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FINAL REPORT

INVESTIGATING THE VALUE-ADDING, BY-PRODUCT AND CROSS-SECTOR OPPORTUNITIES IN THE AQUACULTURE SECTOR OF THE WESTERN CAPE

BY:

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March 2007

Ref: *Botes L 2007*. Investigating the value-adding, by-product and cross-sector opportunities in the Aquaculture Sector of the Western Cape, AISA report.



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Acknowledgements

The research was made possible by the Aquaculture Institute of South Africa (AISA), a sector development agency for the South African aquaculture industry, with funding support from the Western Cape Department of Economic Development (DEDT).

We wish to thank the interviewees from industry for their inputs and comments on this document.

We hope the information within this report will go far in supporting decision-making in the interests of the development of the aquaculture sector in the Western Cape.

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Abbreviations

AISA: Aquaculture Institute of South Africa

APP: Annual Performance Plans

BB BEE: Broad Based Black Economic Empowerment

DEAT; MCM: Department of Environmental Affairs and Tourism, branch Marine and
Coastal Management

DEDT: Department of Economic Development and Tourism

MEDS: Micro Economic Development Strategy

RBI: Resource Based Industries

US: University of Stellenbosch



1. Introduction:

It recently has become evident that there seems to be opportunities within the Aquaculture Sector that are not being explored which could *strengthen the economic foundation of the sector*. The need to investigate value-adding opportunities, by-product opportunities and cross-sector opportunities has not only been expressed by industry but also by government and in particular by DEDT. This need was supported in the AISA Benchmarking Survey (Botes *et al.* 2006) and Western Cape Case Studies (Botes *et al.* 2006), conducted in 2006, where reference was made to these opportunities and whether or not these opportunities are viable or not and should be read in conjunction with this report (see Annexure A & B). The concern about the viability of these opportunities is very real indeed since 'we' in the aquaculture sector do not want to repeat the mistakes of the past where investments in pipe-dreams were made without investigating viability and markets.

2. Project Objective:

The objective of the project is therefore to investigate and discuss with industry the possible value-adding opportunities, cross sector opportunities and by-product opportunities.



3. Project alignment with government objectives:

The project is in line with the Micro Economic Development Strategy (MEDS) and the DEDT Resource Based Industries (RBI)'s Annual Performance Plans (APP) for 2006/07 as well as 2007/08.

4. Project Methodology, Deliverables and Timeframes:

Research was done by means of web searches, e-mail, site visits, personal interviews/meetings, and telephonic interviews. Producers (from both the freshwater and marine aquaculture sub-sectors) as well as the secondary service providers to the sector (processors, feed manufacturers) were interviewed. In order to present a well-represented overview on the topic at hand, interviews were conducted across the Western Cape Province (ie Knysna, Gansbaai, Hermanus, Kleinmond, Grabouw, Franschhoek, Stellenbosch, Saldanha Bay etc). The research, design and the initiation of the project took place during December 2006 and January 2007 while the interviewing process was conducted during February 2007 until mid-March 2007 when the reporting process started in order to submit the report to DEDT by the end of March 2007. The report contains several recommendations which will give an indication of how AISA proposes relevant stakeholders to follow through with the outcomes of the project.

5. Discussion and Outcomes with regard to the value-adding, cross-sector and by-product opportunities:

Discussions with industry indicated that it is early days in this emerging sector for discussing opportunities for *value adding* since more opportunities will be forthcoming from a more mature sector and it would therefore be a useful exercise to repeat this survey much later in the sector's maturing cycle. Typically, the discussions should then include value adding innovation (such as portion control, pickled products, paté, caviar, packaging, knowledge gaps, market aspects – which only some enterprises which are more established have started investigating). Currently, most Western Cape farmers are concentrating on volume increase as well as investigating farming with species other than shellfish and trout (i.e. seaweed, marine finfish). However, indications from the trout cooperation were that there is a supply chain opportunity for a reliable small transporting business to assist them with transporting product, and another for a small business to assist them with the packaging of their B-grade product. Some industry members also indicated that there are value-adding opportunities but that their own companies are looking into developing the opportunity in-house. Currently, the University of Stellenbosch (US) is investigating linking with the Fishing sector by means of value-adding (see below for more detail).

Discussions around *cross-sector opportunities* were more fruitful and several ideas and suggestions were forthcoming. Indications from one abalone farmer were that approximately 120 000 abalone shells per month are available from the particular farmer

for the use of craft (i.e. buttons, candles, tiles), cleaning and polishing shells or crushing it as a calcium source for the use in fertilisers which will provide an opportunity to link with the craft sector, polishing sectors and agricultural sector respectively. The farmer further indicated that 3-5 mm shells can also be provided to the jewellery sector for the use of jewellery manufacturing. Producing abalone pearls (Marby pearls) was investigated by some abalone farmers but they pointed out that the pearl that is produced is very rough and not popular in the Eastern markets but that the Westerners on the other hand do like the rough appearance. The uncertainty around the market therefore has resulted in farmers not following through with the project/concept. When discussing the same possibilities as above with the Mussel and Oyster farmers they cautioned that the Oyster and Mussels shells are incredibly brittle and disintegrate very quickly due to the fact that these are fast growing species (as apposed to abalone). The Mussel farmer further stated that they investigated possibilities of crushing the shells as a calcium source, but that it's an expensive method, or to serve as an ingredient in building cement but of the options were not really viable. The Oyster farmer indicated that they don't have an excess of shells available since they sell the whole animal.

The University of Stellenbosch (US) is investigating linking with the Fishing sector by means of value-adding. The concept is around using fishing methods to catch fish from the ocean and using aquaculture methods/principles to add value to the products before selling the product. Strong community participation is key to these kinds of initiatives by

incorporating the model for BB BEE described in the Case Studies conducted by AISA in 2006.

The recommendation with regard to aquaculture festivals and routes (see more detail below) that was made in the AISA Benchmarking Survey which was conducted in 2006 was once again supported. It was recommended that more festivals similar to the Knysna Oyster festival is very much needed to promote the sector in South Africa and particularly in the Western Cape. This will also allow for linking with the tourism sector. Festivals could be area or species specific such as a Saldanha mussel festival, Stellenbosch trout festival, or South Coast abalone festival.

It was also recommended that Aquaculture routes similar to wine routes and possibly in conjunction with the wine routes should be designed and supported. A marine aquaculture route up the West Coast and South Coast as well as a freshwater aquaculture route into Stellenbosch, Grabouw and Franschhoek were suggested. The marine sector did however point out two very important issues that should be considered when doing a marine route.

- (a) Abalone is on the Cites list and extensive paper work by all concerned especially restaurant owners in order to purchase abalone for local sales.
- (b) Short locally operated tours are done by local operators in Saldanha (in the case of mussels), Hermanus (in the case of abalone) and Knysna (in the case of oysters) from time to time. The idea of routes will only be supported if it is done in cooperation for the local operators, thereby taking the current initiatives to the next level instead of taking a job opportunity away from a local operator.

Further possibilities with regard to awareness creation are radio/TV campaigns (to promote the availability of Proudly South African Aquaculture Products as apposed to imported produce) and road shows to schools (to promote aquaculture as a career opportunity and an effort in capacity building within the sector).

It seems that currently (this situation might change in future), there is very little - if any – *by-product opportunities* within the sector. A salmon farmer, which is not currently in operation, mentioned that when they were in operation, one of their insurmountable problems was the significant growth of mussels on the salmon cage netting which resulted in the nets getting torn and the animals escaping into the wild. DEAT:MCM at that stage did not want to issue a permit to use anti-fouling substances for environmental reasons. By the time a decision was made to issue such a permit the damage to the nets were significant and that, together with several other issues, eventually lead to the operation being stalled until all the various stumbling blocks were attended to. The farmer indicated that, at that stage, it would've been a good small business opportunity to harvest the mussels which could be sold locally.

6. Recommendations:

While one understands that the recommendations can for various reasons not necessarily materialise as suggested, it might be a starting point for discussion amongst the parties concerned to come up with alternative or similar solutions/suggestions.

It is therefore recommended that:

1. DEDT investigate the possibility of supporting the opportunities mentioned above namely:

Value-adding opportunities:

- ~ Reliable transporting company to assist with the transport of product.
- ~ Assistance with the product development & packaging of B-grade products.

By-product opportunities:

- ~ Currently none

Cross- sector opportunities:

- ~ Abalone shells for polishing, jewellery, buttons, candles, tiles, craft etc

2. AISA investigate the possibility of developing the cross sector opportunities mentioned below (especially with the 2010 Soccer World Cup in mind) as well as finding the necessary funding support.

Cross- sector opportunities:

- ~ Aquaculture routes (similar to wine routes and in conjunction with wine routes)
- ~ Aquaculture festivals
- ~ Aquaculture advert campaigns



7. References:

Botes L, Thompson G and Louw R 2006. Benchmarking Survey of the South African Aquaculture (marine and fresh water) Sector, AISA report.

Botes L, Thompson G and Louw R 2006. Transformation in the Aquaculture Industry: Two Case Studies investigating empowerment and enterprise development, AISA report.

8. List of Annexures

Annexure A: Benchmarking Survey

Annexure B: Case Studies

