

# The Fisheries Sector: Expanding Economic Opportunities through Regulatory Change



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## Section 1: Fishing industry

### 1. Horse Mackerel

#### Box 1: Essential features of Horse Mackerel

Horse Mackerel is caught either by the mid-water trawl method requiring special vessels, special skills and catching gear, or in smaller numbers as an inevitable by-catch of the hake deep-sea trawl fishery. Horse Mackerel is a low value species and economic viability depends on large tonnages being caught. Either of the two catch method is capital intensive. Whereas fresh Hake is sold on the local market for more than R50/kg, Horse Mackerel can be sold between R5 – R10/kg, which is cheaper than canned pilchard or fresh chicken, if it was available in larger amounts. In poor communities, Hake used to be the food of choice, but now being unaffordable, Horse Mackerel is affordable, would be consumed, yet is generally not available. If regulations were changed, this nutritious form of protein could serve as a major form of food security.

Decades ago Horse Mackerel was sold in greater quantities by retailers.

At present the Department of Environmental Affairs and Tourism (DEAT (MCM)) sets no Total Allowable Catch (TAC) for Horse Mackerel because no scientific surveys have been undertaken. Given its status as one of the 'low value species', no budgets were set for scientific surveys for this fishery. Since value is extracted if fished in volume, the Department sets a 'cautionary limit' annually which is designed to be so low that it cannot harm the sustainability of the species. MCM scientists agreed that the limit was so low and actually increased the limit in recent years. According to MCM Senior Scientist, Dr. Rob Leslie, no adverse effects have been noticed due to the declared increase, and that suggests that the bio-mass can sustain higher catch rates than are currently advised.

There are two reasons for why Horse Mackerel does not reach the South African market:

The principal vessels that catch the species freeze the fish into large blocks, then transship and sell it in total by a single company (Oceana) to the Democratic Republic of Congo (DRC). Small quantities get sold into the local KwaZulu-Natal (KZN) market. This may be an efficient and cost effective method for the companies involved but the modus pre-dates the increase in the price of Hake.

Hake deep-sea vessels catch Horse Mackerel as a by-catch – as occurs for Sea Harvest, I&J and Viking which own suitable and fast vessels – and then land the catch. Viking markets its catch to local retailers in poor coastal communities. It is not known what the other companies do with their by-catch. It is assumed that it is converted to fishmeal.

#### 1.1. Horse Mackerel local consumption

Presently, deep-sea vessels fishing Hake under-catch their annual allocation by nearly 10,000 tons and it is claimed that this is because there is no basis on which to target by-catch once the allowable Hake quota has been caught.

The following policy and regulatory issues would permit Horse Mackerel, which is a form of comparably cheap protein, to enter the local market:

- Research and scientific surveys are needed such that this species can be caught according to the same sustainability test that applies to other species. According to Dr. Rob Leslie, a specialist scientist with knowledge in this sector, the existing research vessels could undertake the research and

survey work; any costs would be associated with survey measuring equipment and possibly some additional ship time. This investment in time and equipment has the potential to add tens of thousands of tons to the Total Allowable Catch (or TAC) and probably would double the currently set allowable catch limit. This would make the industry more akin to that of Namibia's which conduct annual surveys and set scientifically-based catch levels.

- If an annual TAC is set, the DEAT should put in place an allocations regime for Horse Mackerel for use by those vessels capable of catching it as a by-catch. This would align Horse Mackerel management with the management of other commercial species. There are no legislative implications in this regard.
- If there is reluctance initially to catch this low value species, the DEAT should consider initial incentives, such as reducing the per-kilogram landing fee. The Viking Company has dedicated processing and distribution infrastructure for Horse Mackerel. The over capacity, in general, of processing facilities would eventually be taken up those allocated the right to catch or sell the product to those who process and market it.
- In the value chain of processing and marketing, specific policy terms (as incentives) may be designed to ensure that this element (other than catching) is left to small or medium enterprises with strong Broad-based Black Economic Empowerment (BBBEE) credentials.

There are some resistances to be considered.

**Resistance 1:** There is a perception that there is no market for Horse Mackerel in South Africa. This does not accord with the experience of those who sell the fish, nor does it accord with historic sales of the fish. Some eateries have replaced this fish with Hake, thus, meeting their clients' affordability levels.

**Resistance 2:** Some fishing companies will argue that low value species should only be processed as a bulk product in order to make a profit, as occurs with freezing it into blocks and exporting it or converting it into fish meal. With global fishmeal prices continuing to rise, policy design through incentives should ensure that the fish reaches the intended local market.

There are many who believe that Horse Mackerel is a delicacy and that there should be a name change in order to market the product more effectively. The same fish is known as Jack Mackerel in Australia.

Very little value adding goes into South African catches of Horse Mackerel; processed Mackerel from Norway can be bought in most supermarkets today and sells at R120/kg.

## **1.2. Horse Mackerel for local processing and export**

The component of the catch of Horse Mackerel that is frozen in blocks and sold to the DRC is then bought by traders who unfreeze the fish and then salt, brine and semi-dry it before selling it on to the consumer. In this format, the product becomes a favourite ingredient for DRC and West African cuisine.

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Addressing Inequality and Economic Marginalisation

However, if the catches were landed locally and salted, brined and semi-dried before being exported, several hundred jobs could be created in fishing communities suffering unemployment due to other fish stock depletions. A successful example of such processing exists on the West Coast in Hannasbaai near Paternoster. This company employs 250 people and buys all Horse Mackerel that it can get from the trawlers.

Although the mid-water trawl fishery for Horse Mackerel has been configured to freeze the product on board and then transship it for export, policy and regulations should be in place to ensure that local value addition is undertaken before the product is exported.

Some policy and regulatory matters worth noting are the following:

- Policy should be announced that explains why local value adding to Horse Mackerel is an important governmental objective and should allow for consultation and phasing-in. Namibia has such a policy and is progressing in this direction.
- Further policy should be announced that allows the processing of the product to be undertaken by BBBEE companies.

There are some resistances worth noting, too.

**Resistance 1:** The virtual monopoly within this industry will offer opposition from those relevant companies. They will argue that their investments in vessels that freeze the fish into blocks make it unsuitable for handling other than for transshipment to a foreign market; it is a market which they fully own, too. Oceana is the principal operator in this field. Its objection should not win the day, though, not least because this natural resource should and can benefit South Africans through entrepreneurial opportunity and the creation of jobs.

**Resistance 2:** The process of salting, brining and drying fish creates hugely unpleasant smell. The Hannasbaai Company faces continued pressure from local residents in this regard.

**Resistance 3:** The aforementioned value adding process is viewed by fishing companies as less profitable than the modus of exporting in which they currently engage. This has not stopped the Hannasbaai operator from making a good living and creating hundreds of jobs.

## 2. Round Herring

### Box 2: Essential features of Round (or Red-eye) Herring

The name Round Herring identifies it as being related to the well-known herring of the northern hemisphere, a species that is used to make delicacies such as English Kippers, Danish Herring, and German Rollmops, among others.

The name Red-eye is given to it because of the obvious red coloration in the eye when fishermen bring it to the surface of the sea.

Despite South Africa's lack of knowledge about its behavior and life history, it has been established that round herrings may well exist in quantities of over a million tons in our seas. That is currently much more than the sardine and anchovy whose biomass are about half a million tons each. Round Herring catches reached a maximum of 78 000 tons in 1995, an amount seems small when compared to the total biomass available. One of the reasons for this low catch is the lack of technology available to catch it. These fish, although occurring in shoals as do all pelagic fish (sardine and anchovy), shoal deeper than the others. Therefore, to catch them, fishermen would have to deploy either very deep purse-seine nets or use mid water trawl nets (nets towed at about 4 knots through the water at the depth the fish are found). Few fishermen have the very deep purse seines needed and to catch fish by mid water trawl for what would probably be reduction to fishmeal, is economically undesirable.

Another reason why catches of round herring are currently small in comparison to those of anchovy is that they are widely distributed and a long way offshore, virtually all around our coast. Therefore, for the purse-seine fleet, which works fairly close inshore in a restricted area of our coastline; much of this huge recourse is beyond their current operating range.

Foreign interest in South Africa's apparently large stocks comes from the Netherlands and elsewhere. Whatever the catch limitations, there are strong views by industry and scientists that this is a fishery that should be developed to compensate for the depletions suffered in other species and to create wealth, jobs and food security.

Currently, Round Herring is being caught as a by-catch by the small pelagic (Sardine and Anchovy) fishery. Such by-catch is unavoidable, but does not prevent a targeted fishery from being established, especially since its presence is larger than other exploited species and because it occurs mainly at distances from the coastline and further away than the small pelagic fishery.

If South African skills and equipment are currently not available, it would be feasible to spur this sector into existence in the same way that policies and regulations have spurred the large pelagic (Tuna and Swordfish) industry of South Africa.

With regard to **policies and regulations**, it is suggested that there be a replication of the policy and regulatory regime that DEAT (MCM) employed with regard to the large pelagic industry in 2002, but making due amendments for it to cover this potential fishery.

Furthermore, scientific surveys should be done to establish the basis for the setting of allowable catch levels. According to Dr. Rob Lesley, current vessel and scientific capacity exists to ensure that the fishery is managed on a sustainable basis.

Some resistance is worth noting.

**Resistance 1:** Herring mingles with Anchovy and Sardine and, thus, cannot be fished separately. This appears to be a fallacy as the main biomass exists beyond places where small pelagic are being fished. It is not unique to South African fisheries to manage a species as a by-catch and yet to have it existing as a separate fishery also.

In terms of **markets**, although further studies would need to be conducted, the very fact that foreign operators are keen to exploit this fish in our waters is evidence of a market demand. Given the depletion of stocks in northern hemisphere waters, Round Herring is likely to meet a European market niche.

### 3. Anchovy

#### Box 3: Essential features of Anchovy filleting

The Anchovy TAC has had to be reduced as evidence shows a decline of stocks. At its height, the TAC was around 280,000 tons. For 2007, it was approximately 125,000 tons.

Anchovy is the smallest of the fish species caught commercially. The entire catch is landed and processed into fishmeal, part of it for local use, part of it for export. Recent high prices for fishmeal internationally have encouraged producers to export more of the product. Fishmeal plants exist in many harbours around the South African coast.

The modus of production as well as the historic approach to Anchovy has meant that the actual fish never reaches the market in either fresh or processed form for human consumption. This is contrary to nearly all other countries that catch Anchovy.

It is well known that there is a considerable market for processed Anchovy, including for use on pizzas and in salads. Although quantities are unknown, the entire South African human consumption of Anchovy (filleted, salted and mostly sold in glass containers, in any supermarket) is imported from Italy, Greece or Portugal where labour costs would rank higher than South Africa's. A small glass container of Anchovy sells for between R40–R50. The local product, which is not readily available, is made from sardine and, generally, bears the label "Anchovy-like".

There is nothing to stop South Africa from developing a small Anchovy market of its own. All that is required is to break with past tradition. According to officials at DEAT (MCM), it would only **require a policy and a change in permit condition** such that would require pelagic vessels that catch Anchovy to carry a chest freezer on board and for them to be required to process or sell to processors this part of the catch. (The main volume of the catch is 'sucked' from vessel holds mechanically.)

Processing Anchovy for human consumption is labour-intensive, simplistic and could be undertaken in any kitchen. It would seem opportune to approach one of several government offices in charge of the Innovation Funds in order to initiate an experimental phase that can herald a small but viable, labour-intensive and proudly South African industry.

**No resistance** is foreseen with this opportunity.

With regard to the **market**, the domestic market is likely to remain small, but investment is so low that the risks are equally low. If the product can be made at prices below those for the European product, then there would be an export market.

#### **4. Limpets (Perdevoet)**

##### **Box 4: Essential features of Limpets**

Limpets are shell-type organisms that cling to rocks. A limpet's flesh is not widely used or eaten in South Africa, however, it rates as a highly desirable food in the Far East. The meat is said to have similar mystical qualities to Abalone.

On the South African west coast (Lambertsbaai area), the shell grows to provide meat of up to one kilogram. Limpet profusion and regeneration was studied and it was argued that harvesting on the rocky shoreline would allow for a small but sustainable industry to emerge. For the meat to be preserved and served to the high-end of the foreign market, suitable refrigeration facilities at local level would have to be available.

Chinese traders have expressed interest in buying the species but to date this has, for reasons unknown, not resulted in poaching.

Given the threat of growing unemployment on the west coast, a formally regulated and managed industry could mitigate the instance of poverty in the area.

An existing scientific study suggests that sustainable harvesting is a possibility and it needs to be revived by DEAT (MCM). The DEAT has a policy to introduce progressively new fisheries sectors and Limpet is mentioned as one of these. No new fishery sectors have, however, been introduced for the past three years.

Limpet harvesting should be reserved for indigent coastal people, especially those who were affected negatively by quota or job losses.

Regulatory and management issues are simple in that the format of other similar sectors, such as oyster picking and white mussels, serve as a template.

There appears to be no resistance other than the possible lethargy by officials.

With regard to markets, buyers should be approached and a number of firm buyers secured prior to opening up the Limpet fishery. To avoid price manipulation by buyers, and to ensure proper returns for pickers, DEAT management should be, especially in the early stages, strong and pervasive.

## 5. Abalone

### Box 5: Essential features of Abalone reseeded and seeding

Extensive comment around Abalone regularly appears in the media and most notably over the issue of poaching and, more recently, about the intention to close the industry down due to depletion arising from poaching.

Clearly, some former Abalone zones have been depleted to a point where the species no longer exists and where natural spawning and re-growth is impossible.

In Japan and other places with depleted areas, for over 25 years, there have been the sites for reseeded. While this approach may not conform to a purist's view of environmental protection, a developing country, such as South Africa, should not have to forego this option and possibility.

### 5.1. Reseeding Abalone in depleted habitat

The DEAT (MCM) has, according to recent draft policy, accepted the principle of reseeded. At least one right (permit concession) in this regard has been granted in the Port Elizabeth area.

For reseeded to succeed, the onus for the protection of the reseeded stock has to be on the right (concession) holder rather than on the state. The state may want to exercise an oversight role but, in essence, responsibility for a natural habitat moves to the private sector. Given the significantly large areas that are now depleted in the Western Cape (Overberg), one could foresee 30–40 concessions of around one kilometre of coastline and up to a specified depth from the shoreline. Through sound planning and state compliance, boundaries between concession holders do not need to become a matter for contention. (Sound evidence for this exists in Chile, north of Serena, where such a system also occurs.)

Adopting the principle of reseeded does not, however, translate into regeneration for the depleted areas. This requires social involvement (directly by the state or through intermediaries non-governmental organisations). Some 302 Abalone rights holders (in the Overberg) stand to lose their rights after February 2008. The divide between 'legal right holder' and poacher (or an accessory to a poacher) is not easily defined. It is, thus, suggested that the areas suitable for reseeded be delineated and applications for individual concession areas invited. Policy and regulatory issues should insist that each one kilometre sized 'parcel' be open to a group of (current) rights holders, all of whom are divers. Through negotiation, a sector of the local poachers should be encouraged to become part of the applicants. The rationale for poachers is simple: if there is nothing left to poach, it stands to reason that their own best interests are served through a reseeded programme. And like the poaching syndicates who currently carve up the ocean into territorial sectors whose boundaries are not transgressed, so the reseeded area stands to be respected.

Abalone needs at least four years before (cocktail-sized) specimens can be harvested. In the most optimal state-managed and monitored system, the concession holders should be obliged to buy juvenile specimens from a state hatchery (to ensure genetic control over the area) – possibly on a credit system

until first sales have been made – to encourage the further seeding each year, such that after the first four year cycle, annual harvesting can take place.

There are some important social consequences worth noting:

- The Abalone industry and the bio-diversity of depleted areas have been saved, albeit on a modified basis;
- Incomes and jobs have been secured for communities that stand to sink into poverty, or poaching or crime; and
- Poaching syndicates can be, at least in part, co-opted into a controlled and legal environment.

**Resistance:** A belief exists that this cannot be done; that it is impossible to speak or negotiate with poachers; that there is no government structure in any department that can undertake such a detailed, complicated task. But it can be done and there are people who have the knowledge, insight and connections to turn such an idea into reality.

**Marketing:** Clearly markets exist for Abalone. Markets continue to grow as the Chinese middle class grows and is able to afford high value products like South African Abalone that is grown in the wild and which is even more desirable than that grown in captivity.

## **5.2. Seeding Abalone in areas not previously abundant with the species**

Extensive experience exists in seeding Abalone in areas where it was not previously abundant and that includes off Port Nolloth on the northwest coast. There are habitats that are clearly suitable: they need to be rocky and they need to grow kelp (seaweed).

On the west coast, notably where the diamond mines are withdrawing (being de-commissioned), vast new areas are now opening up where Abalone could be seeded. It is often said that the high-energy coastline of South Africa does not facilitate aquaculture, other than as an on-shore activity, but the seeding of Abalone in suitable habitats offers a distinctive option.

The concept of seeding is widely practiced elsewhere, notably in Chile, where communities purchase juvenile stock of some five different species, are allocated a stretch of coastline and then seed in the area and harvest their product when matured.

With regard to **resistance**, conservative South African scientists can offer resistance.

In terms of **markets**, clearly markets exist for seeded Abalone, too.

## 6. East Coast Rock Lobster

### Box 6: Essential features of East Coast Rock Lobster

Essential features: According to DEAT policy, East Coast Rock Lobster is a distinctive species that appears mostly on the Eastern Cape Coast. It was meant to become one of the new fisheries which the department would manage, starting with an experimental phase. The demand for lobster is increasing both locally and abroad as is evidenced by the high prices paid by the consumer.

This species of lobster is found in the inter-tidal zone and is harvested by communities whose livelihoods have not improved because they have little or no access to markets. Instead, they sell their catch to local hotels and tourists who pay far below the market price.

Scientists have assessed the species and there is no objection to introducing this species, initially, on an experimental basis. However, other than stating this intention, the DEAT has taken no steps to date.

As is the case in other instances referred to above, there is more involved in managing a fishery than simply allocating quotas. In the case of the Eastern Cape Lobster, it would be appropriate to create a market for those who would be given the right to harvest it. This can be achieved simply by going to a number of companies in the trade, which have mobile refrigeration facilities. If they would deposit a refrigerated container at different localities and collect that once full, the seller could choose between the hotel (or cartel of hotels) and the outside buyer(s).

Clearly, this species' exploitation should be reserved for local community participation, with some scope for local entrepreneurial development.

The above proposal is not based on theory but on actual offers made by players in the industry. In the absence of harvesters having no more than subsistence rights, the offer has not progressed beyond this point.

**Resistance:** Inaction by Departmental officials is a resistance.

With regard to **markets**, as indicated above, Rock Lobster is a high value species with export potential. The price of Rock Lobster stands to rise in years to come.

## **Section 2: Conclusion**

For the sectoral proposals made in this report, and to the extent that the implementation of the proposals may require it, the DEAT's (MCM) existing policy on the management of experimental fisheries as a lead-in step toward new sectoral approaches should be used where departmental obligations arise.