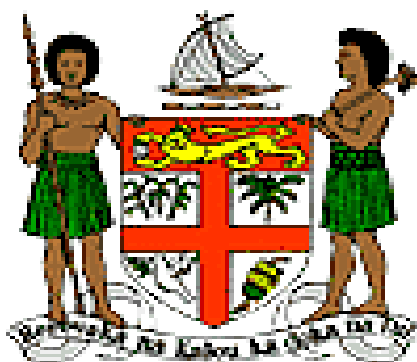


# MINISTRY OF PRIMARY INDUSTRY

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## Agriculture Strategic Development Plan 2010-2012

9 December 2009



### DEPARTMENT OF AGRICULTURE FIJI

This development plan is a direct response to Governments' concerns on the rising import bills on food and diminishing exports. The plan specifically identified commodities for import substitution for the three year period and the mapped strategy for the department to achieve the objective.

*Agriculture Strategic Development Plan 2010-2012*

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## **Introduction**

- ❖ **Statement by Minister of Primary Industry**
- ❖ **Overview by Permanent Secretary Agriculture**
- ❖ **The situation of the Agriculture sector (Problem Analysis)**

Joketani Cokanasiga  
(Minister of Primary  
Industry)

Mason Smith  
(Permanent  
Secretary  
Agriculture)

Viliame Naupoto  
(Permanent  
Secretary for  
Fisheries & Forest)

## 1.1 Statement by Minister of Primary Industry



Agriculture continues to represent the principal economic mainstay of the country and quite often, is metaphorically referred to as its economic backbone though with reliance mainly on sugar.

In addition, agriculture has the potential in other sectors such as tourism and agro-industries. As the major economic activity in the rural areas, agriculture plays an important role in the process of rural development. However, the agricultural sector now faces a

big challenge in view of the reduction in sugar prices unless the sugar sector is reformed.

Other challenge include expiry of land leases under the Agriculture, Landlord and Tenant Act depleting labour force due to lack of interest by the younger generation in tilling the land, rural to urban drift for better work opportunities, high dependency on processed food and among other things, the increasing relocation of resources to other industries such as tourism.

Climate change is a new phenomenon that is also posing a threat to agricultural production Worldwide including Fiji. But amidst the reform of the sugar sector, we still need to diversify into high value non-sugar crop for export and domestic markets but specifically for the tourism sector. But the large volume of imports is largely due to the inability of local producers to find a profitable and a competitive marketing network to meet the demands of the tourism sector.

Similarly, the agricultural sector has huge potential in the export markets. This market remains largely untapped due to the inability of the local producers to produce the required volume; quality regularity and safely requirement for fresh produce and processed products. To minimize these constraints, the Agriculture Department is committed to improve efficiency in its service delivery in a bid to develop the agriculture sector and in its quest to contribute to the national vision of “peaceful and prosperous Fiji, the Ministry will support Agriculture, Fisheries and Forests, the three major sectors which entails the portfolio of Primary Industries.

The Department will be promoting demand driven approach as an integrated objective for all programs, aiming to enhance the livelihood of people in the rural areas and Outer Islands of Fiji. The immediate purpose is to increase market access opportunities and services that will enable beneficiaries in the rural areas and Outer Islands to exploit those opportunities. Over the years the rate of growth in agricultural production has stagnated and has not kept pace with the needs of a rapidly growing population, resulting in a progressive increase in import bills for food and industrial raw materials.

The potential of the agri-business sector as a major employer of the growing labour force and an earner of foreign exchange has also been undermined. As a result, the large majority of Fiji’s population many of whom live in rural areas continue with subsistence agriculture and low incomes. Under the SDP 2010-2012, agriculture development will be vigorously pursued, with the aim of achieving food security and reducing poverty one of the key pillars of the Charter for Rebuilding Fiji.

The introduction of Rural and Outer Island Project (ROI), the Import Substitution Program (ISP), Export Promotion Program (EPP) and Dairy Industry Support programme (DIS) has taken on board new areas of challenges for the Ministry to undertake and there are set targets to achieve within the project duration. This should come about with commitments, accountability, honesty and transparency and it is envisaged that this document will direct the Ministry and its clients to bring about changes to the livelihood of our citizens.

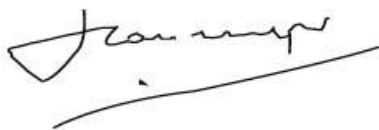
The Ministry's responsibilities include the facilitation of private sector involvement in the development of agribusiness, enhancement of tourism and agricultural linkages, promote security and ensure sound land management and development and among other things the capacity building of farmers to raise levels of productions from semi-commercial to commercial levels.

With this in mind the Department has compiled a standard crop guide this crop guide compiled specifically for Fiji's Crop farmers provides information for the capacity building of our farmers, who upon successful adoption of the knowledge should be able to increase their agricultural productions. It is also intended for backyard gardeners, housewives, commercial farmers and all those with an interest in crop farming. The information contained in this book provides farmers with the simple basic skills required of them to produce high quality crops.

Most of the recommendations given are the result of years of experiments by the Research Division of the Agriculture Ministry. Some crops are still to undergo the research process but are indulged because they are equally important and are part of our local food crops.

It must however be remembered that this book is only a guide and therefore should not replace the expert advice of Food Specialists and Agricultural Field Officers. Nonetheless, it is my sincere hope that this Crop Guide will provide you with a better harvest.

Therefore, this Strategic Development Plan (SDP) highlights strategic priorities and specific strategies to be implemented by the Department in order to achieve the broader sector objectives, and is optimistic to help achieving the Millennium Development Goals, of providing matters of alleviation of poverty and food security for the people of Fiji.



.....  
**Joketani Cokanasiga**

Mason Smith  
Permanent Secretary  
Agriculture

Apisai Ucuboi  
Deputy Secretary  
(Agriculture Development)

Tom Lee  
Deputy Secretary  
(Corporate Services &  
Planning)

## 1.2 Overview by Permanent Secretary Agriculture



The Department's 2010-2012 Strategic Development Plan (SDP) encompasses those strategic priority goals and key development targets that the Government has identified for the Agriculture Sector in Fiji. It takes into account the intent captured in the vision of the Peoples Charter for Change, Peace and Progress for "a better Fiji for all" and the journey that we now travel on, in the "Roadmap for Democracy and Sustainable Socio-Economic Development 2009-2014."

It also takes cognizance of Fiji's international commitments in achieving the Millennium Development Goals (MDGs) and other UN and International Conventions to which Fiji is a signatory. The yearly targets of the Department's SDP is further captured and detailed in the Department's 2010 Annual Corporate Plan.

For these goals and key development targets to be met, there must be a paradigm shift by all stakeholders in how we view Agriculture in Fiji. Agriculture must be science based and market driven. Furthermore, and in addition to supporting our subsistence and small holder farmers, considerable effort must be made to encourage commercialization and mechanization of the Agriculture sector in Fiji. More importantly, the critical role that the private sector plays in the development of the Agricultural sector must be harnessed through Public Private Partnerships.

The challenges are many; however, strategic issues which are currently being addressed by Government, such as the availability of arable agriculture land and security of tenure should assist in achieving production targets, thereby reducing our imports, increasing our exports, reducing poverty and achieving economic prosperity and food security for Fiji and her citizens. Addressing issues such as climate change, infrastructure development, diversification into bio-fuels etc will also require the close cooperation of other Government Ministries and Departments.

Opportunities also exist; to improve policy and legislation that govern the Agriculture Sector to make it more responsive to the needs of stakeholders; to improve human resource capacity, to improve R&D, to improve market access, to improve productivity, to improve compliance and to enhance stakeholder partnerships.

All these challenges and opportunities will require our dedicated efforts and continued commitments to the goals of the SDP.

I commend the Department's 2010-2012 Strategic Development Plan to everyone and I look forward to working with you as your team leader.



.....  
**Mason Smith**



## 1.3 The situation of the Agricultural sector (Problem Analysis)<sup>1</sup>

Fiji is unique among the Pacific countries because the population is divided between two ethnic groups: Fijian and Indo Fijians. Their health and dietary pattern is different. Over 26 percent of the populations are engaged in subsistence or semi-subsistence agriculture and nearly 79 percent<sup>2</sup> of households grow foods for home consumption. There has been a constant decline in agricultural production due to restricted access to land by tenants Indo-Fijian farmers and constant migration to urban areas. The large subsistence production is the main strength in the sector which sustained food supply and probably why there have been no reports on household food shortage or food insufficiency. However, 35 percent of the population lives in poverty (40% in rural areas and 28% in the Northern Division) as measured by cash income. There has been a high dependence on import food and a preference on for cheap imported foods.

### 1.3.1 Agricultural Livelihood

Table 1 gives Rural: Urban breakdown of the significance of income from agricultural business. Rural Fijian households derive some 18% of their income from this source, while rural Indo-Fijian households derive 25%. At the bottom 3 deciles, the relativity is reversed with Indo-Fijian deriving on 20% compared with 25% for Fijian.

**Table 1 Agricultural income as percent of total Household Income**

Deciles	Rural Fijian	Rural Indo - Fijian	Rural Others	Rural All	Urban Fijian	Urban Indo-Fijian	Urban Other	Urban all	Total All
AE top									
All	18	25	19	20	1	2	1	2	10
Bottom 3	25	20	22	23	5	3	1	4	17

(Adapted: 2002-03 HIE Survey report by Dr W Narsey p.38)

Over 83 percent of the land in Fiji is traditionally owned and cannot be sold but large proportion is leased to tenant farmers. Approximately 285,000 hectares is under permanent crops and arable land and most of the 86,680 rural households are engaged in agricultural and /or fishing activities. Compared to other pacific countries, Fiji is a major exporter and 2007 food occupied 50 percent of all exports and was worth FJD \$500.5 million. Much of these food exports goes to other Pacific countries. Although rice is the major staple and Fiji produces rice (11,595 tonnes in 2008), it is not enough for population need which is approximately around 60,000 tonnes per year.

The agriculture sector, during the last decade grew at an average rate of 0.3 percent and the average growth is a direct result of low investment in the sector. Projection for 2009-2011 indicate a period of slow growth in the sector. The non-sugar agriculture sector is still predominantly subsistence and on average contributes 7.8<sup>3</sup> percent to GDP, accounting for around 3.8 percent for domestic exports. Food imports in 2008 constitute 14.4 percent of our total imports.

The sector constitutes traditional food crops (*dalo*, cassava, yams, *kumala*, and *yaqona*), tropical fruits (pineapple, pawpaw and mango), vegetables, pulses, ginger, tobacco, rice,

<sup>1</sup> Refer to Appendix 1- Agricultural Problem Tree

<sup>2</sup> Fiji Island Food Security Profile-WTO/FAO 2008

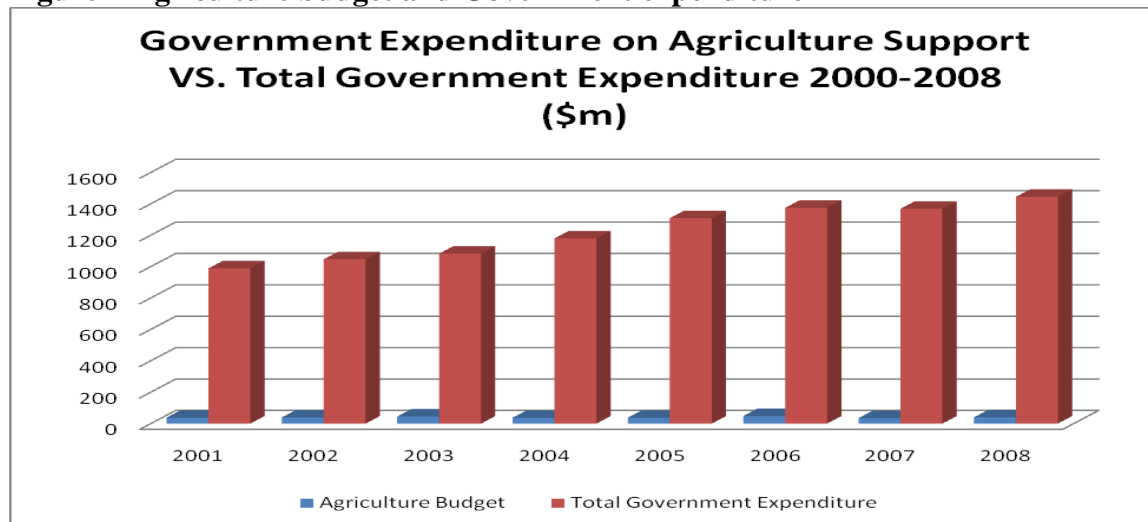
<sup>3</sup> BOS Projection 2006-2008

spices, cocoa, coconut products, beef, dairy, pork, poultry meat and eggs, sheep, and goat and bee products.

### 1.3.2 Government Financial support

Government budgets which allocated an insufficient share of public funds to rural infrastructure and service need to support agriculture and attract private investment to the sector. The graph in Fig 1 below shows insignificant amount of budget allocated to the DOA in the given period.

**Figure 1 Agriculture budget and Government expenditure**



(Source: EP&S Budget unit 2009)

It is significant to note that despite the ambitious development policies introduced in the past 3 decades, the share of the agriculture in the gross domestic product decline insignificantly from about 20 % in the nineties it fell to 16% and now pegged at 11 percent in 2008.

### 1.3.4 Commercial Agriculture

The major contributors to agriculture exports are fruits (pawpaw) and vegetables, including *dalo*. A small but growing volume of certified organic products, including coconut and fruit products and nutraceuticals, are exported. However, growth in the sector has been highly variable. While some farmers will continue to have to leave or enter commercial agriculture abruptly, others will make gradual changes such as reducing dependence on farming or rental incomes, or alternatively, gradually increasing the scale, intensity and diversity of the farm enterprise. Their ability to do so with minimum disruption relies on improved access to markets for non-sugar agricultural products, improved farming technologies, off-farm opportunities, and rural finance.

While Fiji's traditional commodity sectors – sugar and copra – are struggling, horticultural exports have begun to perform better. This entirely small farm-based sub-sector includes ginger, tropical fruit, root crops and vegetables. The core market opportunities for products from the sugar cane growing areas are provided by: (i) exporting to the Indo-Fijian, Asian and Pacific Island communities in Australasia; (ii) enhancing household self-sufficiency; (iii) supplying the expanding urban and tourism market. These are readily obtainable markets for which a marketing structure is already in

place. The value of these additional markets is estimated at F\$25m<sup>4</sup>. A number of other significant potential market opportunities are identified. However, for these there are no marketing structures in place at present and substantial agribusiness investment is required to create them.

### **1.3.5 Market Access**

Weak capacity of Quarantine Services to develop and negotiate market access under bilateral quarantine agreements (BQA), combined with limited extension capacity to service farmers seeking to comply with BQA requirements has constrained exports. The single export produce treatment facility, while successful, is operating below capacity. Use of post-harvest handling equipment and practices at farm level is limited, as are marketing skills. While there are a few established agribusinesses and emerging industry organizations, the non-sugar industries are largely fragmented. As a result, there are inadequate internal linkages within the sector which can facilitate marketing, information flow and technology transfer.

### **1.3.6 Weak marketing networks**

In more remote areas such as Rakiraki and Vanua Levu, marketing networks are absent or very weak and physical access to markets constrained and costly due to inadequate infrastructure. Poor road and electricity infrastructure in western Vanua Levu has limited economic development and has been a critical factor in demise of agribusiness projects there in the past. Proposals for construction of improved port facilities<sup>5</sup> have been tabled and agreement reached on Savusavu as the preferred location, as it already has facilities for loading ships with coconut oil and roll-on, roll-off ferries.

Solving production and marketing constraints requires government facilitating industry organisations to take the lead in industry development, improving product standards and in marketing, and to strengthen organisations providing services critical to agricultural exports. Technology constraints can be met by equipment and practices which are already used by a small minority in the sector and can also be adapted from appropriate designs and systems proven in similar contexts overseas. Increasing adoption of these technologies will however require training to acquire new skills, some adaptive research, and focused agricultural extension support.

A key problem is the lack of a commercial ethic amongst farmers, a result of domination by a single, large industry which is governed by an award rather than market forces, and also a result of government programmes that have typically provided production assistance rather than production and management options. Most of the smallholder farmers have not been treated as nor operated as small commercially-oriented enterprises.

### **1.3.7 Off Farm Livelihoods**

The informal off-farm sector is not yet well developed in Fiji either in rural or urban areas. However, a Small and Micro Enterprises Development Act was passed in 2002 and under that Act the National Centre for Small and Micro Enterprise Development was set up. The institutional framework for small enterprise development remains to be developed and existing capacities for small enterprise development are very limited.

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<sup>4</sup> ALP report

<sup>5</sup> ALP report presents a pre-feasibility study for the Savusavu Port Development based on the economic and social development impacts on an island which currently has no international port for imports and exports, international capacity is limited to specialist facilities for sugar, copra and the like.

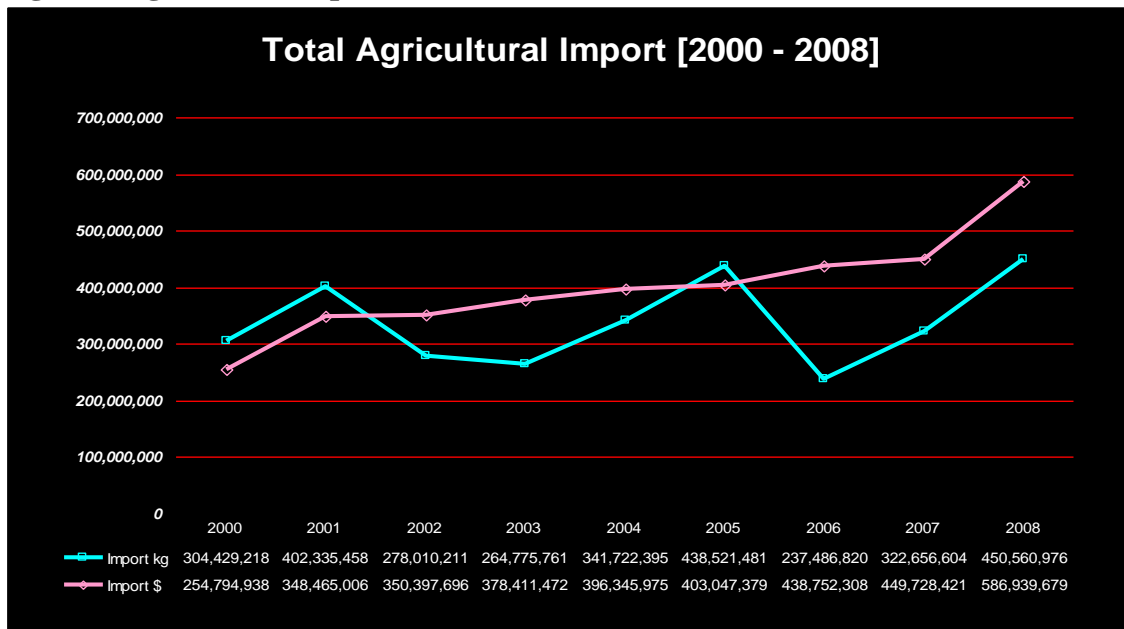
Non-agricultural small enterprises are overwhelmingly in urban and peri-urban areas. In rural areas there are occasional stores and agricultural service micro enterprises, but most services to rural areas are urban based and owned. Agricultural diversification may promote non-agricultural rural small enterprises for storage and cooling, input supply, and equipment but these may also follow the historical pattern of being urban based.

Low productivity has a serious implication on the country’s ability to produce enough food for its growing population.

### 1.3.8 Agricultural Trade

Growth in the importation of agricultural produce by hotels and resorts due to the inability of domestic farmers to provide consistent supply of quality agricultural products is placing significant pressures on Fiji’s balance of payments. Key statistics (2008) shows that Fiji imported around \$580 million of agro products which includes live animals.

**Figure 2 Agriculture Imports**

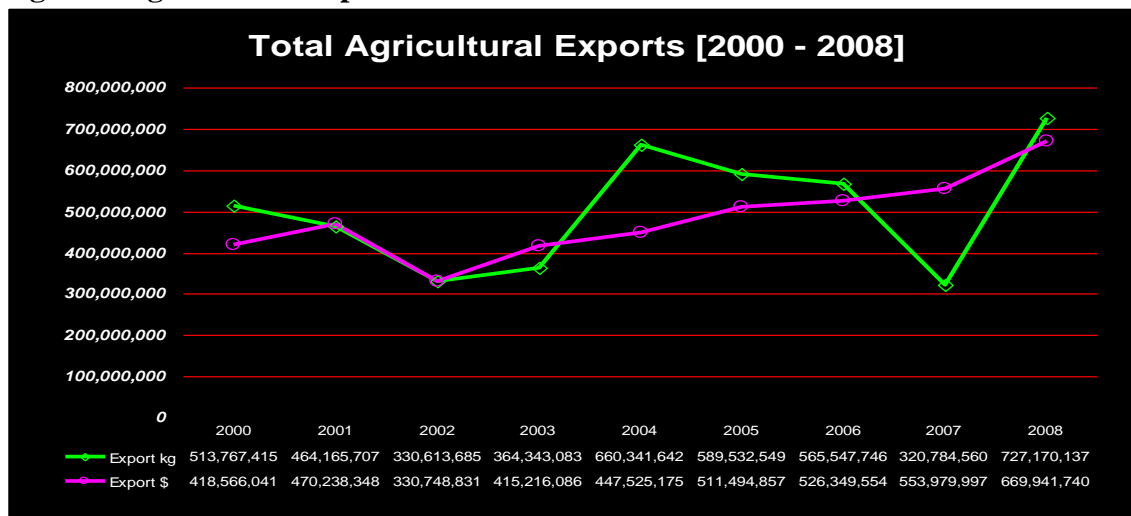


(Source: EP&S Statistical report 2009)

The focus in the agricultural sector will be on introducing demand driven approaches both for the export as well as import substitution commodities, promoting investment, commercialization and strengthening industry organizations and agri-business networks, promotion of young farmer training and recognition by government of industry priorities.

Reviving the livestock industry will be a priority with assistance targeted at breeding of genetically superior livestock, the provision of training on pasture feed management, good animal health provisions and for management and marketing. Investment in the industry will be encouraged, particularly in the dairy and beef segments of the industry.

**Figure 3 Agricultural Exports**



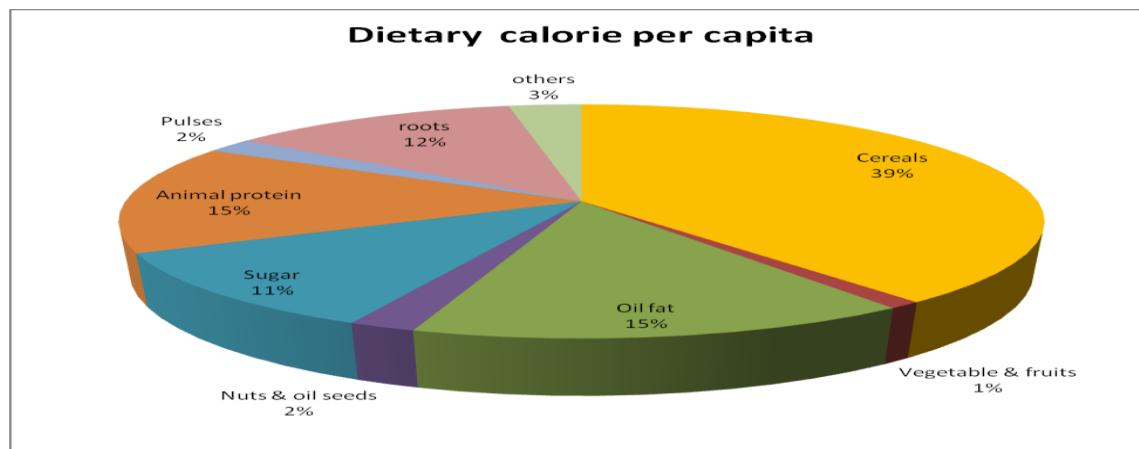
(Source: EP&S Statistical report 2009)

The current trend on agriculture export is very promising and is growing at a steady rate in the last 4 years. This is mainly result from an increase in dalo production and prepared food items for export markets. However the import figures are always closed in on exports. The import figures rose by the end of the fourth quarter which resulted in a trade deficit on agriculture of -8 percent last year. The government’s focus in the plan is to increase the non-sugar agriculture exports to \$100 million by 2014 and reduce value of fruits and vegetables import from \$150million (annual average) to \$80 million by 2014.

**1.3.9 Food Consumption pattern**

A recent survey revealed that 95 percent of the foodline items in our supermarkets are imported. The National Centre of Food and Nutricient report (FBS 2005) confirmed that all imported cereals (grains, rice, wheat flour etc), oil fat and animal protein continues to dominate our dietary patterns, and thus the rise in food import bills is eminent.

**Figure 4 Dietary distribution pattern per capita**



(Adapted: Food Balancesheet report, NFNC 2005)

The tendency to rely on overseas food supplies to supplement domestic supplies has been evident over the years. Generally, increasing volumes of food imports appear to be a continuing trend. Government will ensure greater cohesion and effective implementation of import substitution programmes to increase self reliance and reduce imports

### 1.3.10 Crop Production

Over the years the rate of growth in agricultural production has stagnated and failed to keep pace with the needs of a rapidly growing population, resulting in a progressive increase in import bills for food and industrial raw materials, which is unceremoniously supported by low tariffs. This is particularly in products that we can competitively produce. The potential of the agri-business sector as a major employer of the growing labor force and an earner of foreign exchange has also been undermined. As a result, the large majority of Fiji's population many of whom lives in rural areas (approximately 50 percent), remain poor. Under the SDP 2010-2014, agricultural development will be vigorously pursued, with the aim of achieving quick economic growth whilst ensuring food security and poverty reduction. Recently the department of agriculture endeavored into programs that promote export oriented and import substitution projects in its agricultural development efforts. The expected consumption estimates for the major crops are summarized in the table below;

**Table 1: Agricultural Production 2008**

<i>Crops</i>	<i>Production (t)</i>		<i>Export(t)</i>	<i>Import (t)</i>	<i>Re-Export (t)</i>	<i>Consumption<sup>6</sup> (t)</i>
	<b>2007</b>	<b>2008</b>	<b>2008</b>	<b>2008</b>	<b>2008</b>	<b>2008</b>
Dalo	61,662	74,009	10,796	n/a	113	63,100
Rice	14,869.5	11,594.8	870	49784	0	60,509
Cassava	61,379	55,773	1,800	0	33.4	54,344
Pawpaw	9,091	7,265	393	8.5	5.2	6,875
Eggplant	1,585	923	195	n/a	0	728
Ginger	3,110	2488	1394	24	0	1,118
kava	3,349	3,286	184	220	5.4	3,317

(Source: EP&S Statistical report 2009)

**Table 2: Expected Supply and Demand for Export Commodities 2007/08**

	<i>Dalo</i>	<i>Eggplant</i>	<i>Ginger</i>	<i>Pawpaw</i>	<i>Total</i>
Opening Stock (1/01/08)	0	0	0	0	0
(+) Production	74,009	923	2488	7,265	84,685
Total supply	74,009	923	2488	7,265	84,685
(-) Domestic demand <sup>7</sup>	63,100	728	1,118	6,875	71,821
(-) Export Demand <sup>8</sup>	10,909	195	1,394	398	12,896
Closing Stock (31/12/08)	0	0	-24	-8	-32

**Table 3: Gross Income<sup>9</sup> for 2007 - 2008**

<i>Traditional Crops (\$000)</i>	<i>2007</i>	<i>2008</i>	<i>% change</i>
Dalo	66,594.96	82,149.99	23%
Cassava	48,489.41	58,003.92	20%
Pawpaw	11,545.57	12,132.55	5%
Rice	27,508.57	24,928	-9%
Ginger	6,562.10	7,911.84	21%

The gross income analysis for farmers in 2007 and 2008 shows a significant increase (i.e. on average of 12%) for all the crops as identified above. This in terms of production is encouraging as the increasing gross income will encourage farmers to produce more.

<sup>6</sup> Consumption = (Production + Imports) – (Exports + Re Exports).

<sup>7</sup> Domestic Consumption.

<sup>8</sup> Total Export = Export (Fresh plus Processed) + Re-Export.

<sup>9</sup> Prices are based on Annual Average Market Prices for 2007 & 2008 respectively.

## **Departmental Overview**

- ❖ **Key Stakeholders**
- ❖ **Key Services**
- ❖ **Risk Management**
- ❖ **Targeted Programme**
- ❖ **Strategic framework**
- ❖ **Legislation**

## **2.0 DEPARTMENTAL OVERVIEW**

The department of agriculture aims to bring about a change that promotes demand driven approaches as an integrated objectives for all programs such as: i) enhance livelihoods of people in the rural areas and outer islands of Fiji; ii) ensure sustained and secure access to Food, and; iii) enhance poverty reduction through appropriate programs. These include increase in market access opportunities and services that will provide needed benefit to rural communities in rural and outer islands.

To drive efficiency, the department's projects and activities will be monitored through a log frame technique which allows management teams to assess the effectiveness of effort undertaken. This allows projects to be monitored objectively.

Executive management of the Department currently meets on monthly basis to monitor the performance in terms of project implementation that promotes: i) non racial; ii) culturally vibrant, and; iii) unified organization for a common goal and service to its clients at best effort possible.

### **2.1 Our key stakeholders**

Our core business is to provide efficient service to public while our outputs are depended on the amount of resources government allocates in a year to process applications. The department of agriculture as co-service provider plays a leadership role in the sector. Its clients include:

- Provincial development department
- Consumer of agriculture products
- Producers of agriculture products (farmers /processors)
- Exporters and processors of agriculture products
- Public and Private institutions working in collaboration with the sector

### **2.2 Our key product and services**

Government offers these key product and services through the department:

#### **2.2.1 Ministerial Portfolio Services**

- Agriculture national level leadership
- Agriculture advisory
- Agriculture Policy direction

#### **2.2.2 National regulatory services**

- National agriculture legislation
- Meat inspection services
- Veterinary services
- Animal pound services
- Plant Pathology service
- Chemical Analysis services
- Quarantine services
- Drainage subsidy service

#### **2.2.3 National coordination services**



- National Codex Committee -Food standards
- United Nation Convention to Combat Desertification (UNCCD)
- Food and Agriculture Organisation of the United Nation (FAO)
- Australian Centre of International Agriculture research (ACIAR)
- Agriculture Education and Training
- National Land use policy
- Agriculture census and statistics

### **2.3 National agriculture risk management**

- Pest control
- Plant and Animal disease control

### **2.4 Targeted Programmes**

- Farming Assistance Scheme programme
- Drainage and Flood protection programme
- Water shed management programme
- Irrigation programme
- Export Promotion Programme
- Import Substitution Programme
- Rural and Outer Island Programme
- Sigatoka Valley Improvement Programme
- Dairy Industry Support Programme
- Quarantine Awareness Programme
- Livestock- Extension service Programme

### **2.5 Strategic framework**

Given the current situation and development perspective, what inspires the Department of agriculture in its development effort is a vision to progressively influence market forces through rural economy throbbing with dynamic agro- industrial communities propelled by organized, self reliant farmers –entrepreneurs doing profitable business out of agriculture.

#### **2.5.1 Vision:**

To influence market forces through vibrant and sustainable agriculture activity that reduces poverty, reduces the risk of food insecurity and increases the contribution to GDP.

#### **2.5.2 Mission statement:**

To excel in the provision of customer-focused and market-driven services in the agriculture sector.

In particular, the elements will be:

- Efficient management of technical, administrative, financial and personnel services.
- Sound human resource management and development.

- Investment optimization through research and development in conjunction with all interest groups.
- WTO and Codex compliance for domestic and international markets.
- Development of collaborative and consultative alliances at all levels.
- Manage water resources in a sustainable and cost-effective way.
- Continue the inculcation of performance-based management.
- Maintenance and enhancement of the commitment to food and income security.
- Enact and implement legislation both within the Department and throughout allied agencies.

### 2.5.3 Values:

- Commitment.
- Honesty.
- Integrity.
- Accountability.
- Transparency.

### 2.6 Legislative mandate

The department derived its core mandate from the Presidential decree 2007 and is currently responsible for over 33 pieces of legislation. It is envisaged that all the acts specified under the ministerial assignment must be reviewed and be ensured that there is no conflict between policy interpretations of existing acts. The following lists of acts reflect the legislative mandate of the department of agriculture. They are presented here in alphabetical order with an indication of changes, and those being made/or need to be made.

Title of Legislation	Amendments
<b>Agricultural Land &amp; Tenant Act (Cap.270)</b>	Declaration of Unimproved Capital Values Order (Exemption) Regulations Tribunal Procedures Declaration of Unimproved Capital Values Order, 1987 - (L/N 67/87) Declaration of Unimproved Capital Values Order 1992 - (L/N 127/92) Alta (Declaration of Unimproved Capital Value)(Variation) Order 1996 - (L/N 26/96) Declaration of Unimproved Capital Values Order, 1997- L/N 105/97 Tribunal Procedures (Amendment) Regulations- L/N 62/98 Exemption (Amendment) Regulations 2004 – L/N 42/04
<b>Agriculture Marketing Authority Act (2004)</b> <b>Animals (contagious Diseases) Act (Cap 160)</b>	Commencement Notice [27.9.04] – G/N 1637/04 Animals (Contagious Diseases)(American Foul Brood) Regulations Animals (Contagious Diseases) (Application to Bovine Animals) Regulations Animals (Contagious Diseases)(Application to Cats) Regulations Animals (Contagious Diseases)(Application to Dogs) Regulations Animals (Contagious Diseases)(Application to Domesticated Poultry) Regulations Animals (Contagious Diseases)(Application to Honey Bees) Regulations Animals (Contagious Diseases)(Application to Horses) Regulations Animals (Contagious Diseases)(Application to

<p><b>Animals (Control of Experiment) Act (Cap.161)</b></p>	<p>Pigs) Regulations  Animals (Contagious Diseases)(Application to Sheep) Regulations  Animals (Contagious Diseases)(Bovine Brucellosis) Regulations  Animals (Contagious Diseases)(Bovine Tuberculosis) Regulations  Animals (Contagious Diseases)(Bovine Tuberculosis)(Eradication Areas) Order  Animals (Contagious Diseases)(Cattle Tick) Regulations  Animals (Contagious Diseases)(Inspection of Stock) Regulations  Animals (Contagious Diseases)(Ringworm of Horses) Regulations  Animals (Contagious Diseases)(Rotuma) Regulations  Animals (Contagious Diseases) (Bovine Brucellosis)(Amendment) Regulations, 1991 - (L/N 30/91)  Animals (Contagious Diseases) (Bovine Tuberculosis)(Amendment) Regulations, 1991  Animals Importation (Amendment) Regulations 199:</p>
<p><b>Animal Importation Act (Cap 159)</b></p>	<p>Animals (Control Of Experiments)(Records And Returns) Regulations  Animals Importation Regulations  Prohibited Imports  Quarantine Grounds  Animals Importation (Amendment) Regulations – L/N 33/06  Banana Export and Marketing Regulations</p>
<p><b>Banana Export and Marketing Act (Cap 155)</b></p>	
<p><b>Birds and Game protection Act (Cap 170)</b></p>	<p>Amdt: 8/96)  Amendment L/N 37/87  Duties Of Game Rangers  Licence Fee  Pigeons - Specification Of Number To Be Taken In One Day  1984 Season  1987 Season - L/N 38/87  Reserved Area  Commence from the date the President signed]</p>
<p><b>Biosecurity Promulgation No.28 of 2008 Brands Act (Cap 163)</b></p>	<p>Application Of Section 16  Brands Regulations</p>
<p><b>Coconut Industry Development Authority Act 1998</b></p>	<p><b>Amdt: 23/99</b>  Commencement Notice [1.2.99] - L/N 8/99  Coconut Industry (Levy) Order 2000 - L/N 22/2000  Coconut Industry (Copra Grading Appeals) Regulations  Coconut Industry (Crude Coconut Oil Makers Exemption) Regulations  Coconut Industry (Licenses And Fees) Regulations  Coconut Industry (Sale And Purchase Of Coconut Meat)(Exemption) Regulations  Coconut Industry (Sale And Purchase Of Ungraded Copra)(Exemption) Regulations  Coconut Industry (Smoke Driers Prohibition) Regulations</p>
<p><b>Cooperative Dairy Companies Act (Cap 119)</b></p>	
<p><b>Copra industry Loans Act (Cap 153)</b></p>	<p>Copra Industry Loans Regulations</p>
<p><b>Crop Lients Act (Cap.226)</b></p>	<p>Declaration of Agricultural Produce</p>
<p><b>Dairies Act (Cap 118)</b></p>	<p>Dairies Regulations</p>
<p><b>Dogs Act (Cap 168)</b></p>	<p>Dogs Regulations  Amendment (L/N 2 Of 1987)</p>

<b>Drainage Act (Cap 143)</b>	Dogs (Licensing Authorities) Order <b>Amdt: Promulgation No.4 of 2008</b> Declaration Of Drainage Areas Maximum Drainage Rate
<b>Fencing Act (Cap 167)</b>	
<b>Fruit Export and Marketing Act (Cap 154)</b>	Banana Buyers' Areas Banana Packing Stations Fruit Export And Marketing Regulations Amendment (L/N 18 Of 1987) Minimum Price Of Bananas
<b>Ginger Council of Fiji Act 1996</b>	Ginger Regulations, 1997 - L/N 102/97 <b>Commencement Notice [1.11.97]</b> - L/N 103/97
<b>Goat (Ear marks) Act (Cap 164)</b>	Goats (Ear Marks) Regulations
<b>Irrigation Act (Cap 144A)</b>	Declaration of Nausori Irrigation Area Declaration of Navua Central Irrigation Area Land Conservtion (Toge - Qerelevu) Order 1994 - (L/N 91/94) Irrigation rates for 2002-2003 – G/N 1797/2001
<b>Land Conservation and Improvement Act (Cap 141)</b>	Closing Orders Conservative Orders <i>Land Conservation and Improvement (Fire Hazard Period) Order - (Repealed By Decree No. 31/92)</i> Land Conservtion (Toge - Qerelevu) Order 1994 - (L/N 91/94)
<b>Land development Act (Cap 142)</b>	Fiji Land Corporation (Establishment) Order Ika Corporation (Establishment) Order Uluivavou Corporation (Establishment Order Yalavou Rural Development Board (Establishment) Order
<b>Meat Industry Act (Cap 237)</b>	Meat Industry Regulations (Amendment - (L/N 5/1986) Meat Industry (Slaughterhouse Regions) Order Slaughtering of Animals (Charges) Regulations Meat Industry (Amendment) Regulations, 1991 - (L/N 17/91) Meat Industry - Slaughtering of Animals (Charges) Regulations, 1990 - (L/N 29/90) Meat Industry - Slaughtering of Animals (Charge) Regulation, 1992 - (L/N 5/92) Meat Industry - Slaughtering of Animals (Charges (Amendment) Regulations 2000 - L/N 17/2000
<b>Pesticide act (Cap 157)</b>	(To be repealed by Nov. 2002 - see Part 10, Health & Safety at Work Act 1996) Pesticides Regulations
<b>Plant Quarantine Act (Cap 156)</b>	Delegation of Functions Appointment of Inspectors Infected Areas Noxious Weeds, Pests and Diseases of Plants Regulations Noxious Weeds, Pests and Diseases of Plants (Citrus Tanker) Regulations Plant Quarantine (Fees) Regulations Plants Quarantine (Taro Beetle) Emergency Regulations Prohibited Import Plant Quarantine (Fees)(Amendment) Regulations 19
<b>Pound Act (Cap 165)</b>	( <b>Amdt: 18/90, 41/90</b> ) Pound Regulations Pound (Amendment) Regulations - (L/N 81/84) Transport of Animals Regulations
<b>Protection of animal Act (Cap 169)</b>	

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<b>Rewa Rice Limited Decree 1991</b>	(Amdt: Decree 22/92)
<b>Stock Improvement act (Cap 162)</b>	Stock Improvement Regulations
<b>Trespass of Animal Act (Cap 166)</b>	
<b>Veterinary Surgeons Act (Cap 257)</b>	

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## **2.7 NEW LEGISLATION**

### **1] Promulgation of Biosecurity Act 2008:**

The Biosecurity Promulgation 2008 has repealed the Animal (Contagious Diseases) Act (Cap 160); Animal Importation Act (Cap 159) and Plant Quarantine Act (Cap 156).

## **2.8 PROPOSED LEGISLATION**

### **2] Land Conservation & Improvement Act**

A much needed review is required to the LC&I act to enable an effective protection of our vulnerable land from the unsustainable development practices which are at an exorbitant rate. The act has been amended after a wide range consultation with stakeholders. The critical amendment area was a legal text drafted to include the national land use policy on the LC&I act.

## **Development Perspective**

- ❖ **Priority Outcomes**
- ❖ **Priority Outputs**
- ❖ **Imperatives**

### **3.0 Development perspective (DOA Outcome)**

The initiative of the current government is to capacitate agriculture to a more vibrant income generating and source of employment to the young generation in Fiji in future. Thus agriculture should continue to expand and lay the main role in the growth and stability to the economy of Fiji in many years to come.

#### **3.1 Priority Outcome**

Based on the situation analysis and existing medium-term priorities of the Government in conjunction with our development partner's (FAO) programme the following priority outcomes will be pursued in the next three years;

##### *3.1.1 Strengthen policy, legal, regulatory and strategic framework for sustainable agriculture, forestry and fisheries development.*

A recent review of the Department of Agriculture has indicated that research and extension services need to be strengthened and better focused to the needs of the farming sector. For policy formation and planning purposes, collection and publication of agricultural data, particularly output statistics need to be improved. In the past policies have been adopted without being subjected to detailed economic analysis and without a good understanding of what can be expected from the farming sector. Improved performance by the ministry and by the sector as a whole will only result from a strengthened policy, legal and regulation framework. FAO will provide technical assistance to support policy formulation, legislation and regulation reviews and strategic planning. Particular emphasis will be placed on linking planning to financing. Capacity building support may also be provided to improve sector data collection and management system. Policy work and strategic planning will also be a focus area for the fisheries and forestry sub-sectors.

##### *3.1.2 Increased production, productivity and resilience of crop and livestock systems.*

Enhanced agricultural production for export and for food security and rural livelihoods is a key priority for Fiji. Increasing agricultural production and productivity is the highest overarching priority for DOA. Several markets are available (or could become available), but growth is limited primarily by supply-side constraints. There is a need for improved supply of inputs – planting materials, fertilizer and livestock feeds; for improved infrastructure – agricultural roads, market and post-harvest facilities, and for better technology and husbandry practices supported by appropriate research and information services. Assistance sought through the FSSLP, but also through TCP programmes with FAO in the areas of need to improve agricultural productivity across the board.

##### *3.1.3 Sustainable managed terrestrial, freshwater and marine resources*

Fiji signed the Convention on Biological Diversity (CBD) in 1992, and pledged our support to halt the continuing decline in global biodiversity. The department of agriculture fully recognizes the need to protect valuable and unique biodiversity in Fiji thus the promotion for sustainable agriculture practices at community level are integrated

in the development effort in conjunction with our development partners, United Nation, on the UNCCD initiative in Fiji. The importance of community involvement is crucial in this process. Amongst other things DOA promotes Biodiversity ecosystem service because it would directly affects security in food production in future.

## **3.2 Strategic Priority Outputs**

The priority areas below were identified and are the result of sorting out the most common issues that were identified by head of division and staff to be hindrance to achieving the Government outcome for the agriculture sector.

### **3.2.1: Policy advice and legislative enactment:**

#### **Key Objectives**

- ❖ To have a supportive agricultural entrepreneurial policy framework,
- ❖ Good economic environment that ensures low inflation, predictable tax rates,
- ❖ Trade policies that do not impede access to market
- ❖ Foreign exchange regime that reduces the vulnerability of the economy to external shocks.

### **3.2.2: Improve Sustainable Resource Management, Productivity and output:**

#### **Key Objectives**

- ❖ To manage our natural resources for sustainability and the longevity of the resources productivity.
- ❖ To implement environmentally friendly land water management principles and farming practices.
- ❖ To appreciate commercial value of agriculture production and the value of natural resources.
- ❖ To train community and bring about awareness and educate the nations land users on better land use management technologies.
- ❖ To complement stronger human resources management capability and strategize to improve the management of capital assets.

### **3.2.3: Effective Human Resource Management Development:**

#### **Key Objectives**

- ❖ To support public sector reform of civil service implements best practices in managing human resources at reducing costs by restructuring, right sizing and increasing efficiency.
- ❖ To develop and maintain a professional and highly qualified workforce in the department, thus improving service delivery to the people.
- ❖ Leadership development program must implement a succession plan approach to identify next generation leaders in the department.
- ❖ To Implement Human Resource Information System (HRIS) for the ministry to include all necessary information on the Ministry's human resources and is to include Individual Work profiles.



- ❖ To implement organizational restructure recommendations, on systems and operations of the ministry to improve efficiency and effectiveness in all facets of the ministry's functions.

### **3.2.4: Effective Research Development and Information dissemination:**

#### **Key Objectives**

- ❖ The department will support developing technology transfer.
- ❖ Research new improved crop variety to enhance productivity in the farming sector.
- ❖ To foster private extension service and research partnership.

### **3.2.5: Trade market access and marketing:**

#### **Key Objectives**

- ❖ To develop post-harvest handling practices at farm level.
- ❖ To foster linkage of producers with food processors to enhance agro food exports.
- ❖ To support development of infrastructure, such as ports, and jetties and farm access roads, cold storage facilities, limits accesses to markets and reduces post-harvest quality.
- ❖ To Strengthening commercial farming capacity.
- ❖ To facilitate agriculture diversification, raising participant's competency in relation to commercial agriculture is important.
- ❖ Coordinate BQA system approach from the appropriate public and private sectors.
- ❖ To strengthen industry organization and market access, industry organizations are forums for developing policy and quality standards, networking, dissemination market information and technology and providing negotiating strength.
- ❖ To support Agricultural Marketing Authority to facilitate buying and selling of agro-produce in uneconomic remote areas.

### **3.2.6: Enhance stakeholder partnership:**

#### **Key Objectives**

- ❖ To enhance institutional network capacity for agriculture- eg agriculture with NLTB for long term interest in the productive use of communally owned land.
- ❖ To support and develop more agriculture vocational training like Navuso and Tutu training centre.
- ❖ To support wholesale credit line for famers from financial institution to providing general credit for individual small farmers and household,
- ❖ To strengthen formal agricultural service capacity
- ❖ To enhance private sector involvement in the sector to identify the market demand in agricultural products.

### **3.2.7: Effective Financial regulatory, compliance and enforcement:**

#### **Key Objectives**

- ❖ To ensure good governance in the administration and deployment of financial and other resources. Implementation and monitoring of regulatory legislations.
- ❖ To ensure that the department regularly monitor (monthly) and analyze the implementation of the budget to ensure that the budget allocations and cash flow forecasts are maintained/contained within approved levels.
- ❖ To ensure compliance with the Finance Management Act 2004 and Regulations/Instructions, and the Ministry's Finance Manual.
- ❖ To strengthen internal audit unit in the department.
- ❖ To coordinate effectively the performance management system in the department, including the annual performance assessment of all staff, and to facilitate the necessary training in these functional areas

### **3.3 Imperative sub outputs**

#### *3.3.1 Policy reform*

The department of Agriculture will work for the completion of reforms by 2011:

- Reform in shipping and port management policies and the review the remaining policies which hinder the efficient transport of agricultural products from the outer land to the market.
- Prevention for the indiscriminate use of fertilizer and pesticide to minimize hazards to human lives and environment.
- Simplification of licensing procedures and requirements

#### *3.3.2 Research & Development*

In research and development, emphasis should be laid on the quick transfer of low-cost technologies for agricultural diversification especially in the sugar and rice areas in the northern, western and central division. Emphasis should also be placed on technologies for on-farm processing.

#### *3.3.3 Agricultural entrepreneurial development*

The government must continue fashioning an environment- through appropriate policies and incentives which will make agriculture profitable and thus draw private initiative especially that of small farmers into production, financing, and marketing of agricultural goods. This means reforming the remaining trade, taxation, shipping and macroeconomic policies that continues to impede agricultural and rural development. Government must also initiate, where feasible and necessary, small- scale pilot agro-processing and agribusiness project owned and operate by farmers.

#### *3.3.4 Farmer groups*

The government needs to empower small holder farmer groups to enable to realized the full productive potential and thus participate vigorously in the nations' march towards development. Government must also extend all necessary support for the development of small farmers'

Organisation (Industry councils); it must fully integrate these groups in policy making and planning, execution, evaluation, monitoring of programmes and projects.

### *3.3.5 Credit facility*

The expansion and strengthening of credit programme to the farmers to help them access easily to financial assistance, and strengthening of guarantee and crop insurance facilities to reduce the cost and risk of lending to agriculture and induce greater credit flows to farmers.

### *3.3.6 National Exports Strategy*

This policy document aimed to increase the export of six major commodities (Cassava, Dalo, Ginger, Cava, Papaya, Fruit & Vegetables and Okra) to the international market with the total export value of \$39 million. Moreover, 11 other potential commodities<sup>10</sup> identified for export with total projected value<sup>11</sup> of \$100 million. The aims of our National Export Strategy are achievable.

### *3.3.7 Infrastructure development*

Government must provide the public investment needed to complement and support the productive endeavour of small farmers. Government must give priority to infrastructure investments and support service which has the broadest and quickest impact on raising rural society. In particular public investment should be focused on: The repair and construction of farm –to- market roads and ports, the modernisation of port handling and storage facilities and the provision of adequate power and communication infrastructure in rural areas.

### *3.3.8 Reform in Bio fuel development*

There is sufficient coconut oil feedstock available to permit a 5 per cent biodiesel blend to be introduced throughout Fiji, equating to a demand of 4.6 million litres a year of biodiesel. This level of demand would require 4,250 tonnes of coconut oil, which would be bulk of Fiji's exportable surplus. However, the fundamental question to be addressed is if this strategy would be economically feasible or would significant government subsidies be required.

### *3.3.9 Climate change & Sustainable agriculture*

The growing concern in the world now is climate change which is caused by uncontrolled carbon emission and deforestation through unsustainable agriculture activity in developed countries. Fast growing Pacific Island population is impacting on food production. The situation is made worse by an aging farming community, with few young people being attracted to agriculture. This has become a threat to food security Government must enforce the land use policy to promote judicious use of the country's land, forest and marine resources in order to ensure the long-term sustainability of the natural resources base from rural income are derived.

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<sup>10</sup> Sweet potato, pumpkin, pineapple, palm oil, Noni, mushroom, industrial hemp, honey, coffee, cocoa and avocado.

<sup>11</sup> NES action plan for commodities

## **Objectives, Outputs and Priorities**

- ❖ **Linkage to MDGs**
- ❖ **Linkage to RDSSED**
- ❖ **RDSSED KPIs**
- ❖ **Key development Targets**
- ❖ **Production Targets**
- ❖ **Import Reduction**
- ❖ **Export Promotion**

## 4.0 DOA OBJECTIVES, OUTPUTS AND PRIORITIES

### 4.1 Our Linkage to the UN Convention

Fiji is party to the Inter-Governmental Action Program of 1992 UN Conference in Rio de Janeiro and the ensuing development on the UN Commission for the SD (CSD) and Agenda 21. Outcomes of the Agenda 21's are the creation of conventions UNFCC (Climate Change), UNCBD (Biodiversity) and UNCCD (Land Degradation). Followed by UN millennium goals. Our National Development Goals cascade from the UN MDGs;

- 1. Eradicate extreme poverty and hunger
- 7. Ensure environmental sustainability

### 4.2 Linkage of Agriculture Outputs with Government Targeted Outcome.

To be consistent with the Roadmap for Democracy and Sustainable Socio Economic Development (RDSSSED) initiative the department has identified priority issues relate, and would affect RDSSSED outcome performance indicators. The major focus of the department in its import substitution programme in the next 3 years (2010-2012) is to reduce drastically the total import bill for, Rice, potatoes, Dairy products, sheep, and beef to \$105 million by 2012.

### 4.3 RDSSSED targeted goal for Non Sugar Agriculture and Livestock

Outcome: Sustainable Community Livelihood through competitive export and food security		
RDSSSED Policy objective	DOA Outputs	RDSSSED Outcome KPI
Fiji is served by a thriving commercial agriculture sector, sustains Fiji's food security and sets a strong platform for commercial agricultural development.	<ul style="list-style-type: none"> <li>• Portfolio Leadership Policy Advice and Secretariat Support.</li> <li>• Consulting services – Agricultural Development.</li> <li>• Research Publication-Agriculture Development</li> <li>• Supply of Goods – Agricultural Industry (Plant National Biodiversity)</li> <li>• Consulting services – Livestock Production.</li> <li>• Education &amp; training – Agricultural Technology.</li> <li>• Consulting Services – Civil Engineering.</li> <li>• Market Development- Agriculture Produce</li> <li>• Repair and Maintenance –Irrigation Channels</li> <li>• Licensing, Compliance &amp; Monitoring – Import / Export of Agricultural Produce.</li> <li>• Research Publication – Crop Production</li> <li>• Licensing, Compliance &amp; Monitoring – Pesticide Use</li> <li>• Pathology Services</li> <li>• Provision for Land Drainage Flood Protection Services</li> <li>• Provision for Irrigation Services</li> <li>• Consulting services – Veterinary Services.</li> <li>• Licensing, Compliance and Monitoring –Food Processing.</li> <li>• Research Publication-Pasture Improvement</li> <li>• Consulting Services – Landlord and Tenant agreement</li> <li>• Dispute Resolution – Landlord &amp; Tenants</li> <li>• Chemical Analysis Services</li> <li>• Operation of Animal Pounds</li> <li>• Licensing, Compliance and Monitoring- Provision of Dog Licenses and control</li> </ul>	<ul style="list-style-type: none"> <li>• Maintained agriculture sector's contribution to GDP at 12%</li> <li>• Commodity protocols for at least 5 new commodities to new markets by 2012</li> <li>• Formation of at least 3 industry council.</li> <li>• Increase production of locally produced export commodities by 30%</li> <li>• Increase production of import substitution commodities by 30%</li> <li>• Value of non sugar agriculture exports increased from \$52.9m to \$80m in 2010</li> <li>• Value of fruits and vegetables imports reduced from around \$165m annually to \$80m by 2014.</li> <li>• Agriculture sales to local and national private traders increased from 40% to 60% of total sales</li> <li>• Increase lending to agriculture sector of commercial banks to 1% of total loan portfolio by 2014 from current level of around 0.6%</li> <li>• Maintain Food import Capability index maintained at 0.17 or better</li> </ul>

## **4.4 Key Development Targets for Agriculture**

### **4.4.1 Poverty Reduction Targets**

- Reduce the incidence of poverty to negligible level by 2014

### **4.4.2. Production Targets**

- Increase production of locally produced export commodities by 30%
- Increase production of import substitution commodities by 30%

### **4.4.3. Export & Import Targets**

- Reduce drastically the total import bill for, Rice, potatoes, Dairy products, sheep, and beef to \$105 million by 2012.
- Increase value of exports for non sugar crops by \$100m by 2012.

### **4.4.4. Priority Concerns**

In terms of priority attention, the top six commodities that will be supported by the Department of Agriculture are:

- Rice
- Potato
- Dairy
- Sheep
- Beef
- Fruits & Vegetables
- Dalo
- Cassava
- Ginger

#### 4.5 Production Forecast for Agriculture crops 2008-2012 (Calculated at a variable growth rate of 1-5 percent)

Note: The forecasting is done according to the flood damage assement report showing a declining trend for crops that are being affected while the rest shows increasing trend. (Department of Agriculture Flood Assesment report , 2009)

Agricultural Produce (Tonnes)	2008(a)	2009(f)	2010(f)	2011(f)	2012(f)
Copra	12,583	12,835	12,963	13,093	13,224
Ginger - Mature	595	655	687	694	701
- Immature	1,893	2,082	2,186	2,208	2,230
Pawpaw	7,265	6,990	7,340	7,413	7,487
Pineapple	3,506	3,350	3,518	3,553	3,588
Vegetables	25,153	23,000	25,300	26,565	27,893
Root Crops - Cassava	55,773	50,750	55,825	58,616	61,547
- Dalo	74,009	70,500	74,025	77,726	81,613
- Yams	4,031	4,000	4,040	4,080	4,121
- Kumala	4,612	4,500	4,725	4,772	4,820
Yaqona	3,286	3,150	3,308	3,341	3,374
Cocoa	12.75	13.01	13.14	13.27	13.40
Pulses	92	85	94	98	103
Citrus	74	75	76	77	78
Banana	8,426	8,300	8,715	8,802	8,890
Watermelon	1,107	1,050	1,103	1,114	1,125
Vanilla	0.27	0.30	0.30	0.31	0.31
Maize	604	616	622	628	635
Peanuts	178	182	183	185	187
Cowpea	227	232	234	236	239
Rice (Paddy)	11,595	11,100	11,655	11,772	11,889
Dalo-ni-tana	3,683	3,250	3,283	3,315	3,348
Chillies	258	230	232	235	237
Duruka	64	60	61	64	67
Voivoi	1,010	1,030	1,041	1,051	1,061
Vudi	5,024	4,850	4,899	4,947	4,997
Kawai	1,102	1,124	1,135	1,147	1,158
Kura	325	332	335	338	342
Floriculture	25	26	28	29	30
Eggplant	923	880	889	898	907
Tomatoes	230.2	233	235	237	240
Breadfruit	386	390	394	398	402

**4.6 Production Forecast for Agriculture Livestock 2008-2012** (*Calculated at a growth rate of 2 percent*)

Livestock Production	2008(a)	2009(f)	2010(f)	2011(f)	2012(f)
Egg (000 Doz)	4,723	4,770	4,818	4,866	4,915
Poultry (Tonnes)	11,970	12,569	12,820	13,076	13,338
Milk and Cream (million litres)	10.3	10.8	11.0	11.3	11.5
Beef (Tonnes)	1,866	1,959	1,998	2,038	2,079
Pork (Tonnes)	920	966	985	1,005	1,025
Goat (Tonnes)	983	1,032	1,053	1,074	1,095
Honey (Tonnes)	595	625	637	650	663
Sheep (Tonnes)	56.1	59	62	65	68



## 4.7 Import Reduction approach<sup>12</sup>

Government will ensure greater cohesion and effective implementation of import substitution programme to increase self reliance and reduce imports. Highlighted below are the identified commodities that the department would focus on in the next 3 years 2010 -2012:

Commodity	Current import cost (\$)	3yrs reduction target (\$)	DOA Objective (3yrs)	Strategies	Constraints	Addressing constraints
Rice	\$40m	\$35m	Increase production from 11,000, mt to 43,500,mt	<ul style="list-style-type: none"> <li>Plant 700ha in irrigated areas from existing farms.</li> <li>Assist farmers with land preparation.</li> <li>Farmer training.</li> <li>Coordination with Rewa rice</li> </ul>	<ul style="list-style-type: none"> <li>Farmer replacement</li> <li>Low farm gate price</li> <li>High input cost.</li> <li>Expired land lease.</li> <li>Low mechanisation</li> <li>Labour shortage</li> <li>Changing priorities of farmers</li> </ul>	<ul style="list-style-type: none"> <li>Land re form policy</li> <li>Subsidize input cost.</li> <li>Training of rice farmers</li> <li>Research improves varieties.</li> <li>Make machine available for land preparation</li> </ul>
Dairy	\$19m	\$16m	<ul style="list-style-type: none"> <li>Reduce imports</li> <li>Increase milk production from 14m to 18m litres</li> </ul>	<ul style="list-style-type: none"> <li>Foster coordination with RCDC Ltd</li> <li>Establish farms in western division (40)</li> <li>Conversion of 19 existing raw milk suppliers to factory suppliers.</li> <li>Central division to increase small holder dairy concept.</li> <li>Improve genetic quality.</li> </ul>	<ul style="list-style-type: none"> <li>No market in the western division</li> <li>Land lease issues</li> <li>Lack of knowledge and skills</li> <li>Lack of breeding stocks.</li> </ul>	Extension advisory service. Artificial insemination. Training and awareness for farmers and potential dairy farmers.
Potatoes	\$19m	\$16m	<ul style="list-style-type: none"> <li>Reduce \$ 16 million of imports over three years</li> <li>Produce 5,300t / year</li> <li>442 ha to</li> </ul>	<ul style="list-style-type: none"> <li>Approx 5.3 million per year</li> <li>\$5.3 million = 5,300 tons of Potatoes</li> <li>442 ha needed to</li> </ul>	<ul style="list-style-type: none"> <li>Current production :Nil</li> <li>Research is conducting field trials on 2 varieties (Dalisay&amp;Serrana)</li> </ul>	

<sup>12</sup> Commodity identified by PMO as main focus for import reduction by Agriculture 2010-2012

			<p>be utilize for planting potato Total production cost \$4.2m</p>	<p>plant to harvest 5,300 tons per year</p> <ul style="list-style-type: none"> <li>• Cost to prepare 442ha is \$94,588</li> <li>• 663 tons of seeds costing \$530,400</li> <li>• 1342.6 mt of Urea &amp; NPK costing \$165,308 and if Poultry manure is used than additional cost of \$442,000 will incur.</li> <li>• Weedicides - \$23,868</li> <li>• Pesticide - \$9,341</li> <li>• 5 Tractor and Implements for \$400,000</li> <li>• Potato being a new commodity a lot of technical support will be needed by farmer. Staff and farmer trainings have to organized to ensure optimum production is achieved.</li> </ul>	<ul style="list-style-type: none"> <li>• Number of farmers: Nil</li> <li>Current potato importers:33</li> <li>• Current tax incentives: 10year tax concession for new companies investing more than \$1m and 200% deduction on purchase of Farm Machinery for 5years from 2006.</li> <li>• Current tariffs:12.5 % Vat and 5% Fiscal duty</li> <li>Timeline from securing of land, to harvest – 3moths</li> </ul>	
Sheep	\$20m	\$10m	Increase local production	<ul style="list-style-type: none"> <li>• Establishme nt of small</li> </ul>	<ul style="list-style-type: none"> <li>• Supply of breeding</li> </ul>	Maintain government breeding

			(from 50 to 100mt) Increase food security. Export live sheep	holder sheep farms (40)	stock. • High establishment cost	stations Subsidise establishment cost
<b>Beef</b>	\$7m	0	<ul style="list-style-type: none"> <li>• Reduced imports.</li> <li>• Increase production (from 9,500 to 10,500 heads)</li> </ul>	<ul style="list-style-type: none"> <li>• Feed lotting technology</li> <li>• Contract farming</li> <li>• Farming assistance.</li> <li>• Improve genetic material.</li> </ul>	<ul style="list-style-type: none"> <li>• Need to use right feed formula.</li> <li>• Lack of skills</li> <li>• High cost of inputs.</li> <li>• Lack of breeding stock.</li> </ul>	<ul style="list-style-type: none"> <li>• Improve feed technology.</li> <li>• Train on beef farming.</li> <li>• Subsidize cost of input (40%)</li> <li>• Purchase bull from Yaqara and government stations and artificial insemination</li> </ul>

## 4.8 Export Promotion approach (Refer to Target Production- Appendix 2)

Export promotion will be targeted through the implementation of the National Export Strategy which has identified enormous export potential that the agriculture sector holds, particularly in high value niche export and traditional food crops such as papaya, cassava, taro, kava and ginger.

Commodity	Objective	3 Years Strategies	Constraints	Addressing constraints
Root crop development programme (Dalo Cassava)	Increase production for export Support domestic markets	<ul style="list-style-type: none"> <li>• Increase dalo planting (from 1143 to 1250ha)</li> <li>• Increase cassava planting (from 6137 to 7960ha) particular in Central and Western division.</li> <li>• Increase number of farmer groups particularly in the rural areas.</li> <li>• Farmer training in technical farming management.</li> <li>• Address pest and diseases</li> </ul>	<ul style="list-style-type: none"> <li>• Linking farmers to the market.</li> <li>• Consistency in supply and quality.</li> <li>• Farmer attitudes.</li> <li>• Farm losses (approx 10-15%)</li> </ul>	<ul style="list-style-type: none"> <li>• Phase planting coordination in farmer groups.</li> <li>• Increase consultation between exportation and farmer groups.</li> <li>• Increase assistance to farmer groups.</li> <li>• Increase planting by 10-15% to account for loss.</li> </ul>
Papaya, pine apple, water melon, citrus	Increase fruit production for exports and local market, particularly Sigatoka valley and Batiri	<ul style="list-style-type: none"> <li>• Increase pineapple area from 91 to 109ha</li> <li>• Farmer training</li> <li>• Increase pawpaw area from 69 to 83ha.</li> <li>• Increase watermelon area from 164 to 197ha.</li> </ul>	<ul style="list-style-type: none"> <li>• Inconsistency of supply &amp; poor quality.</li> <li>• Delay in the production of seedling at Sigatoka research station (pawpaw).</li> <li>• High cost of inputs (seed and seedling from private sectors)</li> </ul>	<ul style="list-style-type: none"> <li>• Irrigation of farms particularly for pawpaw, citrus.</li> <li>• Timely release of funds.</li> <li>• Seed production at subsidize prices.</li> </ul>
Ginger	Increase immature ginger production for export (from 2,333 to 3,033 tonnes)	<ul style="list-style-type: none"> <li>• Increase yield per unit area (18-20 tonnes/ha)</li> <li>• Increase area planted from 150ha to 225ha</li> </ul>	<ul style="list-style-type: none"> <li>• High production cost</li> <li>• Seed [treated] availability/disease.</li> <li>• Allocation of quota (small holders)</li> </ul>	<ul style="list-style-type: none"> <li>• Increase farmers by 20% per annum over the next 3 years.</li> <li>• Increase yield by 10% per hectare</li> </ul>
Kava	Increase income for the rural population. Reduce import by 50% (250t) Increase export from 183.422t to 238.449t	<ul style="list-style-type: none"> <li>• Increase in area planted from 889ha to 1,156ha.</li> <li>• Increase in the number of farming groups.</li> </ul>	<ul style="list-style-type: none"> <li>• Shortage of planting materials due to dieback disease.</li> <li>• High production cost.</li> </ul>	<ul style="list-style-type: none"> <li>• Selection of disease free planting materials.</li> <li>• Tissue culture (SPC) and adaption of better husbandry practices.</li> <li>• Subsidised cost of inputs provided to farmer groups.</li> </ul>

## **DOA INTERVENTION PROGRAMME AND PLANNED EXPENDITURE:**

### ***CROPS & LIVESTOCKS PROGRAMME***

- ❖ Extension**
- ❖ Research**
- ❖ Animal Health & Production**

### ***SUPPORT SERVICE PROGRAMME***

- ❖ General Administration**
- ❖ Economic Planning & Statistics**
- ❖ Quarantine Services**
- ❖ Land & Water Resource Management**
- ❖ Land Resources Planning & Development**
- ❖ Fiji College of Agriculture**

## **5.0 DOA INTERVENTION PROGRAMME AND PLANNED EXPENDITURE<sup>13</sup>:**

### ***CROPS & LIVESTOCKS PROGRAMME***

#### **5.1 Extension Division**

##### **Objective**

Promote productivity and sustainability in agriculture through effective and efficient advisory service to the clients.

##### **Division's Outcome:**

- Effective management of various Extension programs to Increase productivity for food security.
- Effective and efficient consultancy services in agricultural development
- Provision of Agro Inputs/Incentives
- Maintained a sound Human Resource Management for a highly skilled and motivated work force.

##### **Outputs**

- Consultation with Stakeholders and clarifying roles and needs.
- Establish benchmarks of all commodities and market access, food supply and demand, number of farmers, area of production
- Establish needs in various farmer groups, farmers, industry councils, and other stakeholders.
- Prepare Extension Work Plan
- Finalize Plan for all commodities with stakeholders Prepare proposals for RIE
- Update all technical and financial information related to food crops
- Facilitate Export Promotion programme.
- Facilitate Import Substitution programme.
- Provide Farm Advisory services
- Conduct Farmers and Staff Training
- Establish Demonstration/Model Farms
- Monitoring Progress and achievement Reporting

##### **Programme Overview:**

The Department is implementing different types of programmes where project proposal on the type of development to be done on crops are submitted. There are about 500 projects identified for the rural and outer islands, Import substitution and Export promotion this year. The success of areas like the Sigatoka valley which has seen farmers adapt successfully to new farming techniques, has made the Department's effort worth it. In effort to improve crop production the department would be developing facilities for storage, cooling and even processing. It is hoped that the operation of farmers are more streamlined in the future which the basic target of the department.

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<sup>13</sup> The forecasted expenditure figures are for on-going programmes and are subjected to MOF budgeting priorities.

## PLANNED BUDGET

### Extension Service

<i>Sub programme</i>	<i>2009</i>	<i>2010</i>	<i>2011</i>	<i>2012</i>
1. Agriculture Extension Service.	100,000	150,000	na	na
2. Sigatoka Valley Improvement Programme.	1,000,000	1,000,000	na	na
3.R&D Export Promotion Programme	1 2,000,000	2,000,000	na	na
4.R&D Import Substitution Programme	3,000,000	2,000,000	na	na
5. Rotuma Island development programme.	0	200,000	0	0
6. Agriculture show	0	100,000	0	0

#### *Agriculture extension*

This project is for food security crops planting material multiplication, agro-inputs, farmer capacity building, and awareness.

#### *Sigatoka Valley Improvement Programme*

The projects aim to provide drainage and irrigation facilities under the one third, two third basis. Proposal for 2010 is to facilitate intensive use of available farmlands for the production of high value cash crops for local and export market. The target areas covers 600ha consisting of 500 farmers with current combined production estimated 12,950 tonnes. The projects will directly benefit 3,500 farmers and 12,000 family members.

#### *R&D Export promotion Programme*

This programme is a consolidation of both crop and livestock extension/research projects of MPI with the special emphasis on those commodities that have the potential to do well in the export market with a view to boosting the non-sugar agriculture sector contribution to national exports

#### *R&D Import Substitution Programme*

This programme is a consolidation of both livestock and crop extension/research projects with a view of strengthening local production of crops and livestock that can substitute import. This will see the promoting of both production and consumption of local foods which can in turn contribute to addressing the issue of our high food import bills.

#### *Rotuma Island Development programme*

The projects entail to provide a holistic development approach to develop Rotuma islands primary industries to enable sustainable development and foster a long term trading with other Pacific Island countries beginning with Tuvalu than expanding to Kiribati and other Pacific Island countries.

#### *Agriculture show*

To provide awareness to the general public and stakeholders on the type of services available from the Ministry. The Agricultural show will promote Agriculture in the country as a whole. Directly the public will be more aware of the services and activities that are currently offered by the ministry.

## 5.2 Research Division<sup>14</sup>

### Objective

Research division has the mandate to devise and develop adaptable and affordable technologies for the enhancement of the agriculture sector

### Division's Outcome:

- Plant Genetic Resources (PGR)
- Supply of seeds and planting materials.
- Crop Improvement
- Crop Protection and Export Pathways
- Pesticide registration
- Chemical analytical services
- Information generation and dissemination

### Outputs

- Conserve and maintain all existing plant genetic resources in field germplasm, seed cooler and seed gene-banks and Establish inventory of all PGR conserved
- Collection of eroded varieties of crops.
- Micro-propagate multiply and conserve vegetative plant materials through tissue culture.
- Renovate and upgrade tissue culture laboratory.
- Production and supply of foundation, farmer seeds & planting materials of various commodities and seeds of pawpaw, chillies and eggplant specified under BQA with NZ and other trading partners
- Introduce and evaluate improved genetic materials of various potential and emerging crops.
- Assess appropriate production and crop management practices to increase yield potentials.
- Demonstrate farming systems for adaptability and its potential benefits.
- Design and develop appropriate farm machineries to ease crop production.
- Develop/recommend pest management systems and standards to enhance production and trade.
- Conduct plant health diagnostics and recommend control measures
- Regulate, enforce and advice on the pesticide importation, sale and usage compliance to pesticide act.
- Conduct chemical analysis for soil, plant, feed, food and forensic samples.
- Conduct Pesticide residue analysis to determine pesticide levels in agricultural produce.
- Formulate, compile, publish and distribute research findings.
- Disseminate information through awareness programmes, farmer training, and field days.
- Strengthen linkages with regional and international agricultural institutions for new findings

### Programme Overview:

The transfer of the innovation and provision of scientific, technical and professional service are the integral part of the division function. The division comprises 94 scientific and administrative staff with 157 field workers all of whom are distributed at eight research station.

Though there is no research funding on our on going program, there is only one capital project approved. The focus will be directed towards Tropical Fruit Research on assorted vegetable; Conservation and Maintenance of National Biodiversity; Crop protection , pesticide registration;

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<sup>14</sup> Research programme was unfunded in 2009 and most of their activities was sourced from EPP and ISP funds



provision of Technical Advisory and support services and nursery stock which are currently in the ground and on-going.

## PLANNED BUDGET

### Research & Development service

<i>Sub programme</i>	<i>2009</i>	<i>2010</i>	<i>2011</i>	<i>2012</i>
1. Laboratory setup for Accreditation.	0	184,300	43,000	39,000
2. Development of Soil Fertility Technology.	0	27,500	27,500	0
3. Root Crop Research & Development.	0	82,850	50,650	45,100
4. Rice Research & Development.	0	265,000	230,000	105,000
5. Vegetable & Cereal Research.	0	53,700	46,400	42,400
6. Farm Mechanisation Services.	0	37,000	17,000	17,000
7. Management of Rice insect Pest.	0	38,000	32,500	19,750
8. Integrated Management of Wedelia.	0	20,000	20,000	24,000
9. Integrated Pest Management on Brassica Crop.	0	54,146	0	0
10. Management of Taro Beetles.	0	5,000	5,000	5,000
11. Biological Control of Mile-a Minute.	0	18,757	18,757	19,757
12. Pest Management of Coconut Insect.	0	35,050	24,550	24,600
13. Management of Fruit Flies in Rotuma	0	30,000	22,000	14,000
14. Ginger Research & Development	0	78,891	44,900	44,900
15. Research & Development for Dry Zone Commodities	0	70,000	82,000	99,000
16. Fruit and Pineapple Research	0	69,400	63,000	60,000
17. Agriculture Research Services- Crops <sup>15</sup>	0	300,000	0	0

#### *Laboratory setup for Accreditation.*

To prepare the Fiji Agriculture Chemistry laboratory as an ending tool for the Government analyst to administer under the Pure Food Act 1985 Cap 116, and Food Safety Act 2003 and the Research to perform and work in accordance with international criteria for technical competence.

#### *Development of Soil Fertility Technology.*

This project entails to address the relevant stakeholders the importance of soil testing and how best these data be utilized in order to achieve the maximum return of their lime and fertilizer investment.

<sup>15</sup> This research funding will facilitate all research components submitted and are not funded above

#### *Root Crop Research & Development.*

The project aims to release new varieties which specific to climate requirements with the required cultural practices and tolerant to salinity and dry spell. The project also aims to improve low cost and using simple hand operated tiller.

#### *Rice Research & Development.*

Rice is one such crop that has great potential and fits well in this cycle and in the nature of our rural people. Fiji has the 18,000 acreage under rice and with the production of about 15,000 tonnes. At the current rate of population growth the country's rice demand is expected to grow into an additional requirement of 500 to 600 tones per annum, reaching a total of 58,000 tonnes by 2010. This project is geared to address the support needs to focus particularly on enabling poor rural producers to improve their yields through effective use of existing technology and/or adoption of new technology.

#### *Vegetable & Cereal Research.*

The project will conduct research on crops for import substitution and production of quality seeds that required under the Bilateral Quarantine Agreement (BQA). The introduction and evaluation of new varieties to replace the existing export varieties is fundamental to the growth of vegetable production in Fiji. The development of continuous vegetable production in collaboration with the Taiwan technical Mission (TTM) will ensure the availability of quality vegetables throughout the year. It is important to maintain the characteristics of existing varieties to prevent the depletion of genetic resources.

#### *Farm Mechanisation Services.*

The project aims to design and develop prototypes of equipment fro harvesting fruits such as mangoes, breadfruit and papaya. The primary objective is to fabricate simple cost effective agricultural tools and equipment appropriate to the needs of farming community.

#### *Management of Rice insect Pest.*

Since the Ministry is trying to revive the rice industry, it is important to develop appropriate measures for rice insect pest so that rice development programme is not affected. These pest attack at all stage of growth. Evidence indicates that the severity and frequency of attack can wipe out the entire crop if not controlled at the right time. For example the brown plant hopper (*Nilapervata Lugens*) and rice leaf roller (*Susumia exigua*). Integrated Pest Management has been accepted as the rationale approach to the regulation of rice pest population.

#### *Integrated Management of Wedelia*

To manage wedelia, in order to reduce its potential impact on agricultural production and native flora of Fiji. This project aimed at: declaring *Sphagneticolatriolobata noxious weed*, and develop national protocols for its control and eradication from islands and habitats where it can be potentially invasive and ecologically destructive.

#### *Integrated Pest Management on Brassica Crop*

Brassica crops, especially English and Chinese cabbages, are important commodities fro both large and small farmers in Fiji. The prevailing practice to combat the endemic insect pest complex, the main constraints to the industry, cause serious economic and environmental problems. Collaborative research and extension activities is being carried out by Department of griculture, The University of Queensland and the Secretariat of the Pacific Community to facilitate the adoption and uptake of integrated pest management (IPM) as a component of sustainable agricultural management system for Brassica crops which is funded by ACIAR.

### *Management of Taro Beetles*

The latest research finding funded by ACIAR in the last 4 years found insecticides *Imidacloprid* and *Bifenthrin* very effective (> 90% control) against dalo beetle. This is a 25 year of research that also includes the testing of bio-control agents' namely insect pathogenic viruses, bacteria fungi and nematodes. Residue analysis test conducted by the USP Chemistry Department shows the residue levels in treaded dalo corms were far below indicating it is safe to eat. Therefore the project disseminate the proper handling, correct methods and techniques of Imidacloprid and Bifenthrin insecticide application to dalo farmers to control dalo beetle through the establishment of modified Demonstration Farmer Field School to gain hands on experience.

### *Biological Control of Mile-a Minute*

This project will implement a classical biological control against one of the most important weeds, mile-a-a minute (*Mikania micratha*) as ranked by the 2004 meeting of Pacific Heads of Plant Protection affecting gardens and estate crops in Fiji.

### *Pest Management of Coconut Insect*

Control of coconut insect pest is necessary because of the increase in their population. It has been found that the bio-agents for R. beetle virus (*Baculovirus oryctes*) and fungus. (*Metarhizium anisopliae*) released in the field lose their viability. There is a need to disseminate the bio-agents in the field continuously. The population of the bio agents that were released in 1950's and 70's have decreased. This could be due to changes in farming system.

### *Management of Fruit Flies in Rotuma*

This project aimed to open market for the export of fresh fruits and vegetables fresh from Rotuma. It involves the culturing of the 2 economic fruit fly species; fruit fly trapping and host surveys; development of field control strategies using protein bait spraying and male pheromones, field sanitation, and bio control agents and non host status test.

### *Ginger Research & Development*

Since ginger is mostly grown in the wetter areas of Viti Levu mainly the Central division there is high chance of getting infected planting materials, which will affect the export quality of the ginger. The project is therefore conducted in the drier areas targeting mainly the sugar cane belt areas in the western division. It is mainly focus on conducting applied research to develop appropriate technologies such as comparing the yield performance of ginger on raised and un raised beds. Tissue culture activities will also be included since it is one of the safest and fastest ways of producing, conserving and maintaining our GPR.

### *Research & Development for Dry Zone Commodities*

Farming systems and practices has been seen to changing due to farmers losing interest in sugarcane farming. Efforts have to be made through research to develop technologies to support his new development. With the expiring land leases and reduction in sugar preferential prices from European Union, there is a possibility that most of the farmers that are actively involved will opt for other alternative crops for their livelihood that can generate income faster for cash crops. Legalega Research station aims to provide sugarcane farmers with viable coping systems to enhance production and livelihood of farmers.

### *Fruit and Pineapple Research*

The projects highlighted are to improve fruit facilities from reliable data for applied research. To expand our organic industry into new heights to excel in producing papaya. Farmers will have a guide to maximize their production through organic practices. Organic farming is about enhancing and promoting bio- diversity, biological cycles and a well balance ecosystem. This project expects to reduce the effects which the current practice has done to our natural resources. Most health problems that arise today are results of our eating habits and organic practice will surely address this issue in a way.

## 5.3 Animal Health & Production

### Objective

To serve the livestock industries, livestock farmers, small per owners, importers and exporters and other stakeholders needs by promoting the economic development of Fiji agricultural development and sustainable use of resources on which they based

### Division's Outcome:

- Effective and efficient management of the Livestock Extension Services, Veterinary, and Research Services.
- Effective and efficient consultancy services in livestock Production
- Effective and efficient consultancy services- Veterinary.
- Effective operation of Animal Pound
- Licensing Compliance and monitoring-Provision of Dog Licenses and control.
- Licensing Compliance and Monitoring Import /Export of Agricultural Produce
- Research Publications- Pasture Development

### Output

- Consultations with relevant stakeholders to clarify roles and needs.
- Establish benchmarks and data base of all livestock commodities in terms of numbers, distribution, production systems and technical and financial matters.
- Prepare and formulate policies, projects and programmes.
- Submission of annual budget proposal and work programme.
- Monitor and evaluate achievements. Review and report progress
- Maintain and Update a data base on all technical and financial information on Dairy, Beef, Sheep, Goats, Pigs, Poultry and Bees.
- Identify industry problems and needs.
- Prepare Industry plans and project proposals for import substitution, export promotion and ROI and other funding sources.
- Prepare Extension Implementation
- Conduct a farm appraisal and consultancy services to farmers, prepare farm plans for FDB.
- Developing Demonstration farms.
- Prepare Farmers leaflets and bulletins
- Conduct Farm Visits and Field Days.
- Conduct farmers and staff training
- Provision of Agro Inputs/Incentives
- Capital Development/Access Roads/Vehicle
- Monitor and report Farmers progress and achievement.
- Review and re-plan Extension programme and objectives for upcoming year.
- Procurement and sales of drugs.
- Attending to clinical cases.
- TB Testing
- Meat Inspection
- Veterinary Pathology
- Reporting of country's disease status to international organization.
- Maintenance and construction of animal pound.
- Mount stray animal control campaign.
- Procurement and sales of dog licenses
- Mount Dog Control campaign.

- Report Defaulters to Police.
- Issue import and export permit
- Provide risk analysis of imports.
- Review and develop health protocols for imports.
- Develop technologies in animal nutrition.
- Develop packages in animal husbandry and management practices.
- Documentation of research findings.
- Prepare technical bulletins and research publications.
- Disseminate technologies to stakeholders.

### **Programme Overview:**

The Department through the Animal health division has an equally great challenge of maintaining the sustainable production of livestock in the country while at the same time facilitate expansion to meet the growing demand for meat products locally. Another key aim of the department is to provide animal health, regulatory and technical service to maintain and improve current animal health status and prevent the introduction of exotic pest and disease. However the outbreak of Brucellosis in the central division is a reality check for the department in regards to our processes.

The department has a key role to play in the push towards making the dairy industry self sufficient within 6 years this is the target set, despite current low production rates. There are 210 registered dairy farms carrying a total of 9,000 dairy cattle and producing about 12 million litres of milk annually. Production is low for reasons such as lack of replacement stock, poor pastures, lameness and mastitis.

The overall performance of the livestock sector in the last decade has been mixed with some commodities like beef declining in production. While the production of some commodities like poultry and honey ahs gradually increased, others have stagnated or decline. The total number of cattle in the country stands at 284,000 with beef farmers keeping between 50 to 500 animals each. The goat industry received a lot of support from FAO in 1980 but currently the number is declining due to high mortality and cost of treatment to internal parasites. It is difficult for the department to estimate the total goat production because of the backyard slaughtering.

## PLANNED BUDGET

Anima Health & Production service

<i>Sub programme</i>	<i>2009</i>	<i>2010</i>	<i>2011</i>	<i>2012</i>
1. Dairy Industry Support.	750,000	850,000	1,078,784	1,095,900
2. BTEC.	500,000	600,000	435,000	458,000
3. Livestock feed technology.	400,000	300,000	220,000	242,000
4. Vet Lab upgrading.	200,000	180,000	334,000	330,500
5. Agriculture research Service.	150,000	150,000	637,000	522,000
6. Milk price subsidy (RCDC)	2,000,000	2,000,000	na	na
7. Pig Research & Development	0	100,000	na	na
8. Goat Breeding Improvement programme.	150,000	150,000	107,250	94,750
9. Beef Research & Development	0	150,000	na	na
10. Livestock Rehabilitation programme <sup>16</sup>	0	1,500,000	na	na
11. Smallholder sheep development	0	150,000	0	0

### *Dairy Industry Support*

Dairy sector has great potential to be revamped to reduce current exorbitant imports and as a cushion to current hike in dairy product prices. Focus is on developing small holder milk producers due to the impending expiry of land leases for most large producers. The department will embark on activities related to key areas such as pasture development, genetic improvement, semi intensive feeding, and dairy infrastructure development.

### *Bovine Tuberculosis Eradication Campaign Programme (BTEC).*

Bovine TB is a contagious livestock disease that can also affect humans. It lowers production by 10-15% in the beef and dairy industry, apart from affecting pigs, sheep, goat and poultry. In 2010 the project intends to test around 100,000 cattle in all over Fiji with the aim of reducing the current infection rate of 1.44% to 1.0%.

### *Livestock feed technology*

The project address the nutrition of livestock for production of meat and milk. It also addresses problems of pasture base fed resources by identifying superior high yielding and better adapted varieties and increasing their commercial adoption and good management for continued high levels of livestock production and productivity through out the year.

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<sup>16</sup> New PSIP submission for Brucellosis and Tuberculosis Eradication programme

#### *Veterinary pathology laboratory upgrading*

The upgrading of laboratory equipment is an important factor for efficient and reliable laboratory testing to comply with international standards.

#### *Agriculture Research Service*

This project involves the upgrading of all agriculture research stations in the country i.e both livestock and Crops. In livestock station special emphasis will be on improving genetic of breeder animals in order to provide new improved breed to farmers' for better production.

#### *Milk price subsidy programme (RCDC).*

The main objective of the programme is to provide support on milk price at farm gate to dairy suppliers. The project will support all smallholder and large suppliers of milk to RCDC. The subsidy programme aimed at supporting farmers to increase their milk supply to the company thus increase production.

#### *Pig research and development programme.*

The main objective of the project is to improve and increase production of desirable pig. To breed, sell and distribute breeders to multiplication station and farmers for commercial production and to maintain the continuity of introduction of improved breeds for evaluated of performance under local condition.

#### *Goat Breeding Improvement programme*

The main objective of the project is to readily make available to farmers quality breeding stock for upgrading of their goat herd. The project will support farmers' assistance programme aimed at assisting farmers to increase their goat herd production and productivity.

#### *Beef Research & Development programme.*

The main objective of the project is to introduce significant intervention measures through improving nutrition and breed to increase beef production, the project will shift its strategy to concentrate on only two major factors, namely nutrition and breed improvement.

#### *Livestock rehabilitation programme.*

The main objective of the project is to test cattle covering the three Divisions (Northern, Western and Central & Eastern) in order to reduce the level of bovine tuberculosis infection from 1.44% to 0.01% thereby increasing the number of confirmed Free (CF) and Provisional Clear (PC) farms, and at the same time, reducing the Restricted (R) and Infected farms (IF) in the next five years.

#### *Smallholder sheep programme.*

The smallholder sheep industry development project is designed to stimulate the growth of the local sheep industry through upgrading the local breed called Fiji Fantastic and the implementation of an assistance programme aimed at promoting the development of the smallholder sheep farmers throughout the country.



## ***SUPPORT SERVICE PROGRAMME***

### **5.4 Administration & Finance Division**

#### **Responsibility:**

- Deputy Secretary Corporate Service and Planning
- Director Human Resource and Finance

#### **Objective**

Provide an enabling environment that supports the achievements of the department objectives.

#### **Programme Overview:**

The administration and finance division supports the work of the department, the office of the Permanent Secretary, as well as the administration and financial management programme. Collectively this division provides strategic leadership and overall management of the department. The Director Human Resource and Finance has the responsibility to oversee and monitor the performance of the department against the stated strategic

#### **PLANNED BUDGET**

General Administration

<b><i>Sub programme</i></b>	<b><i>2009</i></b>	<b><i>2010</i></b>	<b><i>2011</i></b>	<b><i>2012</i></b>
1.Tutu Training	250,000	350,000	0	0
2.CIDA	1,300,000	1,000,000	7,466,600	6,236,600
3.AMA	1,750,000	1,000,000	0	0

#### ***Tutu Training Centre***

On the agriculture training needs, Tutu training Centre is focused its education and training programmes to train youth groups to enter into commercial farming agriculture rather than on training of public service positions in that regard, Tutu Training Centre it should be involved more in providing non-formal training to school drop outs and adult youth group of the nation, therefore they are able to develop appropriate technology to meet the national need.

#### ***Coconut Industry Development Authority***

CIDA's mission of revitalizing the coconut industry and providing sound research and extension services will be undertaken through out the coconut growing areas in close liaison with the CPPAs. This is to ensure sustainable commercial resource levels, enabling farmers to benefit from economies of scale, partake more in coconut-based economic activities, and increase real income in the process. Activities will be continued on the Vanua Levu & Viti Levu main land and Taveuni and similar activities in the Eastern division subjected to the availability of funds.

#### ***Agriculture Marketing Authority***



AMA will provide marketing access for farming communities not reached by other traders. Private sector has been limiting its service to selected areas whereby people, producers living in inaccessible areas were not been served as complained by private sector as uneconomical areas. AMA will facilitate its operation to serve the inaccessible areas not served by private sector. This is a social obligation that government bestowed on AMA.

## **5.5 Economic Planning & Statistics Division**

### **Objective**

Provide necessary information for developing and monitoring the agriculture sector.

### **Division's Outcome:**

- Clear sectoral industry plan
- Policy advise
- Monitoring and Evaluation of capital projects

### **Output**

- Establish industry problems and needs with stakeholders
- Updating agriculture data base and benchmarking;
  - ✓ Market information;
  - ✓ tikina base profile;
  - ✓ argiculture census
  - ✓ farm management
  - ✓ Information system.
- Provide, prepare and review policy papers,
- Prepare industry and commodity plans.
- Compile corporate plan & business plan for the ministry.
- To coordinate and facilitate the training of staff in:
  - ✓ marketing,
  - ✓ project planning,
  - ✓ monitoring,
- coordinate export promotion and import substitution projects
- evaluation and report writing;
- appraisal and compilation of all agricultural projects
- Review and ensure compliance with monitoring format.
- Reporting progress and achievements in monthly, quarterly and annual reports.
- facilitate secretariat for Codex
- facilitate secretariat for foreign donor on agriculture projects
- Dissemination of information related to technical assistance and project funding
- Establish, maintain and strengthen linkages with International Agencies

### **Programme Overview:**

The Economic Planning and Statistic Division efforts are aimed at ensuring that the above strategic objectives of the Government are maintained through provision of appropriate policy advice, provision of marketing information, effective project formulation and evaluation and collection of reliable agricultural statistic. More efforts need to be directed at our policy monitoring and evaluation. All units will set their focus for this year on the strategic target areas of the division, that we all achieve the outputs set out for. The division holds an important role to coordinate major projects implemented by the Department, geared towards quick economic recovery, which is a priority goal, entrusted to the interim government in the president's mandate.

## PLANNED BUDGET

Economic Planning & Statistics

<i>Sub programme</i>	<i>2009</i>	<i>2010</i>	<i>2011</i>	<i>2012</i>
1.Agriculture Census	1,500,000	400,000	0	0
2.Rural and Outer Island	2,500,000	1,500,000	0	0

### *National Agriculture Census*

On going Agriculture Statistics Programme aims to strengthen the Fiji Agriculture Statistics unit through the use of dynamic statistical operation of collecting timely, reliable and consistent agriculture data on quarterly, half yearly and annual basis using recommended methodologies.

### *Rural and Outer Island*

The objective of the project is to help Government design an effective investment programme to improve earning opportunities hence reduce economic disparities in the rural and outer islands comprising of Cakaudrove and Bua provinces, the eastern and rural areas of the central division in Fiji Islands

## 5.6 Quarantine Division

### **Objective**

The Quarantine & Inspection Services Division has a legally binding responsibility aimed at the protection of Fiji's Animal and Plant resources including the environment from the introduction and spread of pests/diseases as stipulated in the Plant Quarantine Act Cap 156 and Animal Quarantine Act Cap 159 which will be replaced by Bio Security Law 2008.

### **Division's Outcome:**

- Policy and Legislation
- Administration and Support Services.
- Human Resource Development
- Monitoring and Surveillance
- Border Operation
- Post Border Operation
- Import Risk Analysis
- Emergency Response Plan (ERP)
- Bilateral Quarantine Agreement
- Technical Facilitation
- Market Access

## Output

- Training and consultation on Biosecurity Law
- Adoption of Biosecurity Information Facility (BIF).
- Review of Quarantine Fees & Charges
- Strengthen Fiji's membership status and contribution to regional and international level
- Strengthen of Export facilitation Capacity.
- Monitoring and Evaluation of capital Projects
- Timely obtainment of Quotations and Tender board submissions
- Collection of revenue from service fees and charges
- Maintain and review of OHS Compliance of workplace, system Protective clothing and Equipment.
- Strengthen MIS to develop Database
- Conveyance Clearance
- Passenger and Crew and Baggage Clearance
- Mail and Parcel Screening Import Inspection and clearance
- Supervision and Conducting of Quarantine Treatment for Import consignments
- Post Entry Quarantine
- General Surveillance Import Permit and Conditions
- Screening and verification of applications
- Issuance of import permit
- Auditing of Biosecurity approved premises
- Review existing ERP
- Grower Registration
- Pack house Registration and verification
- Licensing – Issuance of new export license  
✓ Renewal of export license
- Pack house & HTFA Auditing
- Application of Quarantine treatment for export Consignment.
- Carry out inspection on all agricultural Commodities/ timber for export
- Certification – Issue of commercial and Personnel phytosanitary certificates
- Entering into BQA with US and Taiwan.Pursue with the bilateral market access with USA on pawpaw and breadfruit.
- Pursue with the ongoing market access of fresh ginger into Australia and cut flowers and foliage to New Zealand
- Pursue with market access to Tuvalu.
- Fruit fly surveillance and trapping
- Pest and Diseases survey
- Quarantine Awareness
- Upgrading and maintaining of Quarantine website.
- Development of internal Network system
- Consult with other Border Security Agencies and provide funds to print 100,000 Arrival cards.

### Programme Overview:

Quarantine is our frontline defense in an effort to protect Fiji from threats that can destroy Fiji's agricultural industry and others that are harmful to humans and animal. The department has a critical role to play in Fiji's agricultural export earnings. It is important for Fiji's economy not only to earn revenue from exports but also to be able to sustain food security and food safety for our people. While concentrating on export access, the department is also vigilant in screening the country's borders from damaging diseases and pest from imports. The department works on

improving the current facilities and improves the manpower to affectively monitor the bio-security threats to the nation

## **PLANNED BUDGET**

### Quarantine services

<i>Sub programme</i>	<i>2009</i>	<i>2010</i>	<i>2011</i>	<i>2012</i>
1. Upgrading Bio security facilities.	350,000	450,000	1,812,369	1,439,265
2. BQA.	150,000	150,000	262,500	315,000
3. Quarantine awareness	25,000	50,000	120,000	150,000
4. Quarantine monitoring and surveillance	150,000	380,620	300,000	350,000

#### *Upgrading Bio security facilities*

The project involves improvement of quarantine infrastructure to facilitate the quarantine of animals in transit and imported animals. Part of these facilities is for animal containment and control which will contribute to the eradication of any major pest and disease outbreak.

#### *Bilateral Quarantine Agreement*

Bilateral Quarantine Agreement is a Trade facilitation project meant to support the export of agricultural commodities (root crops, fruits and vegetables). Funds will be utilised in the areas of trade negotiations with the future outlook of expanding the agriculture commodity export base and addressing issues of concern with regards to agriculture trade conditions.

#### *Quarantine Awareness*

The projects involves the creation of Quarantine Awareness to the public at large on quarantine procedures and regulation with respect to importation and exportation of plants and animals into the country, The funding is to cater for the increasing coverage of awareness of export quality standards and the development of appropriate post border control to increase quality and quantity of export through media promotions, and training programmes on quarantine requirements.

#### *Quarantine monitoring and Surveillance*

Project components involve risk off shore (overseas) inspection, risk assessment and audit of import commodities from high risk counties to avoid entry of diseases and pest in Fiji. Assesment of all incoming vessel, cargoes, mails and travelling passengers encompassing boarding, screening, inspection and supervision of all international arrivals and inspection of produce and certification , pest and diseases surveillance.

## 5.7 Land & Water Resource Management

### Objective

The Land and Water Resource Management Division provide technical support services to develop and sustain land improved for agriculture. Water resource development and management is also undertaken to improve crop yield.. The core objective of the division is to facilitate sustainable use of agricultural land and water resources through effective engineering services. Its role also extends to adaptation measures to reduce the risk and vulnerability of flooding for enhancement of production on agricultural land.

### Division's Outcome:

- Flood Protection
- Land Drainage
- Irrigation services
- Watershed Management

### Output

- River Dredging
  - ✓ Nadi River
  - ✓ Rewa River
  - ✓ Ba Rive
  - ✓ Labasa River
  - ✓ Wailevu River
  - ✓ Sigatoka River
- River Bank Protection
  - ✓ Nadi River
  - ✓ Rewa River
  - ✓ Ba River
  - ✓ Labasa River
  - ✓ Sigatoka River
- Environment Impact Assessment
  - ✓ Rewa River EIA
  - ✓ Ba River EIA
- Land Drainage
  - ✓ Central Division- Maintenance of infrastructures
  - ✓ Western Division- Maintenance of infrastructures
  - ✓ Northern Division-Maintenance of infrastructures
- Irrigation
  - ✓ Northern Division-Maintenance of irrigation projects in Dreketi and Bua areas
- Watersheds
  - ✓ Construction retention weir dams
  - ✓ Installation of irrigation infrastructure

### Programme Overview:

Mismanagement of land and water resources is gradually resulting in the depletion of the nation's resources. Indiscriminate utilization of these scarce resources will have serious impacts to the fragile economy as well. These issues need to be addressed with both long and short-term measures to ensure development and management of these resources in a sustainable manner. Projected impacts of climate change and sea level rise will negatively impact on agriculture and food security, thus the need for implementation of adaptation measures to cope with or improve adaptive capacity and resilience to its adverse impacts.

The activities in 2010 will involve river dredging in the Central, Western and Northern Division. Land drainage network and infrastructure rehabilitation for the Central, Western and Labasa Drainage Board, development and maintenance of irrigation schemes in Central, Western and Northern Divisions. The Watershed management program will continue with the construction of more dams and installation of irrigation facilities and infrastructure within the Nadi River Basin. The investigations under this activity will be expanded into the Ba and Labasa Watersheds.

### PLANNED BUDGET

Land & Water Resource Management

<i>Sub programme</i>	<i>2009</i>	<i>2010</i>	<i>2011</i>	<i>2012</i>
Maintenance of completed Irrigation Schemes	250,000	300,000	na	na
Land Drainage & Flood Protection.	6,000,000	6,000,000	na	na
Watershed management	2,000,000	800,000	na	na
Drainage subsidy	8,750,000	1,600,000	na	na

#### *Maintenance of completed Irrigation Schemes*

Project involves the maintenance of completed irrigation schemes in Central (Navua) and Northern division (Dreketi, Nasarawaqa, Korokadi, Lekutu, Boroboro) which were established some 30years ago for an estimated of \$10.7million benefitting approximately 900 farmer families. The total acreage under the irrigation schemes is estimated 1,829ha and the project will continue the normal distilling works, repairs to flood gate crossing, construct new drain outlets, bund repairs and headwork maintenance.

#### *Land Drainage & Flood Protection<sup>17</sup>.*

The overall objective of the programme is to reduce the risk and vulnerability of flooding. The outcome is to mitigate flood damages in the agriculture and other sectors of the economy to promote sustainable development and improvement of the livelihood of rural communities.

The project involves the dredging of three major rivers Nadi River, Labasa River and Rewa River to reduce the threat of flooding and flood damage to properties, farms and infrastructure.

<sup>17</sup> Refer to Appendix 3- LWRM's Land Drainage and Flood Protection development plan proposal 2009-2012. The four (4) year plan addresses critical areas in flood mitigation and protection measures.

### *Watershed management*

Damages caused by severe soil erosion are costly to rehabilitate within the watershed to maintain sustainable environment reducing river/coastal sedimentation and flooding. The project aims to tackle majority of the land that are communally owned and are now currently suffering from mismanagement. The project will involve the construction of retention dams at critical areas to control the peak flow of flood waters there by reducing the volume of water down stream and consequently minimize flooding.

### *Drainage subsidy*

The objective of the programme is to improve and sustain developed land for crop production. Total of 29,000 hectares of land have been improved in the Central, Western and Northern Division. The activities involve drainage network maintenance and rehabilitation of infrastructure, agricultural land development in Cakaudrove and Sigatoka in support of crop diversification in the sugar areas, food security and export promotion commodities

## **5.8 Land Resource Planning and Development**

### **Objective**

Land is scarce resource in Fiji and access to Land is a prerequisite for any development. With the current supply of land there is a need to ensure proper management of planning of land use to ensure efficient utilization. The general objective of this programme is to provide of quality and timely advice to the management and our partners on optimum land utilization techniques, to strengthen and accelerate participation and adoption of Sustainable agricultural systems for all stakeholders. Ensuring sustainable land and water utilization and management practices and accelerate the generation and use of appropriate and innovative technology.

### **Division's Outcome:**

- Resettlement
- Farming Assistance Scheme
- Infrastructure Development
- General Advisory Services
- Land Use Planning
- Farm management

### **Output**

- Farmers visited during the year
- Farmers Training
- Road Up-Grading
- Desilting Drains
- Repair Submersible Pump
- Repair underground pipe
- Creek- Resectioning
- Check water distribution
- Re-Definition 15 lots
- Navovo Resettlement
- Vunibicibici Resettlement
- SLM community awareness
- Farm management training

### **Programme Overview:**

The department of Land Resources Planning & Development is committed to sustain the agricultural productivity of the nation by addressing the ALTA lease expiry issues and promoting

the farm improvement scheme. The coordination of sustainable development and management of Fiji's land resources is a core component of the department's activities. The department administers the Rural Farming Scheme for low-income earners for their improvement in farm production. The management of the Farming Assistance Scheme assists all expired ALTA tenants who wish to continue farming and new indigenous farmers wishing to take up farming on expired leases. All incoming indigenous farmers and outgoing tenants are entitled to a maximum of \$10,000 assistance for resettlement or establishment costs provided as a grant by the government for a smooth transition. The Department is also responsible for the resettlement of evicted tenants on farm lots developed by it.

## PLANNED BUDGET

### Land Resources Planning and Development

<i>Sub programme</i>	<i>2009</i>	<i>2010</i>	<i>2011</i>	<i>2012</i>
1. Infrastructure Development & Land Resettlement	200,000	100,000	na	na
2. Resettlement of Displaced Tenants	4,000,000	2,200,000	na	na
3. Sustainable Land Management (UNDP/GEF funded)	US \$125,000	US \$125,000	US \$125,000	

#### *Infrastructure Development & Land Resettlement*

The projects involves the maintenance works in Vunibicibici, Navovo, Raiwaqa II and Navudi, Engineering surveying and valuation of new areas for development to resettled ex ALTA tenants. A total of 7 freehold properties and 1 leased native land amounting to some 3172. Approximately 217 lots have been developed to date.

#### *Resettlement of Displaced Tenants*

The project involves the provision of \$15,000 as a maximum allowable assistance to outgoing and incoming ALTA tenants to help them establish and continue sugar planting or to diversify to other crops. The programme is crucial in view of the expiring land leases in the Sugar sector which would significant impact our productivity in future, the expiring of ALTA lease will continue until 2028.

#### *Sustainable Land Management*

The project aims to bring about awareness and educate the nations land administrators and users on better land use management technologies. Most of the country's developments occur on sloping lands with unsustainable practices leading to the destruction of ecosystem functionality and integrity affecting food security and sustainable farm economies thus living standard of rural population deteriorates. It will provide support for sustainable land management technologies to minimize land degradation problems;



## 5.9 Fiji College of Agriculture

### Objective

- To provide the appropriate facilities and support services to effectively implement the course programme delivered at FCA.
- To provide the capacity for the college to expand and accommodate needs for in service training through formal, non-formal technical and management courses for DOA staff in line with Human Resources development Plan for the year 2010 and beyond.

### Division's Outcome:

- Effective Transfer of Agricultural Knowledge & Technologies.

### Output

- Consultation with stakeholders and identify needs and roles
- Establish relevance and adequacy of curriculum, relative courses, infrastructure and manpower.
- Knowledge transfer on;
  - ✓ Farm Management,
  - ✓ Marketing,
  - ✓ Extension,
  - ✓ Crop Production,
  - ✓ Soil Science,
  - ✓ Plant Protection,
  - ✓ Livestock Production,
  - ✓ Animal Health,
  - ✓ Agricultural Engineering,
  - ✓ Farm Visits/Tour,
  - ✓ Farm Practical,
  - ✓ Field Attachment,
- Monitoring through Continuous Student Assessment and Staff Evaluation.
- Student Counseling and Staff Performance Appraisal

### Programme Overview:

The Fiji College of Agriculture plays an important role in the provision of the Human Resource needs for the agriculture sector. Over the years the project has been done at the college peace meal basis in regards to the maintenance and improvement of the college facilities and as expected there have always been room for improvement to bring it to the standard required for such a higher learning institution as FCA.

### PLANNED BUDGET

FCA

<i>Sub programme</i>	<i>2009</i>	<i>2010</i>	<i>2011</i>	<i>2012</i>
1.Upgrading of FCA	300,000	500,000	285,000	25,000

#### *Upgrading of FCA facilities*

The projects goal is to upgrade the college facilities to a more appropriate learning environment offering a wider scope for education and training that would meet national needs.

## 6.0 SUMMARY: KEY PERFORMANCE AREAS 2010-2012

### 6.1 IMPORT REDUCTION TARGETS

Commodity	3 yr Target	Strategies		
		2010	2011	2012
<p><b>Dairy Intervention approach<sup>18</sup></b></p> <p><i>With the current strategies in place the target set will be achieved within the timeframe (2010-2012)</i></p>	<ul style="list-style-type: none"> <li>Reduce dairy import by \$16 m.</li> <li>Produce 37m liters of milk valued at \$18.5m</li> <li>Develop 6,000ha improved pasture.</li> <li>Importation of 6,000 milking cows over 3 years</li> </ul> <p>Costs-</p> <ul style="list-style-type: none"> <li>Total cost of Importation \$32m @ AU\$3,000 av. (FJ\$ 5357) landed cost for each animal</li> <li>Total cost \$26.6m (exclude cost of acquisition of land)</li> </ul> <p><i>Under the proposed strategy a total 37 million litres of extra milk would be produced valued at \$18m by 2012</i></p> <p><i>*At the end of the year 2015, all 6,000 cows would have reached their maximum production potential of 15.0 litres milk/cow/day producing in excess of about 30.0M litres of milk annually.</i></p>	<ul style="list-style-type: none"> <li>Import first batch of 2,400 impregnated heifers (Jan).</li> <li>Average production / cow for the first batch is 9 liter /day.</li> <li>Lactation days -210 days in the first year and 60 days into 2011 giving a yield of 4.5 million liters of milk for the first year value at \$2.48m @ \$0.55/liters</li> <li>2,400 ha needed for 2,400 cows, average carrying capacity of local pasture is 1 cattle /ha</li> </ul> <p><b>Cost:</b></p> <ul style="list-style-type: none"> <li>Landed Cost of importation for 2400 heifers is AU\$7.2m CIF@ \$3,000 per animal or FJ\$12.9 m.</li> <li>Pasture Improvement - 2400 ha @ \$1500/ha- \$3.6m</li> <li>Supplementary feed -2000tons@ \$840 - \$1.68m.</li> </ul> <p>✓ Import cost (CIF) \$12.9 m</p> <p>✓ Production Cost- \$5.28</p> <p>Total Costs : \$18.18m</p> <p>BCR = 0.14</p>	<ul style="list-style-type: none"> <li>Import second batch of 2,400 impregnated heifers (Jan).</li> <li>Lactation days for first batch who have their first calving continues for another 60 days</li> <li>Production from the first batch t second calving will increase to 10.5litres/cow/day.</li> <li>Second batch start calving in may and continue lactation for 210 and another 60 days in 2012</li> <li>A total of 11.7million litres of extra milk at a value of \$6.4m will be produced this year.</li> <li>Additional 2,400 ha needed for 2,400 additional cows,</li> </ul> <p><b>Cost:</b></p> <ul style="list-style-type: none"> <li>Landed Cost of importation for 2400 heifers is AU\$7.2m CIF@ \$3,000 per animal – equivalent to FJ\$12.9 m.</li> <li>Pasture Improvement - 2400 ha@ \$1500 /ha - \$3.6m</li> <li>Supplementary feed - 2000tons@ \$840 - \$1.68m.</li> </ul> <p>✓ Import cost (CIF) \$12.9 m</p> <p>✓ Production Cost- \$5.2</p> <p>Total Costs : \$18.18m</p> <p>BCR = 0.14</p>	<ul style="list-style-type: none"> <li>Import third batch of 1,200 impregnated heifers (Jan).</li> <li>1<sup>st</sup> Batch cows in 2<sup>nd</sup> calving lactate for another 3 months, dry off for a month and join milking herd for another 240 days during the year</li> <li>1<sup>st</sup> batch reach maximum potential of 15litres/cow/day</li> <li>2<sup>nd</sup> batch of cows which are in their 2<sup>nd</sup> calving phase continue lactating for 240 days in the 2<sup>nd</sup> year</li> <li>Production from the 2<sup>nd</sup> Batch of cows that are in their 2<sup>nd</sup> calving will increase to 10.5 litres/cow/day</li> <li>Third batch will start calving in may and continue lactation for 210 days @ 9Liters/cow/day</li> <li>A total of 12.2m liters of extra milk valued at \$10.3m.</li> </ul> <p><b>Cost:</b></p> <ul style="list-style-type: none"> <li>Additional 1,200 ha needed for 1,200 cows,</li> <li>Landed Cost of importation heifers is AU\$3.6m CIF@ \$3,000 per animal, equivalent to \$FJ6.45m</li> <li>Pasture Improvement - 1200 ha - \$1.8m @ \$1500 /ha</li> <li>Supplementary feed \$800,000</li> </ul> <p>✓ Import cost (CIF) \$6.45 m</p> <p>✓ Production Cost- \$2.6</p> <p>Total Costs : \$9.05</p> <p>BCR = 1.14</p>

<sup>18</sup> Refer to appendix 4 - AH&P Import Reduction Strategies for Dairy 2009

<p><b>Potato</b></p>	<ul style="list-style-type: none"> <li>• Reduce potato import by \$16 m</li> <li>• Plant 1326ha</li> <li>• Total cost \$5m</li> </ul>	<ul style="list-style-type: none"> <li>• Reduce Approx \$5.3 million imports per year</li> <li>• Production/ yr = 5,300 tons of Potatoes</li> <li>• 442 ha needed to plant to harvest 5,300 tons per year</li> <li>• Cost to prepare 442ha is \$ 94,588</li> <li>• 663 tons of seeds costing \$530,400</li> <li>• 1342.6 mt of Urea &amp; NPK costing \$165,308 and if Poultry manure is used than additional cost of \$ 442,000</li> <li>• Weedicides - \$ 23,868</li> <li>• Pesticide - \$ 9,341</li> <li>• 5 Tractor and Implements for \$0.4m</li> </ul> <p><i>Production Input - \$1,265,505</i> <i>Investment \$400,000</i></p> <p>Total \$1,665,505 CBR = 3.2</p> <p><i>Potato being a new commodity a lot of technical support will be needed by farmer. Staff and farmer trainings have to organized to ensure optimum production is achieved</i></p>	<ul style="list-style-type: none"> <li>• Reduce Approx \$5.3 million imports per year</li> <li>• Production/ yr = 5,300 tons of Potatoes</li> <li>• 442 ha needed to plant to harvest 5,300 tons per year</li> <li>• Cost to prepare 442ha is \$ 94,588</li> <li>• 663 tons of seeds costing \$530,400</li> <li>• 1342.6 mt of Urea &amp; NPK costing \$165,308 and if Poultry manure is used than additional cost of \$ 442,000</li> <li>• Weedicides - \$ 23,868</li> <li>• Pesticide - \$ 9,341</li> <li>• 5 Tractor and Implements for \$0.4m</li> </ul> <p><i>Production Input - \$1,265,505</i> <i>Investment \$ 400,000</i></p> <p>Total 1,665,505 CBR = 3.2</p>	<ul style="list-style-type: none"> <li>• Reduce Approx \$5.3 million imports per year</li> <li>• Production/ yr = 5,300 tons of Potatoes</li> <li>• 442 ha needed to plant to harvest 5,300 tons per year</li> <li>• Cost to prepare 442ha is \$ 94,588</li> <li>• 663 tons of seeds costing \$530,400</li> <li>• 1342.6 mt of Urea &amp; NPK costing\$165,308</li> <li>• and if Poultry manure is used than additional cost of \$ 442,000</li> <li>• Weedicides - \$ 23,868</li> <li>• Pesticide - \$ 9,341</li> <li>• 5 Tractor and Implements for \$0.4m</li> </ul> <p><i>Production Input - \$1,265,505</i> <i>Investment \$ 400,000</i></p> <p>Total \$1,665,505 CBR = 3.2</p>
<p><b>Rice</b></p>	<ul style="list-style-type: none"> <li>• Reduce Rice import by \$35m</li> <li>• Produce 43,500mt</li> <li>• Plant 10,000ha</li> <li>• Total cost \$15m</li> </ul>	<ul style="list-style-type: none"> <li>• \$11.6 million = 14,500 tons of rice</li> <li>• 3,222ha needed to plant/harvest 14,500 tons of rice/year</li> <li>• Cost to prepare 7,962 acres = \$773,280</li> <li>• Amount of seed required = 96,660kg seeds</li> <li>• Cost of seed = \$45,430</li> <li>• Amount of fertilizer required = 375,363kg</li> <li>• Cost of fertilizer = \$508,141</li> </ul>	<ul style="list-style-type: none"> <li>• 3,222ha needed to plant/harvest 14,500 tons of rice/year</li> <li>• Cost to prepare 7,962 acres = \$773,280</li> <li>• Amount of seed required = 96,660kg seeds</li> <li>• Cost of seed = \$45,430</li> <li>• Amount of fertilizer required = 375,363kg</li> <li>• Cost of fertilizer = \$508,141</li> <li>• Other Expenses</li> <li>• Seed Bed &amp; Transplanting = \$1,031,040</li> <li>• Weed = \$964,409</li> <li>• Insect = \$975,396</li> <li>• Fertilizer Labor = \$32,220</li> </ul>	<ul style="list-style-type: none"> <li>• 3,222ha needed to plant/harvest 14,500 tons of rice/year</li> <li>• Cost to prepare 7,962 acres = \$773,280</li> <li>• Amount of seed required = 96,660kg seeds</li> <li>• Cost of seed = \$45,430</li> <li>• Amount of fertilizer required = 375,363kg</li> <li>• Cost of fertilizer = \$508,141</li> <li>• Other Expenses</li> <li>• Seed Bed &amp; Transplanting = \$1,031,040</li> <li>• Weed = \$964,409</li> <li>• Insect = \$975,396</li> </ul>

		<ul style="list-style-type: none"> <li>• Other Expenses</li> <li>• Seed Bed &amp; Transplanting = \$1,031,040</li> <li>• Weed = \$964,409</li> <li>• Insect = \$975,396</li> <li>• Fertilizer Labor = \$32,220</li> <li>• Harvesting &amp; Post Harvesting = \$708,840</li> </ul> <p>Total cost per year = \$5,038,756</p>	<ul style="list-style-type: none"> <li>• Harvesting &amp; Post Harvesting = \$708,840</li> </ul> <p>Total cost per year = \$5,038,756</p>	<ul style="list-style-type: none"> <li>• Fertilizer Labor = \$32,220</li> <li>• Harvesting &amp; Post Harvesting = \$708,840</li> </ul> <p>Total cost per year = \$5,038,756</p>
<p><b>Beef Concerted approach<sup>19</sup></b></p> <p><i>With the current strategies in place the target set will be achieved within the timeframe (2010-2012)</i></p>	<ul style="list-style-type: none"> <li>• Reduce beef imports by \$7 m over 3 yrs</li> <li>• Reduce Approx \$2.3 million per yr</li> <li>• \$2.3 million= 583.33 tons of beef</li> <li>• A total of 2,385 prime steers would be need to achieve this or 795 animals per year over three years</li> <li>• Concerted effort to capture all unwanted/surplus bull calves from dairy industry for grazing and fattening in a semi feedlot system for beef production</li> <li>• Corresponded to Dairy import reduction strategy it is expected that a total of 15,600 beef animal will be available from dairy industry by end of 2012 this includes 5,520 bobby calves, 5520 year two steers and 4,560 year three steers.</li> <li>• Total cost \$16.05m</li> </ul>	<ul style="list-style-type: none"> <li>• Surplus bull calves 960 born from imported cows and 3,600 from other dairy farms will be collected and reared on selected rearing farms.</li> <li>• Animal will reach a body weight of 125kg by end of 2010</li> <li>• Live weight value (on-hoof) for these animal \$1m</li> </ul> <p><b>Cost :</b></p> <ul style="list-style-type: none"> <li>• 2166 Ha of improved pasture is required.</li> <li>• Cost of Pasture improvement of ha -\$3.25m @ \$1500/ha</li> <li>• Cost of Encalf Milk (10400 bags @ \$105.72) - \$1.01m.</li> <li>• Cost of Formulated Feed (1333 tons @ \$820 /ton)- \$1.09m</li> </ul> <p>Total Production Cost – \$5.35m</p> <p>❖ <i>No animal will be slaughtered this year</i></p>	<ul style="list-style-type: none"> <li>• Surplus bull calves 1,920 born from imported cows and 3,600 from other dairy farms will be collected and reared on selected rearing farms.</li> <li>• Animal will reach a body weight of 307kg by end of 2011</li> <li>• Combined Live weight value (on-hoof) for these animal \$2.5m</li> </ul> <p><b>Cost :</b></p> <ul style="list-style-type: none"> <li>• 2166 Ha of improved pasture is required.</li> <li>• Cost of Pasture improvement of 1,192 ha - \$3.25m @ \$1500/ha</li> <li>• Cost of Encalf Milk (10400 bags @ \$105.72) - \$1.01m.</li> <li>• Cost of Formulated Feed (1333 tons @ \$820 /ton)- \$1.09m</li> </ul> <p>Total Production Cost – \$5.35m</p> <p>❖ <i>No animal will be slaughtered this year</i></p>	<ul style="list-style-type: none"> <li>• Another 1,920 born from imported cows and 3,600 will joined the initial herd of the previous.</li> <li>• Animal will reach a body weight of 307kg by end of 2011</li> <li>• Combined Live weight value (on-hoof) for these animal \$3.35m</li> <li>• All year 2010 animals i.e. steer III (4,560) will reach slaughter weight of around 500kg and will be slaughtered during the middle of year producing average carcass weight of 245kg per steer.</li> <li>• Total carcasses adds up to 1,117tonnes @ a price of \$12/kg valued at \$13.4m</li> </ul> <p><b>Cost :</b></p> <ul style="list-style-type: none"> <li>• 2166 Ha of improved pasture is required.</li> <li>• Cost of Pasture improvement of 1,192 ha -\$3.25m @ \$1500/ha</li> <li>• Cost of Encalf Milk (10400 bags @ \$105.72) - \$1.01m.</li> <li>• Cost of Formulated Feed (1333 tons @ \$820 /ton)- \$1.09m</li> </ul> <p>Total Production Cost – \$5.35m</p>

<sup>19</sup> Refer to appendix 4- AH&P Import Reduction Strategy for Beef 2009 , A concerted approach with Dairy industry

<p><b>Sheep Grand National Approach<sup>20</sup></b></p> <p>This sheep “Fiji Fantastic®” breed is special for Fiji one that can survive the tropical climate</p> <p><i>Due to insufficient number of female stock, it is not possible to achieve this target within the three year time period. With the efficient implementation of the strategies outlined, the set target will only be achieved in the year 2015.</i></p>	<ul style="list-style-type: none"> <li>• Reduce Lamb/mutton import by \$10m</li> <li>• Reduce approx \$3.3 m per yr</li> <li>• \$3.3m =275 tons of sheep meat</li> <li>• To achieve this target approximately 25,000 sheep (prime quality) is needed annually.</li> <li>• This will require a breeding herd of at least 83,065 (79,870 Ewes and 3,195 breeding Rams).</li> <li>• Current sheep population 13,000 with a ewe population of 7550.</li> <li>• A ‘Grand National Approach’ whereby all ewes around the country will be maintained for a period of three years to build stock.</li> <li>• Government policy to restrict slaughtering of ewe less than 5 years old</li> </ul> <p><b>Cost</b></p> <ul style="list-style-type: none"> <li>• Land -Total acreage 11210ha (3,737ha annually)</li> <li>• Total cost of pasture Improvement - \$12.33m</li> <li>• Supplementary Feed-\$2.98m.</li> <li>• Infrastructure Development – \$5.5 m</li> </ul> <p>Total Cost \$20.81 (for three years)</p>	<p><b>Rearing and Multiplication</b></p> <ul style="list-style-type: none"> <li>• Total of 7,550 ewes will be selected around the country</li> <li>• Selected ewes will stay on their original farms as these farms will be classed as host farms.</li> <li>• Established host farms for multiplication centers.</li> <li>• Gear farms to practice off season breeding.</li> <li>• A total of 8,022 sheep will be slaughtered with an estimated carcass weight of 96.2 6 tonnes</li> <li>• Total estimated value of the carcass is around \$998,865 @ \$12.00 per Kg</li> </ul>	<ul style="list-style-type: none"> <li>• All host farm to continue maintaining their ewe population whilst practicing combination of seasonal &amp; off season mating.</li> <li>• Strategies to put in place to maintain a minimum stock of 100 ewes on all host farms.</li> <li>• A total of 15,207 is estimated to be slaughtered with an estimated carcass value of \$1,824,801</li> </ul>	<ul style="list-style-type: none"> <li>• Host farms continue seasonal &amp; off- seasonal mating in order to maintain ewe population</li> <li>• Ewe to Ram ratio will be maintained at 1:25</li> <li>• In order to maintain good genetics and to avoid inbreeding, the breeding Rams will be culled every five years. The replacement stock will be through exchange scheme in between host farms.</li> <li>• Ewes will be culled in their eight lambing phase.</li> <li>• By end of 2012 the total ewe population would be around 21,396; however it will not be sufficient to sustain the programmed 25,000 slaughter annually.</li> <li>• A total of 257.17tnnes of local lamb worth \$2,830,723 will be produced during the year 2012</li> </ul>
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(Source: EP&S Import Reduction Analysis 2009)

<sup>20</sup> Refer to appendix 4- AH&P Import Reduction Strategy for Sheep 2009

## 6.2 EXPORT PROMOTION TARGETS

Commodity	3 year Targets	2010	2011	2012
<b>Root crop development programme (Dalo Cassava)</b>	<p>Increase production for export commodities by 30%</p> <ul style="list-style-type: none"> <li>• Increase number of farmer groups particularly in the rural areas.</li> <li>• Farmer training in technical farming management.</li> <li>• Address pest and diseases</li> </ul>	<ul style="list-style-type: none"> <li>• Dalo production to increase from 74,000-74,025 tonnes</li> <li>• Increase dalo planting (from 1143 to 1239ha)</li> <li>• Phase planting coordination in farmer groups.</li> <li>• Increase consultation between exportation and farmer groups.</li> <li>• Increase assistance to farmer groups.</li> <li>• Increase planting by 10-15% to account for loss.</li> <li>• Cassava production to increase from 55,773-56,181 tonnes</li> <li>• Increase cassava planting (from 6137 to 7048ha) particular in Central and Western division.</li> </ul>	<ul style="list-style-type: none"> <li>• Dalo production to increase from 74,025-81,409 tonnes</li> <li>• Increase dalo planting (from 1239 to 1335ha)</li> <li>• Phase planting coordination in farmer groups.</li> <li>• Increase consultation between exportation and farmer groups.</li> <li>• Increase assistance to farmer groups.</li> <li>• Increase planting by 10-15% to account for loss.</li> <li>• Cassava production to increase from 56,181-61,779 tonnes</li> <li>• Increase cassava planting (from 7048 to 7960ha) particular in Central and Western division.</li> </ul>	<ul style="list-style-type: none"> <li>• Dalo production to increase from 81,409-89,550 tonnes</li> <li>• Increase dalo planting (from 1335 to 11432ha)</li> <li>• Phase planting coordination in farmer groups.</li> <li>• Increase consultation between exportation and farmer groups.</li> <li>• Increase assistance to farmer groups.</li> <li>• Increase planting by 10-15% to account for loss.</li> <li>• Cassava production to increase from 61,779 - 67,979tonnes</li> <li>• Increase cassava planting (from 7960-8870ha) particular in Central and Western division.</li> </ul>
<b>Papaya</b>	<p>Increase production for papaya by 30%</p>	<ul style="list-style-type: none"> <li>• Papaya production to increase from 7,265-7,274 tonnes</li> <li>• Increase pawpaw area from 69 to 76ha.</li> </ul>	<ul style="list-style-type: none"> <li>• Papaya production to increase from 7,274-8,000 tonnes</li> <li>• Increase pawpaw area from 76 to 83ha</li> </ul>	<ul style="list-style-type: none"> <li>• Papaya production to increase from 8,000-8,800 tonnes</li> <li>• Increase pawpaw area from 83 to 90ha</li> </ul>
<b>Ginger</b>	<ul style="list-style-type: none"> <li>• Ginger production to increase by 30%</li> <li>• Increase yield per unit area (18-20 tonnes/ha)</li> <li>• Increase area planted from 150ha to 187ha</li> </ul>	<ul style="list-style-type: none"> <li>• Increase immature ginger production for export (from 1,893 to 2,512 tonnes)</li> <li>• Increase area planted from 187ha to 224ha</li> </ul>	<ul style="list-style-type: none"> <li>• Increase immature ginger production for export (from 2,512 to 2,763 tonnes)</li> <li>• Increase area planted from 224ha to 261ha</li> </ul>	<ul style="list-style-type: none"> <li>• Increase immature ginger production for export (from 2,763 to 3,040tonnes)</li> <li>• Increase area planted from 261ha to 298ha</li> </ul>
<b>Kava</b>	<ul style="list-style-type: none"> <li>• Increase Production by 30%</li> <li>• Increase export from 183.4t to 265.9t</li> <li>• Increase in area planted from 889ha to 1,289.5ha.</li> <li>• Increase in the number of farming groups.</li> <li>• Selection of disease free planting materials.</li> <li>• Tissue culture (SPC) and adaption of better husbandry practices.</li> <li>• Subsidised cost of inputs provided to farmer groups.</li> </ul>	<ul style="list-style-type: none"> <li>• Kava production to increase from 3,286-3,506 tonnes</li> <li>• Increase export from 183.4t to 210.9t</li> <li>• Increase in area planted from 889ha to 1,022.5ha.</li> <li>• Increase in the number of farming groups.</li> <li>• Selection of disease free planting materials.</li> <li>• Tissue culture (SPC) and adaption of better husbandry practices. Subsidised cost of inputs provided to farmer groups.</li> </ul>	<ul style="list-style-type: none"> <li>• Kava production from 3,506 tonnes to 3,857tonnes</li> <li>• Increase export from 210.9t to 238.4t</li> <li>• Increase in area planted from 889ha to 1,156ha.</li> <li>• Increase in the number of farming groups.</li> <li>• Selection of disease free planting materials.</li> <li>• Tissue culture (SPC) and adaption of better husbandry practices. Subsidised cost of inputs provided to farmer groups.</li> </ul>	<ul style="list-style-type: none"> <li>• Kava production to increase from 3,587-4,243 tonnes</li> <li>• Increase export from 238.4t to 265.9t</li> <li>• Increase in area planted from 1,156ha to 1,289.5ha.</li> <li>• Increase in the number of farming groups.</li> <li>• Selection of disease free planting materials.</li> <li>• Tissue culture (SPC) and adaption of better husbandry practices. Subsidised cost of inputs provided to farmer groups.</li> </ul>
<b>Other potential commodity:</b> • pineapple, • water melon, citrus	<p>Increase fruit production for exports and local market, particularly Sigatoka valley and Batiri</p> <ul style="list-style-type: none"> <li>• Increase pineapple area from 91 to 127ha</li> <li>• Increase watermelon area from 164 to 263ha.</li> </ul>	<ul style="list-style-type: none"> <li>• Increase pineapple area from 91 to 109ha</li> <li>• Increase watermelon area from 164 to 197ha.</li> </ul>	<ul style="list-style-type: none"> <li>• Increase pineapple area from 109 to 127ha</li> <li>• Increase watermelon area from 197 to 230ha.</li> </ul>	<ul style="list-style-type: none"> <li>• Increase pineapple area from 127 to 145ha</li> <li>• Increase watermelon area from 230 to 263ha.</li> </ul>



## **7.0 OVERVIEW OF PUBLIC ENTITIES**

### *7.1 Agriculture Marketing Authority*

The Agriculture Marketing Authority Act No. 2 of 2004 established AMA to facilitate the purchase, sale and exportation of agro-produce and for related matters. The authority will provide the following service as covered in the AMA Act.

- ✓ Assist the producers of agro-produce in marketing of their products.
- ✓ To identify markets for and to facilitate and develop marketing of agro- produce
- ✓ To purchase, sell and export and import agro-produce or import agro- inputs.

### *7.2 Coconut Industry Development Authority*

The Coconut Industry Development Authority core function is to administer the revitalization and future development of the coconut industry in Fiji with the intended objective to develop the coconut industry in Fiji on an integrated basis in order to achieve increased production of coconut lands in the traditional and plantation areas. To enhance the coconut industry's contribution to the life and economic development of Fiji by rationalization and modernisation of the processing of coconut products.

### *7.3 Yaqara Pastoral Co. Ltd*

Yaqara Pastoral Company Ltd is a 100 percent government owned commercial company under the Ministry of Public Enterprises and Public Sector Reform. For 2010 the main strategy in the Yaqara plan is to slightly reduce cattle numbers and so reduce pressures on pasture and thus increase cattle productivity, in other words fewer but fatter higher yielding cattle, in the next three years. The core of the future business operation in Yaqara will almost certainly remain agricultural in nature, at least in the short and medium term. The price of beef has increased since 2001 from \$ 2.20 per kilo to current \$4.00 per kilo. Yaqara has also maintained its Brand Image as a supplier of good quality beef and beef sold under the Yaqara name commands a premium price in the local market. In the effort to reduce imports on beef there is a need to support the strengthening of our beef industry in Fiji. There is need to make the most of the cattle ranch activity from its total land area at Yaqara (4,785ha) which is 80 % graze able. For the best net revenue return from cattle on this estate the following strategies are being pursued;

- Maintain total cattle number at 4,500 heads with 1,800 breeders. The idea is to produce fatter cattle with greater sale weight dressing out average 230-250kg vs present 225kg.
- Sell 400 heifers and bulls each year to Agriculture and FMIB for breeding and fattening purposes.

### *7.4 Food Processors*

Food Processors (Fiji) Ltd was a former subsidiary of NATCO. Cabinet declared Food Processors (Fiji) Ltd a Government Commercial Company in July 2003 in accordance to the Public Enterprises Act of 1993. This company uses around 60 percent of local ingredients in its final products and is engaged in bottling, canning and vacuum-packed products like tomato, coconut cream, duruka, chestnut, breadfruit, chillies, jackfruit, honey, etc. They have been engaging in processing of local agro produce and venture into product development. While tomato is imported, the rest of the products are grown locally and others wild grown fruit like Ivi, Breadfruit and duruka.

### *7.5 Rewa Co op Dairy Company*

Fiji had imported 89% of its total dairy product consumption. The remaining 11% was locally produced in the Central Division. The potential to further increase milk production in the Central Division beyond the highest milk yield recorded in 1998 of 12.8 million litres supply to RCDC is not an impossible task. This would be possible through the commitment to dairying by farmers supplying whole milk who are completely dependent on milk as a source of income. However, farmers appear to highly value the daily collection at the farm gate and the weekly payments from RCDC for their milk which makes dairy farming a favorable activity. Although RCDC subsidizes the high cost of milk collection from the farms, they perceive the industry as having low risk and sustainable. Currently there are 160 farms from four provinces around the country supplying milk to their processing centers. There are roughly 285 registered dairy farmers in the country, 226 of whom make up the formal sector while 59 make up the informal sector.

## **8.0 DOA PROGRAMME AND OUR DEVELOPMENT PARTNERS**

The agriculture department appreciates the overwhelm support from the international community to address the objectives and facilitates the need of the sector. The Department technically administer twenty (23) aid-funded projects in Fiji. Four projects were completed in December 2008, thirteen are still ongoing and six waiting implementation phase. Our major aid donor is Food and Agriculture Organisation of the United Nation (FAO) funding thirteen projects, followed by the Australian Centre for International Agriculture Research (ACIAR), funds six major research projects. The United Nation Development Programme–Global Environmental Facility (UN/GEF) supported three Sustainable Agriculture practice projects in our Land Use Division.

The total project cost is valued at F\$ 11,404,430.72

### ***8.1 AUSTRALIAN CENTRE FOR INTERNATIONAL AGRICULTURE RESEARCH PROJECTS (ACIAR)***

#### **8.1.1 Policy Options for Improving the Value of Smallholder Agriculture in Fiji.**

To develop a system for measuring and forecasting the magnitude of smallholder subsistence production, consumption, sales and incomes.

#### **8.1.2 Integrated Pest Management in a Sustainable Production System for Brassica Crops in Fiji (IPM).**

Facilitate farm survey on Brassica Crops throughout Fiji to determine parasitism levels in Fiji.

#### **8.1.3 Improving Farming Systems for Managing Soil-borne Pathogens for Ginger in Fiji.**

Focused on improving ginger production systems

#### **8.1.4 Implementation of Breadfruit Study & Xanthosomo.**

Involves research on breadfruit variety.

#### **8.1.5 Taro Dasheen Mosaic Virus.**

Identification of virus combatant



### **8.1.6 Biological Control of Mikania Micrantha in Fiji.**

To increase and support the capacity for weed bio-control in PNG and Fiji.

## **8.2 UNITED NATION DEVELOPMENT PROGRAMME & GLOBAL ENVIRONMENTAL FACILITY PROJECTS (UNDP/GEF).**

### **8.2.1 UNCCD Medium size project -Capacity Building and Mainstreaming of Sustainable Land Management in Fiji.**

Aim is to bring about awareness and educate land administrators and users on better land use management technologies. The Land Use section is the National Focal Point for UNCCD in Fiji. The Government has benefited from financial arrangements through the Global Environment Facility (GEF). The Section submitted two proposals for GEF funding. In 2007, the government of Venezuela provided a US \$2million Grant for the Pacific region to the UNCCD for combating land degradation. Fiji submitted a US\$90,000 project proposal on combating land degradation through the promotion of SLM practice and UNCCD Secretariat approved the project.

### **8.2.2 UNCCD Venezuela grant -Combating Land Degradation in Fiji through the Promotion of Sustainable Land Management Practices.**

In 2007 the Government of Venezuela provided a US\$2million Grant for the Pacific region to the UNCCD for combating land degradation. The Land Use section after submitting its proposal was approved US \$90,000 to commence with activities to combating land degradation in Fiji through the promotion of sustainable land management practices.

### **8.2.3 Environment and Socio Economic Protection in Fiji: Integrated Flood Risk Management in the Nadi River Basin.**

To improve flood preparedness, integrate land, and water management planning within the Nadi basin using integrated water resource management approach. The project will involve formation of Nadi River Basin Catchment Committee which will be empowered to oversee integrated development with the Basin. The project cost US\$500,000 spread for 5 years.

### **8.2.4 Pacific Adaptation to Climate Change**

The principal objective of the PACC is to facilitate the implementation of long-term adaptation measures to increase the resilience of a number of key development sectors in the Pacific island countries. This project would focus on enhancing, and where necessary, developing new drainage design features for drainage networks and infrastructure in lowland farming areas of Fiji. The premise for this project is that the current design of drainage networks is not able to cope with the changes in rainfall regimes and sea-level changes leading to damage by prolonged flooding of cropland and damage to crops. The project cost US\$1m spread over 3 years.

## **8.3 NEW ZEALAND AID (NZ AID)**

### **8.3.1 Supports to Quarantine Services.**

No training or any other support services provided by NZ AID in the 1<sup>st</sup> quarter. Programme suspended by the New Zealand government.

## 9.0 COMPLETED PROJECTS

### 9.1 FOOD AND AGRICULTURE ORGANISATION OF THE UNITED NATION PROJECTS (FAO), CONTINUED ON EXPANSION PHASES.

#### **9.1.1 Regional Programme for Food Security in the Pacific Island Countries (RPFS)**

Under Component one of the Programme – supporting National Activities geared to enhancing production, income generation and import substitution while promoting an improved nutritional status of the population – In Fiji, the RPFS is supporting 3 national projects which are currently being implemented in Fiji as part of extension phase of the RPFS. Projects approved under the RPFS are:

- Rice Revitalization projects [FJD \$131,147];
- Milk and Beef projects [FJD \$154,098]; and
- Chicken and duck/poultry [FJD \$96,360].

### 9.2 EUROPEAN UNION & SECRETARIAT OF THE PACIFIC COMMUNITY

#### **9.2.1 Development of Sustainable Agriculture in the Pacific (DSAP)**

DSAP is a program targeted to ensuring food and incoming security for its target farm families. It is also committed to ensuring that the farming program for farm families is sustainable well after the completion of the project.

### **9.3 PENDING FAO PROJECTS FOR 2009-2012**

1. Potential Indigenous Fruits and Vegetables (Research)
2. BQA – Papaya Development (Quarantine-HTFA)
3. Irrigation Infrastructure for Vegetables (LWRM)
4. Restoration of Nadi Water Catchments (LWRM)
5. Cakaudrove Land Drainage Project (LWRM)
6. Watershed Management Project (LRPD)

#### **Projects submitted to MFAET awaiting response from donors;**

<i>Project Title</i>	<i>Project value</i>	<i>Year of submission</i>	<i>Status</i>
<i>Dairy Buffalo</i>	2.3m	2007	IR to follow up
<i>Beef Feedlot (Fiji/Australia)</i>	18.6m	2007	IR to follow up
<i>Navuso Methodist Farm</i>	3.4m	2008	IR to follow up
<i>Sheep Rapid (ET) Multiplication</i>	6.5m	2008	IR to follow up
<i>UNCCD/Venezuela SLM</i>	0.147m	2008	IR to follow up
<i>MAPI/USP – Cornell University FCA Upgraded &amp; New MAPI HQ</i>	28.8m	2008	IR to follow up
<i>Rapid sheep multiplication programme</i>	\$6m	2008	IR to follow up
<i>FMIB Abattoir Construction &amp; Upgrade</i>	4.3m	2007	IR to follow up
<i>Master Plan Study on Sustainable Agric Land Usage</i>	5.0m	2007	IR to follow up
<i>FAO RPFS Projects x 3 FAO TCP Projects</i>	0.374m	2007	IR to follow up
<i>Republic of Korea (Rok) Bilateral Projects x 4</i>	2.316m	2007	IR to follow up
<i>Joint Agricultural Commission (JAC) Fiji-PRC projects</i>	TBC	2007	IR to follow up
<b>GRAND TOTAL</b>	<b>\$71.737M</b>		

## **10.0 List of references**

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New Zealand 2003

Animal Health & Production Import Reduction Strategies for Dairy Report 2009

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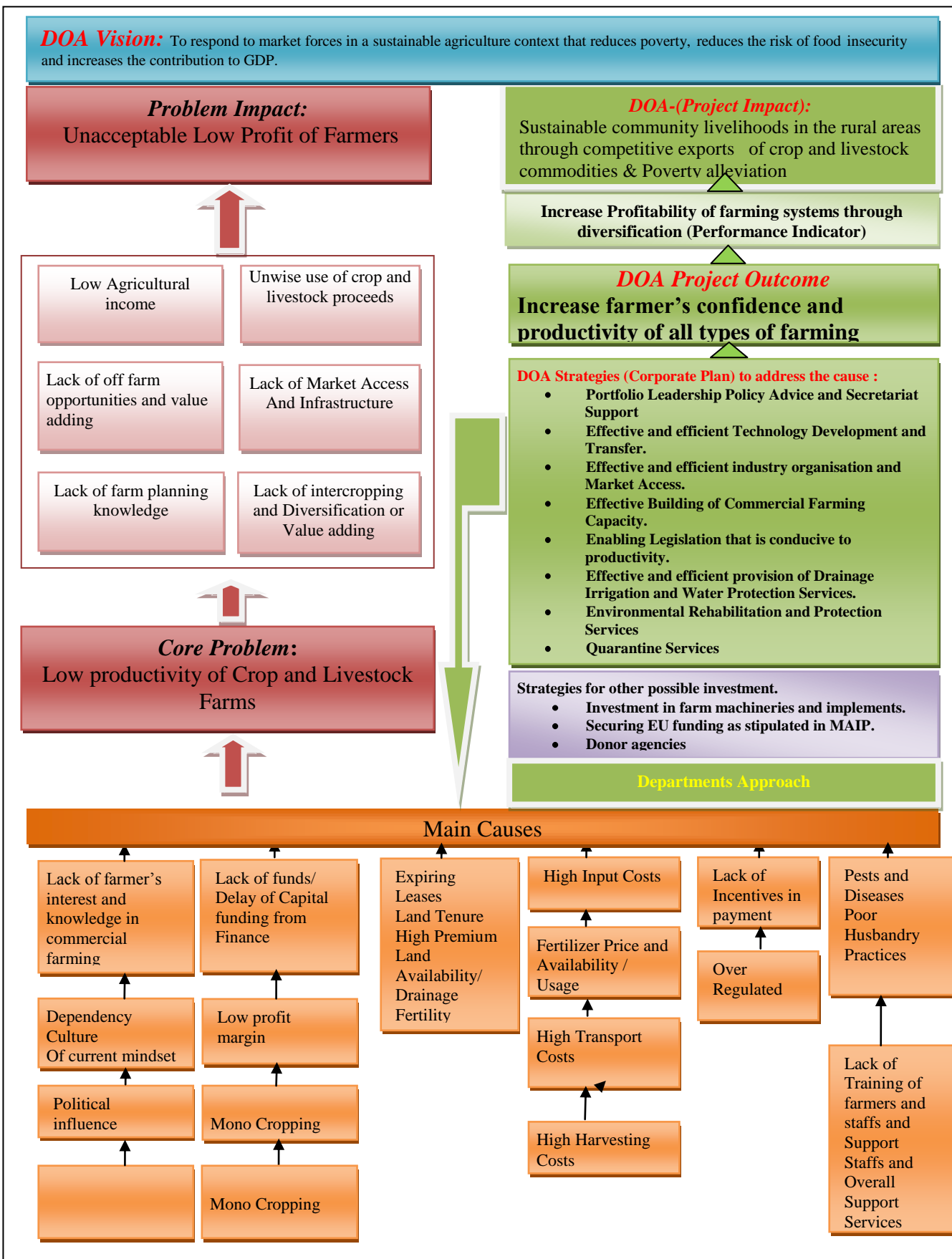
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*Food Balance Sheet Report*, National Food & Nutrition Centre 2005

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# Appendix 1- Agriculture Problem Tree Analysis



## Appendix 2a: Target Production<sup>21</sup> (Tonnes) – 2010 to 2012

Major Agricultural Commodities	2010	2011	2012
Dalo	74,009	81,409	89,550
Manioc (Cassava)	56,181	61,799	67,979
Ginger	2,512	2,763	3,040
Rice	61,379	67,517	74,268
Pawpaw (papaya)	7,274	8,001	8,801
Eggplant	923	1,015	1,117
Yaqona (kava)	3,506	3,857	4,243
Guava, mangoes and mangosteen	246	270	297
Coconut	75,565	83,122	91,434
Banana	8,427	9,269	10,196
Tumeric	169	186	204
Cabbages, cauliflowers, kohlrabi	25,227	27,749	30,524
Peas	6,796	7,475	8,223
Beans	786	864	951
Pineapple	3,855	4,241	4,665
Watermelon	1,117	1,229	1,351
Citrus	589	648	713
Tomatoes	1,745	1,920	2,112
Peanut	461	507	557
Kumala	4,611	5,072	5,579

<sup>21</sup> Target is to increase production by 30% by year 2012, i.e. 10% yearly. This is based from the RDSSED - KPI.

**(Appendix 2b: Target  
Production Calculation<sup>22</sup>)**

Major Agricultural Commodities	2008 (Tonnes)				2010 Target Production (Tonnes)
	Exports			Consumption	
	Fresh	Processed	Re-Exports		
Dalo	10,796	0	113	63,100	74,009
Manioc (Cassava)	1801	3	33	54,344	56,181
Ginger	44	1,350	0	1,118	2,512
Rice	870	0	0	60,509	61,379
Pawpaw (Papaya)	393	0	5	6,875	7,274
Eggplant	195	0	0	728	923
Yaqona (kava)	184	0	5	3,317	3,506
Guava, mangoes and mangosteen	131	0	0	114	246
Coconut	101	6.3	1.0	75,457	75,565
Banana	98	0	0	8,329	8,427
Tumeric	89	0	0	80	169
Cabbages, cauliflowers, kohlrabi	56	0	0	25,171	25,227
Peas	37	11	0	6,748	6,796
Beans	25	3.8	3.8	753	786
Pineapple	0.03	24.5	6.6	3,824	3,855
Watermelon	1.8	0	0.0	1,115	1,117
Citrus	25.2	0.26	0.5	563	589
Tomatoes	2	20.2	28.0	1,695	1,745
Peanut	0	1.6	2.8	456	461
Kumala	0.39	0	0.0	4,611	4,611

<sup>22</sup> Target Productions = Total Exports + Consumption

Total Exports = Exports (Fresh plus Processed ) + Re-exports

**(Appendix 2c: Consumption Calculation<sup>23</sup>)**

Major Agricultural Commodities	2008 (Tonnes)				
	Consumption <sup>24</sup>	Production	Import	Export	Re-Export
Dalo	63,100	74,008.6	0.0	10,796.0	113
Manioc (Cassava)	54,344	55,773.0	408.0	1,804.0	33.4
Ginger	1,118	2,488.0	24.0	1,394.0	0
Rice	60,509	11,594.8	49,784.0	870.0	0
Pawpaw (Papaya)	6,875	7,265.0	8.5	393.0	5.2
Eggplant	728	923	0.01	195	0
Yaqona (kava)	3,317	3,286.4	220	184	5.4
Guava, mangoes and mangosteen	114	200.0	45.5	131	0.2
Coconut	75,457	75,497.0	68.0	107.0	1.0
Banana	8,329	8,426.4	0.3	98.0	0.0
Tumeric	80	0.0	169.0	89.0	0.0
Cabbages, cauliflowers, kohlrabi	25,171	25,153.0	73.6	56.0	0.0
Peas	6,748	226.7	6,569.0	48.0	0.0
Beans	753	92.0	694.0	29.0	3.8
Pineapple	3,824	3,506.1	349.0	24.53	6.6
Watermelon	1,115	1,106.9	10.0	1.8	0.0
Citrus	563	73.9	515.0	25.46	0.5
Tomatoes	1,695	230.2	1,515	22.2	28
Peanut	456	178.43	282.3	1.6	2.8
Kumala	4,611	4611.09	0.02	0.39	0.0

<sup>23</sup> Total Consumption = (Production + Import) - (Export + Re-Export).

<sup>24</sup> Figures are rounded to nearest whole number.

**APPENDIX 3 LWRM- LAND DRAINAGE & FLOOD PROTECTION PROPOSED SHORT TERM PLAN 2010-2012**

ACTIVITIES	2009	2010	2011	2012	Quantity	Cost F\$	Issues to Address	Benefited area for Agriculture (Ha)
<b>RIVER DREDGING</b>								
Nadi river					1,100,000m <sup>3</sup>	10,400,000	Land issue for dump site	25000
Nadi short cut-river alignment					700,000m <sup>3</sup>	7,280,000	Land issue/EIA/NLTB/NLC/Lands Dept.	
Labasa river					250,000m <sup>3</sup>	2,600,000	Land issue/EIA/FSC/NLTB/Lands/NLC.	6,000
Labasa by pass Channel						39,388,882	Land issue/EIA/NLTB/NLC/Lands Dept.	
Wailevu river					250,000m <sup>3</sup>	2,600,000	Land matters for dump sites	3,000
Qawa river					250,000m <sup>3</sup>	2,600,000	Land matters for dump sites	3,000
Rewa river					1,200,000m <sup>3</sup>	12,480,000	Land matters /Fishing Rights/EIA	30,000
Ba river					1,400,000m <sup>3</sup>	24,670,000	Land matters /Fishing Rights/EIA	24,000
Ba river – Elevuka creek improvement						5,590,000	Land matters /Fishing Rights/EIA	
Sigatoka river					1,100,000m <sup>3</sup>	11,440,000	Land matters /Fishing Rights/EIA	29,000
<b>Total Cost F\$ (million)</b>						<b>119,048,882</b>		
<b>RIVER BANK PROTECTION</b>								
Nadi river						1,500,000	Land matters	
Nadi short cut-river alignment						520,000	Land issue/Compensation/NLTB/Lands	Component of river dredging works
Labasa river						455,000		
Rewa river						1,950,000	Land matter/EIA	
Ba river						1,950,000	Land matter/EIA	
Sigatoka river						1,950,000		
<b>Total Cost F\$ (million)</b>						<b>8,325,000</b>		
<b>WATERSHED MANAGEMENT</b>								



Nadi watershed		4,550,000	Land matters /Fishing Rights/EIA	25,000
Ba watershed		1,950,000	Land matters /Fishing Rights/EIA	24,000
Labasa watershed		1,950,000	Land matters /Fishing Rights/EIA	6,000
<b>Total Cost F\$ (million)</b>		<b>8,450,000</b>		
<b>LAND DRAINAGE</b>				
<b>WESTERN DIVISION</b>				
Drainage networks improvement		3,440,000	vandalism, land matters, compensation drainage reserve	12,400
Drain desilt,new drain/outlet (280km)				
Drainage Infrastructure rehab/Improvement				
Outfall structure 24/enhance new flap str. 12				
Rehab. Seawall/access 10km/improve crossing str.32				
New crossing 10				
<b>NORTHERN DIVISION</b>				
Drainage networks improvement		2,160,000	vandalism, land matters, compensation drainage reserve	3,700
drain desilt/new drain/outlet waterways 205km				
Drainage Infrastructure rehab/Improvement				
Outfall structures 24/enhance new flap str. 6				
Rehab. Seawalls/access 8km/improve				

crossing 10									
new crossing 6									
<b>CENTRAL DIVISION</b>									
Drainage networks improvement								13,000	
drain desilt/new drain/outlet waterways 620km						} 2,400,000	vandalism, land matters, compensation		
Drainage Infrastructure rehab/Improvement							drainage reserve		
Outfall structures 30/enhance new flap str. 8							vandalism, land matters, compensation		
Rehab. Seawalls/access 18km/improve crossing 5							drainage reserve		
		2	2	2	2	<b>8,000,000</b>			
<b>Total Annual Cost F\$ (million)</b>	<b>10.5</b>	<b>29.1</b>	<b>44.3</b>	<b>44.5</b>					
<b>Total Project Cost F\$ (million)</b>						<b>143,823,882</b>			
							<b>KEY:</b> Investigation		
							Implementation		

## APPENDIX 4 AH&P - IMPORT REDUCTION STRATEGIES FOR DAIRY,BEEF & SHEEP SHORT TERM PLAN 2010-2012

### DAIRY IMPORT REDUCTION -\$16m

Projected milk yield for year 2010						
Activities	no. of cows	Calving frequency	Avg.Production	Milking days	Total production	Value
Local cows	9000		3.5 litres	365	11,497500litres	\$5,748,750.00
First batch of Imported cows	2400	First	9 litres	210	4,536,000litres	\$2,268,000.00
<b>Total</b>	<b>11,400</b>				<b>16,033,500litres</b>	<b>\$8,016,750.00</b>
Projected milk yield for year 2011						
Local cows	9000		3.5 litres	365	11,497500 litres	\$5,748,750.00
1 <sup>st</sup> batch of Imported cows	2400	First	9 litres	60	1,2960,00 litres	\$648,000.00
		Second	10.5 litres	240	6,048,000 litres	\$3,024,000.00
2 <sup>nd</sup> batch of Imported cows	2400	First	9 litres	210	4,536,000 litres	\$2,268,000.00
<b>Total</b>	<b>13,800</b>				<b>23,377,500 litre</b>	<b>\$11,688,750.00</b>
					<b>Value of extra milk produced</b>	<b>\$5,940,000.00</b>
Projected milk yield for year 2012						
Local cows	9000		3.5 litres	365	11,497500 litres	\$5,748,750.00
First batch of Imported cows	2400	Second	10.5 litres	90	2,268,000 litres	\$1,134,000.00
		Third	15 litres	240	8,640,000 litres	\$4,320,000.00
2 <sup>nd</sup> batch of Imported cows	2400	First	9 litres	60	1,296,000 litres	\$648,000.00
		Second	10.5 litres	240	6,048,000 litres	\$3,024,000.00
3 <sup>rd</sup> batch of Imported cows	1200	First	9 litres	210	2,268,000 litres	\$1,134,000.00
<b>Total</b>	<b>13,800</b>				<b>23,701,500 litres</b>	<b>\$16,008,750.00</b>
					<b>Value of extra milk produced</b>	<b>\$10,260,000.00</b>

Source: Animal Health & Production division 2009

Activity/Particulars	Major cost Associated				Yearly Schedule for achievement vs set Targets (\$16m)			
	Numbers	Unit cost	Units	Total	Year	Target	Actual	Achievement
Importation of cows	6000	\$5,357.00	Per cow	\$32,142,000.00	2010	\$5,300,000	\$2,268,000	43%
Formulated Dairy Feed	6000	\$840.00	Per tonne	\$5,040,000.00	2011	\$5,300,000	\$5,940,000	112%
Pasture Improvement	4000	\$1,500.00	Per Ha	\$6,000,000.00	2012	\$5,300,000	\$10,260,000	194%
<b>Total</b>				<b>\$37,182,000.00</b>	<b>Total</b>	<b>\$15,900,000</b>	<b>\$18,468,000</b>	<b>116%</b>

\*excluding the cost for the acquisition and use of land

**BEEF IMPORT REDUCTION-\$7m (Concerted Approach)**

**DAIRY INDUSTRY**

Year	New Introduction			Existing Cows			Total	Live weight	Value
	Year I	Year II	Year III	Year I	Year II	Year III			
2010	960			3600			Year I 5520	690000	\$1,035,000
2011	1920	960		3600	3600		Year II 5520	1697400	\$2,546,100
2012	1920	1920	960	3600	3600	3600	Year III 4560	2234400	\$3,351,600
							<b>Total 15600</b>	<b>4621800</b>	<b>\$6,932,700</b>

*\*On hoof price*

**Sales (Revenue)**

Year	No. of Animals	Avg. Weight of Carcass	Total weight	Unit price of Carcass	Total value of the carcass
2010	0				
2011	0				
2012	4560	245	1117200	\$12.00	\$13,406,400
<b>Total</b>	<b>4560</b>		<b>1117200</b>		<b>\$13,406,400</b>

**Cost**

**Major Cost for achieving the set target**

Activity/Particulars	number	Cost		
		Unit cost	Units	Total
En-Calf Milk	31200	\$105.72	20kg bag	\$3,298,464
Formulated Feed	4000	\$820	Per Ton	\$3,280,000
Pasture Improvement	6500	\$1,500	Per Ha	\$9,750,000
<b>Total</b>				<b>\$6,578,464</b>

*\*excluding the cost for the acquisition and use of land*

**SHEEP IMPORT REDUCTION-\$10m**

Seasonal & Off Seasonal Breeding									
Year	Breeding Ewes	Breeding Rams (1:25)	Ewes (Concep. 98%)	Lamb Dropped (1:25 Lambing)	Weaners (90%)	Weaners		Sales	Value
						Female	Male		
1	7550	302	7399	9249	8324	4162	4162	8324	\$998,865.00
2	13793	552	13517	16896	15207	7603	7603	15207	\$1,824,801.00
3	21396	856	20968	26210	23589	11795	11795	23589	\$2,830,723.32
4									
5	51487	2059	50458	63072	56765	28382	28382	56765	\$6,811,786.26
6	79870	3195	78272	97841	88057	44028	44028	88057	\$10,566,783.43
7	123898	4956	121420	151775	136598	68299	68299	136598	\$16,391,722.80
8	192197	7688	188353	235441	211897	105949	105949	211897	\$25,427,659.99
9	298146	11926	292183	365228	328705	164353	164353	328795	\$39,444,657.56
10	462498	18500	453248	566560	509904	254952	254952	509904	\$61,188,525.04
							<b>Total</b>	<b>1415639</b>	<b>\$169,876,684.45</b>

Activity/Particulars	Major cost Associated			Yearly Schedule for achievement vs set Targets (\$16m)				
	Numbers	Unit cost	Units	Total	Year	Target	Actual	Achievement
Infrastructure development	1100	\$5,000.00	Per farm	\$5,500,000.00	2010	\$3,300,000	\$998,865	30%
Formulated /Concentrated Feed	3720	\$800.00	Per tonne	\$2,976,000.00	2011	\$3,300,000	\$1,824,801	55%
Pasture Improvement	11210	\$1,100.00	Per Ha	\$12,331,000.00	2012	\$3,300,000	\$2,830,723	86%
					2013	\$3,300,000	\$4,391,159.55	133%
					2014	\$3,300,000	\$6,811,786.26	206%
					2015	\$3,300,000	\$10,566,783.43	320%
<b>Total</b>				<b>\$20,807,000.00</b>	<b>Total</b>	<b>\$19,800,000</b>	<b>\$27,424,119.06</b>	<b>139%</b>

*\*Most of the cost would be based on one third (private) and two third (government) Public Private Partnership basis*



# MINISTRY OF PRIMARY INDUSTRIES

## DEPARTMENT OF AGRICULTURE

### ORGANISATIONAL STRUCTURE

