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Fisheries Research & Development Corporation
Inquiry Into Increasing Value-adding to Australia's Raw Materials

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INTRODUCTION

The following submission is made by the Fisheries Research and Development Corporation to assist the House of Representatives Standing Committee on Industry Science and Resources inquire into the prospects of increasing value-adding to Australian seafood.

The Fisheries Research and Development Corporation (FRDC)

The FRDC is a statutory corporation formed under the provisions of the Primary Industries and Energy Research and Development Act 1989. The FRDC plans, funds and manages research and development activities in three program areas:

- Resource sustainability;
- Ecosystems protection; and
- Industry development.

A copy of the FRDC Strategic Plan is provided as Attachment 1.

Funding for fisheries research and development activities is derived from enabling Federal legislation that requires:

- the Commonwealth Government to provide funds equivalent to 0.5 per cent of the average gross value of fisheries production for the three preceding years (GVP).
- fishers and aquaculture operators providing contributions normally 0.25 per cent of GVP; and

the Commonwealth Government matching contributions by fishers and aquaculture operators up to a maximum of 0.25 per cent of GVP.

Commonwealth and State agencies, tertiary institutions and private sector providers of research and development services competitively bid for FRDC project funds against the priorities set in its Strategic Plan.

FRDC project expenditure by program for 1996/97 and 1997/98 financial years is detailed in Table 1.

Table 1: FRDC R&D Funding

FRDC Program	1996/97 Expenditure	1997/98 Expenditure
Resource Sustainability	\$6,408,985	\$7,284,234
Ecosystems Protection	\$2,760,927	\$2,602,616
Industry Development	\$5,274,206	\$5,725,141
TOTAL	\$15,444,117	\$15,611,992

Value-adding projects comprise a major part of the FRDCS investment of \$5.7m in the Industry Development program. A listing of the current projects being undertaken in the Industry Development program is provided as Attachment II.

Overview, of the Seafood Industry

In 1999, the FRDC produced a document titled *From Antarctica to the tropics: a snapshot of the Australian fishing industry* Attachment III. This document provides a concise overview of the industry. Some relevant facts are:

- Australian commercial fisheries production is about 220 000 tonnes per year currently worth nearly \$1.9 billion. This amounts to 6 per cent of the gross value of all farm and fisheries production and is the fourth most valuable food-based primary industry after beef, wheat and milk.
- Export of seafood achieved nearly \$1.5 billion in export sales in 1997/98, 81 per cent of which was seafood and 19% in non-edible products, mainly pearls. Seafood is Australia's fifth largest food export behind wheat, beef and veal, dairy products and sugar.
- In 1995/96 the wild-catch sector of the seafood industry directly employed about 21 000 Australians and about a further 6,000 in aquaculture.
- Every year the average Australian eats about 9.3kg liveweight of fish (up from 7.8kg in 1977) and 2.8kg of other seafood (up from 2.3kg in 1977).

Value-adding to Seafood in Australia

For the purposes of this submission, value-adding is defined as:

Value-adding is any activity which results in the products and services of an industry becoming more valuable or competitive, thus increasing returns or achieving other industry objectives. (Williams, 1992)

Several papers have been prepared in the past looking at the issues associated with increasing the value-adding to Australian seafood. A bibliography of a selection of papers is provided as Attachment IV.

Extracts from two insightful papers which analyse the development of value-adding are provided below.

***Value adding and import replacement,
Some economic problems and marketing opportunities for the
Australian Seafood Industry,***

By Dr S C Williams, Graduate School of Management The University of Queensland, Management Paper Series #6

Key considerations for value-adding through processing

As mentioned earlier, the popularity of value-adding through processing as a solution to an industry's problems rests with the idea that additional processing in Australia will automatically benefit industry. One might ask why, if the answer is so obvious, Australian entrepreneurs have not seen the light until now. The answer is that additional processing in Australia is not as profitable as it might at first seem. The fact that processing firms in the seafood industry do not change hands for fantastic sums, or have high share prices, suggests that there are substantial costs and risks involved (Wilde, 1991).

Processing follows the economic "law of comparative advantage", where other things being equal, industries become located in places where they have "natural" advantages such as cheap energy, a ready supply of raw materials, or cheap labour or transport. Processing also follows the "law of competitive advantage" which

states that firms will tend to locate in places where they can gain an advantage over competitors through business-related factors, such as availability of financial or tax incentives, or where there is some strategic marketing advantage. If these advantages for processing are better overseas, then the value-adding should be done overseas. In metal smelting, for example, processing close to overseas customers is important for maintaining customer service, and for new product development (Fusser, 1988)³. The only reason a producer, or firm or industry should consider value-adding in Australia is that it is profitable to do so.

Key considerations for the value-adding decision are the level of risk, and the expected competitiveness of the operation. Competition and risk in overseas markets are almost always higher than at home and must be factored into the analysis. The projected level of competitiveness can be assessed through considerations of cost of raw materials, labour cost (and its reliability), power costs, freight costs, market availability, costs of finance and impacts of barriers to trade such as tariffs, quotas and cumbersome and expensive import procedures (Bureau of Resource Economics, 1987).

Other aspects of competitiveness to consider are current market share; construction costs (especially in remote locations); lack of infrastructure support; market expectations with respect to quality, and degree of technological innovation. Where market share is small, established competitors can reduce prices to deter new entrants⁴. The point on innovation is of particular interest in that Australia is not a leader in high-technology seafood processing. We tend to buy our equipment from overseas (e.g. Europe) to produce standard products that become rapidly outdated through new developments overseas. We are therefore market-followers rather than market leaders, and it is difficult to gain a competitive edge in this situation. An additional problem is in gaining accurate information on the margins which are available in selected markets for processed seafood products. This information is critical for, decisions to value-add⁵. Fishermen considering value-adding through processing have to ask questions such as:

- a. Is there an adequate volume of product to support the exercise? (Collaboration with other fisherman may be necessary)
- b. Has management the capacity (e.g. skills) to achieve it?
- c. Can the venture be financed?
- d. Can the risks be covered? (There are prospects for profit or loss).

End Notes:

3. Many of Australia's premier companies (e.g. MIM) are making decisions to value-add through further processing, but not always in Australia. Fussel (1989) notes that it makes good sense to locate near your overseas customer if a competitive advantage can be gained.
4. Battersham (1991) noted that firms which value-add to their existing products might find themselves in competition with their previous customers. For many years Australia has been on very good terms with customers in Japan for supplies of raw product. There would be little interest in the Japanese side in suddenly accepting a value-added product aimed at displacing market share of local companies.
5. Kitson (1989) noted the extreme difficulty of obtaining information on margins from the Japanese seafood market. He found that companies were unwilling to divulge information on costs and prices received because supermarkets could use this information to beat down prices in negotiations. (This has already occurred to some extent in the shrimp industry in Japan and helps explain the narrow margins found at the middleman levels). *Aquaculture and the Role of Funding by Government*

Aquaculture and the Role of Funding by Government

ByDr Neil B. Ridler Centre for Aquaculture and Coastal Studies University of New Brunswick Canada

Salmon farming in the Americas and Europe has been a beneficiary of government assistance. Indeed it is questionable whether salmon farming could have developed so rapidly without such assistance. The industry leader, Norway, benefited from start-up funding and production subsidies: other industrialised countries were similarly reliant on public funds. Salmon farming, whether in cages or in tanks, is a relatively capital intensive form of aquaculture, and given its owner-operator, small scale structure, was often dependent on public funding.

This paper examines the role of government intervention in aquaculture. Salmon farming in Atlantic Canada is used as illustration, and an ex post evaluation of government assistance is made. Such evaluations are an invaluable tool for assessing the efficacy of government assistance. The paper concludes that public funding may be essential to nurture an infant industry, and in the case of Atlantic Canada such funding appears to have been efficient. It also suggests that technological advances are necessary in order to retain comparative advantage; with consolidation in salmon farming as the industry matures, these advances could be funded increasingly by the private rather than the public sector.

Assistance provided in the value-adding area by the FRDC has resulted in a number of recent industry initiatives which have shown a high benefit cost ratio, even as high as 41:1. Examples of these projects are provided as Attachment V.

A summary of the issues that affect the current state of value-adding are:

1. Low technology adoption/relatively high cost of labour

The industry has not in general invested significantly in technology and capital to produce value-added product competitively. The tendency is to use manual labour to produce value-added product rather than automation.

2. Low volume fisheries

Australian fisheries are relatively small compared to major world fisheries like New Zealand and Peru. Oceanographic conditions surrounding Australian waters simply cannot support high tonnage fisheries because of low levels of nutrients. Australia's largest fishery, the South East Fishery produces about 25 000 tonnes per annum consisting of 90 species, 16 of which are major and managed under quota licensing. By contrast the catch from one single New Zealand species (hoki) is 250 000 tonnes per annum.

The relatively small volume of local seafood prevents it being used in large scale automated processing lines.

3. High Value Niche Markets

A high proportion of returns from Australian seafood production (79%) comes from exports of high value products such as abalone, lobster, prawns, tuna, salmon, and pearls. Sales to Asia constitute 90% of the value of export earnings. Much of this consists of small consignments of live, fresh, or minimally processed frozen product shipped by air to specific niche markets..

4. Local demand exceeds supply

Australia supplements its own available seafood with large quantities of imported product, both fresh, frozen and further processed. The situation of local demand exceeding supply creates a sellers market and supports high prices for the product particularly at the retail level. This creates less incentive to improve returns from value-adding activity. Even basic value-adding such as differentiation on the basis of quality is discouraged by a sellers market.

5. *Regulatory obstacles to developing value-added opportunities*

The Government objective to establish ecologically sustainable development of the wild caught and aquaculture industries has placed regulatory obstacles on the establishment and development of new products for new markets. The lead times in developing fish management plans and the establishment of quotas provide obstacles in opening new markets for new, previously under-utilised (and in many cases, under valued) species. eg. jellyfish.

State barriers to trade in seafood currently exist, while internationally tariffs exist against value-added products.

6. *Market signals back to fisherman*

In general, fishers are not well informed about the importance of factors such as quality, timing, and presentation in optimising their returns. Lack of effective market intelligence restricts the marketing options that they exploit. A better liaison needs to be encouraged between producers such as fishermen and aquaculturalists and end users such as consumers and chefs.

7. *Culture of the industry*

The majority of players in the industry consider themselves fishers and not marketers. Significant stimulation of value-adding would require an understanding of this culture and the drivers for change. Strategies would need to be developed to drive change in behaviour and eventually culture.

8. *Regional distribution of the industry*

The industry is spread around the 12,000 km. coastline of Australia including aquaculture enterprises which compete with other land and water users on our more heavily populated coastal regions. Distance to market can add cost, which tends to make the production of value-added products uncompetitive. Access to suitable transport infrastructure is critical in supporting the viability of value-added product opportunities.

9. *By-catch and waste management systems*

Efficient methods to identify, sort, handle and store by-catch species on-board can facilitate increasing the value of a harvest. New species in new and existing markets represent a potential value-added opportunity for the industry. Substantial quantities of the material that are landed on deck are discarded as by-catch, whilst up to 66% of the liveweight of some species may be dumped as processing waste ashore. Identification of markets for some of this material combined with efficient methods of handling and processing represent a significant value-adding opportunity.

10. *Vertical Integration vs Specialisation*

Some companies have successfully captured all of the profits from seafood by integrating harvesting with subsequent processing, whilst others have been equally successful by concentrating on optimising returns from harvesting alone. An intermediate position is for fishers and aquaculturalists to become more closely aligned.

11. *Lack of vertically Integrated Industries*

Australia already captures very significant returns from value-adding to seafood by companies such as Simplot and Austrimi which import large volumes of raw material for further processing in Australia. This ensures them a reliable supply of large volumes of raw material of consistent quality at prices that allow a good margin from the use of large scale mechanisation and a whole of business approach.

The Role of Government Agencies

The following are seen as supporting roles for government in encouraging value-adding to the seafood industry. (Note: Some of these activities attract support from the FRDC).

1. Underwriting innovation where market failure may exist. This would occur where the investor in innovation may not be able to capture the full benefit for example, innovation of industry wide significance.
 2. Underwrite the development of industry quality framework initiatives because a single industry investor cannot capture the immediate benefit.
 3. Facilitate ecologically sustainable development.
 4. Link value-adding to resource management through initiatives that increase the value of the catch and reduce pressure on the resource.
 5. Create an environment that promotes aquaculture industry development thereby providing a viable alternative to wild caught seafood. The value of start up funding assistance in the development of aquaculture has been summarised by Ridler 1995.
 6. Identify and quantify market signals and link these to supplies through effective communication channels.
 7. Encourage the uptake of government incentives and assistance to the industry eg. 125% tax concession on eligible R&D, various DISR programs and the Fisheries Research and Development Corporation. The seafood industry is by and large comprised of small businesses that are often ineligible to access government assistance programs due to their small size in staff or turnover.
 8. Develop strategies to increase the level of capital investment and technology uptake by reducing the impact of up front cash flow, eg. Accelerated depreciation or low cost repayable loans for capital supporting value-added activity.
 9. Facilitate networking between complimentary companies and other organisations to ensure that the industry has access to the best available technology and marketing advice.
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