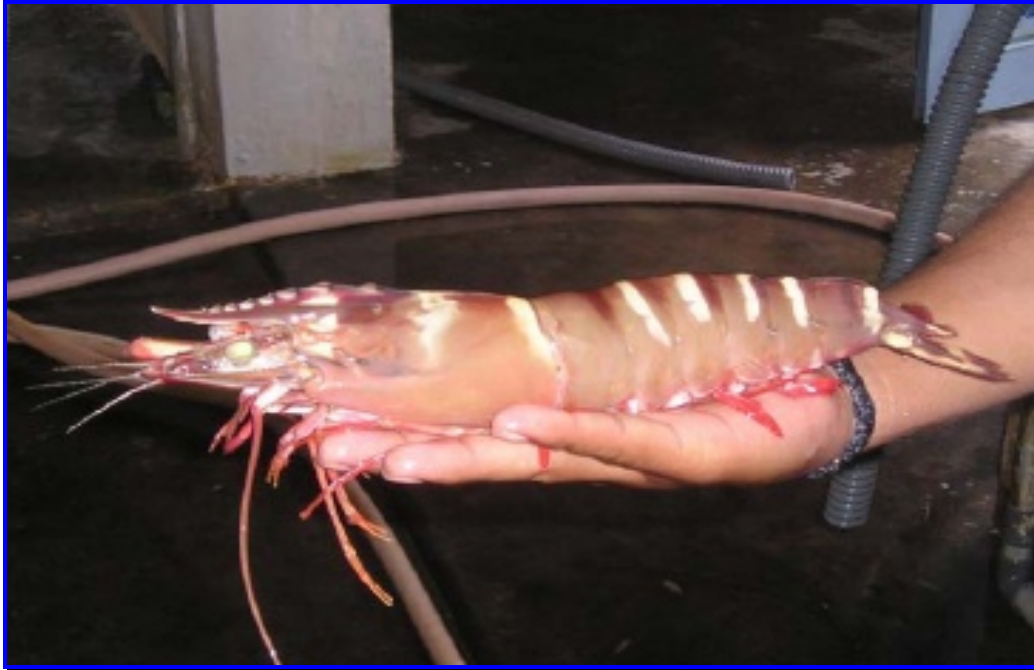




PUNI PUNI SHRIMP FARM PROJECT PROFILE



SUBMITTED BY : MILNE BAY SHRIMP FARM LIMITED
P.O. BOX 1528,
PORT MORESBY, NCD
PAPUA NEW GUINEA
Ph : (675) 323 0928
Fax : (675) 323 5736
Email : maquire@global.net.pg

PROFILED BY : INVESTMENT UNIT
BUSINESS INVESTMENT & EXPORT
PROMOTION DIVISION (BIEPD)
INVESTMENT PROMOTION AUTHORITY
P.O. BOX 5053, BOROKO
NATIONAL CAPITAL DISTRICT
PAPUA NEW GUINEA

Ph : (675) 308 4444/321 7311
Fax : (675) 320 2237
Email : biepd@ipa.gov.pg

CONTENTS

1. IIPP PROFILE
2. EXECUTIVE SUMMARY
3. THE PROJECT IN BRIEF
4. THE COMPANY
5. MARKET OPPORTUNITIES
6. PROPOSED PROJECTS COMPETITIVE POSITION
7. PRODUCTION, FACILITIES AND STAFFING
8. PROPOSED MARKETING STRATEGY
9. PROJECTED SALES
9. FINANCES
10. EXPECTED INPUT FROM INVESTORS
11. KEY SUCCESS FACTORS
12. POSSIBLE GOVERNMENT SUPPORT



INDUSTRIAL INVESTMENT PROJECT PROFILE (IIPP) FORM

Country: **Papua New Guinea** Project No.: PNG-1-32208

*ISIC:

Date of Submission: 30th April 2007

Project Title: **Puni Puni Shrimp Farm Limited**

PART A

1. INFORMATION ON SPONSOR(S)

Do you wish to have this information kept confidential?

yes	<input checked="" type="checkbox"/>	no	<input type="checkbox"/>
-----	-------------------------------------	----	--------------------------

1.1 Name of Company:	Milne Bay Shrimp Farm Limited
Address:	P.O. Box 1528, Port Moresby. NCD. PNG
Contact Details:	Telephone : (675) 323 0928 Facsimile : (675) 323 5736 Email : Maguire@global.net.pg
1.2 Business experience (present line of business): Milne Bay Shrimp Farm Limited has been involving in property development, consultancy projects, as well as food production and marketing business prior to tiger prawn farming business.	
1.3 Annual Turnover (gross sales in US\$):	US\$8 million
1.4 Present ownership:	Milne Bay Shrimp Farm Limited is currently owned by the following Shareholders and Directors of the Company: Tuaine Mategu (PNG), Puka Mategu (PNG), Ephraim Yabom

	(PNG), Robert Bolling (AUSTRALIA), James Rubeni (PNG), Sylvanus Tomorina (PNG), and Roger Gill Maguire (AUSTRALIA).
1.5 Share capital (nominal):	500 shares
1.6 Bank connections:	ANZ Banking Group (PNG) Ltd
1.7 Affiliated companies:	Nil
1.8 Year of establishment:	1998
1.9 Number of employees:	7 Directors with more staff members to come.

2. PROJECT DESCRIPTION

2.1 Describe briefly the purpose of the project:

The purpose of the project is to develop large scale commercial tiger prawn farming for processing to export to the Asian market, especially the Japanese market.

The proposal aims to secure a potential financier or a Joint-venture Partner to assist the company to establish capital works to commence operations. The Milne Bay Shrimp Farm Limited is aiming to secure US\$20 million from the potential Joint Venture Partner company to assist establish the commencement of the project.

2.2 Is this a new project or an expansion/modernization of an existing project?

New	<input checked="" type="checkbox"/>	Expansion	<input type="checkbox"/>	Modernization	<input type="checkbox"/>
-----	-------------------------------------	-----------	--------------------------	---------------	--------------------------

Who initiated the project and when?

The project has been initiated by the proponents, Messers. Roger Maguire, Director, Robert Bolling, Director following the compilation of the Company's Business Plan.

2.3 What background information is available on the project (e.g. pre-feasibility study)? Please list and give dates when they were carried out and by whom, including studies under preparation, or studies which require updating:

None	<input type="checkbox"/>	Technical study	<input type="checkbox"/>
(Pre-) Feasibility study	<input type="checkbox"/>	Market study	<input type="checkbox"/>
Detailed Project Description	<input checked="" type="checkbox"/>	Other	<input type="checkbox"/>

Specify:

2.4 Describe the main characteristics of the product(s) to be produced (type, quality, etc)

Product	Processed and packed tiger prawns for export and local market.
---------	---

2.5 Give the conversion rate of the local currency to the US\$ to be applied to the information provided

1US\$ = PGK3.23

Date: 3rd May 2007

2.6

Estimated investment costs (in Millions of US\$)

Local (equivalent in US\$)	
Foreign (equivalent US\$)	US\$ 20 million
Total (in US\$)	US\$ 20 million
Equity (in US\$)	US\$ 381,000
Long-term loans (in US\$)	US\$19, 619,000
Short/medium-term loans(in US\$)	
Total (in US\$)	US\$ 20 million

2.7 Foreign cooperation sought:

Joint Venture	<input checked="" type="checkbox"/>
Compensation agreement(buy back)	<input type="checkbox"/>
Cooperative production	<input type="checkbox"/>
Sub-contracting	<input type="checkbox"/>
Licensing	<input type="checkbox"/>
Equipment purchase only	<input type="checkbox"/>
Market access only	<input type="checkbox"/>

Expertise only	<input type="checkbox"/>
Management	<input type="checkbox"/>
Technical	<input type="checkbox"/>
Marketing	<input type="checkbox"/>
Licensing	<input type="checkbox"/>

Other, (specify):

2.8 What licenses or technical know-how will be required for the project?

The local JV partner would obviously require an export license from the National Fisheries Authority to export to the established market.

2.9 Approximately how much time do you estimate will elapse from the time the investment decision is taken (e.g. when joint venture contract is signed) to the start up of the plant?

Approximately 1 month

CONTENTS

1.0	Executive Summary	8
2.0	The Project In Brief	9
3.0	The Company	10
3.1	Legal Entity and Ownership	10
3.2	Directors	10
3.3	Assisting the Directors	11
3.4	Consultants	11
4.0	Market Opportunities	12
4.1	Size and Characteristics	12
4.1.1	Global Demand	12
4.1.2	General Market Analysis	12
4.1.3	Market Segmentation	13
4.1.4	Distribution	13
4.2	Competition	13
4.3	Potential Customers	13
5.0	Proposed Project's Competitive Position	14
5.1	Disease Free	14
5.2	Broodstock	14
5.3	Climate	14
5.4	Labour	15
5.5	Sustainable Resource	15
5.6	Location and Site	15
6.0	Production, Facilities and Staffing	16
6.1	Production and Facilities	16
6.1.1	Hatchery	16
6.1.2	Ponds	17
6.1.3	Harvesting	18
6.1.4	Processing	19
6.1.5	Product Quality	19
6.1.6	Quality Control	19
6.1.7	Other Infrastructure	20
6.1.8	Power Generation	20
6.1.9	Construction	20
6.1.10	Other Aquaculture Products	21
6.2	Staffing	21
6.3	Management Team and Technical Staff	22
7.0	Proposed Marketing Strategy	23
7.1	Pricing and Selling	23
7.2	Promotion	23
7.3	Selling and Distribution Strategy	24
8.0	Projected Sales	24
9.0	Finances	24
9.1	Cash Flow Projections	24
10.0	Expected Input From Investors	25
10.1	Invitation	25
10.2	Finance Required	25
10.3	Terms of Offer	26
11.0	Key Success Factors (SWOT Analysis)	28

12.0 Possible Government Support 30

13.0 Contact Information 31

Annexure: エラー! ブックマークが定義されていません。

1.0 Executive Summary

An opportunity exists to establish a green fields business in Papua New Guinea to farm Black Tiger Prawns, *P. monodon*.

The business requires an investment of US\$20M (Kina 63.5M) to enable the construction of the farm and provide operating capital. The project shows an excellent rate of return, with forecast net margin after tax of about 40%.

Section 10 of this business plan details the investment proposal.

The concept for the prawn farm was developed by director, Bob Bolling, in conjunction with the leading world expert on prawn aquaculture, Dr. Alec Forbes.

In the period 1985 to 1987, Dr. Forbes designed, built and operated the then largest aquaculture facility in Asia, which consisted of 1,700 acres of ponds, on the northern coast of the Gulf of Tonkin.

Again, in the period 1988 to 1991, Dr. Alec Forbes, designed, built and started up an aquaculture facility in the Republic of Seychelles. This facility consisting of 68 ponds of 1 acre each and support infrastructure including hatchery, processing and cold storage plant, water quality control laboratory and quarantine facilities.

As a recognized world authority, he has consulted in Zanzibar, Egypt, South Africa and the Philippines. He continues in this field with his own consulting group with contracts in Australia and Mozambique.

During the last 18 months, David Durst, an aquaculture scientist, has researched and updated the technical aspects of the original proposal. David graduated from the Flinders University, Adelaide in 2001. Dr. Alec Forbes has fully reviewed and endorsed this update. Refer correspondence to BSP Capital Limited dated 7th September 2006 attached as annexure 21.

The selected site at Puni Puni Point, Milne Bay Province provides the ideal site and climatic conditions for the growing of Black Tiger Prawns.

The economic climate, low interest rates and taxation regimes implemented by the Papua New Guinea Government provide a substantial financial benefit to the developers.

Key data used by the company to determine the operational and financial modeling is very conservative, and makes allowance for risks associated with operating in the Milne Bay Province of Papua New Guinea.

This project has a very high social value. The development is in a remote, peaceful area, with few services and minimal cash economy. It will provide an estimated 300 direct and 460 off-site jobs for the local community at full production.

As a significant shareholder, the Maramatana Local Level Government will receive significant income from the project, which will enable it, together with grants from the National Government, derived from project tax income, to provide the education and health services currently lacking in the community.

The market demand for Black Tiger Prawns is forecast to increase at a rate of 3% per annum at a time of reducing wild resource.

The economic and social benefit provided by a sustainable, ecologically friendly, farming technology will provide significant and on-going benefit to the investors and PNG economy.

This business plan provides the technical and financial verification for this exciting project.

The directors of Milne Bay Shrimp Farm Limited recommend this project and will be pleased to assist interested investors in obtaining independent verification of all technical and financial forecasts.

2.0 The Project in Brief

The Puni Puni shrimp farm was conceived in 2000. All research, design, budgets and permits were completed and obtained. Due to very high interest rates and political instability, the project did not proceed at that time.

In early 2005 the project was resurrected. All technical and financial data has been completely reviewed and updated to include world's best management practice.

A new fully integrated farm layout, based on GPS survey data and conceptual architectural and engineering designs has been prepared, including:

- Its own hatchery of modified Galveston design;
- Laboratory;
- Sea water pump selection;
- 63 lined growing ponds of one hectare each by two metres deep;
- 21 lined water settlement ponds [which will be used to produce fish and sandfish [beche de mer];
- Processing facilities and freezer;
- Workshops and offices; and
- Staff and employee housing.

Milne Bay Shrimp Farm Limited is seeking funding of US\$20M (Kina 63.5M) to enable the construction and operation of the farm.

Immediately after capital fund raising, it will be necessary to:

- Complete the site survey;
- Complete architectural and engineering design;
- Obtain all necessary permits; and
- Recruit experienced key personnel from overseas, probably Thailand.

Construction will not commence until all necessary approvals are finalized, a process which is expected to take approximately two months.

The anticipated construction costs including allowance for contingencies are set out in the construction schedule, and amount to approximately 54 million kina.

The balance of funds raised will be reserved as working capital.

It is envisaged that harvest and sales production should commence within twelve months of the commencement of construction, and when fully operational, in 2009, will yield approximately 2,000 tonnes of prawns per annum.

3.0 The Company

3.1 *Legal Entity and Ownership*

Milne Bay Shrimp Farm Limited is incorporated in Papua New Guinea and is registered under the Companies Act 1997. It is a resident company with majority PNG national ownership.

3.2 *Directors*

Directors of Milne Bay Shrimp Farm Limited include Mr James Rubini, the President of the Maramatana¹ Rural Local Level Government which owns the proposed site at Puni Puni Point on Goodenough Bay, between Garuhai and Taupota villages, and has granted a long term lease to the company of which it is also part owner. Other directors are Mr R.W. [Bob] Bolling B Ec C A (Aust) CPA (PNG), and Mr Roger Maguire LL.M., the company Chairman.

Mr Bolling was the founding chairman of Kina Securities Limited, and a director of Kina Konstructions Limited, which built among other projects, The Lodge, Royal Papua Yacht Club, and the premises occupied by MVIL. Mr Bolling also has four decades of experience in food production and marketing businesses. He has traded in seafood with the following countries: Argentina, Australia, Brunei, Chile, China, Cook Islands,

¹ "The place where the sun rises"

Guam, Ireland, Japan, Malaysia, Malawi, New Caledonia, Norway, Papua New Guinea, Samoa, Solomon Islands, Tahiti, Tonga Vanuatu, and Vietnam.

Mr Maguire is a lawyer with 28 years experience. He is a former long-term Finance Committee member and Town Planning Committee Chairman of the Redcliffe City Council in Queensland. He has also been a founding director of a successful property development company overseeing projects from site identification to settlement of sale of developed site. He has acted for some of Queensland's leading property developers. He holds a Masters degree in Environmental law with an emphasis on Coastal Management, as well as Tourism Law, and Tourism Development law. He has been appointed as a Director of a Statutory Corporation by Queensland governments of opposing political persuasions.

3.3 Assisting the Directors

David Durst B. Tech Aquaculture (Flinders University) who has spent twelve months researching and developing farm procedures and practices specifically to ensure that as far as possible, this project represents the state of the art in tiger prawn production. Born in Daru, David has worked on a range of aquaculture projects in Australia and PNG. He is also a qualified commercial pilot, with extensive experience flying around Torres Strait and PNG. Assuming a successful fund raising, David plans to undertake a PhD in Black Tiger Prawn domestication modelled on CSIRO successes with the Australian Prawn Farmer's Association. A domestication program will bring enormous benefits to prawn farming in Papua New Guinea as it will increase growth rates and disease resistance, leading to increased stocking densities and yields. Economic benefits to the prawn farm will be greatly enhanced with the implementation of such a program. It will reduce the need to take wild spawners, and open up a market to supply spawners to other producers.

Richard Nicholls B. Tech Building (Adelaide University) has forty years experience in major project construction at both a managerial and supervisory level. Projects he has managed include the Myer Centre in Adelaide, and the Parc Hotel in Guam. Richard has developed the attached detailed project estimates, and schedules.

3.4 Consultants

In addition, the project has been developed in consultation with one of the world's leading experts in the farming of Black Tiger Prawns, Dr Alec Forbes, PhD, FLS. Dr Forbes has established shrimp farms in many locations around the world, including China, Indonesia, Namibia, the Maldives the Philippines, the Seychelles, Thailand, and Vietnam. He has been a consultant in Aquaculture to the Danish Government and the World Bank. He is presently working as Special Aquaculture Advisor for Namibia's Ministry of Fisheries and Marine Resources under the Commonwealth Fund for Technical Co-operation (CTFC). The Fund assists member countries with development projects at the request of their governments. The company has asked the Papua New Guinean government to seek to have Dr Forbes based in Papua New Guinea. In the mean time however, Dr Forbes has agreed to act gratuitously as a consultant to the project and assist in the recruitment of suitable specialist staff.

4.1.3 Market Segmentation

Several studies² of shrimp markets worldwide indicate the market is very large and increasing. MBSF is targeting markets which are physically close and show strong demand for quality product:

- Asian seafood importers and wholesalers;
- European seafood importers and wholesalers;
- American and Australian seafood importers and wholesalers;
- Specialty seafood importers; and
- Retail chains

These market segments demand high quality product for which they are prepared to pay premium prices.

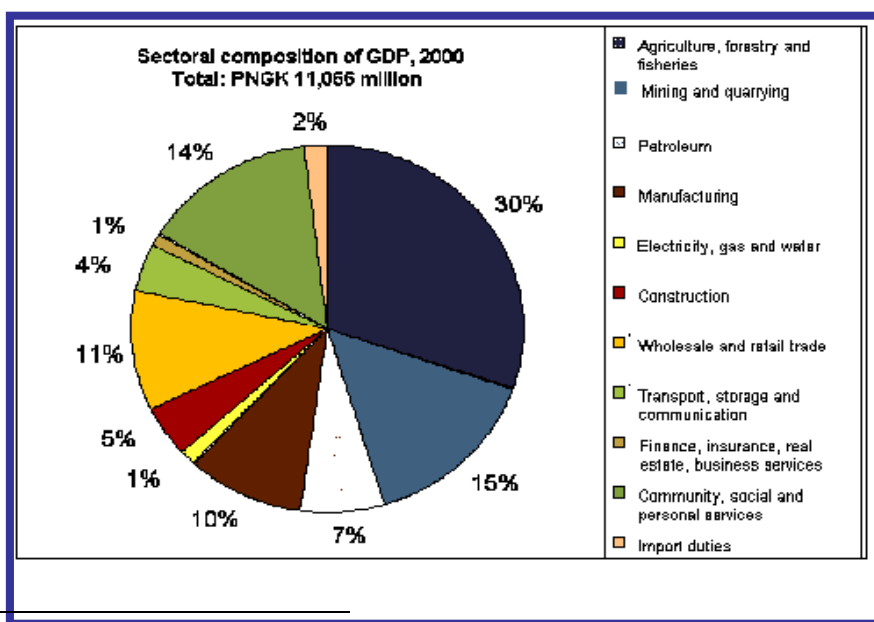
4.1.4 Distribution

To access these markets, MBSF will establish contracts with Australasian and Asian seafood importers with existing contacts in the target markets. Sales will be made to importers, who will on-sell to prospective trade clients and retail chains.

4.2 Competition

A handful of companies account for proximately eighty percent of the total amount of PNG seafood export and many of these companies prepare, export and sell, to the Asian market. However, there are no businesses dealing exclusively in the export of aquaculture *'Black Tiger Prawn'* from PNG. Foreign competition in the SE Asian market comes from Sri Lanka and Indonesia. Companies exporting from these regions have existing export arrangements into SE Asia, however the shrimp they deliver are of a lower standard than the PNG *'Black Tiger Prawn'* and attract a lower price.

Sectorial composition of PNG's Gross Domestic Product of which Agriculture and Fisheries contributes 30%.



4.3 *Potential Customers*

MBSF is targeting markets which are physically close and show strong demand for quality product:

- Japanese seafood importers and wholesalers;
- Asian seafood importers and wholesalers;
- Australian seafood importers and wholesalers;
- Specialty seafood importers; and
- Retail chains

These market segments demand high quality product for which they are prepared to pay premium prices.

To access these markets, MBSF will establish contracts with Australasian and Asian seafood exporters with existing contacts in the target markets. Sales will be made to the exporters, who will on-sell to prospective clients.

5.0 Proposed Project's Competitive Position

5.1 *Disease Free*

Papua New Guinea has strict quarantine laws, which are reasonably well enforced. The importation of Pls [baby prawns] is prohibited, to prevent the importation of viral diseases, which are endemic in some countries. The wild stock is not affected by any of the major diseases. The chances of introducing a disease from South East Asia is extremely low. The distance that migratory birds have to travel mitigates the chance of disease importation in that manner. Nevertheless, the production estimates factor in high levels of mortality at each stage of the farming process.

Black Tiger prawns are endemic to PNG waters and the sourcing of brood stock from the wild is not going to be a problem.

5.2 *Broodstock*

Milne Bay Shrimp Farm has access to significant colonies of large sized broodstock for the hatchery production of post larvae to be stocked into our ponds. This means that selective breeding for fast growth, flesh quality (colour and taste), low feed conversion ratios, disease resistance, and other variables will provide MBSF with a superior product. ISO9000 and HACAPP standards, especially including the purging process, will deliver consistently high quality product to market; and because of their close proximity to markets MBSF animals can be guaranteed fresh and clean.

5.3 *Climate*

The climate is ideal for the farming of Black Tiger shrimp and it is expected that grow out time will be 117 days, with a total crop cycle time from spawning to harvest

expected to be 140 days. The climate in this location allows for efficient production all year round.

5.4 Labour

Particularly in relation to Australia and other developed shrimp producers, PNG is a low cost producer.

Labourers and packing room staff are expected to cost the company about \$US 5.00 per day including transport, superannuation, insurance and leave pay. The managerial and technical staff will be paid appropriate expatriate salaries. Currently experienced prawn technicians are paid a package including leave fares in the range of \$US12 - 15,000 per annum.

5.5 Sustainable Resource

The supply of wild caught black tiger and similar species is falling, due to ever tighter restrictions on trawling activities. However, total demand is estimated to be growing at 3% per annum. This demand will have to be supplied by sustainable farms such as Milne Bay Shrimp Farm. As a consequence, it is expected that the price of the commodity will remain firm.

5.6 Location and Site

Project location is in Milne Bay Province, Papua New Guinea at approximately 10 degrees south; 150 degrees east.

The proposed site, a long abandoned coconut plantation, is approximately 220 hectares of relatively flat land at Puni Puni Point on the southern end of Goodenough Bay, almost directly north of Alotau. It has been chosen under guidance from Dr Forbes, and the European Union³, and endorsed as excellent by both. It has the key requirements for a prawn farm. The site is relatively flat with a lengthy (two kilometres) water frontage, and a depth of about one kilometre. In addition, it has easy access to deep clean sea water⁴, and a relative absence of coral reefs. The project is keenly welcomed by the local traditional landowners, eager for employment opportunities.

Importantly, the site has been alienated land for nearly a century. It has no environmental, social, cultural, or anthropological significance, and the proposed use is uncontroversial from every perspective.

It should also be noted that the site is in an area of extremely low seismic activity [Earthquake Zone 4 - the lowest under the PNG Seismic Zoning Section of the Building Code -1982] with no major earthquakes recorded during the period 1900 -1989 and no specific measures are required to mitigate possible earthquake damage.

³ Fisheries expert Ole Kirkegaard.

⁴ Information from the Australian Oceanographic Data Centre identifies a general South-South West current flowing at an average speed of 6 knots.

Likewise, Goodenough, Ferguson, and Normanby Islands offer a natural barrier to any tsunami. Indeed, together with Cape Vogel, the islands create a virtual lagoon.

Nevertheless, in accordance with PNG regulations, all buildings must conform with the requirements of the New Zealand seismic code.

The area is rarely affected by cyclones and in addition, to meeting the seismic requirements, buildings will also meet the cyclone safety requirements.

There is a risk of road closure due to land slides or flooding from time to time but these should be of short duration – sufficient stocks will be held to cover this eventuality. The alternative of access by sea from Alotau will always be available. Currently the road from Alotau is being upgraded.

6.0 Production, Facilities and Staffing

6.1 *Production and Facilities*

6.1.1 Hatchery

The hatchery includes:

- Sea and freshwater intakes, reservoirs, filters and distribution;
- Quarantine tanks;
- Maturation tanks;
- Spawning tanks;
- Hatching tanks;
- Larval stage 1 to 3 tanks;
- Post larval 1 to 14 tanks;
- Algae laboratory;
- Laboratory;
- Office;
- Store; and
- Power generation.

All tanks will be mechanically aerated. Water quality and oxygenation will be monitored constantly using a computer programme developed by the CSIRO and expanded to include monitoring of all processes to allow pro-active management of the farm.

Tanks are numbered and sized so that all progeny from a single female are kept separate and are not mixed until they are transferred into the growing ponds. This allows any disease to be detected and eliminated without affecting the other tanks.

Brood stock for the hatchery will be drawn from local waters, and monitored to ensure that they are disease free. At this stage they will be kept in a quarantine tank.

When mating is planned, the brood stock will be transferred to a maturation tank, where mating will be induced. This is done by reducing salinity and adjusting

temperature. This causes the female to moult, i.e., lose her shell, thus giving the male access to her.

Following mating, the female is then placed in a spawning tank until she releases her eggs, at which time she is then returned to the maturation tank. After the prawn larvae hatch they will be accommodated in specially designed tanks for each stage of their growth.

Following induced mating, it takes approximately 15 hours for eggs to hatch. The life cycle of these prawns has three larval stages, known as the *nauplii*, *protozoa*, and *mysis* stages, and each of these has their own substages.

On hatching, the *nauplii* appear. The *nauplii* are virtually living eggs, each of which feeds off its yolk as it develops. The *nauplii* stage has six stages which occur over a period of thirty hours.

Following the nauplii stage, the baby prawn enters the second larval stage, the *protozoa* stage, which itself has three stages which take a total of three to four days to complete. At this stage, the prawns are transferred to larval rearing tanks. During the first of these stages, *zoea one*, they start feeding on algae, *phytoplankton*. This will be produced in the laboratory in special algal rearing tanks to ensure proper quality control.

Following the protozoa stages, the prawn then enters the third and final larval stage, the *Mysis* stage. This has three substages, which take between two and three days to complete. During *Mysis* three, the prawns start eating *zooplankton*, i.e. copepods such as rotifers and artemia.

At the conclusion of the *Mysis* stages, the prawns enter the post larval stage of their existence. At this point, they are described by reference to how many days they are into this cycle. For instance, on the first day they are described as P1s, and on day five, they are P5s. At P14, the prawns will be transferred into the grow-out ponds, where they will spend approximately 117 days growing to a weight of 35 grams each. This outcome is already being achieved at a prawn farm at a similar latitude on the island of Coetivy in the Seychelles, which has served as a model for this project. The farm has been in operation now for about twenty years, and the combination of good feed, high water quality, and prompt processing after harvesting, has yielded premium prices in the Japanese market for many years.

Production at the hatchery can be adjusted to accommodate higher stocking densities and thus higher product harvests per pond.

6.1.2 Ponds

The operation of the ponds include:

- 3 supply and 1 backup diesel powered seawater pump;
- 3 lined reservoirs;

- 63 lined growing ponds;
- 21 lined settlement ponds; and
- Gravity fed, lined seawater supply channels from the reservoirs to the growing ponds;
- Gravity fed, lined drainage channels from the growing pond discharge sump to the settlement ponds; and
- Power generation and distribution to operate the aerators.

All ponds will be mechanically aerated. Water quality and oxygenation will be monitored constantly using a computer programme developed by the CSIRO and expanded to include monitoring of all processes to allow pro-active management of the farm.

In the growing ponds, the prawns will be fed a very high protein diet some four to six times per 24 hours, mainly at night, as they are nocturnal animals. Initial feeding is 12% of bio-mass daily at 48% protein. This is progressively reduced to 33% protein and 2% of bio-mass as the crop matures. Feed will be purchased only from suppliers who guarantee the integrity of their product, i.e. ISO and HACCP certified.

The potential feed conversion ratio is 1.5 kgs of feed to produce 1kg of body weight. For the purposes of financial projections, a feed conversion ratio of 2.2 : 1 has been used, notwithstanding that much better ratios appear achievable.

The growing ponds and the settlement ponds will all be lined with HDPE (Heavy Duty Polyethylene) Liners for ease of cleaning, enabling faster turn around between crops, and prevention of salination of the aquifer.

The total life cycle from mating to harvest at 35 grams is therefore about twenty-one weeks, increasing to twenty-five weeks if a 60 gram prawn is the desired product. Growing times to these projected weights should be fairly consistent year round because of minimal fluctuations in water temperature arising from proximity to the equator. With the option to grow prawns to an average “Jumbo” weight of 60 grams, increased profits can be expected i.e. 17 prawns per kg are currently wholesaling in Japan at over US\$20 per kg or approximately US\$1.17 per prawn, as opposed to the US\$0.52 per prawn at 29 prawns per kg. The additional 25 days in the growing ponds appears to be achievable at little extra cost.

After the 17 week growing cycle, a minimum of two weeks is allowed for harvesting, draining, cleaning, re-filling, and re-stocking. The two week turn around is considered feasible because of the use of HDPE liners. This should allow for 3 harvests per pond in 57 weeks.

6.1.3 Harvesting

Cultured prawns will be harvested on site using specialized equipment that is able to harvest 10 tonne of product in 1.5 – 2 hours. A fast turn around means less downtime for pond production, whilst ensuring that the product is delivered to the processing phase quickly and efficiently.

model	size	capacity per hr
860-p-1s	6 in (15 cm)	24,000 lbs (10,900 kg)
1080-p-1s	8 in (20 cm)	36,000 lbs (16,300 kg)
1210-p-1s	10 in (25 cm)	48,000 lbs (21,700 kg)



Figure: Cavity Pump Harvester, different models with varying harvesting capacity per hour

6.1.4 Processing

The farming and provision of food products demands highest quality standards and processing controls. The establishment of operations in tropical regions increases operating risks due to conditions conducive to bacterial growth. Milne Bay Shrimp Farm has adopted business risk systems to prevent or mitigate these risks.

Shrimp are processed immediately after they are harvested by being delivered into an ice slurry bucket prior to entering the processing plant. From this point they will undergo cleansing process, graded by weight, size and appearance, packaged and freighted to selected markets by dedicated distributors. It is envisaged that once procedures and markets have been established the processing plant will be able to value add by diversifying our product range and packaging forms.

6.1.5 Product Quality

All animals are guaranteed fresh when frozen. Cleansing and flushing out of hostile bacteria ensures stringent food safety guidelines are adhered to before they are packaged and freighted to markets.



6.1.6 Quality Control

Milne Bay Shrimp Farm will adhere to environmentally and ecologically sound harvesting practices and avoid the use of unsustainable production methods. Such practices will be implemented through an ISO9000-based Quality Assurance Program and Hazard Analysis Critical Control Point Plans (HACCP).

6.1.7 Other Infrastructure

Other infrastructure to be provided to support farm operations includes:

- Mechanical and electrical workshops;
- Office accommodation;
- Staff and employee housing;
- Vehicles;
- Wharf;
- Bird scares; and
- Security fencing.

6.1.8 Power Generation

Power generation is a major cost of production. Diesel fuel has been costed at K2.50 per litre.

The project will also be made more viable by the use of technology which permits palm oil to be used as a direct substitute for diesel to fuel the generators, which will provide power to the site. This should result in a saving of over one kina per litre on the cost of diesel fuel, i.e. 9.5 million kina per year in full production.

Figures are not available for the use of bio-diesel from the proposed Milne Bay plant.

6.1.9 Construction

Construction will not commence until all necessary approvals are finalized, a process which is expected to take approximately two months. The company has received assurances from the Milne Bay Provincial Government that approval processes will be fast tracked. A similar assurance has been received from the Minister for Fisheries, Hon Ben Semri.

The anticipated construction costs including allowance for contingencies are set out in the construction schedule, and amount to approximately 54 million kina.

The construction budget is divided into 6 phases:

- Phase #1 Design, survey and approvals;
- Phase #2 21 growing ponds with all associated infrastructure;
- Phase #3 21 growing ponds [total 42] with all associated infrastructure;
- Phase #4 21 growing ponds [total 63] with all associated infrastructure;
- Phase #5 Staff and employee housing; and

- Phase #6 Project management, overhead and contingencies.

Immediately after capital fund raising, it will be necessary to:

- Complete the site survey;
- Complete architectural and engineering design; and
- Obtain all necessary permits.

It is hoped that construction of Phase 2 can commence no later than 15th May 2007, with a view to completing construction of Phase 2 by 30th April 2008. It is intended to have the hatchery operational by 12th February 2008. At this point it will be possible to commence stocking ponds. This would allow harvesting of the first pond to occur in August 2008, and one pond per week to be harvested thereafter.

It is envisaged that construction of Phase 3 will flow on from Phase 2 and finish no later than 16th May 2008. This would enable the initial pond harvest from Phase 3 to occur by mid September 2008, by which time the farm will be harvesting two ponds per week.

Phase 4 will follow Phase 3 and finish in early March 2009. This would enable the initial pond harvest from Phase 4 to occur by mid December 2008, by which time the farm will be harvesting three ponds per week.

6.1.10 Other Aquaculture Products

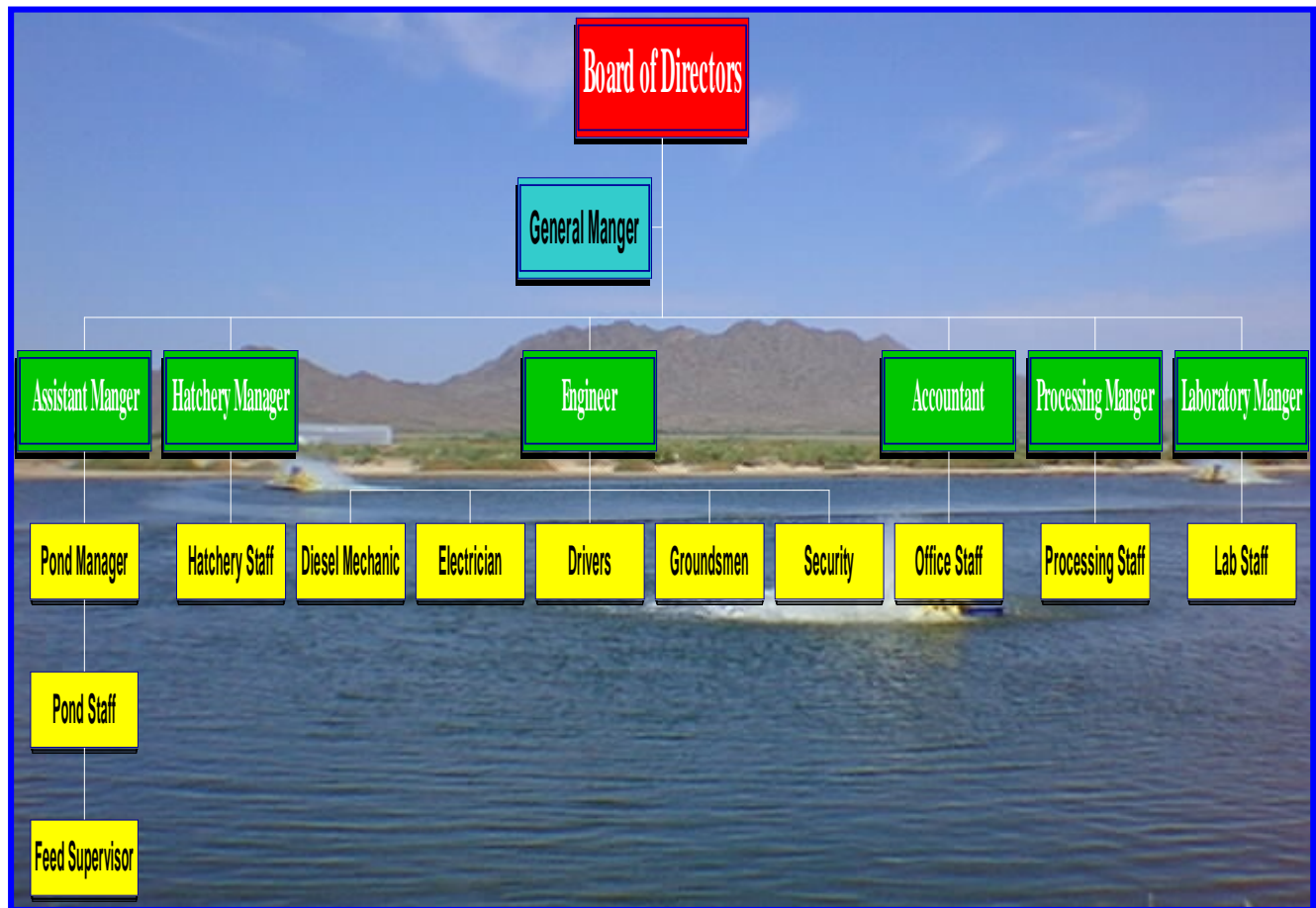
The company has had informal dialogue with WorldFish, and UNDP with a view to assessing the feasibility of farming beche de mer (in particular, the high value species Golden Sandfish) in the settlement ponds. Presently, the aquaculture of beche de mer is very much a developing science. One of the factors which has hindered the development of this science has been the availability of suitable ponds. The company intends to make its settlement ponds available for research purposes to WorldFish, UNDP, and the University of Papua New Guinea to work in a collaborative way for mutual benefit. WorldFish and UNDP have already expressed interest in taking up this offer. It is anticipated that this would lead to the supply of stock at no cost to the company. It will cost nothing to feed the beche de mer, as their diet is what remains in the water after the prawns have been harvested. As the growth period for beche de mer to market size is believed to be of the order of seven years, any cash flow from this activity is considered too remote for inclusion in the company's projections. It is also possible to grow milkfish in the settlement ponds at negligible cost. Financial projections do not include any anticipated income from this activity.

6.2 *Staffing*

When operational, Milne Bay Shrimp Farm will be organized into four functional areas:
Operations - (product sourcing/pond grow-out/harvesting/handling);
Hatchery - (broodstock/spawning/tank production/larval rearing/post larval rearing);
Processing (cleaning grading/sorting/freezing/packing/freighting/shipping)

Administration - (finance/accounts/sales/marketing);

Each section will be headed by a manager with the appropriate amount of subordinates. MBSF envisages that there will be approximately four expats employed with specialized skills in prawn farm operations. The remainder of MBSF's employees will be sourced from the local community.



6.3 Management Team and Technical Staff

Immediately after capital fund raising, it will be necessary to recruit experienced key personnel from overseas.

These would include, the General Manager, the Assistant General Manager, the Hatchery Manager, the Laboratory Manager, and a few technicians. Recruitment of staff will be timed so that appropriate training can be largely completed as construction ends and the hand over and working period commences.

Proper training is vital, as regular and thorough monitoring of the prawns themselves, as well as water quality and dissolved oxygen levels is imperative. Indeed, the frequency and detail of the monitoring can be likened to that of a hospital patient in intensive care.

It is expected managerial and technical staff will be recruited from Thailand. It is planned to use people from the surrounding villages for most of the routine work. Trades staff will be recruited from within PNG. The attraction of living in this area is expected to draw PNG trades people from other less desirable locations.

7.0 Proposed Marketing Strategy

7.1 *Pricing and Selling*

Black Tiger Prawn wholesale prices in the Asia Pacific region vary weekly according to movements in product supply and demand. Prices move in seasonal patterns: lower in the first half of the year and rising in the second half. Milne Bay Shrimp Farms' pricing strategy is to sell in the medium to high range.

Traditionally, market prices for sales tend to be static through the first half of a calendar year and rise in the second half.

Seasonal price fluctuations cause variation in sales revenues even when production levels remain constant. In addition, prices may be affected by trends in currency exchange rates.

Product will be aimed primarily at the Japanese market, assuming the Japanese market's price premium is maintained.

In Japan prawns of 35 grams average weight, or 29 per kg, are currently wholesaling at US\$15 per kg or approximately US\$0.52 per prawn. .

The Japanese publish the wholesale price weekly. The FOB price is established by deducting the commission, handling costs and shipping.

In Australia the wholesale market price for 30gram product, which sells for a lower price than 35 gram, is just over \$US 10 per kg.

The directors have established contacts with major retailers in Australia, and provided the product can be supplied regularly, to quality and in quantity, sales will be made direct. To establish the FOB price the handling costs and shipping are deducted.

7.2 *Promotion*

Prior to the first sales, the MBSF budget provides for 6 months pre-harvest marketing to establish the initial sales.

An ongoing provision of 1.5% of sales is included to market shrimp on an on-going basis.

7.3 Selling and Distribution Strategy

The plan is to produce 35 gram and larger prawns aimed at premium markets in Japan, East Asia and Australia. Initially only whole shrimp in either block or individually quick frozen form will be offered.

There is scope in due course to value add with the production of cutlets, breaded product and noribashi, for the Japanese retail market.

8.0 Projected Sales

Based on a farm gate price of \$US 10.00 per kg., which appears now to be very conservative, the margin is expected to be \$US 4 per kilo, to yield a net margin before tax of about 40%.

Estimated Revenue	\$US 21 million
Costs including amortization and depreciation	\$US14 million
Profit --pre tax [refer to detailed financial estimates]	\$US 8 million

8.0 Finances

Financial projections as at March 2007 have been prepared on the basis of receiving a commitment to the funding of K63.5M [USD20M] in March 2007, with all construction carried out as soon as possible after commencement of the project.

Full production is forecast to be achieved by February 2009.

In early 2006, Milne Bay Shrimp Farm Limited prepared a staged construction proposal. The costing from that proposal has been updated in this new proposal and includes a significant upgrade in the selection of sea water pumps as well as allowing for increased construction costs, while maintaining contingency allowances.

The commitment to the full project minimizes the risk and maximizes returns for the investors and the company.

Refer to annexure 1 and 2 for financial projections of profit and loss up to and including 2014.

9.1 Cash Flow Projections

Cash flow projections for years 2007 to 2015 are attached as annexure 3.1 to 3.9.

Dividend distribution, included in the cash flow, is annexure 4.

Provision for risk, included in the cash flow, is annexure 6.

10.0 Expected Input From Investors

FINANCIAL PROPOSAL

Milne Bay Shrimp Farm Limited (“the company”) has prepared this document for circulation only amongst persons whose principal business, or persons for whom a substantial part of business conducted by them, is the investment of money or who, in the course of and for the purposes of their business, habitually invest money. This class of persons is referred to herein as “investors”.

Information conveyed in this document is for prospective investors only, and is to be treated as commercial-in-confidence, and is not to be disclosed to any person other than for the purpose of receiving professional advice, or as compelled by law.

CAPITAL REQUIRED: 54 MILLION KINA FOR CONSTRUCTION
9.5 MILLION KINA FOR CASH FLOW

ONE MILLION REDEEMABLE PREFERENCE SHARES AT K63.50 EACH,
MINIMUM PARCEL 20,000 SHARES.

PROJECTED RETURNS AFTER TAX, DEPRECIATION AND AMORTISATION:

2009	37.37%
2010	40.47%
2011	39.33%
2012	38.80%
2013	39.10%

10.1 Invitation

The directors of Mine Bay Shrimp Farm Limited, invite you to join them in the dawn of a new industry in Papua New Guinea – the intensive farming of Black Tiger Prawns.

Please read the attached documentation carefully, and contact the company should you desire any further information.

The company’s financial projections prepared in early 2006 have been externally audited. The financial projections used in this business plan have been extrapolated and updated, however these figures have not been externally audited.

10.2 Finance Required

The company is seeking to raise the sum of K63,500,000 via the issue of one million redeemable preference shares at a price of sixty-three kina fifty toea per share, in a minimum parcel of 20,000 shares. The purpose of raising the funds is to enable the company to fully develop all stages of an environmentally sustainable prawn farm

producing premium quality Black Tiger Prawns⁵ (*Penaeus Monodon Fabricus*) to an average weight of 35 grams or greater per prawn using world's best practice. Product is intended for export, primarily to Japan. In due course the production of value added product such as cutlets, tempura, or *noribashi* will be considered. The project has the enthusiastic support of all levels of government.

All construction and product yield estimates for this project have been prepared conservatively.

10.3 Terms of Offer

REDEEMABLE PARTICIPATING PREFERENCE SHARES.

The company proposes to adopt a constitution, which permits the following steps to be taken, and to take those steps.

It is proposed to issue transferable redeemable preference shares (RPS) to investors, the proposed terms of the offer are as follows:

The company offers one million RPS for the sum of K 63.50 each, with a minimum share parcel of 20,000 for the sum of K1,270,000.

The earliest date upon which the company may redeem some or all of the RPS is the 1st of January 2014, and the final date upon which the company may redeem some or all of the RPS is 31st December 2019.

No dividend shall be payable in respect of the 2007 or 2008 years.

Subject to liquidity considerations and compliance with the obligations placed on directors in relation to the declaration of dividends, the company undertakes to have a payout ratio of 60% of after tax profits as dividends for the year 2009 and following.

As and from 2009, each RPS share shall be entitled to a guaranteed cumulative dividend of 8% p.a. The dividend for the 2009 year shall be payable by 30th April 2010, and similarly for subsequent years.

If in any year the company is unable to pay a dividend or unable to pay the full 8%, the unpaid amount shall be payable in subsequent years and any dividend arrears must be paid before any ordinary dividend can be paid.

If the amount of money available for payment of dividends in any given year is more than is required to pay the 8% p.a. to the holders of RPS, then that dividend shall be

⁵ Black Tiger Prawns are also known as Giant Tiger Prawns, Grooved Prawns, and Leader Prawns. They are the world's most widely farmed high value prawns and they are endemic in PNG waters.

paid. The balance of money available for payment of dividends shall be divided equally between each RPS and each ordinary share.

Redemption terms

The company can choose to redeem some or all of the RPS at any time after January 1 2014.

After January 1 2014, the company may redeem not less than 5% of the RPS then on issue at any one time.

Any unpaid dividends must also be paid when the redemption occurs.

Redemptions occurring in subsequent years shall be redeemed at a price based on the net asset backing of all shares (including ordinary shares) issued by the company as per the most recent audited balance sheet according to the following formula.

Net Assets

Total shares on Issue (both RPS & ordinary)

In the absence of a specific request from a RPS holder to redeem the RPS held, all redemptions of RPS will be pro-rata and apply to all shareholders. If a RPS holder requests an early redemption and the directors form the view that such redemption can be accommodated, then the company will seek the approval of the other holders of RPS to make a selective redemption in favour of that shareholder before proceeding to make the redemption.

If redemption has not been completed at the expiration of the term then the holder of the unredeemed RPS may exercise the following options.

To convert all or part of the holding into ordinary shares in the company at par. [I.e. a one for one exchange]

To convert all or part of the holding into mortgage debentures secured by a floating charge over the assets of the company, subject to any priority granted to any existing securities already issued by the company. The mortgage debentures shall have a term of not more than five years and will be entitled to interest at 2% above the prime rate for commercial loans specified on the 1st of February each year by the ANZ Bank. If no rate is published on that day the rate published on the preceding business day shall apply.

Until such time as all RPS have been redeemed, no further shares of any class will be issued in the company without the unanimous consent of RPS holders.

The company shall not undertake external debt other than for the purpose of redeeming all unredeemed redeemable preference shares unless all RPS holders have agreed to such external debt being undertaken for some other purpose.

In the event of the winding up of the company, the RPS shall be entitled to priority in repayment of capital, and to share equally with ordinary shares in the distribution of any surplus assets.

The rights provided by s. 37 of the Companies Act 1997 are negated unless specifically preserved or altered herein.

Holders of RPS shall only have the right to vote:

To nominate two people who shall, (subject to the approval in the absolute and unfettered discretion of the three directors elected by the ordinary shareholders) be appointed as directors.

On a proposal to dispose of the company's undertaking;

During the winding up of the company

The present directors of Milne Bay Shrimp Farm Limited are undertaking the securing of all necessary permits, licences and approvals required for the construction and operation of the project and before making the first call will warrant that all such permits, licences and approvals have been secured or will be secured and that no notice has been received to indicate that any such permit, licence or approval will be refused.

Whilst any RPS remain unredeemed, and subject to the existing pre-emption rights between the directors and existing shareholders, the existing shareholders undertake not to dispose of any shares in the company to a third party without offering the holders of the RPS the option to acquire the proposed sale shares.

Investors interested in accepting this offer should contact the company direct, to arrange appropriate documentation.

11.0 Key Success Factors (SWOT Analysis)

Strengths	<ul style="list-style-type: none">○ Integrated facility (hatchery, ponds, processing, laboratory, service, administration and residential).○ Disease free area with 6 knot NW to SE current.○ Perfectly clean water with required salinity levels.○ Modern, proven techniques.○ Use of HDPE liners in ponds and channels prevents contamination of sub-soils and allow quicker turn around of ponds.○ Strong community support. Maramatana Rural LLG is both lessor of the land and a significant shareholder in the company.○ Access to world best technical expertise.
-----------	--

	<ul style="list-style-type: none"> ○ At this latitude, 10° south, growth rates are consistent all year round. ○ Strongly supported by Provincial and National governments. ○ Scope for steady improvement in productivity and technology.
Weaknesses	<ul style="list-style-type: none"> ○ Remote area with limited social infrastructure (Alotau). ○ No reticulated facilities (power, communications, water and sewerage). ○ No all weather, sealed road access.
Opportunities	<ul style="list-style-type: none"> ○ Ability to produce value added product (cutlets, tempura and noribashi). ○ Shrimps can be grown to a larger size to suit specialized, high value markets. There are niche markets for shrimp weighing 50 – 60 g at significantly higher prices. ○ Growing beech de mer, milk and/or rabbit fish production in settlement ponds. ○ Use of palm oil in lieu of diesel to power plant. ○ Processing of other fisheries products. ○ Selling of post larvae from the hatchery to other establishments (national and international).
Threats	<ul style="list-style-type: none"> ○ Earthquake – mitigated as Earthquake Zone 4 which is the lowest rating under the PNG seismic zoning. Tsunami – mitigated by offshore islands, as Goodenough, Ferguson and Normandy Islands offer a natural barrier. ○ Possible, but unlikely Landowner disputation – mitigated as the MRLLG has signed a long term lease and associated Memorandum of Agreement, together with being a significant shareholder in the company. The site has been an agricultural lease since 1926. ○ Disease – mitigated by the adoption of world best practice procedures and sourcing feed products only from ISO and HACCP certified suppliers. ○ There is a very remote possibility of the introduction of disease by migratory birds. ○ Currency Risk - Sales will almost entirely be denominated in \$US and the principal costs are feed, expatriate salaries, equipment, spare parts, and fuel. All will be purchased in \$US. Therefore, currency risks are minimal. The PNG currency has shown a tendency over the last couple of years to firm against the US dollar. ○ Political Risk - The PNG government has specified export agriculture as a priority area for development and has recently made very significant changes to the taxation regime to encourage this type of investment. In the thirty-two years since independence not one business has been

	<p>nationalized or expropriated. Milne Bay Province is probably the most peaceful in PNG with a low level of crime and few if any tribal disputes. The national government and the provincial government are both parties to the Memorandum of Understanding entered into between the company and the Maramata Rural Local Level Government in relation to the project.</p> <ul style="list-style-type: none"> ○ Industrial Action - PNG has labour laws modeled on those of Australia, and the laws are enforced by the Department of Labour. None of the conditions are seen as particularly onerous. The employment of foreigners is restricted but these restrictions focus on protecting low skilled jobs for the local people. No problems are envisaged in securing work permits for skilled staff. The company, as a matter of self-interest, will sponsor students in appropriate courses and provide occupational training to its staff.
--	---

12.0 Possible Government Support

The project has also been developed in consultation with the Office of Conservation and Environment and the National Fisheries Authority, and it is not anticipated that there will be any difficulties securing final approvals once the final scale of the project is determined.

The MRLLG has signed a long term lease and an associated Memorandum of Agreement with the company to enable the project to proceed. The Milne Bay Provincial Government strongly advocates the project, which is also enthusiastically supported by the Prime Minister, Rt Hon Grand Chief Sir Michael Somare. In addition, the project has been publicly endorsed by the then Deputy Prime Minister Sir Moi Avei and members of the NEC.

It is considered that the current stable political and economic climates make the present an ideal time to undertake this venture. In addition, the viability of the project is strengthened by the tax reforms introduced in the 2005 budget, whereby new agricultural projects were granted a 10% tax rate for the first ten years, followed by 20% for the ensuing ten years, and dividend withholding tax was abolished for agricultural companies.

13.0 Contact Information

For further queries regarding the project, kindly contact the company through the following address and the contact details;

Milne Bay Shrimp Farm Limited,
PO Box 1528,
Port Moresby, NCD,
Papua New Guinea.

Telephone: International Access + 675 323 0928

Facsimile: International Access + 675 323 5736

Email: maguire@global.net.pg