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

EXECUTIVE SUMMARY

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The Hake Deep-sea Trawl (HDST) sector is South Africa's largest and most valuable fishery, accounting for c.R4.5 billion in sales and c.45% of the overall fisheries value. 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 fishery (including inshore trawl) is the only 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, including those two metropole areas.

- The industry employs c.7 300 people directly, of which 72% are permanent employees and roughly a third are employed in smaller fishing communities outside the metropoles;
- Crew on vessels, which account for roughly half the employees, earn c.R20 000 per month, whilst on-shore quayside and processing employees earn c.R10 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.R1.2 billion, equating to c.R2 billion in total contribution once local economic multiplier effects are accounted for;
- Local supplier spend is c.R2.8 billion, or R4.5 billion with domestic multiplier effects, of which over R300 million goes directly into small fishing communities. In addition, more than R300 million of this industry spend is focused on Exempt Micro Enterprise (EME) and Qualifying Small Enterprise (QSE) certified companies;
- The industry owns c.R3.7 billion in vessel assets and c.R3 billion in processing assets, and has invested 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 roughly two-thirds of all sales and contributing c.R3 billion in foreign exchange earnings.

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 persons (HDPs), 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, and the fourth a level 2 contributor. The industry has moved from an average B-BBEE score of c.80% in 2011 to c.100% in 2018. Whilst many smaller firms do not subscribe to a scorecard, they are all substantially empowered.
- This placed the industry second as against others amongst listed companies, with the two listed entities, Sea Harvest and Oceana, placing first and sixth respectively in the Generic listed category.
- HDPs currently hold c.66% of the shares in the firms harvesting 90% 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. The largest firms all have employee share schemes which have collectively received dividend payments of c.R440 million since inception.
- HDPs also make up c.93% 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.
- The industry generally scores highly on transformation of management, skills development and socio-economic development, and very high on enterprise and supplier development.

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 exchanges 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. There is a substantial difference between the realised price per kg for small hake (c.R32/kg) in comparison to large hake (c.R43/kg) given the latter permits a greater range of cuts for market, such as steaks and loins in addition to fillets. Permissible by-catch mix also matters, as monk (c.R115/kg) and kingklip (c.R90/kg) are quite valuable, but other species less so (snoek c.R25/kg and maasbanker [horse mackerel] c.R14/kg).

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 billion each, with annual capex costs of c.R16 million and similar levels of annual maintenance costs. Fixed costs are c.R500 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.R400 million each, require capex of c.R7 million and maintenance of c.R10 million annually. With daily fixed costs of c.R250 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) due to over-fishing in some years 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. For instance, wetfish trawling with industrial on-shore processing employs four times as many staff as an H&G freezer trawl operation.

In this context, the industry has seen broadly three different business models emerge over time, shaped by both the economics of the HDST industry and the allocation of rights. These business models are largely complementary, targeting different markets domestically and abroad, which ensures no one market experiences over-supply and a pricing collapse.

- ***Large industrial processors (I&J and Sea Harvest)***. These two firms were the original HDST fishing operators and historically held c.84% of the TAC. This legacy role has fundamentally shaped their business model, as they sought to develop markets for Cape hake beyond quayside sales through vertical integration and channel development.
    - As their rights holding has decreased, the two have been left focused primarily on value-added products, which make up c.75% of sales. They both have large wetfish fleets with industrial-scale on-shore processing. Even their freezer trawler operations are predominately processor vessels, with on-board filleting for the food service markets in Europe. Exports make up 50% of sales by volume.
    - Large hake volumes are necessary to underwrite this business model. On the operational side, volumes are required to be cost-competitive in global markets given the capital-intensive and utilisation-sensitive nature of both vessels and on-shore processing. It is also necessary to provide sufficient hake of particular sizes given catch mixes. On the sales side, volumes are required to build retail brands and guarantee the contractual requirements of large retail/food service customers locally and globally.

- Furthermore, ownership of the rights has also proved necessary to underpin this business model. Neither party contracts other rights holders for quota harvesting for good reason. The need for sophisticated and integrated planning from sales requirements back to processing setup and harvesting coordination means an integrated operation works best. Contracting is also complex for vertically integrated operations, where harvesting is but one input to the final value-added product, causing scope for disputes over value allocation. This is made more so by the fact that H&G operations offer better margins, making the value-added processors uncompetitive at quayside. Finally, given the volume commitments, ownership provides greater certainty for investing in retail relationships, in contrast to contracting which may be more fluid.

- ***Medium-sized clusters (Oceana and Viking Fishing)***. The cluster model emerged following the fragmentation of rights holders in previous FRAP rounds within the context of a capital- and scale-intensive industry.

  - The cluster leads (BCP and Viking Fishing) had a minimum viable quota (MVQ) but still lacked the scale to be operationally efficient, reduce risks and build scale in sales and marketing. Their choice was to get large or get out. At the same time there were many small rights holders without a MVQ or the capital to invest in a vessel. Clustering enabled both parties to benefit from scale economies, and enabled smaller rights holders to participate in the industry (albeit primarily in harvesting).

  - However, the cluster model naturally lends itself to freezer trawler operations where shareholding and profit allocation can be structured around a single vessel (the "vessel joint venture ['JV'] model"). In particular, it is far easier to value the buy-in to the operation (the vessel value) as well as the shareholding (share of rights on the vessel, and hence share of catch), but also easier to unwind or adjust shareholding in response to changes in rights allocation. If the landed H&G product is also sold H&G, then there is no scope for disputes on share of value. In addition, for smaller rights holders, the capital (including working capital) requirements of an H&G vessel are lower to buy into (and hence more affordable) and percentage margins better.

  - As a result, clusters predominantly operate freezer trawlers with H&G frozen products making up c.95% of sales. Their scale enables a more sophisticated sales and marketing operation, allowing them to access larger wholesalers in export markets and commit to consistent monthly volumes at better prices. Exports make up c.45% of sales.

- ***Small diversified operators***. The final category is a collection of smaller rights holders that undertake their own harvesting and unspecialised on-shore processing. What sets this group apart from those that follow the vessel JV model, are that often they were invested in fishing assets prior to the FRAP round and have a little more quota. However, the lack of scale means the businesses face challenges.
    - This category includes firms/clusters such as Echalar and Eyethu (with c.4 000 tonnes), Basani and Da Olim (with c.1 700 tonnes), Nalitha and SAFEC (c.1 300 tonnes), Dyer Eiland and Suidor (<400 tonnes). An outlier within this group is SeaVuna which now has c.7 500 tonnes and is more specialised around hake. For many of these firms, HDP industrialists have either bought into an existing fishing operation with assets (e.g. Basani, Eyethu) or have been funded/supported by a larger rights holder with the purchase of fishing assets including rights, vessels and on-shore processing (e.g. SeaVuna, Nalitha, SAFEC).
    - Given the rights holdings, these firms will often operate only one or possibly two vessels. The lack of scale of these firms means they typically have underutilised assets, raising costs and lowering profitability. This afflicts the on-shore facilities in particular as there are large gaps between vessel landings. This also leaves them vulnerable to reductions in the TAC, which may see wetfish vessels tied up in favour of sustaining the utilisation of the freezer trawler and retention of its crew. The smaller size also affects sales and marketing, where in dealing with smaller export traders at intermittent volumes and domestic wholesale, they get lower prices.
    - In order to improve utilisation in harvesting, these firms will often pursue opportunities to harvest on contract to other rights holders. This may be in cases where a rights holder has a vessel breakdown and falls behind on their catch rates for the year, or "paper quota holders" selling hake quota at R6/kg. On the processing side, the unspecialised nature of the facilities assists the firms in processing for any third party landing any species of fish.
    - In addition, these firms are often diversified themselves with rights in a number of fisheries in order to provide some economies of scope. Such diversification provides other revenue streams, and some scale on sales and marketing such that they can offer a basket of seafood into domestic food service markets. It also assists with utilisation of the on-shore facility. The permissible by-catch from hake is one such source of diversification on which they are reliant.

The history of entry and transformation, economic characteristics and revealed business models of the HDST industry all have relevance to the policy and regulation of the industry in terms of the Marine Living Resources Act (MLRA) which has as its core objectives, transformation, conservation and the achievement of economic development objectives. One of the most important policies is that of rights allocations, which is being reviewed ahead of the next HDST FRAP in 2020.

The current General Rights Policy of 2013, which was issued subsequent to the last HDST FRAP in 2005, espouses the objectives of the MLRA and takes into account other key government policies such as the National Development Plan (NDP). The core allocation considerations cited in the policy include broad-based transformation criteria such as those in the B-BBEE codes but on a comparative basis, and socio-economic considerations including investment in fixed assets and capacity across the value chain, as well as performance in respect of jobs, economic growth, rural development and value-add. Biological considerations are primarily seen as being managed through the TAC. In addition, the policy requires a reasonable quantum to be allocated to small and medium enterprises (SMEs), but that quantum is dependent on the nature of the fishery and its level of transformation. It also seeks to reduce the risk of paper quota holders.

However, what ultimately matters is how a policy is translated into an actual allocation process. The more recent FRAP rounds such as that for Hake Inshore Trawl (HIT), saw it given expression through creating a new entrants pool with 30% of the TAC, with relative contributions by existing rights holders (termed category A applicants) based on their transformation scores. Applicants other than existing rights holders (category B which had rights in other fisheries and category C that did not) then competed amongst each other for an allocation from that pool.

The economic characteristics and business models in the HDST industry strongly suggest that were a similar approach adopted then the set of objectives of the MLRA is unlikely to be achieved, with the very real risk of materially reducing the socio-economic contribution of the HDST industry for little or no gain in transformation. This is the case for the following reasons:

- First, the very approach of creating an entrant pool itself undermines the ability to optimise the objectives of the General Rights Policy. This is because there ceases to be a comparison of applications from existing rights holders as against new applicants, as each applicant is only assessed within their category for an allocation from that pool and not across categories. This creates the very real risk that a successful category C applicant scores lower than a category A applicant from whom the rights allocation was taken. If optimisation is to occur, all applicants need to be assessed and compared against each other.

- Second, 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. Rather, these firms have little choice but to either become paper quota holders or enter a vessel JV in which their participation is limited to harvesting. Fragmentation therefore increases the risks of paper quota holders and does not achieve the objective of independent participation across the value chain.
- Third, the allocation to such small quota holders is also likely to come at the expense of value-add, jobs and local economic development in the industry insofar as it is sponsored by quota reallocated from industrial-scale or even small-scale on-shore processing business models. This is because the quota is likely to be placed on an H&G freezer trawler operation which offers few on-shore jobs and less supplier development.
- Fourth, this does not mean that smaller fishing industrialists cannot be created but rather that such industrialists may come from diversified fishing companies that are already invested in fishing assets. There already exist a number of such firms within HDST, 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 a number of fisheries. At the very least it should not take away from this group to support new entrants that have no prospect of growing into an independent fishing company.
- Fifth, now that the industry is more transformed, reallocation of rights to a new entrant pool will increasingly redistribute value from existing HDPs invested in HDST (including employees in employee share schemes). Whilst reallocation of rights away from existing operators to empowered new entrants achieved large leaps in transformation in the early 1990s, this is less likely to be the case in 2020 given the extent of transformation in the industry subsequent to then. Rights reallocation does redistribute value because shareholding value and dividend flow in fishing is underpinned by the rights themselves which ultimately dictate revenues and earnings. The immediate reductions in shareholder value as a result of decreases in quota volumes can be illustrated using the general income statement structure and proportions of firms (integrated operations and vessel JVs) in the HDST industry. For instance, an integrated fishing company experiencing a 10% and 30% reduction in quota would see an immediate erosion of operating margins by approximately c.20% and c.40% respectively, resulting in the implied valuation to reduce by at least c.30% and c.60% respectively. Similarly, for a vessel JV, a 10% and a 30% reduction in quota allocations will reduce the market value of the fishing rights per vessel by c.17% and c.50% respectively.

  - Given the significant loss in shareholder value resulting from assigning a share of TAC to new entrants, far more careful consideration needs to go into when redistribution from one HDP applicant to another is appropriate, as well as the extent to which such reallocation occurs. This is particularly so given that arbitrary reallocation decisions may undermine the incentive of HDPs to invest in the industry in future.

- Sixth, given the already large number of rights holders in HDST (and the number of existing sub-scale smaller rights holders), there would seem to be very little scope for a large allocation to a new entrant pool in the HDST fishery.

  - A potential 30% allocation to new entrants will destroy scale in the industry, at the cost of efficiency, margins and jobs. A 30% share of the HDST TAC is equivalent to c.40 000 tonnes. Given the economies of scale and utilisation requirements of existing operations (of whichever business model), such a large reduction in tonnage can only result in low utilisation and stranded assets. This will threaten the very profitability of such operations, as unit costs escalate to squeeze margins in an environment where the firms are price-takers globally and domestic demand is weak. There is also the potential for large losses in value-add and jobs as scaled back operations of existing on-shore processing operations (large or small) reduce value-added product in favour of more H&G product that is likely from new entrants. If the large processors fail to sustain those operations, employment in the industry could halve and value-add reduce by c.22%. For medium-sized clusters, the destruction of value is likely to impact on the cluster lead's incentives to once more fund new entrants into the cluster, increasing the risk of paper quota holders or a failure of some new entrants to even utilise the right, resulting in lost value and jobs. Small independent fishing operations are also very unlikely to survive such a reduction given their existing precarious position, destroying the very type of firm that rights reallocation sought to create.

  - Even a 10% reduction in quota for existing rights holders will impact scale and unit costs, resulting in job losses and forced restructuring of rights holders' business models. For larger processors 10% still represents roughly 3 500 tonnes and is equivalent to a freezer trawler with on-board processing or roughly a quarter of the throughput of the on-shore fresh fish processing facilities. Hence, to the extent that new entrants favour more H&G product, a 10% reduction would still result in a large net loss to employment, value-add and supplier spending. Medium-sized clusters will still see material value destruction and existing smaller rights holders, that are already struggling given the lack of scale, will see their position become even more precarious with a likelihood of on-shore processing factory closures and vessels being tied up or operating with high unit costs.

- Finally, any reallocation which undermines the ability to monitor and enforce resource conservation similarly has the potential to destroy substantial value in the industry given its reliance on a stable TAC and MSC certification.

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