

Economic Study of the Hake Deep-Sea Trawl Fishery and the Implications for Future Fishing Rights Allocation Policy

Summary of findings

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The Hake Deep-sea Trawl (“**HDST**”) sector is South Africa’s largest and most valuable fishery, accounting for c.R4.3 billion in sales and c.45% of the overall fisheries value.¹ Unlike the small-scale, shore-based and inshore fisheries, HDST is an industrial-scale fishery. HDST requires large vessels capable of trawling at depths of up to 600 m and operating in rough deep-sea environments for long periods, as well as industrial-scale processing facilities to add value to the catch. The hake trawl fishery (including inshore trawl) was the first fishery in Africa to be certified as environmentally sustainable by the Marine Stewardship Council (“**MSC**”), the gold standard for sustainability globally. It was the first hake fishery in the world to be certified by the MSC.

Given its industrial-scale, the HDST sector also makes a substantial socio-economic contribution to local fishing communities along the west coast and between Cape Town and Port Elizabeth (“**PE**”), including those two metropole areas.

- The industry employs c.12 400 people: c.6 600 in direct jobs and another c.5 800 in indirect and induced jobs. Of the 6 600 direct employees, 82% have permanent jobs and 18% are seasonal workers. Roughly a third of employees work in smaller fishing communities, outside the metropolises.
- Crew on vessels, which account for roughly half the employees, earn c.R22 500 per month, whilst on-shore quayside and processing employees earn c.R9 000 per month on average. Both are significantly above the current national minimum wage. Sea-going employees are organised via their own Bargaining Council and the industry ensures their safety through compliance with the South African Maritime Safety Authority (“**SAMSA**”) health and safety regulations;
- The total wage bill is c.R1.4 billion, equating to c.R2.3 billion in total contribution once local economic multiplier effects are accounted for;
- Local supplier spend is c.R3.7 billion, or R5.9 billion with domestic multiplier effects, of which over R222 million goes directly into small fishing communities. In addition, more than R624 million of this industry spend is focused on Exempt Micro Enterprise (“**EME**”) and Qualifying Small Enterprise (“**QSE**”) certified companies which provide goods and services to rights holders in the fishery;
- The industry owns c.R3.6 billion in vessel assets and c.R4.0 billion in processing assets, and has invested more than c.R3.8 billion since 2005 in upgrading these assets.
- The industry adds substantial value to the resource, more than 50% of the catch having some form of further beneficiation domestically;
- Cape hake is successfully marketed in Europe and the USA, with exports making up just less than 60% of all sales and contributing c.R2.5 billion in foreign exchange earnings.

¹ The R4.3 billion in sales relates only to sales of hake products. Based on the value of bycatch it is likely that the industry has a significantly higher sales value.

Key economic indicators

The data presented in the table is based on information provided by rights holders in the hake deep-sea trawl fishery who account for approximately 92% of the harvested total allowable catch. Data is for the 2019 fishing year.

Key metrics for sector	
Total allowable catch (TAC)	122 431 tonnes
Investment	
Insured asset value of fleet	R3.6 billion
Insured asset value of processing facilities	R4.0 billion
Insured asset value per 1 000 tonnes of TAC	R62 million
Total CAPEX investment since 2005	R3.8 billion
Vessel operating cost per sea day (large vessel, medium vessel, small vessel) ²	R260 000; R182 000; R129 000
Average fixed costs per day for industrial processing (fresh-fish and value-add facility)	R482 000 and R250 900
Employment	
Direct employment – total permanent employment	5 368
Direct employment – total seasonal employment	1 204
Annual wage bill	R1.4 billion
Direct employment per 1 000 tonnes of TAC	53 jobs
Total indirect and induced employment	5 773
Indirect and induced employment per 1 000 tonnes of TAC	47 jobs
Average monthly wage for sea-going employees	R22 000
Average monthly wage for factory (processing) staff	R9 000
Transformation	
% black shareholding across fishery 2005	30.0%
% black shareholding across fishery 2009	41.6%
% black shareholding across fishery 2019	66.8%
% black employment	97.0%
B-BBEE scorecard for fishery	105.1
Domestic supplier spend	R3.6 billion
Domestic supplier spend to black-owned entities	R2.2 billion
Domestic supplier spend to female-owned entities	R382.5 million
Domestic supplier spend to SMMEs outside of the fishery	R624.4 million
Expenditure directed towards SMMEs within the fishery	R183.9 million
Number of SMMEs supported	1 041
Corporate Social Investment	R7.7 million
Supplier spend per 1 000 tonnes of TAC	R29.4 million
Sales and marketing	
Total sales revenue	R4.3 billion
Total domestic sales revenue	R1.8 billion
Total export sales revenue	R2.5 billion
Sustainability classification	Marine Stewardship Council ³
Local economic development	
Total number of direct employees outside of major metropolises	2 114
Estimated supplier spend outside of major metropolises	In excess of R220 million
Number of SMMEs supported outside of major metropolises	Approximately 190

² Sizing is based on capacity. Large, medium and small sized vessels have a capacity of more than 4 000 tonnes, between 2 000 and 4 000 tonnes, and less than 2 000 tonnes respectively.

³ One of only two fisheries in Africa to hold Marine Stewardship Council certification, granting the fishery access to high value consumer markets.

Since it was first regulated 40 years ago, the HDST fishery has seen substantial entry and transformation.

- Entry primarily took place in the post-apartheid Quota Board period (1991–2001), with 45 new rights holders added to the 17 existing ones. These rights holders were almost exclusively historically disadvantaged individuals (“**HDIs**”), beginning the transformation of the industry.
- The medium-term rights allocation (2001) and long-term rights allocation (2005) processes sought to consolidate the entry that had occurred and accelerate transformation within the set of existing rights holders. This was done through elevating a range of transformation criteria within the allocation process (subsequently adopted in the Broad-Based Black Economic Empowerment [“**B-BBEE**”] codes), and making it competitive insofar as relative transformation mattered for allocation.

Incorporating transformation into the allocation criteria strongly incentivised rights holders to transform themselves ahead of the fishing rights allocation process (“**FRAP**”) in 2005, and to continue to do so in anticipation of FRAP 2020.

The top three firms in the HDST fishery are all level 1 B-BBEE contributors. The industry has moved from an average B-BBEE score of c.80 in 2011 to c.105 in 2019. Whilst many smaller firms do not subscribe to a scorecard, they are all substantially empowered.

- This placed the industry second as against other industries amongst listed companies.
- HDIs currently hold c.67% of the shares in the firms harvesting 92% of the HDST catch, and most likely the same or higher amongst the remaining smaller firms. This has more than doubled from only c.30% in 2005 when the rights were last allocated.
- HDIs also make up c.97% of total employment in the industry, and most share in the benefits of the fishery as all the largest firms have broad-based employee share schemes. These schemes have received dividend payments of c.R440 million since inception.
- The industry generally scores highly on transformation of management, skills development and socio-economic development, and very high on enterprise and supplier development.

Increased transformation across the industry has led to significant contributions by rights holders to small, medium and micro enterprises (“**SMMEs**”) across the South African economy. The scale of the economy, and in particular those rights holders who have been able to operate their own operations across levels of the value chain has led to significant opportunities for SMMEs who provide a wide range of good and services to benefit from the industry.

- It is estimated that in 2019 alone rights holders in the HDST fishery spent approximately R624.4 million on approximately 1 041 different SMMEs from outside of the fishery. This business helped to support approximately 4 548 employment opportunities directly.
- Rights holders have also made significant contributions to SMMEs within the fishery (i.e. other rights holders) over the last 15 years in the form of financial assistance and contributions/assistance across different levels of the value chain (through catching agreements, etc.). It is estimated that in 2019 alone this assistance totaled approximately R183.9 million.

As an industrial-scale fishery, HDST is underpinned by a unique set of economic characteristics which have shaped the dynamics and structure of the industry, and which distinguish it from the other, smaller, recreational and commercial fisheries. These characteristics are evident across the value chain, from harvesting through processing and sales/marketing.

The harvesting stage is highly capital-intensive and exhibits high levels of fixed costs, demanding high levels of asset utilisation and economies of scale to keep costs low and operations profitable. On the revenue side, the catch mix has a large effect on the average realised prices. Both costs and revenue are also subject to notable exogenous risk factors that can create earnings volatility, such as exchange rates and oil prices.

- Large second-hand freezer vessels sell for c.R120 million, and ones with processing facilities on board for roughly double that at c.R250 million. Even smaller wetfish (fresh fish) vessels cost c.R70 million second-hand and twice that new. Vessels also require an annual engine survey and full biannual survey, costing c.R6 million and c.R10 million each on average for larger vessels.
- In addition, harvesting is working capital intensive, with three to four months' working capital requirements typical, given the upfront costs to pay for voyages and 60-day trading terms with customers. Voyage costs range from c.R1.5 million for a small vessel to c.R6 million for a large vessel. To be sustainable, capital of up to 5% of the vessel value also needs to be set aside annually for recapitalisation of the fleet, which in the case of South Africa is relatively old with an average life of over 25 years.
- High vessel utilisation is essential to keep costs low. Around 80% of all voyage costs are fixed regardless of catch, including on-board crew, fuel and maintenance costs. Volatility in the global oil price and the Rand exchange rate can cause fluctuations in costs, which larger operations are able to hedge to some extent, but less so smaller operations. However, even outside of voyages the costs of crew, on-shore support staff, insurance and depreciation are fixed, and therefore firms need to maximise the number of sea and fishing days to keep unit costs low. Typically firms aim for 78% fishing days in a year, but this is rarely achieved due to unplanned maintenance, scheduling and logistical constraints, and bad weather at sea.
- Catch rates on fishing trips primarily drive utilisation, and their natural variability impacts on fixed cost recovery and business risk. This risk is greater for small, single vessel operations because the impact of low catch rates on one vessel cannot be offset by higher catch rates on other vessels. In addition, the catch mix has a material effect on revenue and profitability.

On-shore processing is typically only undertaken with fresh fish from wetfish trawlers and varies in nature. Industrial hake processing facilities are similarly capital-intensive and require high throughput/utilisation to be cost-efficient, whereas small quayside facilities are unspecialised and processing is more manual.

- The fresh fish factories of Sea Harvest and I&J produce hake steaks, loins and fillets of different portion size and form (skin-on/off, pin bone in/out) for around 25 countries globally and domestic retail/food service. The value-add factories produce crumbed, battered and sauced hake products.
- The fresh fish factories have an asset value of c.R1.1 billion each, with annual capex costs of c.R16 million and similar levels of annual maintenance costs. Fixed costs are c.R265 000 per day and require c.60 tonnes of fresh fish throughput as a daily minimum. If utilisation were to reduce by 30%, costs would increase by c.45%. Their large size is required to benefit from scale economies in aspects of processing (such as grading, filleting, skinning, freezing and packaging) and to enable them to cost-effectively service the differing requirements across markets. Typically, sales to retailers and large wholesalers are also underpinned by fixed volume requirements and set shipment dates.
- Industrial fresh fish factories require an associated value-added factory to effectively utilise the off-cuts which make up 15% of the headed & gutted ("**H&G**") weight. These assets are valued at c.R580 million each, require capex of c.R7 million and maintenance of c.R10 million annually. With daily fixed costs of c.R130 000, utilisation is also important for value-add facilities.
- Small quayside facilities generally offer weighing, sorting, basic hand processing, packaging, cold storage and logistics to any vessel that lands at the harbour, with any fish species. Basic hand processing would include separating, scaling, flaking and filleting. Overhead costs are typically up to c.R250 000 per month and employment tends to be temporary and piecemeal in terms of when a vessel lands fish.

Resource conservation also has a substantial effect on economic outcomes.

- The value of MSC certification has been quantified in a number of economic studies, indicating a “MSC price premium” of c.10 to 15% and contributing c.30% of the current HDST fishery value as a result of improved market access.
- However, even outside of the MSC certification, fluctuations in total allowable catch (“**TAC**”) pose challenges to the HDST industry. Reductions in TAC will raise unit costs as utilisation levels decline, whilst also reducing total revenue and harming cash flow as less hake is harvested. This has knock-on effects on employment and can disincentivise investment in the industry.

A rights holder will need to determine whether to harvest their catch using a freezer trawler, or a wetfish trawler combined with on-shore processing.

- The economics are such that a freezer trawler is typically preferred due to the lower overall capital requirements, greater flexibility and ultimately better percentage margins.
- However, on-shore processing is preferred from the socio-economic perspective as it offers greater value-add and local economic benefits in terms of on-shore employment, supplier spend and investment.

The current socio-economic realities in respect of the HDST sector have the following implications for the HDST sector policy and any rights allocation decision made pursuant thereto:

- A significant implication of the substantial transformation that has already occurred in the HDST sector is that any future removal of rights from existing industry participants will to a significant extent serve to prejudice existing black shareholders that have already invested in HDST right holders. Thus, the granting of rights to new entrants is not something that can easily be done without prejudicing the investment made by existing black shareholders with interests in the HDST sector. In other words, future allocations to black new entrants (who have not made any investment in the HDST sector) are likely to be prejudicial to the investments already made by existing black shareholders (either through the loss of rights or the loss of profitability through the reduction of a share of the TAC). In the circumstances, it can no longer be assumed that the admission of new entrants will, as a matter of course, be a positive development for transformation.
- The history of small quota allocations to un-invested new entrants in HDST demonstrates that entities in this category do not develop into independent fishing operations. Such new entrants have little choice but to either become paper quota holders or (at best) to enter a vessel joint venture (“JV”) in which their participation is limited to harvesting. The available economic data shows that fragmentation is unlikely to achieve the objective of independent participation across the value chain. The highly capital-intensive nature of the HDST fishery and the risks inherent in fishing operations mean that the natural industrial forces persistently encourage and reward the consolidation of quota into clusters to spread risk across a larger and more varied fleet of vessels, and to generate the economies of scale and scope that support the sophisticated catching and processing operations necessary to supply a large variety of different value-add products reliably and competitively to multiple international markets.
- The socio-economic realities of the HDST sector imply that the allocation of rights to multiple small new entrant quota holders is likely to come at the expense of value-adding jobs and local economic development. This is the case insofar as an allocation to new entrants is sponsored by quota that is re-allocated from industrial scale or even small-scale onshore processing business models. This is because the quota is likely to be placed on an H&G freezer trawler operation which offers few onshore jobs and less supplier development.

- This does not imply that the HDST sector cannot support a number of smaller fishing companies, but rather that the number should be limited to the number of smaller operators that have already invested in fishing assets in the HDST sector (and are therefore not paper quota holders), which entities should not be prejudiced by the admission of new entrants at their expense. There already exists several such firms within the HDST sector, but their low quota holding and the prospect of losing more to a new entrant pool makes their survival tenuous. Policy would be better placed supporting those that have demonstrably invested and are already building independent fishing companies with economies of scope across several fisheries.
- Any reallocation that undermines the ability to monitor and enforce resource conservation has the potential to destroy substantial industry value given its reliance on stable TAC and MSC certification.
- The economics of the HDST sector are such that for every 1 000 tonnes of quota that is taken away from existing rights holders during the FRAP would result in:
 - Stranded existing investments of c.R62 million in the hands of the existing businesses that are on average 67% black owned;
 - A loss in employment contribution of approximately 100 jobs (direct and indirect);
 - A loss in supplier spend of approximately R30 million per annum, of which approximately 60% would be lost to HDIs;
 - Negative effects on SMMEs across the supply chain;
 - A loss in beneficiation and commoditisation of the sector; and
 - A loss in forex revenue.

