

OLOWALU NUI HYDROPONIC TOMATO FARM FARM INFORMATION

Interview with: Karl Casco, Owner of Casco Chicken Farm
Interview date: October 26, 2011
Interviewed by: Bill Frampton, Frampton & Ward, LLC
Tessa Munekiyo Ng, Munekiyo & Hiraga, Inc.

The interview with Karl Casco took place via telephone conference on October 26, 2011. Mr. Casco is the owner of the Casco Chicken Farm. The following summary is based on the interview with Mr. Casco as well as documentation on lease terms and water usage from Olowalu Water Company (OWC).

Farm Overview

Mr. Casco leases approximately four (4) acres of land from Olowalu Elua Associates on a portion of TMK (2) 4-8-003:114. The Casco Chicken Farm is located mauka of Honoapi'ilani Highway and is accessed by an unpaved roadway. Mr. Casco relocated his rooster farm from Puunoa, Lahaina to Olowalu in 2009 due to nuisance complaints from neighbors at the former location. The chicken farm operated for four (4) years at Puunoa.

Mr. Casco's lease with Olowalu Elua was signed in April 2009 was for two (2) years, with subsequent renewal in one (1) year increments. Current monthly rent for the 4-acre property is \$600; the farm operation is responsible for paying for its water usage. Between January and August 2011, the rooster farm has used an average of 113,000 gallons of water per month. The average monthly water bill paid by the farm during this time period, before the recent OWC rate increase in September 2011, was approximately \$86 per month (Olowalu Water Company, 2011). Mr. Casco noted that water is used for the animals at his farm; the farm's water usage increases during the hot and dry summer months.

The Casco Chicken Farm raises approximately 250 roosters; there are no hens at the farm. The farm acquires chicks to raise from hens that Mr. Casco used to own but gave away to others. In addition, Mr. Casco raises goats and some pigs. There are currently about 15 goats at the farm. The goats roam within the fenced areas of the farm and help to control the grass growing on the property. There are just five (5) pigs at the farm currently. The roosters are the primary focus of the farm while the goats are raised to help with additional costs and control the grass. The pigs are raised on just a small-scale, intermittent basis.

The farm utilizes most of its land, with the exception of about half an acre near the east side of the property. Approximately 80 percent of the active farm area is used for raising animals. The remaining 20 percent is used for operational buildings and facilities. Facilities at the chicken farm include a perimeter fence, underground irrigation, and housing for the roosters. The initial relocation and start-up costs to establish the farm in

Olowalu totaled approximately \$12,000. This included the relocation costs as well as the costs to clear the lands, erect the perimeter fence, and install the underground irrigation.

Mr. Casco experimented with growing a few crops at his farm in the past. He was particularly interested in growing sod and grass. However, there is a lot of nut grass growing in the soil, making sod and grass cultivation very challenging. Currently Mr. Casco focuses on raising the roosters and other animals at the farm and does not grow any crops.

The Casco Chicken Farm is thought to be the largest rooster operation on Maui. There are a few other smaller chicken farms on the island, including two (2) in Olowalu. One of the farms in Olowalu is within the Olowalu Cultural Reserve.

Locational Advantages and Disadvantages

Mr. Casco reports that primary advantage of the farm's current location in Olowalu is the isolation. There are no residential neighbors in close proximity to the property, which is a major advantage for the chicken farm in particular. Noise associated with rooster crowing can be a nuisance to nearby residents. As such, the isolation at Olowalu limits the potential for nuisance complaints.

The primary disadvantage of the farm's location in Olowalu is the threat of fire hazard. The Olowalu region receives minimal rainfall and is characterized by dry vegetation that serves as fuel hazard for fires. Mr. Casco is concerned about the threat of fire to his farm. He has cut the trees around the perimeter of his farm to create a fire break in case there is a fire. If a fire were to threaten the farm, Mr. Casco would move all of the roosters to the center of the farm and turn on the sprinklers to try to protect the farm and the animals.

In addition to the fire threat, Mr. Casco also notes that the unpaved access road to the farm is in poor condition.

Farm Production, Sales, and Operations

The Casco Chicken Farm sells its roosters primarily in the Philippines. Mr. Casco takes two (2) trips to the Philippines per year to sell the roosters. In addition to sales in the Philippines, the farm does sell some roosters locally in Hawaii. The majority of the farm's sales within the State are on Oahu, however, Mr. Casco does sell roosters on Maui and Molokai as well. The farm typically sells approximately half of the roosters on the farm each year.

Mr. Casco also sells the goats and pigs on his farm. The sales of these animals take place at his farm. Goats sell for approximately \$250 while pigs can sell for about \$200 each. At one point, Mr. Casco was selling between four (4) and five (5) goats per month.

The revenues from rooster, goat, and pig sales allow the farm to break even financially. The sales help to cover the lease payments, water bill, and feed. As previously

mentioned, the current lease is \$600 per month and the water bill has averaged \$86 per month between January and August 2011. The water costs for the farm, however, are highly seasonal. During some months, the water bill has exceeded \$150 or even \$200. The cost of feed is approximately \$800 per month.

Mr. Casco noted that the pigs themselves are not profitable. Raising pigs is very labor intensive, particularly if slop food is used. Mr. Casco purchases feed for his pigs. The cumulative cost of the feed during the time the pig is raised is higher than what Mr. Casco can sell the pig for. For this reason, the farm just has a few pigs on an intermittent basis.

The Casco Chicken Farm does not have any employees. Mr. Casco runs the farm by himself, with the help of some friends and relatives. Mr. Casco's son and friends volunteer their time to help at the farm when needed.

Mr. Casco does not have plans to expand the farm's operations in Olowalu at this time due to the cost of expansion and the uncertainty with the lease. The farm is leasing the property on a year-by-year basis. As such, Mr. Casco does not want to invest money to expand with these uncertain conditions. If he were to have a three (3) or four (4) year lease, Mr. Casco would consider expanding.

Nuisance

If residential or commercial uses were developed in areas surrounding the Casco Chicken Farm, nuisance complaints associated with noise would be anticipated. Roosters naturally crow and there aren't many mitigation measures to control this noise.

Relocation

Mr. Casco understands that there are plans for future development in Olowalu. He has attended community meetings for the Olowalu Town project and likes the Master Plan's provision of parks and open space as well as access to the ocean. He believes that parks and shoreline access are needed in the community and are very important to the way of life in Hawaii.

The Casco Chicken Farm does not have replacement land currently available if they were required to relocate from Olowalu. Mr. Casco indicated that he would look at other areas on the island and would relocate somewhere if there were no plans for development in the foreseeable future. Mr. Casco would be willing to relocate to locations where the farm can plan to stay for a lengthy period of time, such as 50 years. This would make the investment in relocation and establishing the farm worth it. If the farm were to relocate, Mr. Casco would also consider other types of farming at that time. He mentioned that he would like to do sod and grass farming, which was not feasible in Olowalu.

When the Casco Chicken Farm relocated to Olowalu, the relocation and start up costs totaled \$12,000. These costs were high because the farm was only given a one (1) month notice to relocate. As such, all of the improvements to the land at Olowalu had to be done very quickly and was very labor intensive. Mr. Casco noted that a longer relocation

period, such as six (6) months, would make the relocation process much more affordable. This would allow for Mr. Casco to do the improvements and relocation slowly over time. Due to the nature of the farm, the relocation process would not result in the loss of animals or sales.

PROPOSED OLOWALU NUI HYDROPONIC TOMATO FARM

FARM INFORMATION

AGRICULTURAL IMPACT ASSESSMENT

Interview with: Connie Applegate, Owner and Manager of Olowalu Nui Hydroponic Tomato Farm

Interview date: October 19, 2011

Interviewed by: Bill Frampton, Frampton & Ward, LLC
Tessa Munekiyo Ng, Munekiyo & Hiraga, Inc.

The interview with Connie Applegate took place at the Olowalu Nui Hydroponic Tomato Farm (Olowalu Nui) on October 19, 2011. Ms. Applegate is the owner and manager of the Olowalu Nui farm. Her late husband, Jon Applegate, owned the farm prior to his passing in June 2011. The following summary is based on the interview with Ms. Applegate as well as documentation on farm operations provided by Ms. Applegate and Olowalu Water Company (OWC).

Farm Overview

The Olowalu Nui farm leases approximately four (4) acres of land from Olowalu Elua Associates on a portion of TMK No. (2) 4-8-003:115. The farm is located north of Olowalu Stream and mauka of Honoapi'ilani Highway, accessed by an unpaved road.

Olowalu Nui originated in Hana, where the farm cultivated seven (7) acres of land for seven (7) years. In 2001, the Olowalu Nui relocated to Olowalu and began leasing land from Olowalu Elua Associates. The initial lease began with a 5 year term that was extended for another 5 years. Over the first 10 years of the lease, the tomato farm paid heavily subsidized rents to Olowalu Elua. Rent payments totaled approximately \$300 per year and Olowalu Elua paid for the non-potable water used by the farm.

In January 2011, Olowalu Nui entered into a new one-year lease for the land in Olowalu. Under the current lease, the farm paid \$500 per month in rent over the first six (6) months of the lease and \$900 per month during the last (6) months of the lease. Olowalu Nui is also now responsible for paying for all of its water use provided by the Olowalu Water Company (OWC). Between January and August 2011, Olowalu Nui has used an average of 433,000 gallons of non-potable water per month, with an average monthly water bill of \$330 (Olowalu Water Company, 2011). The average monthly water bill, however, represents costs prior to OWC's rate increase in September 2011.

Olowalu Nui grows tomatoes using hydroponics, a method of growing plants that uses mineral nutrient solutions in water, without soil. In addition to tomatoes, the farm grows a small amount of lettuce, basil, parsley, cilantro, and other herbs using hydroponics. These crops are grown in five (5) greenhouses on the property. Olowalu Nui also has approximately 200 citrus trees, as well as 600 coconut, banana, papaya, and mango trees. Within the farm, approximately two (2) acres are used for fruit trees and 1.5 acres are used for hydroponic crops in greenhouses. The remaining 0.5 acre is used for accessory farm operational facilities such as a small office, parking, and storage.

In addition to the operation at Olowalu, Ms. Applegate grows seeds and plants on a small-scale basis at her home.

Locational Advantages and Disadvantages

Ms. Applegate reports that advantages of their current location in Olowalu include proximity to major markets, solar radiation, and water availability. The farm's location provides excellent access to West, South, and Central Maui. In addition, being located on the south-facing slopes of the West Maui Mountains, the region receives ample sunlight, which is good for tomato crops. Water availability through OWC is also an advantage of the location. Olowalu Nui is also set back from Honoapi'ilani Highway and is isolated from other users.

The primary disadvantage of the farm's location in Olowalu is the threat of fire hazard. The Olowalu region receives minimal rainfall and is characterized by dry vegetation that serves as fuel hazard for fires. Olowalu Nui has first hand experience with the fire risk in the region; in 2007 a wildfire destroyed the entire farm. All of the farm's greenhouses and crops were lost. Another disadvantage of Olowalu is the strong winds in the area. Olowalu Nui has planted banana trees to serve as a windbreak for the property. Ms. Applegate also mentioned that the Olowalu Nui property does not currently have access to potable water.

Farm Production, Sales, and Operations

Olowalu Nui suffered a major setback in 2007 when a wildfire destroyed the entire property, including the greenhouses the farm had built. The farm was profitable in 2007 prior to the fire. However, the fire caused \$600,000 damages and losses from plant production. Since the fire, the farm has been operating at a loss due to low production from the fire. Olowalu Nui built new greenhouses and repaired its facilities in 2010 and early 2011. Another new greenhouse was prepared for construction earlier this year. However, construction of that greenhouse was put on hold when Mr. Applegate passed away. Beyond the additional greenhouse, Olowalu Nui does not have plans for further expansion at this time.

Since completing repairs and improvements in 2010 and 2011, the farm is hoping to return to profitability in the next few months. In 2010, the gross sales for the farm was \$163,078.00.

The farm sells its crops to restaurants and retail stores in West, Central, and South Maui. The farm in Olowalu is centrally located to these various destinations. The coconut trees are sold to landscaping companies.

The operation at Olowalu Nui is very labor intensive. Olowalu Nui employs one (1) full-time worker and one (1) part-time employee. In addition, the farm hires eight (8) outside contract workers on a part-time basis. The farm does not hire seasonal workers. Monthly payroll for all labor averages approximately \$8,000 to \$10,000.

Nuisance

If residential or commercial uses were developed in areas surrounding the Olowalu Nui farm as part of Olowalu Town, Ms. Applegate does not anticipate significant nuisance complaints from future neighbors over the operations at the farm. This is in large part to the type of farming practiced at Olowalu Nui. Hydroponic farming does not involve spraying of chemicals or fertilizers; instead, mineral nutrient solutions in the water are used to grow the crops. Olowalu Nui also rarely sprays chemicals on its tree crops. The farm uses the water from the hydroponic crops to also irrigate the fruit trees on the property. The farm does not generate noise or produce odors. Banana trees have been planted along the border of the property to serve as a windbreak. These trees would also serve as a buffer or barrier between the farm and neighboring uses.

While complaints from actual farm operations are not anticipated, Ms. Applegate noted that the unpaved access road from Honoapiʻilani Highway to the farm site does generate dust that may be considered a nuisance to neighboring properties. This dust nuisance, however, could be easily mitigated through paving of the access road, which is owned by Olowalu Elua Associates.

Relocation

Ms. Applegate indicated that Olowalu Nui does not have replacement land in Olowalu or elsewhere on Maui if the farm was forced to move from Olowalu. Assuming comparable replacement land could be found, Ms. Applegate estimates that the cost to relocate would be approximately \$50,000. In addition to the actual relocation costs of disassembling and reassembling farm equipment, Olowalu Nui would lose revenues from crop production during the relocation period. Disassembling and reassembling the hydroponic facilities and farm would take approximately six (6) months. For tomatoes, it takes 60 days from the time a seed is planted to harvest a crop. As such, the total relocation time, including the time it would take to start producing crops again, would be at least eight (8) months. To minimize the relocation time, Olowalu Nui could build and set up the nurseries at the new location, move the crops over, and then disassemble the existing facility. This, however, would not allow for reusing the existing infrastructure at the current location.

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Photos of Olowalu Nui Hydroponic Tomato Farm
(Photos provided by Frampton & Ward, LLC)



PHOTO NO.1: Photo of One (1) of Olowalu Nui's Five (5) Greenhouses at the Farm



PHOTO NO. 2: Photo of One (1) of Olowalu Nui's Five (5) Greenhouses at the Farm



PHOTO NO. 3: Photo of Tomato Crop Grown Using Hydroponics in One of Olowalu Nui's Greenhouses



PHOTO NO. 4: Photo of Lettuce and Other Crops Grown Using Hydroponics in One of Olowalu Nui's Greenhouses