Roberts & Rose Mariculture Corp (RRM), a proprietary-owned and registered Philippines corporation, is poised to launch a major sea cucumber farming and global distribution business. Company facilities are ideally located on 15 square miles in one of the most biodiverse and pristine marine ecosystems in the world. The principals have over 55 years of collective tropical sea farming and marketing experience and are recognized as industry leaders and innovators in traditional and contemporary aquaculture business operations. The company’s business and environmental management plans are supported and endorsed as a “for-profit, sustainable and culturally worthwhile venture” by the ECAN (Environmentally Critical Area Network) Board of the Municipality of Busuanga, Province of Palawan. The mission of RRM is to leverage competitive differentiating advantages to become the largest sustainable sea cucumber farming and distribution operation worldwide.

Sea Cucumber Product

Sea cucumber farming is one of the most commercially lucrative aquaculture ventures. Global supply of wild stock is diminishing and endangered, while the demand for sea cucumbers is one of the fastest growing fishery market segments.

The sea cucumber’s body is almost entirely made of a useful collagen protein that is a highly desirable food, as well as a natural source of high demand medicinal extracts. Sea cucumbers are hardy, have few natural predators and live and graze on sandy sea floors in sea grass and coral reef habitats. RRM will focus on four species of sea cucumber, which are considered the most desirable and highest-valued, determined by having fetched premium prices on the international market over the last ten years.

They will be produced and reared at the land-based hatchery/nursery before being released onto inter-tidal sea grass and allowed to migrate sub-tidally to complete their natural growth in coral habitats. After about 16-18 months, depending on their size, these four species will be harvested for their dried meat (beche-de-mer) and pickled entrails for delicacy food and medicinal products. Selective breeding techniques developed by RRM will promote fast-growing, large, disease resistant animals.

“Roberts & Rose Mariculture Corp will focus on four species of sea cucumber, which are considered the most desirable and highest-valued, determined by having fetched premium prices on the international market over the last ten years.”
Market

Roberts & Rose Mariculture Corp is capable of conservatively harvesting at least 100 metric tonnes annually of premium quality processed meat and medicinal products at its current farm site at Busuanga, Philippines. This is equivalent to about 0.33% of the estimated 30,000-tonne global market of dried meat produced annually. Planned 10-fold expansion in production over the next decade will represent 3.3% or 1,000 tonnes of the current global market supply.

Product demand and continued growth is primarily centered in Asia with China, Japan and Korea being the primary consumers. Figure 1 illustrates a declining supply associated with an increasing demand for the sandfish, *Holothuria scabra* – one of the high-quality species to be cultivated at the Busuanga farm. The company believes that additional growth opportunities can be leveraged where low cost protein food sources are needed for natural treatment of gastric, knee and other joint remedies in the United States. The sea cucumber is unique in its ability to produce chondroitin, a primary ingredient used in many arthritis remedies. The pure, natural collagen – a gelatinous protein – is ideal for the production of artificial skin. The sea cucumber meat products and its medicinal derivatives have not been actively promoted or marketed in the United States.

**Figure 1.** Statistics over the last 22 years showing the supply and demand for one of the main SE Asian sea cucumber species to be farmed by RRM.

“Roberts & Rose Mariculture Corp believes that additional growth opportunities can be leveraged where low cost protein food sources are needed for natural treatment of gastric, knee and other joint remedies in the United States.”
Operations and Distribution

In addition to 30 acres of beachfront real estate owned by the Roberts & Rose Mariculture Corp at Desamboang, RRM will also hold the following sea and land leases:

- 3.85 square miles of intertidal/subtidal sea leases near Desamboang;
- 5.75 square miles of sea leases near Manglet Island;
- 75 acres of intertidal and beachfront leases at Manglet Island; and
- 1.3 acres at Concepcion on Busuanga Island.

These leases occur over three local municipalities and are part of a 25-year resource rental agreement and have been historically used for pearl oyster farming activities by the existing Roberts & Rose Mariculture Corp directors. The municipality ECAN Board has approved the use of these sea leases for sea cucumber farming with the location shown in Figure 2.

The Philippines locations allow RRM to build the business leveraging very low cost real estate, infrastructure and labor costs.

Figure 2. The farm location shown within the Calamian Group of the Palawan Province, a view of the pristine sea leases near Desamboang including a view of the NE foreshore of the project’s 10-hectare water front property where the hatchery and base camp will be located.

“Roberts & Rose Mariculture Corp’s sea and land leases occur over three local municipalities and are part of a 25-year resource rental agreement and have been historically used for pearl oyster farming activities by the existing directors.”
The venture will rely on local labor to operate the grow-out, dive and collect sea cucumbers, harvest and process – cleaning, boiling, smoke drying/oven baking and sun drying – and packaging.

The unique processing techniques will be those developed by the company principals to ensure a premium end product. The meat will be sold primarily directly to 13 established wholesalers with whom the principals have negotiated a strategic distribution and purchase relationship.

In addition, product may be distributed through the company’s own auctions and/or via the Internet. The farm is 40 minutes from Manila by plane with daily and multiple flights occurring throughout the week (Figure 3). A large shipping wharf is located on Busuanga Island.

Figure 3. Layout of Roberts & Rose Mariculture Corp’s base camp that will support up to 30 employees working on or off site.

“Roberts & Rose Mariculture Corp's sea cucumber meat will be sold primarily directly to 13 established wholesalers with whom the principles have negotiated a strategic distribution and purchase relationship.”
There are very few sizeable competitors leveraging sustainable farming techniques and resources. Only about 1% to 2% of the total sea cucumber harvest is generated in a way that raises farming concerns. Many of these are inefficient, non-commercial government funded hatcheries and/or located in temperate/cold waters where sea cucumber growth is generally slower. The majority of product is collected from the wild and independently sold to aggregate SE Asian wholesale distributors. This global situation will continue to deplete supply while demand for food and medicinal product increases. There are no known formal competitors in the Philippines and the only other known competitive entities rely on temporary inland ponds in China and are not considered long-term sustainable ventures.

Competitors

Two Australian wild fishery operators, Tasmanian Seafoods and Bluefin Seafoods, have successfully conducted preliminary hatchery research trials with one species of sea cucumber. However, both firms have not yet developed any commercially credible harvests or established any farm sites. This is unlikely to occur in the near future given the bureaucratic constraints associated with Australian Commonwealth environmental regulations or access to suitable coastal lands predominately owned by Aboriginal Land Trusts.

Differentiation

The knowledge and experience of the business directors/principals; the farm and facility location; the leveraged relationships and completed agreements with appropriate governmental jurisdictions and strategic relationships with the largest worldwide buyers comprise a significant business foundation that is poised for success. Roberts & Rose Mariculture Corp is unique in its ability to build a large, sustainable, state-of-the-art, end-to-end, sea cucumber farming operation.

Currently 95-98% of the global supply of sea cucumbers is primitively collected and harvested from a wild non-sustainable and rapidly declining sea cucumber population. RRM is positioned to quickly become one of the world’s largest suppliers of premium sea cucumber products. Management is focused on:

- Optimal production and harvesting of high demand sea cucumber species;
- Rapid implementation of unique (patent pending) high-tech, value-adding processes;
- Logistically locating its production facilities in a region of the Philippines known internationally for its rich biodiversity to support an ideal sea cucumber habitat;
- Strategically positioned to achieve high returns from low capital start-up and operational costs; and
- Structuring the company to qualify for highly competitive taxation benefits for a new/unique aquaculture business.

“A mature, 40-centimeter long sea cucumber, Stichopus sp. collected sub-tidally from RRM’s sea leases at Busuanga Island, Philippines.”
Primary products have consistently fetched wholesale prices that have averaged US $160+ per kilogram for their dried meat and their pickled entrails (intestines and gonads) and have retailed for US $65 per 65-gram jar. As a result, the projected earnings before interest and tax (EBIT) for the project are positive at US $0.74 million during year two. All capital and operational development costs of $5.70 million are paid back by year four with a cumulative cash flow of $9.33 million at the end of this year. The revenue generated by meat, entrails and juveniles by year six will exceed $15 million yielding a net of $12.6 million.

**Initial Uses of Revenue**

To generate a cash flow during the first two years of operation, the venture will sell hatchery-bred juveniles to local farmers – with options to buy back the larger animals during harvest – and to the national government for re-seeding programs. The primary use of funds will be applied to facility construction, hatchery and farming equipment, and company operations personnel.

**Valuation and Investor Equity**

The company’s financial goals extended over a six-year period are based on realistic, conservative biological, production and financial models. If the cash flow includes the sale price of the venture as three times the revenue generated for year six, then the net present value (NPV) of the project’s cash flow is US $16.02 million when the current cash market trading value is discounted to 30%. If the discount rate for the projected cash flow is set to zero, then the internal rate of return (IRR) is 120% (Figure 4). By comparison, many fish and prawn farming projects typically have IRRs equal to or less than 30%.

The venture’s economic value in view of the projected income, intellectual property, cash and in-kind contributions provided by the directors, is estimated to be US $16 million – with $1.6 million equivalent to 10% equity. The company is currently seeking a “dividend-oriented” investor(s) to take up to 25-30% of the equity and preferably enter into a joint-venture agreement to begin the operational phase of the sea cucumber project.

*Figure 4. Comparisons of IRR for six cash flow scenarios with discount rate equal to zero.*

“If Roberts & Rose Mariculture Corp sets the discount rate for the projected cash flow to zero, then the internal rate of return (IRR) is 120%. By comparison, many fish and prawn farming projects typically have IRRs equal to or less than 30%.”
The management team of Roberts & Rose Mariculture Corp brings sustainable, economic, ecological and cultural “know-how” to the sea cucumber venture.

Thomas M. Roberts
Operations, Development and Marketing Director

Thomas M. Roberts (Tom) has over 25 years of experience as an oil and gas technician, underwater archeologist, pearl farm manager, and sales and marketing executive for a variety of industries related to pearl and sporting goods export and commercial insurance.

After attending Southern Oregon University from 1977-1980, Mr. Roberts worked as a technician in the oil and gas industry and as an archeologist diver involved in the salvaged expedition of two Spanish galleons, the Santa Margarita and Nuestra Senora de Atocha, which were part of the 1622 Terra de Firma Fleet.

In 1986, Mr. Roberts obtained a Special Investors Resident Visa (SIRV), as co-owner and operations manager from 1986-1992 of First Nature Products (a Filipino corporation) he was responsible for managing, modernizing and recapitalizing the farm operations, including oversight of 60 local personnel. After generating substantial profits for the farm, he later negotiated a world-class partnership with a Japanese pearl company to establish an international trading house for the sale of South Sea Pearls. This family-owned pearl farm was the first to be established in the Philippines during 1950, and was the second farm to be licensed in 1952.

As President and CEO of Calamian Holdings Group from 1992-1998, he developed and managed $6 million in annual exports to Japan and Southeast Asia with offices in Japan, Hong Kong and the US. As cofounder and Executive Vice President of iPearl, Inc. from 1999-2000, he assisted in raising $1 million seed money and brought under contract two of the world's largest pearl companies in setting up a worldwide product and logistics team.

Through his company Loratec (Land Ocean Research and Technology Engineering Corporation) and Filipino associates, Mr. Roberts helped to coordinate and facilitate the acquisition and transition of the running of Vogue International Pearl's Philippine projects from 2001-2002. As President and Chief Executive Officer of Trans West Insurance from 2002-2007, he developed, managed, and sold the Pacific Northwest’s premier property and casualty agency for the towing industry. Recently, Mr. Roberts has been assisting Bukidnon Forest Project in the Philippines to set-up a timber forest replanting investment project for the carbon offset industry. Currently, he is developing a family agriculture/forestry business in Bagac, Bataan Peninsula (northwest of Manila).

Mr. Roberts will manage and administer the day-to-day operations and logistics of the farm, liaise with local fishermen, municipality government officials, politicians and wholesalers. During the construction phase, he will organize and supervise the building, and fabrication of boats and equipment used during nursery/grow-out. He will also be responsible for the licensing issues to operate as an aquaculturist. During the production phase he will assist with the vocational training of staff, working closely with Dr. Rose.
Robert A. Rose (Bob) is a qualified marine biologist with a PhD from the University of Sydney. He is an Australian/American, speaks and writes Indonesian, and has over 30 years work experience in aquaculture research and development. During the early 1980s as a Western Australian Fisheries research officer for eight years, he described the reproductive ecology and closed the life cycle of four commercially important bivalves, and established the first successful, non-Japanese pilot-scale hatchery at the end of the Broome Jetty for the silver- and gold-lip pearl oyster, *Pinctada maxima*. Since 2000, he has been involved in the commercial propagation and grow-out of tiger prawns and saucer scallops, pond culture of mud crabs, inter-tidal grow-out of holothurians (sea cucumbers), and the evaluation and development of recirculation systems for barramundi and Australian eels. He has been working on commercializing trepang aquaculture for nearly ten years.

Dr. Rose is the author of over 30 scientific publications, joint editor of an ICLARM study review on pearl oyster biology and cultivation and produced several bio-technical design/operation manuals for commercial bivalve hatcheries operating in remote areas of Australia, Thailand, Indonesia, and French Polynesia. Dr. Rose has designed and supervised the construction of some of the highest-volume hatcheries, grow-out and farm facilities in SE Asia, trained over 35 hatchery/grow-out technicians and has been the external supervisor for several PhD and MSc students. Grants received for bio-technical and aquaculture R&D projects as the primary, co-proponent or project manager/team leader has been over US $12.2 million (or AU$12 million). Currently, he is involved in a pearl oyster genetics program between the pearl industry and the University of Queensland.

As the founder and managing director of the consulting firm Pearl Oyster Propagators Pty. Ltd., employing up to 15 people, his company provided technical and management expertise in pearl farming for 19 years. Dr. Rose has successfully project managed six pearl oyster hatchery/farms ranging in cost from US $0.7 million to US $16 million. His firm was responsible for producing over 1.14 million grafted oysters for pearl cultivation from 1989-2002 (13 years). This resulted in a minimum of 225 Kan or 844 kilograms of south sea pearls harvested (equivalent to US $139.7 million or AU $137 million).

From 1996-2001, Dr. Rose was one of the founding members and the technical/operations director of Arafura Pearls Holdings Ltd at Elizabeth Bay, Arnhem Land. During this period, he surveyed the farming sites, helped negotiate land/sea lease agreements with the Traditional Owners, and ensured that locals were instrumental in the construction and staffing of the farming operations. In 2000, he created a subsidiary company Tropical Aquaculture Australia P/L (TAA) and diversified into commercial ventures involving other bivalves (scallops and French Polynesian, black-lip pearl oysters) and crustaceans (prawns and crabs).

With Mr. Roberts, he surveyed the Calamian Group Islands prepared the business and financial plans for Vogue International Pearl’s in the Philippines from 2001-2002. Recently from 2005-2008, he project managed the Indigenous, Mudia Farms’ mud crab project involving six farm and two administration trainees from the Gwalwa Daraniki Association, Darwin. Presently, Dr. Rose is on the Australian Government’s Rural R&D Council of The Department of Agriculture, Fisheries and Forestry (DAFF) advising the Government on its national R&D investment plan.

Dr. Rose will be responsible for the design/construction of the hatchery, nursery, grow-out production, environmental management plan and standard operation procedures (SOPs) and licensing compliances of the Trepang
venture. He will work closely with Mr. Roberts in all construction and property development operations at the farm that concern environmental issues that relate to habitat restoration or preservation.

Dr. Beni Giraspy
Hatchery and Nursery Manager

Dr. Giraspy is a commercial marine biologist with more than 15 years experience in sea cucumber aquaculture research and development in Australia, Republic of Maldives and India. He has produced millions of hatchery juvenile *Holothuria scabra* and *H. scabra versicolor* for sea ranching. In 2002, he set-up the first sea cucumber hatchery in Queensland, Australia with funding from the Australian Government’s Innovation Program of Commercialization. Dr. Giraspy will consult and supervise the spawning, feeding, nursery culture and grow-out husbandry. In addition, he will provide hatchery technicians and training if required.

Jeffrey Sioni Abel
Fishing and Processing Manager

Jeffrey Sioni Abel is an experienced sea cucumber diver, processor and marketer with over 16 years in the industry in Papua-New Guinea, Torres Strait, Queensland and the Northern Territory. As a founding member and the production director of Masurina P/L in the NT since 1996, he has been responsible for the harvesting, processing and marketing of wild *H. scabra* and *H. scabra versicolor* from Arnhem Land. He has experience in training rural villagers and Indigenous Australians in methods of collecting and processing trepang. Mr. Abel has redesigned fishing boats and processing procedures, as well as developed simple, value-adding techniques for marketing the product internationally. Mr. Abel will consult on grow-out, harvesting, grading, processing and packaging techniques for the venture and training of locals in best-practice methods to collect trepang if required.

Ivelle Legaspi
Treasurer

Ivelle Legaspi has over 12 years of management experience in the hotel/resort industry. She has been working for RRM for two years and is the Company Treasurer.

Doring Dantic
Office Manager

Doring Dantic has been a long-standing pearl seeding technician for Mr. Roberts in the past and business consultant for several local seafood industry companies in Busuanga for over 15 years. Currently, she is the office manager of RRM.
Contact Information

Director
Thomas M Roberts
Managing Operations and Marketing Director
Concepcion
Busuanga Island
Palawan, Philippines
Mob: 0920 981 5500
Email: tm.roberts11@gmail.com

Director
Robert A Rose
Production and Technical Director
8 Kelat Court, Bayview 0820
Northern Territory, Australia
Mob: +6140 208 2494
Email: bob@pearloyster.com.au

Company Treasurer
Ivelle B Legaspi
Concepcion
Busuanga Island
Palawan, Philippines
Mob: 0917 418 4619
Email: ivelle.legaspi@gmail.com

Company Secretary/ Corporate Attorney
Ramon J. Quisumbing Torres
(Member Firm of Baker & McKenzie International)
12th Floor Net One Center, 26th Street corner 3rd Ave
Crescent Park West, Bonifacio Global City
Taguig City, Metro Manila, Philippines 1634
Email: ramon.quisumbing@bakernet.com

Registered Office
Roberts & Rose Mariculture Corp
12th Floor Net One Center, 26th Street corner 3rd Ave
Crescent Park West, Bonifacio Global City
Taguig City, Metro Manila, Philippines 1634

Disclaimer

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A complete Business and Operations Plan, with detailed 6-year financial projections are available to prospective investors by contacting the directors above.