact on our oceans. 'The aquaculture sector presents a good opportunity to diversify fish production to satisfy local demand – import substitution, food security, export opportunities, create jobs and contribute towards GDP,' Minister Senzeni Zokwana noted in his 2017/18 DAFF budget vote speech.

Frameworks such as Operation Phakisa (Oceans Economy), the National Aquaculture Policy Action Plan, the Aquaculture Development and Enhancement Programme, and the National Aquaculture Strategic Framework aim to increase SA's global market share through the implementation of legislation, research and development projects, funding, and the development of 36 marine and inland aquaculture projects.

They also promote skills development, increase the geographical spread of aquaculture farms and broaden participation of the youth, women and historically disadvantaged people in the sector.

Speaking numbers, Zokwana said that since Operation Phakisa launched two years ago, '450 direct jobs have been created and 2 000 additional tons of fish have been produced. This is a 35% increase for the sector. A contribution of R500 million has already been made to the country's GDP'. There is immense opportunity for growth, especially with backing from the government and investments from the private sector. According to Morake: 'There is potential to unlock 15 000 jobs, contribute R3 billion to the GDP and increase



PHOTOGRAPHY GALLO/GETTY IMAGES



‘The aquaculture sector presents a good opportunity to diversify fish production to satisfy local demand’

production to 20 000 tons per annum by 2019.’ In SA, fresh-water farms outnumber marine farms five to one, though their production output and value are much lower in comparison to marine farms. The DAFF’s 2015 Aquaculture Yearbook 2015 reports that the abalone sub-sector is third in terms of local annual production output – 1 306.80 tons or 18.6% of the sector. The WWF-SA Ocean Facts and Futures report states, however, that in 2013 abalone amounted to 76% of the sector’s value (R529 million), earning it the nickname Africa’s white gold, due to its high market value.

Five abalone species – locally called perlemoen from the Dutch, meaning ‘mother-of-pearl’ – are endemic to the shallow waters along the coast of Port St Johns in the Eastern Cape to Saldanha Bay in the Western Cape. This marine snail with a flattened, ear-shaped shell is in high demand in the East. The local market is small and 60.1% is exported (alive, frozen, dried or canned) mostly ahead of Lunar New Year, according to SARS (2014). In recent months, the DAFF conducted fact-finding missions with buyers in the EU market, according to Zokwana.

SA is the continent’s largest supplier of abalone and one of the world’s five-largest suppliers. It cannot satiate the growing appetite for the rubbery snail – which tastes like scallop – quickly enough. High demand and a slow growth rate resulted in the over-exploitation of the country’s natural reserves. In 2007, SA lowered the commercial quota for abalone and added it to Appendix III of the Convention on International Trade in Endangered Species of Wild Fauna and Flora. When the lowered quotas made no difference, it banned all commercial abalone fishing to prevent the species from becoming commercially extinct, but pressure from the fishing industry resulted in the ban being lifted in 2010. Today, abalone is a protected species and farming is regulated by government and requires a permit under the Marine Living Resources Act, until the Aquaculture Development Bill is concluded.

Abagold, SA’s largest abalone farm and hatchery, has around 12 million units on the farm at any given point and sells between two and three million units, of varying sizes, annually. Under farmed conditions, abalone is encouraged to spawn monthly or bimonthly, in contrast to once a year in nature. They mature in 40 000 baskets placed in large land-based tanks pumped with millions of litres of seawater each hour. Though they reach full maturity over 20 years in the wild, harvested abalone is usually harvested up to five years, depending on market demand, and is much smaller. Though aquaculture proves to be a more environmentally sustainable way to harvest abalone legally, it remains heavily targeted by illegal fishing, which has further

deteriorated its natural reserves, according to SOFIA. ‘The illegal abalone trade will continue until there’s nothing left,’ says Tim Hedges, MD of Abagold.

The country’s illegal abalone trade is often funded in cohesion with the drug trade and involves illegally poaching between 2 000 and 3 000 tons, often using scuba diving gear. Poached abalone is usually smuggled in containers of putrefying kelp, which seldom invites further scrutiny from customs officials. To put that into context, the legal trade, which comprises 18 aquaculture farms, produces between 1 500 and 2 000 tons annually, while legal wild-capture quotas are 100 tons.

Though aquaculture presents hope to slow down the world’s depleting fish reserves, it has challenges of its own. Aquaculture is water- and energy-intensive, which makes it capital-intensive and presents environmental concerns, especially with water shortages across SA. This has also encouraged many aquaculture farms to seek alternative energy sources.

Other challenges include ‘access to seed and feed, access to funding, a fragmented legislative environment and research efforts, and skills shortages,’ says Morake. Aquaculture discharge often contaminates freshwater supplies, whereby invasive fish species (such as trout, mussels and oysters) are accidentally released into natural water ecosystems, destroy the ecosystem and result in biodiversity loss.

WWF-SA estimates that around 20% of global fish catches come from illegal, unreported or unregulated fishing, so it developed the SASSI Retailer/Supplier Participation Scheme. It supports environmental sustainability and social responsibility, while creating value across the supply chain and ensuring traceability from farm or ocean to chopstick. ‘Both suppliers and sellers of seafood can have a positive influence on South Africa’s seafood industry by changing the way they buy seafood,’ says Chris Kastern, seafood market transformation manager at WWF-SA, adding that ‘they can contribute to creating an environment where fishers and fish farmers don’t feel at a competitive disadvantage when addressing environmental issues as part of their operations’.

Consumers are encouraged to buy green-listed fish and seafood from accredited retailers, such as Pick n Pay, Woolworths, Spar, Food Lover’s Market and Breco Seafoods to ensure the longevity of the country’s marine reserves for decades to come. According to David North, Pick n Pay group executive, strategy and corporate affairs: ‘Pick n Pay made seafood sustainability a priority years ago because it was an urgent priority on which a major retailer could take a leadership position on behalf of customers to achieve real and lasting change.’ The time for a blue revolution is here. 🐟