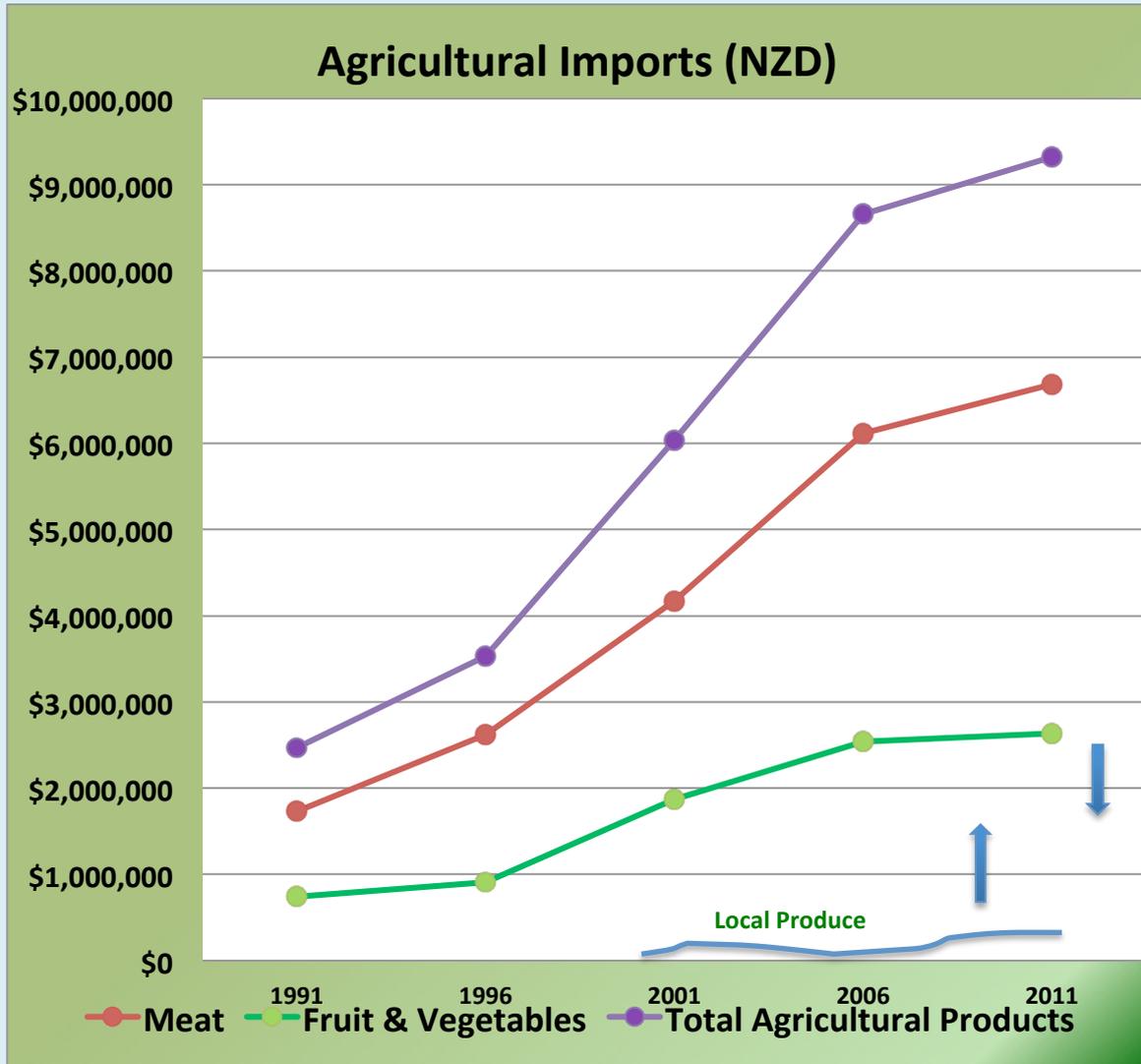


Strategies that Reduces Dependency on Imported Produce

Ministry of Agriculture



June 2013

About this Document

This document discusses ways to improve local production, identify high value crops that can be grown successfully locally, look at various options, ideas and strategies on how to increase local Agriculture Production in Rarotonga and the Outer Islands so that we become self-sufficient and reduces dependency on Imported Produce.

It highlighted the following:

Our total Imports in terms of Food

Our vegetables and fruits we Import

Agriculture long-term plan to strengthen local production

“Strategies to reduce Imports”

Strategic Road Map (Overall Strategy – Economic Development

How to achieve these strategies

Some of the constraining issues affecting strategies that reduces dependency on imported Produce

Global issue

Local issue

- Labour force
- Transport cost
- Distance from Market
- Access to Arable land in Rarotonga
- Access to Agriculture water
- Effects of Climate change – salt water intrusion
- Delivering technical support to farmers
- Plan and support to the vision 2013 – 2015
- Programmes to get there and beyond

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Acronyms and Abbreviations

AFT	Aid for Trade
BTIB	Business Trade Investment Board
PNM	Punanga Nui Market
PNMC	Punanga Nui Market Committee
NZAid	New Zealand Aid
CITC	Cook Islands Trading Company
CLO	Crown Law Office
WFD	World Food Day
ADB	Asian Development Bank
ASP	Agriculture Sector Plan
AusAID	Australian Agency for International Development
CCA	Climate Change Adaptation
CI	Cook Islands
CRP	Coastal Rehabilitation Programme
CPF	Country Programming Framework
CPI	Consumer Price Index
CROP	Council of Regional Organizations in the Pacific
EU	European Unión
FAO	Food and Agricultural Organization of the United Nations
MPI	Ministry of Primary Industry
MFEM	Ministry of Finance and Economic Management
PACF	Pacific Arts and Cultural Festival
GAP	Good Agriculture Practice
GDP	Gross Domestic Products
TW	Tiare Week

1 Introduction

1.1 Background

The Cook Islands economy was once a vibrant economy based on Agriculture and Agricultural products (Copra, Citrus, Tarua, Banana, Pineapple, Tomato, processed Pineapples and Orange juice) way-back the late 50s to early 80s. Agriculture was the backbone of the Cook Islands economy and during those years Citrus were grown productively in the Pa Enuu, (Aitutaki, Mangaia, Atiu and Mauke) while crops like Bananas and Tarua were grown for export in Rarotonga and Aitutaki, while Pineapples were selectively grown only in Mangaia and Atiu mainly for processing into Pineapple juice and other Pineapple products including fruit salads, etc. for export to New Zealand. Coconuts for copra were produced in all islands especially the Northern Group for export to New Zealand to be milled into coconut oil.

It was common knowledge at that time, that all the above main crops were grown in plantation style systems, required larger area of land use per crop for an extended period, heavy dependent on imported inputs (fertilizer, Agriculture chemicals, etc.), they required larger infrastructure for packing and storage and high labour needs.

According to past Agriculture reports, the focus of the Cook Islands was on commercial Agriculture for the export markets and any left over produce that didn't meet the export standards were left for the household and local market.

1.2 Current

Today, about thirty plus years later the Agriculture sector and export production continues to decline and is no longer the main economic driver of the country. The Tourism Industry is now the backbone of the Cook Islands economy while Agriculture has a supporting role in the local fresh food production for the increasing number of tourists coming to the Cook Islands. Back in the early 90s (Sayed and Mataio 1993) reported that the export promotions of crops were failing because of socio-economic changes taking place in the Cook Islands and their impact affecting growers' motivation.

The growth in Tourism, together with increased employment opportunities in a cash economy slightly shifted the focus away from export to the local market created by the increase tourist numbers visiting Rarotonga and the Outer Islands. This has also created Agricultural produce import opportunities for Hotels and supermarkets due to sub-standard quality of local produce, inconsistency and insufficient local supplies. Hence the increase trends in imports of foreign produce. As predicted by Sayed and Mataio 1993 on the socio-economic changes and increase Tourist numbers created a local Market ten times larger than the total value of Agricultural export.

There is also an increase in the number of Hydroponics and semi Hydroponics, Biological / Organic Agriculture, Aquaponics and Aquaculture systems in Rarotonga, Atiu, Mauke, Aitutaki and some of the Northern Group Islands e.g. Manihiki which has significantly

impacted on the supply of salad products like Lettuce and Herbs, other summer vegetables to cater for the high demands for the restaurants, super markets and Hotels.

According to the report by MFEM the Agriculture sector accounted 2.3% of GDP, which is approximately \$8.4 millions for 2011, as compared to \$8.8 millions in 2010. For export, the total estimated export for the September 2012 quarter is \$0.2 millions, which is 6% above the same period in 2011. The two main export products are Noni Juices 93% (*i.e. our Nono from Rarotonga & Aitutaki combined*) of the total export and Maire 7% of the total export, which equates to approximately \$0.8 millions per year. On the issue of import, the country imports a total of \$106 millions annually. Out of this total import amount, 32.974 millions were Food Stuffs of which 9.540 millions were (Meat, Vegetables and Fruits). Further break down reveals total Meat import were 6.686 millions while the Vegetables and Fruits 2.854 millions; see graphic trends as expressed in Figure 1.

With regards to local produce sold at the Saturday Punanga Nui market, it was estimated that the volume of Fresh produce displayed and sold at the Market equated to approximately 3 – 5 thousand kilograms, (*Punanga Nui Data - 2012*) depending on the seasons. – Winter i.e. May to September, there is an increase in volume of Vegetables, but with slight drop in fruits (like Pawpaw) due to cooler temperatures, while in summer (November to April) the opposite occurred with fewer vegetables available but much more varieties of fruits. Most of these local produce are for local use at household level and for sale at the local market, supermarkets restaurants and hotels. This means our food security requirement appears to be sufficient, for our local subsistent needs, meaning that we can provide for our population adequately. However, not for emergencies or after disaster occur. We need to organize several “Emergency Food Sites” (EMS) on each of the Islands purely for the purpose of after devastating Cyclone or Natural disaster; where we could plant on reserved land site for growing Cordyline spp blocks, (Rauti), Puraka patches on depression land sites on Atolls, Kape and wild Yams around the Makatea edges on the Makatea Islands.

There is need for Agriculture sector to better organize baseline data collecting for local food production, produced by the farmers and sold at the Punanga Nui Market, supermarket stores, Hotels, Restaurants, Village shops, Roadside Markets and Hospital. These are important data and records for analysis and monitoring the volume of the Agriculture food crop production produced per month during the two main seasons (May to September – cooler months and October to April – hot, lot more pests and sometimes very wet months). Knowing the volume of produce our Farmers grow and sell on the local market will provide us with some guidance to see whether we make any impact in reducing imports of fruit and vegetables from overseas.

According to the records above, we import a substantial volume per month produce of (Vegetables, Fruits, especially those that we don’t produce consistently, etc.) in support of what’s available we produce locally, to cater our increasing tourist requirements. This is the challenge for the Agriculture sector and is one of **the main critical gaps** for the Cook Islands economy 2013 – 2015 development plans and programmes, to address the high importation of Agricultural produce and to derive an effective pathway to gradually reduce importation using a downward stepwise systems approach.

Proposed Agriculture sector planning and coordination programmes: - promoting Young Farmers, Technical Field Staff visit to all farmers (twice or 3 times a week) to provide support, demonstrations guidance and up-skilling, so that farming becomes more cost

effective for these Farmers and at the same time earn more income for their families. The assumption is that, by the end of 2014 financial year, the Agriculture sector should be able to show some impact on the local vegetables / fruit production and reduce Agricultural imports for the year 2015 and so on.

It is also important to note that there are some produce (crops, fruits) that Agriculture will not be able to grow well here in the Cook Islands, for example Celery, Apples, Garlic, Potato, some Bulb Onions, Brussels Sprouts, etc. We will still be importing these produce to meet the food requirements of our nation. *Annex 1, showed lists of produce that we import into the Cook Islands.*

1.3 Our total imports in terms of Food (Meat, Fruits & Vegetables)

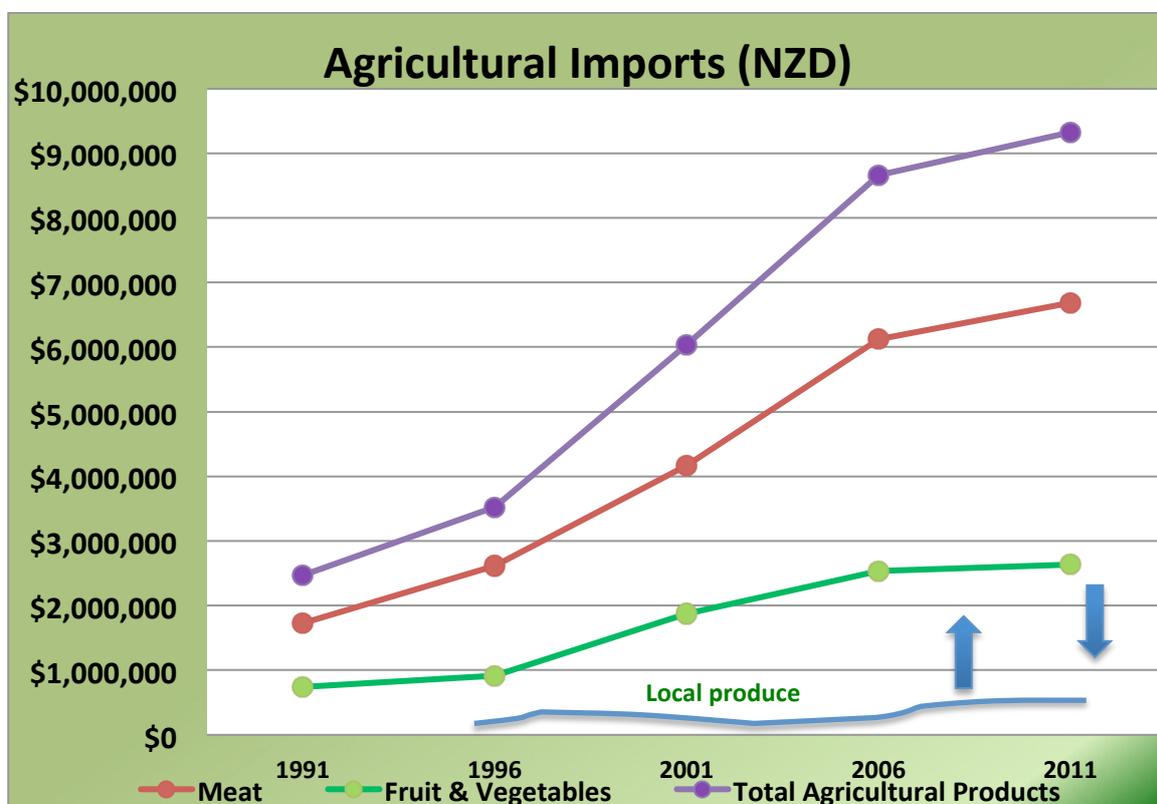


Figure 1: Our Vegetables and Fruits we Import

1.4 Our Vegetables and Fruits we Import

Observing the pattern of the graphs in Figure 1., it would appear that there is significant difference in the trends and angles of the Fruit and Vegetable graph (green with light yellow bullet points) as compared to the Red graph for the Meat Imports. The Fruit and Vegetables graph pattern appears to be flattening off, or leaning towards the X-axis as shown by the downward pointed arrow. The upward pointed arrow, is showing or responding to the increase volumes of Fruit and vegetables (*although not shown on the graph*) produced locally by our farmers (including Hydroponics / Aquaponics growers) hence causing the line graph to appear flattening off. So our assumption is that as local production increases, the Agents

that import fruits and vegetables decrease their volume they order from overseas, hence the shifting pattern.

Similarly the Meat line graph should also respond the same way as that of the Fruit and Vegetables, however, this is not so because of our weak local meat production. We would need to strengthen our local Livestock farmers. The Ministry of Agriculture has a strategic long-term development plan for Goat farming and production for 3 Outer Islands (Mauke, Atiu and Mangaia) as one of the component (Strengthening Goat farming in selected Outer Islands) included under the Chinese Agriculture Project Proposal – NZ\$3.9 million.

The Ministry is also planning to introduce tropical sheep from Fiji “Fiji Fantastic” after the Associate Minister Hon Kiriau Turepu negotiated with the Minister of Agriculture of Fiji during the SPC Agriculture Minister’s Meeting held in Nadi in September 2012. The Ministry will pursue this initiative when funding sources has been identified.

2.0 Agriculture's Long Term Plan to Strengthen local production – “Strategies to reduce Imports”

Agricultures Objectives are set by the Government and directly linked to the Government priority areas under National Sustainable Development Plan (NSDP), first and foremost is to Revitalize Agriculture Sector and in particular the following priority areas:

- Import substitution and strategies on how to achieve them;
- Strategy on Food and Nutrition Security in relation to Climate change
- Economic Development – economic earning, High value Crop Development
- Biological and Organic production – effective and sustainable techniques,
- Trade Facilitation and Market Access

In support of the Government priority areas, the new Agricultural documents; **Agriculture Programme and Plan 2013 – 2015, and the Agriculture Business Plan 2013**, these were prepared to align with the NSDP Agriculture Objectives.

2.1 Governance of the Agriculture sector

The overall governance of the Agriculture sector is to better deliver on its core services. The sector consists of five Divisions, (1) Crop Research & Development, (2) Biosecurity & Border Control, (3) Livestock & Animal Health, (4) Policy & Projects, (5) Administration & Finance.

2.2 Strategic Roadmap (Overall Strategy – Economic Development)

The strategy is based on **two focus areas**:

(A) Medium and Annual Target Crops. *(These are short term annual crops – vegetables and seasonal fruits, Watermelons, Tomato and seasonal long-term fruits)*

The Key Programme themes are aligned to the NSDP priority areas as follows:

- Increase Crops / Livestock Production (Import substitution)
- Food and Nutrition Security
- Organic Production
- High value Crop Development

These are short-term Key programme themes currently implemented in partnership with selected farmers e.g. organic production involving Vei or Utu organic programme, and secondly, the growing of high value vegetable crops, (Broccoli, coloured Capsicums, Snow Peas), etc. Some of these vegetables were forwarded to the Outer Islands especially Broccoli, to Mauke, Atiu and Aitutaki for them to grow and export back to Rarotonga.

2.3 The second focussed area: - five years Plan, and beyond.

Purpose – to grow the economy and at the same time reduce imports of produce from abroad.

(B) Long-term Main Crops.

The Key Programme themes are as follows: - for five economical main crops and one Livestock.

- Maire – for Maire Lei (i.e. Grow under cover or in hedge row crops, - growing efficiency is paramount and for easy management of pest and diseases). Currently Maire is harvested from the wild where pest and diseases control is complicated. The money earned from selling of the Maire Lei is converted into food to sustain household food security in the Outer Islands.

- Nono – for Noni Juice – for economic reasons it is best to grow this crop in Rarotonga (too expensive to ship the un-processed juice from the outer islands). There are plans to look into drying Noni, and then turn into powder and process into Capsules – i.e. lighter product for export.
- Coconut – for Virgin Oil – Body Shop products including high value soap, body cream, high value cooking oil, etc. – The programme is linked to the Coconut Re-planting scheme planned for the Northern Group Islands under the Chinese Technical Assistance to Agriculture i.e. if the project proposal is approved. This project proposal for the Chinese assistance is worth NZ\$3.9 Million and NZ\$650,000.00, from the NZ\$3.9 million is for the Coconut re-planting scheme for the Northern Group Islands.
- Pawpaw – for fresh fruit and puree – Organizing to / manage 12- 14 thousand Pawpaw trees (at various stages or ages of bearing trees to achieve the export volume target of 500 cartons per week.
- Vanilla – for vanilla beans, for perfume / flavorings, etc. The cured product is high valued, stores very well, (i.e. if cured well), light weight, economical to transport by air from the Outer Islands, and we need to Grow under Shade Cloth – for efficiency and long term management and long term investment.
- Goats – for fresh meat – Mainly for 3 selected Outer Islands Goat production / Improve genetic characters using long term breeding program for quality meat. These are not yet implemented fully due to lack of resources (anticipating for the Chinese project assistance) but in the process of identifying partners / private sector or Development Partners for Technical Assistance.

2.4 How to achieve these Strategies.

For the Medium and annual Target Crops / Key programme themes; e.g. Import substitution, Food and Nutrition Security, Organic production, etc. these programmes had started and progressing well under Government support and following plans:

- Promote the programme on increased number of new farmers (by recruiting Young Farmers, including part-time growers such as Airplane Pilots, Policemen, Teachers, etc.) to get them keen and interested in growing for extra income during their off times. There is keen interest among young and part time working Public Servants, but held back because of lack of access to farm lands on Rarotonga. This is one of the critical gaps in relation to strengthening local production in reducing Imports and advancing Agriculture development in the Cook Islands.
- Encourage school leavers; especially those who can access land for crop production and income generation, to part-take in the Ministry of Agriculture's 4 weeks attachment trainings to provide guidance and confidence in venturing into Agriculture for food security and income generation. Agriculture extension staff will provide technical guidance and support to maintain the momentum among our young and keen school leavers. The Agriculture Ministry's working closely with the Education Department especially in the areas of career awareness in various disciplines in the field of Agriculture.
- Target selected Farmers or Farmer's Groups to grow high valued Crops – (*Broccoli, Cauliflower, Colored Capsicums, etc.*) and provide technical guidance to ensure successful outcomes. Agriculture Extension staff should organize this, based on their

experience from their visits to these farmers. They (the officers) should be able to identify confident farmers to grow these high value crops locally with the Ministry's guidance until they gain self-confidence.

- The Agriculture Ministry carries out attachment training for senior College students interested in Agriculture as a career to create opportunities. The Ministry of Agriculture has this attachment (Participatory) Training in place for young farmers, Outer Island staff up-skilling and students interested in Agriculture as a career.
- Cooperatives and Associations to centralize packing of their produce, set quality standards, prior to marketing to outlets such as the Hotels, Supermarket Stores, Conner Shops, and Punanga Nui Market. Growers Associations such as the Arorangi Growers Association, Nikao Growers Association, Titikaveka Growers Association (TGA) and so on. Centralized packing (in a nut shell) allows quality standards to set in based on the Hotel market standards and the local Market standards. Quality and consistency of supplies are the keys to maintaining good local price on the market. The Ministry should develop a local Produce Standard for all local produce sold at anywhere in Markets, shops and even at the roadside market stalls.
- Promote / assist Private Sector to increase in the numbers of Hydroponic and semi Hydroponics, Biological / Organic and Aquaponics systems in Rarotonga and Outer Islands. Produce from these systems provides an important contribution to the vegetable supplies to the local markets (Supermarkets, Punanga Nui Market, Hotels and Restaurants) at a competitive price especially during the summer months (November to April). These are difficult months for outside growing (field growing) of most vegetables due to hot summer temperatures, increased pests and diseases out-breaks, increased weeds, more heavy rain, floods, and is the Cyclone season for the Cook Islands.
- Partnership with Development Partners – (Technical Assistance) i.e. Development Projects / Strengthening local production in Crop Production and Meat (vegetables, Fruits and Livestock) for Food Security and Income generation.

Overall, bullet points 1 to 5 are under trial and appear to show some small progress on the local market. Collecting (recording) of produce data at the Punanga Nui is most important to determine the volume of produce sold on Saturdays.

3 Strategies that Reduces Dependency on Imported Produce

3.1 Production

Increase local production, aiming to become self-sufficient in all fruits, vegetables and meat grown in our local tropical / sub-tropical climate.

(1) Intensification crop production to increase vegetables and Fruit production to ensure it meets and matches quality standards similar or better than imports.

- Crop scheduling i.e. seeds and seedling arrangement and scheduling and timing of seed sowing to set a cyclic pattern of 3 to 4 weekly of transplanting of vegetables – depending on the type of vegetables for consistency of production.
- Focus on high value vegetable varieties i.e. imported varieties that we grow very well here in Cook Islands
- Crop scheduling and frequency of sowing short term fruit / vegetables such as Tomatoes, Egg plant Cucumbers, Capsicum, Watermelon, and Rock melon for consistency of supplies on the local market.
- Organic production for niche market – strengthen organic production
- Ensure media release / advisory guidance on productivity
- Technical field support to vegetable / fruit growers – ensure field visit / advisory to growers to provide on the spot guidance
- Implement field days and demonstration training – learn by doing on the spot
- Provide information Bulletin and media release on vegetable / fruit production and potential

3.2 Other Programmes

Long-term Key Programme themes, - these are programmes that stimulate and bring growth to the economy of the Cook Islands given the availability of resources.

- Engage in Partnership with Private Sector to drive the plan; (2 private sectors 40 Acre plots for Mauke, and one 50 Ha plot for Mangaia). Initiatives by private sectors to venture in investing in Vegetables and Fruit growing in these selected Islands should be supported by Government, because these projects are expected to create employment on these islands, reduce dependency on imported produce, strengthen Food Security and add growth to the Cook Islands economy
- Stakeholder engagement / New Technology (cold press virgin coconut oil, Tamanu seed oil extract, etc.) This is an emerging new economic venture in the extraction of Coconut oil via a method known as Cold Press where Coconut oil is extracted for cooking and used in the Cosmetic industry. Coconut oil can substitute for Soybean oil, Peanut oil, etc. that we import. There are 3 Islands that will soon be venturing into Coconut Virgin Oil production – namely Manihiki, Mauke and Atiu.
- Outer Islands / Rural Community engagement (Atiu 20 Acre block & takes care of the labour constraints i.e. community ownership) similar approach as mentioned above in bullet point 1.
- Engage in Partnership with Tourism (Tour & pollination of Vanilla, etc.)
- Partnership with Development Partners (Technical Assistance)

4 Some of the constraining issues affecting strategies that Reduces Dependency on Imported Produce

The following are constraining issues affecting the drive to increasing local food production and predominantly under (1) Global Issues / Labour (2) Transport (3) Distant from Market (4) Land resource (5) Access to Water (6) Effects of Climate Change focusing on vegetable crops, root crops and tropical fruit that we can grow well locally, (7) Declining Agriculture Technical Support to Farmers.

4.1 Global Issues

The Cook Islands is also affected by changes in the Global economy especially high costs in the area of Agricultural inputs such as fuel, fertilizers, Hybrid seeds, Hybrid vigor livestock, stock medicine, transport, etc. These costs are passed on to the growers and hence affecting costs of production. The Cook Islands Government does not have incentives like subsidies on inputs e.g. fertilizer, fuel, medicine for livestock, etc. Farmers need assistance in these areas to drive production and add growth to the economy.

4.2 Local Issues

4.21 Labour Force

Gone are the days (1950s to the 80s) when labour were not a constraining factor in the growth and development of the Cook Islands Agriculture sector. Our national statistical record shows that our able labour force continued to decline since 1998 after the Public Service reform in 1996 – 97 periods. According to the recent Population survey 2011 this indicated a reduction e.g. in the Southern Group the combine population of these islands (Mangaia, Atiu, Mauke and Mitiaro) has fallen from 2,067 to 1,550 across the board in the Pa Enua leaving only the very old and very young hence, contributing to the slow growth in the Pa Enua Agriculture sector. Observations and comments from senior Government workers that visited the Pa Enua indicated that an increasing number of people on these Islands lack drive and political will and they desperately need assistance. The declining and ageing labour force in the Pa Enua add further constraints to Agriculture re-vitalization plans in these Islands.

On Rarotonga, labour for Agriculture work is a problem especially for commercial farmers however the Government saw this critical gap as very important in driving our economy therefore bigger commercial farmers were given the opportunity to hire foreign labour from China, Fiji and the Philippines to assist farming and increase production in Rarotonga.

Part-time farmers use family labour to work on their smaller farms.

4.22 Transport Costs

For the Pa Enua this is a major cost because of the increasing cost of fuel. Transportation (land sea and air) and fuel costs are influenced by changes in the Global market, therefore costs of transporting imported food to the Pa Enua are

expensive. Similarly for Agriculture produce planted in the Pa Enea for export to Rarotonga would also be extra expensive if transported by plane.

Currently, there is also limited shipping transportation to these Pa Enea.

On Rarotonga the cost to transport our goods to overseas market is expensive.

4.23 Distant from Market

Another constraining issue in the Agriculture sector is “Distant from the Market” – transportation costs and our isolation from the market is hindering our economic progress. We have to learn to work around and accept our isolation.

4.24 Access to Arable Land in Rarotonga

Access to arable land in Rarotonga is an ongoing problem that needs addressing. It requires Government intervention to assess and derive the best solution and way forward for increase production to benefit the economy. There are plenty of available Agriculture lands, but most of these lands are not available due to landowners residing overseas.

4.25 Access to Agriculture Water

In the Pa Enea all crops are rain dependent except for swamp Taro grown in the coastal mud-plains and in the valleys especially in Rarotonga and some of the Southern Group Islands.

On Rarotonga, farmers use the Domestic Public water line for their crops especially for growing vegetables and selected root crops using a Bi-Wall Drip Irrigation systems where the dripper orifice drip directly onto the root sites of the crops for at least 2 to 3 hours enough for the surrounding soil-moisture to achieve field capacity.

On Rarotonga, Agriculture do not have it own water line to support the farming community, but perhaps this should be considered in future plans of the Agriculture sector.

4.26 Effects of Climate change – salt water intrusions

In the Northern Group - Pa Enea, the evidence of climate change occur often during severe storm / cyclone, when sea water intrude via the underground into the water lens causing it to become brackish / salty hence causing susceptible food crops like Taro, Bananas, etc. to wilt and die.

Regular severe drought in the Northern Group Atolls also constraints crop growth on these islands reducing production.

In the Southern Group there is little data shown on the effects of climate change on food crops apart from the effects of drought and increased incidence of pests outbreak e.g. Bermisia White Flies.

4.27 Declining Technical Support to Farmers from the Agriculture Department

For more than ten years in the past technical field advice provided to the farmers has been very ineffective since the closing down of the Extension Division and most of the trained extension officers were put on redundancy. The Research Division was given two functions “Extension and Research” in which the Research staff were

untrained to do Extension work and hence very little field visits to farmers were carried out.

Today the Agriculture sector re-introduces technical visits of two officers 2 to 3 days a week providing technical support to all farmers that required assistance.

5 Plan and support to the Vision – 2013 to 2015

5.1 The Impact - (Development Goals)

- Improved national economy as a result of Agriculture re-vitalization, increased local production for Import substitution:
- Greater partnership between Growers (producers) and Importers (Hotels, Supermarket Shops, and Investors) in Agricultural produce, including the Government, in economic development activities.
- Improved livelihoods, health and security as a result of better quality produce, produced from biological and ecologically based environmentally friendly systems.
- Enhanced business opportunities through adopting sustainable, ecological techniques to ensure resources are sustained for quality production.
- Improved food security and household livelihoods as a result of increased incomes for many households in the Pa Enea.

These bullet points of development Goals contribute to MDG 1, to eradicate extreme poverty and hunger by half, between 1990-2015 as stipulated in the MDG United Nations document.

5.2 Immediate Objectives - (Outcomes)

To Increase Agriculture Production and Development in the Cook Islands to ensure a vibrant Agriculture sector that contributes positive growth to the Cook Islands Economy.

By the end of 2013 and beyond Cook Islands Growers would have gained useful technical knowledge and have up-skilled their experiences as well as institutional capacity to sustainably use, develop and manage its Agricultural resources, create tradable products, jobs and generate other economic opportunities that support sustainable livelihood especially in the Outer Islands.

Target Imported Fruit /Vegetables (During *Tourist peak season – April – October*) by increasing supply of local production available to Supermarkets, Restaurants, Hotels, and Local Markets as targeted:

e.g.

Capsicum from current 100kg to 200 kg per week
Cabbages from 400 kg to 600 kg per week
Broccoli from 0 kg to 50 kg per week
Snake Beans from 50 to 100 bundles per week
Tomato from 400 kg to 600 kg per week
French Bean from 200 to 300 bundles per week
Chinese Cabbage from 300 to 450 heads (bundles) per week

Spring Onion from 100 to 150 bundles per week
Eggplant from 200 kg to 300 kg per week
Lemon from 250 kg to 300 kg per week
Lime from 80 kg to 140 kg per week
Local Banana chips from 1 bunch to 2 bunches per week
(*To counter-act the Potato Chips imports*)

And also improve local employment, and declining dependence on selected imported Agricultural produce.

6 PROGRAMMES TO GET THERE AND BEYON (WHAT ARE WE GOING TO DO?)

6.1 Identified Priority Areas:

- **Import Substitution Project** – Southern Group Atiu, Aitutaki Mangaia, Mauke, Mitiaro & Rarotonga - Setting a workable plan (quality, consistency of supply, etc.) for local vegetables / Goat meat production to counteract trade balance on Vegetables / meat Imports. (Consider seasonality, impact of climate change, declining number of farmers, declining labour force in the Pa Enuu and Rarotonga, declining arable land on Rarotonga, etc.)

6.2 Supporting Components to Import Substitution Project:

6.21 Component One:

- Farmers Promotion

There is a need to entice young farmers to re-vitalize the declining number of farmers in Rarotonga and Te Pa Enuu. “New Farmers / Women Farmers” in the context of this component means New or recent part-time farmers who had started (one to three years ago) growing of one or two crops, then gave up because of lack of experience and poor knowledge based in basic growing to earn revenue and food security. There are several of these New Farmers in all the villages on Rarotonga and the Pa Enuu. Their ages varied from early twenties to mid forties. In support of these farmers the BTIB launched a special soft loan for all farmers involved in Agricultural production, cash crop growers – Vegetables, Fruit trees – Pawpaw, Passion Fruit, citrus, including livestock and Floriculture so that Growers can use this fund for initial support in purchasing inputs – seeds, fertilizer, tools, packaging, and small machineries.

Under Component One – The Ministry of Agriculture in collaboration with BTIB in supporting the New Farmers in technical support and on-farm visit [Component Two] to ensure farmers crops are healthy and reach harvesting / marketing stage to ensure they earn revenue and at the same time they can pay back their soft loan.

6.22 Component Two

- Technical support and Field Visits to Farmers

Technical advice, field visits to farmers are most important in getting the field production back. Regular discussions with farmers on the spot to solve day-to-day crop production problems (pest and diseases, soil problems, fertilizer issues, etc.) are a must. Recently the Ministry started re-introducing the Extension field visits to farmers, 2 to 3 days per week. Feed back from all Farmers has been

positive and welcomed by the public. A monthly News Letter (Bulletin) is produced by the Ministry documenting activities and happenings on the local farms, production issues, pests control and many more.

6.23 Component Three

- **Land Use Project** – Rarotonga – “Systems Approach to Land Use Issues in Rarotonga for Agricultural Production”. This project looks at hiring a consultant (perhaps a Legal Consultant) to look at how to set up a system so that Un-used arable land that belongs to Landowners residing overseas can be farmed under short-term lease Agreement – for Agriculture Production. The second part will look into setting rules to protect the land from abuse and protection to ensure the land (soil) is not exposed to erosion, etc.

6.24 Component Four

- **Processing and Value Adding**
 - Banana Chips making and packaging
 - Taro Tarua Chip making and packaging
 - Kumara Chip making and packaging
 - Taro Chip making and packaging
 - Cassava Chip making and packaging
 - Kuru Chip (Breadfruit) making and packaging

Component Four, targets and aims to reduce importation of Potato Chips and related Chip products by encouraging the local processing of the above selected commodities.

7 Heat Treatment Certification – for Pawpaw Export

The certification was done in December 2012 and the left Chamber is now ready for Pawpaw treatment as soon as the Pawpaw in the field is ready. MPI in Wellington assisted in the Certification of the Heat Treatment.

8 Coconut Re-planting scheme for the Pa Enua Northern Group

There is a project plan for the re-planting of Coconut in the Northern Group. A project proposal was submitted to the Chinese Government for assistance on the Coconut re-planting scheme. (Worth NZ\$650,000.00)

8.1 And - Coconut Oil Production – support to Outer Islands Targeting the Northern Group – This involves ordering Coconut Press and Coconut Craters for Outer Islands Women Groups, etc.

9 OTHERS

Market Access Project – The Need for a Research Laboratory – Important for export product testing and compliance work for Market access especially to the New Zealand Market to be able to meet the New Zealand Biosecurity requirements – e.g. “Fruit Fly Host Testing of the following products; Tahitian Lime, Dragon Fruit, other Fruit Fly host related produce, and perhaps Habanero Chilies to prove its non-host status, etc.

Sheep Introduction Project – Rarotonga and other Southern Group Islands. Trialing of selected Sheep Breed from Fiji and North Queensland.

Value Adding / Food Processing Projects

- Banana Drying and Processing
- Other fruit drying

Maire Production – “Enhancing Capacity in Maire Crop Production for income generation.”

This project is for increased production and support to the three Islands of Mauke, Mangaia and Mitiaro.

Root Crops Support – Outer Islands for food production and reducing Imports.

- Yam Production
- Puraka Revival and Production – for times of Disaster and Emergency
- Kape Revival – for times of Disaster and Emergency
- Ti Plant (Cordyline spp) for its root for Emergency Food Security
- Pia Takataka conservation for Atolls for Emergency Food Security

Vanilla Production - for Rarotonga, Atiu and Mangaia.

Support for Moringa Production – to make own tea.

Rodent Control in Food crops in the Pa Enuu – protection of food from pests.

Pineapple Production and Induction for year round supply – Rarotonga, Atiu and Mangaia – for consistency of supplies.

Projects on Solar Drying Structures for Farmers and Women Groups in the Outer Islands for Fruit Drying, Food Security and Income Generation

Taro Production – support for Outer Islands – Atiu, Mangaia, Mauke and Mitiaro

Goat Meat Production – Outer Islands – Mauke, Atiu and Mangaia.

Food Security – Support for Northern Group an Organic Approach: (1) on Atoll Banana Growing (2) Delicious Cactai Fruit Growing

Staff Training – Long-Term – Diploma Level

Lists of Food Imports into the Cook Islands (Produce) 2011 data.

Description	U nit	Quantity	CIF Value (NZ\$)
Potatoes; Seed, Fresh or Chilled	K G	17,750	19,111.00
Potatoes other than Seed; Fresh or Chilled	K G	267,073	300,873.00
Tomatoes, Fresh or Chilled	K G	6,783	43,144.44
Onions and Shallots, Fresh or Chilled	K G	138,548	220,901.30
Garlic, Fresh or Chilled	K G	8,278	46,723.00
Leeks and other Alliaceous Vegetables n.e.s. in Heading No. 0703, Fresh or Chilled	K G	549	4,151.00
Cauliflowers, Fresh or Chilled	K G	2,916	15,742.00
Broccoli, Headed; Fresh or Chilled	K G	3,100	24,117.00
Brussel Sprouts, Fresh or Chilled	K G	22	210.00
Cabbages, Island (abelmoschus Manihot); Fresh or Chilled	K G	40	165.00
Cabbages, other than Island Cabbages; Fresh or Chilled	K G	25,394	64,314.40
Kohlrabi, Kale and similar Edible Brassicas, Fresh or Chilled	K G	28	110.00
Lettuce, Fresh or Chilled	K G	610	6,189.64
Carrots and Turnips, Fresh or Chilled	K G	60,531	84,149.08
Radishes, Fresh or Chilled	K G	87	1,263.00
Vegetables, Root; other than Carrots, Turnips or Radishes, Fresh or Chilled	K G	2,741	21,523.00
Cucumber, Fresh or Chilled	K G	122	811.00
Gherkins Fresh or Chilled	K G	0	255.00
Peas (pisum Sativum), Shelled or Unshelled, Fresh or Chilled	K G	25	1,023.00
Beans (vigna Spp., Phaseolus Spp.), Shelled or Unshelled, Fresh or Chilled	K G	634	2,399.68
Globe Artichokes, Fresh or Chilled	K G	151	1,355.36
Asparagus, Fresh or Chilled	K G	469	5,757.00
Aubergines, (egg Plants), Fresh or Chilled	K G	101	776.28
Celery other than Celeriac; Fresh or Chilled	K G	6,093	20,714.00
Mushrooms and Truffles, Fresh or Chilled	K G	12,086	158,953.80
Vegetables; Fruits of the Genus Capsicum or of the Genus Pimenta	K G	6,358	84,319.36

Spinach, New Zealand Spinach and Orache Spinach (garden Spinach), Fresh or Chilled	K G	11	443.00
Cougettes, including Marrows and Legumes, Fresh or Chilled	K G	1,869	18,642.00
Vegetables; Edible, n.e.s. in Chapter 7, Fresh or Chilled	K G	5,332	21,061.00
Potatoes, Uncooked or cooked by Steaming or Boiling in Water, Frozen	K G	142,846	390,225.68
Peas, Beans etc; Uncooked or cooked by by Steaming or Boiling in Water, Frozen	K G	2,979	12,718.00
Spinach, Uncooked or cooked by Steaming or Boiling in Water, Frozen	K G	130	683.00
Sweetcorn, Uncooked or cooked by Steaming or Boiling in Water, Frozen	K G	1,295	6,250.00
Vegetables; Uncooked or cooked by Steaming or Boiling in Water, Frozen, n.e.s. in Chapter 7	K G	8,173	29,198.80
Vegetable Mixtures; Uncooked or cooked by Steaming or Boiling in Water, Frozen	K G	50,845	198,652.00
Vegetables Provisionally preserved; (e.g. by Sulphur Dioxide Gas, in Brine, in Sulphur Water or in other Preservative Solutions), but Unsuitable in that State for Immediate Consumption	K G	262	6,304.00
Potatoes, whether or not cut or sliced but not Further prepared, Dried	K G	4,606	8,101.40
Onions, Whole, cut, sliced, broken or in powder but not Further prepared, Dried	K G	1,501	2,788.00
Mushrooms and Truffles, Whole, cut, sliced, broken or in powder but not Further prepared, Dried	K G	11	398.00
Vegetables; Mixtures of Vegetables n.e.s. in Heading No. 0712; Whole, cut, sliced, broken or in powder but not Further prepared, Dried	K G	3,924	53,005.00
Peas; Shelled, whether or not Skinned or Split, Dried	K G	68	279.00
Vegetables, Leguminous; Chickpeas (garbanzos), Shelled, whether or not Skinned or Split, Dried	K G	586	3,085.20
Beans (vigna Spp., Phaseolus Spp.) Dried, Shelled, whether or not Skinned or Split	K G	380	2,287.00
Vegetables, Leguminous; n.e.s. in Heading No. 0713, Shelled, whether or not Skinned or Split, Dried	K G	150	4,796.00
Manioc (cassava), with High Starch or Inuli Content, whether or not sliced or in the form of Pellets, Fresh or Dried	K G	0	2,042.56
Vegetable Roots and Tubers; Sweet Potatoes, with High Starch or Inulin Content, whether or not sliced or in the form of Pellets, Fresh or Dried	K G	904	4,656.00
Arrowroot, Salep, Jerusalem Artichokes, and similar Roots and Tubers; other than Manioc Sweet Potatoes, Yams and Taro, Fresh or Dri whether or not sliced or in the form of Pellets, Sago Pith	K G	11	585.08
Total Vege's		786,371	1,895,252.06
Desiccated coconut	K G	3,918	15,209.00
Nuts, Edible; Brazil Nuts, Fresh or Dried, whether or not Shelled or Peeled	K G	0	253.00
Nuts, Edible; Cashew Nuts, Fresh or Dried, whether or not Shelled or Peeled	K G	1,585	32,510.00
Nuts (excluding Coconuts, Brazils and Cashews); Fresh or Dried, whether or not Shelled or Peeled	K G	8,897	85,264.00
Bananas, including Plantains, Dried	K G	45	991.00
Dates, Fresh or Dried	K	632	2,239.00

	G		
	K		
Figs, Fresh or Dried	G	290	1,320.36
	K		
Pineapples, Fresh	G	2,532	10,285.00
	K		
Pineapples, Dried	G	41	1,736.00
	K		
Avocados, Fresh or Dried	G	84	959.00
	K		
Mangoes and Mangosteens, Fresh	G	11	760.00
	K		
Mangoes and Mangosteens, Dried	G	45	2,309.00
	K		
Oranges, Fresh or Dried	G	9,632	33,304.40
	K		
Mandarins (including Tangerines and Satsumas), Clementines, Wilkings and similar Citrus Hybrids, Fresh or Dried	G	5,871	22,866.00
	K		
Lemons, Fresh or Dried	G	635	2,772.66
	K		
Grapefruit, Fresh or Dried	G	16	68.00
	K		
Grapes, Fresh	G	8,637	83,835.40
	K		
Grapes, Dried	G	119	1,252.00
	K		
Melons (including Watermelons); Fresh	G	2,060	15,513.88
	K		
Apples, Fresh	G	54,453	149,883.18
	K		
Pears, Fresh	G	9,421	34,764.00
	K		
Cherries, Fresh	G	259	2,669.00
	K		
Peaches including Nectarines, Fresh	G	1,376	9,110.56
	K		
Plums and Sloes, Fresh	G	1,094	7,505.00
	K		
Fruit, Fresh; n.e.s. in Chapter 8	G	3,595	30,946.18
	K		
Fruit and Nuts; Uncooked or cooked by Steaming or Boiling in Water, Frozen, containing added Sugars or Sweeteners	G	39	760.00
	K		
Fruit and Nuts; Uncooked or cooked by Steaming or Boiling in Water, Frozen, not containing added Sugars or Sweeteners	G	3,208	43,518.88
	K		
Fruit and Nuts Provisionally preserved; (e.g. by Sulphur Dioxide Gas, Brine, in Sulphur Water or in other Preservative Solutions), but Unsuitable in that State for Immediate Consumption	G	1,998	19,870.00
	K		
Apricots, Dried	G	317	1,690.00
	K		
Prunes, Dried	G	256	3,363.60
	K		
Apples, Dried	G	0	113.00
	K		
Fruit, Edible; Fruit n.e.s. in Heading No. 0812, Dried	G	2,812	35,578.00
	K		
Fruit, Edible; Mixtures of Fruit and Nuts, with added Salt	G	739	6,269.00
	K		
Fruit, Edible; Mixtures of Fruit and Nuts, without added Salt	G	1,900	27,909.96

Peel; of Citrus Fruit or Melons (including Watermelons), Fresh, Frozen, Dried or Provisionally preserved in Brine, in Sulphur Water and other Preservative Solutions	K G	16	1,061.44
Total Fruits		126,533	688,459.50
Total		912,904	2,583,711.56

Reference

Lists of Food Imports into the Cook Islands (Produce) 2011 data, Statistics Division.

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