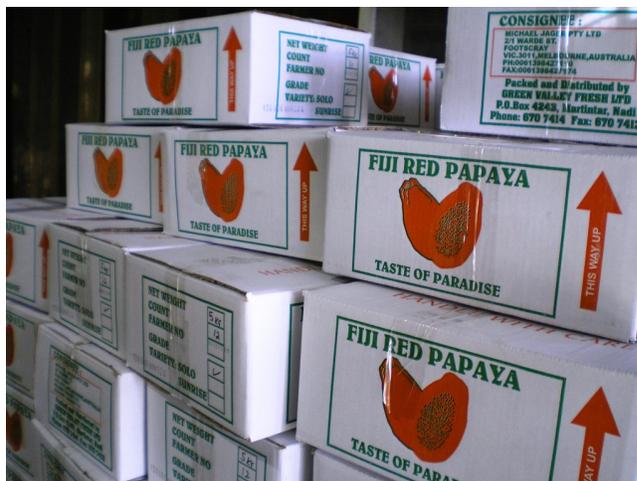


# Natures Way Cooperative (Fiji) Ltd: A Strategic Plan to Achieve a Sustainable Future



February 2009

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## 1 Executive Summary

This document is Nature's Way Cooperative (NWC) Fiji Ltd's second Strategic Plan. The first plan covers the period 2002-2006. Assistance in the preparation of this second plan was provided by AusAID as a part of its support for NWC under the Fiji Rural Enterprise Development Initiative.

### *The origins of Natures Way Cooperative*

NWC was originally a product of the United States Agency for International Development (USAID)'s Commercial Agricultural Development (CAD) Project in the South Pacific. CAD introduced to the South Pacific Region the high temperature forced air (HTFA) quarantine treatment for fruit fly host commodities. The USAID requirement that the quarantine treatment facility be operated by the private sector (the industry) was a major departure from the tradition of government operated quarantine treatment in the Pacific islands.

### *Performance review*

The HTFA facility was certified for export of papaya to New Zealand on November 1995. However, a year elapsed until an export shipment was made. This was primarily the result of the CAD Project closing soon after the commissioning of the HTFA facility due to withdrawal of USAID from the region. The premature closure of CAD left the newly created quarantine treatment business in a very precarious position. Project funds originally allocated for staff training, business development support and most importantly working capital, were not forthcoming. A loan request for \$60,000 in start-up capital was made to all the commercial banks and the Fiji Development Bank (FDB). These requests were all turned down. However, thanks to the determination of NWC's Manager the minimum start-up funding requirements were sourced from a variety of other sources. A desirable consequence of NWC's start-up capital requests being rejected by the banks is that it began commercial operations debt free a status it has been able to maintain until this day. This has been critical in the ability of the Cooperative's ability to ride-out unforeseen disruption to cash flow such as the January 2009 floods.

### *Treatment throughput*

Since NWC has grown from a small business handling just 30 tonnes of papaya to an agribusiness treating 1,000 tonnes fruit (papaya, mango, eggplant and breadfruit) annually for export. In achieving this, the Cooperative has had to overcome major constraints. These included the unavailability of start-up working capital; the political crisis of 2000 and its disruption to trade; market access barriers; and nature disasters.

Over the period 1996 to 2008 inclusive, 7,163 tonnes of fruit were treated and exported. Of this total, 6,258 tonnes were exported to New Zealand (87%) and 912 tonnes (13%) to Australia (figure 1). In 2008, 686 tonnes were exported to New Zealand (79%) and 178 tonnes to Australia (21%). Of the total fruit treated 3,526 tonnes has been papaya (49%), 3081 tonnes eggplant (43%), 493 tonnes mango (7%), and 65 tonnes bread fruit (1%).

Annual shipments of papaya to New Zealand since 2004 have exceeded 230 tonnes annually, with a maximum 286 tonnes achieved in 2005. It is projected that these exports will increase to 600 tonnes over the next two to three years and 1000 tonnes over 5 years provided a sufficient and regular supply of high quality fruit is available and cost can be significantly be reduced through sea freighting of fruit.

It was not until March 2006, that significant papaya exports to Australia began. In that month Cyclone Larry devastated the main Australian papaya growing areas in North Queensland. If Fiji can establish and maintain a reputation for quality and reliability of supply annual papaya sales to Australia of around 500 tonnes are seen as readily achievable. If costs can be significantly reduced through sea freighting it is expected that the market could be significantly larger.

From the outset the United States was identified as a market for Fiji papaya. HTFA quarantine treatment technology was originally developed by the USDA for the treatment of Hawaiian papaya for export to the US mainland. However, for more than a decade the Fiji Quarantine Inspection Service (FQIS) had failed to submit the required data to USDA/APHIS. In desperation in early 2008 used its own resources to prepare a market access submission for papaya into the US market. It is expected that it be the organic market in the US that will be targeted. Shipments to the US are provisionally projected to reach 100 tonnes annually over the next 5 years. However, a detailed market assessment for the US will be undertaken March/April 2009.

HTFA treated eggplant was certified for export to New Zealand in July 1997 and the first commercial shipment was made on August 1997. This was a world's first for HTFA quarantine treatment for eggplant and represented a major achievement for NWC. Eggplant is now exported year round to New Zealand and not just during the winter window as was previously the case. Eggplant exports to New Zealand in recent years have oscillated around 430 tonnes annually. The unexpected success of HTFA eggplant has provided the basis for Nature's Way achieving financial viability during its early years of operation. Eggplant exports have been entirely to New Zealand and only modest growth in this market can now be expected. The expected entry of Fiji eggplant into the Australian market has not materialized. This represents a failure on the part of FQIS in securing market access. Policy change by Bio Security Australia (BA)/AQIS will now make it a much more drawn out process to secure market access for eggplant into Australia. Despite the delays caused by this change in Australian policy it still remains important to have a well considered priority list of products already submitted BA ready for their consideration. Eggplant and breadfruit should be at the top of that list.

In 1997 mango was the third commodity to come on line for HTFA treatment for New Zealand. Annual throughput of mango has been highly variable – ranging from 19 tonnes in 2008 to 120 tonnes in 1998. Exports are now almost entirely based traditional Fiji varieties to New Zealand. Fiji's improved variety mangoes cannot normally to compete with Ecuadorian mangoes.

Fresh breadfruit exports to New Zealand have shown steady growth since the first shipment of HTFA-treated breadfruit in October 2001. Exports were 2 tonnes in 2001, with exports over the last few years being around 12 tonnes. Performance has been well below market potential and the projections made in the Strategic Plan (2002-2006). These projections are based on a combination of positive indicators: These projections were based on a combination of positive indicators: 1) breadfruit's proven suitability to HTFA treatment; 2) the existing production base; 3) a large New Zealand market already in place; and 4) the potential markets of Australia and the United States. The projections made in the Strategic Plan (2002-2006) remain readily achievable, particularly if market access to the United States and Australia can be realised. However, the industry still needs to make the transition from wild harvesting of fruit to growing breadfruit as a crop.

The approval of mixed treatments by New Zealand MAF in 2001 created prospects for a number of minor fruit fly host products for HTFA treatment. The Strategic Plan identified gourds (bitter, bottle, and sponge), wi, jak fruit and limes as priority products having good market opportunities and likely to be well suited to HTFA treatment. All these products were included in Strategic Plan projections. However, none of these "new" products have come on line. Regrettably the last market access approval obtained was for bread fruit to New Zealand in 2001.

### *Economic performance*

Since NWC commenced operations in 1996 approximately \$15 million has been generated in foreign exchange earnings of which nearly \$6 million has been paid to farmers. Currently NWC annually generates around \$2million in export earnings and \$800,000 in farmer income. Because of the capital investment made by NWC a three fold increase in export earnings and farmer income is now feasible. There are an estimated 330 full time job equivalents generated due to the activities of Natures Way.

### *Financial performance*

The last few years, with increased throughput and improved labour efficiency, have seen NWC achieve a reasonably sound financial position.

Unacceptable high level of trade debtors prevails. As of December 31 2008, exporter arrears over 90-days stood at \$130,350. Two major exporters have substantial aged receivables of over 90 days. These two exporters have essentially used Natures Way to finance their operations and their actions threaten the financial sustainability of the quarantine treatment business.

### *Treatment charges*

In recent years exporters have argued that a treatment charge were too high and reduced Fiji's international competitiveness. A comprehensive review of treatment charges found this not be the case NWC Board and Management have been conservative in setting treatment charges. This approach has served the industry well. A continuation of this conservative approach, based on due diligence, must be maintained in future to ensure the financial sustainability of the business.

### *Service performance*

The HTFA facility has proven to be remarkable robust. Only once in 12 years of operation have exports has been lost due to malfunctioning of equipment. There have been occasional stoppages due to failure of electronic components. However, these problems have been rectified in sufficient time to avoid loss of produce. In 1999, the chambers were reconfigured to operate independently. Since then there have been no stoppages due to equipment failure. On one occasion has there been damage to produce caused by human error.

The impressive record of operational reliability is partly due to the quality of the equipment and components used. Dr Michael Williamson who commissioned the facility has provided admirable back-up support and staff training. Key person dependency on Dr Michael Williamson remains a serious concern.

NWC's HTFA treatment facility has met the quarantine requirements of New Zealand and Australia without having a deleterious effect on fruit quality. The seven-fold increase in eggplant exports above those achieved during the time of chemical treatment is testimony to this improved quality. Significant exports of a highly perishable commodity such as breadfruit could not have been contemplated in the days of chemical treatment.

### *Other support services for members*

The Strategic Plan (2002-2006) recommended that during the Plan Period extend it services to its members beyond the core business of quarantine treatment.

A small field service was established in September 2007 with appointed Luke Tirimaidoka's. Tragically he died in at work one year later. Luke's work proved the value of a small focussed field service provided the right person is appointed. A replacement for Luke should be made utilizing the year of AusAID funds remaining. In the light of the accentuating circumstances of Luke death and the catastrophic floods on January 2009 a request should be made to AusAID

to extend the funding of this position for a further year before NWC fully takes on this responsibility.

The bulk importation of field crates activity has proven that there is high demand for crates to improve the efficiency of handling and to improve quality. This demand does not only come from exporters. It includes farmers and traders who are supplying produce at the municipal markets, hotels, restaurants and retail outlets. NWC is ideally placed to expand this business for benefit of its members and to broaden its commercial base. Sales could be significantly expanded if cost can be reduced.

Out of frustration of the lack of any progress in the development of new export protocols, NWC has taken on an increasingly active role in this area. Initially this involvement was in the form of lobbying and making representations to FQIS and other government agencies. However, these efforts achieved no tangible results. More recently NWC has taken on itself to become more directly involved the coordination of market access submissions for papaya and breadfruit.

#### *Performance in providing "rainy day" contingencies*

The nature of the business is that from time to time there will be sharp declines in throughput due to factors that are outside the control of NWC. Examples are natural disasters, political disturbances and the discovery of an exotic new fruit fly. A quarantine treatment in business Fiji requires considerable reserves to be able to ride out such eventuality and remain financially solvent. With the inevitability of climate change the frequency of severe floods and cyclones is likely to increase.

As a consequence of the January 2009 flood most treatments will be suspended for 3 to 4 months. It will take up to a full year before throughput will return to normal levels. Thus without adequate reserves NWC would be facing financial crisis with continued operations depending on fickle government grants. Fortunately NWC put aside some \$105,000 in a fixed deposit to cover such a contingency.

#### *Capital investment*

It is in the area of capital investment that NWC has performed exceptionally well. Over the last decade retained earnings have been invested in a program to increase treatment capacity and to enhance product quality. The total value of this investment has been around \$300,000. There have not been sufficient retained earnings to meet the larger scale capital investment required to treat 3,000 tonnes of produce annually. Fortunately, NWC has had been able to lever donor and other assistance to meet these additional investment requirements. NWC has been successful in securing external capital funding because it has demonstrated its willingness to make a substantial contribution of its own retained earnings to expand the business.

#### *Development of new quarantine treatment protocols*

The Ministry of Agriculture has failed in meeting its core market access responsibilities. The failure to secure any new market access protocols since 2001 resulted in a significant loss of revenue to NWC, shareholders and to the nation as a whole. The estimated losses over the last 5 years have been:

- \$0.5 million in lost treatment revenue to NWC.
- \$3.7 million lost export earnings to the nation.
- \$1.8 million in lost farmer income.

The current annual loss in export earnings is around \$890,000 and farmer income about \$350,000. These losses will steadily increase in the future if nothing is done to rectify the situation. The lack of new export protocol development has substantially increased the level of risk faced by NWC. The floods on January 2009 meant that only breadfruit was immediately available for export. It will be four months before significant supplies of eggplant and nine months before significant supplies of papaya will be available. Wi and jackfruit are available and had export protocols been in place these product could have helped fill some of this gap.

Out of frustration with lack of any progress in securing market access NWC used its own resources to acquire the services of Dr John Armstrong (ex USDA) to coordinate the submission of the market access proposal for papaya into the US. It is recommended that a similar approach be adopted for market access submissions for the New Zealand and Australian markets.

#### *The efficiency of labour utilisation*

Labour is the main cost element of prime (direct) treatment costs (around 76%). These costs have represented for from 20 to 38% of total annual expenditure. The expectation is that with increasing throughput, the efficiency of labour utilization should improve. This, however, did not occur in 2004 and 2005. The increase in the labour cost per kg treated reflects a degree of inefficiency in the utilization of labour and the excessive payment of overtime. The wide body chamber became operational at the end of 2005, resulting in a substantial decrease in unit labour costs in 2006

Substantial gains in the efficiency of labour utilisation can be expected with the investments have now been made in the expansion in the packing area and a new treatment chamber.

#### *Use of donor funds and technical assistance*

NWC management has been skilful in securing external capital funding and technical assistance to support the development of the fruit and vegetable export industry. The total value of this assistance has been almost \$1.8 million. NWC has proven it self to be a financially viable operation. However, it would not have been possible to get established and to expand without donor assistance. Borrowing from commercial banks is not a realistic option.

#### *Management performance*

Nature's Way has been a success largely because of the high quality of its management. Sant Kumar, who has been the Manager from the outset, has proven be outstanding leader for this pioneering business. In retrospect the major management weakness has been in the control of exporter arrears.

The Strategic Plan (2002-2006) identified the issue of key person dependency with respect to the Manager. A program was outlined for a smooth transition in NWC management over the plan period. The experienced field officer who was appointed in 2007 had been identified as the likely person who would take over as manager in early 2009. The death of Luke Tirimaidroka derailed the management succession plan. The current manager has indicated his wish to retire by the end of the 2009. A suitably replacement manager now needs to be appointed as a matter of urgency to allow this person to be mentored by the incumbent before he retires.

#### *The performance of the quarantine treatment business as a Cooperative.*

Operating as a registered cooperative has served the business reasonably well in its 12 years of operation. There was the benefit of a 7 year tax holiday and a steady increase in exporter membership. However, there have been a number of short comings and problems arising from being a cooperative. NWC has grown from a small service cooperative to mature agribusiness who's annual turnover in the next few years is expected to exceed a one million dollars. The longer term sustainability of the business depends on being able to attract more equity investment on the part of its shareholders and in being able to maintain high quality management that make decision decisions that are in the long term interest of industry. These objectives are more likely to be achieved if NWC was a limited liability company that operated under the Companies Act. It would still operate as an industry owned business, in which the exporters and farmers being the shareholders. However, the transformation of Natures Way Cooperative (Fiji) Ltd. to Natures Way (Fiji) Ltd., would first require the liquidation of NWC. The risk of unintended consequences of such a liquidation are too high to justify this action. Thus it is recommended that Natures Way remain as a registered cooperative.

### **Requirements for a sustainable business treating 3,000 tonnes of fruit annually**

#### *Why 3,000 tonnes?*

With the completion of the current capital investment program NWC will theoretical capacity to treat is around 3, 800 tonnes per annum. A realistic maximum capacity is likely to be more in the order of 3,000 tonnes per annum.

With the Fiji fresh fruit and vegetable export industry starting to realise its full potential, treatment requirements may in the not too distant future exceed this expanded capacity. At this stage, the volumes handled by some of the larger exporters would be sufficient to justify investment in their own quarantine treatment facility. The establishment of future competing private treatment facilities should be encouraged.

It is recommended that NWC make no more investment in treatment capacity. The emphasis should now be on improving the efficiency of operations within the existing capacity and improving the quality and production of fruit coming from the field. NWC also has long term role to play in facilitating market access for new commodities and new markets. .

#### *An agribusiness more than just quarantine treatment*

Natures Way Cooperative's core business is quarantine treatment and this should continue to be case in the future. However, there are opportunities to take advantage of NWC's strategic position to raise funds to undertake other service activities on behalf of the horticultural export industry. Such activities should not undermine NWC's ability to provide efficient quarantine treatment services. These activities should include:

- Representing the needs of the horticultural export industry.
- Operating a small field service
- Facilitation of market access
- Targeted bulk import supplies (crates and papaya seed)

#### *Retained earning requirements*

No large capital investments are envisaged for the foreseeable future. However, it still is important to maintain a high level of retained earnings. These retained earnings are required:

- to continue a high level of repair and maintenance;
- to maintain a high level of rainy day reserves (the value of high level reserves has been proven with consequences of 2009 flood; and
- to have sufficient funds to operate a small field service.

Thus it is recommended that treatment fees remain at 35c/kg (for exporters whose accounts are current) and 40c/kg for others (exporters with accounts over 30 days) remain for the foreseeable future. Similarly, a conservative approach to paying dividends should be maintained.

#### *An appropriate corporate structure for the future*

There would be clear advantages for NWC to operate as a limited liability company. However, the required liquidation of the cooperative to become a limited liability company brings with it an unacceptable level of risk. It is hoped that changes to the Cooperative Act that are expected to be recommended by the Qalo's Review will enable NWC to enjoy the "best of both worlds". The review looking to the New Zealand Cooperative Act as guide for legislation that would be more suitable for larger cooperative businesses such as Natures Way. New Zealand has a number of large and successful agribusiness cooperatives. If these reforms materialize, Natures Way Cooperative (Fiji) Ltd. will be in a position to achieve the best of both worlds, which will include, according to Professor Qalo, a more favourable tax status.

#### *Organisational requirements*

A simple organisation structure is required to operate the expanded steady business. There is now no need to appoint an assistant manager as described in the previous Strategic Plan.

### *Skill requirements*

There is a need to upgrade the basic skill levels of NWC workers. It is recommended that future workers that are recruited have a higher level of secondary school education. Now that the business has a solid financial base, it is recommended that selected workers should be sponsored to undertake formal certificate courses in areas such as computing, electronics and basic mechanics.

### *Achieving high quality management continuity*

The Strategic Plan (2002-2006) identified the issue of key person dependency in two critical areas: 1) management and 2) engineering/electronics. This still remains the situation. A suitably replacement manager needs to be appointed as a matter of urgency to allow this person to be trained by the incumbent before he retires. There is a need to have on going access to locally based engineering/electronic services as required.

### *Eliminating the chronically high treatment payment arrears*

Perhaps the greatest risk to the sustainability of Natures Way is the unacceptably high levels of arrears. To reverse this unacceptable debt situation, management must refuse treatment services to exporters who don't meet conditions at the December 19<sup>th</sup> Board Meeting. Some of the exporters with the worst arrears status are amongst the most severely affected by the January floods. This should not be accepted as reason for modifying this treatment conditions.

### *Expanding market access*

The absence of new export protocol development over the last decade has substantially increased the level of risk faced by NWC. This has been highlighted by floods on January 2009. Out of frustration with lack of any progress in securing market access NWC used it own resources to facilitate market access to the United States for papaya and breadfruit through acquire the consulting services of Dr Jack Armstrong. It is recommended that a similar approach now be adopted for market access submissions for the New Zealand and Australian markets. NZAID and AusAID funding respectively should be sort for this work. .

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## 2 The origins of Nature's Way.

Nature's Way Cooperative (NWC) was originally a product of the United States Agency for International Development (USAID)'s Commercial Agricultural Development (CAD) Project in the South Pacific. One of CAD's main activities was to introduce to the South Pacific Region high temperature forced air (HTFA) quarantine treatment for fruit fly host commodities. Fiji and Tonga were selected as the initial target countries. Fiji at that time had lost major export markets (in Australia and New Zealand) due to the banning of the chemical ethylene dibromide (EDB) of quarantine treatment for fruit fly host material<sup>1</sup>.

<sup>1</sup> Exports of EDB treated fruit fly commodities to Australia and New Zealand in 1990 were reported as follows:

Commodity	New Zealand (tonnes)	Australia (tonnes)	Total (tonnes)
Bitter gourd (Amargoso)	9.2		9.2
Breadfruit	2.9		2.9
Eggplant			129.4 (all markets)
Jak fruit	6.1		6.1
Sponge gourd (loofah)	2.3		2.3
Mangoes	0.6	5.9	6.5
Papaya	9.2	22.3	31.5
Pumpkin	2.1		2.1
Tomatoes	1.1		1.1

There were two interrelated components of CAD's HTFA Project. The first component was to transfer the HTFA technology developed by the United States Department of Agriculture (USDA). The other was to develop the business to commercially operate the quarantine treatment facility. The USAID's requirement that the quarantine treatment facility be operated by the private sector (the industry) was a major departure from the tradition of government operated quarantine treatment in the Pacific islands. In both countries there was considerable resistance to the concept of industry operated quarantine treatment. In Fiji the concept of industry ownership prevailed. Today Fiji has a viable quarantine treatment facility and a thriving and growing industry in the export of fruit fly host commodities. In Tonga, government took control of the HTFA facility at the completion of the USAID Project. Tonga has exported virtually no fruit fly host products – with zero exports over the last 5-years.

The HTFA facility at the Nadi International Airport was commissioned in June 1995. USAID provided the treated chamber and ancillary equipment for a total cost of \$249,000. USAID also met the cost of the Manager for a 1-year and technical assistance to establish the facility. CAFF provided the site for the treatment facility and MAFF provided the funds for the building (around \$250,000). Nature's Way Cooperative was registered on August 15<sup>th</sup> 1995, with Sant Kumar officially appointed manager and Tim Casey, General Manager of Southern Development Company (SDC), appointed Chairman. Both have continued in these positions until this day.

The HTFA facility was certified for export of papaya to New Zealand on November 1995. However, a year elapsed until an export shipment was made. This was primarily the result of the CAD Project closing soon after the commissioning of the HTFA facility due to withdrawal of USAID from the region. The premature closure of CAD left the newly created quarantine treatment business in a very precarious position<sup>2</sup>. Project funds originally allocated for staff training, business development support and most importantly working capital, were not forthcoming. A loan request for \$60,000 in start-up capital was made to all the commercial banks and the Fiji Development Bank (FDB). These requests were all turned down. The reason given in all cases was inadequate security. The decision by the FDB was particularly disappointing given the projected financial viability of the venture and the clear development benefits it would bring to the country. Thus NWC faced the prospect of being aborted before it even started commercial operations. This would have meant passing quarantine treatment responsibility back to Ministry of Agriculture. However, thanks to the determination NWC's Manager the minimum start-up funding requirements were sourced from a variety of other sources<sup>3</sup>. The turning point for the launching of NWC came with the visit to the facility by New

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*191.1 tonnes*

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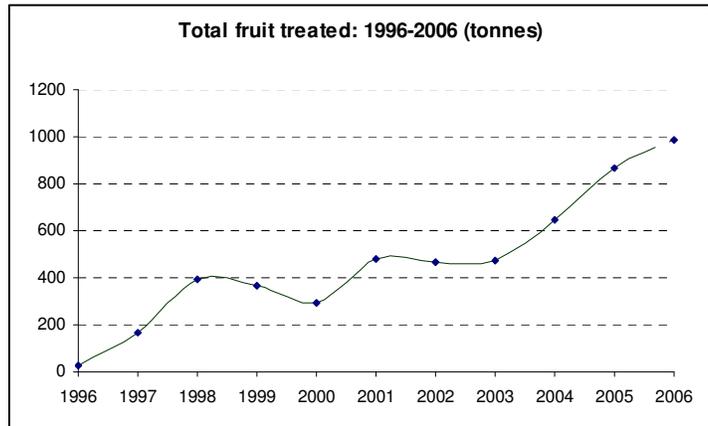
<sup>2</sup> The termination of the CAD project a year earlier due to the performance of the project, but was a consequence of the Clinton Administration decision to close USAID operations in the South Pacific.

<sup>3</sup> These were:

<b>Funding source</b>	<b>Amount (\$F)</b>	<b>How purpose</b>
<i>Fiji/New Zealand Business Council</i>	<i>10,000</i>	<i>Training</i>
<i>Fiji/New Zealand Business Council</i>	<i>6,733</i>	<i>Training</i>
<i>SPC Fruit Fly Project</i>	<i>4,201</i>	<i>Protocol development</i>
<i>ESCAP/Pacific Operations Center</i>	<i>9,000</i>	<i>Training and protocol development</i>
<i>Gov. Fiji (Commissioner Western discretionary fund)</i>	<i>10,000</i>	<i>Working capital grant</i>
<i>NZ ODA</i>	<i>40,000</i>	<i>Working capital grant</i>
<i>Friends of Nature's Way Contributions</i>	<i>1,000</i>	<i>Working capital</i>

Zealand Minister of Foreign Affairs, Don McKinnon in June 2006. He recognized the critical importance of the success of this venture for produce exports from the Pacific islands and immediately authorized the release of \$40,000 as start-up capital for NWC. A desirable consequence of NWC's start-up capital requests being rejected by the commercial banks and the FDB is that it began commercial operations debt free a status it has been able to maintain until this day. This has been critical in the ability of the Cooperative's ability to ride-out unforeseen disruption to cash flow such as the January 2009 floods.

Since NWC has grown from a small business handling just 30 tonnes of papaya to an agribusiness treating 1,000 tonnes fruit (papaya, mango, eggplant and breadfruit) annually for export. In achieving this, the Cooperative has had to overcome major constraints. These included the unavailability of start-up working capital; the political crisis of 2000 and its disruption to trade; market access barriers; and nature disasters.




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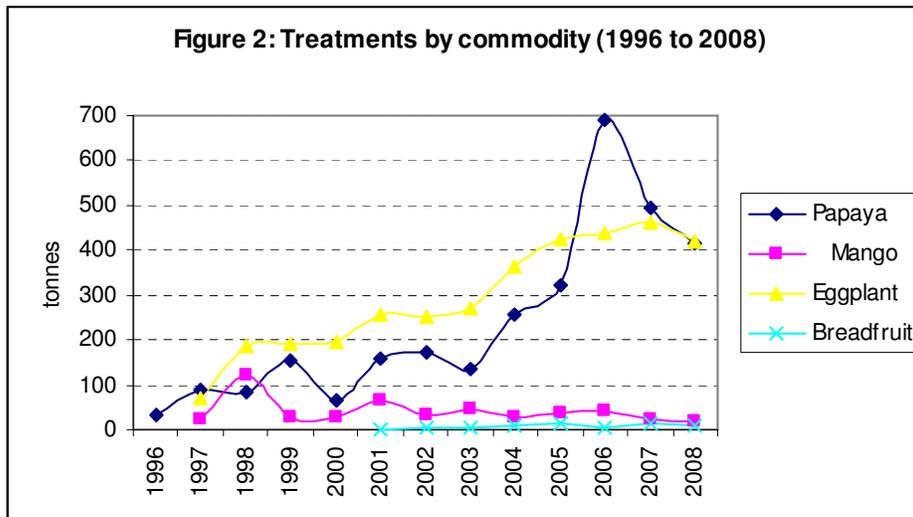
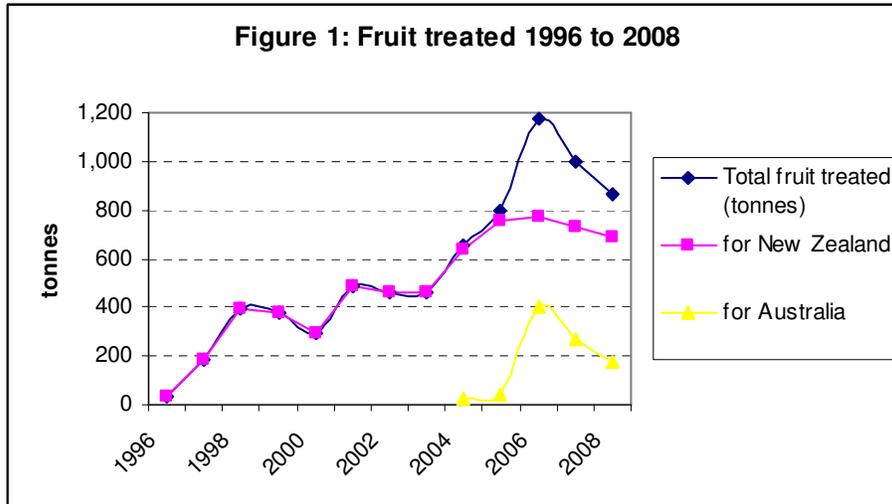
<i>Total</i>	<b>\$80,974</b>
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## 3 Performance Review.

### 3.1 Treatment throughput

Over the period 1996 to 2008 inclusive, 7,163 tonnes of fruit were treated and exported (table 1). Of this total, 6, 258 tonnes were exported to New Zealand (87%) and 912 tonnes (13%) to Australia (figure 1). In 2008, 686 tonnes were exported to New Zealand (79%) and 178 tonnes to Australia (21%). Of the total fruit treated 3,526 tonnes has been papaya (49%), 3081 tonnes eggplant (43%), 493 tonnes mango (7%), and 65 tonnes bread fruit (1%).



#### 3.1.1 Papaya

HTFA treatment was developed in Hawaii for papaya. When NWC was formed, papaya was the only commodity for which the HTFA quarantine treatment technology utilized. Thus the initial feasibility study for treatment facility was based entirely on papaya. It was projected that within a few years of operation, around 500 tonnes of papaya would be treated annually.

Fiji was identified to be well placed a substantial papaya exporter, based on the following considerations:

**Table 1: Fruit treated and income by Nature's Way Cooperative: 1996 – 2008**

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Total
<b>Papaya</b>														
<u>treatments (kgs)</u>														
New Zealand	33,037	90,010	85,965	152,000	66,906	161,403	173,373	137,192	238,234	282,672	285,908	230,150	236,076	2,172,926
Australia									18,775	38,110	406,779	266,820	178,212	908,696
sub-total	33,037	90,010	85,965	152,000	66,906	161,403	173,373	137,192	257,009	320,782	692,687	496,970	414,288	3,081,622
<u>income (\$,000)</u>														
income due to NWC	13,215	36,004	34,386	60,800	26,762	64,561	69,349	54,877	102,804	128,313	277,075	198,788	165,715	1,232,649
reported fob value of exports (NZ)	69,378	250,228	232,106	355,680	153,884	316,380	572,131	452,734	786,172	932,818	943,496	759,495	779,051	5,225,897
reported fob value of export (Aus)									75,100	152,440	1,627,116	1,067,280	712,848	3,634,784
sub-total	69,378	250,228	232,106	355,680	153,884	316,380	572,131	452,734	861,272	1,085,258	2,570,612	1,826,775	1,491,899	8,860,681
farm gate value of exports	23,126	63,007	64,474	114,000	53,525	129,122	138,698	123,473	231,308	288,704	692,687	496,970	414,288	2,833,382
<b>Mango</b>														
<u>treatments (kgs)</u>														
New Zealand		23,072	120,209	28,000	26,672	66,419	31,129	46,602	28,190	38,023	42,608	23,170	19,447	493,541
<u>income (\$,000)</u>														
income due to NWC		9,229	48,084	11,200	10,669	26,568	12,452	18,641	11,276	15,209	17,043	9,268	7,779	197,416
reported fob value of exports		32,993	306,533	43,960	23,738	179,331	93,387	139,806	84,570	114,069	127,824	69,510	58,341	1,480,623
farm gate value of exports		11,536	60,105	14,000	13,336	33,210	15,565	23,301	14,095	19,012	21,304	11,585	9,724	246,771
<b>Egg plant</b>														
<u>treatments (kgs)</u>														
New Zealand		69,615	185,155	190,000	196,737	258,554	249,871	270,672	361,510	423,705	436,509	461,845	418,721	3,522,894
<u>income (\$,000)</u>														
income due to NWC		27,846	74,062	76,000	78,695	103,422	99,948	108,269	144,604	169,482	174,604	184,738	167,488	1,409,158
reported fob value of exports		77,969	281,436	212,800	574,472	488,667	624,678	676,680	903,775	1,059,263	1,091,273	1,154,613	1,046,803	8,192,427
farm gate value of exports		48,731	129,609	133,000	137,716	193,916	187,403	203,004	289,208	338,964	349,207	369,476	334,977	2,715,210
<b>Breadfruit</b>														
<u>treatments (kgs)</u>														
New Zealand						2,063	5,454	6,823	9,936	12,109	4,678	12,804	11,442	65,309
<u>income (\$,000)</u>														
income due to NWC						825	2,182	2,729	3,974	4,844	1,871	5,122	4,577	26,124
reported fob value of exports						6,189	16,362	20,469	29,808	36,327	14,034	38,412	34,326	195,927
farm gate value of exports						1,032	2,727	3,412	4,968	6,055	2,339	6,402	5,721	32,655
<b>Total</b>														
<u>treatments (kgs)</u>	<b>33,037</b>	<b>182,697</b>	<b>391,329</b>	<b>370,000</b>	<b>290,315</b>	<b>488,439</b>	<b>459,827</b>	<b>461,289</b>	<b>656,645</b>	<b>794,619</b>	<b>1,176,482</b>	<b>994,789</b>	<b>863,898</b>	<b>7,163,366</b>
<u>Income (\$,000)</u>														
income due to NWC	<b>13,215</b>	<b>63,850</b>	<b>108,448</b>	<b>136,800</b>	<b>105,457</b>	<b>168,808</b>	<b>171,479</b>	<b>165,875</b>	<b>251,382</b>	<b>302,638</b>	<b>453,550</b>	<b>388,648</b>	<b>337,780</b>	<b>2,667,930</b>
reported fob value of exports	<b>69,378</b>	<b>361,190</b>	<b>820,075</b>	<b>612,440</b>	<b>752,094</b>	<b>990,567</b>	<b>1,306,557</b>	<b>1,289,689</b>	<b>1,804,325</b>	<b>2,142,476</b>	<b>2,176,627</b>	<b>2,022,030</b>	<b>1,918,520</b>	<b>15,094,873</b>
farm gate value of exports	<b>23,126</b>	<b>123,274</b>	<b>254,187</b>	<b>261,000</b>	<b>204,577</b>	<b>357,279</b>	<b>344,393</b>	<b>353,189</b>	<b>539,579</b>	<b>652,734</b>	<b>1,065,537</b>	<b>884,433</b>	<b>764,709</b>	<b>5,828,017</b>

Favourable soils and climate<sup>4</sup>

Favourable pest and disease status.<sup>5</sup>

A functioning commercial quarantine treatment.

Strong export and local market demand.

### **New Zealand**

A study of the New Zealand market undertaken by the CAD Project in 1995 concluded “that papaya sales in New Zealand of 1,000 tonnes at remunerative prices would seem to be readily achievable provided there was continuity of supply and good quality fruit”. As is so often the case with Fiji agriculture, this continuity of supply was not forthcoming. The market uptake of the smaller red-fleshed sunrise variety was also slower than expected, with consumers having an established preference for the larger “Waimanalo” variety from the Cook Islands.

Annual shipments to New Zealand since 2004 have exceeded 230 tonnes annually, with a maximum 286 tonnes achieved in 2005 (Figure 3). The last detailed assessment of the New Zealand market was conducted for the 2001 in preparation of the 2002 – 2006 Strategic Plan. Based on this analysis it is projected that exports to New Zealand will increase to 600 tonnes over the next two to three years and 1000 tonnes over 5 years provided a sufficient and regular supply of high quality fruit is available and cost can be significantly be reduced through sea freighting of fruit (table 2). An update market assessment for New Zealand will be undertaken in February 2009.

### **Australia**

It had been assumed that exports to the Australia market would recommence soon after New Zealand. During the 1980s, Fiji was a significant exporter of papaya to Australia. It was not until December 2003 that approval was finally given by AQIS for the importation of HTFA treated papaya from Fiji. The non-availability of access to the Australian market was a major constraint to significant investment in the Fiji papaya industry. Had the quarantine treatment business relied solely on papaya treatments, it would not have survived financially. It is only in the last few years that papaya has been able to establish it self as the dominate commodity treated.

The first shipment of papaya to Australia was made on October 2004, with 19 tonnes shipped in that year. In 2005, only 38 tonnes were shipped to Australia. The lagged production response to the opening up of the Australian market is hardly surprising given that it took 7 years to negotiate market access.

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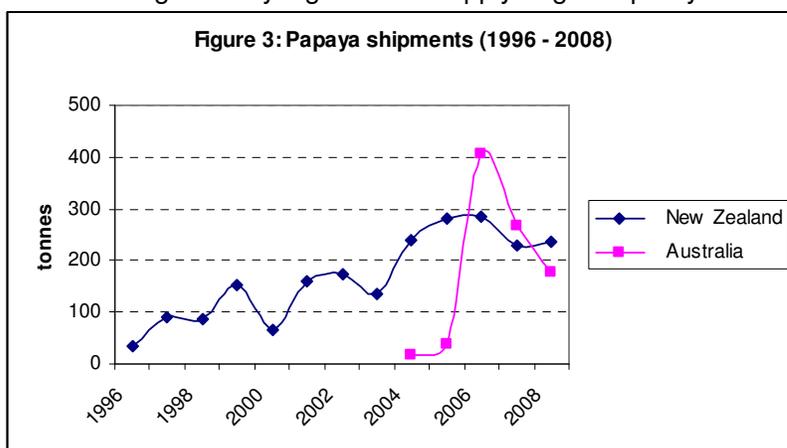
<sup>4</sup> The river valleys of Western Viti Levu offer excellent growing conditions for Hawaiian solo “sunrise” variety papaya. A true type “Sunrise” papaya consistently produces fruit that combines exceptional sweetness and flavour (high o brix-10%-12%), strong red coloured flesh, with good size characteristics (400 to 600 gm) and good keeping qualities. The meeting of this potential, however, requires the use of good quality planting material, and the application of the correct package of practices, with a particular emphasis on irrigation and plant nutrition.

<sup>5</sup> The most notable papaya disease that is absent from is papaya ring spot virus (PRV). PRV decimated the Hawaii papaya industry<sup>5</sup>. Some industry recovery has only been possible through the introduction of genetically modified (GM) papaya that is resistant to PRV. The PRV resistant varieties are considered inferior to the solo “sunrise” papaya and do not have access to remunerative markets. Papaya is regarded as a host to the Pacific Fruit Fly (*Bactrocera passiflorae*). Hence the need to use quarantine treatment for papaya exported from Fiji to Australia and New Zealand. However, there are no records of *B. passiflorae* infesting fruit at the colour break to half ripe stage that papaya is exported from Fiji at. As a consequence fruit flies are not a production pest for papaya in Fiji. This contrasts to the situation for papaya in Hawaii and Australia where fruit flies cause major damages to papaya unless costly on-farm control measures are taken. PRV became established in Hawaii in 1992. As result of this disease out-shipments of papaya decreased from 18,500 tonnes in 1990 to 9,600 tonnes 2002 (Hawaii Agricultural Statistics).

It was not until March 2006, that significant papaya exports to Australia began. In that month Cyclone Larry devastated the main Australian papaya growing areas of Innisfail and Mareeba in far North Queensland. Papaya Australia’s representative described the impact of this category five cyclone.

Damage has seen some papaya and papaw trees completely torn from the ground, but in most cases the trees were snapped off above the base by the 290km/ph winds of cyclone Larry. This year’s crop would have been worth about \$A18\$ to \$A20 million dollars to the local economy and now it is destroyed.....It will take anywhere from 9 to 18 months for us to start to get back to where we were before the cyclone hit. ....The industry anticipates that availability of papaya and papaw should be headed back towards normal levels by January 2007.

In 2006, 407 tonnes of papaya were exported Australia. The Australian papaya industry has yet to fully recover from the impact Cyclone Larry, which has faced additional constraints of drought and the availability of irrigation water. Thus Fiji has been able to maintain significant exports to Australia in 2007 and 2008 (figure 3). These exports would have been significantly higher if the supply of good quality fruit was available.



If Fiji can establish and maintain a reputation for quality and reliability of supply annual papaya sales to Australia of around 500 tonnes are seen as readily achievable. If costs can be significantly reduced through sea freighting it is expected that the market could be significantly larger.

An assessment of the Australia market was conducted for the 2001 in preparation of the 2002 – 2006 Strategic Plan (table 2). These projections will updated following the more detailed study that will be conduct in March 2009.

**Table 2: Projected demand for papaya**

Market	2-3 years (tonnes)	5 years (tonnes)
<u>Export</u>		
NZ	600	1,000
Australia	300	500
Japan	120	200
United States		100
Sub-total	1,020	1,800
<u>Local</u>		
Tourist	800	1,500
Non - tourist	800	1,200
Sub-total	1,600	2,700
<b>Total</b>	<b>2,620</b>	<b>4,500</b>

**United States**

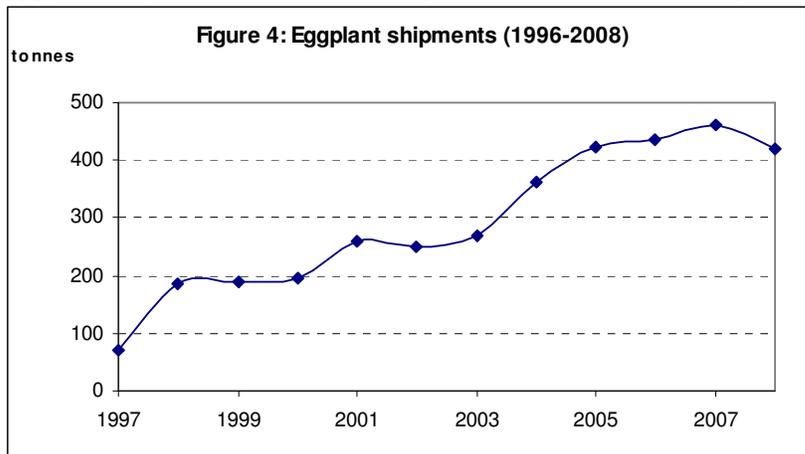
From the outset the United States was identified as a market for Fiji papaya. HTFA quarantine treatment technology was originally developed by the USDA for the treatment of Hawaiian papaya for export to the US mainland. However, for more than a decade the Fiji Quarantine Inspection Service (FQIS) has failed to submit the required data for the certification to USDA/APHIS. In desperation in early 2008 used it own resources to prepare a market access submission for papaya into the US market. It is expected that it

be the organic market in the US that will be targeted. Fiji is seen to have a particular comparative advantage in organic papaya compared with Hawaii. Shipments to the US are provisionally projected to reach 100 tonnes annually over the next 5 years. However, a detailed market assessment for the US will be undertaken March/April 2009.

### 3.1.2 Eggplant

HTFA treated eggplant was certified for export to New Zealand in July 1997 and the first commercial shipment was made on August 1997. This was a world's first for HTFA quarantine treatment for eggplant and represented a major achievement for NWC. HTFA treated eggplant proved to be a real success story, with exports to New Zealand increasing rapidly due to the superior keeping quality of HTFA treated fruit compared with EDB fumigated fruit. Eggplant is now exported year round to New Zealand and not just during the winter window as was previously the case. Eggplant exports to New Zealand in recent years have oscillated around 430 tonnes annually (figure 4). The unexpected success of HTFA eggplant has provided the basis for Nature's Way achieving financial viability during its early years of operation.

Eggplant exports have been entirely to New Zealand and only modest growth in this



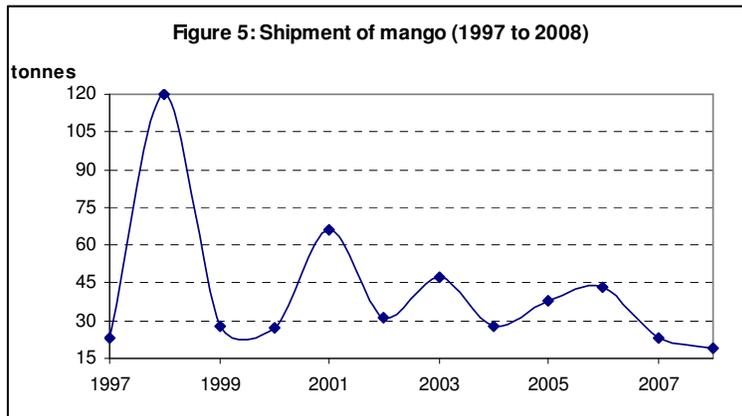
market can now be expected. The expected entry of Fiji eggplant into the Australian market has not materialized as was assumed in the Strategic Plan (2002-2006). This represents a failure on the part of FQIS is securing market access. At the time papaya was approved, the

Australia Quarantine Inspection Service (AQIS) Officer responsible for Fiji requested the next commodities to be submitted for market access processing. NWC recommended to FQIS that eggplant and breadfruit as the industry priorities for submission to AQIS. To this day, FQIS has not submitted the necessary confirmatory and pest risk data on eggplant or breadfruit to AQIS. The work requirements for FQIS to make these submissions are minimal since the same data that has already been submitted to New Zealand. The opening up of this market would represent an export opportunity similar to that of New Zealand. The Strategic Plan (2002-2006) had projected the export of 300 tonnes of eggplant annually by the end of the plan period

Policy change by Bio Security Australia (BA)/AQIS will now make it a much more drawn out process to secure market access for eggplant into Australia. BA current policy is to consider one product per country at a time, with a two year time frame within which a decision must be made. When that process is completed the next product will enter the market access review process. The Fiji product currently in the approval process is root ginger. Ginger is the only Pacific island commodity now being considered for market access into Australia. So effectively the policy is one commodity for the entire region. Despite the delays caused by this change in Australian policy it still remains important to have a well considered priority list of products already submitted BA ready for their consideration. Eggplant and breadfruit should be at the top of that list. Political pressure also needs to be exerted for Australia to adopt a more favourable approach to considering market access applications from Pacific island countries.

### 3.1.3 Mango

In 1997 mango was the third commodity to come on line for HTFA treatment for New Zealand. HTFA treatment had been successfully tested elsewhere for mango, but it had not hitherto been commercially utilized - hot water being the preferred treatment for mango.



Annual throughput of mango has been highly variable – ranging from 19 tonnes in 2008 to 120 tonnes in 1998 (figure 5). The average annual throughput has been 41 tonnes. The variability in throughput is largely due to the effect of weather, particularly for the improved variety mango grown at the Legalega orchard. Exports are almost entirely based traditional Fiji

varieties to New Zealand. Fiji’s improved variety mangoes cannot normally to compete with Ecuadorian mangoes. It is unrealistic to every expect market access for Fiji mango into Australia or the United States due to presence of mango seed weevil.

### 3.1.4 Breadfruit

Fresh breadfruit exports to New Zealand have shown steady growth since the first shipment of HFTA-treated breadfruit in October 2001. Exports were 2 tonnes in 2001, with exports over the last few years being around 12 tonnes. Performance has been well below market potential and the projections made in the Strategic Plan (2002-2006). The projections made in the Plan were: 20 tonnes (2002); 100 tonnes (2003); 100 tonnes (2004 and 2005); and 150 tonnes (2006). These projections are based on a combination of positive indicators: 1) breadfruit’s proven suitability to HTFA treatment; 2) the existing production base; 3) a large New Zealand market already in place; and 4) the potential markets of Australia and the United States. To assist growers and exporters in achieving breadfruit’s market potential, in October 2005, Natures Way Cooperative produced “A Manual for the Growing and Marketing of Breadfruit for Export” and a supporting poster. The manual focused on the need to move from wild harvesting of fruit to growing breadfruit as a crop and introducing appropriate quality control and post harvest handling procedures. Again FQIS has failed to make breadfruit market access submissions to Australia and the United States. NWC has been able to secure donor funding to prepare a breadfruit market access submission for the United States. Dr John Armstrong is coordinating this work with funding assistance from AusAID.

The projections made in the Strategic Plan (2002-2006) remain readily achievable, particularly if market access to the United States and Australia can be realised. However, the industry still needs to make the transition from wild harvesting of fruit to growing breadfruit as a crop. Some small orchards have been established in the Sigatoka Valley. However, the response to establishing small orchards has been disappointing and a far greater Ministry of Agriculture extension and research effort is necessary. The supply of suitable planting material is a particular need.

### 3.1.5 Other commodities

The approval of mixed treatments by New Zealand MAF in 2001 created prospects for a number of minor fruit fly host products for HTFA treatment. The Strategic Plan identified gourds (bitter, bottle, and sponge), wi, jak fruit and limes as priority products having good market opportunities and likely to be well suited to HTFA treatment. All these products were included in Strategic Plan projections. It was suggested that a number of other fruit

fly host commodities could come on stream over the next 5 years, but for which no projections were made. These included passion fruit, rockmelon and guava (Thailand variety) and tomatoes. However, none of these “new” products have come on line. Regrettably the last market access approval obtained was for bread fruit to New Zealand in 2001.

## 3.2 Economic performance

### 3.2.1 Income and livelihood generated

Since NWC commenced operations in 1996 approximately \$15 million has been generated in foreign exchange earnings of which nearly \$6 million has been paid to farmers (table 1). Currently NWC annually generates around \$2million in export earnings and \$800,000 in farmer income. Because of the capital investment made by NWC a three fold increase in export earnings and farmer income is now feasible.

Table 4 shows the number of farmers who supplied produce that was treated by NWC in 2008. This represents an estimated 330 full time job equivalents. To this has to be added the employment provided by the exporters and by NWC. The total direct employment generated by NWC is estimated to be around 530 full time job equivalents. The projected increase in employment resulting from the capital investment made by NWC are shown table 5<sup>6</sup>.

**Table 5: Estimated and projected direct employment created by HTFA treated fruit exports**

	2008	2009	2010	2011	2012
Fruit treatments (tonnes)	864	1655	2150	2580	3210
Estimated employment (full time job equiv.)					
On-farm	333	414	538	645	803
Exporter	176	219	284	341	424
Natures Way	18	28	28	30	30
Total	527	661	850	1,016	1,257

## 3.3 Financial performance

The financial performance of NWC since its inception in 1996 is summarized table 6. A significant proportion of the costs of operating a quarantine treatment facility are fixed. Fixed costs include: management overheads, depreciation of fixed assets, repairs, maintenance chamber certification and professional fees. Thus, the unit cost of quarantine treatment is particularly sensitive to throughput. As a consequence the treatment gross margin (the difference between the treatment charge and the unit cost of treatment) increases with increasing throughput. From its inception in 1996 until May 2008 a treatment charge of 40c/kg of fruit treated has applied. In the early years of low throughput this was not sufficient costs and negative gross margins were incurred. However, as throughput increased the unit treatment charges fell sharply and healthy positive gross margins began to be achieved<sup>7</sup>.

<sup>6</sup> These projections were made a part of NWC's Enterprise Challenge Fund grant proposal.

<sup>7</sup> In 1996 with only 33 tonnes treated the unit cost of treatment was 94.2c/kg, resulting in a negative treatment gross margin of -54.2 c/kg. A positive treatment gross margin (3.5 cents/kg) was achieved for the first time in 1998, when 391 tonnes of fruit were treated. In 1999, treatment costs (41.4 cents/kg) again exceeded treatment charges despite only a slight decline in throughput (370 tonnes). This was the result of the substantial repairs and maintenance costs incurred in that year. The year 2000 saw a substantial reduction in volume (290 tonnes) due to production disruption and the imposition of trade bans. As a result unit treatment costs rose sharply to 59.7 cents/kg yielding a treatment gross margin of negative 19.7c. Fortunately in 2001 there was a substantial increase in throughput to 475,000 tonnes and for the first time NWC achieved a healthy positive treatment gross margin (14.7 c/kg). The positive treatment gross margins realized for the years 2002 through 2004 were more modest, despite throughput levels being maintained. This is explained by a substantial

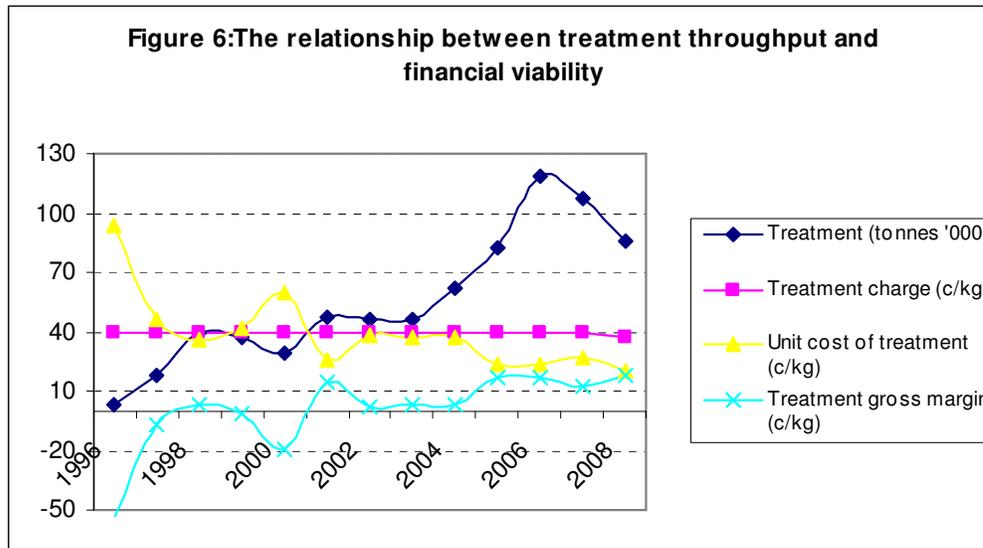
**Table 6: A summary of NWC Financial Performance (1996 - 2008)**

Financial Year	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Treatment (kgs)	33,037	182,697	391,329	370,000	290,315	475,000	459,000	461,000	620,000	825,000	1,197,000	1,070,000	864,000
Treatment charge (c/kg)	40	40	40	40	40	40	40	40	40	40	40	40	37
Revenue payable (\$)	13,215	73,079	156,532	148,000	116,126	190,000	183,600	184,400	248,000	330,000	478,800	428,000	319,680
Revenue paid (\$)				167,650	139,544	136,387	206,134	177,847	222,780	296,129	390,472	451,574	230,734
Total expenditure (\$)	31,108	85,265	142,874	153,041	173,421	120,207	175,199	172,155	230,783	190,750	283,851	291,277	169,603
Unit cost of treatment (c/kg)	94.16	46.67	36.51	41.36	59.74	25.31	38.17	37.34	37.22	23.12	23.71	27.22	19.63
Treatment gross margin (c/kg)	-54.2	-6.7	3.5	-1.4	-19.7	14.7	1.8	2.7	2.8	16.9	16.3	12.8	17.4
Net operating profit before tax (\$)				14,615	(33,877)	16,180	32,107	5,692	29,039	79,461	80,280	127,503	79,601
Retained earnings (\$)				14,615	(33,877)	16,180	28,547	5,692	22,951	47,354	55,393	18,175	45,616
Trade debtors at end of FY										71,378	87,802	125,506	150,641

\* Derived from NWC Audited Accounts - for Financial Year ending June 30th, except for 2008, which is taken as the period ending December 30th 2007.

The last few years, with increased throughput and improved labour efficiency, have seen NWC achieve a reasonably sound financial position. Figure 6 plots treatment volume, treatment unit cost and treatment gross margin over the period 1996 through 2008.

Over the last 4 years before tax profits \$79,461, \$80,280, \$127,503 and \$79,601 were recorded, with retained earnings of \$71,378, \$87,807, \$18,175 and \$45,616 respectively.



### 3.3.1 Unacceptable high level of trade debtor

The financial position would have been far better was it not for the unacceptably high level of trade debtors. Trade debtors, stood at \$71,378, \$87,802, \$125,506, \$150,641 at the end of the last four financial years respectively. As of December 31 2008, exporter arrears over 90-days stood at an unacceptable \$130,350. Two major exporters have substantial aged receivables of over 90 days<sup>8</sup>. These two exporters have essentially used Natures Way to finance their operations and their actions threaten the financial sustainability of the quarantine treatment business. This concern surfaced at the 2006 Annual General Meeting of 2006, at which a resolution was passed to impose a punitive interest penalty of 2.5% per month has been applied to arrears over 90 days. This penalty has only been partly successful. In June 2008, as a further incentive to reduce debt

increase in building maintenance expenditure and the payment of substantial claims to exporters. Since 2004 the years 2005 - 2007 produced a substantial increase in throughput (825 tonnes, 1,197 tonnes and 1,070 tonnes respectively.) This coupled with gains in labour efficiency arising from investment in the wide-body chamber has resulted in a substantial lowering of unit treatment cost. Unit treatment costs of 23.12c/kg, 23.71 c/kg and 26.14 c/kg (and treatment gross margins of 16.9 c/kg, 16.3c/kg and 13.9c/kg) were achieved for the years 2005, 2006 and 2007 respectively.

<sup>8</sup> As of Dec 31<sup>st</sup> 2008 the 90 day aged receivables for these two exporters stood at \$15,303 and \$25,317 respectively

levels, a 5c/kg rebate was introduced for all exporters whose accounts were current. As a result both a “carrot” and “stick” measures are being used to deal with the arrears problem. The NWC Board at its Meeting of December 13<sup>th</sup> 2008, resolved that as of January 1<sup>st</sup> 2009 exporters with arrears are beyond 30 days will only be offered quarantine treatment services on a cash payment basis (plus an additional \$1,000 payment per treatment to reduce their arrears.) To reverse this unacceptable debt situation, management must be prepared to refuse treatment services if these conditions are not met.

### 3.3.2 Treatment charges

NWC began treatment operations in October 1996, with the treatment rate set at 40c/kg. This treatment charge remained unchanged until very recently. A treatment charge of 40c/kg was established based on projections that the business would be able to cover its operating costs within a period of 3 to 4 years. Thus sufficient working capital was necessary from the outset to cover the initial short fall in revenue. In recent years exporters have argued that this charge is too high and that it reduces their international competitiveness. Table 7 compares treatment charges with other costs over the period 1996 to 2008. Over this period when there was no increase in treatment charges, whereas base wages increased 50%, electricity charges per unit have increased by 6% and the unit cost of gas has increased by some 120%. Airfreight charges to exporters have increased by over 30%.

**Table 7: A comparison of treatment rates with other charges over the period 1996 to 2007**

		1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	% increase
treatment charge	(c/kg)	40	40	40	40	40	40	40	40	40	40	40	40	0%
wage (packer and grader)	\$/hr	1.74	1.74	1.74	1.74	1.74	1.9	1.9	2.05	2.05	2.25	2.25	2.25	51%
electricity	\$/kwh	0.18	0.18	0.18	0.21	0.21	0.21	0.21	0.21	0.21	0.24	0.24	0.24	6%
gas	\$/kg	1.1	1.1	1.1	1.38	1.48	1.58	1.58	1.68	2.11	2.11	2.31	2.31	121%
freight (LD8 to Auckland)	\$/kg	0.82						1.1				1.36	1.15	33%

NWC, at a treatment charge of 40c/kg, is more than competitive with equivalent quarantine treatment facilities. There are only two other HTFA facilities operating commercially. These are in the Cook Islands and Molokai (Hawaii). The rate charged by the Cook Islands facility is NZ 45 cents/kg (approx FJD 53 FJ cents). The Molokai facility is owned and operated by a grower exporter, who treats his own fruit. Thus the treatment charges are not explicit. Most of Hawaii's papaya growers are located on the Big Island. Fruit exported to the US mainland is treated by a commercial irradiation facility. The current charge for this treatment is USD 17c/lb (which is equivalent to FJD 61 c/kg). Thus, the cost of quarantine treatment for Hawaii papaya exporters is FJD 21c/kg higher than their Fijian counterparts<sup>9</sup>. Fiji's exporters have a significant competitive advantage when it comes to quarantine treatment charges.

A comprehensive review of treatment charges was conducted at the beginning of 2008<sup>10</sup>. Based on the findings of the study the following treatment charge schedule is now in place:

1. The flat base treatment rate of 40c/kg.

<sup>9</sup> The difference between Hawaii and Fiji treatment rates can be explained by two main factors:

- The capital cost of irradiation quarantine treatment is some \$FJD 5 to 7 million, compared with less than FJD 1 million for an HTFA facility.
- Hawaii's labour costs are substantially higher than those in Fiji (USD 10 – 12/hour compared with FJD 2.15/hour).

<sup>10</sup> A Review of Treatment Charges and Worker Wages and Conditions for Natures Way Cooperative (Fiji) Ltd. Prepared by Koko Siga (Fiji) Ltd., May 2008

2. At the end of each month any exporter that has no arrears exceeding 30 days receives a rebate of 5c/kg of fruit treated.
3. Rebates are given to exporters who achieve above certain treatment thresholds in a calendar year and who have no arrears exceeding 30 days. The thresholds and rebates that apply are:
  - > 150 tonnes/year receives a rebate of 3% of total treatment charges paid during the proceeding year.
  - > 300 tonnes/year receives a rebate of 5% of total treatment charges paid during the proceeding year.
  - > 500 tonnes/year receives a rebate of 10% of total treatment charges paid during the proceeding year.

The new treatment charge schedule is based on a combination of three considerations:

- NWC's improving financial position with increasing throughput;
- the need to provide a positive incentive to those exporters who keep their accounts current; and,
- provide an incentive to exporters to increase their throughput and thereby increase the financial viability of the treatment chamber.

### **3.3.3 The essential due diligence considerations in determining treatment charges**

NWC Board and Management have been conservative in setting treatment charges. This approach has served the industry well. A continuation of this conservative approach, based on due diligence, must be maintained in future to ensure the financial sustainability of the business.

Natures Way Cooperative is a service business that operates for benefit of members (exporters and growers of fruit fly host products). The objective of NWC must be to provide exporters with the lowest cost possible for the treatment of their fruit, subject to the business being financially viable and sustainable in the longer term. Nothing is gained if treatment rates are lowered to a level that compromises the long term viability of the enterprise. In setting treatment rate full consideration must be given to providing sufficient retained earnings to:

- maintain a high quality and reliable service to the fruit export industry;
- provide sufficient "rain day" cover for such contingencies such as natural disasters and loss of market access;
- allow for adequate repairs and maintenance of capital assets; and,
- provide capital to expand the business.

NWC's performance to-date in meeting these considerations is evaluated below.

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## **3.4 Service performance**

### **3.4.1 Quarantine treatment**

The HTFA facility has proven to be remarkably robust. Only once in 12 years of operation have exports been lost due to malfunctioning of equipment. In 2000, four treatments were lost due to extended power outages during the landowner take over of Monasavu. The exporters concerned were compensated for this loss through a multi purpose business insurance policy held by Nature's Way at that time. Investment has now been made in a back-up generator (\$23,000) to ensure that this problem is not repeated. There have been occasional stoppages due to failure of electronic components. However, these problems have been rectified in sufficient time to avoid loss of produce. In 1999, the chambers were reconfigured to operate independently and a UPS power supply installed. Since then there have been no stoppages due to equipment failure. On one occasion there has been damage to produce (eggplant) caused by human error and the exporter was duly compensated.

The impressive record of operational reliability is partly due to the quality of the equipment and components used. Dr Michael Williamson who commissioned the facility has provided admirable back-up support and staff training. These costs have been fully met by NWC and will need to continue to do so in future. Key person dependency on Dr Michael Williamson remains a serious concern.

NWC's HTFA treatment facility has met the quarantine requirements of New Zealand and Australia without having a deleterious effect on fruit quality. The seven-fold increase in eggplant exports above those achieved during the time of chemical treatment is testimony to this improved quality. Significant exports of a highly perishable commodity such as breadfruit could not have been contemplated in the days of chemical treatment. There are indications that HTFA treatment can enhance shelf life compared with untreated fruit. The treatment process can reduce the presence of pathogens that cause post harvest spoilage. The inclusion of fungicides in the hydro cooling process could enhance this effect even further.

### 3.4.2 Other support services for members

The Strategic Plan (2002-2006) recommended that during the Plan Period extend its services to its members beyond the core business of quarantine treatment. As an essential and compulsory focus for export activities, NWC was seen to be ideally placed to provide a range of related services to its members. The Plan recommended the following diversification activities:

- The establishment of a field service to improve quality.
- The bulk purchase of field bins.
- Facilitating market development through industry wide product promotion and market information.
- Providing a focus for representing industry views and concerns.

#### ***The establishment of a field service***

The Plan recommended that a Fruit Specialist be appointed to work with the manager to improve quality and to increase the volume supplied. The scaring of eggplant caused apparently by thrips was identified as the type of problem that should be addressed by the NWC field service<sup>11</sup>. A field officer based at the treatment facility would be well placed to respond to problems as they arise. As a load of fruit comes to NWC and it is apparent that the farmers are harvesting the fruit too early or there is excessive bruising then the field officer and the exporter can immediately visit farmers and assist them to deal quickly and effectively with these quality issues. Relying on the Ministry of Agriculture Extension Service was unsatisfactory. There is a long waiting process before someone is dispatched and there is a chronic issue of availability of transport or fuel for the vehicles.

The role of the field officer was to complement and focus the Ministry of Agriculture's activities in export horticulture. Because of financial constraints it was recommended that this officer be initially seconded from Ministry of Agriculture. The Ministry was supportive of the proposal for a field officer with a coordinating role. However, the actioning of a secondment proved bureaucratically too difficult. The proposal lapsed until mid 2006, when NWC was able to secure funding for an extension officer through AusAID. The AusAID funding is for a period of 2-years, with the understanding that that this fund position would then be fully funded by NWC.

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<sup>11</sup> In 2001 NWC and exporters began to notice serious damage to eggplant coming for treatment. Koronivia Research Station was contacted to identify the cause of the damage. Nine months elapsed before a positive identification of thrips as the cause of scaring was made. Koroniva made recommendation for control that proved impractical and uneconomic.

The total cost estimate of the field outreach program for the initial two years was approximately \$240,000, of which 59% of the cost was to be met by NWC and 41% by AusAID. This included a \$40,000 provision for the purchase of field crates. From Year 3 onwards, it was agreed that all costs would be borne by NWC<sup>12</sup>. The approved budget for the 1<sup>st</sup> two years of the farmer outreach project is presented in table 8.

**Table 8: NWC and AusAID's share of the farmer outreach program for the first 2-years**

	<b>NWC</b>	<b>AusAID</b>	<b>Total</b>
Vehicle purchase	48,000		48,000
Purchase of crates		40,000	40,000
Extension officer wages		60,000	60,000
Vehicle operating expenses	20,160		20,160
Communications	40,000		40,000
Workshop and training expenses	6,000		6,000
Material purchases (including seeds)	10,000		10,000
Contingencies	20,000		20,000
<b>Total</b>	<b>144,160</b>	<b>100,000</b>	<b>244,160</b>
<b>Percentage(%)</b>	<b>59%</b>	<b>41%</b>	

Mr Luke Tirimaidoka, formally a Senior Quarantine Field Officer, was appointed the NWC Field Officer in July 2007. The focus of Luke's work was on papaya, the identified priority commodity. He made good progress in recruiting new farmers into the industry (and new NWC shareholders) and linking farmers to exporters. He began working with the exporters to systematically reduce reject rates at the treatment facility – this included the introduction of outturn analysis and quality defect analysis. With his quarantine background Luke was able to collaborate closely with Dr Armstrong's in the preparing the US market access submission. In particular he was able to provide the links between SPC, Fiji Quarantine and Koronivia Plant Protection.

At the time Luke Tirimaidoka appointment it was envisaged that he would be groomed to take over position of NWC Manager on the retirement of Sant Kumar. He was making excellent progress in meeting this expectation. It was thus expected that this transition in management would occur during the course of 2009. Tragically Luke died at work in September 2008. The vacuum left by the death Luke, has a major set back for NWC's management continuity. This issue must be now addressed as a matter of urgency.

Luke Tirimaidoka's one year of service proved the value of a small focussed field service provided the right person is appointed. A replacement for Luke should be made utilizing the year of AusAID funds remaining. In the light of the accentuating circumstances of Luke death and the catastrophic floods on January 2009 a request should be made to AusAID to extend the funding of this position for a further year before NWC fully takes on this responsibility. The finding of a suitable replacement manager should no longer be coupled to the field officer and should be handled urgently as a separate issue.

<sup>12</sup> A summary of the indicative estimates of the cost to NWC to continue run the field service are as follows:

	2007	2008	2009	2010	2011
Operating cost associated with expanded capacity (\$)	29,800	88,800	188,160	455,520	490,100
Field service operating costs (\$)	29,600	30,560	31,616	59,778	61,055
<b>Total (\$)</b>	<b>59,400</b>	<b>119,360</b>	<b>219,776</b>	<b>515,298</b>	<b>551,155</b>

There are important lessons learnt for the first year of experience with the field service. The Field Officer should continue to work closely with the Ministry's extension service, TTM, SPC, Koronivia Plant Protection to ensure that everyone is inline with the direct needs of the industry. This aspect of collaboration is critical for success of this field service because the Field Officer is only one person and cannot possibly meet all the needs of all the members. The officer will need to continue the process of collecting the necessary information pertaining to problems along the supply chain. This will involve responding to a problem on the farm or pack house and then taking this problem to experts at SPC or Koronivia for answers and recommendations. With answers in hand the field officers can go directly to the farmer or exporter and deliver quick recommendations. Beyond dealing with problems raised by exporters and farmers the NWC Field Officer has the following ongoing objectives:

- Recruiting and advising new members,
- Updating member database and producing ID cards,
- Connecting farmers and exporters and facilitating good trade practices, and;
- Generally working to improve and strengthen the organisation and the links with its members.

### ***The bulk importation of field crates***

The Strategic Plan (2002-2006) identified the widespread adoption of plastic field crates for the transportation of produce from the field to treatment facility as the most cost effective way to significantly improve produce quality and to reduce reject rates. It was thus recommended that NWC bulk import crates for the distribution to the industry. Having sufficient work capital was a constraint to implementing this proposal. However, in 2007 NWC was able to secure a \$40,000 grant from AusAID as to implement this recommendation as part of the extension outreach project.

Initially 1,200 crates imported from New Zealand and sold at the industry at the landed cost which worked to be \$20.98 per crate. All of the revenue generated from these sales was deposited into a specific revolving fund account. As expected the crates were in high demand and were quickly sold – despite not having ideal specifications in terms of size and stackability. Important lessons were learned from the first shipment. Encouragingly the demand for these crates went beyond just the farmers and exporters supplying export markets. They were being used to supply hotels and domestic markets

A further 1,700 field crates, with better specifications, were imported from New Zealand at the end of 2008. These crates will be sold at \$28 each. A 15% handling charge is now included to maintain the integrity of the fund. Despite the increase in price the crates remain in high demand, with 50% of the second shipment presold. The AusAID proposal was for funding to import 2600 crates, upon receipt and sale of this next shipment NWC will have achieved this goal. By the end of the period the goal will be substantially surpassed with NWC will continue to import crates using the revolving fund.

The bulk importation of field crates activity has proven that there is high demand for crates to improve the efficiency of handling and to improve quality. This demand does not only come from exporters. It includes farmers and traders who are supplying produce at the municipal markets, hotels, restaurants and retail outlets. NWC is ideally placed to expand this business for benefit of its members and to broaden its commercial base. Sales could be significantly expanded if cost can be reduced. Cost reducing avenues that need to be explored are:

- securing a reduction on the 40% fiscal duty that currently applies to importation of plastic crates (on the ground that these are used to promote exports);
- Identifying a suitable source of second hand crates; and,
- Identifying cheap Asian sources (China or Korea) for crates.

### ***The bulk supplier of other imported inputs***

NWC has over the last few years has been involved in the importation of papaya seed (solo sunrise variety) from the University Hawaii. The General Manager has established a good working relationship with the seed lab at the College of Tropical Agriculture at UH. This has enabled small quantities to be imported frequently which has ensured freshness and a rate of germination.

In short term NWC has an ongoing role in importing seed on behalf of small farmer members of the industry. However, the emphasis needs to shift toward working with the industry to move away from the long standing dependency on imported seed from Hawaii. There a number of reasons for moving away from this dependency is important:

- The quality of solo sunrise seed from UH has probably declined over last decade in the absence of any commercial buyers in Hawaii for this seed<sup>13</sup>.
- The perceived risk of importing papaya ring spot (PRV) virus (although PRV is not believed to be transmitted by seed); and,
- Most importantly better genetic material can be obtained from selection seed from locally grown sunrise trees that display the best characteristics grown under Fiji conditions<sup>14</sup>.

The NWC field service needs to put a concerted effort into promoting seedling nursery enterprises that source their seed from the best available sunrise trees in terms of characteristics such as red colour flesh, yield and disease resistance. ACIAR papaya project that is expected to commence in early 2009 will work with the field service in making this important transition.

### **Facilitating market access**

Out of frustration of the lack of any progress in the development of new export protocols, NWC has taken on an increasingly active role in this area. Initially this involvement was in the form of lobbying and making representations to FQIS and other government agencies. However, these efforts achieved no tangible results. More recently NWC has taken on itself to become more directly involved the coordination of market access submissions for papaya and breadfruit. All stakeholders, including the Quarantine Department, have appreciated these efforts. It is recommended that this initiative now be expanded to the coordination of market access submissions to Australia and New Zealand. Financial support from donors and SPC should be sought for these activities.

### **Providing a focus for representing industry views and concerns**

The fruit and vegetable growers and exporters have many common interests and concerns. These include: the timely negotiation of export protocols, the consistent application of quarantine regulations, the need for a high level of quarantine surveillance and that research and extension resources are well used. In the past efforts have been made to establish organisations to represent the views and concerns of various agricultural industries. As part of an Asian Development Bank initiative, a concerted effort was made to establish Industry Councils – this included the establishment of a Fiji Fruit and Vegetable Council. Invariably these organisations could be sustained once donor funding ended. The reason was that these organisation were based on voluntary membership and did not have the capacity to raise there own funding that was necessary to pay secretariat to run the organisations. NWC is unique in that all exporters and producers of fruit fly host export products have to belong whether they like it or not. The organisation has the capacity to raise funds through its treatment charges. Natures Way has increasingly taken on the functions envisaged for the Fiji Fruit and Vegetable Council. The NWC bure has become the central meeting place for exporters and for government officials to discuss industry problems and issues. Through these meetings General

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<sup>13</sup> Most of the Hawaii industry uses GMO (resistant to papaya ring spot virus) seed, which is not available commercially. Although it would not be desirable to bring GMO seed into Fiji for marketing reasons. The only commercial user of sunrise seed in Hawaii is on Molakai and he sources seed from his own trees.

<sup>14</sup>

Manager has been able to facilitate the reactivation of the Exporters Association. The Association now holds their own regular meetings at the NWC bure. Active involvement in market access coordination is an important example of the increasing industry leadership role for NWC. For this to continue however, the new General Manager, will need to have similar leadership qualities as the incumbent.

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### 3.5 Performance in providing “rainy day” contingencies

The unit cost of quarantine treatment is in large measure determined by treatment throughput (see 5.3). The nature of the business is that from time to time there will be sharp declines in throughput due to factors that are outside the control of NWC. Examples are natural disasters, political disturbances and the discovery of an exotic new fruit fly. A quarantine treatment in business Fiji requires considerable reserves to be able to ride out such eventuality and remain financially solvent. With the inevitability of climate change the frequency of severe floods and cyclones is likely to increase.

The aftermath of the coup of 2000 saw a disruption to production, interruptions to power supply, and closure of markets. As result only 290 tonnes of fruit were treated in 2000 compared with 370 tonnes the previous year. As a consequence the cost of treatment rose from 41 to 60 cents per kg resulting in a treatment gross margin of minus 20c/kg (the business lost 20c/kg for every kg treated). In that financial year NWC incurred a net operation loss of around \$38,000. Fortunately, the company had sufficient reserves in place to see it through until the next year when throughput increased strongly to 475 tonnes and the unit cost of treatment fell to 25.31 c/kg.

Prior to the severe floods of January 2009, NWC has been most fortunate not to have endured a major natural disaster since its inception. The last major disaster to affect wide areas of western Viti Levu was Cyclone Kina in 1992. Looking at the historical data a cyclone of Kina’s “type” event could be expected every 5 to 6 years. Thus the floods of January 2009 were well and true overdue. As consequence of the flood mean that most treatments will be suspended for 3 to 4 months. It will take up to a full year before throughput will return to normal levels. Thus without adequate reserves NWC would be facing financial crisis with continued operations depending on fickle government grants. Fortunately NWC put aside some \$105,000 in a fixed deposit to cover such a contingency.

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### 3.6 Capital investment

It is in the area of capital investment that NWC has performed exceptionally well. Over the last decade retained earnings have been invested in a program to increase treatment capacity and to enhance product quality. The total value of this investment has been around \$300, 000 and has included: shelter of containers awaiting collection; administration office complex; back-up generators; treatment lugs; 4WD vehicle; and, a part of the cost of a wide-body treatment chamber

However, there have not been sufficient retained earnings to meet the larger scale capital investment required to treat 3,000 tonnes of produce annually. Fortunately, NWC has had been able to lever donor and other assistance to meet these additional investment requirements. Capital Items for which external assistance has been obtained include:

- Part of the cost of a wide-body treatment chamber (a grant of \$43,000 was received from British American Tobacco Company).
- Establishment of a NWC field service (a grant of \$100,000 was received from AusAID)
- Expansion of existing building to allow for increased throughput and more efficient operations ( a \$380,000 grant was received from the Fiji Government as part of the Public Private Sector Partnership)
- Investment in a new treatment chamber and ancillary equipment. (A matching grant of AUD 218,000 was obtained from the AusAID Enterprise Challenge Fund)

NWC has been successful in securing external capital funding because it has demonstrated its willingness to make a substantial contribution of its own retained earnings to expand the business. All these grants have been on the basis of partnership agreements built around the NWC self reliance. AusAID funding of the start-up of field services, was contingent on NWC being able to meet the cost of the service after 2-years.

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### 3.7 Repairs and maintenance

Given the nature of the business the R/M requirement can be considerable. For example in 2002 the R/M costs exceeded \$25,000<sup>15</sup>. R/M costs for 2006 and 2007 were \$15,130 and \$15,900 respectively. To ensure that quality of service is continued and to protect the value of NCW's assets it is essential that there be no slippage in an ongoing repair and maintenance program.

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### 3.8 Development of new quarantine treatment protocols

The Strategic Plan (2002-2006) was optimistic that a considerable number of additional quarantine treatment protocols, opening up new products and new markets, would be developed over the Plan period. This would substantially increase the utilisation of the facility and the viability of the business. To quote the Plan:

The realization of the projections depend on the timely development of new commodities and markets. A long time frame has been allowed for new protocols development, considering the past record in this area. It is hoped that this time frame is conservative and that the exports of some commodities will commence earlier, thereby enhancing NWC's financial results.

The program to develop new markets and new products has completely failed. Even the first step in the process, undertaking confirmatory tests, has not been undertaken. The confirmatory test data should have then been submitted to New Zealand and Australian authorities, together with an up to date pest list. The Ministry of Agriculture (FQIS and Research) has failed in meeting its core market access responsibilities. The failure to secure any new market access protocols since 2001 (breadfruit to New Zealand 2001) resulted in a significant loss of revenue to NWC, shareholders and to the nation as a whole. The estimated losses over the last 5 years have been (detailed in table 9):

- \$0.5 million in lost treatment revenue to NWC.
- \$3.7 million lost export earnings to the nation.
- \$1.8 million in lost farmer income.

The current annual loss in export earnings is around \$890,000 and farmer income about \$350,000. These losses will steadily increase in the future if nothing is done to rectify the situation. The lack of new export protocol development has substantially increased the level of risk faced by NWC. The floods on January 2009 meant that only breadfruit was immediately available for export. It will be four months before significant supplies of eggplant and nine months before significant supplies of papaya will be available. Wi and jackfruit are available and had export protocols been in place these product could have helped fill some of this gap.

Out of frustration with lack of any progress in securing market access NWC used its own resources to acquire the services of Dr John Armstrong (ex USDA) to coordinate the submission of the market access proposal for papaya into the US. He worked with the NWC Field Officer, MAF Quarantine, MAF Research and SPC in preparing and making the submission. Dr Armstrong is now coordinating a similar market access submission for

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<sup>15</sup> This included building maintenance (changing fly screens, painting, floor replacement), plant and machinery (pumps, meters, bearings, bases for boilers), compound maintenance and general upkeep)

breadfruit to the US, utilising AusAID funding. It is recommended that a similar approach be adopted for market access submissions for the New Zealand and Australian markets.

**Table 9: Estimated incomes losses from failure to secure new market access (2004-2008)**

	2004	2005	2006	2007	2008	
Throughput loss without Australian and US market access	30,000	60,000	70,000	50,000	20,000	
Estimated revenue loss to NWC (\$)	12,000	24,000	28,000	20,000	8,000	
Estimated loss of export earnings (\$ fob)	120,000	240,000	280,000	200,000	80,000	
Estimate loss in farmer income (\$)	30,000	60,000	70,000	50,000	20,000	
<u>Eggplant</u>						
Throughput loss without Australian market access	40,000	80,000	120,000	150,000	150,000	
Estimated revenue loss to NWC (\$)	16,000	32,000	48,000	60,000	60,000	
Estimated loss of export earnings (\$ fob)	148,000	296,000	300,000	375,000	375,000	
Estimate loss in farmer income (\$)	30,000	60,000	90,000	112,500	112,500	
<u>Breadfruit</u>						
Throughput loss without Australian and US market access	4,000	4,000	6,000	10,000	15,000	
Estimated revenue loss to NWC (\$)	1,600	1,600	2,400	4,000	6,000	
Estimated loss of export earnings (\$ fob)	20,000	20,000	30,000	50,000	75,000	
Estimate loss in farmer income (\$)	2,800	2,800	4,200	7,000	10,500	
<u>Bitter gourd</u>						
Throughput loss with New Zealand market access	8,000	20,000	30,000	40,000	50,000	
Estimated revenue loss to NWC (\$)	3,200	8,000	12,000	16,000	20,000	
Estimated loss of export earnings (\$)	20,000	50,000	75,000	100,000	125,000	
Estimate loss in farmer income (\$)	5,600	14,000	21,000	28,000	35,000	
<u>Other gourds</u>						
Throughput loss with New Zealand market access	4,000	10,000	15,000	20,000	25,000	
Estimated revenue loss to NWC (\$)	1,600	4,000	6,000	8,000	10,000	
Estimated loss of export earnings (\$)	10,000	25,000	37,500	50,000	62,500	
Estimate loss in farmer income (\$)	2,800	7,000	10,500	14,000	17,500	
<u>Wi</u>						
Throughput loss with New Zealand market access	5,000	15,000	25,000	35,000	40,000	
Estimated revenue loss to NWC (\$)	2,000	6,000	10,000	14,000	16,000	
Estimated loss of export earnings (\$)	12,500	37,500	62,500	87,500	100,000	
Estimate loss in farmer income (\$)	3,000	9,000	15,000	21,000	24,000	
<u>Jakfruit</u>						
Throughput loss with New Zealand market access	5,000	10,000	15,000	20,000	25,000	
Estimated revenue loss to NWC (\$)	2,000	4,000	6,000	8,000	10,000	
Estimated loss of export earnings (\$)	15,000	30,000	45,000	60,000	75,000	
Estimate loss in farmer income (\$)	5,000	10,000	15,000	20,000	25,000	
<b>Total loss of throughput from no new market access</b>						
<b>Estimated revenue loss to NWC (\$)</b>	<b>38,400</b>	<b>79,600</b>	<b>112,400</b>	<b>130,000</b>	<b>130,000</b>	<b>490,400</b>
<b>Estimated loss of export earnings (\$fob)</b>	<b>345,500</b>	<b>698,500</b>	<b>830,000</b>	<b>922,500</b>	<b>892,500</b>	<b>3,689,000</b>
<b>Estimated loss of farm income (\$)</b>	<b>183,200</b>	<b>368,800</b>	<b>465,700</b>	<b>442,500</b>	<b>354,500</b>	<b>1,814,700</b>

### 3.9 Evaluating the efficiency of labour utilisation

The labour costs for the 2002 through 2007 financial years are presented in Table 10. Labour is the main cost element of prime (direct) treatment costs (around 76%). These costs have represented for from 20 to 38% of total annual expenditure.

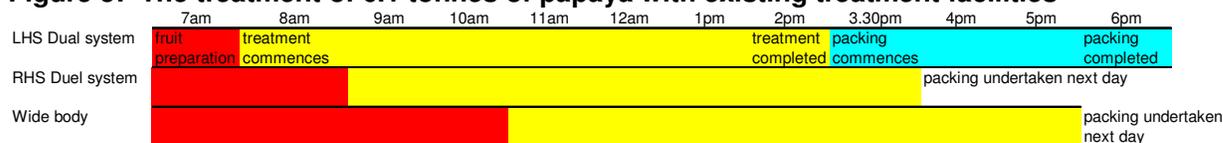
**Table 10: Grading and Packing Labour Costs (2002 - 2007)**

Financial year (June 30th end)	2002	2003	2004	2005	2006	2007
Total Kg Treated	515,330	446,115	556,944	794,619	1,176,482	994,789
<b>Prime Cost of Fruit Treatment</b>						
Grading and Packing Labour	42,839	35,480	46,946	95,537	82,942	111,264
Electricity Expenses	8,343	8,125	12,320	13,624	18,699	25,055
Fruit Handling & Packing Materials	797	120	0	0	244	457
Gas & Sprays	3,552	2,860	3,051	12,215	6,364	9,270
Water Rates	63	25	30	79	127	372
Total prime treatment costs	55,594	46,610	62,347	121,455	108,376	146,418
Total Expenditure	175,199	172,155	230,783	190,750	283,851	291,277
<b>Labour costs as percentage of prime treatment costs</b>	<b>77%</b>	<b>76%</b>	<b>75%</b>	<b>79%</b>	<b>77%</b>	<b>76%</b>
<b>Labour costs as percentage of total expenditure</b>	<b>24%</b>	<b>21%</b>	<b>20%</b>	<b>50%</b>	<b>29%</b>	<b>38%</b>
<b>Labour cost per kg fruit treated (c/kg)</b>	<b>8.3</b>	<b>8</b>	<b>8.4</b>	<b>12.0</b>	<b>7.1</b>	<b>11.0</b>

The expectation is that with increasing throughput, the efficiency of labour utilization should improve. This, however, did not occur in 2004 and 2005. The increase in the labour cost per kg treated reflects a degree of inefficiency in the utilization of labour and the excessive payment of overtime. The issue of the efficiency of labour utilisation was one of the main factors that promoted to decision to invest in additional treatment capacity two years in advance of the Strategic Plan investment time-table. However it took a further two years to get the wide-body unit operating and certified. This cost of this delay in additional labour costs is estimated at around \$20,000. The wide body chamber became operational at the end of FY 2005, resulting in a substantial decrease in unit labour costs in 2006

Substantial gains in the efficiency of labour utilisation can be expected with the investments have now been made in the expansion in the packing area and a new treatment chamber. Previously around 11 hours to handle 6.1 tonnes of papaya, as shown schematically in figure 5. Under current arrangements only the fruit treated in the LHS of the dual chamber is packed on the same day. The remainder of the treated fruit is packed the next day during the time that treatments are in progress.

**Figure 5: The treatment of 6.1 tonnes of papaya with existing treatment facilities**



The increase in packing space with the two bay extension make it possible to pack the fruit treated in wide-body chamber on the day of treatment by running two shifts. This would allow 10.4 tonnes to be handled in a day, provided improved handling systems are implemented. An efficient fruit packing operation is one in which the fruit move and not people packing the fruit. The current situation at NWC is that there is far too much movement of people instead of fruit. With the greater space afforded with the two bay expansion there is an opportunity to put into place fruit packing systems that are far more efficient in terms of their utilization of labour.

The additional of the new wide-body chamber (using lugs) gives an increase in capacity of 2.5 tonnes per day with one treatment per day. This can be doubled if there two shifts and two treatments per day increasing further labour efficiency and reducing the unit cost of treatment. This represents a major gain in labour efficiency and a significant reduction in the unit cost of treatment.

### 3.10 Training and human resource development

NWC, despite the recommendations of the Strategic Plan has not provided any formal outside training for staff. Now that the business has a solid financial base, it is recommended that selected workers should be sponsored to undertake formal certificate

courses in areas such as computing electronics and basic mechanics. Around \$1,000 annually are paid in TPAF training levies which would be recouped from such training. TPAF now has a training center conveniently located at Namaka. The scheduling of worker participation at training courses will be made much easier once regular shifts are in place.

### 3.11 Use of donor funds and technical assistance

NWC management has been skilful in securing external capital funding and technical assistance to support the development of the fruit and vegetable export industry. A list of the assistance received since 1994 is presented in table 11. The total value of this assistance has been almost \$1.8 million.

**Table 11: Donor and technical assistance support received by NWC**

<b>Year</b>	<b>Funding source</b>	<b>Amount (\$)</b>
<u>1994-95</u>		
treatment chamber and ancillary equipment	USAID	400,000
manager salary for 1st year	USAID	35,000
construction of building	Fiji Gov	250,000
		685,000
<u>1996</u>		
Training of operators	Fiji/NZ Business Council	16,733
Protocol development and certification	SPC	4,201
Protocol development and certification	ESCAP/Pacific Operations Center	9,000
Working capital	Commissioner Western Discretionary Fund	10,000
Working capital	NZ ODA	40,000
Working capital	Friends of Nature's Way Contributions	1,000
		80,934
<u>1997-2008</u>		
Preparation of the 2002 - 2006 Strategic Plan	EU EBAS Scheme	80,000
Part funding of acquisition of a wide-body chamber from Hawaii	British American Tobacco Co	43,000
A Manual for the Growing and Marketing of Breadfruit for Export	International Finance Corporation/ World Bank	85,000
Two bay extension for the building	Min Commerce Fiji Gov	380,000
Support for the establishment of a NWC Field Service	AusAID	100,000
Matching grant for new treatment chamber and ancillary equipment	AusAID/Enterprise Challenge Fund	303,000
		991,000
<b>Total assistance received</b>		<b>\$ 1,756,934</b>

NWC has proven it self to be a financially viable operation. However, it would not have been possible to get established and to expand without donor assistance. Borrowing from commercial banks is not a realistic option. An HTFA treatment chamber and grading and packing systems are highly specialised pieces of equipment, with virtually zero salvage value. There is no market for the resale of this equipment in Fiji and else where. Thus, these items have little value as security to commercial banks. The land on which the HTFA facility is located is owned by Airport Fiji Ltd (AFL). Thus land cannot be offered as collateral. Commercial banks operating in Fiji, and elsewhere in the Pacific Islands, have shown to be universally reluctant to loan to agricultural projects based on cash flow projections alone. Export horticulture is perceived as being particularly risky. NWC has found it difficult to secure commercial loan financing (5.2). Fortunately, the necessary start-up funding came from a variety of other sources listed in table 11. The willingness of NWC to make a substantial contribution of its own retained earnings to expand the business has been an important factor in securing donor assistance. The projects for assistance have had substantial demonstrable development outcome (such as expanding exports and increasing employment). NWC management have established an outstanding record of project implementation, reporting and financial accountability.

### **3.12 Management performance**

Nature's Way has been a success largely because of the high quality of its management. Sant Kumar, who has been the Manager from the outset, has proven to be an outstanding leader for this pioneering business. It was through his perseverance that the initial working capital was raised to commence operations. His people management skills have been his strong point. He has guided the development of the staff to the point that the day-to-day operations are now fully institutionalized. Successfully dealing with exporters is a demanding task requiring a special talent. Sant Kumar has dealt with the exporters firmly and with integrity and has earned their respect. It cannot be overstated how important this has been in the success of this business that operates in a sometimes questionable ethical environment. Finding a suitable replacement for current manager poses a major challenge for the business.

In retrospect the major management weakness has been in the control of exporter arrears. As exports expanded rapidly these arrears escalated to unacceptable levels for a few of the larger exporters. In an environment of expanding exports it has proven difficult to reign in these arrears. It is hoped that the recently introduced combination of "carrot and stick" will bring the arrears situation under control. However, this will now be made more difficult as a result of the catastrophic floods on January 2009.

NWC's Management has been fortunate to have had a supportive Board of Directors and Chairman. Tim Casey has served as NWC Chairman since the inception of the business. As the Manager of one of Fiji's most successful agribusinesses he has been able to provide invaluable leadership and guidance to the Cooperative. He has provided this as a disinterested party – not being an exporter himself. Through the Chairman, a valuable relationship between Natures Way and Southern Development Company (SDC) has been established. During the first few years of operations SDC has provided high quality accounting and administrative support.

Initially a large portion of the manager's time is taken up with administrative and clerical duties. This meant that best use was not made of the manager's special talent and experience in working with farmers and exporters. The Business could benefit greatly from the manager spending much more time in the field dealing with production, quality and quarantine issues. To improve this situation the Strategic Plan (2002-2006) recommended that an office manager be appointed and establishing a NWC field service established. Both recommendations were adopted and implemented.

The Strategic Plan (2002-2006) identified the issue of key person dependency with respect to the Manager. A program was outlined for a smooth transition in NWC management over the plan period. This essentially involved the appointment of an assistant manager who would be groomed to take over as manager. Unfortunately this recommendation was not taken up during the Plan period. However, the experienced field officer who was appointed in 2007 had been identified as the likely person who would take over as manager in early 2009. The death of Luke Tirimaidroka derailed the management succession plan. The current manager has indicated his wish to retire by the end of 2009. A suitable replacement manager now needs to be appointed as a matter of urgency to allow this person to be trained by the incumbent before he retires.

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### **3.13 The performance of the quarantine treatment business as a Cooperative.**

NWC was originally a product of the USAID's CAD Project in the South Pacific. A conditionality of USAID's assistance was that the quarantine treatment facility be operated by the private sector (the industry). There were two alternative models available for an

industry owned and managed quarantine treatment business. It could either be established as a registered Cooperative governed by the Cooperative Act or a limited liability company governed by the Companies Act. Under both options those who used the service (the exporters and farmers) would be the shareholders. The cooperative option was selected and Natures Way Cooperative (Fiji) Ltd was registered in August 1995. The main reason for selecting the cooperative option was that there would be no barriers to entry for future exporters and growers becoming shareholders and having access to the quarantine treatment services. With a limited liability business there was a risk that the original shareholders could exclude future industry entrants from having access to quarantine treatment. Another consideration was the 7 year tax holiday on offer to cooperatives. The business advisor under the CAD Project, John Kreag, had a strong background in the US Cooperative Movement, which boasts some of the largest and most successful agribusinesses in the world. His influence was clearly a factor in the choice of the cooperative option.

Operating as a registered cooperative has served the business reasonably well in its 12 years of operation. There was the benefit of a 7 year tax holiday and a steady increase in exporter membership. However, there have been a number of short comings and problems arising from being a cooperative. These are listed below:

- There was initially a negative perception of the business because it was cooperative. There outside perception of cooperatives in Fiji and the Pacific islands was poor – given their track record. In 1997 NWC approached the World Bank's South Pacific Project Facility for assistance in seeking start-up funding. This request was turned down by the responsible officer on the grounds that NWC was a cooperative and thus was unlikely to succeed<sup>16</sup>. Also the Manager of Fiji Development Bank (FDB) turned down a request for working capital on the same grounds. This response was particularly disappointing given that the then Manager was previously the Director of Cooperatives and was a strong advocate of Fijians in business. The record of cooperatives in Fiji and the Pacific islands has not been good. However, this has been more due to management, rather than the business model under which they operated. NWC has had excellent management and thus has been successful.
- The growth of NWC into a substantial agribusiness business outgrew the auditing and administrative support provided by the Department of Cooperatives, which was much more tailored to consumer cooperatives and other small businesses. As result audited accounts were regularly late. Incorrect advice was provided on taxation and VAT requirements. It was only with appointment of a professional accounting firm HLB/Crosbie and Associates were potentially damaging taxation issues were resolved.
- A discussion with Professor Ropate Qalo indicates that the NWC is still paying too much in tax due to a misunderstanding of the Cooperative Act. Professor Qalo pointed out that under the Cooperative Act, NWC should only be liable for tax on 25% of its operating profits.
- The value of shares in NWC are \$52 for growers and \$202 for exporters. Total share capital is only \$12,640, compared with total shareholder funds of \$1,087,627. Thus given the size of the business the equity of shareholders is very low. However, being a cooperative it is very difficult to attract additional equity other than issuing bonus shares in lieu of dividends.
- As a cooperative all members have equal voting rights regardless of their contribution to business. Most share holders have low levels of formal education. Thus the Board and Management is potentially subject to change based on alliances and whims of poorly informed people who may have only a limited stake in the business. This represents a major risk factor for an expanding agribusiness

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<sup>16</sup> More than a decade later it was ironically the same officer was on the committee that approved the NWC Challenge Fund grant.

who's viability depends on maintaining economic charges for services and retaining high retained earnings for capital investment and "rainy days"

NWC has grown from a small service cooperative to mature agribusiness who's annual turnover in the next few years is expected to exceed a one million dollars. The longer term sustainability of the business depends on being able to attract more equity investment on the part of its shareholders and in being able to maintain high quality management that make decision decisions that are in the long term interest of industry. These objectives are more likely to be achieved if NWC was a limited liability company that operated under the Companies Act. It would still operate as an industry owned business, in which the exporters and farmers being the shareholders. However, the transformation of Natures Way Cooperative (Fiji) Ltd. to Natures Way (Fiji) Ltd., would first require the liquidation of NWC. Such a liquation would need to follow the stringent requirements of the Cooperative Act. There is a risk that in the process the actual outcome may differ from the intended outcome. The risk of unintended consequences is too high to justify liquidation. Thus it is recommended that Natures Way remain as a registered cooperative. It is encouraging that Professor Qalo is currently undertaking a review of the Cooperative legislation and institutional arrangements. Discussions with Professor Qalo indicate that he will be recommending that the Cooperative Act will be brought more into line with the Companies Act. Professor Qalo was made aware of NWC concerns and will take these into account in making his recommendations. Qalo noted that the successful NWC is now considered a successful "flag ship" of Fiji Cooperative Movement and every effort should be made to accommodate these concerns. The review looking to the New Zealand Cooperative Act as guide for legislation that would be more suitable for larger cooperative businesses like Natures Way. New Zealand has a number of large and successful agribusiness cooperatives. If these reforms materialize, Natures Way Cooperative (Fiji) Ltd. will be in a position to achieve the best of both worlds, which will include, according to Professor Qalo, a more favourable tax status.

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## 4 Requirements for a sustainable business treating 3,000 tonnes of fruit annually

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### 4.1 Why 3,000 tonnes?

With the completion of the current capital investment program NWC will theoretical capacity to treat is around 3, 800 tonnes per annum<sup>17</sup>. A realistic maximum capacity is likely to be more in the order of 3,000 tonnes per annum.

With the Fiji fresh fruit and vegetable export industry starting to realise its full potential, treatment requirements may in the not too distant future exceed this expanded capacity. At this stage, the volumes handled by some of the larger exporters would be sufficient to justify investment in their own quarantine treatment facility.

NWC is a business established to service the fruit and vegetable export industry. It should not feel threatened by any future establishment of a competing private treatment facility. Such a development would be a measure of the success in being able to encourage sufficient production to justify private investment in quarantine treatment facilities. Competition in quarantine treatment would be beneficial the horticultural export industry – reducing risk and hopefully reducing cost. In the longer term it is conceivable that through its own success NWC could do it self out of a job. However, more likely NWC would

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<sup>17</sup> This is based on the following assumptions:

- The treatment facility operates 350 day per year.
- There are two working shifts per day – allowing for two full treatments/chamber/day.

All treatments are under taken in bins, allowing for 3.6 tonnes per chamber per treatment.

continue to provide treatment services for small exporters who's volumes don't justify their own facility.

Thus it is recommended that NWC make no more investment in treatment capacity. The emphasis should now be on improving the efficiency of operations within the existing capacity and improving the quality and production of fruit coming from the field. NWC also has long term role to play in facilitating market access for new commodities and new markets. .

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## **4.2 An agribusiness more than just quarantine treatment**

Natures Way Cooperative's core business is quarantine treatment and this should continue to be case in the future. However, there are opportunities to take advantage of NWC's strategic position to raise funds to undertake other service activities on behalf of the horticultural export industry. Such activities should not undermine NWC's ability to provide efficient quarantine treatment services. Recommendations are made below on what these service activity roles and activities should be in the future.

### **4.2.1 A body representing the needs of the horticultural export industry**

Due largely to the GM, NWC now become the de facto body representing the horticultural export industry in discussions with government and with donor and technical assistance organisations. NWC already has the facilities and the capacity to continue to undertake this useful role as required. This has minimal financial implications and will very much depend on the attributes of any future GM. The emphasis should be on encouraging and supporting the development of specific industry organisation such the Exporters Association.

### **4.2.2 Operating a field service**

Provision of an effective field service closely supports the core business of providing quarantine treatment services. Over the last two years a small fledgling field service has been establish with funding assistance from AusAID. The agreement with AusAID that NWC would fully fund the field service after the period. The field service proved highly beneficial to the industry – but tragically the field officer died one year into his contract. A replacement is still to be appointed. It is recommended that AusAID be requested to extend the funding of this position for a further year before NWC fully takes on this funding responsibility. The basis for this request is the accentuating circumstances of Luke's death and the floods, which have temporally reduced NWC capacity to pay for a field service. Once AusAID approval for this extension has been received then a new field officer appointment should be made

The Field Officer needs to have good working knowledge of all the activities at NWC and be able to assist in the running of the operation as needed. The field officer should also play a role in assisting NWC in implementing its special projects such as market access and donor support. Finally the Field officer should play such an integral part of the day to day operations of the business that he/she will be in a position to move into a management role in the future.

A draft job description for the field officer is presented below:



## Natures Way Cooperative (Fiji) Ltd.

Horticulture Field Officer

Natures Way Cooperative (NWC), a leading agribusiness company wishes to recruit the services of an experienced horticulture professional for the position of Horticulture Field Officer. The successful applicant is required to have experience working in tropical fruit and vegetable production, grower extension services, marketing and quarantine related issues. He or she will be based at the NWC pack house and treatment facility at Nadi Airport. The job also requires considerable field work in all major fruit and vegetable production areas, although mostly in the Western Division. The Horticulture Field Officer will work directly with the NWC General Manager in all aspects of the quarantine treatment business. He or she must be experienced in teaching and extension service to provide assistance to growers, distributors, and exporters.

The minimum qualification is a Diploma in Agriculture/Horticulture; Bachelors Degree is preferred. The successful applicant must be highly proficient in Microsoft Word, Excel, graphics programs and able to prepare research and extension proposals for funding from industry, government and international organizations. He or she must have demonstrated capability in working in a dynamic and fast paced work environment. The applicant must have excellent interpersonal skills to work with farmers in the field as well as with the corporate level and the government. The successful applicant must be a self starter, able to work with minimal supervision and in a group setting. Current driver's license and passport required. Remuneration will be based on qualifications and experience. For further information telephone (679) 672-4566. The initial contract will be for 2 years, with the view for a further extension. Applications, with a detailed CV, should be submitted by e-mail to [nwc@connect.com.fj](mailto:nwc@connect.com.fj) no later than February 15th 2009.

### 4.2.3 Market access facilitation

Over the last few years NWC has taken on an activist role, which has involved the coordination of market access submissions for papaya and breadfruit for the United States. All stakeholders, including the Quarantine Department, have appreciated these efforts. It is recommended that this initiative now be expanded to the coordination of market access submissions to Australia and New Zealand. Following the US market access model this requires hiring experienced consultants from the target countries to coordinate the market access submissions<sup>18</sup>. NWC funds should not be used for this purpose - donor support should be sought.

### 4.2.4 Input supplies

NWC has commenced a program of bulk purchase of field crates and papaya seed on behalf of its members. Seed capital to establish a revolving fund for purchase of crates was provided by AusAID. The revolving fund is now self sustaining. This small scale activity has proven highly successful – providing a valuable service to member and small profit to business. The importation of crates should be expanded in line with the availability of finance through the revolving fund.

The NWC Board has discussed the possibility of importing other inputs for supply to its members, among the items that have been suggested are: 120 micron plastic, sarlon shade cloth; fibreglass poles, and seedling trays. No action has been taken in these areas. It is recommended that NWC not venture into these areas. NWC could play an important role in encouraging the private sector to take up these activities.

<sup>18</sup> The following consultants are recommended:

- New Zealand – Ruth Frampton (ex NZ MAF)
- Australia - Rob Douthie (ex Aust AQIS)

### 4.3 Capital investment requirements

NWC now has the capacity to realistically treat 300,000 tonnes of fruit and it recommended that there be no further expansion in capacity. Thus further major capital investments are envisaged. Relatively small capital investments to improve the efficiency of operations can be envisaged.

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### 4.4 Retained earning requirements

No large capital investments are envisaged for the foreseeable future. However, it still is important to maintain a high level of retained earnings. These retained earnings are required:

- to continue a high level of repair and maintenance;
- to maintain a high level of rainy day reserves (the value of high level reserves has been proven with consequences of 2009 flood; and
- to have sufficient funds to operate a small field service.

Thus it is recommended that treatment fees remain at 35c/kg (for exporters whose accounts are current) and 40c/kg for others (exporters with accounts over 30 days) remain for the foreseeable future. Similarly, a conservative approach to paying dividends should be maintained.

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### 4.5 An appropriate corporate structure for the future

As discussed in 5.13 there would be clear advantages for NWC to operate as a limited liability company. However, the required liquidation of the cooperative to become a limited liability company brings with it an unacceptable level of risk. It is hoped that changes to the Cooperative Act that are expected to be recommended by Professor Qalo's Review will enable NWC to enjoy the "best of both worlds".

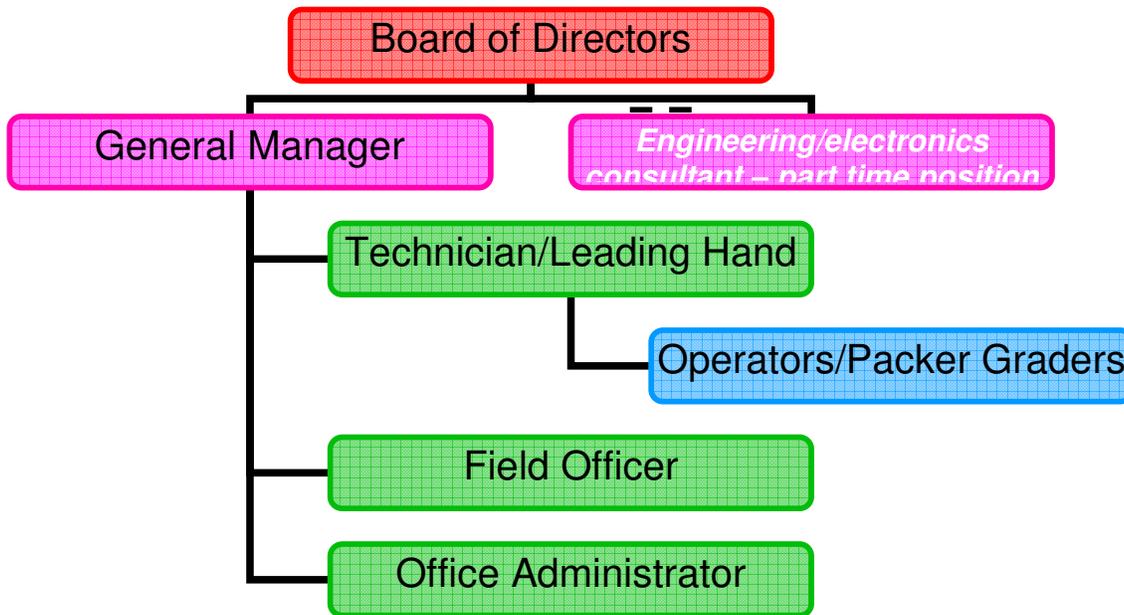
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### 4.6 Organisational requirements

A simple organisation structure is required to operate the expanded steady business described above. There is now no need to appoint an assistant manager as described in the previous Strategic Plan. An appointment now needs to be made of new General Manager to take over from the incumbent when retires before the end of 2009.

There is a need to have on going access to locally based engineering/electronic services as required. The continued reliance on Dr Michael Williamson for this neither economical nor sustainable. This reliance on Michael Williamson makes the business highly vulnerable. Such expertise will no doubt be difficult to find – however, its critical that every effort needs to be made to recruit such a person.

The proposed simple steady state organisational structure is presented below.



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## Skill requirements

There is a need to upgrade the basic skill levels of NWC workers. It is recommended that future workers that are recruited have a higher level of secondary school education. Now that the business has a solid financial base, it is recommended that selected workers should be sponsored to undertake formal certificate courses in areas such as computing, electronics and basic mechanics. Around \$1,000 annually are paid in TPAF training levies which could be recouped from such training. The scheduling of worker participation at training courses will be made much easier once regular shifts are in place.

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## 4.7 Urgent priority needs for sustainability

### 4.7.1 Achieving high quality management continuity

The Strategic Plan (2002-2006) identified the issue of key person dependency in two critical areas: 1) management and 2) engineering/electronics

The experienced field officer who was appointed in 2007 was identified as the likely person who would take over as General Manger in early 2009. Luke Tirimaidroka died in September 2008. The current manager has indicated his wish to retire by the end of the 2009. A suitably replacement manager now needs to be appointed as a matter of urgency to allow this person to be trained by the incumbent before he retires.

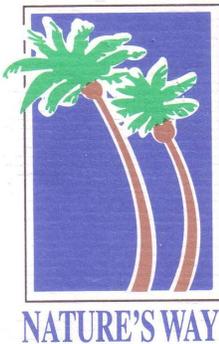
#### *Type of manager required for the future*

The quality of management provided by Sant Kumar over the last 12 years has been the key factor in remarkable success of Natures Way Cooperative. He started with a business that comprised a building and some sophisticated machinery and no working capital. Through his leadership it has grown to a substantial industry owned agribusiness that is the envy of the region. The continuing success of the business will very depend on the calibre of the new General Manager. The new Manager will not be developing a new

business - but rather guiding a mature steady state business. General Manager of Natures Way is never the less a demanding job – the requirements of which appear not to be fully appreciated by a number of exporter shareholders.

### **Job description for a new manager**

A draft job description for the field officer is presented below:



## **Natures Way Cooperative (Fiji) Ltd.**

### **General Manager**

Natures Way Cooperative (NWC), a leading Fiji agribusiness company, wishes to recruit the services of an experienced executive for the position of General Manager. The successful applicant is required to have a high level of management skill and experience in tropical fruit and vegetable production, marketing and quarantine related issues. He or she will be based at the NWC's quarantine treatment/packing house at Nadi Airport. The GM is accountable to the NWC Chairman and Board of Directors. The core business of NWC is the quarantine treatment of tropical fruit and vegetable for export. The GM is responsible to oversee operations of the newly expanded quarantine treatment facility. The position also requires the spending of a considerable amount of time with shareholders (growers and exporters) in the production areas. The GM works closely with exporters to ensure market quality and quarantine requirements are met. He or she will also work with farmers and the Ministry of Agriculture Extension Staff and other agencies to increase the volume and quality of export fruit. An important role of the GM is to liaise with the Ministry of Agriculture (Research and Quarantine Divisions) and the regulatory authorities of importing countries on protocol development and market access issues.

The minimum academic qualification for the position is a Degree in Management, Economics, Agriculture or other relevant fields. The successful applicant must have good computer skills and be able to prepare research and extension proposals for funding from government, donor and international organizations. He or she must have demonstrated capability in working in a dynamic work environment. The applicant must have good interpersonal skills to work effectively with exporters and farmers in the field as well as with the corporate level and the government. The successful applicant must be a motivator, able to work with minimal supervision within a group setting. An attractive remuneration package will be based on qualifications and experience. A performance bonus applies to this position. The initial contract will be for 3 years, with the view for a further extension. For the first 3 months it is expected that the successful applicant will work with the incumbent GM. Applications, with a detailed CV, should be submitted by e-mail to [nwc@connect.com.fj](mailto:nwc@connect.com.fj) or by mail (P.O. Box 9825, Nadi Airport) no later than March 15th 2009. For further information telephone (679) 672-4566 or 672-0125.

### **4.7.2 Eliminating the chronically high treatment payment arrears**

Perhaps the greatest risk to the sustainability of Natures Way is the unacceptably high levels of arrears. At December 31<sup>st</sup> exporter arrears over 90-days stood at a \$130,350. The NWC Board at its Meeting of December 13<sup>th</sup> 2008, resolved that as of January 1<sup>st</sup> 2009 exporters with arrears beyond 30 days will only be offered quarantine treatment services on a cash payment basis (plus an additional \$1,000 payment per treatment to reduce their arrears.) To reverse this unacceptable debt situation, management must refuse treatment services to exporters who don't meet these conditions. Some of the exporters with the worst arrears status are amongst the most severely affected by the January floods. This should not be accepted as reason for modifying this treatment conditions.

### **4.7.3 Expanding market access**

The absence of new export protocol development over the last decade has substantially increased the level of risk faced by NWC. The floods on January 2009 mean for the next month or so only breadfruit and small amounts of papaya available for export. Out of frustration with lack of any progress in securing market access NWC used its own resources to facilitate market access to the United States for papaya and breadfruit through acquire the consulting services of Dr Jack Armstrong. It is recommended that a similar approach now be adopted for market access submissions for the New Zealand and Australian markets. Dr Ruth Frampton (ex NZ MAF) would be an appropriate person for the New Zealand market and Rob Dothie (ex AQIS) an appropriate person for the Australian market. NZAID and AusAID funding respectively should be sort for this work. However, if this funding could be obtained, NWC should consider utilising its own funding.

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## 5 Conclusions and recommendations

1. The HTFA facility has proven to be remarkable robust. Only once in 12 years of operation have exports has been lost due to malfunctioning of equipment.
2. Further reductions in treatment charges, in the order of 5c/kg, could reasonably be expected over the next few years without undermining the viability of the business. This will however, depend on a steady increase in throughput towards the target of 3,000 tonnes per annum. This is seen as achievable given the following:
  - the investments that are being made in treatment capacity (building expansion, a new treatment chamber and ancillary equipment);
  - fruit production will continue to expand due to the operations of NWC field service and other initiatives; and,
  - the likely improvement in market access due to initiatives taken by NWC and others.
3. NWC Board and Management have been conservative in setting treatment charges. This approach has served the industry well. A continuation of this conservative approach, based on due diligence, must be maintained in future to ensure the financial sustainability of the business.
4. In setting treatment rate full consideration must be given to providing sufficient retained earnings to
  - maintain a high quality and reliable service to the fruit export industry;
  - provide sufficient “rain day” cover for such contingencies such as cyclones and loss of market access;
  - allow for adequate repairs and maintenance of capital assets; and,
  - provide investment capital to expand the business.
5. Luke Tirimaidoka’s one year of service as field office proved the value of a small focussed field service provided the right person is appointed. A replacement for Luke should be made utilizing the year of AusAID funds remaining.
6. In the light of the accentuating circumstances of Luke death and the catastrophic floods on January 2009 a request should be made to AusAID to extend the funding of this position for a further year before NWC fully takes on this responsibility. The finding of a suitable replacement manager should no longer be coupled to the field officer and should handled urgently as a separate issue.
7. The bulk importation of field crates activity has proven that there is high demand for crates to improve the efficiency of handling and to improve quality.

8. The NWC field service needs to put a concerted effort into promoting seedling nursery enterprises that source their seed from the best available sunrise trees in terms of characteristics such as red colour flesh, yield and disease resistance. ACIAR papaya project that is expected to commence in early 2009 will work with the field service in making this important transition.
9. The Ministry of Agriculture (FQIS and Research) has failed in meeting its core market access responsibilities. The failure to secure any new market access protocols since 2001 (breadfruit to New Zealand 2001) resulted in a significant loss of revenue to NWC, shareholders and to the nation as a whole. The estimated losses over the last 5 years have been.
  - \$0.5 million in lost treatment revenue to NWC.
  - \$3.7 million lost export earnings to the nation.
  - \$1.8 million in lost farmer income.

The current annual loss in export earnings is around \$890,000 and farmer income about \$350,000. These losses will steadily increase in the future if nothing is done to rectify the situation.

10. Out of frustration of the lack of any progress in the development of new export protocols, NWC has taken on an increasingly active role in this area. More recently NWC has taken on itself to become more directly involved the coordination of market access submissions for papaya and breadfruit. All stakeholders, including the Quarantine Department, have appreciated these efforts. It is recommended that this initiative now be expanded to the coordination of market access submissions to Australia and New Zealand. Financial support from donors and SPC should be sought for these activities.
11. Natures Way has been a success largely because of the high quality of its management. The death of Luke Tirimaidroka derailed the management succession plan. The current manager has indicated his wish to retire by the end of the 2009. A suitably replacement manager now needs to be appointed as a matter of urgency to allow this person to be trained by the incumbent before he retires.
12. There would be clear advantages for NWC to operate as a limited liability company and not a cooperative. However, the required liquidation of the cooperative to become a limited liability company brings with it an unacceptable level of risk. It is hoped that changes to the Cooperative Act that are expected to be recommended by Professor Qalo's Review will enable NWC to enjoy the "best of both worlds".
13. With the completion of the current capital investment program NWC will theoretical capacity to treat is around 3, 800 tonnes per annum. A realistic maximum capacity is likely to be more in the order of 3,000 tonnes per annum.
14. With the Fiji fresh fruit and vegetable export industry starting to realise its full potential, treatment requirements may in the not too distant future exceed this expanded capacity. At this stage, the volumes handled by some of the larger exporters would be sufficient to justify investment in their own quarantine treatment facility. The establishment of future competing private treatment facilities should be encouraged.
15. It is recommended that NWC make no more investment in treatment capacity. The emphasis should now be on improving the efficiency of operations within the existing capacity and improving the quality and production of fruit coming from the field. NWC also has long term role to play in facilitating market access for new commodities and new markets.

16. While no large capital investments are envisaged for the foreseeable future, it still is important to maintain a high level of retained earnings. These retained earnings are required:
  - to continue a high level of repair and maintenance;
  - to maintain a high level of “rainy day” reserves (the value of high level reserves has been proven with consequences of 2009 flood); and
  - to have sufficient funds to operate a small field service.
17. To maintain a sufficient level of retained earnings it is recommended that treatment fees remain at 35c/kg (for exporters whose accounts are current) and 40c/kg for others (exporters with accounts over 30 days) remain for the foreseeable future. This should be accompanied by a conservative policy with respect to paying dividends to shareholders.
18. The core business of Natures Way Cooperative is to provide quarantine treatment services to the horticultural export industry and this should continue to be the case in the future. However, there are opportunities to take advantage of NWC’s strategic position to raise funds to undertake other service activities on behalf of the horticultural export industry. However, such activities should not undermine NWC’s ability to provide efficient quarantine treatment services.
19. Due largely to the GM, NWC has become the de facto body representing the horticultural export industry in discussions with government and with donor and technical assistance organisations. NWC already has the facilities and the capacity to continue to undertake this useful role as required. This has minimal financial implications and will very much depend on the attributes of any future GM. The emphasis should be on encouraging and supporting the development of specific industry organisation such as the Exporters Association.
20. Provision of an effective field service closely supports the core business of providing quarantine treatment services. Over the last two years a small field service has been successfully established with funding assistance from AusAID.
21. AusAID should be requested to extend the funding of this position for a further year before NWC fully takes on this funding responsibility. The basis for this request is the accentuating circumstances of Luke’s death and the floods, which have temporarily reduced NWC capacity to pay for a field service. Once AusAID approval for this extension has been received then a new field officer appointment should be made.
22. Over the last few years NWC has taken on an activist role, which has involved the coordination of market access submissions for papaya and breadfruit for the United States. All stakeholders, including the Quarantine Department, have appreciated these efforts. It is recommended that this initiative now be expanded to the coordination of market access submissions to Australia and New Zealand. Following the US market access model this requires hiring experienced consultants from the target countries to coordinate the market access submissions. NWC funds should not be used for this purpose - donor support should be sought.
23. A simple organisation structure is required to operate the expanded steady business. There is now a need to appoint an assistant manager as described in the previous strategic plan. An appointment now needs to be made of a new General Manager to take over from the incumbent when he retires before the end of 2009.

24. There is a need to have on going access to locally based engineering/electronic services as required. The continued reliance on Dr Michael Williamson for this neither economical nor sustainable.
25. There is a need to upgrade the basic skill levels of NWC workers. It is recommended that future workers that are recruited have a higher level of secondary school education. Selected workers should be sponsored to undertake formal certificate courses in areas such as computing, electronics and basic mechanics.
26. Perhaps the greatest risk to the sustainability of Natures Way is the unacceptably high levels of arrears (\$130,350 in arrears at Dec 31<sup>st</sup> 2008). This situation threatens the financial sustainability of the quarantine treatment business. The NWC Board resolved that from January 1<sup>st</sup> 2009 exporters with arrears are beyond 30 days will only be offered quarantine treatment services on a cash payment basis (plus an additional \$1,000 payment per treatment to reduce their arrears) The January floods should not be accepted as reason for modifying this treatment conditions.