

# Power Prawns

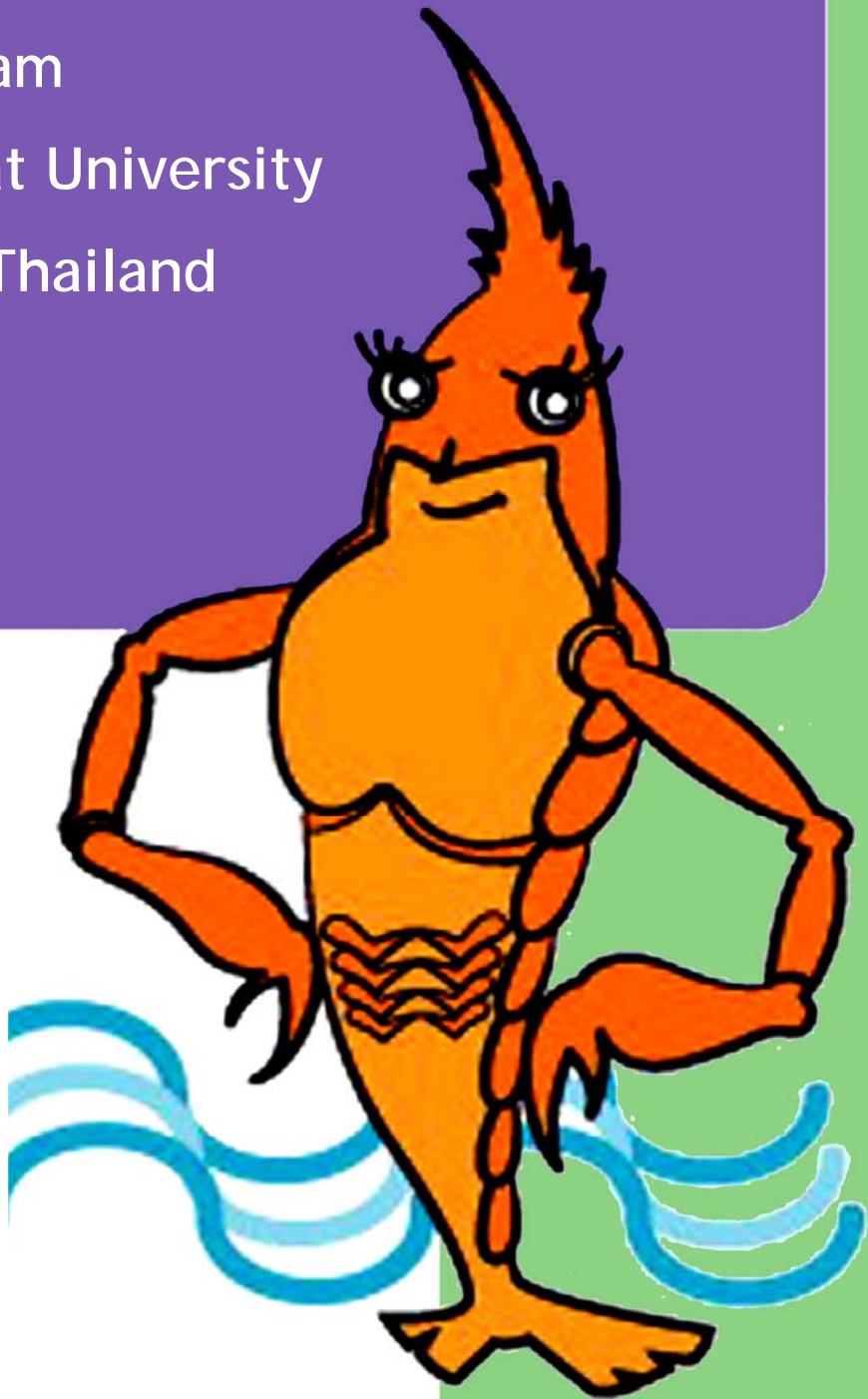
Power Prawns Producer Co., Ltd.

Business Plan

MIM Program

Thammasat University

Bangkok, Thailand



## Founders

Ms. Unyarat Pornprakit

Ms. Nattaporn Santhanawit

Ms. Janejira Champaiboon

Mr. Nattakorn Thamhatai

Mr. Pipat Srimattayakul

Ms. Noparath Ruammek

## Advisor

Mr. Bill Randall



Power Prawns uses proprietary technology to breed **100% all male** prawns that are

- larger size & higher price
- antibiotic residue free
- consistently supplied

### Thailand Prawn farming status



- Prawn farming is 3<sup>rd</sup> most important agriculture of Thailand, after Rice and Para Rubber.
- Though Thailand is one of the world's leading prawn exporters with 10% market share, still 80% of farmers are still using very traditional farming method.



- More than 98% Thailand's prawns exported are brine (marine) prawns while Freshwater prawns account only 2%, due to poor productivity problem. Power Prawns Producer Company will solve this problem.
- Standard & Poor's Risk Indicator 2007:

Thailand's rating is BBB+ (Medium Class, satisfactory at the moment)

#### Thai Measurement Unit

- Currency : 1 USD = 36 THB
- Area : 1 Acre = 2.5 Rai



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## 1.0 EXECUTIVE SUMMARY

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### 1.1 The Opportunity

Widely known for its tasty texture and large size, Freshwater prawn is one of the most sought after seafood. More than 400,000 tons<sup>1</sup> of Freshwater prawns, worth US\$ 6.9 billion<sup>2</sup>, are consumed annually. There has been consistent excess demand on prawn, and it is forecast to grow dramatically in the upcoming years. Growth over the decade has been steady at a healthy rate 27.4%<sup>3</sup>.

However, Thailand, formerly the world's leading prawn producer, is unable to satisfy this demand due to poor productivity problems. Thailand has incurred a US\$119 million annual opportunity costs during last 3 years, as its production fell 40% from 32,500 tons in 2003 to 19,700 tons in 2006<sup>4</sup>. Poor quality supply of baby prawns (broodstock) and poor farming practice resulted in lower yields. Typical broodstock results in large female populations (smaller in size, lower price), while poor broodstock can additionally result in weaker hatchlings often requiring banned antibiotics. These inconsistencies create the need for continuous and frequent partial harvesting over a 9 months period which is very operationally inefficient. During these years farmers switched to growing the smaller White shrimp, which at the time was unaffected by viruses, could full harvest every 3 months, offering a steadier revenue stream. Although a smaller upside, it provided steady and more reliable income. The farmers switch to White shrimp has created a huge gap in the supply of Freshwater prawns, both domestically and internationally.

### 1.2 Power Prawns – The Solution

With the proven success in Freshwater prawn broodstock development, Power Prawns Producer Company (PPP) was formed to commercialize and implement its cutting edge technology to improve Freshwater prawn farming efficiency. Through a surgical transsexual

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<sup>1</sup> Fisheries Global Information System: Macrobrachium Rosenbergii

<sup>2</sup> Rodale Institution, [www.rodaleinstitute.com](http://www.rodaleinstitute.com)

<sup>3</sup> Aquaculture Research, 2005, Michale Bernard New, European Aquaculture Society



breeding technique perfected by scientists at Kasetsart, Thailand's leading agricultural university, PPP has grown 500 "neo-female" prawns (baby males grown to be females) which can be naturally mated. Due to the chromosome pairings when mated, these neo-female prawns produce 100% male, virus resistant and pathogen free broodstock offspring. This technique is not GMO. It is merely a cross breeding technology producing normal prawns.

All male harvests are 3x larger in size, capture a 100% higher market price, grow faster (4 months vs. 9 months), and require harvesting in a single day. An average farmer using Power Prawn's broodstock will gain 134% additional yield compared to typical Freshwater prawn farming per year.

### **1.3 The Business Model, Operations and Marketing**

PPP will leverage its core competency on developed broodstock and fulfill the untapped Freshwater prawn demand under a "Multi-Party contract farming" model, which essentially equates "outsourcing" and renting existing farm and labor to grow Freshwater prawn using its unique broodstock. PPP has advantageous position in requiring minimum investment in assets as we will leverage the existing excess capacity of underused White shrimp farms and their existing staff. To date, PPP has successfully recruited 13 independent shrimp farmers and 1 shrimp farmer co-operative to raise Power Prawns. Marketing is also very efficient as there is existing unmet demand by exporters, and the fresh seafood exporters are easily identified and limited in number. PPP will make money by exclusively buying back the crop at predetermined price and resell this crop to seafood exporters at margins of 40%. To date, two major exporters have issued letters of intent to purchase (LOI) securing demand for 3,400 tons or US\$ 23.8 million annually from PPP.

### **1.4 Management Team Profile**

Power Prawn will also make a mark by applying professional management to what is typically an unsophisticated industry. In addition to a diversified management team with over 40

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<sup>4</sup> Thai Shrimp Association



years combined experience in supply chain, marketing, and engineering, the following key players are also key to PPP's opportunity:

- ▶ Ms. Noparath Ruammek, *CEO and Director of Operation*, 10 years experience in prawn industry with 5 years as an export manager for Andaman Sea Shrimp Farm. Her family owns a number of prawn farms.
- ▶ Dr. Wikrom Rangsin *Director of R&D*, 10 years experience in prawn industry in Thailand and additional 5 years research and development in prawn breeding and sex conversion. He has developed our core technology to improve broodstock quality.

## 1.5 The Investment Opportunity

Power Prawns Producer Co. founders have invested US\$300,000 to date in developing the marketing and final stage of Power Prawns Solution. PPP is seeking for US\$ 1.1 million in exchange for a 20% stake, and 50% investor's annualized return, to establish its first commercial hatchery located in Suphanburi province, Thailand.

Summary Financial Projection					
January 2008- December 2012					
(US \$'000)	2008	2009	2010	2011	2012
Revenue	5,185	13,378	25,480	39,102	52,942
Cost of Goods Sold	(3,253)	(8,172)	(15,445)	(23,631)	(31,939)
Gross Margin	1,932	5,205	10,035	15,471	21,003
	37%	39%	39%	40%	40%
Operating Expenses	(868)	(1,540)	(2,123)	(2,691)	(3,357)
EBITDA	1,270	3,881	8,149	12,935	17,801
Earning After Tax	684	2,566	5,539	8,946	12,352
	13%	19%	22%	23%	23%
Free Cash Flow	933	3,107	6,441	10,070	13,363

## 2.0 THE COMPANY

### 2.1 Background

Freshwater prawns are one of the most sought after seafoods in worldwide markets because of their plump meat and large size. Thailand, even as a leading producer, cannot meet the demand because of the disease sensitive species, and female dominated offspring which tend to be smaller and less valuable. Ms. Noparath Ruammek, CEO of Power Prawns Producer Co. (PPP) has been in the prawn farming industry for more than 10 years, when she





and her fellow graduate students at Thammasat University were introduced to Mr. Wikrom Rungsin and Dr. Prapansak Srisapoome, from the Faculty of Fisheries, Kasetsart University<sup>5</sup>. The two have developed a cutting edge technology to improve broodstock quality and, therefore, increasing prawn farming productivity. With Ms. Ruammek's experience and leverage on her current prawn farms, and the huge opportunity the technology presents in the lucrative prawn market, the group has formed a new venture partnership. PPP is being formed to leverage its competency on broodstock development through a contract farming concept. PPP is now seeking full investment to quickly capitalize on this opportunity.

## 2.2 Vision and Mission

PPP will integrate and dominate the prawn farming industry to become a world leading Freshwater prawn supplier through cutting edge broodstock management and prawn farming technologies. We are dedicated to superior yields and continuous supply of quality Freshwater prawns through use of modern technology and farming practices.

## 2.3 Key Accomplishments and Current Status

Over the last year PPP has made significant progress to bring the PPP's business model to market. Five years of research and proof of concept has been committed to the technology. In addition, key milestones in commercialization have included:

- ▶ **Created 500 virus free Neo-female prawns** in nursery ready to give birth to 8 million baby prawns by November 2007 which is sufficient to produce 3x our first year target revenue.
- ▶ **Signed commercial contract farming agreements** with:
  - *Samutsakhon province*, Tachin River Plain Shrimp Farmers Co-Operative: access to more than 10,000 acres and 350 GAP (Good Aquaculture Practice) certified shrimp farmers (see appendix IA).
  - *Nakornpathom province*, 13 GAP certified independent farmers in Bang Len district, equivalent 20 acres of prawn farming area (see appendix IB).

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<sup>5</sup> Kasetsart University is the leading university in Thailand specialize in agricultural research



- *Chachoengsao province*, Letter of intent with Bangpakong Shrimp Farmers Co-Operative, for 6.4 acres controlled farm.
- ▶ **Established a lease contract**, leveraging Ms. Ruammek's existing 4 acres indoor facilities for hatchery and 28 acres for nursery.
- ▶ **Established 2 letters of intent with key customers** for purchase agreements from two major shrimp exporters consuming 100% of our output for the first 3 years. *(see appendix II)*
- ▶ **Completed field research and market validation** with more than 40 White shrimp farmers and industry leaders. *(see appendix III)*

## 2.4 Ownership Structure

PPP projects to generate the first revenue in April 2008, 10 months after our funding in June 2007. The first 500 tons shipment has been pre-booked by Wales & Co Universe Ltd. Additional capital of US\$1,100,000 is required, while the founder-shareholders have contributed US\$300,000 in cash and non-billed pre-operating work.

Name	Ownership
Ms. Noparath Ruammek	18%
Ms. Nattaporn Santhanawit	10%
Mr. Nattakorn Thamhatai	10%
Mr. Pipat Srimattayakul	10%
Ms. Janejira Champaiboon	10%
Ms. Unyarat Pornprakit	10%
Mr. Wikrom Rangsint	16%
Dr. Prapansak Srisapoome	16%

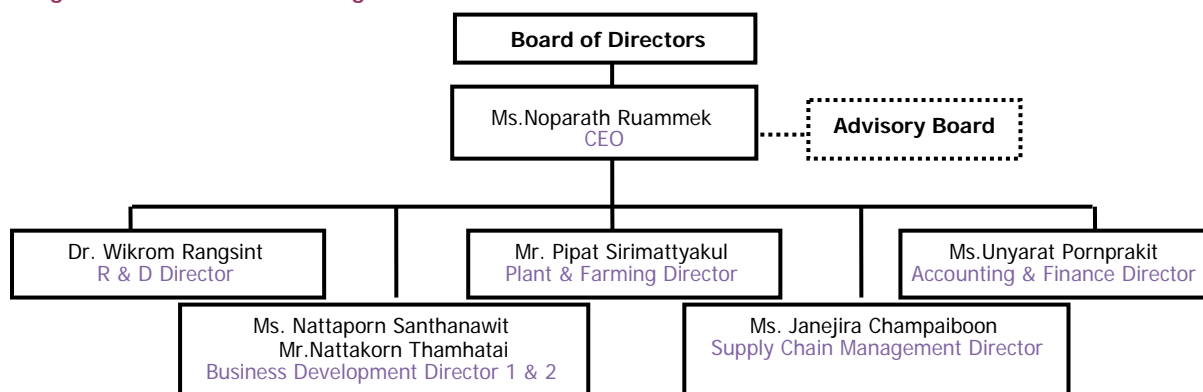
Figure1: Current Ownership Structure

## 3.0 THE PEOPLE

### 3.1 Management Team

A large part of the Prawn farming sector has traditionally been unsophisticated and a very segmented industry. PPP plans to bring a new dimension of professional management, supply chain, technology, and marketing to create a strategic competitive advantage. We have put together key players to dominate the research and technical side through our partnership with the leading scientists from the sector.

Figure 2: Power Prawns Management Team



Name / Position	Degree	Experience
<b>Ms. Noparath Ruammek</b> <i>CEO and Director of Operation</i>	<ul style="list-style-type: none"> <li>MSc in Marketing</li> <li>BBA (International Business)</li> </ul>	<ul style="list-style-type: none"> <li>5 years Export Manager, Thai-Myanmar Shrimp Farm</li> <li>2 years Black Tiger Shrimp Farming</li> <li>5 years Project Coordinator, Andaman Deep Sea Port in Myanmar</li> </ul>
<b>Mr. Pipat Sirimattayakul</b> <i>Plant &amp; Farming Director</i>	<ul style="list-style-type: none"> <li>MSc in Marketing</li> <li>B. Eng (Telecom)</li> </ul>	<ul style="list-style-type: none"> <li>3.5 years RF Engineer, MYCOM International</li> <li>1 year Business Development Executive, TRUE MOVE</li> </ul>
<b>Ms. Nattaporn Santhanawit</b> <i>Business Development Director 1</i>	<ul style="list-style-type: none"> <li>MSc in Marketing</li> <li>BA in Economics</li> </ul>	<ul style="list-style-type: none"> <li>4 years marketing and sales with multinational companies and state enterprises.</li> <li>1 year managing rep office for an international airlines</li> </ul>
<b>Mr. Nattakorn Thamhatai</b> <i>Business Development Director 2</i>	<ul style="list-style-type: none"> <li>MSc in Marketing</li> <li>BBA (Marketing)</li> </ul>	<ul style="list-style-type: none"> <li>3 years Key Account Executive, Thai SAMSUNG Electronics</li> <li>3 years Group Accounts Manager, Philips Electronics</li> </ul>
<b>Ms. Unyarat Pornprakit</b> <i>Director of Accounting &amp; Finance</i>	<ul style="list-style-type: none"> <li>MSc in Marketing</li> <li>BBA (Accounting)</li> </ul>	<ul style="list-style-type: none"> <li>2 years Accounting and Audit, Price Waterhouse Coopers</li> <li>4 years General Manager, "Jubilee", largest karat diamond retailer in Thailand</li> </ul>
<b>Ms. Janejira Champaiboon</b> <i>Supply Chain Management Director</i>	<ul style="list-style-type: none"> <li>MSc in Marketing</li> <li>B. Eng (Electrical)</li> </ul>	<ul style="list-style-type: none"> <li>1 year in New Product Development, EFFEM Thailand Inc.</li> <li>4 years in Marketing assistant at EFFEM Thailand Inc.</li> </ul>
<b>Dr. Wikrom Rangsint</b> <i>Director of R&amp;D</i>	<ul style="list-style-type: none"> <li>MSc in Zoology, Kasetsart University</li> </ul>	<ul style="list-style-type: none"> <li>10 years experiences in Prawn Industry in Thailand</li> <li>5 years research and development in prawn sex conversion (Neo-female Project)</li> </ul>

### 3.2 Advisory Board

- ▶ **Dr. Chalor Limsuwan**, Most noted professor and researcher in the Thai shrimp industry. More than 25 years experience in the shrimp industry, having published more than 250 related articles.
- ▶ **Dr. Niti Chuchird**, Thailand's leading shrimp virus and shrimp breeding improvement expert. His strong technical background will help PPP in R&D activities.
- ▶ **Mr. Somsak Maneetayasai**, President of Thai Shrimp Association. His 20 years of experience in aquaculture export, together with fruitful connections make him a key opinion leader. His reputation will endorse PPP.

## 4.0 THE PRODUCT

### 4.1 Background

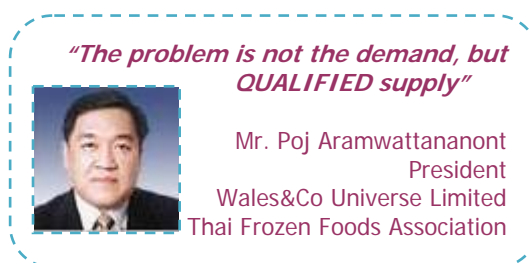
There has been a consistent excess demand for Freshwater prawns. However, Thailand's Freshwater prawn production has fallen 40%, from 32,500 tons in 2003 to 19,700 tons in 2006. Farmers have typically failed in the Freshwater segment because of poor yields from female dominated ponds. Farmers have shifted to grow alternative shrimp products which grow faster while others have gone out of business.



### 4.2 The Problems in the Prawn Industry:

#### The Customer's Problem (Demand side):

There is currently a supply shortage for

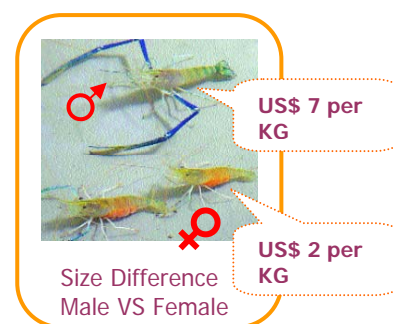


Freshwater prawns, even for domestic markets. Mr. Poj Aramwattanaont, President of Wales & Co Universe Ltd., Thailand largest shrimp exporter and the President of Thai Frozen Food Association states, *"The problem is not the demand, but consistent qualified supply offered with antibiotic residue tolerance which is required by buying countries. For any exporter, having another product offering, other than White Shrimp and processed food, is a huge advantage."*

#### The Farmer's Problems (Supply side)

**1. Problems from mixed gender:** male and female prawns mixed within the same pond creates 3 main problems:

- *The Gender Size Problem:* 60% of all prawn offspring farmed are female. They are naturally smaller and on average are sold at least 70% lower in price per kilogram than males.
- *Slow growth of male:* naturally, male prawns fight over females, causing slow growth. It takes up to 9 months to completely harvest the crop.





- *Partial harvest:* Farmers first pick out the smaller *female* prawns at the 5<sup>th</sup> month, leaving *male* prawns to continue growing with subsequent monthly harvests until the 9<sup>th</sup> month. These interim harvests disturb sediment at the pond floor, spreading bacteria, and killing prawns. Banned antibiotics are used to offset the problem, however, it results in non compliance to export standards.

Having 100% males (mono-sex) is the “ideal” of all prawn producers. Prawn producing countries have tried to come up with mono-sex manual selection methods, with no success to date. The result – failing prawn farmers were forced to switch to raise White shrimp, easier to grow and more frequent harvest, though the price per kilogram is 50% lower than male Freshwater prawns and less upside.

## **2. Poor farming practice:**

- *Prawn Virus Outbreak:* Farms have no quarantine policy or virus detection practices to protect prawn breeds. In 2003, two prawn viruses, MrNV and Extra Small Virus (XSV) infected prawns, and produced weak babies, having very low survival rates, dropping from 80% to 30% in the nursery stage.
- *Virus resilience age:* Typical prawn farmers seed and cultivate prawns just beyond post larva stage. At this stage, prawns are vulnerable to virus capable of killing post larval babies.

## **4.3 The Solution – PPP’s Freshwater Prawns**

**With PPP’s core competencies,** we will solve both Demand and Supply problems through PPP’s all male high quality broodstock (Power Prawns’ Broodstock) and our farm management systems.

### **1. PPP’s all male high quality broodstock (Power Prawns’ Broodstock)**

Through PPP’s proprietary technology, all male high quality broodstock results in;

- *Higher yield* - 134% higher weight yield or US\$ 372,480 per year<sup>6</sup> higher revenue than standard freshwater prawn farming. Male prawns are typically 3 times larger than female and get more than 70% higher market price.
- *Faster Growth Rate* – With no female distraction, male prawns grow faster and will be ready for harvest in 3 months after ponds are seeded with broodstock.

**How do we create our unique 100% male broodstock?**

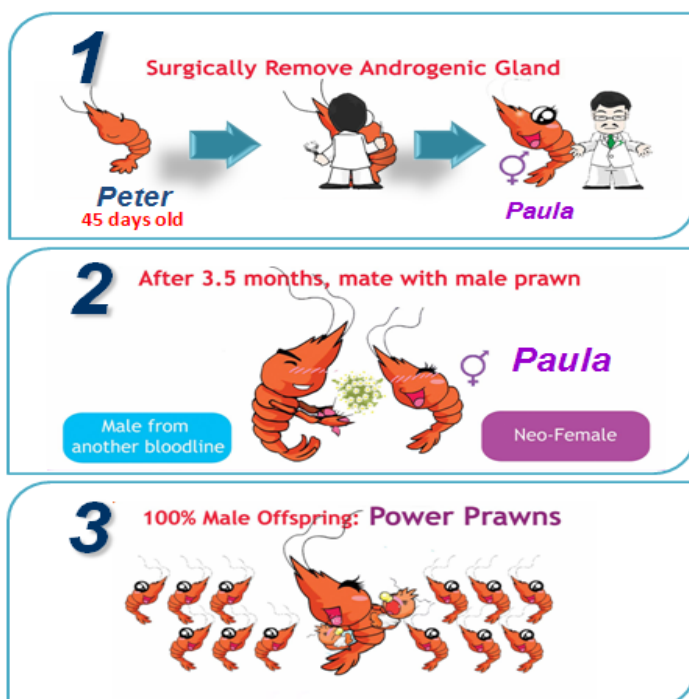


Figure 3: Sex Conversion Operation

### PPP's Technology

Mr. Wikrom Rungsint, a member of PPP's founding team, perfected a proprietary surgical procedure, whereby the androgenic gland (male hormone production gland), of a virus free 45-day baby male prawn is

removed. Lacking the male hormone the fully grown prawn becomes an egg producing "Neo-Female". Due to the chromosome crossing of a Neo female and normal male, the resulting offspring will be 100% Male (see appendix VI). This is not GMO. In addition, hormone based gender selection technologies are well accepted in seafood, especially fish such as: rainbow trout and tilapia.

One female prawn can give birth to 560,000 babies each year, worth 35.84 tons, and \$250,000 in prawn export value.

## 2. PPP's farm management system

Professionally managed, PPP will outsource the prawn cultivation to our selectively

<sup>6</sup> Base on 8-acre production

contracted farmers who will be strictly controlled according to PPP's standard. Monitoring all critical aspects of the cultivation process will ensure both maximum utilization of the broodstock's unique characteristics and minimizing production variables. Comparing to typical broodstock, Power Prawns has advantages in many aspects as shown in Figure 4.

	Power Prawns (all male)	Typical Freshwater Prawn	
		Male	Female
Output Yield (KG)	78,000	21,360	12,000
		33,340	
Market Price (USD)	\$ 7	\$ 7	\$ 2
Revenue (USD)	\$ 546,000	\$ 149,380	\$ 24,000
		\$ 173,380	

Figure 4: A comparison of Freshwater prawn farmer's average annual revenue yield using "Power Prawns vs. Standard broodstock"

### How PPP can make money?

PPP's customers are seafood exporters. PPP's broodstock production (breeding, hatching, and nursing) is to be done in-house. PPP's cultivation process will be outsourced to selectively existing White shrimp farmers. This outsource process, so-called contract farming, has three steps:

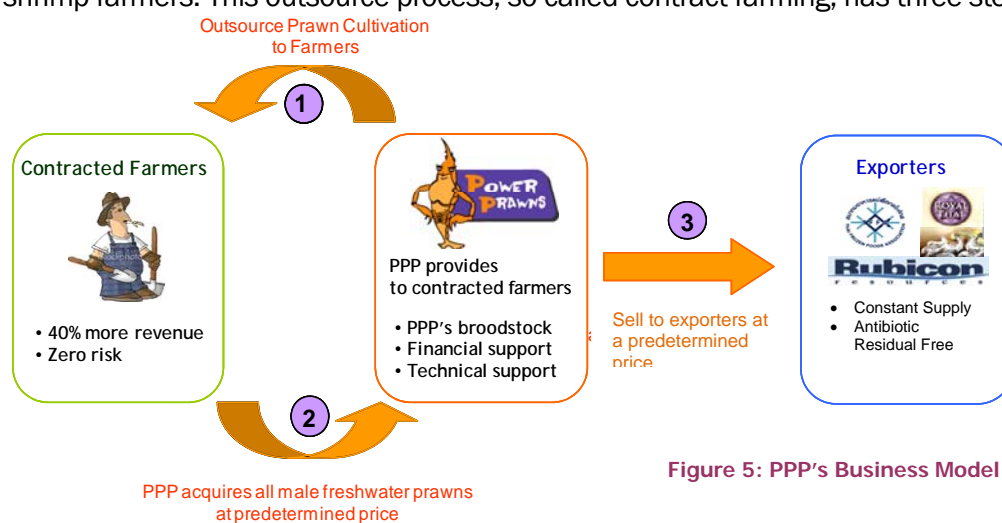


Figure 5: PPP's Business Model

**1** PPP recruits prawn farmers to enter our contract farming program – as PPP's outsourcing. Power Prawns' all male broodstock will be supplied by PPP and the contractors will raise them under PPP's close supervision and developed guidelines.

**2** When the prawn crop is ready to be harvested, PPP will exclusively acquire the crop at predetermined *White shrimp's* price. The converted White shrimp farmers have eagerly engaged in the program where we pay them 20% higher price/kg than they normally would have made with their own White shrimp crop. PPP's advanced expenses (feed and broodstock cost) will be

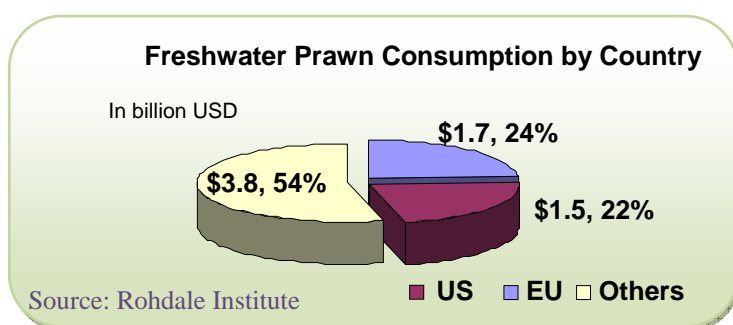
redeemed by deduction from sales amount. Through our system, plus additional yields, contract farmers that converted to Power Prawns will make 40% more revenue per year by partnering with PPP than their existing White shrimp operations.

**3** PPP will consolidate the prawns from its various contractors, and sell the accumulated crop to exporters at standard *Freshwater prawn's* price which is 70% higher than the acquired price paid to farmers.

## 5.0 INDUSTRY AND COMPETITION

### 5.1 Industry<sup>7</sup>

In 2006, world's prawn production (farming) reached US\$36 billion<sup>8</sup>. The market is categorized by prawn species. Major categories are Black Tiger shrimp, White shrimp and Freshwater prawn. Freshwater prawns global market consumption is worth US\$ 7 billion,



20% of total shrimp farming value.

Major consumption of Freshwater prawns comes from European Union and the United States, and keeps rising every year at 27.4%<sup>9</sup>

per annum. 83%<sup>10</sup> of these countries' consumption is imported. Thailand used to be the world's major supplier of Freshwater prawns with export volume of 11,300 tons in 2003 until 2006 when only 6,900 tons were exported due to productivity problems. Currently India is the world largest exporter of Freshwater prawns, at 42,000 tons to the world market last year.

### 5.2 Competition

<sup>7</sup> National Food Institution (Thailand), 2002

<sup>8</sup> Thai Shrimp Magazine

<sup>9</sup> Aquaculture Research, 2005, Michale Bernard New, European Aquaculture Society

<sup>10</sup> Mississippi University Coastal Research





Prawn Farming in Thailand: Harvesting

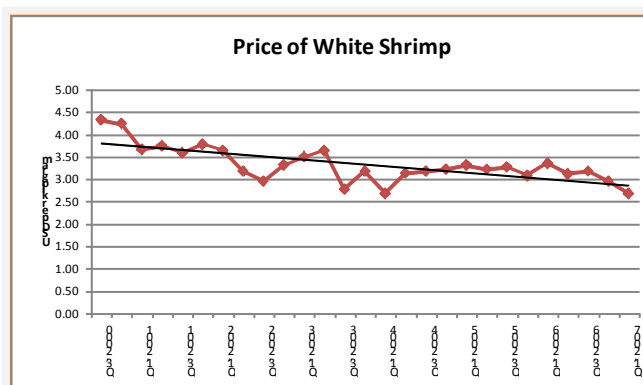
PPP is competing with the remaining Freshwater prawn producers which are fragmented independent farmers. Traditional prawn farmers are typically unsophisticated, they normally raise the prawns in natural ponds just after broodstock has passed the post larva stage. At this age

they are very vulnerable to virus infection, resulting in an average of 60% compared to 90% survival rate of Power Prawns. The only method known for cultivating all male prawns in farming is manual selection which is very labour intensive and time consuming. This practice is very rare, found with some farmers in India and Thailand, and this method itself is only 70% accurate (i.e. many females still remain).

## Trends

► **Government Regulation:** The Thai Government has prohibited brine (saltwater) based shrimping (i.e. White & Black Tiger shrimps) in freshwater areas<sup>11</sup>, as the drain from salt ponds deteriorates soil and poses a threat to other agricultural sectors. This creates a huge opportunity of more than 10,000 ponds in this area that will either be closed or made available for PPP for favourable contract farming terms. To abide by the law, these farmers are forced to raise White shrimps in brackish water (less than 5 parts per thousand of salt vs. water) which leads to lower yield, (10 tons yield per acre in standard salt water vs. 2.5 ton per acre in brackish water).

► **Eroding price of White shrimps:** Farmers who raise White shrimps are facing price erosion. White shrimp has become the main export prawn product for China, Vietnam, Ecuador and Thailand. Supply of White shrimps has been growing annually.



Source: Mississippi University Coastal Research

<sup>11</sup> Mr. Somsak Maneetatasai, President of Thai Shrimp Association (refer to Article 9)

## 6.0 MARKETING AND SALES STRATEGY

### 6.1 Marketing Objectives

PPP's demand is

secured with

letters of intent

from our exporters

at 3,400 tons per

year. With the current 13 contracted farmers, and our production capability of broodstock,

PPP's operational target is established at 747 tons in year 1. By year 3, we will expand to 59

contracted farmers to fulfill the demand from Wales & Co Universe Limited and Thai Royal

Frozen Foods Co., Ltd.

PPP's Marketing Objectives	Year				
	2008	2009	2010	2011	2012
Volume Sold (Tons)	747	1,835	3,328	4,864	6,272
Revenue ('000 USD)	\$ 5,185	\$ 13,378	\$ 25,480	\$ 39,102	\$ 52,942
Selling Price per ton (USD)	\$ 6,944	\$ 7,292	\$ 7,656	\$ 8,039	\$ 8,441
Number of farmers required	18	37	59	80	98

**Note:** The capacity of our contract with Tachin River Plain Shrimp Farmers Co-Operative alone is *more than sufficient* for the targeted revenue through year 5.

### 6.2 Market size and segmentations

**Segmentation:** Freshwater prawns market in Thailand Y2006 was 19,700 tons worth

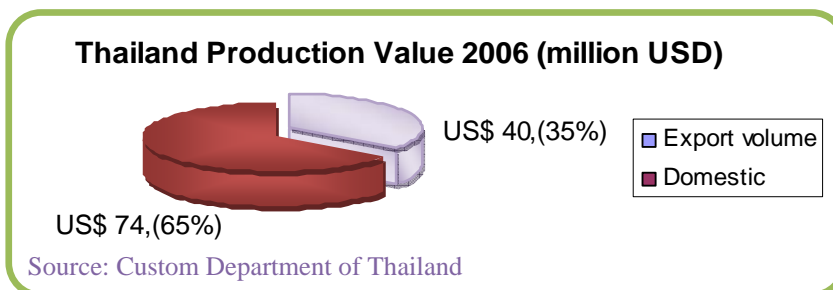
US\$ 114 billion which can be segmented into 2 key areas

- Domestic market: This is 65% of total market. This market is very fragmented where most prawns are sold alive directly to fresh markets scattered throughout the country.

- Export market: This is 35% of total market.

There are about 100 exporters in Thailand.

Prawn exported market



is dominated by the top 5 players which are Wales & Co Universe Limited, Charoen Pokphand Foods Public Co., Ltd. (CPF), Thai Union Frozen, Union Frozen Food and Thai Royal Frozen. Exporters typically buy fresh prawns kept in ice containers from the farmer for further processing.

## Target Market

The initial target market of PPP is the export segment due to the following reasons:

1. Customers are clustered, easily identified and require minimum logistics.
2. Exporters are systematic in their operations, using forward contracts to lock in pricing
  - beneficial to all parties involved.

2 out of top 5 exporters issued the letter of intent to purchase from PPP. The LOI PPP received from Wales & Co Universe Limited and Thai Royal Frozen worth 3,400 tons per annum or US\$ 23.8 million.

## Growth and Marketing beyond Yr 2

Thailand has faced the supply shrinkage since 2003, being replaced by India as the new leading exporter. PPP will extend its marketing vertically up the channel, communicating directly with US and European importers, as well as large channel buyers (Chain restaurants and Seafood Distributors). We will reach them through key food shows and trade meetings such as the Boston Seafood Show or European Seafood Exposition.



## Other upside potential

The Current operation model is based on using only 35% capacity of the business facilities. Significant increases of revenue can be achieved with no additional financial resources. PPP can also look at the potential to expand production into neighboring countries using similar contract farming practices that have tariff and tax advantages such as Vietnam.

## 7.0 OPERATION STRATEGY

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According to the business model, PPP will produce all male prawn broodstock and outsource the cultivation to contracted farmers. The harvested prawns will then be sold to exporters. The operation is divided into 2 parts.

## 7.1 Supply Side Operation

**7.1.1. Broodstock Production:** The core element of the PPP's business model is the raising of quality broodstock for distribution to our contracted farms. Simply put, we mate and hatch all male offspring from our Neo-Females, and then all hatchlings are entered into a separate nursery pond for 25 days. The male broodstock (baby prawns) will be sent to our contracted farms to be introduced to the ponds and raised.

- **Hatching Facility:** Power Prawns Producer will lease a pre – existing facility in Suphanburi (120 km from BKK) including 4 acres of hatchling ponds through our CEO's existing prawn business at a rate of US\$ 1,390 per month. 4 acres will be used to perform the aquaculture surgical procedures, breeding, hatching, and administration of Power Prawns. The current layout and facilities complies with GAP (Good Agriculture Practice) and CoC (Code of Conduct). US\$ 500,000 has been allocated for basic technology improvements for a fully self contained functional facility. The location is extremely well positioned in the heart of key prawn farming areas. (see appendix V)



- **Broodstock Production Staff:** The estimated number of staff is based on production capacity which will be increased from year to year. For Year 1, we will need approximately 21 people as shown in table below.

Number of Employees	Year 2008	Year 2009	Year 2010	Year 2011	Year 2012
Hatchery & Nursery Staff	5	10	16	21	25
Surgeons	1	2	2	3	3
Lab Staff	3	4	4	5	5
QA staff	3	5	8	11	13
MGMT & Admin	9	10	10	12	12
<b>Total</b>	<b>21</b>	<b>31</b>	<b>40</b>	<b>52</b>	<b>58</b>

Figure 5: Production and Operation Staff

Our production and operation divisions demand the most staffing being responsible for the core hatcheries activities of Power Prawns.

**7.1.2. Contract Farming:** PPP will outsource the prawn cultivation to our contracted farms that qualify the GAP and CoC standards, where labor, facilities and supplies are 100% outsourced, requiring only feed supply to be provided by PPP. PPP will target White shrimp farmers in central region of Thailand since they are facing problems with low productivity and the regulation that

prohibits brackish shrimp farming in the area. PPP will acquire the feed from the suppliers who have been working closely with our CEO over the years. This provides the highest leverage on our core competency. The ponds are seeded with our hatchlings raised at the contracted farms for another 3 months before being harvested and delivered back to us under pre-contracted rates.

- ▶ **Farm Location:** The location of the contracted farms will be divided into 3 geographical areas in the central part of Thailand: Bang Len, Tha Chin (Tha Chin Cooperative consists of 350 farmers) and Bangpakong (Bangpakong Cooperative consists of over 700 farmers). This separation helps diversify any regional environmental risks. During the 3-month period, our farm staff will maintain supervisory relationships with the farmers to ensure that the productivity and proper farming practices are taking place.
- ▶ **Monitoring System:** PPP will employ a Farm Monitoring Software (see appendix IV) developed by Shrimp Network Co., Ltd. for contract farming practices. Through this software, PPP will be able to control feed supply to our contracted farmers, estimate prawn volume in each farmer's pond and forecast our Freshwater prawns supply to exporters. Our farming staff will visit the contracted farms weekly to monitor the condition of the farms as well as give support to farmers if needed.

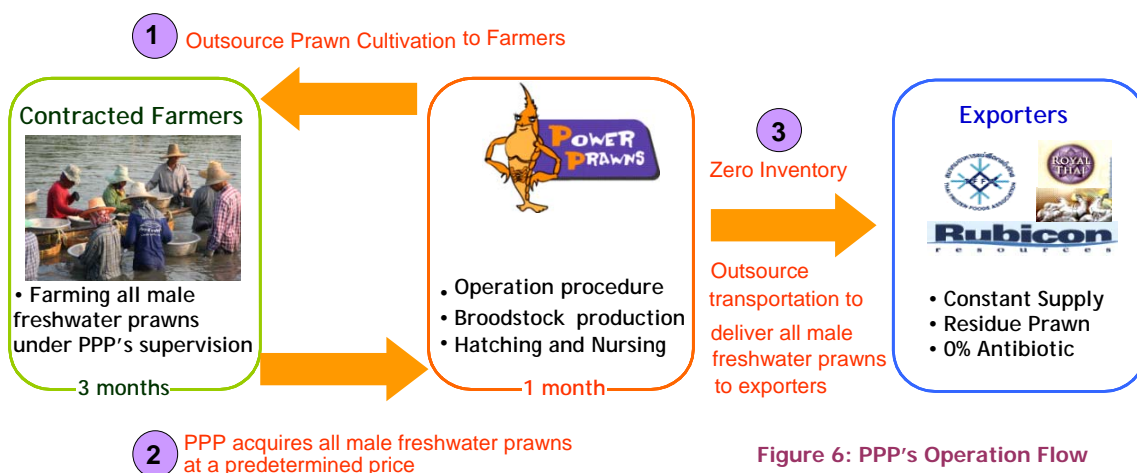


Figure 6: PPP's Operation Flow

## 7.2 Customer Interface Operations

**7.2.1 Logistics:** PPP will deliver all male prawn broodstock from the hatchery to the contracted farms, and then deliver the harvested prawns to the exporters using an



outsourced transportation company. For international delivery, the exporters will be responsible for the transportation management as commonly practiced in the industry.

**7.2.2 Inventory Management:** PPP will not hold any inventory as the all male prawns will be delivered directly from the contracted farms to the exporters.

### **7.3 Research and Development**

Broodstock development is truly an ongoing and endless R&D effort. Together with all the key research professors from the Faculty of Fisheries, Kasetsart University, both our shareholders and our advisors in the Advisory Board, we will continue working on Research and Development on our products and farming practices. Data collected from our farming management software will be used to support future R&D.

## **8.0 RISK MANAGEMENT**

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### **8.1 Contracted Farms' Harvest Failures:** Potentially caused by:

1. *Natural disaster:* PPP diversifies disaster risk by having 3 locations in central freshwater areas. To date, PPP has already established legal contracts with 350 farmers in 2 provinces, Nakhonphatom and Samutsakorn.
2. *Poor farming practice:* farmers will be closely monitored by PPP in subsequent crops. Losses will be credited to PPP against the second harvest revenues. PPP is able to withstand failure up to 44% of total volume production.
3. *Virus outbreak:* Power Prawns is introducing PCR virus scanning and prevention methods. We will breed and raise prawn broodstock in a controlled environment for 45 days until post larva stage, where freshwater prawns are not susceptible to deadly virus. Even with virus infection present, prawns can still yield reasonable return. Prawn's viruses are harmless to human, and infected prawns are commonly exported and sold in U.S.

**8.2 New Competitors:** PPP May see new competitors with Male Broodstock Production capabilities. However, demand for Freshwater prawns in both domestic and international



markets is significant and growing at 27.4% annually. This is sufficient to accommodate new players over the next 5 years.

### 8.3 Intellectual Property

PPP has erected barriers to protect the company from competitors. First, we have complete control over the surgical procedure technology and the most critical element of the farming, the broodstock. No outsiders have ever been successful in replicating the surgery. Any new comer will take several years to build a sufficient stock for mating. We will control 100% of our broodstock for our own use. Second, we are in the process with our legal advisors, Rouse & Co, to develop Patent on the surgical process, under company's name.

**8.4 Relationships with key industry figures:** We have partnered with the key influential players of research and commerce in the Thai prawn industry. The strength of relationship with the industry will be a very strong barrier to competitors.

## 9.0 FINANCIAL HIGHLIGHTS

### 9.1 Financial Overview

Summary financial projections, cash flow projections, supplementary financial information and selected balance sheets are detailed below. A complete five-year spreadsheet and assumptions used in compiling the financial projections can be found in Appendix VII.

Summary Financial Projection					
January 2008- December 2012					
(US \$'000)	2008	2009	2010	2011	2012
Revenue	5,185	13,378	25,480	39,102	52,942
Cost of Goods Sold	(3,253)	(8,172)	(15,445)	(23,631)	(31,939)
Gross Margin	1,932	5,205	10,035	15,471	21,003
	37%	39%	39%	40%	40%
Operating Expenses	(868)	(1,540)	(2,123)	(2,691)	(3,357)
EBITDA	1,270	3,881	8,149	12,935	17,801
Earning After Tax	684	2,566	5,539	8,946	12,352
	13%	19%	22%	23%	23%
Free Cash Flow	933	3,107	6,441	10,070	13,363



## 9.2 Sensitivity Analysis

Although PPP deals in agricultural business where price fluctuation is its nature, PPP's business model mitigates this risk by using predetermined price on both customer's end and farmer's end. This practice is already the industry's norms. However, the sensitivity analysis below indicates that PPP's financial projection is still robust against the increase and decrease of our revenue's components. The business can tolerate the following situations and maintain a positive NPV or NPV 0 at 45% discount.

Sensitivity Analysis			
Conditions	Increase	Decrease	NPV
Sales Volume		78%	0
Cost of Goods Sold	46%		0
Selling Price		28%	0

## 9.3 Breakeven Analysis

PPP will breakeven on cash from operations in 13 months (August 2008) with sales of US\$ 2,222,000 at 320 tons of prawns.

Breakeven Analysis	
Cash from Operations	13 Months
Breakeven points (USD'000)	2,222
Breakeven points (tons)	320

## 9.4 Exit Strategy

The most likely harvest strategies will be an Initial Public Offering (IPO) or sale to one of the larger domestic agricultural conglomerates. The projected enterprise value for the 5<sup>th</sup> year is US\$ 87.84 million. As this business is also very cash rich with little reinvestment in infrastructure, a favorable dividend policy could be set if it is in the interest of our investor.

Exit Strategy	
Projected 5th FY Enterprise Value	(USD \$'000)
Projected 5th FY Net Income	17,801
Valuation Multiple (P/E ratio)*	3
Sub total	53,402
Adjustment: Cash	34,434
Projected 5th FY Enterprise Value	87,836

\* Based on Stock Exch. Of Thailand P/E of 7 for agricultural industry avg. 2007 adjusted to 3 for risk premium

## 10.0 FUNDS REQUIRED AND OFFER

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PPP requires US\$1.1 million from outside investors to capitalize the business to meet the needs of the plan. The founders have contributed US\$ 300,000 in cash and non-cash activities. Investors will receive 20% of common stock and 2 of 5 board seats, which would result in 50% annualized return. We have used this as a benchmark but are also open to alternative preferred shareholding structures to be negotiated. Uses of funds are illustrated below. If all financial projections are met, the project's IRR will be 181% with a NPV of US\$ 11.37 million based on projected free cash flow.

Uses of Fund		
Uses of Fund	Amount	% of Funds
Hatchery and Nursery facility and equipment	600,000	55%
Working Capital and Operating Expenses	320,000	29%
Marketing and Selling Expenses	180,000	16%
Total	1,100,000	100%




## APPENDICES

Appendix I:	Contract Farming Agreements
Appendix II:	LOI of exporters
Appendix III:	Field Research
Appendix IV:	Shrimp Network Software
Appendix V:	Farm Standards
Appendix VI:	Chromosome Crossing Map
Appendix VII:	Financial Statements
Appendix VIII:	Gallery

## Appendix I: Contract Farming Agreement

### A: Contract signed with Co-op

 **สหกรณ์ผู้เลี้ยงกุ้งก้ามกรามทำนบกิ่ง**  
เลขที่ 196-58-59 อ.บ้านแพ้ว - พะนาโน หมู่ที่ 1 อ.บ้านแพ้ว อ.บ้านแพ้ว จ.สมุทรสาคร 74229  
โทร. 0-3448-9727 แฟกซ์ 0-3448-9990 E-mail : tachernplatecoop@yahoo.com

ที่ สทท.048/2550

20 กุมภาพันธ์ 2550

เรื่อง แสดงความจำนในการเข้าร่วมโครงการ Contract Farming

เรียน คุณ ณัฏฐกร ชรรพทอ  
คุณ ณัฏฐกร พรประภค  
บริษัท Power Prawns Producers Co., Ltd

ตามที่ท่านและเจ้าหน้าที่จากบริษัท Power Prawns Producers ได้มาเสนอ  
เทคโนโลยีการผลิตกุ้งก้ามกรามปลอดไวรัสและเป็นมิตรกับสิ่งแวดล้อม รวมถึงแนวทางการขาย  
ธุรกิจภายใต้รูปแบบ Contract Farming นั้น ทางกลุ่มสหกรณ์ฯ ได้เล็งเห็นถึงความ  
น่าสนใจของโครงการทางธุรกิจจากการเข้าร่วมโครงการ

ปัจจุบัน กุ้งก้ามกรามเป็นกุ้งที่มีราคาดี มีตลาดทั้งในและต่างประเทศรองรับ แต่  
เนื่องจากปัญหาด้านไวรัส ความเสี่ยงต่อการตรวจพบยาปฏิชีวนะตกค้าง รวมถึงความ  
ยากของการเลี้ยง จะและเวลาที่ใช้ในการเลี้ยงกุ้งยาว ทำให้มีเกษตรกรผู้ทำการเลี้ยง/กุ้ง  
ก้ามกรามส่วนใหญ่ไม่ประสบความสำเร็จในการเพาะเลี้ยงเท่าที่ควร และลดจำนวนลง  
เรื่อยๆ จนทำให้การใช้กุ้งก้ามกรามในการแปรรูปและการแปรรูปกุ้งก้ามกรามจาก บริษัท Power  
Prawns Producers ไม่สามารถแก้ปัญหาได้เท่าที่ควร และช่วยเพิ่มประสิทธิภาพในการ  
ผลิตให้กับกลุ่มเกษตรกรได้

ทางกลุ่มสหกรณ์ฯ มีความยินดีที่จะแจ้งให้ท่านทราบว่า ทางสหกรณ์ฯ มีความ  
สนใจในการเข้าร่วมโครงการ Contract Farming กับท่านโดยในเบื้องต้น ทางกลุ่มฯ  
วางแผน จะใช้พื้นที่การเพาะเลี้ยง จำนวน 4 ไร่ เพื่อใช้เป็นอู่ทดลองและถ่ายทอด  
กรรมวิธีการเลี้ยงกุ้งก้ามกรามรายย่อยอื่นๆ ทางกลุ่มฯ คาดว่าหากมีการทำการขยายและ  
เผยแพร่เทคโนโลยีเพาะเลี้ยงต่อไป จะสามารถผลิตกุ้งก้ามกรามได้ จำนวน 50,000 สัน ต่อ  
เดือน (ใช้พื้นที่ 25,000 ไร่ และทำการเลี้ยง 1 ปีละสามครั้ง)

จึงเรียนมาเพื่อทราบ

ขอแสดงความนับถือ

(กมลโน นฤมิตรกิจ)

สหกรณ์ผู้เลี้ยงกุ้งก้ามกรามทำนบกิ่ง

### B: Contract signed with 13 individual farms

**ข้อตกลงเข้าร่วมโครงการผลิตกุ้งก้ามกรามปลอดเชื้อไวรัสประเทศไต้หวัน**  
**ภายใต้ข้อตกลง (Contract farming)**

ทำที่ อ.บ้านแพ้ว จ.สมุทรสาคร

วันที่ 19 เดือน กุมภาพันธ์ พ.ศ. 2550

โดยหนึ่งคือข้อตกลงฉบับนี้ มีขึ้นระหว่าง นาย. รุ่งพรศักดิ์ อินทอ  
เลขที่ 196-58-59 อ.บ้านแพ้ว - พะนาโน หมู่ที่ 6 ถนน -  
หรือ/ชื่อ ตำบล บ้านแพ้ว  
อำเภอ บ้านแพ้ว จังหวัด สมุทรสาคร ซึ่งในข้อตกลงฉบับนี้  
"เกษตรกรผู้เข้าร่วมโครงการ" ฝ่ายหนึ่ง กับบริษัท Power Prawns Producer จำกัด ซึ่งอยู่เลขที่ 1  
ถนนมาลัยแมน ตำบลสำโรงใหญ่ อำเภอเมือง จังหวัดสมุทรสาคร 72000 โทรศัพท์ 0-3552-5112-4  
ซึ่งข้อตกลงฉบับนี้เรียกว่า "ข้อตกลงโครงการ" อีกฝ่ายหนึ่ง ทั้งสองฝ่ายมีข้อตกลงเข้าร่วมโครงการผลิต  
กุ้งก้ามกรามปลอดเชื้อไวรัสประเทศไต้หวันภายใต้ข้อตกลง (Contract Farming) ดังมีรายละเอียดต่อไปนี้

**1. เกษตรกรผู้เข้าร่วมโครงการจะปฏิบัติตามหน้าที่ตามพันธสัญญา โดยมีรายละเอียดดังนี้**  
**1.1 การควบคุมและดำเนินการเลี้ยง**  
เกษตรกรผู้เข้าร่วมโครงการ จะต้องเป็นเจ้าของบ่อเลี้ยงกุ้งที่มีสิทธิ์ที่จะกระทำการเลี้ยงกุ้งใน  
ดังกล่าว จำนวนบ่อเลี้ยง 2 บ่อ (พื้นที่บ่อ 1 ไร่หรือมากกว่า) มีข้อห้ามแยกบ่อเลี้ยงกุ้ง และจะ  
ดำเนินการเลี้ยงกุ้งให้พร้อมสำหรับการปล่อยกุ้ง พร้อมทั้งมีสภาพเหมาะสมกับการเลี้ยงตามมาตรฐาน  
บริษัท Power Prawns Producer จำกัด ดังนี้

1. จอเลี้ยง มีเนื้อที่ไม่น้อยกว่า 1.2 ไร่
2. ความลึกของบ่อเลี้ยง 1.2 เมตร มีการปรับสภาพบ่อโดยการนำดินมาลงบ่อ
3. มีการปรับค่า PH ให้อยู่ในระดับปกติ ตามมาตรฐาน (อยู่ระหว่าง 7.5 - 8.5)
4. มีการปรับสภาพน้ำให้เหมาะสม โดยใช้น้ำจากบ่อพักน้ำ ผ่านการกรอง และมีการเติบ  
สารอาหารจากธรรมชาติ เช่น บิวโทนาสตรัส 15-20-0 (รวมเกลือแร่) และเกลือดีเอสซี  
1 กิโลกรัม/บ่อ และค่าออกซิเจนที่เหมาะสม

**หมายเหตุ** 1. ให้อาหารตามระดับที่แนะนำจากมาตรฐานการเลี้ยงของบริษัท Power Prawns Producer  
2. ให้อาหารตามระดับที่แนะนำจากมาตรฐานการเลี้ยงของบริษัท (ปอ) หรือเอกสารแ  
สที่อื่นในการใช้พื้นที่เพื่อเลี้ยงกุ้งด้วย

ขั้นตอน	ผลผลิตที่คาดหวัง	ระยะเวลา
1. ทำการปล่อยกุ้งที่ตัวแล้วไว้มีจำนวนบ่อ 25,000 ตัว ต่อไร่ ในมาตรฐานขั้นตอนการเลี้ยงจาก บริษัท Power Prawns Producer จำกัด	กุ้งขนาด 10 ตัวต่อ กิโลกรัม ปล่อยสาร ตกค้าง น้ำพริกวินขึ้นต่ำ สิ้น ต่อพื้นที่บ่อ 1 ไร่	3 เดือน เมษายน ถึง มิถุนายน 2550

หมายเหตุ อาจมีการเปลี่ยนแปลง ตามความเหมาะสมจากสภาพที่พบจากการตรวจสอบ

**4.3. การควบคุมการดำเนินการ การตรวจสอบและการประเมินผล**  
เจ้าของโครงการ และเกษตรกรผู้เข้าร่วมโครงการ จะมีการประสานงานกันอย่างต่อเนื่องเพื่อผลผลิต  
สูงสุด โดยจะมีการติดตามผลจากบ่อทดลองและสรุปรายงานอย่างละเอียดและสม่ำเสมอ ทั้งนี้หากมีการ  
ปรับเปลี่ยนตามความเหมาะสมตามสภาพที่เกิดขึ้น นอกจากนั้นเจ้าของโครงการอาจมีการตรวจสอบ  
มาตรฐานในการเลี้ยงที่กำหนด โดยเกษตรกรผู้เข้าร่วมโครงการจะต้องให้ความร่วมมือในการตรวจสอบ  
และยอมรับการประเมินผลและปฏิบัติตามข้อกำหนดจากเจ้าหน้าที่ของเจ้าของโครงการอย่างเคร่งครัด

**5. การจัดการเงินจากเงินค่าขายผลผลิตและผลประโยชน์ของเกษตรกรผู้เข้าร่วมโครงการ**  
เกษตรกรผู้เข้าร่วมโครงการเป็นผู้ถือกรรมสิทธิ์ในผลผลิตที่เกิดขึ้น ซึ่งผลผลิตจะถูกจำหน่าย  
ให้กับเจ้าของโครงการ (บริษัท Power Prawns Producer จำกัด) ราคาที่ขายให้จะต้องตามข้อตกลงข้อ  
3 ของหนังสือข้อตกลงฉบับนี้ รายได้จากเงินขายผลผลิตให้กับเจ้าของโครงการจะถูกนำมาหัก  
ค่าใช้จ่ายทั้งหมดที่ใช้ในการเลี้ยง (ค่าใช้จ่ายกุ้ง อาหาร และค่าใช้จ่ายอื่นๆที่เกษตรกรผู้เข้าร่วม  
โครงการได้จ่ายไป) เพื่อนำเงินทั้งสองฝ่าย ส่วนต่างหลังจากหักค่าใช้จ่ายแล้วถือเป็นกำไรของ  
เกษตรกรผู้เข้าร่วมโครงการ แต่เพียงฝ่ายเดียว

ทั้งสองฝ่ายได้รับทราบและเข้าใจข้อความนี้แล้ว จึงได้ลงลายมือชื่อไว้เป็นสำคัญต่อหน้าพยาน

รับทราบและยินยอมปฏิบัติตามข้อตกลงข้างต้น

(น.ส. นฤมิตร ชรรพทอ)  
กรรมการบริหาร  
บริษัท Power Prawns Producer จำกัด

พยาน (ลงชื่อ)

รับทราบและยินยอมปฏิบัติตามข้อตกลงข้างต้น

(นาย. รุ่งพรศักดิ์ อินทอ)  
เกษตรกรผู้เข้าร่วมโครงการ

พยาน (ลงชื่อ)

### Translation of Contract's Highlights

Farmers must follow the instruction that PPP sets for pond and environment control.

- Both parties are responsible for advanced payments and PPP will deduct these costs from final revenue.
- Farmers will be paid based on final output:
  - If the output meets the target, farmers will get an additional 20% premium on top of the agreed price
  - If the output falls below the target, farmers will be paid for the average amount produced in the past six months at the agreed price
- Farmers are bound to keep all the process detail confidential within the enforced period.

## Appendix II: Letter of Intent from Exporters: Thai Royal Frozen Food Co., Ltd. & Wales & Co Universe Limited



泰食品冷凍有限公司  
บริษัท ไทยรอยัลฟรอสเซ่นฟู้ด จำกัด  
Thai Royal Frozen Food Co., Ltd.

Head Office/Factory : 1265 Vichienchodok Rd., Tambon Mahachai, Muang,  
Samutsakhon 74000 Thailand  
Branch/Factory : 119/99 Moo 1, Vichienchodok Rd., Tambon  
Tachin, Muang, Samutsakhon 74000 Thailand  
Tel: 66-34-423302 (Auto 10 lines) Fax: 66-34-422499  
66-34-423303-4 66-34-424364  
E-mail: sales@thairoyalfrozen.com

February 28, 2007

Dear Ms. Noparath Ruammek  
Power Prawn Producer Co., Ltd

### Letter of intention to purchase

Reference is made to the meetings with Power Prawn Producer Co., Ltd. (Power Prawns) in December, 2006, Thai Royal Frozen Co., Ltd. one of the largest and most respected suppliers of frozen shrimp to the markets of the world, is interested in the all male giant freshwater prawns producing technology that Power Prawn Producer Co., Ltd. is introducing.

With our 27-year experience as a food processor and exporter, we are positive that the consistent supply of Giant Freshwater Prawns, big size with no antibiotic residual problems, will be well accepted by the world market, especially in Europe and United States of America. The estimated purchased volume from your company could be around 2,400 tons annually.

We hope for the success in their development and implementation. We confidently hope for the growth of our business and are looking forward to developing a long term relationship with Power Prawn Producer Co., Ltd. in the near future.

Sincerely Yours,

Mr. Surapong Harnkrivai  
Factory and Purchasing Manager



Wales & Co Universe Limited

SUITE 216/43, 49, 12TH FLOOR L.P.N. TOWER, NANGLINCHEE ROAD,  
CHONGNONSEE, YANNAWA, BANGKOK 10120. (THAILAND).  
TEL: 0-2285-4370-77 FAX: 0-2285-4519, 0-2285-4520 E-mail: group@wales-universe.com



March 5, 2007

Ms. Nattaporn Santanawit  
Business Development Director  
Power Prawns Producer Co., Ltd  
137 Malaiman Road, Rua-Yai, Amphur Muang,  
Suphanburi 72000

**Subject:** Letter of Intent to Purchase freshwater prawns

Dear Ms. Nattaporn Santanawit,

Reference is made to your product presentation; we are very excited about the development of your 100% male freshwater prawns. With your proposition of 100% male prawns, pathogen-free, this could be a very promising business opportunity and we are looking forward to working with your company. This Letter of Intent ("LOI") shall confirm our intention to purchase freshwater prawns from you. While we anticipate that all of the terms and conditions will be fully set forth in a purchase agreement, we understand our current mutual intentions to be as follows:

#### **1. Purchased Quantity**

Provided that your freshwater prawns comply substantially with the description and specifications stated in your product presentation, Wales & Co Universe Limited, intends to make the first purchase 500 tons of your freshwater prawns, to be delivered before September 29, 2007. With the consistent supply, we expect that our purchase volume could be built up to 1,000 tons per year.

Should there be any change to the description and/or specifications, you will notify us immediately, in writing. If the change(s) result in a product not to our satisfaction, we may cancel our order.

#### **2. Delivery**

We understand that you are currently working to complete your harvest and that you expect to ship on or before September 29, 2007. If the delivery date appears to be slipping, you will notify us immediately in writing. If the new ship date results in delivery not our satisfaction, we may cancel our order.

Wales & Co Universe Limited

SUITE 216/43, 49, 12TH FLOOR L.P.N. TOWER, NANGLINCHEE ROAD,  
CHONGNONSEE, YANNAWA, BANGKOK 10120. (THAILAND).  
TEL: 0-2285-4370-77 FAX: 0-2285-4519, 0-2285-4520 E-mail: group@wales-universe.com



#### **3. Confidentiality: Public Announcements**

Both parties shall maintain the confidentiality of and shall not disclose any of the terms of this LOI (including its existence or the fact that the parties are in negotiations) and any other information related to the other party or its representatives or affiliates except to the extent required by law (provided that any party so required shall provide the other with contents of such disclosure as soon as reasonably practicable prior to making such disclosure). It is understood that all press releases or other public communications of any sort relating to this Letter of Intent or the transactions contemplated between us, including the method of release for publication, shall be subject to the approval of each of the parties: provided, however, that the parties shall be entitled to make such disclosures as may be required pursuant to applicable law or the lawful requirements of any governmental agency or by order of a court of competent jurisdiction.

#### **4. Effect of this letter of Intent**

This LOI is intended merely as a guide in the negotiations and preparation of the Purchase Agreement on terms and conditions satisfactory to both parties, and nothing contained in this LOI shall be construed to preclude other provisions from being included in the Purchase Agreement, provided that such other provisions are consistent with the content of this LOI and otherwise satisfactory to both parties. While we intended to proceed promptly to complete and execute the Purchase Agreement, it is expressly understood that this is a LOI only, and no liability or obligation of any nature whatsoever is intended to be created between either of the parties except as set forth in the Paragraph 3 (confidentiality).

#### **5. Termination**

This letter of Intent may be terminated at any time, by mutual consent of the parties. Upon such termination, this letter of Intent shall have no force and effect other than under Paragraph 3.

We hope for the success of your product. We confidently hope for the growth of our business and are looking forward to developing a long term relationship with Power Prawns Producer Co., Ltd.

Truly Yours,



(Poj) Aramwattananont  
President  
Wales & Co Universe Limited



## Appendix III: Market Research

PPP has conducted market researches to with parties throughout the whole supply chain

### 1. The hatchery & nursery farm

#### Respondents

- K.Nithit Palkulchai the owner of Kaset Somboon, the second largest Freshwater prawn hatchery farm.
- K. Kasem SriKhumthai the owner of Freshwater prawn hatchery farm in Supan Buree

**Objective** To understand current process of prawn hatchery

**Fieldwork** March, 2007 – In depth interview and filed visit

#### Findings

- Total process of traditional Freshwater prawn hatchery takes 19-20 until the post larva stage
- Current baby prawns are sold at the post larva stage at 0.09 THB
- The infrastructure to nurture baby prawn including
  - The hatchery pond size 2.5x2.5x15 m which can produce 500,000 babies per harvest
  - The reservoir pound to mix the freshwater with the brine water size of 6x6x1.5 m
  - The Ratemala pound to with the size of 0.75x0.75x0.75 m
  - Closed environment with sunlight protection and controlled temperature at 30 celcius degree is the optimum condition to raise the babies

### 2. The white shrimp farmers in central area

**Objective** To understand current behavior, knowhow and problems in White shrimp farming in central area

**Fieldwork** Feb - March, 2007 – In depth interview and filed visit

#### Respondents

- 10 member of Samutsongkram, Tha-Jeen cooperation
- 20 independent farmer in Nakornphatom, Banglane
- 5 members Bangpakong shrimp farming co-operative

#### Findings

- Raising white shrimp in brackish water result in much lower yield which make the farming in central area less competitive comparing raising in the brine water.
- Average yield per Rai of white shrimp in central area is 1,000 kg per Rai at the market price of 120 bht / kg (100 shrimp / kg)
- White shrimp farming is high risk since the shrimp is sensitive to external factors which

### 1. The traditional Freshwater prawn farmers

**Objective** To understand current behavior, knowhow and problems in Freshwater prawn farming in central area

**Fieldwork** Feb - March, 2007 – In depth interview and filed visit

#### Respondents

- K.Narong the owner of 20 Rai of Freshwater prawn in Nakornphatom, Banglane

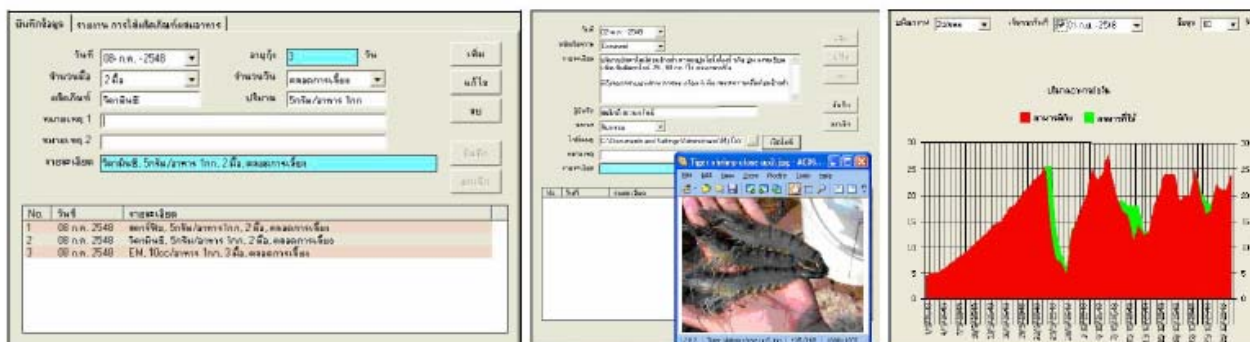
#### Findings

- Traditional Freshwater prawn start 1<sup>st</sup> harvest in the 5<sup>th</sup> month and then later once a month until the 9<sup>th</sup> month
- Generally female prawn size is maximum at 40 prawns / kg which can be sold at 80 bht /kg. Male prawn is sold at 140 bht / kg.
- Freshwater prawns are transported live after harvested.



## Appendix IV: “Shrimp Network Software”

### Shrimp Network Software



**Shrimp Network Software** is user-friendly software that is similar to a regular notebook that shrimp farmers use for recording statistical data. It also consists of tools that help the farmers manage the shrimp farms more efficiently.

## Appendix V: Farm Standards from Department of Fisheries

### THE COC GUIDELINE FOR HATCHERIES AND NURSERIES

1. Site selection: must be proper; and far from pollution sources; located legally with a land title, facilities and registration; perform good hatchery management; and be laid out and operation planned in accordance with technical requirements.
2. Use of good quality broodstock, including no digestive diseases and examination of broodstock health before breeding are required.
3. Natural feed (live) produced by hatchery should be considered for feeding use. Good shrimp fry health management will prevent shrimp fry diseases.
4. Therapeutic agent and chemical treatment should be applied only when performing a disease diagnosis and use must be in accordance with instructions and no use of any of the 16 prohibited therapeutic agents, as specified by DOF, may be applied. To prevent chemical resistance, regular shrimp fry health and water quality must be monitored.
5. Shrimp fry packaging and transportation must be conducted in accordance with technical requirements.
6. Efficient waste and wastewater treatment system and good sanitary system for staff must be provided.
7. Social responsibility and good relation with communities, hire workers in accordance with labor law, establish farms group, have technical training and establish a documentation system.
8. The documentation of shrimp culture can provide useful information, which the farmers can use as a guide for

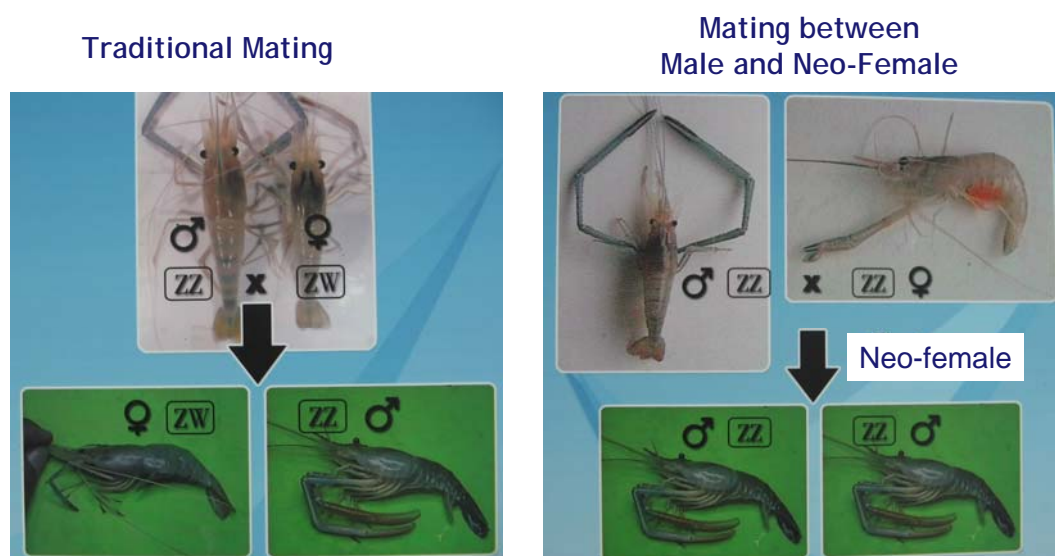
### GOOD AQUACULTURE PRACTICE (GAP)

To facilitate Good Aquaculture Practices (GAP) shrimp farms must start from internal farm management such as appropriate area use, buildings and structure, water quality for shrimp culture and consumption. In addition the internal farm management and culture plan is important to know culture method, culture period, feed quantity, required water transfer volume, capital cost and harvest plan.

1. Farm buildings must be clean and orderly with appropriate maintenance, and no disease carriers. Equipment must be stored properly, clean and ready to use, and users must know how to use and perform regular equipment maintenance.
2. Shrimp culture water source must be far from pollution source or water must be treated before use. Water quality must meet the standards suitable for shrimp culture and no disease contamination.
3. Lavatory must be located away from the shrimp culture system and always kept clean. Prevention of disease carriers must be carried out. Sewage must be separated from culture drainage system.
4. Prohibited therapeutic agents announced by DOF must not be used. Advice on therapeutic agents and chemicals use from DOF officer must be followed and they must be used only when disease diagnosis is performed. Therapeutic agents use must be recorded and avoided at least 21 days before harvesting.
5. Records of feeding, water quality, disease treatment, therapeutic agent and chemical use, survival rate, feed conversion rate, and relevant activities that are useful for next crop improvement must be kept. Farm inspection in accordance with GAP is divided into 2 topics: one is farm sanitation and the other is for chemical residues



## Appendix VI: Chromosome Crossing



## Appendix VII: Financial Statement

### **Financial Assumptions**

Revenues: Annual increase of 5% in both selling price and buy back price. This is because we will be using a forward rate, predetermined prices, on both ends of operation. This practice is already an industry norm among agricultural export business in Thailand.

COGS: Hatchery/Nursery capex is relatively fixed over the 5 year period generating straight line Dep & Amort., labor to operate the facility is similarly fixed as it only applies to the Hatchery/Nursery, while prawn food and prawn buyback fluctuate based on production revenue.

### Expenses

- Annual 5% increase in G&A expenses.
- Marketing expenses are focused in q1 each year for large international trade shows
- 3% of revenue is allocated as allowance for loss

### Balance Sheet Assumptions

- We assume 25 days A/R comparing to 15 days sales in the normal business practice.
- We assume 90 days A/P, majority is feed cost. This credit term is the current rate that Ms.Noparath, PPP's CEO, used to get from her current supplier and PPP will use the same supplier.

## A: Projected Income Statement

Unit: USD'000

	Projected Income Statement for Year 2008												Total
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Revenue	-	-	-	296	296	444	444	741	741	741	741	741	5,185
Cost of Goods Sold													
Prawns buy back	-	-	-	122	122	183	183	305	305	305	305	305	2,135
Food & prawn baby (financed)	-	-	-	55	55	83	83	138	138	138	138	138	965
Direct Labor	5	5	5	5	5	6	6	6	6	6	6	6	67
Depreciation	7	7	7	7	7	7	7	7	7	7	7	7	86
	12	12	12	190	190	278	278	456	456	456	456	456	3,253
Gross Margin	(12)	(12)	(12)	107	107	166	166	285	285	285	285	285	1,932
				36%	36%	37%	37%	38%	38%	38%	38%	38%	37%
Selling & Administration													
Wages & salaries	27	27	27	27	27	27	27	27	27	27	27	27	326
Research & development	6	6	6	6	6	6	6	6	6	6	6	6	67
Advertising & promotion	-	-	-	3	-	-	-	-	-	3	-	-	6
Sales expense (Staff farm)	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	3.33
Legal fee	-	-	-	-	-	-	-	-	-	-	-	-	-
Transport & Delivery /Kg	-	-	-	1	1	2	2	3	3	3	3	3	21
Rent for hatchery & nursery	2	2	2	3	3	3	4	4	6	6	6	6	49
Rent for office	1	1	1	1	1	1	1	1	1	1	1	1	17
Insurance	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	5
Allowance for loss	-	-	-	9	9	13	13	22	22	22	22	22	156
Depreciation	2	2	2	2	2	2	2	2	2	2	2	2	19
Amortization	8	8	8	8	8	8	8	8	8	8	8	8	100
Other	8	8	8	8	8	8	8	8	8	8	8	8	100
	55	55	55	69	66	71	72	82	84	87	84	84	868
Net Income Before Tax	(68)	(68)	(68)	38	40	95	94	202	200	198	200	200	1,065
Income Tax	-	-	-	(11)	(12)	(28)	(28)	(61)	(60)	(59)	(60)	(60)	(380)
<b>Net Income</b>	<b>(68)</b>	<b>(68)</b>	<b>(68)</b>	<b>26</b>	<b>28</b>	<b>66</b>	<b>66</b>	<b>142</b>	<b>140</b>	<b>138</b>	<b>140</b>	<b>140</b>	<b>684</b>

Projected Income Statement	Year 2009					Year 2010					Year 2011	Year 2012
	Q1	Q2	Q3	Q4	Total	Q1	Q2	Q3	Q4	Total		
Revenue	2,333	3,267	3,578	4,200	13,378	5,390	6,043	6,697	7,350	25,480	39,102	52,942
Cost of Goods Sold												
Prawns buy back	982	1,375	1,506	1,767	5,629	2,314	2,595	2,875	3,156	10,939	17,105	23,570
Food & prawn baby (financed)	414	579	634	744	2,371	910	1,020	1,130	1,241	4,301	6,286	8,106
Direct Labor	19	22	22	23	86	25	26	28	29	107	134	157
Depreciation	22	22	22	22	86	24	24	24	24	97	106	106
	1,436	1,997	2,183	2,556	8,172	3,273	3,665	4,057	4,449	15,445	23,631	31,939
Gross Margin	897	1,270	1,394	1,644	5,205	2,117	2,378	2,639	2,901	10,035	15,471	21,003
	38%	39%	39%	39%	39%	39%	39%	39%	39%	39%	40%	40%
Selling & Administration												
Wages & salaries	90	90	90	90	361	95	95	95	95	379	424	445
Research & development	42	42	42	42	167	53	53	53	53	212	272	359
Advertising & promotion (trade show)	139	3	3	3	147	139	3	3	3	147	147	147
Sales expense (Staff farm expense)	1	2	2	2	6	2	2	3	3	9	13	17
Legal fee	4	6	7	8	25	10	11	12	13	46	68	87
Transport & Delivery /Kg	9	13	14	16	51	20	22	24	27	93	136	176
Rent for hatchery & nursery	25	31	35	38	128	44	51	55	59	208	285	365
Rent for office	4	4	4	4	18	5	5	5	5	18	19	20
Insurance	1	1	1	1	5	1	1	1	1	5	5	5
Allowance for loss	70	98	107	126	401	162	181	201	221	764	1,173	1,588
Depreciation	7	7	7	7	29	10	10	10	10	39	49	49
Amortization	25	25	25	25	100	25	25	25	25	100	-	-
Other	25	25	25	25	100	25	25	25	25	100	100	100
	443	347	362	388	1,540	590	483	511	538	2,123	2,691	3,357
Net Income Before Tax	454	923	1,033	1,256	3,665	1,527	1,894	2,128	2,363	7,913	12,780	17,646
Income Tax	(136)	(277)	(310)	(377)	(1,100)	(458)	(568)	(638)	(709)	(2,374)	(3,834)	(5,294)
<b>Net Income</b>	<b>318</b>	<b>646</b>	<b>723</b>	<b>879</b>	<b>2,566</b>	<b>1,069</b>	<b>1,326</b>	<b>1,490</b>	<b>1,654</b>	<b>5,539</b>	<b>8,946</b>	<b>12,352</b>

## B: Projected Balance Sheet

Unit: USD'000

	Year 2007*	Year 2008	Year 2009	Year 2010	Year 2011	Year 2012
<b>Current Assets</b>						
Cash	520	1,453	4,560	11,001	21,072	34,434
Accounts Receivable	-	617	1,167	2,042	2,715	3,677
Inventory						
Raw materials	-	220	448	686	776	1,001
Work in process	-	44	53	68	79	90
Finished goods	-	15	28	49	66	89
	520	2,350	6,256	13,847	24,708	39,291
<b>Non-Current Assets</b>						
Factory equipment -cost	500	500	500	555	642	642
Accumulated depreciation	-	(86)	(172)	(269)	(375)	(480)
	500	414	328	286	267	162
Administrative equipment -cost	100	100	150	194	257	257
Accumulated depreciation	-	(19)	(49)	(88)	(137)	(186)
	100	81	101	105	120	71
Pre-operating costs	300	300	300	300	300	300
Accumulated amortization	-	(100)	(200)	(300)	(300)	(300)
	300	200	100	-	-	-
	900	695	529	391	388	233
<b>TOTAL ASSETS</b>	1,420	3,045	6,786	14,238	25,095	39,524
<b>Current Liabilities</b>						
Accounts payable	20	580	1,036	1,676	2,126	2,742
Taxes payable	-	380	1,100	2,374	3,834	5,294
	20	960	2,136	4,049	5,960	8,036
<b>Shareholders' Equity</b>						
New share capital	1,100	1,100	1,100	1,100	1,100	1,100
Founders' share capital	300	300	300	300	300	300
Retained Earnings	-	684	3,250	8,789	17,735	30,088
	1,400	2,084	4,650	10,189	19,135	31,488
	1,420	3,045	6,786	14,238	25,095	39,524

\* Year 2007 is PPP's pre-operation.

## C: Projected Statement of Cash Flow

Unit: USD'000

	Year 2007	Projected Cash Flow for Year 2008												Total
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
<b>Cash Flow from Operations</b>														
Net Income	-	(67.62)	(67.62)	(67.62)	26.25	28.20	66.21	65.56	141.74	140.29	138.35	140.29	140.29	684.35
Non-cash items	-													
Depreciation - CGS	-	7.17	7.17	7.17	7.17	7.17	7.17	7.17	7.17	7.17	7.17	7.17	7.17	86.00
Depreciation - S&A	-	1.61	1.61	1.61	1.61	1.61	1.61	1.61	1.61	1.61	1.61	1.61	1.61	19.33
Amortization	-	8.33	8.33	8.33	8.33	8.33	8.33	8.33	8.33	8.33	8.33	8.33	8.33	100.00
	-	17.11	17.11	17.11	17.11	17.11	17.11	17.11	17.11	17.11	17.11	17.11	17.11	205.33
Change in non-cash WC	-													
Accounts receivable	-	-	-	-	(123.46)	(123.46)	(61.73)	(61.73)	(123.46)	(123.46)	-	-	-	(617.28)
Inventory	-	(37.20)	-	(40.86)	(49.42)	(20.43)	(25.04)	(40.86)	(49.42)	(0.66)	-	-	(15.62)	(279.51)
Payable	20.00	59.86	-	-	218.04	3.75	126.21	30.88	256.42	65.68	67.63	51.79	60.13	940.39
	20.00	22.66	-	(40.86)	45.16	(140.13)	39.44	(71.71)	83.54	(58.44)	67.63	51.79	44.50	43.60
<b>Total</b>	20.00	(27.84)	(50.51)	(91.36)	88.52	(94.82)	122.77	10.97	242.40	98.97	223.09	209.20	201.91	933.28
<b>Cash Flow from Investing</b>														
Pre-Operating Costs	(300.00)	-	-	-	-	-	-	-	-	-	-	-	-	-
Factory equipment	(500.00)	-	-	-	-	-	-	-	-	-	-	-	-	-
Administrative equipment	(100.00)	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total</b>	(900.00)	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Cash Flow from Financing</b>														
Share Capital - Investor	1,100.00	-	-	-	-	-	-	-	-	-	-	-	-	-
Share Capital - Owner	300.00	-	-	-	-	-	-	-	-	-	-	-	-	-
Dividends	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total</b>	1,400.00	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>TOTAL CASH FLOW</b>	520.00	(27.84)	(50.51)	(91.36)	88.52	(94.82)	122.77	10.97	242.40	98.97	223.09	209.20	201.91	933.28
Opening Cash	-	520.00	492.16	441.65	350.28	438.81	343.98	466.75	477.72	720.12	819.08	1,042.17	1,251.37	520.00
<b>Closing Cash</b>	520.00	492.16	441.65	350.28	438.81	343.98	466.75	477.72	720.12	819.08	1,042.17	1,251.37	1,453.28	1,453.28

# C: Projected Statement of Cash Flow (continue)

Unit: USD'000

Projected Cash Flow	Year 2009					Year 2010					Year 2011	Year 2012
	Q1	Q2	Q3	Q4	Total	Q1	Q2	Q3	Q4	Total		
<b>Cash Flow from Operations</b>												
Net Income	318	646	723	879	2,566	1,069	1,326	1,490	1,654	5,539	8,946	12,352
Non-cash items												
Depreciation - CGS	22	22	22	22	86	24	24	24	24	97	106	106
Depreciation - S&A	7	7	7	7	29	10	10	10	10	39	49	49
Amortization	25	25	25	25	100	25	25	25	25	100	-	-
	54	54	54	54	215	59	59	59	59	236	154	154
Change in non-cash WC												
Accounts receivable	(31)	(259)	(130)	(130)	(549)	(331)	(272)	(136)	(136)	(875)	(674)	(961)
Inventory	(28)	(51)	(91)	(80)	(250)	(16)	(92)	(92)	(74)	(275)	(117)	(259)
Payable	212	66	514	383	1,175	(5)	359	845	715	1,914	1,911	2,076
	154	(245)	293	173	376	(352)	(6)	617	505	764	1,120	856
<b>Total</b>	<b>526</b>	<b>455</b>	<b>1,070</b>	<b>1,106</b>	<b>3,157</b>	<b>777</b>	<b>1,379</b>	<b>2,166</b>	<b>2,218</b>	<b>6,539</b>	<b>10,221</b>	<b>13,363</b>
<b>Cash Flow from Investing</b>												
Pre-Operating Costs	-	-	-	-	-	-	-	-	-	-	-	-
Factory equipment	-	-	-	-	-	(55)	-	-	-	(55)	(87)	-
Administrative equipment	(50)	-	-	-	(50)	(44)	-	-	-	(44)	(64)	-
<b>Total</b>	<b>(50)</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>(50)</b>	<b>(99)</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>(99)</b>	<b>(151)</b>	<b>-</b>
<b>Cash Flow from Financing</b>												
Share Capital - Investor	-	-	-	-	-	-	-	-	-	-	-	-
Share Capital - Owner	-	-	-	-	-	-	-	-	-	-	-	-
Dividends	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>TOTAL CASH FLOW</b>	<b>476</b>	<b>455</b>	<b>1,070</b>	<b>1,106</b>	<b>3,107</b>	<b>678</b>	<b>1,379</b>	<b>2,166</b>	<b>2,218</b>	<b>6,441</b>	<b>10,070</b>	<b>13,363</b>
Opening Cash	1,453	1,929	2,384	3,454	1,453	4,560	5,238	6,618	8,784	4,560	11,001	21,072
<b>Closing Cash</b>	<b>1,929</b>	<b>2,384</b>	<b>3,454</b>	<b>4,560</b>	<b>4,560</b>	<b>5,238</b>	<b>6,618</b>	<b>8,784</b>	<b>11,001</b>	<b>11,001</b>	<b>21,072</b>	<b>34,434</b>

## Appendix VIII: Gallery



Pond Preparation



How to feed the prawns



Harvesting



Prawn's Transportation



Oxygen tank for prawns



Interview with the middleman



Sell the idea to farmers



Facility in Suphanburi



Equipment used in farm



Female Prawns



Male Prawns



Hatchery Pond



Packing Broodstock



Selling Broodstock



Hatchery facility



## Power Prawns Technology

**1**

Surgically Remove Androgenic Gland



**2**

After 3.5 months, mate with male prawn



**3**

100% Male Offspring: Power Prawns



1. 100% Male
2. Virus Resistant
3. Consistently Sized Prawns



## POWER PRAWNS PRODUCER COMPANY

"PPP will integrate and dominate the prawn farming industry to become a world leading Freshwater prawn supplier through cutting edge broodstock management and prawn farming technologies. We are dedicated to superior yields and continuous supply of quality Freshwater prawns through use of modern technology and farming practices. "

