Suggested Reference


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Re-thinking the New Zealand Fisheries Value Chain

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During the last 17 years outsourcing of fish processing has gained unprecedented momentum – mainly head & gutted fish exported to China for further processing.

China has a competitive advantage in recovery and throughput rates.

Processed value added products are then re-exported to key markets e.g. E.U., Japan, USA.

“Outsourcing can be destructive to an economy because the collective R&D, engineering, and manufacturing capabilities that sustain innovation are lost” (Pisano and Shih, 2009, p. 116).
Where is the ‘value add’ in exports?

Source: Statistics New Zealand
Up to 70% of the fish is turned into low value fishmeal, some oil or wasted.

- **Liver and roe (7% of fish weight)**: Roe retained by a few - mostly mealed/oil extracted or dumped.
- **Heads (30% of fish weight)**: Very little retained - most mealed/oil extracted or dumped.
- **Backbones (15% of fish weight)**: Mealed/oil extracted or dumped.
- **Fillets (32% of fish weight)**: Sold.
- **Skin (6% of fish weight)**: Mealed/oil extracted or dumped.
- **Guts**: Mealed/oil extracted or dumped, some swim bladders dried but mostly mealed or dumped (5% of fish weight).
- **Trimmings (5% of fish weight)**: Minced block, mealed or dumped.
- **Backbones (15% of fish weight)**: Mealed/oil extracted or dumped.

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“There is industry awareness of the potential to use the whole fish, some boutique players playing with some byproducts, but no proper commercialisation of the opportunities” (pers. comm. 2012).
This is what dumping looks like
Putting a figure on missed opportunity

2011 Total Allowable Commercial Catch (TACC) = 631,787 tonnes

- Total marine landings = 435,000 tonnes
- Finfish landings = 394,000 tonnes*
- Finfish domestic sales = 39,000 tonnes
- Finfish exports = 199,000 tonnes, $778.8m
- Finfish waste = 156,000 tonnes

197,000 tonnes of TACC not caught

Includes 59,900 tonnes of fish waste exported (600,000 tonnes during past 10 years)

59,420 tonnes dumped at sea

95,700 tonnes = 21,000 tonnes ($44m) of fishmeal. 2011 average export price for fishmeal was $NZ 2.10kg or $NZ 0.38kg greenweight.

(6th largest export by volume; 8th largest by value)

Fish waste if dried could have earned $NZ173.7 million in 2011

Over last 10 years 1.67 million tonnes of fish waste could have earned $NZ1.87 billion instead of $370 million from fishmeal

Sources: Compiled and calculated from Ministry for Primary Industries and Statistics New Zealand data

*Does not include illegally dumped fish, estimated at between 79,000 and 197,000 tonnes
An alternative, value adding, approach

New Zealand industry average EBITDA less than 10% whereas the Icelandic Industry average EBITDA is more than 30%.

Iceland has been able to achieve a high average EBITDA through, for example:

- Transparency
- Auction system
- A collective commitment to innovation
An Icelandic approach to fish waste
Iceland utilises 96% of the fish

- Development of own technology (superchilling) increased fillet yields by 10-15%
- Backbones dried and sold to Nigeria
- Heads dried and sold to Nigeria
- 100% utilisation of liver and roe
- Swim bladder dried
- Guts dumped (4%)
- Trimmings are minced into fish Nuggets
- Gelatin extracted from skin and swim bladder for use in a wide range of food products

Nigeria buys dried heads for FOB US $5.50/kg and frames/bones for US $2.50/kg.
Enzymes from the gut used for cosmetics, hygiene and pharmaceutical products

Canned cod liver products

Gelatin pharmaceutical capsules

Pharmaceutical tissue and nerve-regeneration products

Hand & foot creams for preventing and treating diabetic ulcers

Caviar and spreads

Enzymes used for natural fish flavourings

Cod liver oil

Beauty collagens (anti-aging products)

Gelatin pharmaceutical capsules

Fish leather used by shoe & fashion industry

Advanced derivates: aim to use 100% of the fish

Caviar and spreads
By-products in 1992 were 1,667 tonnes, increasing to 47,782 tons in 2010.
The University of Auckland Business School, the New Zealand Asia Institute and the Mira Szászy Research Centre for Maori and Pacific Island Development are committed to ongoing research and collaboration aimed at transforming our seafood industry along a ‘high road’ innovative and sustainable trajectory.

Thank you!