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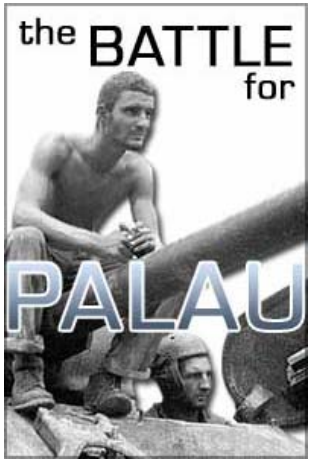

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The Clam Industry in the Marshalls

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This article is an analysis of Robert Reimers Enterprises' (RRE) effort to commercially develop giant clams in the Marshall Islands from 1986 to the present. The purpose of this analysis is to explore what succeeded and what has failed and why. It might be that the lessons learned from RRE's experience will show us how to better support and assist this kind of business development in the future.

History of Robert Reimers Enterprises

Before we can understand how RRE was established and how it operates, we need to look first at Robert Reimers, the founder of RRE. Robert Reimers' most telling characteristic may have been what can only be described as his entrepreneurial spirit. Despite his many successes, Robert Reimers was, according to his son Ramsey, "always on the lookout for what he referred to as 'new money.' While he was managing stores for the Japanese on Jaluit and Wotje before the war, he was also making a local "vodka" from pandanus and selling it to them. While he was working at the U.S. Navy boat pool, he came in contact with a Hawaiian who could ship consumer goods from Hawaii. Together they formed a partnership to import fabrics and perfume from Hawaii.

From the time Robert Reimers was old enough to hold a job, he was building his own business. Through his position as store manager for the Japanese on Jaluit and Wotje, he learned how to sell retail goods on outer atolls in exchange for copra. He combined this knowledge with his experience building boats and importing consumer goods from Hawaii to import goods and sell them to outer island communities. Over time, he expanded his line of imported products from fabric and perfume to include food and other consumer goods from Hawaii and the US mainland. By 1960, Robert Reimers' import business was large enough to require a store with enough freezer space to store whole container loads of frozen food. When he applied for a commercial loan (the first commercial loan granted to a Marshallese) to build his store,

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Videos

Suicide In Micronesia

Finding A Better Way Out

Suicide in Micronesia today has become a costly epidemic, with one death leading to another. These days, nearly every Micronesian family has been touched by this problem. Just 40 years ago, however, this was not the case. The Micronesian suicide rate is now one of the highest in the world. Why are so many young people turning to this option?

This video examines the problem of suicide in the hope that it will lead people to discuss suicide more openly and find ways to deal with this issue.

For the Love of Chuuk: Working Towards the Common Good

Beginning with the village dispensaries, this documentary probes the problem of governing Chuuk. If there are cultural explanations for them, there are also remedies.

Where this type of scheme has been tried in the past, it is reported that government ends up losing considerable amounts of money while warehouses can fill with unmarketable products.

The technical difficulties involved in developing many outer atoll marine products can be substantial and very expensive to address. Production of giant clams from brood stock held in hatcheries requires almost constant attention to water quality, cleaning, and checking the clams for parasites.

A variety of agencies and programs offered funding and technical assistance for extended periods of time to provide the seed clams, to train the farmers and to market the clams. Still the government-funded giant clam projects failed. RRE, which also received extensive assistance from CTSA and other mariculture development organizations, eventually succeeded in establishing a self-sustaining profitable business. The difference in the two projects was that the outer atoll clam farmers were never in a position to take the technical assistance that was provided and turn their farms into independent businesses. RRE, on the other hand, had the resources and the experience to take advantage of all of the technical assistance that was provided. They used that assistance to develop a successful giant clam farm.

A variety of agencies and programs offered funding and technical assistance for extended periods of time to provide the seed clams, to train the farmers and to market the clams … still the government-funded projects failed.

Robert Reimers was not entering business; he was merely expanding the business he had been developing in one way or another for more than three decades.

Part of the explanation for RRE's success in general Retail was Robert Reimer's ability to find people who could develop new ventures, such as a hotel, a restaurant and a bottled water business. Ramsey Reimers under scored the importance of people when he said: "the most important single requirement for developing a successful business operation in the Marshall islands is finding the right people." This includes local Marshallese as well expatriates, and it involves not only finding the "right people" but also matching people with the jobs they are best suited to do. This is difficult for any business owner, but it is particularly difficult on a small, remote Pacific atoll, where the labor pool is small and the working conditions can be very difficult. Yet, Robert Reimers was consistently able to find and recruit the "right people" - people who possessed the training, the experience and maturity to manage what became a large, complicated, diversified business with a predominantly Marshallese workforce and clientele.

"The most important single requirement for developing a successful business operation in the Marshall islands is finding the right people."

Reimers was also successful in developing management strategies that addressed the particular challenges of doing business in Micronesia. In the Marshall Islands, it is difficult for island business owners to say no to customers who expect local business owners to share what they have. To survive as a business, RRE needed to limit its use of credit just like any other store, but this often required saying no to requests for credit purchases.

Rather than turn down his customers personally, Robert Reimers found that it was culturally more acceptable to hire an accountant or a manager from "the outside" to tell family, friends and customers they could not have any more credit.

Giant Clam Development in RMI: 1986-2002

When Robert Reimers decided to go into aquaculture in 1986, he had already built a large retail store, a hotel and a restaurant. Although there was no pressing need for RRE to develop a new industry, Robert Reimers said that the decision to grow giant clams was prompted by articles coming out of Palau: "I saw news from Palau about giant clams . . . . They are cheap and easy to grow, so I said 'why not do it here?'

Dr. Gerald Heslinga at the Micronesia Marine Development Center (MMDC) in Palau, noted that "giant clams are a high-value food commodity" that could be mass-produced in captivity. Heslinga's general enthusiasm for the future of giant clam aquaculture in Micronesia was echoed by the public media in several newspaper, magazine, and newsletter articles that came out at the time. These articles consistently described giant clam farming as low tech, low cost and profitable.

Heslinga offered to all of the islands in Micronesia a development strategy based on growing giant clams. MMDC in Palau would sell seed clams to the marine resource development departments in each of the island states. These facilitating agencies would then distribute the clams to farmers on atoll islands where it was determined that giant clams would grow well. In three years the giant clams would be harvestable. The farmers could then sell the clams in the local food market and/or export them to generate an income for themselves.

By the time RRE got into the giant clam business in 1986, it was following rather than leading in an industry that was already at least a year old in the RMI.

RRE, too, underestimated the cost of successfully producing and selling live giant clams. From 1989 to 1996 it underestimated what it cost to recruit and retain an experienced mariculturist to run its Wau Island farm,resulting in a constant turnover at this position. The cost of getting RRE's products in front of wholesalers was also underestimated.

It was not until Rod Bourke, in 1999, began attending marine aquarium tradeshows that the sales of RRE's giant clams began to take off. But, this was *ten years* after RRE decided to focus on growing giant clams for the aquarium market. In the end, though, even with its miscalculations, RRE was able to use its financial resources, entrepreneurial determination and its business experience to correct its mistakes and turn its giant clam operation into a sustainable business.

Continuity and Sustainability. Any business can achieve continuity if the owners are willing to fund it with their own money regardless of whether the business makes a profit. The challenge comes in turning a continuous business into a self-sustaining business. RRE was eventually able to do this; the government-supported clam farms have never accomplished this. The difference between RRE's clam farms and the government's clam farms was that the former was based on a business model that possessed both the potential and the incentive to be self-sustaining. The government-supported clam farms, however, used a business model that would always require government intervention and government subsidies, thus insuring that they would always be dependent. The outer atoll farmers, lacking the resources, the infrastructure and the experience to market their own clams, would need the government to continue to act as a purchasing agent to sell their clams. Even with such purchasing agents, however, there could be no guarantee of success. As McCoy & Hart observe in their study,

> Because they have no vested financial interest in the products, the agents have little incentive to maintain quality control, or even to care properly for the shipments while on board.

Also, RRE had full-time employees at the site to provide security. Finally, there was never any question about who the clams belonged to or how they were intended to be used. RRE's purpose in raising giant clams at its Wau Island facility was always explicitly commercial.

Security does not appear to have been considered in the government-sponsored food clam project. The clams were distributed to several outer-atoll communities throughout the RMI with the goal of getting the clams to as many good grow out sites as possible.

The intended use of the clams was never spelled out for the farmers. The reports by Heslinga and others make it clear that these food clam projects had overlapping goals: to restock the reef to replace a diminishing resource; to provide a source of subsistence food for the local community; and to produce a cash product for the local as well as the export market. This multi-purpose approach to clam rearing in the absence of any plan for protecting the clams practically guaranteed that the clams would be harvested and eaten as soon as they were large enough.

The producers on outer atolls typically have no appreciation of the problems and the costs of bringing a product to market and selling it successfully. This was certainly true for the outer-atoll "farmers" who participated in the government-sponsored food clam project and the aquarium clam project. None of the outer atoll farmers had the resources or the business experience to do the things that were necessary to link them to wholesalers who could buy their giant clams. Instead, they relied upon government agencies to address these problems for them. But these agencies also appear to have underestimated the complexity of the problem and were always, it seems, a step behind where they needed to be if they were going to be successful in supporting the farmers. Market studies were done *after* farmers in the RMI and the other states in Micronesia had already committed themselves to growing food clams, and production models were done *after* the hatcheries and farms had already been built.

As such, giant clams farming could hardly be characterized as "new money", but it was consistent with RRE's overall growth strategy of diversifying into local products that complemented RRE's existing businesses. When RRE decided to grow giant clams, it planned to sell the clam meat at RRE's stores in the RMI as well as export it to Japan and Taiwan.

RRE's decision to go into giant clam farming was also influenced by the site it owned on Wau Island in Mili. The lagoon in front of the island is large, far from any populated areas and filled with giant clams. At the time it appeared to be an excellent site for a commercial clam farm.

Cost

Capital costs, the costs involved in setting up the farm, were not a problem for RRE. Ramsey Reimers estimated that the cost of clearing the site and building the farm and the living quarters for the farm employees was between $10,000 and $15,000 when the farm was built in 1987. The estimate of the total investment in the Wau island facility as of 2004 is thought to be close to $50,000. These costs, however, were low enough that RRE could finance the entire project out of its own cash flow and so did not need to apply for a loan finance the project.

Operating expenses were not a significant problem either for RRE. These expenses, paid for out of the cash flow from RRE's other operations, included the farm's fuel, maintenance and personnel costs, including a marine biologist to design and manage the facility. Keeping the operating costs on Wau low or spreading them out and sharing them with other projects was important because the food clam needed three years to grow out to a market size. This translates into three years of upfront operating costs totaling more than $100,000 before the farm could produce any revenue.

Shift to Aquarium Clams

In 1988, Heslinga and T.C. Watson published an article that concluded that the optimum size of a giant clam for the food market would take not three years, but six to nine years to grow out. This new grow out scenario effectively doubled the upfront investment required for the project and forced RRE to re-evaluate its giant clam operation.

Another factor that weighed heavily in RRE's decision to re-consider growing giant clams for the food market was the discovery that the marine aquarium market for giant clams for the food market was the discovery that marine aquarium market for giant clams was much more attractive. A marketable giant clam (2-4 inches) for the marine aquarium market could be raised in two to three years, as opposed to six years, and the farm gate price could range anywhere from $3 to $8 for a single clam depending on the clam's size and color. Moreover, there were no post-harvest processing costs apart from packing and shipping.

The relative advantages of the marine aquarium market were spelled out in Heslinga's 1990 publication, *Giant Clam Farming:*

> MMDC began regular shipments of juvenile clams to aquarium wholesalers in Los Angeles, Chicago and Miami in 1987. By 1989 MMDC was making monthly or twice monthly shipments, grossing about US $30,000 per year on sales to the aquarium trade. . . . Judging by the rate of increase we estimate that the US and European aquarium industry could absorb at whole sale about $50,000 worth clams per year. . . This is a small niche market but it is by no means in significant.

Heslinga's assessment of the opportunity for giant clams as a food product was more guarded than it had been when he estimated that the market was worth 100 million dollars.

contract making them responsible for paying for the clams after their sale, this did little to place the responsibility of ownership on the shoulders of the farmers. The government continued to be responsible for spawning and growing out the seed clams. It also bore the responsibility for selling the clams, while assuming all of the financial risk for the project as well.

The farmer's only role in the operation was to keep predators away for the 6-9 months they held the clams. The government's total responsibility for the project became clear when the grant money for the project ran out and the project stopped.

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RRE saw giant clams as a commercial opportunity and was able to finance the development of a giant clam farm from the cash flow from its other operations. As a result, there was no need for RRE to raise the capital for the project through grants, bank loans or investments from outside partners.

Also, when it became clear that growing giant clams for the food market was not feasible, RRE was able to increase its investment and make the necessary changes in its operation so that it could produce live clams for the aquarium market. Over the fifteen years (1987 to 2002) that RRE was in the giant clam business, the company was able to invest several hundred thousand dollars in the project.

Commercial export must compete with subsistence harvesting of various marine resources. This was an issue as long as the government "farmers" as well as RRE were growing food clams. But RRE was better set up to deal with this problem than was the government. Its site on Wau Island, because it was isolated and away from any other communities was buffered, if not protected, from poaching.

available has as much or more to do with access to necessary services as it does to the specific commodities they produce. In addition to reliable electric power and other basic utilities . . . transportation costs at rates the market can absorb (air freight in particular), international telecommunications, and an easy access to postal services and commercial banking, enable the products to be efficiently produced and effectively marketed."

No one would disagree that having a base in Majuro is necessary for exporting live clams. There is an obvious need to have a facility on Majuro where the clams can be consolidated and packed for shipment from the airport on Majuro. But the experience of RRE, particularly when it is contrasted with the experience of the RMI in growing giant clams, suggests that the relative success of RRE involves much more than its location on Majuro. If we go down McCoy & Hart's list of "lessons learned" and "important considerations," it becomes clear that the appropriate business model and business strategy have had more to do with the successful development of giant clams than a location on Majuro.

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Investment capital is in short supply: The business model promoted by Heslinga called for outer atoll residents to become self-employed giant clam farmers. Since none of the outer atoll residents had any capital to invest, the Marshalls government with the assistance of outside funding sources covered the start-up costs by providing the farmers with the seed clams to grow out. The government paid the farmers $300/quarter to grow out the seed clams they were given. Although the clam farmers were required to sign a

The only opportunity he now saw for food clams was in Okinawa, for giant clams are not popular on the main islands of Japan in the sashimi market. This market was available only if the clam meat could be delivered very fresh and on the half shell, but this required that the clam be shipped by air at considerable expense.

The need to get out of the food clam business and focus on the marine aquarium market was obvious. But getting into the marine aquarium market was not easy. RRE needed to grow the more colorful species prized by the marine aquarium market, ones that RRE had little experience working with. RRE also needed to expand its hatchery and nursery. The Wau Island facility, however, could not be expanded to due to its distance from the airport, was a very poor location from which to export live aquarium clams.

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In the end, RRE decided to continue to operate its giant clam arm on Wau Island as an extension and complement to its eco-tourism development there, but it began to look for a location for a giant clam nursery and hatchery near the airport on Majuro. RRE found a good site at Long Island on Majuro, but did not construct an upland giant clam farm there (an investment of approximately $400,000) until 1995 when a bad storm did extensive damage to the farm on Wau Island, and wiped out most of its broodstock. This disaster made the move to Long Island and the construction of an upland clam farm not only advisable but also unavoidable.

Three factors during this period helped to stabilize the farm and put it on a growth path that saw the farm increase its production four-fold from 1999 through 2002.

First, moving the farm to the upland facility at Long Island eliminated the disruption from storms and predation and created a more stabile environment in which to spawn and grow out giant clams.

Second, the arrival of Aloha Airlines in 1999 significantly increased the farm's shipping options. This was critical. So many shipments of clams were bumped by Continental Airlines in 1998 due to a lack of freight space that RRE seriously considered closing the farm.

Through these contacts Bourke was able to double the farm's giant clam export volume between 2001 and 2002 to 14,000 clams.

Third, the Center for Tropical and Subtropical Aquaculture (based in Honolulu) through its agent, Simon Ellis, was instrumental in identifying several key tradeshows in the U.S. for marine aquarium products. Ellis passed this information on to Rod Bourke, who was managing RRE's clam farm at the time. Ellis then went a step further and found grant programs that provided funds for attending tradeshows. Bourke attended several trade shows on the U.S. Mainland and was successful in contacting buyers from Canada and Europe as well as the US, Bourke. Through these contacts Bourke was able to double the farm's giant clam export volume between 2001 and 2002 to 14,000 clams.

Bourke's success as both the clam farm's production manager as well as its marketing and sales manager after years of inconsistent production and poor sales underscores a point made by Ramsey Reimers. Regardless of how much money is invested; regardless of how large the market; regardless of how many natural advantages or disadvantages the venture possesses, the most important factor in determining the success or failure of the project is finding the right people who can do the job.

Lessons Learned

In a recent study funded by the Asian Development Bank titled "Community-Based Coastal Marine Resource Development in the Republic of the Marshall Islands" (2002), the authors, Mike McCoy and Kevin Hart, surveyed sixteen private and seventeen public marine development projects carried out in the Marshall Islands over the thirty years from the 1970's to 2002.

From their analysis of these projects they developed a list list of "lessons learned" and a list of "important considerations" that must be addressed by any outer atoll marine resource development project:

- Investment capital is in short supply in the outer atoll where the most promising aquaculture sites are located.
- Commercial export must compete with subsistence harvesting of various marine resources.
- The producers on outer atolls typically have no appreciation of the problems and the costs of bringing a product to market and selling it successfully.
- Continuity and sustainability are difficult to establish: when the grants and other government support runs out, the project collapses.
- The technical difficulties involved in developing many outer atoll marine products can be substantial and very expensive to address.

McCoy & Hart explain RRE's aquaculture success as a consequence of being located in Majuro: "That these activities are able to succeed in a more urban setting despite the limited natural resources