



DEPARTMENT OF AGRICULTURE

# ANNUAL REPORT

# 2011

Parliamentary Paper No. 15/2015









# MINISTER'S FOREWORD



It is indeed my great pleasure to present to you the Department of Agriculture Annual Report - 2011.

2011 was a very challenging year for the Department and no doubt, we rose with those challenges and took it as an opportunity to promote and improve our performances.

The year was highlighted by a number of accomplishments in which we can all be proud of such as the success of the 2nd Agriculture Show, the hosting of the 3rd China Pacific Islands Meeting at Denarau, the signing of a number of MOUs with our bilateral and development partners, the opening and launching of various agricultural infrastructures, the achievements in the various targeted programs that have emanated from our policy goals and the improvement in the efficiency and effectiveness in our service delivery.

From our Strategic Development Plan 2010 – 2012, the Department this year is vigorously pursuing agricultural development that aimed at;

- increasing production, productivity and resilience of priority crops and livestock systems;
- strengthening of policy, legal, regulatory and strategic framework for sustainable agriculture, development;
- improving and strengthening of our agriculture trade, market access, marketing and contribution to GDP;
- enhancement and strengthening of our stakeholders partnership especially with the private sectors, donor agencies, academic institutions and international relations; and
- strengthening of effective financial regulatory, compliance and enforcement.

With limited resources and other constraints, we have given all our best that enable us to attain an annual performance rating of around seventy percent.

We at the Department, have resolved that we shall continue to improve our performance and in addressing issues affecting the development of the agriculture sector and at the same time identify and explore opportunities that are available by developing strategies that are more responsive to the needs of all stakeholders and to achieve the targets bestowed upon us by the Government.

I must acknowledge the contribution of all staff of the Department for making it possible to achieve another pleasing performance despite the difficult year and a special note of thanks to the Executive Management, who had provided the leadership that have enable for the Department of Agriculture.

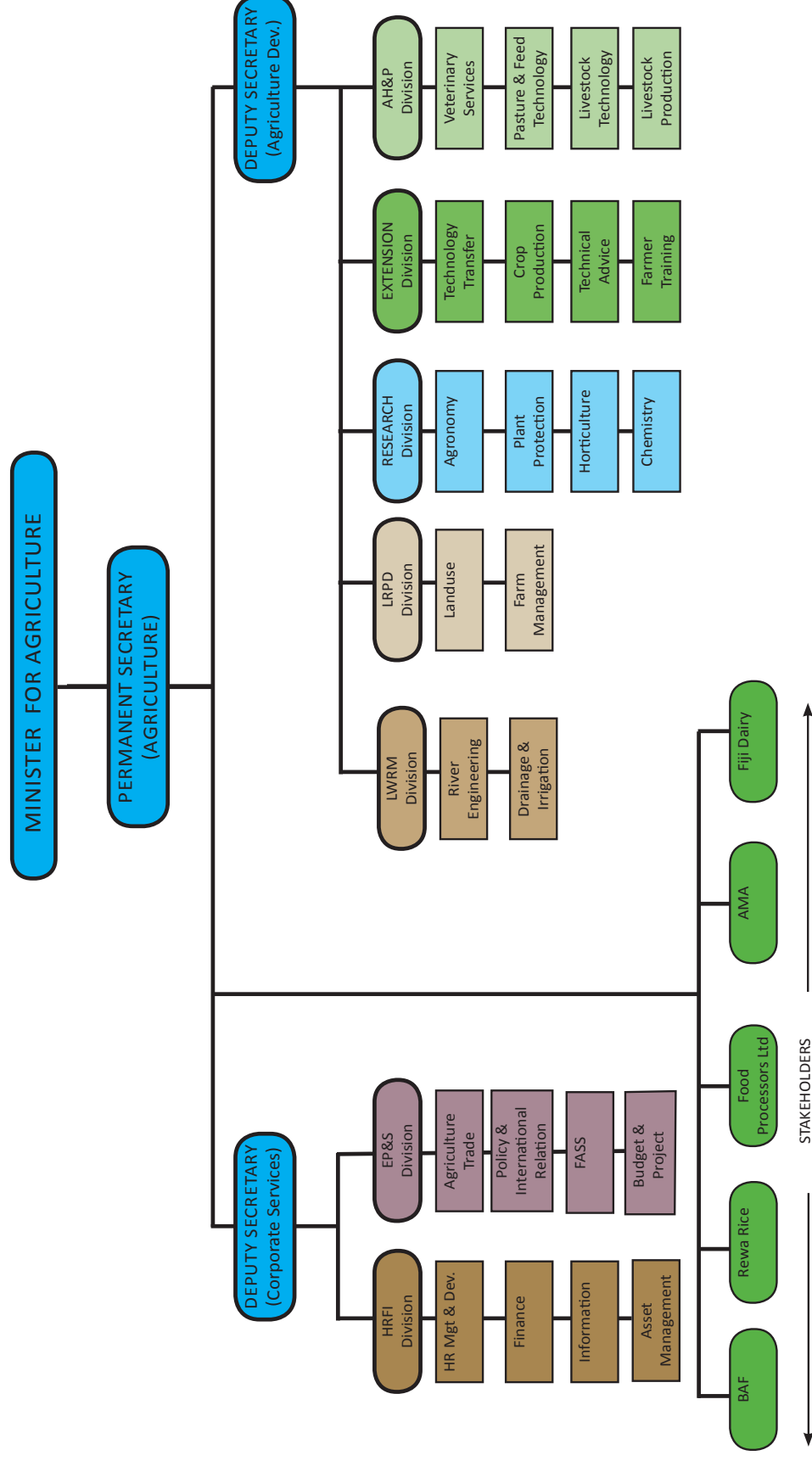
Vinaka Vakalevu,

A handwritten signature in black ink, appearing to read 'Jokatani Cokanasiga'.

[Jokatani Cokanasiga]  
Minister for Primary Industries

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# 4.0 Organisation Structure



## Departmental Overview



Deputy Secretary  
Corporate Services



Permanent Secretary  
Agriculture



Deputy Secretary  
Agriculture Development

### DEPARTMENTAL OVERVIEW

The Department of Agriculture plays a pivotal role in meeting the vision and achieving the challenges set by the Government for the Primary Industries.

### MISSION

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

### VISION

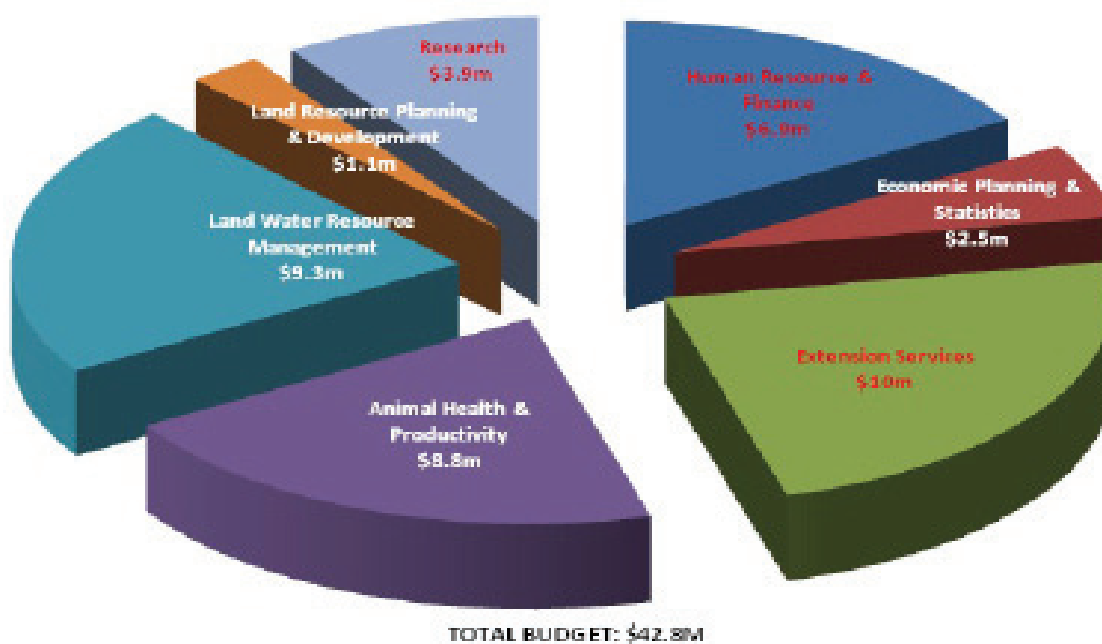
To influence market forces through vibrant and sustainable agriculture activity that reduces poverty, reduces the risk of food insecurity, and increases the contribution to GDP.

### VALUES

- Commitment
- Honesty
- Integrity
- Accountability
- Transparency

## ANNUAL BUDGET

### MINISTRY'S ANNUAL CAPITAL & OPERATIONAL BUDGET



## KEY STRATEGIC PRIORITIES

The strategic priority of the Department is to provide agricultural advisory services to ensure that agriculture further enhances farming as a viable and efficient profession, which endeavors to contribute significantly to GDP in a sustainable way concurrently ensuring food and income security to the people of Fiji. The department's primary functions include:

- To accelerate agricultural product diversification into crops and products where competitive advantage has been identified,
- To facilitate private sector development,
- To promote food security, and,
- To ensure sustainable development in non sugar sector.

### SERVICE OUTPUTS

Services provided by the department for the agriculture sector in Fiji. The department is funded by the government to provide outputs in these areas;

### CONSULTING

- Agricultural development in all of its facets.
- Enhance livestock production and quality.
- Relevant civil engineering.
- Landlord and Tenant agreement

### RESEARCH

- Techniques for increasing yield.
- Varieties providing correct market features.
- Varieties providing extended seasons-whenever for the year-round production.
- Pasture improvements.

### INFORMATION AND TRAINING SERVICES

- Research publications for improved livestock and crop performance.
- Market Intelligence.
- Education and training.
- Pathology and veterinary for health maintenance in livestock.
- Improved techniques, species and varieties.
- Safe practices in the use of agrochemicals
- Market information.
- Licensing and compliance for exports and imports to ensure border security.

### SERVICES

- Portfolio Leadership, Policy Advice and Secretarial support to all stake-holders and Government.
- Chemical analytical services.
- Irrigation services.
- Watershed management.
- Dredging and drainage
- Environmental Protection
- Sustainable and water resource management.
- Pathology services.
- Veterinary services.

# **LINKAGE OF THE ROADMAP FOR DEMOCRACY AND SUSTAINABLE SOCIO-ECONOMIC DEVELOPMENT (RDSSED) 2009 - 2014 AND DOA OUTPUTS**

TARGET OUTCOME	OUTCOME PERFORMANCE INDICATOR	DEPARTMENT OF AGRICULTURE OUTPUTS
A Sustainable Agriculture sector and community livelihood through the competitive exports and food security	1. Maintain agriculture sector's contribution to GDP at 12%.	<ul style="list-style-type: none"> <li>• Portfolio leadership policy advice and secretariat support.</li> <li>• Consulting services– Agricultural Development.</li> <li>• Public awareness promotions– agricultural development.</li> <li>• Supply of Goods– Agricultural industry.</li> <li>• Consulting services– Livestock production.</li> <li>• Market Development–Agricultural produce.</li> <li>• Licensing Compliance and Monitoring– Import/Export of Agricultural produce</li> <li>• Pathology services</li> <li>• Consulting services– veterinary services</li> </ul>
	2. Commodity protocols for at least 5 new commodities to new markets by 2012.	<ul style="list-style-type: none"> <li>• Portfolio leadership policy advice and secretariat support.</li> <li>• Consulting services– Agricultural Development.</li> <li>• Public awareness promotion– agricultural development.</li> <li>• Market Development– Agricultural produce.</li> <li>• Licensing, Compliance and Monitoring– Import/Export of Agricultural produce.</li> </ul>
	3. Formation of at least 3 industry council.	<ul style="list-style-type: none"> <li>• Portfolio leadership policy advice and secretariat support.</li> <li>• Consulting services– Agricultural Development.</li> <li>• Consulting services– Livestock production.</li> <li>• Market Development– Agricultural produce.</li> </ul>
	4. Increased production of locally produced export commodities by 30%.	<ul style="list-style-type: none"> <li>• Portfolio leadership policy advice and secretariat support.</li> <li>• Consulting services– Agricultural Development.</li> <li>• Public awareness promotions– agricultural development.</li> <li>• Supply of Goods– Agricultural Industry.</li> <li>• Consulting services– Livestock production.</li> <li>• Market Development– Agricultural produce.</li> <li>• Licensing, Compliance and monitoring– Import/Export of Agricultural produce.</li> <li>• Provision of land drainage services</li> <li>• Provision of irrigation services.</li> </ul>
	5. Increased production of food security commodities by 30%.	<ul style="list-style-type: none"> <li>• Portfolio leadership policy advice and secretariat support.</li> <li>• Consulting services– Agricultural Development.</li> <li>• Public awareness promotions– agricultural development.</li> <li>• Supply of Goods– Agricultural Industry.</li> <li>• Consulting services– Livestock production.</li> <li>• Market Development– Agricultural produce.</li> <li>• Licensing, Compliance and monitoring– Import/Export of Agricultural produce.</li> <li>• Provision of land drainage services</li> <li>• Provision of irrigation services.</li> </ul>
	6. Value of non sugar agriculture exports increase from \$53.2M in 2006 to \$80M in 2011.	<ul style="list-style-type: none"> <li>• Portfolio leadership policy advice and secretariat support.</li> <li>• Consulting services– Agricultural Development.</li> <li>• Supply of Goods– Agricultural industry.</li> <li>• Market Development–Agricultural produce.</li> <li>• Licensing, Compliance and Monitoring– Import/Export of Agricultural produce.</li> </ul>

A Sustainable Agriculture sector and community livelihood through the competitive exports and food security (cont...)	7. Value of fruits and vegetables imports reduced from around \$165M annually to \$80M by 2014.	<ul style="list-style-type: none"> <li>• Portfolio leadership policy advice and secretariat support.</li> <li>• Consulting services– Agricultural Development.</li> <li>• Supply of Goods– Agricultural industry.</li> <li>• Market Development-Agricultural produce.</li> <li>• Licensing Compliance and Monitoring– Import/Export of Agricultural produce</li> </ul>
	8. Agriculture sales to local and national private traders increased from 40% to 60% of total sales.	<ul style="list-style-type: none"> <li>• Portfolio leadership policy advice and secretariat support.</li> <li>• Consulting services– Agricultural Development.</li> <li>• Public awareness promotion– agricultural development.</li> <li>• Market Development– Agricultural produce.</li> </ul>
	9. Increased lending to agriculture sector of commercial banks to 1% of total loan portfolio by 2014 from current level of around 0.6%	<ul style="list-style-type: none"> <li>• Portfolio leadership policy advice and secretariat support.</li> <li>• Consulting services– Agricultural Development.</li> </ul>
	10. Maintain food import capability index at 0.17 or better.	<ul style="list-style-type: none"> <li>• Portfolio leadership policy advice and secretariat support.</li> <li>• Consulting services– Agricultural Development.</li> <li>• Supply of Goods– Agricultural Industry.</li> <li>• Market Development– Agricultural produce.</li> <li>• Licensing, Compliance and monitoring– Import/Export of Agricultural produce.</li> </ul>



## RDSSSED KEY PERFORMANCE INDICATOR LINKAGE TO DOA DEVELOPMENT TARGETS 2010 - 20112

RDSSSED KPI	Implementing Division	Progressive Targets		
		2010	2011	2012
• Commodity protocols for at least 5 new commodities to new markets by 2012	<ul style="list-style-type: none"> <li>• Quarantine</li> <li>• Extension</li> <li>• AH&amp;P</li> <li>• EP&amp;S</li> </ul>	Establishment 2 new commodities for new market	Established 2 new commodities for new market	Establishment 1 new commodity for new market
• Formation of at least 3 industry council.	<ul style="list-style-type: none"> <li>• Extension</li> <li>• AH&amp;P</li> <li>• EP&amp;S</li> </ul>	Formulate 2 new industry plan (National crop & livestock) (National research council)	Facilitate Secretariat role for council	Facilitate Secretariat role for Council
Increase production of import substitution commodities by 30%	<ul style="list-style-type: none"> <li>• Extension</li> <li>• AH&amp;P</li> <li>• EP&amp;S</li> <li>• IWRM</li> <li>• Research</li> </ul>	Increase major agricultural import substitution commodities by 10%	Increase major agricultural import substitution commodities by 10%	Increase major agricultural Import Substitution commodities by 10%
• Formation of at least 3 industry council.	<ul style="list-style-type: none"> <li>• Extension</li> <li>• AH&amp;P</li> <li>• EP&amp;S</li> <li>• IWRM</li> <li>• Research</li> <li>• Quarantine</li> <li>• IR PD</li> </ul>	Increase major agricultural export commodities by 10%	Increase major agricultural export commodities by 10%	Increase major agricultural export commodities by 10%

# AGRICULTURE GDB CONTRIBUTION

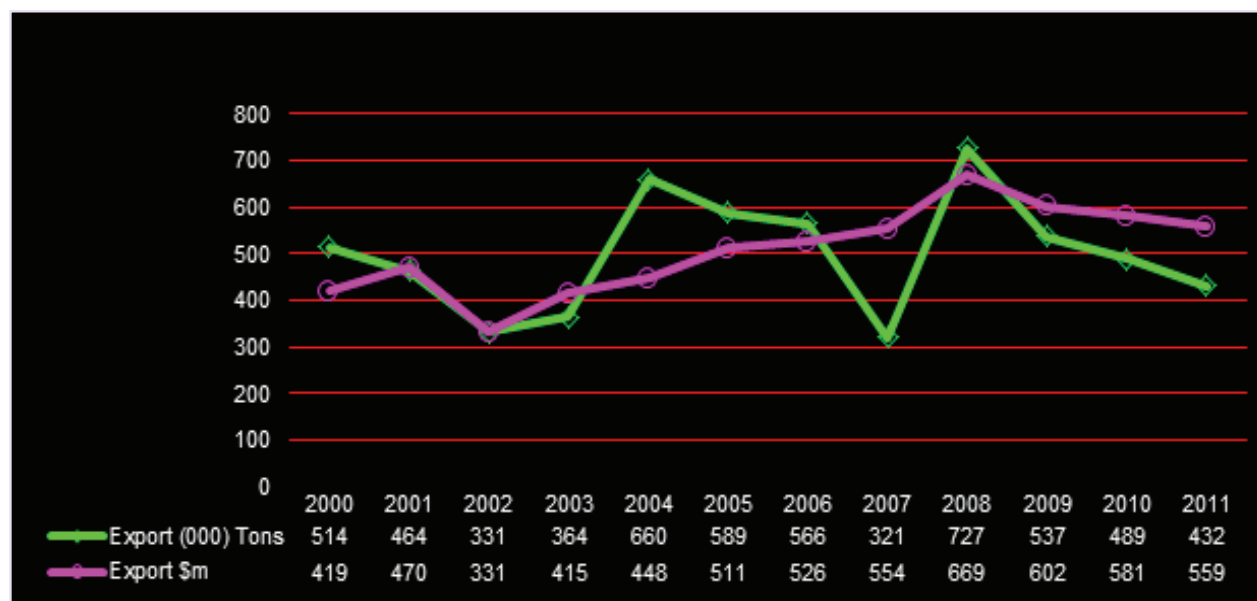
AGRICULTURE'S CONTRIBUTION TO GDP							
	2005	2006	2007	2008	2009	2010	2011
Agriculture	10.56	10.69	10.37	10.49	9.51	8.2	9.36
Subsistence	2.74	2.71	2.73	2.75	2.85	2.78	2.75
Crops livestock & Horticulture	3.15	3.11	4	4.05	3.08	3.12	3.61
Sugar cane	3.00	3.39	2.43	2.24	2.17	1.09	1.69
Taro	1.66	1.48	1.21	1.45	1.41	1.18	1.3

The contribution of the agriculture sector to the total GDP has declined from 10.56% in 2005 to 9.36% in 2011 and has been surpassed by tourism and textiles. Nevertheless, the agriculture sector's contribution to gdp increased from 8.2% in 2010 to 9.36% in 2011, showing a path to recovery. Despite the declining trend in agriculture sectors GDP, agriculture continues to play an integral part in Fiji's overall development. It provides food and income security, promotes community development in rural areas and is an important source of foreign exchange earnings.

## AGRICULTURES TRADE

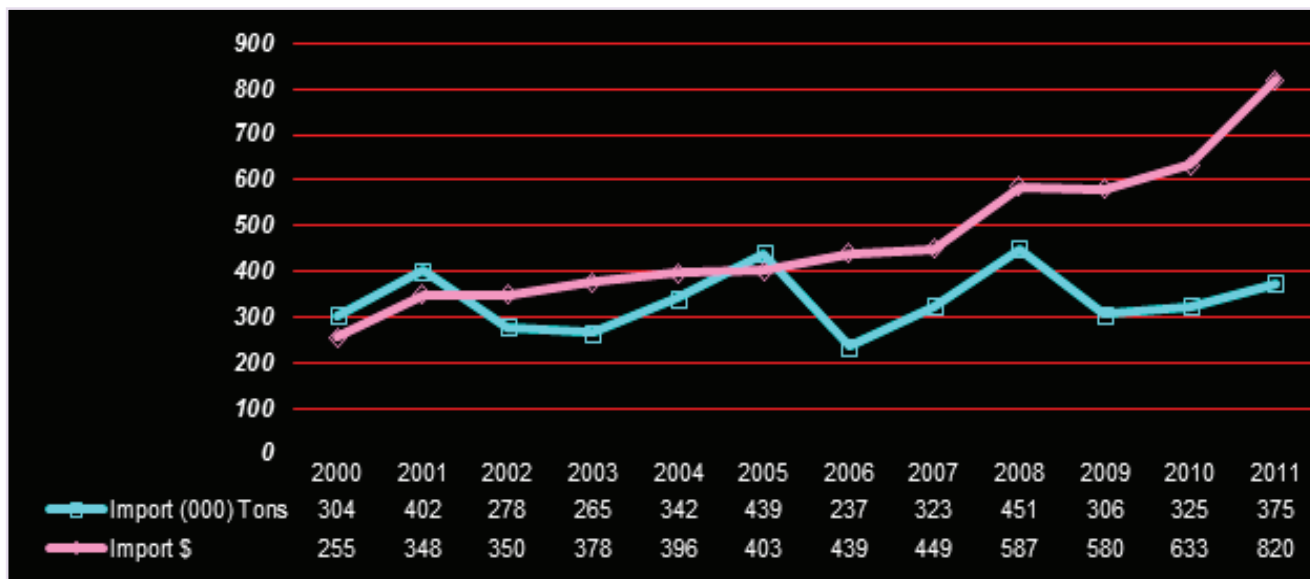
The overall trade of agricultural products remained in deficit for the period under review. For the past seven years, it was observed that there has been a trade surplus which is mainly dominated by the sugar sector. However, the surplus ratio has declined significantly showing a 30% deficit in 2011 compared to a surplus of 21% in 2005. Value of non-sugar trade also remained in deficit for the period under review as a result of increasing food prices.

## AGRICULTURE EXPORT TREND [2000 - 2011]



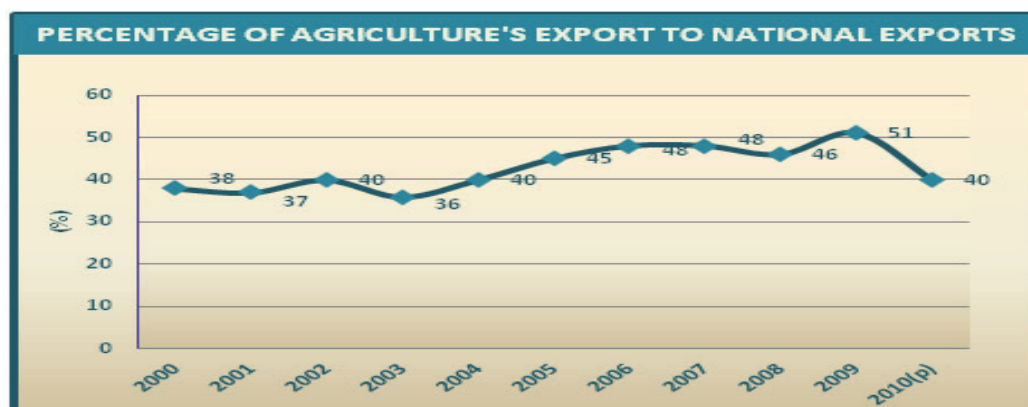
The value of total agricultural exports has been rising since 2002. The major factors contributing towards the increase in exports was due to expansion in production of major commodities such as cassava, dalo, sugar, tuna and mackerel.

# AGRICULTURE IMPORT TREND [2000 - 2011]



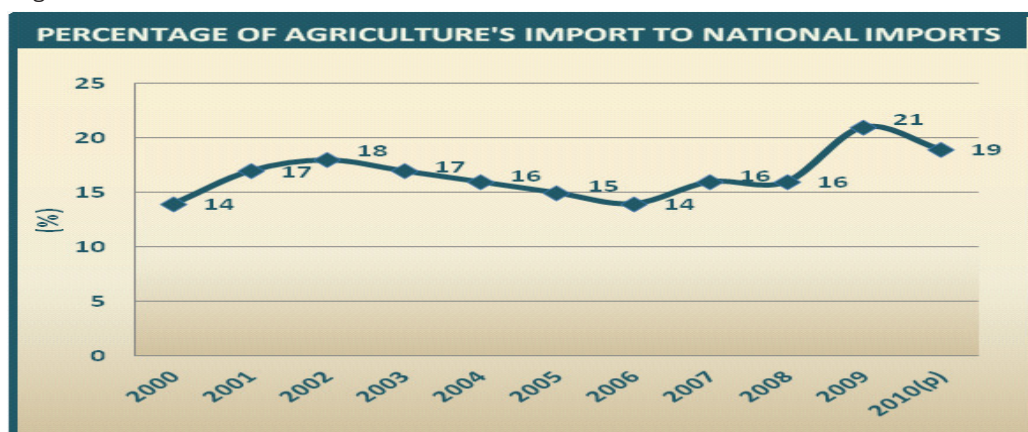
Furthermore, both the volume and value of imports went up from 306 thousand tonnes (\$580m) in 2009 to 325 thousand tonnes (\$633m) in 2010.

The widening gap between the volume and value of imports reflect high import prices due to the devaluation of our dollar which caused overseas products expensive.



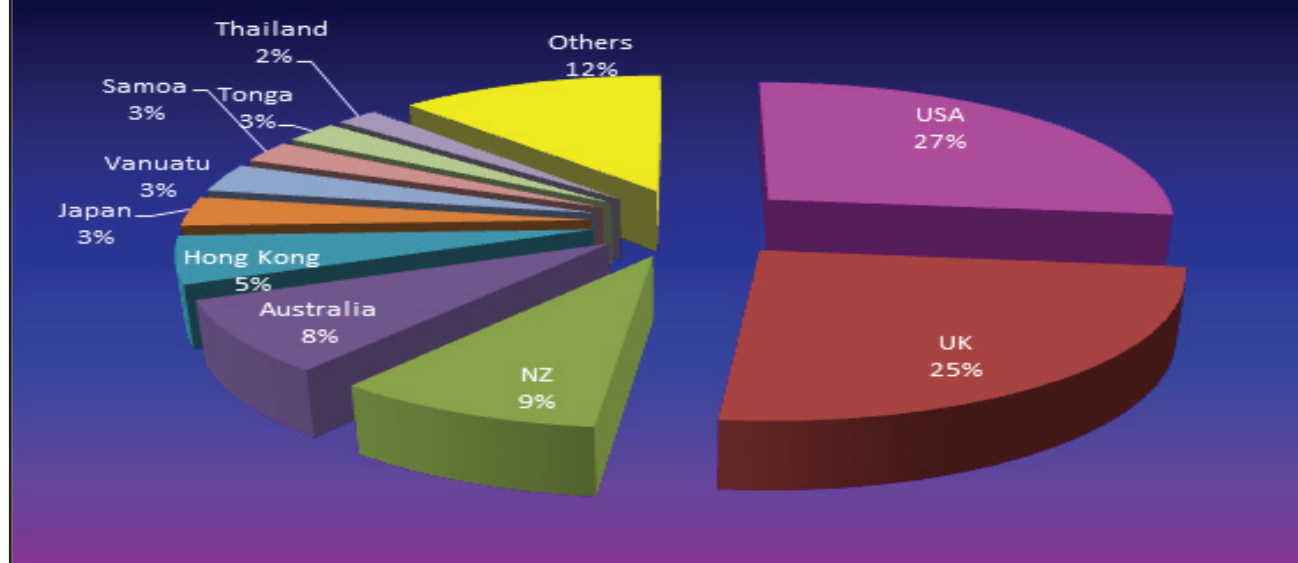
Agricultural exports account for around 40% of total export earnings in 2010. The decline in agriculture share of national exports was mainly due to a fall in prepared food stuff, which is reflected by sharp decline in sugar exports.

Major commodities that attribute to our exports include sugar, fish products, Fiji water and other root crops and vegetables.



It is important to increase agriculture sectors contribution to GDP and reduce food import which now stands at 19 total national imports.

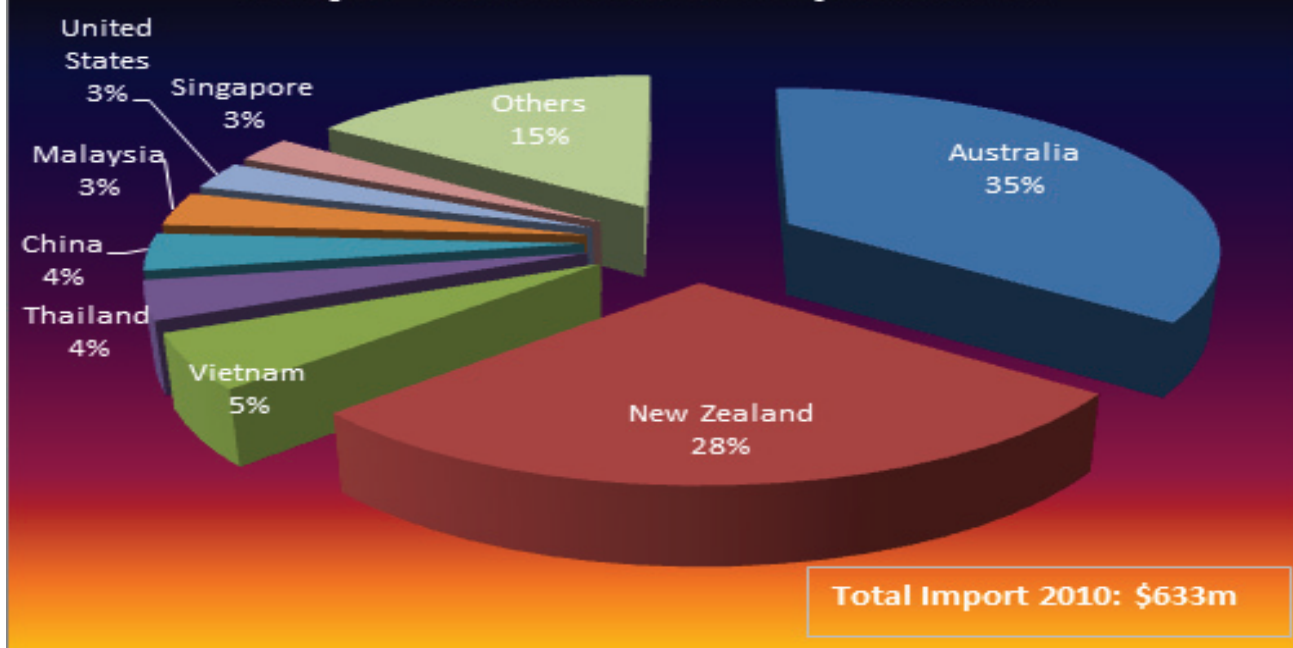
## Major Export Destinations - 2011



United States, United Kingdom, Japan, New Zealand, Australia and American Samoa remain to be our major export markets. USA, where nearly 27% of our exports go, remains to be our major mineral water export market with UK now being the second largest export markets in terms of sugar exports.

Main markets for fresh fruits and vegetables remain to be Australia and New Zealand while Japan and American Samoa purchase bulk of our tuna.

## Major Countries of Import 2010



Fiji sources nearly 28% of its Meat and Dairy products from New Zealand while Australia remains to be the main market market for wheat import. Thailand and Vietnam on the other hand stays to be the main source of Fiji's Rice import.

# HIGHLIGHTS OF MAJOR INDUSTRIES

## OVERVIEW

### BEEF

A total of 9679 cows (breeders) were recorded with a total stock of 26,888. These stocks were recorded from 596 farms which also include large operation farms such as Yaqara Pastoral Company and two Estate farms. The overall number of animals recorded for slaughter in the registered and rural abattoirs were 7265 and 444 respectively. This indicated a decline of 0.7% (565 tons) fewer cattle slaughtered compared to last year's records. The total volume of beef imported was 19,767 ton. There was a huge increase in imports from New Zealand compared to Australia. Per capita consumption increased to 23.9kg compared to 2010 (3.6kg) as 27.61% of the total population do not consumed beef. Percentage of local production to imports decreased to 11% compared to 2010 (88%)



### DAIRY

The local dairy sector (formal and informal) produced a total of 12,405,280 litres of milk. This indicated an increase in production by 20.4% compared to 2010. A total of 9,206 milking cows were recorded compared to 8,469 in 2010 and this showed a progress of the dairy herd by 8.7%. An overall of 257 farmers in the Central/Eastern Division were supplying raw milk to FCDL while 25 farmers were still supplying raw milk. A total of 3,641.56 TMFE of various dairy products was imported during 2011. The largest increase in imports was FCMP (1459.2 TMFE), followed by infant milk (842.5 TMFE). There was no import recorded for skim milk.

### SHEEP

An aggregate of 112.9 tonnes of sheep meat was produced locally in 2011 which indicated an increase of 79% compared to (63.1 tons) in 2010. Majority of the slaughter was done in the informal market with a total of 73.2 tonnes while 5.2 tonnes was recorded in the formal market. There were 365 farms recorded in 2011 compared to 366 farms in 2010. This also showed a decline in population by 10% from 11,268 in 2010 to 10,104 in 2011. A total of 6,593 tonnes of sheep meat (considering carcass and boneless) was imported this year compared to (6,958 tonnes) last year.



### PIGS

In 2011, a total of 804 supervised farms were recorded with majority of these farms from the Central Division which accounted for more than 50% of the total number of farms and 65% in total stock. A total of 20,099 of pigs were slaughtered at the registered abattoirs producing 1,180 tonnes of pork. This indicated an increase in slaughter by 15% and tonnage by 1% as compared to last year. However, there was a decline in average weight by 12.3% compared to the same period last year. On the other hand, imports went up from 124 tonnes in 2010 to 673 tonnes in 2011.

### GOAT

The government provided \$100,000 as Capital Funds towards Goat Herd Improvement Project which was implemented during the year. There were 566 goats slaughtered in the registered abattoirs which produced 6.95 tonnes of Chevon. In 2011, the industry experienced an increase in number of goat farms by 3.6% as compared to last year's record. This also showed an increase in goat population by 5.7% from 21,689 in 2010 to 22,929 in 2011. Due to the restriction of female slaughter, less animals slaughtered were registered. However, majority of slaughter was done informally producing a total of 127.35 tonnes of Chevon.



## **HONEY**

This industry recorded a total of 142.4 tonnes of honey during 2011 which was 57.47% less compared to (334.38) tones last year. The average honey production per hive was around 14.91 kg for the year. Number of farmers recorded for the year was 1,030, an increased by 11.35% compared to 925 last year. A total of 9,550 hives was recorded during the year.

## **POULTRY**

Locally, an overall of 13,837,468 broilers were slaughtered through the registered slaughterhouse producing 31180.43 tons of poultry meat (average weight of 1.3 kg per bird). This indicated an increase in production by 82% compared to (17,321.2 tonnes) in 2010. There was no figure recorded from small backyard farmers. A total of 2823 tonnes of poultry meat was imported in 2011 compared to 1673.4 tonnes in 2010, which showed an increase in import by 69%.

A total of 13.38 tons of duck meat slaughtered was recorded during the year. Other backyard productions were not recorded due to difficulty in monitoring. During the year, 5 tons of duck meat was imported. A total of 8,000 dozen layers and 28,000 dozen broilers (day old chicks) were recorded during the year.



## **TARO (DALO)**

Dalo is a major source of livelihood for the Outer Islands and rural farmers. During the year, 7,023 hectares of dalo was harvested by farmers from all divisions. Production totaled 67,178 tonnes which was 11% more compared to last year.

## **KAVA (YAQONA)**

Yaqona is an important cash crop for the rural and outer islands particularly for the Northern, Central and Eastern parts of Fiji. Production as at end of December was estimated at around 2,226.7 tonnes of which 1,287 tonnes alone was produced by the Northern Division. Regardless of Yaqona being a major source of income and main traditional drink in Fiji, we still imported 149 tonnes of Yaqona in 2010.

## **PAPAYA (PAWPAW)**

Throughout the year, a total of 3,064 tonnes of papaya was produced at a value of around \$2.6m. A total of 2.5ha was targeted under the Export Promotion Program out of which 4.4ha was achieved by 42 farmers. The impact of the Program through the provision of seeds resulted in the planting achievement.

## **RICE**

Virtually, the entire family in Fiji uses rice on daily basis in their meals. Area targeted for the year was 1283ha while production target was 3092.5mt. Actual area planted was 271ha while the actual production was 550mt. Overall, production went slightly up by 3%. The current selling price of rice remained at \$750/mt.

## **CASSAVA**

During the year Cassava production rose by 35% totaling 69,909 tonnes compared to 51,690 tonnes in 2010. Cassava has continued to become a very popular income earner for our rural communities due to its wide appeal as a staple crop and for revenue generation.

## **PINEAPPLE**

During the year, pineapple had a production of around 4,135.8 tonnes which was grown mostly for local markets. The two most targeted areas were the Central and Northern Divisions.

## **ASSORTED VEGETABLES**

A total of 22,553 tonnes of assorted vegetables was produced during the year. This comprised of commodities such as pumpkin, pulses, long bean, French bean, butter bean and other leafy vegetables. Apart from these, 792 tonnes of okra, 958 tonnes of maize, 108 tonnes of lettuce, 1,786 tonnes of eggplant, 9 tonnes of duruka, 188 tonnes of cowpeas, 135 tonnes of chillies, 71 tonnes of carrot and 136 tonnes of capsicum was also produced during the year out of which most are also BQA commodities. These commodities are mostly grown in the Western division, due to the availability of market for exports and the BQA pathway which concentrates mostly to the farmers in this Division.

## **GINGER**

This is a crop earmarked for the program and production is mostly concentrated in the Central Division and is slowly extending to the Western Division in particular the Ra Province. Area target for the year was 225ha while achievement was 227ha which is dependent on the number of project proposals submitted and approved. Production for the year has increased to 2,575 as compared to 2,338 tonnes produced last year of which immature ginger alone accounted for 1,877 tonnes.

# HUMAN RESOURCES AND FINANCE

The main Function of the Division is to facilitate the best and excellence service support to our clients with provisions being guided to under the legislations and relevant procedures.

The core role of the Division is divided into five (5) sections namely the Human Resource Administration, Finance, Information & Communication, Training and IT Services.

All of the five (5) Sections mentioned above do play an important role in enhancing the Department's image and provide support services to Management and the line divisions.

The Division is responsible for monitoring the deliverance of the PSA's Key Performance Indicators (KPI's).

The Finance Section is responsible for the stringent financial management measures that will ensure transparency and accountability in financial transactions.

The Training Section is responsible for building staff capacity on formal and informal trainings targeting technical short courses. The section also coordinates farmer trainings with the line divisions during the year.

The Information and Communication Section played a pivotal role in strengthening our relationships with the media, enhancing the image of the Department in portraying the achievements for 2011 and provide agricultural information to farmers, staff, ministry stakeholders and members of the public.

The IT Section is responsible for the efficient support to the functional divisions in terms of data recording at field level and timely reporting to the Senior Management. Procurement and provision of back-up IT services is the core responsibility of the Section.

## **Post Processing Unit (PPU)**

The role of the Post Processing Unit is to effectively and efficiently manage post processing matters and provide accurate information on line posts status, forecasting vacancies, prepare vacancy returns to PSC, timely processing of established and Government Wage Earners vacancies, from initial advertisement stages to promulgations.

## **Activities**

The Section was able to advertise and process a total of 117 posts during the year. 112 of which were completed and appointment letters were issued.

A total of 138 GWE vacancies were advertised

Staff Establishment

2011 Staff Establishment decreased from 679 in 2010 to 603 in 2011. This was mainly due to the deletion of the 10% positions and the transfer of the Quarantine Division to Ministry of Public Enterprise. Now known as the Bio-security Authority of Fiji (BAF). GWE positions decreased from 513 in 2010 to 508 in 2011.

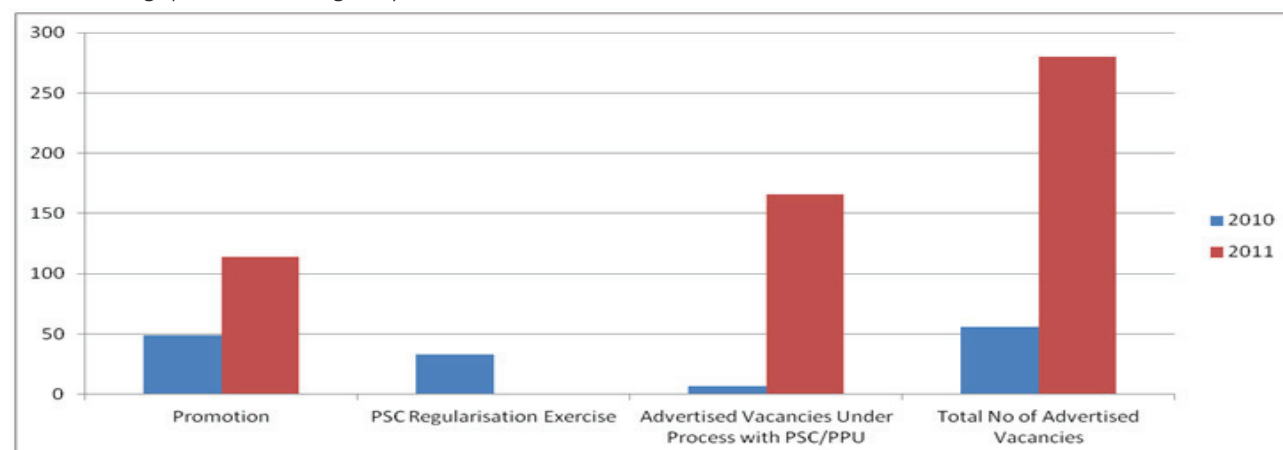
## **Ethics & Discipline**

Ethics and Discipline manages the process of disciplinary cases. The independence of the Ethics and Discipline Unit is important given its core role of monitoring the standards of ethics and discipline, the upholding of the Public Service Values and compliance with the Public Service Code of Conduct.

A total of forty (40) cases were registered during the year. 22 of the cases were cleared and 18 cases were carried forward to 2012.

## **TRAINING SECTION**

The Training Section's Core role was to facilitate capacity building of staff and ensure that the department maintains a professional and highly intellectual workforce. In order to achieve this, the section coordinated and facilitated a number of Public Service Reform Awareness programmes, short technical trainings abroad and long term academic trainings. Tabulated below are the details of the trainings processed during the year.





## 2011 PERSONNEL STATUS

TABLE 1

	<u>Etab</u>		<u>GWE</u>	
	2010	2011	2010	2011
Volunteers	75	117	0	NIL
Retirements	16	13	2	9
Terminations	3	3	2	2
Deaths	2	NIL	1	2
Resignation	2	17	0	10
Postings/ Transfers	79	82	0	2
	<u>177</u>	<u>232</u>	<u>5</u>	<u>25</u>

Source: Human Resource, Finance and Information Division

TABLE 2. Overseas Short Courses attended by staffs during the year

<u>No.</u>	<u>Division</u>	<u>No. of Overseas Trainings Attended</u>
1	Extension	20
2	AH&P	21
3	LWRM	2
4	LRPD	5
5	EP&S	7
6	Research	14
	TOTAL	69

Source: Human Resource, Finance and Information Division

### ACCOUNTS SECTION

The Accounts Section's primary role is to be responsible for the stringent financial management measures that will be implemented to ensure transparency and Accountability in financial transactions. This is to be in line with the relevant rules and regulations (Agency Financial Manual, Financial Instructions 2010, Financial Management Act 2004 and Procurement Regulation 2010).

The Section will also provide timely and efficient financial reports for management's information for decision making and is also responsible for the control and payment of wages and salaries of all Government Wage Earners, Casuals, Project and Established Staff.

The section is currently managed by a Principal Accountant, Senior Accountant (Operations) ,Senior accountant (Projects) three Assistant Accountants, nine Clerical Officers, one Temporary Clerical Officer, and three Government Wage Earners.

### Management of Finances

Accounts Section has been focusing on effective cash management and internal controls as a way of proper utilization of budgeted funds. Some areas, however, need improvement and streamlining to ensure efficiency and effectiveness.

Table 3 . Arrears of Revenue

DESCRIPTION	BAL.	1 MNTH	3 MNTH	6 MNTHS	9 MNTHS	1 YR & OVER	2 - 5 YRS	OVER 5 YRS
MEAT INSPECTION	1,071	0	0	0	0	0	1,071	0
KRS CHEMISTRY LAB	2,391	2,391	0	0	0	0	0	0
ELECTRICITY CHARGES	274	0	85	58	0	115.62	16	0
WATER RATES	12,775.96	33	2,664	130	644.83	714.42	2,730	5,860
SALE OF SHEEP AND WOOL	7,765	0	0	0	0	0	7,765	0
BATIRI PINEAPPLES	7070	0	0	0	0	0	0	707
COCOA DEVELOPMENT	3,390,720	0	0	0	0	0	132,949	3,257,77
IRRIGATION & COMMERCIAL	14,720	0	0	0	0	0	23,188	91,533
LAND DEVELOPMENT (ADP)	4,237	0	0	0	0	0	0	4,237
LENDING FUND ACCOUNT	16,446	0	0	0	0	0	0	16,446
REVOLVONG FUND ACCOUNT	428,502	0	0	0	0	0	0	428,502
TOTAL	\$979,609	2,425	2,749	188	644.83	830.34	167,719	3,805,054

The above table shows Arrears of Revenue totaling \$3.9 million and currently recovery of outstanding debts are in progress

TABLE 4.

BUDGET ALLOCATION BY DIVISIONS 2011							
PROGRAMME	APPROVED PROVISION	REVISED PROVISION	OPERATING BUDGET	CAPITAL BUDGET	VAT	TOTAL COMMITMENT	% UTILIZATION
HR&F	6999419	6714139	5041214	1517131	155795	6529301	93%
EP&S	2637027	2523571	1054940	1460870	7760	2545435	97%
RESEARCH	4047252	3963167	3141230	677363	144574	3571277	88%
INFORMATION	273157	273157	268457	0	4700	280133	103%
LWRM	9347442	9347442	2374415	796468	774029	8961083	96%
EXTENSION	10143141	10028174	5013492	4302282	712400	9639155	95%
AH&P	9424471	8847188	3369997	5449690	27500	8976306	95%
LRPD	1812109	1141530	986329	130000	25200	931371	51%

The table reflects the Annual Budget allocations against total annual commitments by Divisions, as generated from the Financial Management Information System (FMIS). Although internal controls have brought about improvements compared to previous years, accounts section still encountered problems of implosion that contributed to the delay in preparation and timely submission of financial reconciliations.

## INFORMATION AND COMMUNICATION

The Information and Communication Section had an excellent achievement during the year 2011. The section was provided with the total budget of \$255,300 for the year and managed to provide \$759,881.41 of total publicity to the Department of Agriculture. The publicity value increased by 22% from the \$589,389.00 worth of publicity provided in 2010. The increase was mainly due to the concerted efforts by the staff of the section in collaboration with an excellent support from the Heads of Departments. The section staffs had to travel around the country for a week or two to gather information despite having short of staff.



### HIGHLIGHTS

There was an increase of 22% (from \$589,389.00 to \$759,881.41) in the value of publicity of the Department of Agriculture in the mass media (Newspaper, TV and Radio) in 2011 compared to 2010

Newspaper publicity value went up from \$298,469.36 in 2010 to \$318,931.41 in 2011 – an increase of 6.4%. The big mover however, was radio and TV publicity value that skyrocketed by 34% from \$290,920.00 in 2010 to \$442,700.00 in 2011.

This value did not include the weekly (Hindi – 5 & I-Taukei – 5) Agricultural Radio programmes that were aired with Government sponsorship through the Fiji Broadcasting Corporation's radio stations. It also did not include hits on Internet publicity through the Ministry's website.

The high achievement was attributed to the excellent staff morale, good team work and partnership between the Section and the major Divisions of the Department and support of the Media.

## ACHIEVEMENTS 2011

### PRESS & PUBLICATION UNIT

The Press and Publication Unit is regarded as the flagship of the Information Communication Section public relations efforts especially in urban and peri-urban areas. This is where most of the policy and decision makers of government live and are often influenced by what they read in newspapers.

The main function of the unit is to gather information from stakeholders, farmers and officers of the Ministry and package that information as a media release, farmers leaflet, technical bulletin, market watch, poster etc before disseminating the information to members of the public through media.

The total amount of newspaper publicity for the year was \$318,931.41 – an increase of 6.4% compared to \$298,469.36 in 2010.

This increase was mainly due to the concerted effort by the staff of the Unit in collaboration with excellent support from the Ministry's Senior Management and Heads of Divisions. It was also due to the dedication of our staff to lift the image of the Ministry. As for the publications, the production of publications for Crest Agriculture Show, Invitation cards for major events and the Farmers Leaflet, Technical Bulletin and Market Watch was a highlight of publication unit together with producing the newsletter partly in colour.

## MEDIA RELEASES



A total of 246 stories including English Press feature, Press release, Market Watch stories, Media responses and the vernacular translations were produced this year compared to 299 stories in 2010 which was a drop by 17%. The drop in the number of stories was due to the shortage of staff in the Section. Also 105 events were covered through media coordination by the Section. The press and publication unit has only two technical staff with one graphic artist and were also assisted by the radio staff in terms of writing articles when on tours.

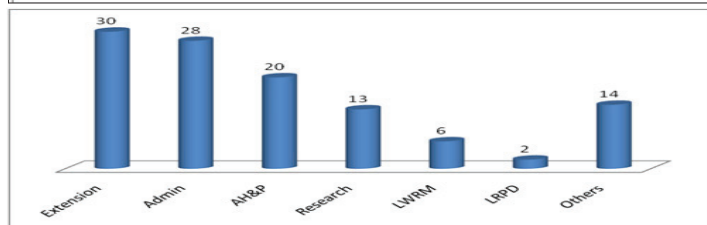
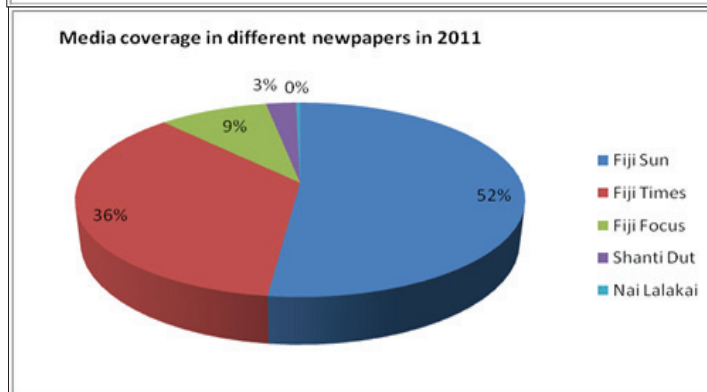
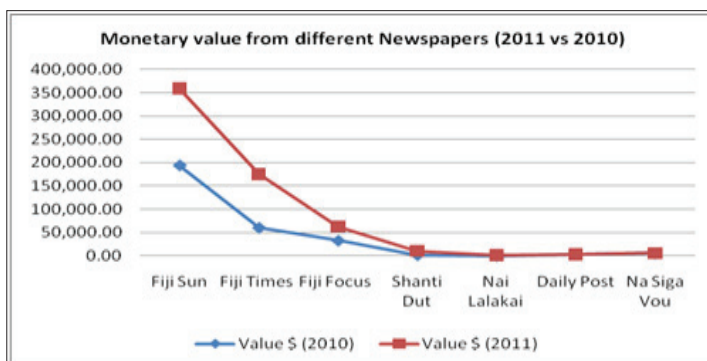
**TABLE 5. Comparison of Target vs Actual for 2011**

TYPE OF STORY	TARGET	ACTUAL RELEASED	PERCENTAGE ACHIEVED
Press Feature	40	38	95%
Press release	120	113	94%
Media Response	Not Targeted	3	-
Hindi Translation	34	33	97%
Fijian Translation	52	46	88%

Source: Human Resource, Finance and Information Division

In 2011, Fiji Sun again provided the highest publicity to the Agriculture Department than any other newspaper. However, the publicity value decreased to \$165,659.17 in 2011 compared to \$193,959.96 in 2010. The decrease in publicity was due to low publicity of information articles. Fiji Times was on second spot and provided \$114,432.00 worth of publicity in 2011 which was an increase of \$53,881.56 compared to \$60,546.84 in 2010 which. The increase in publicity was due to regular publishing of information articles and also the coverage done on 2011 Crest Agriculture Show. Fiji Focus which is a publication released by the Ministry of Information from this year and is published every fortnight on a Saturday and inserted in Fiji Sun is in the third place and provided \$29,592.76 worth of publicity to the agriculture sector in 2011. Shanti Dut a Hindi paper which is part of Fiji Times was the fourth highest publicity provider to the department followed by Nai Lalakai.

Extension Division has accounted for most press releases as releases were based mainly on crops and extension farming activities and the DDA projects. This is followed by Administration due to a number of tours and staff related comments made by the Minister and Permanent Secretary.



## THE INFORMATION TEAM

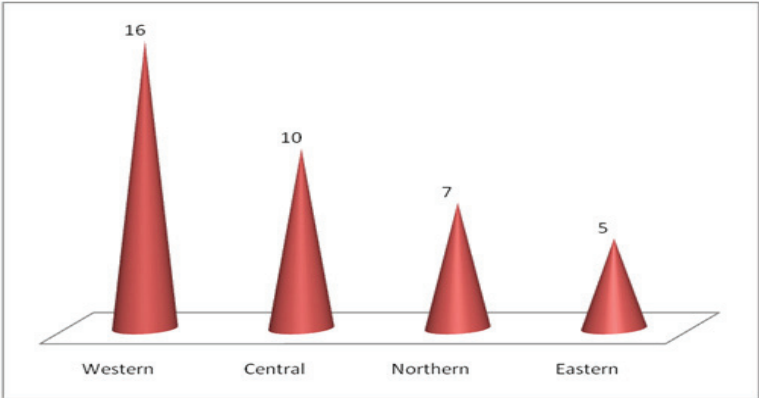


Compiled by Economic Planning & Statistics Division, 2012

AH&P Division is placed third followed by others that included releases from Fisheries Department, BAF and 2011 Crest Agriculture Show. Coverage on the Research is fifth followed by LWRM and LRPD.

### Number of Press Features for the Geographical Divisions

There were 16 press features for Western, 10 for Central and 7 for the Northern Division due to more tours to these three divisions by the section and the minister, followed by five from the Eastern Division.



### Gender and Ethnic Coverage by Press Features

More coverage was given to iTaukei farmers than Indo Fijian farmers. As expected, more coverage was given to men involved in agriculture than women. But with better collaboration with the Extension & AH&P Divisions, more focus can be given to activities with involvement of women in agriculture.

TABLE 6.

PERCENTAGE OF GENDER PUBLICITY	
Gender	Number
Male	36
Female	2

Source: Human Resource, Finance and Information Division

### PUBLICATION UNIT

The major highlight of the Unit was the achievement of all the targeted activities for the year. The Unit produced publications such as:

- Market Watch
- Newsletter
- Technical Bulletin
- Farmers Leaflets
- News today
- Fiji Farmer
- Crop Farmers Guide

All publications are now available on the DOA Website ([www.agriculture.org.fj](http://www.agriculture.org.fj))





In 2011 most of the targets of Publication Unit were met though there was shortage of staff. The unit had one attaché from June to November who assisted in writing articles for Market watch and translations of publications.

This year Publication Unit updated and printed 2000 copies of Crop Farmers Guide, 16 new leaflets from which 13 were on CODEX Standard on Coconuts and Coconut Products. One of the major achievements of the Unit was the successful completion of all Crest Agriculture Show publications.



TABLE 7

PUBLICATIONS PRODUCED DURING 2011 & 2010 AGAINST TARGET				
Publication	2011 Target	2011 Achievement	2010 Target	2010 Achievement
News Today	249	237	249	245
Market watch	6	6	18	7
Farmers Leaflet	4	16 new 7 updated	4	3
Technical Bulletin	6	4	8	3
Newsletter	6	6	6	6
Fiji Farmer	4	4	4	-
Research Release	-	1	-	1



## RADIO AND TELEVISION UNIT

The unit started the year very well in its effort to inform and educate farmers and other stakeholders of the agriculture sector.

It has surpassed the publicity value for the Press Unit. Total publicity value for the year was \$442,700.00 (refer table: 11) compared to \$318,931.41 for the newspaper publicity. It was also a year in which the Unit worked very closely with Fiji Television and Fiji Broadcasting Corporation in terms of supplying them with news releases. During the year, 96% of our programmes were aired representing a shortfall of 4% over the target. The shortfall has been mainly due to unavailability of presenter to produce the programme when they were on sick leave and also during the soccer commentaries on Radio Fiji Two's Hindi programme. During the year, 477 radio programmes were aired against a target of 497 representing a shortfall of 20 programmes or 4%. This shortfall was as per reasons explained above.

### Issues Covered

A total of 927 issues were covered during the year against a target of 750, representing an increase of 24 percent. The increase was mainly due to the use of telephone recording to interview staff from the field and the support of Heads of Divisions. Fiji Broadcasting Corporation has the highest value and it was a huge achievement for the unit in terms of media coverage (Refer to Appendix 3). This value in Radio and TV publicity did not include the 4 documentaries (Agriculture Show 2011) Naveicovatu Farming Group - 1, Taro Pathways – 1, Wainibuka Dalo Farming – 1.

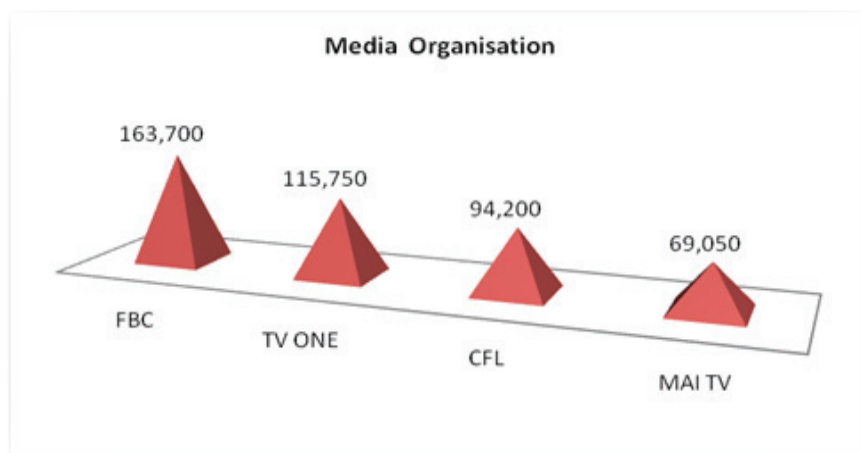


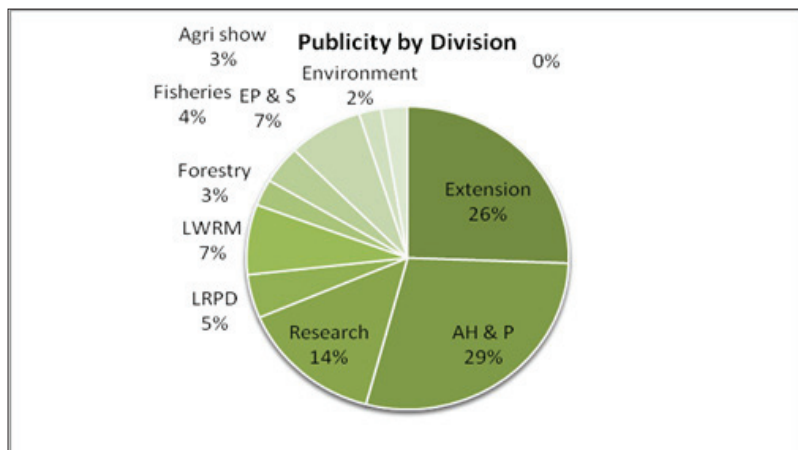
TABLE 8

ACHIEVEMENTS COMPARED TO 2010 ACHIEVEMENTS				
	2010		2011	
Radio Unit	Target	Achievement	Target	Achievement
Issues covered	720	732	750	927
No. of programme	500	487	497	477
News Value (Radio/TV)		\$290,920.00		\$442,700.00

Source: Human Resource, Finance and Information Division

### Publicity by Division

Out of 248 programs targeted for the i-Taukei language, 241 programs were achieved and for the Hindi programs out of 249 programs targeted, 236 were achieved. This shortfall was mainly due to the unavailability of presenter to produce the programme when they on sick leave and also during the soccer commentaries on Radio Fiji Two when the Hindi Radio programme is not aired.



## **AGRICULTURE HELP DESK ANNUAL REPORT FOR 2011**

Customer Help Desk is a service provided by the Ministry to assist customers requiring information on agriculture related issues. It was launched by the Interim Minister for Primary Industries Mr. Joketani Cokanasiga at the Fiji College of Agriculture on Friday July 4th, 2008.

The aim of Help Desk is to respond quickly (within three working days) to customer queries or request for services. It provides a direct link between Ministry customers and decision makers with the aim to improve turnaround time for service delivery and customer satisfaction. The customer Help Desk provides a single point of contact through the communication channels. When a customer makes an enquiry to the Help Desk, all details about the customer and his/her requests are recorded in a form. The filled form is either faxed or emailed to the appropriate Heads of Departments to respond within the specified time limit either directly to the customer (with a copy of his/her response to the Help Desk) or to the Help Desk who will then forward it to the Customer.

### **How it works?**

Out of 552 clients, 147 or 27 percent were farmers, 89 or 16 percent were local stakeholders, 100 or 18 percent were overseas clients, 139 or 25 percent were general public. 47 or 8 were students and 30 or 6 percent were Agriculture staff, media and staff from other government departments. Most number of clients of Help Desk were local farmers, general public, clients from overseas and local stakeholders

### **Mode of contacting Help Desk**

Out of 552 clients, 410 or 74 percent used email to contact help desk, 138 or 25 percent used the help desk direct line and 4 or 1 percent contacted help desk by postal and in person. Help Desk was launched in July 2008 and since then most of the clients used email to contact for assistance.

### **Constraints**

Some HODs were prompt in responding while others took a lot of time without notifying help desk.

Many calls were received by help desk for the staff around the HQ due to the problem with the line 3384233. Most of it was not recorded because the clients disconnected after they were given other numbers to call. At the moment only one officer is handling the help desk requests together with other duties of the Section. When the calls are handled by other officers it is not recorded properly.

## **AGRICULTURE IT**

### **ROLES AND RESPONSIBILITIES:**

- Provide Technical Support in maintaining and upgrading the Department Of Agriculture's Infrastructure and its security requirements in line with the national ICT development spear headed by Government ITC services.
- Responsible for attending to any request from users in troubleshooting or any other IT related activities.
- Responsible with the development of in-house applications as required by the department, providing helpdesk support/ training and professional advice to Users on existing in-house applications.

### **2011 Developments**

The year 2011 was earmarked for Infrastructure upgrade whereby most of the Agriculture Stations Fiji wide had undergone network upgrading and getting the station connected to Govnet. The development was carried out from the 2nd quarter through to the 3rd, the planning phases of the HR Database and Corporate Intranet Site.

A few of the in-house initiatives was the launching of the Department Short Codes in collaboration with private stake holders Vodafone and New Net. The aim was in line with the Departments plan to set up a call center in line with Government Contact Center (132777) based at ITC. Phones were deployed to stations that were earmarked to be the center or main station at a particular region and farmers can call the number from anywhere from their mobile phone. The service was applicable to Vodafone and Inkk Users only.

### **Unit Strategy:**

#### **Strategy:**

Think Big, Start Small, and Scale Fast

#### **Agents for Change:**

Inspire, Lead and Transform





## ECONOMIC PLANNING AND STATISTICS

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 presidents mandate.

### CORE FUNCTION OF THE DIVISION

The core function of the Division is to facilitate policy advice through policy analysis utilizing appropriate economic and econometric tools and modules formulating appropriate ministerial support relevant to the overall development of the sector.

This will be implemented with 10 appropriate strategies or outputs, which will be undertaken by four units: Fiji AgTrade; Project and Budget; International Relations and; Statistics Unit:

#### The strategies are:

- To formulate the agricultural sectors development policies in appropriate Strategies and subsequent program activities in accordance with the government strategic plan; the strategies intended include: Policy advice and formulation with formalize program activities, ensure the reliability and validity of the Data in the Division, Analyze Investment policy's viability and its relevance to the agriculture sector development. The performance indicator would reflect a relevant policy adopted and advice accepted, and papers.
- To explore market opportunities through marketing research and intelligence to facilitate private sector marketing prospects of agriculture produce, both locally and abroad. The intended strategies include; subscription to market bulletins such as Public ledger, collate market data such as, market prices, marketing prospects, and chain studies, participate in marketing workshops and meetings organized by third parties, and; develop and conduct appropriate training to farmers and stakeholders.

- To assess the impact of International Trade regimes on local agriculture sector. Strategies involved here include: attend trade negotiation workshops and meeting; analyze draft trade agreements; attend and participate in trade capacity building at all levels, and provide appropriate advice to Management on the impact of trade rule towards the sectors development and performance for appropriate advise to management on the impact of trade rule towards the sectors development and performance for appropriate policy maneuver and decision.
- To establish and enhance effective sustainable linkages with external organizations, including Global Donor Agencies at Bilateral, Plurilateral and Multilateral levels. The intended strategies include; creation and monitor of database on funding mechanism made available in all signed agreements and conventions, and; consolidate appropriate advice in the utilization of such funding to unfunded projects that will facilitate the overall development of the sector.
- To collate, compile and analyze agricultural statistics aimed to assist in policy formulation. The intended strategies are to collate and ensure the reliability and validity of production, trade data; collate market prices; and disseminate appropriate reports and dataset to stakeholders
- To analyse policy and assess its impact to the agriculture sector. Strategies involved include: inter –unitary approach in the assessment and appraisal of identified policy with the aim of appropriating advice to management on and as when required basis.
- To assist in the identification, preparation, monitoring and evaluation of all agricultural projects in Fiji. The strategy approach employed here include: consultation, this will employ strategies that undertake project appraisals in consultation with extension and relevant stakeholders; compile all submitted project in accordance of Finance Ministry PSIP requirement for submission to Finance; Compile and submit QPPR's RIE'S including PSIP's .
- To coordinate preparation of the ministry's annual budget with emphasis on the capital expenditure on quarterly basis. The strategy included: appropriation of projects to be funded; consult with relevant divisions on projects objectives and appraise for funding; submit to MOF with appropriate draft budget speech.

- To provide executive support services to management and appraise consultancy services to individuals and organizations, when required. The strategy include: appraisal for comment and advise on exercise: activity and appraise consultancy services to individuals and organizations, when required. The strategy include: appraisal for comment and advise on exercise: activity and documents necessitated by management; follow up and appraise projects as commanded by management and senior officers; compile and formulate reports on workshop and training in trade and market analysis; project appraisal and monitoring; and report writing. The strategies include: appraise, endorse and approve staff training needs for capacity building; monitor staff reports and appraisals on workshop, meeting and training attended; assess training and capacity building needs of the section for recommendation to management, and; liaise with appropriate third party on appropriate capacity building programme for staff engagement, secondment, and attachment programs.

#### BUDGET AND PROJECT



The Projects and Budgets section was responsible for the co-ordination of the Ministry's 46 Capital Projects amounting to \$23 million and undertaking the preparation of 2012 PSIP proposals.

The Budget and Project Section appraised fifty nine (59) capital projects for submission to the Ministry of Finance & National Planning (MFNP) under Public Sector Investment Programs (PSIP).

This included 5 major Demand Driven programs; Sigatoka Valley Improvement Program, Import Substitution Program. Export Promotion Program, Rural and Outer Island Program and Dairy Industry Support Program totaling \$4.5 Million. With the assistance of the 4 program coordinators, funds were made available for effective implementation of these programs. Financially, these programmes recorded 90 - 95 percent achievement against the total funds released.

The section continued its core function in the preparation, vetting and submission of Requisitions to Incur Expenditure (RIE's) and Quarterly Reports for Line-Divisions for the release of funds from MFNP. The team also monitored the DDA projects for 2010 within the Central/Eastern, Western and Northern Division.

#### AGRICULTURE STATISTICS & CENSUS PROJECT

##### STATISTICS

- Collected and collated data on production volumes, prices, values, exports and imports of agricultural products. Disseminating information within the Ministry, other Ministries/Departments, statutory organizations, NGOs, to the private sectors and other stakeholders.
- Source of information to international institutions such as the UNDP/ FAO and IMF. 'Quick response' data requests were also made available to the private sectors, NGOs, and regional organizations.
- Continued a major task, in conjunction with the Fiji Bureau of Statistics, National Planning Office and the Reserve Bank of Fiji to re-calculate the GDP of the primary sector.
- Processed over 150 data requests from different stakeholders.
- MIS reports were prepared on a quarterly basis which was used as a tool for the quarterly Macroeconomic forecasting with RBF, National Planning and Fiji Islands Bureau of Statistics.
- Undertook the task of compiling Department of Agriculture's Annual Report for the year ending 2010.

##### CENSUS

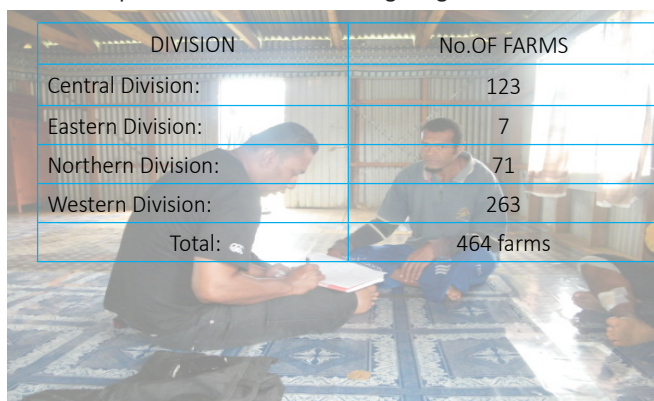
Agriculture Statistics Section is tasked with the management of agriculture statistics activities in terms of the collection, compilation and provision of good quality and timely data for policy and decision makers of the department. During the year, the section's major achievements were:

##### Completion of the 2009 National Agriculture Census Project

A full report of the project was documented and officially launched in July during the Agriculture Show and was also presented to Cabinet. The report provides benchmark data on the structure of the agriculture sector in the country. Further to the launching of the report, three Dissemination workshops were conducted in the Central, Northern and Western divisions to inform stakeholders, data users, and other government institutions on results of the census report

##### List Sample Framework GPS Plotting Program.

DIVISION	No.OF FARMS
Central Division:	123
Eastern Division:	7
Northern Division:	71
Western Division:	263
Total:	464 farms



LSF GPS Plotting exercise was aimed at the physical location of all major agriculture holdings and freeholds for future agriculture survey programs. A total of 464 farms of around 75 ha and above were captured during the agriculture census that were again visited during the year to physical locate farm areas using the Global Positioning System [GPS] and stored in GIS Database. Below is the breakdown on the no of LSF farms by division

#### DDA Projects GPS Plotting Program

During the year, DDA GPS plotting program was also undertaken by the section to assist the EP&S Division in capturing the physical location of all projects that were assisted under the DDA program. The exercise started during the year focusing only on 2010 projects however this activity will be continued next year in order to fully capture the remaining DDA projects that were assisted ever since 2007 until 2011. All information captured are stored in the DDA Project database. Below is the breakdowns of all farms captured from each division are as follows:

DIVISION	No.OF FARMS
Western	34 farms
Eastern	31 farms
Northern	29 farms
Central	55 farms
<b>Total</b>	<b>149 farms</b>

#### Potato Survey Program

Another activity undertaken by the section was conduct of Potato Survey program to farms that were assisted under the Potato Development Program. The survey was carried out towards the end of the year in Nadroga, Ba and Ra provinces whereby a total of 238 potato farmers surveyed basically aimed at assessing the impact of the program and to gauge the farmer ability in the continuation of the program in future without Government assistance. The survey was timely which also boosted the section in gaining experience on the program. Survey results were collated, edited, coded and entered into the database with a total of 238 and a full report is expected before June 2012. Taro Pathway Field Experiment in Taveuni

During the year, the section also participated in above program coordinated jointly by the Secretariat of the South Pacific, Biosecurity Authority of Fiji and DOA to determine the quality of taro being exported with the use of crates.

#### FIJI AGTRADE

The core function of Fiji AgTrade is to improve trade of Agriculture produce and input with trading partners locally and abroad and advise management and line Ministries on trade activities relating to Agriculture. Such advice include; Trade and Investment Policies; Food Safety Concerns; WTO and specified agreements. Fiji AgTrade was set out to work on three major areas; Market survey; Marketing Information and Trade Facilitation.

#### Market Survey

A total of 48 weekly market surveys were carried out and reports prepared. Two MIS training was also conducted during the year.

#### Market Information

The Market Information Section compiled 3 quarterly bulletins and compiled 2 commodity plans for dalo and cassava. One ITC workshop on Trade at Hand with selected farmers was also held in Sigatoka.

#### Trade Facilitation Committee (TFC)

- Facilitated attendance of Fiji's Delegate to Codex Alimentarius Committee
- Facilitated 3 Agriculture Investment Committee meeting
- Draft and finalized National position for CAC
- Facilitated 2 Codex Committee meeting
- Facilitated 2 Fiji Agro Processors meeting; Draft and circulate By-Laws and MOU for comments.
- Draft NCC Trust Fund Application Form and gather reports and signatures of proposed attendants.
- Research and Facilitate comments on Ractopamine for delegates to the CAC meeting in Geneva.
- Compile and Submit Exporter's (Ben's Trading) proposal to National Export Strategy for assistance.
- Complete paper on Prawn virus as requested by NCC

#### POLICY ANALYSIS & INTERNATIONAL RELATIONS

The unit's core function is to provide policy advice and execute support to Management, analyze trade agreement and collaborate on International relation (Bi-lateral and Multilateral) that benefits the Agriculture Sector.

A number of networks were established, workshops attended and presentation with stakeholders;

- A number of MOUs have been facilitated with local and international partners (Taiwan and Solomon Islands). Preliminary briefs have been conducted with the Foreign Mission Offices to strengthen relationships and develop the Agricultural Sector in Fiji including the Australian, Indian, Chinese and the Russian delegates.
- Hosting of the 3rd China-Pacific Island Countries Forum on Agricultural Cooperation from 31st August–4th September 2011
- Hosted DRM Workshop with local, regional and sub-regional agencies and Draft Action Plan formed from 3-4th October 2011
- Facilitated funding request for National Council for Women, International conference at UNDP and SPC 8th November 2011



## AID FUNDED PROJECTS

The Department of Agriculture (DOA) appreciates the partnership and overwhelming support of International agencies to support the challenges and needs of the sector in combating the issues and problems at hand. DOA by 2011 technically administered 25 aid funded projects in Fiji. From 2008 – 2011, there were a total of 17 completed projects, 6 ongoing and in progress while 3 are awaiting to be implemented. The major fraction of the aid was sourced from the United Nation Development Programme and Global Environment Facility (UNDP/GEF) in value, followed by the FAO which funded about 10 projects. Australian Centre for International Agriculture Research (ACIAR) have contributed to 8 funded programmes, 2 projects funded by the NZ High Commission (Head of Mission Fund), 1 project funded together by ACIAR/SPC (Secretariat of the Pacific Community) and 1 project for United Nations Development Program.

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

#### Integrated Pest Management in a Sustainable Production System for Brassica Crops in Fiji

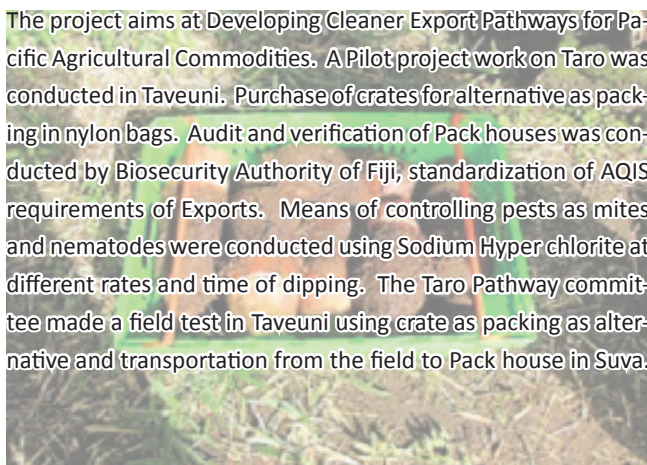
The aim of the Project was to facilitate farm survey on Brassica Crops throughout Fiji to determine parasitism levels in Fiji. With the assistance from SPW, 3 plots were planted. A threshold study on Brassica crops was carried out. Insecticide were sprayed considering the pest population, 2 trials planted at Farmers field LuvuLuvu – Nausori, Dubalevu Sigatoka; Insecticide trial planted at SRS – to see effectiveness on control of insects.

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

This project was aimed to develop a system for measuring and forecasting the magnitude of smallholder subsistence production, consumption, sales and incomes. In 2011, 2nd phase was completed. The final phase has been scheduled to be completed in 2012, developing of an Economic Model for subsistence sector.

#### Taro Pathway Project

The project aims at Developing Cleaner Export Pathways for Pacific Agricultural Commodities. A Pilot project work on Taro was conducted in Taveuni. Purchase of crates for alternative as packing in nylon bags. Audit and verification of Pack houses was conducted by Biosecurity Authority of Fiji, standardization of AQIS requirements of Exports. Means of controlling pests as mites and nematodes were conducted using Sodium Hyper chlorite at different rates and time of dipping. The Taro Pathway committee made a field test in Taveuni using crate as packing as alternative and transportation from the field to Pack house in Suva.



### AUSTRALIAN CENTRE FOR INTERNATIONAL AGRICULTURE RESEARCH PROJECTS (ACIAR)/SECRETARIAT OF THE PACIFIC COMMUNITY (SPC)

#### Improving soil health in support of sustainable development in the Pacific

Declining soil fertility and biological soil health represent a major threat to sustainable agricultural development in Fiji. In Taveuni, soil health issues in intensive taro production have arisen mainly through unsustainable practices and an over-reliance on inorganic fertilizer and weedicides and this project entails looking into solutions to these problems. Preliminary trials and six monthly yield component data collection, trial management and data compilation done. Harvesting was carried out in last quarter of soil fertility trial, yield recording, data presentation and soil analysis after harvest. This trial was established in Savusavu with state funding.

### UNITED NATIONS DEVELOPMENT PROGRAMME/GLOBAL ENVIRONMENT FACILITY (UNDP/GEF)

#### Pacific Adaptation to Climate Change Project (PACC) - Piloting Climate Change Adaptation through improved drainage networks and infrastructure to ensure food security

This project is part of the wider GEF Pacific Integrated Water Resources Management project being implemented in 13 other Pacific island countries. The project has adopted an Integrated Flood Risk Management approach where water-related issues and the concerns of all stakeholders are considered to improve flood preparedness and management in the Nadi Catchment.

The Department of Environment was distributed US\$10 000 for the development of climate change policy for Fiji Institute review of Drainage Act Review to create as integrated approach. Drainage and Dredging Works were carried out in Qaraniki Creek. The MOA was signed with Koronivia Research Station for undertaking crop adaptive research. Consultancy Contract signed with NIWA to undertake assessment of climate change impacts on drainage networks and infrastructure. There were 6no community awareness meetings including Vunibau Village, and sites were selected for Crop Adaptive Research Pilot Demonstration in Navua and Rewa.

## Capacity Building and Mainstreaming of Sustainable Land Management in Fiji.

The project aims to bring about awareness and educate the nation's land administrators and users on better land use management technologies through research, technology transfer, capacity building, generation and compilation of reliable data to realize and support such activities. It aims to create awareness on the government's recently adopted Rural Land Use Policy and all other relevant legislations. The project is a basis for sustainable environmental, social and economic development and will address sound land management issues that will assist in mitigating land degradation problems and minimize the degradation or destruction of Fiji's land resources.

Training awareness were conducted in Daria village Wainunu attended by 28 community reps with invited resource personnel from Forestry, NLC, Police Force, Land Use, Fisheries; demonstration farms were established -Dreketi Tikina Land care group – Vunisea village. Ongoing establishment of Yavuna demo farm. GIS & remote sensing training for two staff at SOPAC – for mainstreaming of SLM - Amend Land Conservation & Improvement Act to Land & Water Resources Management Decree. A Stakeholder consultation meeting was conducted on National Action Plan on UNCCD review.

### GLOBAL ENVIRONMENT FACILITY

#### Integrated Water Resource Management Nadi Demonstration Project

This project aimed to improve Nadi's Preparedness and Flood Resilience, adopt an integrated approach to improve management of our land and water resources, establish and Integrated Flood Risk Management Plan for Nadi. The LWRM division participated in National Water Resources Management and Sanitation Policy consultation. There was three subcommittee meetings held which were technical community and land and water use.

A Flood Risk Management Specialist – Mr. Stephen Yeo was engaged in 2011. GEF 6th Biennial Conference in Croatia was attended by the Project Manager; NBCC 3rd Quarter Meeting at Nawaka Village, hosting of French Polynesia Delegation on disaster risk management, collaboration with WAF & FMS on rainfall network and water level FLOSYS system training and server installation at Lautoka. Sustainable Land Management demo sites were set up at Navunitawa and Natawa. 6 villages were supplied with 1600 coconut seedlings

## UNITED NATIONS DEVELOPMENT PROGRAMME

### DRM Agriculture Mainstreaming Programme (UNDP)

In response to the floods, with financial and technical support from the United Nations Development Programme (UNDP), the Fiji Early Recovery Response project was initiated by a key implementing partner, the Department of Agriculture (DOA). A Disaster Risk Management (DRM) report on "A Strategy for the Agriculture Sector" was formulated by consultant and endorsed by the cabinet in February 2010.

As part of the Fiji Early Recovery response Project, the DOA organized a two day workshop at Holiday Inn in Suva from 3rd – 4th October, 2011 to share and validate the DRM strategy with key stakeholders at regional, national and sub national level such as United Nations Office for Coordination of Humanitarian Assistance (OCHA), Pacific Islands Applied Geosciences Commission-Secretariat of the Pacific Community (SOPAC-SPC), Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ), Prime Minister's office, National Disaster Management Office (NDMO) and Department of Women as well as civil society organizations and a draft Disaster Risk Management Action Plan was formulated to improve internal and inter-agency coordination.

### TAIWAN TECHNICAL MISSION

Under the MOU, Taiwan Government agrees to send the Agricultural Technical Mission to Fiji to carry out research and demonstration in vegetable, tropical fruits and flower production and poultry. DOA had made land available for the activities in Sigatoka. The Poultry project was handed to DOA in late December 2011.

### NZ HIGH COMMISSION (HEAD OF MISSION FUND).

#### Bee Keeping

The project was targeted for 20 bee hive project for Wainadai Beekeepers Club with Basic bee keeping materials and equipment. Training of the beneficiaries was conducted on beekeeping husbandry practices. Module 1 completed with certificates awarded to 2 coordinators of the project.

Bee Hive Construction & Bee suit Making Machine  
Bee Keeping (Nawaicoba Mothers Club)

This project entailed to purchase sewing machine, bench saw machine, basic beekeeping equipments and materials and other accessories for sewing bee suits, materials for bee hive boxes and equipments to harvest honey. Training was conducted on Module 1 (Basic Beekeeping) and Module 2 (Construction of Bee hives).

FAO PROJECT

TCP/FIJ/3201: (baby project

Pacific Market Access Fiji.

Assistance was provided to review Food Inspection Services (US\$32, 840). The project aimed to train food inspection staff (Health, Biosecurity, and Customs) and Codex committee. Report was submitted and published.

TCP/FIJ/3203: The project funded the National Agriculture Census (NAC) 2009 with US\$354,000. The NAC reports were published and launched during the Agriculture Show in July 2011. This project was completed in 2011.

TCP/FIJ/3301: Opportunities and Requirements to replicate the experiences of Tutu Rural Training Center.

A total of 7 different courses were conducted including Married Couples Course, Young Single Men Course, Young Single Women Course, Parents Course, Leadership Course, Village Courses and Extension Courses.

TCP/FIJ/3302: Emergency Assistance to Support the Recovery of Agriculture Livelihoods systems of cyclone affected families.

US\$373,000 of funds was approved under this project in 2010 and is in progress. This project aimed to:

- (1) Re-establish 12,000 affected farmers in their food crop plantation and home gardens.
  - (2) Re-establish 1,000 affected livestock farmers to re-grow their damaged pastures.
  - (3) Establish three (3) green house nurseries to continue propagation of planting materials for farmers in affected areas.
- The delay in implementation was due to staff turnover and other work commitments.

TCP/FIJ/3303: Development of unproductive flatlands for agriculture in Cakaudrove Province.

The project was approved in 2010 with US\$390,000 and is ongoing. DLWRM is envisaged to be appointed as National Project Coordinator. And discussion to call for Expression of Interest on expert on flatland management, agriculture, water, etc, is at its initial stage.

TCP/RAS/3214 (D): Food Security and Sustainable Livelihood Programme (FSSLP) for Pacific Island Countries: National Capacity Building for Strategic Project Identification and Design ( US\$366,000). This project was approved in 2009 and completed in 2011.

Highlights of FAO activities in 2011

- The FAO National Correspondent for Fiji attended FAONC training and FAO National Correspondent Training in Samoa.
- A consultant visited Fiji in March under project TCP/FIJ/3203 Agriculture Census
- A Senior Statistician from RAP undertook a backstopping mission to Fiji in April under the project TCP/FIJ/3203 Agriculture Census
- The Programme Assistant visited Fiji in August under the project TCP/FIJ/3303 Development of unproductive flatlands for agriculture in Cakaudrove Province.
- The FAO National Correspondent training in the FAO Office in Samoa in August







## ANIMAL HEALTH AND PRODUCTION DIVISION

The Animal Health and Production Division report comprises of the Demand Driven Programme report, the Production Report, the Livestock Health and Disease Eradication report and the livestock Research Report.

### DEMAND DRIVEN APPROACH

The Demand Driven Approach Report include the Export Promotion programme, Food Security programme, Rural & Outer Island programme and the Dairy Industry Support programme implemented during the year. A total of \$1,720,489.27 was allocated for the implementation of the projects under the four programmes.

### Export Promotion Program

The initial objective was to increase production of local commodities which can be exported overseas to enhance Economic revitalization and increase the nation foreign reserve. The production of various meat and meat product will not only provide for food security and income generation but also provide an alternative source of protein which is affordable and nutritionally acceptable. The division fully utilized the amount of \$227,657.00 that was allocated under the program.

### Strategies

The strategy designed in villages was to sustain the local communities in addressing food security and generating income to meet financial obligation. Technical and Farm Assistance for farm establishment/improvement will be supplied to farmers in a partnership agreement where recipient will be expected to provide labour, and materials apart from roofing iron, breeding stock, Cement, concrete blocks, weedicides, fertilizers, fencing wires, pasture seeds, beehives, pine posts, stock feeds and water tank.

A total of 62% of these projects is located in the least developed areas in the Lomaiviti group and it benefits 550 people and 5000 indirectly as 10 of these projects are Women's group based in Lomaiviti which is in Ovalau, Batiki, Nairai and Gau. The remaining 38% are projects identified from the marginalized or least developed areas in Vanua Levu which include Navakasiga, Wailevu and Vaturova.

### Analysis of the Programme

- The project implementation is below par which may be attributed to the delay release of funds as most of the procurement was done in late December during the festive seasons coinciding with the unreliable shipping schedule.
- The Maritime province of Lomaiviti had a nil implementation rate as compared to Vanua Levu (60% Implementation rate) because of the regular shipping service.
- The implementation of Maritime projects is delayed by poor coordination and the inconsistent shipping service to the Lomaiviti Group.
- The capital funds of \$156,000 were evenly distributed amongst the marginalized maritime Tikina and Vanua Levu Tikina.
- A total of 60% of the Export Promotion Livestock project was established in the Central/Eastern province with a total value of \$94,381.
- A total of 550 direct and 5000 indirect beneficiaries to the Export Promotion Program of 2011.





This programme targeted the food security component of 2011 budgetary allocation for the agriculture sector, and indirectly targeted the three components of the national agricultural development priorities or the road-map-quick economic recovery, food and income security and poverty alleviation. The targeted commodities under the program include Beef, Sheep, Goat, Pigs and Poultry. A total of 74 proposals were forwarded from the Division for approval out of which 30 projects were approved. Most of these projects were successfully implemented with the fund of \$262,842.49 approved for the year

#### Strategies

The factors that determine the approval of projects include the availability of land-area and tenure, stock numbers, site selection, market, beneficiaries, project viability, risks, resources available, provision for expansion of project and other opportunities.

#### Targets and Achievements

The 2011 Business Plan indicated assistance to three commodities– Sheep, Beef and Poultry under the Food Security Programme. However, projects on piggery and goats were also approved under this programme.

#### Socio– economic Impact

The projects contributed to increased production of various livestock commodities locally and also reduction in imports. These resulted in increased income for farmers and employment opportunities for locals. Also provided additional protein source for farmers and locals which reduced dependency on processed food thus reducing the risk of non communicable diseases.

#### Analysis of the Programme

Overall, the programme in 2011 had significant impact on the production, income generation and employment. The unapproved projects had negative impact on the targets that were set for some commodities in the business plan while those approved projects had significant impact socially and economically.

A total of 47% of the projects were for the development of small holder piggeries (8), 17% were for poultry project and 12% each for beef, apiculture and sheep. A total of 17 projects were approved under the programme with total value of \$302,780.62.

#### Strategies

The main objective of the ROI programme was to increase agricultural production especially in the rural and maritime zones. Through this, farmers were to be assisted with prioritized measures to increase production from the current level to either semi or commercial level.

#### Comparison

A total of 17 projects were approved under the programme out of which 47% of the projects were allocated for the development of small holder piggeries, 17% were for the poultry project and 12 % each for beef, apiculture and sheep. However, apiculture was the highest in monetary value due to the inclusion of the apiculture commodity being funded by the programme.

#### Socio– economic Impact

- Reliable income to support the households and communities daily needs which is improved nutrition, medicinal, education and housing.
- Reduced urban drift and also have created employment for the needy communities, school dropouts and youths of the day.

#### Analysis of the Programme

Projects under ROI were distributed evenly with Central/ Eastern division implementing the most of 13 projects which accounts for 77% of the total projects. Apiculture production achieved 35% of the target which is 400 tonnes, and this is due to the change in weather pattern and effects of American Foul Brood (AFB) disease. Additionally, funds allocated during the year were not fully utilized as it was diverted to other projects.



## DAIRY INDUSTRY SUPPORT (DIS)

The DIS Programme focuses on improving productivity and efficiency for all dairy farmers to meet the increasing demand of dairy products in Fiji and thus reducing imports. There was \$850,000.00 allocated under the program out of which \$825,526.00 was utilized by the division.

### Strategies

The programme focus on the activities related to key areas such as pasture development, genetic improvement, semi-intensive feeding and dairy infrastructure development. Projects under DIS were distributed evenly with Tailevu province implementing the most which is evident in the high number of projects submitted from the province which is equivalent to 50% of the total approved amount while Serua Namosi Province recorded the least amount of projects of 6% of the total amount approved.

### Socio-economic Impact

The total direct beneficiaries to the DIS project is estimated to be 2600 and 26,000 indirectly including FDCL consumers. Tailevu province accounts for 50% of the total DIS recipient with a value of \$329,883.95 while Serua/ Namosi accounts for the least DIS recipient of 6% with a value of \$31,296.80.

### Analysis of the Programme

The DIS program contributes 13% [1,310,593litres] to the Formal sector production of 9,613,160 liters with a value of \$1.7 million while \$7.5 million produced by non DIS assisted farmers. This indicates that the Dairy Industry in the country is well established because of the continuous assistance during the past years which contributes 87% of the current national production. A total of 1094 cows were inseminated with imported Dairy semen with a total of 875 calves expected next year.

## PRODUCTION

### BEEF

A total of 9679 cows (breeders) were recorded with a total stock of 26,888 with Western Division recording the highest number of stock of 11,704 while Central/ Eastern recorded the lowest stock of 4,737. These stocks were recorded from 596 farms which also include larger operation farms such as Yaqara Pastoral Company and two Estate farms. As usual most farms were scattered in the rural and very remote areas and that most of them ranges from semi subsistence to semi-commercial level.

Beef production through the formal market recorded a decrease in the number of animals slaughtered. The total number of animals recorded for slaughter in the 2 registered abattoirs Vuda and Nasinu with the rural slaughter house in the North were 7265 and 444 respectively. This indicates a decrease of 0.7% which is 565 tones less cattle slaughtered compared to 2010 figures of 7830. There is a high demand from the formal market to encourage farmers to supply first grade class animal as depicted by the pricing policies set at two different rates of 1st Grade and 2nd Grade at \$4.50 and \$3.90/kg respectively.

A total of 2197 tones of beef was produced during the year which was 8.6% more compared to 2022.9 tones produced in 2010. The country was able to produce 10% of the total beef consumed while 90% was imported.

Per capita consumption increased to 23.9kg compared to 3.6kg consume in 2010 as 27.61% of the total population do not consume beef. Percentage of local production to imports decreased to 11% compared to 88% produced in 2010.



### BEEF : LOCAL PRODUCTION & IMPORTS (2007-2011)

YEAR	LOCAL					IMPORTS				TOTAL BEEF CON-SUMED BBEQ (t)	% LOCAL TO IMPORTS	PER CAPITA CONSUMPTION (KG)
	No. KILLED	BEEF CARCASS (t)	AVG CARC WT (t)	VEAL (t)	TOTAL BBEQ (t)	FRESH BEEF (t)	CANNED BEEF (t)	BONE-LESS BEEF (t)	TOTAL BEEF BBEQ (t)			
2007	7995	1958	245	0.79	1293	1118	0	0	737.88	2030.83	57	5.3
2008	7754	1870	241	0	1234	3442	0	0	2271.72	3505.72	54	10.2
2009	6860	1719	251	0	1135	1768	0	0	1166.88	2301.88	95	6.2
2010	7830	2022.9	258.4	0.6	1335.5	1792.7	25	0	1183.18	2518.88	88	3.6
2011	7265	2197	322	2.6	1450.02	19767	4.0	263	13046	14496	11	23.9

Source: BAFI, ANIMAL HEALTH & PRODUCTION DIVISION

### DAIRY

For 2011, a total of 9206 milking cows were recorded compared to 8469 in 2010 and this showed an increase of the dairy herd by 8.7%. Additionally, replacement herd (heifers) recorded were 4,264 which were 46% of the current milking herd recorded. There were 387 bulls recorded in the Central Division and in comparison to the current milking herd, the ratio was 1 bull to 24 milking cows.

A total of 257 farmers in the Central/Eastern Division were supplying raw milk to FCDL while 25 farmers were still supplying raw milk. However, a total of 30 farmers were supplying raw milk and ghee in the West compared to 35 farmers in the North. There is a tremendous potential for dairy farming within the sugarcane production area and other small holder farmers.

The self sufficiency level based on milk supplied to RCDC and non factory production decreased to 21% compared to 22% in 2010. However, per capita consumption increased to 5.3kg compared to 5.02 kg in 2010.

Artificial Insemination covers a range of activities which includes Pregnancy diagnosis, synchronize multi-minerals injection and recording.

A total of 3641.56 TMFE of various dairy products was imported during 2011. The largest increase in imports was FMCP of 1459.2 TMFE followed by infant milk of 842.5 TMFE. There was no import recorded for skim milk.

### DAIRY TABLE:

YEARS		Cream	Fresh Milk	Yoghurt	Condensed & Evaporated	FCMP	Infant	Skim	Butter	Ghee	Curd & Cheese	TOTAL
2007	Qty (ton)	194.91	3943.19	76.64	142.1	3309.3	24.49	0	2083.89	441.79	100.8	6373.9
	TMFE	68.2	141.9	3.75	28.2	1055.6	7.8	0	104.84	441.79	33.26	1885.3
2008	Qty (ton)	293.9	1,177.2	52.5	326.6	2,272	350.7	42.2	2,341	118.4	1,068.7	8,043.2
	TMFE	102.9	42.38	2.57	107.8	724.8	111.9	2.1	1,896	118.4	352.7	3,461.5
2009	Qty (ton)	106.31	791.42	62.51	348.10	2748.29	156.29	19.5	2030.41	84	556.91	8081.86
	TMFE	37.2	28.4	3.0	114.8	679.4	50.0	0.95	1644.6	84.0	183.7	3425.07
2010	Qty (ton)	66.18	743.42	62.4	2055.92	2642.18	156.39	19.5	2030.41	51.3	634.53	8462.23
	TMFE	23.16	26.68	2.99	678.02	653.17	50.03	0.95	1644.60	51.30	209.30	3340.21
2011	Qty (ton)	628.1	425.2	30.2	208.1	5902.8	2633.7	0	743.5	322.5	333.3	11227.4
	TMFE	219.8	15.3	1.4	68.6	1459.2	842.5	0	602.2	322.5	109.9	3,641.56

Source: BAFI, ANIMAL HEALTH & PRODUCTION DIVISION



## SHEEP TABLE:

YEAR	LOCAL			IMPORTS			TOTAL		
	NO KILLED	CARCASS (t)	BONE-LESS (t)	CARCASS (t)	BONELESS (t)	CANNED (t)	BONE-LESS (t)	% LO-CALTO IM-PORT	PER CAPITA CONSUMPTION (KG)
2007	1723.0	33.3	14.7	13351.0	5875.0	0	5889.1	0.2	7.1
2008	2494.0	60.2	26.5	13018.0	9092.0	0	9118.5	0.3	10.7
2009	2796.0	61.7	27.2	12637.0	7024.1	4.8	7056.1	0.4	8.3
2010	3549	35.4	27.7	6221.0	737.4	4.2	2734.2	0.9	8.4
2011	4359	78.4	34.54	4134	2459	0	2493.54	0	3.0

Source: BAFI, ANIMAL HEALTH & PRODUCTION DIVISION

### SHEEP

There were 365 farms recorded in 2011 compared to 366 recorded last year which indicates a 0.27% decline in number of sheep farms. This also showed a decrease in population by 10% from 11,268 in 2010 to 10,104 this year. Majority of the farms were located in the Northern Division which was 61% of the total farms in Fiji.

Locally, a total of 34.54 tones of boneless and 78.4 tones of carcass (mutton) was produced with a total production of 112.94 tones. This indicated an increase of 79% compared to 63.1 tones in 2010. Majority of the slaughter was done in the informal market with a total of 73.2 tones while 5.2 tones was recorded in the formal market.

A total of 6593 tones of sheep meat was imported (considering carcass and boneless) during the year compared to 6958 tones in 2010. The self sufficiency level was 0.02% compared to 0.9% in 2010 with a per capita consumption of 3kg compared to 8.4kg last year. There was a decline in per capita consumption as compared to 2010 data.



### PIG

A total of 804 supervised farms were recorded during the year with 3568 sows and a total stock of 24244. Majority of these farms were from the Central Division which accounted for more than 50% of the total number of farms and 65% of total stocks.

A total of 20,099 of pigs were slaughtered at the registered abattoirs producing 1,180 tons of pork. In comparison, there were 17,448 slaughtered in 2010, indicating an increase in slaughter by 15% and tonnage by 1%. However there was a decrease in average weight by 12.3% compared to the same period in 2010. There was an increase in imports which reached 673.3 tones during the year compared to 124.4 tones in 2010.

Per capita consumption increased to 2.4kg compared to 1.5kg in 2010

### GOAT

There were 421 farms recorded in 2011 compared to 406 farms last year with an increase of 3.6%. This also showed an increase in population by 5.7% from 21,689 in 2010 to 22929 in 2011.

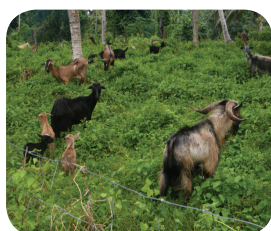
Locally, a total of 566 goats were slaughtered in the registered abattoirs which produce 6.95 tons of Chevon. This indicated a 55 % less of slaughtered animals

registered compared to 1246 goats slaughtered in 2010 and this was mainly due to the restriction of female goats slaughtered. However, majority of slaughtering was done informally producing a total of 127.35 tones of Chevon.

The self –sufficiency level was 92.3% compared to 92% in 2010. The total import for goats in 2011 was 11.2 tones and this was a decrease of 43% compared to 19.8 tons in 2010. The per capita consumption was 0.2kg compared to 0.29kg in 2009.

YEAR	LOCAL					IMPORTS	TOTAL	
	No. KILLED	TOTAL Wt(t)	AVERAGE Wt (kg)	OTHER KILLED (t)	TOTAL (t)	IMPORT (t)	TOTAL CON-SUMPTION (t)	% LOCAL IM-PORT
2007	1233	19.4	15.7	950	969.4	35	1,004.40	97
2008	1,334	14	10.5	969	983	25	1,008	98
2009	1,392	15.9	11.4	238	253.9	14.3	268.2	96
2010	1246	14.2	11.4	213.1	227.3	19.8	247.1	92
2011	566	6.95	12.3	127.35	134.30	11.2	145.50	92.3

Source: BAFI, ANIMAL HEALTH & PRODUCTION DIVISION



#### ONEY

The industry recorded total honey production of 142.4 tonnes for the year which was 57.47% less compared to 334.38 tonnes in 2010. The average honey production per hive was around 14.91kg for the year. Number of farmers recorded for the year was 1030, and increased by 11.35% compared to 925 in 2010. However, there was a 19.69% decline in number of hives as compared to 2010 figures of 11892. The self sufficiency level remained at 100%. Per capita consumption decrease to 0.17kg compared to 0.39kg in 2010.



#### ONEY TABLE:

LOCAL PRODUCTION IN TONNES (2007- 2011)								
Years	No. of Farm	No. of Hives	Total Production (t)	Av. Prod.Per Hive (kg)	Net Imports (t)	Total Consumption (t)	% Local to Export	Per Capita Consumption (kg)
2007	846	10,605	494	46.58	37.77	531.77	92.89	0.64
2008	1,016	12,812	595.12	47.84	54	648.12	91.82	0.74
2009	827	12,101	398.49	32.9	50	448.49	88.85	0.54
2010	925	11892	334.38	32.9	0	333.885	100	0.39
2011	1,030	9550	142.4	14.91	0	142.4	100	0.17

Source: BAFI, ANIMAL HEALTH & PRODUCTION DIVISION

## POULTRY

Locally, a total number of 13,837,468 broilers were slaughtered through the registered slaughter house producing 31180.43 tons of poultry meat. This indicated an increase in production by 82% compared to 173212.2 tons in 2010 .A total of 2823.09 tones of poultry meat was imported in 2011 compared to 1742.9 tons in 2010 and this indicated an increase in import by 62%. The self sufficiency level for poultry production in 2011 was 86% compared to 90.8% in 2010.

POULTRY TABLE:

LOCAL PRODUCTION IN TONNES (2007 - 2011)											
Years	LOCAL						NET IMPORTS		TOTAL		
	No. of Farm	Broil No.	Dressed Poultry Meat (t)	Other Slaughter (t)	Total Weight (t)	Av. Wholesale Price (\$/kg)	Pieces (t)	Whole (t)	Total Consumption (t)	% Local to Export	Per Capita Consumption (kg)
2007	150	11,419,920	16143.2		161432	5.0	-	2564.3	187075	94.5	21.9
2008	140	9,213,760	11970.3		11970.3	5.5	-	2664.2	11973.0	93.5	14.5
2009	120	11,056,240	15642.5		156425	6.5	72.4	1673.4	17388.3	89.9	21.0
2010	120	9,437,143	17321.2	0.9	173221	9.00	69.5	1673.4	19064.4	90.8	22.4
2011	120+	16,988,096	31,180.43	3.6	31,184.03	7.50	2823.09		20811.79	86	24.8

Source: BAFI, ANIMAL HEALTH & PRODUCTION DIVISION



## DUCK

A total of 13.38 tones of duck meat slaughtered was recorded during the year. This was recorded from two registered rural slaughter houses in the country. A total of 5 tones of duck meat were imported during the year. Other backyard productions were not recorded since it was difficult to monitor.

## EGG PRODUCTION

A total 3,640,475 dozens of egg was produced in the formal sector and part of the informal sector. Other informal was unrecorded due to unavailability of data. However, according to the data received, the production decreased by 36.2% as compared to 2010 (5,707,200). Per capita consumption decreases to 44 compared to 77 in 2010.





## Commerce Undertaking

Poor recording system and high cost of transportation to the abattoir are two major problems and these make recording of cattle movement difficult in order to capture the exact figures on the informal market.

Farmers have limited accessibility to good communication and transportation due to their location. The commitment from financing institutions like Fiji Development Bank on beef farming was also not encouraging.

Moreover, lack of commitment on breed improvement through Artificial Improvement (AI) is also a major obstacle. On the other hand, piggery was affected in terms of high feed cost, shortage of weaned supplies to farmers, de-regulation and high price of pork.

Most industries were faced with high input costs, prolonged wet weather conditions, late release of funds, expiring of land leases, wild dogs attack, and high cost of anthelmintics, poor infrastructure and lack of training.

### HEALTH AND DISEASE ERADICATION

The Health and Disease Eradication report covers the Regulatory with Brucellosis and Tuberculosis Eradication programme carried out during the year with total funds of \$584,046.00 approved for the year. This fund was used for the improvement of the premises and other important activities such as Tuberculosis and Brucellosis testing. Other works include veterinary cases, drug sales, castrations, tuberculosis testing, animal impounding, brand registration and dog licensing which were all part of the Regulatory unit and the extension arm of the division.

#### Commerce Undertaking

The Regulatory Service Section carries out investigation and surveillance work.

During the year the following work were carried out;

- The total clinical cases achieved for the year was 2783 with total revenue \$32,951.08 achieved from the three divisions which is Central/Eastern, Northern and Western divisions. This accounted for 4.4% increase compared to 2666 in 2010. A total of 14,113 drug sales were done during the year with total revenue of \$174,711.44 which accounted for 8.4% increase in drug sales compared to 13017 in 2010. The highest revenue was collected from the Western Division.
- A total of 17998 bovine were tested and this was 11% less than the number tested of 16140 in 2010. From this, 209 showed RBT positive, 364 positive and 21 doubtful. However, the 60 reactors from 16 farms were slaughtered at the abattoir. Most of these infected farms were located in the Central Division and this is where the TB eradication programme has been concentrated.
- A total of 611 castrations were recorded from three Divisions during the year. This indicated an increase by 32.8%

in case compared to 460 in 2010.

- A total of 55 pounds were recorded. There were 2 new pounds constructed at Bilolevu, Sigatoka and the other at Naikorokoro in Kadavu. However, out of these total numbers of pounds only 26 were operational while most needed maintenance.
- A total of 161 animals were impounded during the year.
- A total of 431 brands were registered with total revenue of \$1150.82. This indicated a decrease of 14.8% in brand registered compared to 506 in 2010. Most brand registration was recorded from the western which accounted for 61% of the total achievement.
- A total of 7694 meat inspection was recorded with total revenue of \$20,616.09 and this accounted for an increase by 4.3% compared to 7377 in 2010. A total of 150 baits were laid of which 88 were taken with the balance recovered. In the process, a total of 24 dogs and 2 cats were killed. The figure still indicated that stray dogs still pose a risk to our livestock farmers and research stations. A total of 6 dog trapping campaign were done in the Western Division

During the campaign, a total of 451 dogs were trapped whereby 17 dogs were re-homed and 380 euthanized.

#### Veterinary Pathology Laboratory

The Veterinary Pathology Laboratory is the only section in the division which provides back up services to all sectors of the livestock industry, particularly with disease investigation and diagnosis.

During the year, the following works were achieved;

With accessions by species, the total number of 24936 specimens were received which showed a decrease by 25% compared to 33388 in 2010. This is still due for more number of deaths being reported to the laboratory. The species were for post mortem examination (PME).

- A total of 7 samples with 17 tests from KRS Dairy. These samples were analyzed for Somatic Cell Counts, Total Plate Counts, Coliform Counts, Antibiotic residue tests and bacterial isolation and Sensitivity tests. Bacterial isolated via milk culture were Staphylococcus, Enterobacter, E. Coli, Streptococcus and Bacillus
- A total of 80 samples of tuberculosis were received and 284 tests were carried out
- A total of 38 sample with 17 tests were carried out which include Honey sample and coconut cream which was submitted by the chemistry lab for microbial. All these samples were tested for Total Plate Count, Coliform, Sal-

monella and Bacterial isolates.

- A total of 118 samples were received for post mortem and various tests were carried out. The Bovine samples were carried for Brucellosis. Some of the bacterial isolated were E.Coli, Streptococcus and subtilise.
- A total of 1059 samples were analyzed for Parasitological tests during the year. The tests included faecal egg count, Caccidia and test for Hookworms. The samples received were mainly faecal samples for worm counts and these came from VPL sheep, Police Dog Unit, Palm Lea Farm, KRS Cattle and pet owners.

## RESEARCH

The Research report comprises of the Livestock Research, the Agriculture Research services and Feed Technology which are all part of the Research programmes during the year. A total of \$60, 1159.00 was allocated for these programmes to be used for renovation of research stations, purchase of breeding stocks, water reticulation improvement, pasture improvement and other important activities to establish a conducive environment for livestock rearing thus increasing productivity in the long run.

### Livestock Research

The Livestock Research Unit was at the hub of reassessment in its systems and the processes in the year 2011 which led to the revisiting and analysis of livestock records to establish ways and means of enhancing existing procedures while at the same time develop Standard Operation Procedures (SOPs) for every activity carried out on the stations.

At the onset of 2011 the destocking of KRS dairy animals, coupled with the arrivals; distributions; care and maintenance of the New Zealand imported dairy cattle took the limelight and was also the highlight of the section together with the purchase of 2 Boer Bucks for Sigatoka Research Goat Breeding purposes.

### Agriculture Research Services

The Agriculture Research Services (ARS) project was intended to improve and upgrade research stations production capabilities in supplying quality breeding replacement stock and pasture planting material to farmers. There was a total of \$150,000 .00 that was allocated under the programme.

During the year the following works were carried out:

- 150 imported pregnant heifers from New Zealand were unloaded at Koronivia which escalated their maintenance cost as they had to be fed manually. The imported animals had to be transferred to Waidradra and Nawaicoba to ease the grazing pressure and overcrowding at Koronivia.
- Sale of the New Zealand stock has been deterred due to

the disease status of the dairy farms; however the first lot of cows were sold to Lokuva farm(10 cows) and FNU Dairy Farm(10 cows) with a value of \$20,000.00.

From the onset of calving at the end of July cows were not milked until three weeks later where all milk harvested was delivered to the HOMES around Suva and Nausori (FOC). Delivery to Fiji Dairy was approved in October with the month of November recording the highest milk supplied of 14,105litres with value of \$7,816.62 while the lowest milk supplied was at the month of December of 4,390litres with a value of \$2,368.99. The total milk supplied to Fiji Dairy for the three months was 25,600 litres with a total value of \$14,625.69.

### Socio-Economic Impact

- By the end of the year 2015, the stock build –up from these imported animals would have been dramatic. There would be 620 female cattle calving; with 220 heifers; 279 heifer calves and 865 bulls
- Total milk production around 1 million litres (2014) and 1.3 million litres by the end of 2015 and fetching around \$925,003 and \$1.17 million respectively
- A total of 15 men were hired on contract basis under ARS and the income derive would have immensely contributed o their families welfare and their children's education.

### SMALL HOLDER SHEEP DEVELOPMENT

The project was operational at the four government station which is Nawaicoba, Batiri, Seaqaqa and Mua in Taveuni. These sheep breeding efforts are all geared towards increasing the supply of quality breeding stock to farmers. The funds allocated were \$100,000.00 under the project out of which 83% was utilized due to the acquittal of third quarter funds utilization. Nonetheless, 90% of targets set out in the business plan were achieved.

### Outputs, Targets, Strategies and Achievements

Efforts were focused on infrastructure upgrading; nutrition improvements; controlled breeding to maintain bloodline quality and proper wearing management to ensure accomplishment of the targets set out in the Divisional business plan.

During the year the following activities were carried out:

- A total of 2,176 stocks were recorded at the four sheep breeding stations compared to 2,154 in 2010. This showed an increase in total stock number of only 1% for 2011.
- A total of 1906 stocks were recorded at the government research stations compared to 2154 in 2010. This showed a decrease of 11.5%. This can be attributed to the sale of three hundred Maiden Does to "Farms 2 U



Fresh” from Batiki station at the beginning of 2011• In addition to the later reason were the incidence of sheep theft at Mua and the three dog attacks at Nawaicoba where a total of 42 sheep died. The average mortality for the year was 5.5%, average lambing 110%, conception rate 95% and weaning 93%.

#### Socio– economic impact

- A total of 6593 tones of mutton was imported compared to 6958 in 2010 indicating a decrease in 5.2% import.
- Local sheep has the ability to produce learner meat compared to imported mutton meaning healthier protein source.
- Source of income for farmers with the ever increasing demand and fetching lucrative price in the local market.
- The demands for breeding stock by farmers are high and the inability of stations to produce has led to rapid multiplication of stock through Small Sheep Development Programme.

#### PIG RESEARCH AND DEVELOPMENT

The main objective of the project is to improve and increase the production of desirable pig breeds for sale to farmers. There was \$100,000.00 allocated for the programme.

#### Targets, Strategies and Achievements

Semen was intermittently imported through Waiyanitu farm to ensure new bloodline was being introduced into the Breeder stock at KRS. Concurrently the artificial insemination service rendered by Pig Research to improve genetics for pig farmers around the Suva/Nausori area was maintained throughout the year.

#### Analysis

There were 389 piglets born in 2011 out of which 63 died while 129 were sold to farmers. The latter figure on piglets born was the consequence of poor mating management that resulted in a low average farrowing index of 8.4, should have been maintained.

Also evident from this analysis is the substantial number of pigs recorded born but could not be accounted for as being sold or died.

#### Socio –economic impact

The sale and distribution of genetic material (pig) from Koronivia has been quite extensive reaching the Western, Northern and Eastern Divisions. Pigs from Koronivia were sold at the Macuata fete; Vaturova exhibition; Bua fair; Kadavu trade show; Rotuma island event; the main agriculture show and the maritime farmers that purchase from the stations to take the islands as far as Cicia in Lau to upgrade their local needs.

The decline in cattle numbers had skyrocketed the price of magiti sales (cattle) which in turn has sparked the demand for faster growing pigs to be reared for social obligations and speedy income compared to the slow growing local village breeds.

#### BEEF RESEARCH AND DEVELOPMENT

The major objective for the programme was to produce genetically improved breeds at the station for sale to the farmers. As such the target activities were to improve station infrastructure, nutrition for the breeding stock and artificially inseminated cows with pure breeds. There was a total of \$100,000.00 that was allocated under the programme

#### Analysis

Most targets for Beef Research and Development programme were not achieved as stipulated in 2011 business plan. The reason being that around 50% of the funds that was supposed to be used for infrastructure development was diverted for care and maintenance of NZ cattle. The disease status (Brucellosis) of the station directly affected the major activity of breed distribution to farmers earlier in the year. All sales had to be seized until the station was confirmed free after three clear tests. The final test is due in February, 2012 after which all the breeding animals will be released for sales

#### Socio –economic impact

A total of 9 breeding bulls were sold to farmers in the North at the Bua Agriculture Show. There was a huge demand for the purchase of breeding bulls from the station. The Brahman breed topped the list from the North and West followed by SG. These animals have the ability to produce and reproduce successfully in the current climatic conditions respectively. Also these animals are well structured and can produce heavier carcass weight. The Brahman breed can be used for dual purpose i.e. for meat and also draught purposes in the cane belt areas. It is for these reasons; breeding programmes needs to continue to meet the ongoing demand.



## GOAT RESEARCH AND DEVELOPMENT

The Sigatoka Goat Breeding Station continued its purpose to maintain supplying quality breeding bucks to the local goat farmers. During the year, total of 523 goats were recorded. Goat Breeding and infrastructure Improvement carried out at the station was made possible through the allocated fund of \$100,000.00

### Targets, Strategies and Achievements

The highlight of 2011 goat breeding endeavor would be the purchase and mating of the three Boer Bucks with 20 Anglo Nubian Does at Sigatoka. This mating strategy yielded a 50% success with only 10 of the 20 Does conceiving and giving birth to Boer/Anglo Nubian cross kids. Some of the farms supplied with breeding bucks in 2010 were monitored wherein the bucks were performing well with farmers appreciating the effort undertaken by the Ministry.

### Analysis

During the year, a total of 37 quality breeder bucks out of the targeted 50 were supplied from the station. A total of 15 bucks were pending finalization for farmers purchase orders. These bucks are to be distributed in early January 2012. As far as infrastructure development is concerned, most of the works surpassed its target and completed on time except for water reticulation system, water trough repair and construction and importation and purchase of bucks. However, these funds were diverted to upgrading of other infrastructures such as 18km of drains (2 culverts) and 2.6 km of road (6 culverts) at crossing. The Goat Research and Development programme met its core objective of supplying breeding animals to farmers; however the activities leading to the targets needed to be constantly reviewed to keep the programme in line with the 2011 business plan.

### Socio –economic impact

The supply of quality breeding bucks to improve the local breeds to the farmers has received positive reactions and demands from all stakeholders. The improved genetics has a major impact on the growth rate, carcass weight and the overall production of the local farms. In 2011, the Sales were basically targeted to private multiplication centres from where the genetics could easily spread to the small-holders. Due to the adaptable characteristics of the goat, it is most preferred animal amongst livestock farmers mainly in the cane belt areas. It is also easy to manage, one of the preferred meat amongst Fijians and the current price is quite attractive to farmers. However, a lot of work needs to be done in improving the genetics of our local breeds and efforts need to be made for the availability of these genetics readily through the Goat Research and Development programme.

## LIVESTOCK STOCK FEED TECHNOLOGY

The projects address issue pertaining to the nutrition of livestock for meat and milk production. It also addresses problems of pasture base feed resources by identifying superior yielding and better pasture varieties for verification trials and adoption by our livestock farmer. There was a total of \$50,000.00 that was allocated under the project.

### Targets, Strategies and Achievements

The project achieved little as all efforts were directed towards the care and maintenance of New Zealand imported cattle.

### Analysis

The Pasture Research unit at Koronivia and Sigatoka Research station was not actively involved in pasture research, verification studies, and private farms improvement under FEED TECHNOLOGY program during the year. The installation of feed mill was not completed due to the

late arrival of boiler. It is schedule to arrive in the country by February, 2012

### Socio –economic impact

Nutrition is one of the key factors that can make a significant impact on production. Feed Technology Programme can address the problem of low production on all livestock commodities. It can also address the major issue of increasing feed cost through formulation of feed using local feed ingredients. This technology can be disseminated to all the stakeholders involved in the livestock industry. With the projected installation of the broiler in the feed mill early in 2012, significant achievements can be made through Feed Technology Programme.





## CROP EXTENSION DIVISION

The role of the Extension Division is to disseminate proven information from researchers to farmers, to assist and enhance the transitioning of farmers from subsistence level to semi and commercial level and also provide feedbacks from farmers to the researchers (technology transfer).

- The main DDA Programs carried out by the division in 2011 included the following;
- Food Security Program
- Export Promotion Program
- Rural and Outer Island Program
- Sigatoka Valley Development Program

A total of 158 DDA projects were approved and implemented during the year. Apart from this, other programs implemented by the division are Sigavou Development, Rotuma Island, Agriculture Extension Services, Agriculture Show, Potato Development and Construction of Quarters and Office with a total budget allocation of \$3,947,760

The implementation of the Capital programs was made possible through the support from other line Ministries and other stakeholders' even though we were faced with many challenges that affect the timely implementation of Projects.

This year also marks the 2nd year for the inaugural National Agriculture Show event which involved the participation of the Private Sectors, other Government & non Government organizations and other Stakeholders including our farmers. Finally, this report entails some achievements to the funded Programs including Administration and Financial components for the Crop Extension Division.

### FOOD SECURITY PROGRAM

Division	No of Projects	Total Project Costs (\$)
Western	20	219,532.37
Northern	9	271,440.15
Central	4	15,315.38
TOTAL	33	506,287.90

Tabulated above is the distribution of FSP projects to the respective divisions;

The Ministry is committed to the increased cultivation of identified crops like rice, potato, carrot, capsicum, lettuce and tomato that will reduce current import bills of these commodities. Assistance provided include procurement of seeds, Agro inputs and machines that will enhance production of the stated commodities.

### Potato

A total of \$19m was used to import the commodity in 2010. Government aims to reduce import to \$16m over three (3) years from 2010 – 2012. In order to achieve this, a total of 442ha of potato will have to be produced by the farmers during this 3 years yielding 5,300mt.

Area targeted to be planted for the year was 133ha out of which 129ha was achieved by 436 farmers mainly from Ba, Nadroga/Navosa and Ra Provinces. 200mt of 5 varieties of seeds was procured from New Zealand to plant the area targeted with a total cost of NZD\$226,750.00 which is equivalent to FJD\$321,166.65. Targeted production for the year was 1064mt out of which 521.1mt was only achieved from an area of 101.9ha harvested. 27ha of potato planted yielding 216mt was lost which is approximately 21%.

The decline in production was due to certain factors like the variation in yield by the different varieties in the various localities and Provinces, the quality of seeds is also questionable as some varieties never germinated in certain areas and the impact of the prolonged wet weather conditions caused Bacterial wilt in certain fields in Ra and Nadi areas

### Rice

Rice is one of the few commodities in which the current government is focusing on for the next three(3) years from 2010 - 2012. It ensures greater cohesion and effective implementation of Food Security Program to increase self reliance and reduce imports. Actually, a total of \$37,464,152.00 was used on the importing of 44,123.6mt of rice in 2010. A total of 1283ha was targeted under the Food Security Program out of which 271ha was achieved by 156 farmers. The short supply of rice seeds and high cost of agro-inputs contributed to the shortfall in planting. The current selling price for rice is \$750/mt.

The total production of rice under FSP for the year was 550.5mt or in other words, consists of 1.25% of the total amount of rice been imported.



RICE PRODUCTION (MT) - 2011						
Division		QTR 1	QTR 2	QTR 3	QTR 4	TOTAL
WESTERN	TARGET	142.5	246	79	80	547.5
	ACHIEVMENT	20.80	68.2	0	0	89
NORTHERN	TARGET	1000	192.5	125	1000	2317.5
	ACHIEVMENT	51	362	5.5	14	432.5
CENTRAL	TARGET	0	117.5	30	80	227.5
	ACHIEVMENT	11	18	0	0	29
NO. OF FARMERS	TARGET					2288
						156

Source: Crop Extension Division,DOA

#### Assorted Vegetable Production (mt)

The total production of assorted vegetables for the year was 948mt. A total of 240ha was targeted under Food Security Program out of which 111.7ha was achieved by 157 farmers. The selling price ranges from \$800/mt-6000mt. The achievement was basically derive from two vegetable projects approved during the year and also from the existing projects.

#### EXPORT PROMOTION PROGRAM

Division	No of Projects	Total Project Costs (\$)
Western	19	333, 378.83
Northern	27	399 ,752.70
Central	4	168, 184.35
TOTAL	50	901, 315.88

Source: Crop Extension Division,DOA

ASSORTED VEGETABLE PRODUCTION (MT) -2011						
DIVISION		QTR 1	QTR 2	QTR 3	QTR 4	TOTAL
WESTERN	TARGET	204	588	843	455	2090
	ACHV	184.2	153.6	236.6	373.6	948
NO. OF FARMERS	TARGET					313
	ACHV					157

Source: Crop Extension Division,DOA

The Ministry is committed to enhance export opportunities by promoting and ensuring the cultivation of identified crops entirely to cater for exports.

Tabulated above is the distribution of EPP projects under various projects in their respective divisions; Projected EPP commodities included Dalo, Cassava, Pawpaw, Immature Ginger and Assorted Vegetables including Cowpea, Chillies, Okra and Eggplant.

#### Dalo

Generally, Fiji continued to export both white and pink Dalo over the years and according to the 2010 export data, a total of 10,513.3mt was exported fetching \$23,775,596 compared to 9482.3mt exported in 2009 valued at \$20,088,669.00.

A total of 830ha was targeted under the program out of which 294.7 ha was achieved by 573 farmers.



DALO PRODUCTION (MT)- 2011						
		QTR 1	QTR 2	QTR 3	QTR 4	TOTAL
CENTRAL	TARGET					
	ACHIEVMENT	180	340	180	170	870
NORTHERN	TARGET	725	1371	3001	2903	8000
	ACHIEVMENT	221	334.7	243.8	521	1320.5
WESTERN	TARGET	70	80	80	70	300
	ACHIEVMENT	178	80	290	260	808
NO. OF FARMERS	TARGET					1462
	ACHIEVMENT					573

Source: Crop Extension Division,DOA

### Pawpaw

Pawpaw cultivation for exports is mainly focused in the western division. During the year a total of 2.5ha was targeted under the Export Promotion Program out which 4.4ha was achieved by 27 farmers. The selling price was \$1000/mt.

The impact of the Program through the provision of the seeds resulted to the planting achievement. The total production of pawpaw under the Export Promotion Program for the yearfor the year was 306.5mt. The selling price was \$1000/mt.

PAWPAW PRODUCTION (MT) - 2011						
		QTR 1	QTR 2	QTR 3	QTR 4	TOTAL
CENTRAL	TARGET	0	0	0	0	0
	ACHIEVMENT	0	10	4	1.5	15.5
WESTERN	TARGET	56	30	28	36	150
	ACHIEVMENT	44	45	49	153	291
NO. OF FARMERS	TARGET					42
	ACHIEVMENT					27

Source: Crop Extension Division,DOA

### Ginger

Ginger is mostly grown in the Central Division and is slowly extending to the Western Division in particular the Ra Province. According to the 2010 export data generated an income of \$6,489,643 from the exportation of 1003.7mt of immature ginger.

A Total of 28.5ha was achieved by 76 farmers with a production of 332mt was achieved by the on-going ginger projects.



### Cassava

The annual targeting area for cassava under EPP for the year was 140ha out of which 188.7ha was achieved by 317 farmers. The total production under the Export Promotion Program for the year was 3139mt selling at the price of \$500mt.

The impact of EPP directly resulted to the increased in overall planting recorded in the central and northern division.

CASSAVA PRODUCTION (MT) - 2011						
DIVISION		QTR 1	QTR 2	QTR 3	QTR 4	TOTAL
CENTRAL	TARGET	0	45	0	0	45
	ACHV	62.4	149	30	81.6	323
NORTH-ERN	TARGET	0	0	0	125	125
	ACHV	0	0	0	0	0
WESTERN	TARGET	210	250	240	200	900
	ACHV	512	172	146	1986	2816
NO. OF FARMERS	TARGET					522
	ACHV					317

Source: Crop Extension Division,DOA

### Assorted Vegetables

The vegetables targeted for EPP include Cowpeas, Chillies, Okra and Eggplant which are also BQA commodities. The total production under Export Promotion Program for the year was 1137.9 mt with the involvement of 203 farmers. Selling price ranges from \$500/mt - \$8,000/mt.

ASSORTED VEGETABLES PRODUCTION (MT) - 2011						
DIVISION		QTR 1	QTR 2	QTR 3	QTR 4	TOTAL
WEST-ERN	TARGET	82	163	219	194	658
	ACHV	407	97	265.3	368.6	1137.9
NO. OF FARMERS	TARGET					246
	ACHV					203

Source: Crop Extension Division,DOA

A total of 48ha was targeted to be planted in 2011, while 72.6ha had been achieved. These commodities are mostly grown in the Western division, due to the availability of market for exports and the BQA pathway which concentrates mostly to the farmers in the division. The achievement of the target was basically due to the new project proposals which were submitted for the program and the production of ongoing projects. Chilly production was badly affected by the increased incidence of anthracnose infestation to almost all the farms around the Country which is an area of concern to Extension and Research Division to come up with a control for the Pest.

### RURAL OUTER ISLAND PROGRAM

The Ministry is committed to the enhancement of income generating opportunities to farmers within the outer island and rural areas through the implementation of ROI program.

Tabulated below is the distribution of the ROI projects under various projects in their respective divisions;

Projected ROI commodities included Dalo, Cassava, Yaqona, Ginger, Assorted Vegetables, Vanilla, Banana/Vudi, Cocoa, Pineapple and Traditional crops like Yams, Via, Kumala, Tivoli, Dalo ni Tana and Kawai.

DISTRIBUTION OF ROI PROJETS		
Division	No of Projects	Total Project Costs (\$)
Eastern	19	\$152,606.36
Northern	10	\$135,327.61
Central	45	\$668,820.75
TOTAL	74	\$956,754.72

Source: Crop Extension Division,DOA

### Dalo

Dalo is a major source of livelihood for the Outer Islands and rural farmers.

A total of 290ha was targeted under the ROI Program out of which 551.6ha was achieved by 601 farmers from Eastern and Central Division.

The impact of DDA Program and the lucrative market prices had significantly contributed to the overall planting achievement. Dalo prices ranges from \$800/mt—\$1,000/mt. The total production of Dalo under the Rural and Outer Island program for the year was 2684.2mt.



DALO PRODUCTION (MT) - 2011						
DIVISION		QTR 1	QTR 2	QTR 3	QTR 4	TOTAL
CENTRAL	TARGET	340	800	1,080	480	2,700
	ACHV	545	537	668	386	2136.2
EASTERN	TARGET	40	60	60	40	200
	ACHV	126	212	35	175	548
NO. OF FARMERS	TARGET					556
	ACHV					601

Source: Crop Extension Division,DOA

### Yaqona

Both Dalo and Yaqona continued to be the main source of income for majority of farmers living in the Rural and Outer Islands particularly for the northern, central and eastern parts of Fiji. A total of 438ha was targeted under the ROI Program out of which 445.8ha was achieved by 438 farmers. The total production of Yaqona under Rural and Outer Island Program for the year for the year was 499.2mt at the price of \$20,000/mt.

YAQONA PRODUCTION (MT) - 2011						
DIVISION		QTR 1	QTR 2	QTR 3	QTR 4	TOTAL
CENTRAL	TARGET	25	75	75	75	250
	ACHV	39.8	30	36.5	22	128.5
NORTHERN	TARGET	41.6	111	116.8	105.8	375
	ACHV	3.9	0	1.8	1.7	7.4
WESTERN	TARGET	55	50	54	61	220
	ACHV	42.4	19.6	61.3	109	232.3
EASTERN	TARGET	50	75	75	50	250
	ACHV	0	0	0	131	131
NO. OF FARMERS	TARGET					3091
	ACHV					438

Source: Crop Extension Division,DOA

### Cassava

A total of 100ha was targeted to be planted under ROI program out of which 131ha were achieved by 253 farmers. The total production of cassava under Rural & Outer island Program for the year was 1,643.2mt at the price of \$400 to \$500/mt.

CASSAVA PRODUCTION (MT) - 2011						
DIVISION		QTR 1	QTR 2	QTR 3	QTR 4	TOTAL
CENTRAL	TARGET	0	340	340	320	1000
	ACHV	402	578.2	555	108	1643.2
NO. OF FARMERS	TARGET					379
	ACHV					253

Source: Crop Extension Division,DOA

### Assorted Vegetable

Assorted vegetable under ROI program is mainly grown in the Central, Northern and Eastern Division. A total of 56.1ha of assorted vegetables was targeted to be planted for the year out of which 113.3ha was achieved while 318mt was targeted to be produced out of which 697.7mt was achieved

### Immature Ginger

Planting target for the year was 160ha while achievement was 57.8ha which is dependent on the number of proposals submitted and approved.

### Pineapple

A total of 2.5ha was targeted for the year out of which 1.6ha was achieved. The targeted production was 32.5mt out of which 52.5mt was achieved. Areas targeted were the Central and Northern Divisions.

### Vanilla

This is one of the crop earmarked under the program due to the availability of the market and it's low volume high value component targeting Women in the community. Non achievement of the targets was mainly due to the decline in the number of project proposal submitted and approved

### Banana/Vudi

Actual area planted was 0.5ha compared to the 1.5ha targeted. Like Vanilla, non achievement was due to the non submission of project proposals for the commodity.

### Other Crops

The other crops under the ROI program include Cocoa and traditional crops like Yams, Via, Tivoli, Dalo ni Tana, Kawai and Kumala. There was no achievement in terms of planting and production due to the non submission of project proposals.

## SIGATOKA VALLEY DEVELOPMENT PROGRAM

The Sigatoka Valley Development Program is an ongoing program with a budget provision of \$200,000.00 for the year targeting infrastructural works in Nadroga/Navosa Provinces in particular the Sigatoka Valley. The ultimate aim is to ensure that farmers have access to proper Agriculture infrastructure like irrigation facility and drainage that will assist in maximizing production of exports and food security commodities. The funds allocated catered for the following components;

- Enhancing Exports and Food Security commodities in the Sigatoka Valley - \$132,000.00
- Land Drainage Improvement - \$68,000.00

## AGRICULTURE EXTENSION SERVICES

This is also an ongoing program that also addresses food security and at the same time assists in the capacity building of both staffs and farmers through establishment of model farms, on farm trainings and promoting the production of traditional crops which are beneficial during any Natural disaster.



A total of \$250,000.00 was budgeted out of which \$234,117.00 was approved to cater for the following activities;

- Procurement of laptops and printers
- Establishment of model farms
- Procurement of planting materials (Kumala cuttings, Dalo suckers, Yam seeds, Tivoli, Kawai and Dalo ni tana suckers)
- Farmers Trainings
- Staff Trainings

The provision of laptops will allow remote staffs to have a formidable database, preparation of reports and link up with other staffs in terms of exchanging innovative ideas and stakeholders at large.

## AGRICULTURE SHOW

This year marks the second year for the Agriculture Show in which a total of \$100,000.00 had been approved to facilitate the following activities;

- Deposit on Hire Facilities
- Display Materials
- Prizes
- Transportation
- Staff Accommodation
- Construction Materials
- Allowances

The Crop Extension division took the leading role from the beginning in terms of PSIP Submission, RIE preparation and the facilitation of the tender process. Majority of the staffs were also engaged during the staging of two mini agriculture shows held in the West and the North before the week long National Agriculture Show was held at the Vodafone Arena in July, 2011. The divisional team also took the leading role in the various sub committees such as the competition committee. The climax of the event was the nomination and the awards given to the successful crop and livestock farmers.

## Non Capital Program

The Crop Extension Division continues to promote the importance of producing local crops, fruits and vegetables to address the need for Food Security in Fiji. Awareness is an ongoing component in regards to Food Security while Extension Staffs attend to farmers at field level, meetings, trainings, planning and consultations.

A number of crops classified under the program include Immature and Mature Ginger, Vegetables, Dalo, from Cassava, Yaqona, Dalo ni tana, Via, Kumala, Kawai, Yams, Tivoli, Breadfruit, Rice, Duruka, Watermelon, Pawpaw, Pineapple, Banana, Vudi, Maize, Pulses, Peanuts, Cocoa, Citrus, Vanilla, Voivoi, Masi and Floriculture.





## LAND RESOURCE PLANNING AND DEVELOPMENT

The Land Resources Planning & Development Division (LRPD) output is linked to Pillar 5 of the Peoples Charter for Change, Peace and Progress.

“Achieving Higher Economic Growth While Ensuring Sustainability”

Key measures and actions identified under the RDSSED for the way forward include the following:

- Increase food security through the revitalization of the agriculture and marine sectors.
- Strengthen institutional capacity for environmental management
- Promote sustainable management and utilization of natural resources.

The Division consists of 4 sections: Land Use Planning Section, Farm Management Section, Infrastructure Section and the Administration & Finance Section. They all play important role in the implementation of the division’s activities within their respective localities (North, West, Central and Eastern)

### LAND USE SECTION

The Land Use Section of Department of Agriculture is committed to the promotion of sustainable land management for the conservation and improvement of Fiji’s land and water resources to ensure sustainable socio-economic and environmental development and management. The section is the implementing agency of the United Nations Convention to Combat Desertification (Land Degradation) in Fiji. Sustainable land management has synergies with a number of international and regional commitments like the UNCBD, UNFCCC, PRSP’s, Food Security and Sustainable and Sustainable Livelihood. Land use section espouses sustainable land use planning with appropriate strategies for generation of resource information, awareness and training, technical and advisory services and mainstreaming sustainable land management. The section’s main objective was implementing the Capacity Building & Mainstreaming of Sustainable Land Management in Fiji Project. One of the highlights this year is the approach taken by the section to build capacity on sustainable land management. The section had started this work in the Nadi catchment and has moved now into the Labasa and Ba catchments.

*The section provides scientific, technical, and advisory services to:*

- Ensure that the land is sustainably used according to its capabilities
- Disseminates appropriate sustainable land management technologies
- Develop & manage the Geographical Information Systems
- Consolidates land resources information and its management
- Capacity building and mainstreaming of sustainable land management
- Disseminate information on sustainable land management
- Regional & international collaborations, cooperation and consultations

The main purpose of this initiative is to generate base line data and create greater awareness and promote sustainable land management technologies to minimize land degradation problems; stabilize the rural community socially, economically and environmentally

### SLM ACTIVITIES

#### Land Use Surveys

In order to promote SLM, the section has embarked on the collection of baseline biophysical information from the Labasa and Ba catchments. Field surveys were conducted and present land use, land use capability, soils and land tenure information was compiled.

#### Biophysical Survey

A biophysical survey was carried out in districts such as Labasa, Sawaieke in Gau, Navatusila/ Nasikawa, and Totoya.

This initiative is part of Fiji’s commitment to the United Nations Convention to Combat Desertification (UNCCD), under the UNDP/GEF funded Capacity Building and Mainstreaming of Sustainable Land Management Project.





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This initiative is part of Fiji's commitment to the United Nations Convention to Combat Desertification (UNCCD), under the UNDP/GEF funded Capacity Building and Mainstreaming of Sustainable Land Management Project.

The SLM activities focused on areas such as:

- conducting biophysical surveys to assess land use, soils, land use capability, tenure system and assess indicators of land degradation in the catchment
- Awareness on SLM
- Conducting participatory rural appraisals
- Establishment of demonstration farms

It is anticipated that the lesson learnt in the Nadi River catchment will then be progressively applied to other important river valleys commencing with those experiencing the greatest development problems, or most significantly land and water degradation process.

A biophysical survey was carried out to assess land use, soils, land use capability, tenure system and indicators of land degradation

#### GEOGRAPHIC INFORMATION SYSTEM(GIS)



The section has a geographic information system (GIS) unit that captures, stores, analyses and produces cartographic outputs of all mapping requirements for the ministry. The system stores geographic information for informed decision making in land resources planning. GIS tools allow analyzing spatial information, editing data, maps and present results in maps.

The section provides GIS Services to not only Department of Agriculture, but offers its services to a wider range of clients such as farmers, land developers, investors, agencies like ITaukei Land Trust Board, Forestry, FSC, National Planning, NGO'S, and the new Land Use Unit in Lands Department on the provision of mapping services and land use information.

During the year databases on Labasa catchment, Ba catchment, Gau island, Totoya Island, Nasikawa and Navatusila tikinas, Nabukelevu district-Kadavu were created and information available on current land use, land use capability, land tenure/ownership and soil types

#### AWARENESS ON SUSTAINABLE LAND MANAGEMENT

The Land Use Section focuses on efforts to combat land degradation through capacity building and soil conservation technologies. The main objective of Sustainable Land Management (SLM) awareness is to motivate and raise the capacity of land users for better land use management and adoption of conservation measures. Therefore, certain trainings conducted on all Divisions in collaboration with other stakeholders, Government ministries and departments.

Land Use is working in partnership with NGOS(WWF) on a climate change adaptation project in the Ba catchment. A workshop was organized in Namoli village, Lautoka for the Ba provincial region. A presentation was made on the baseline information for the Ba catchment which included the boundary of the Ba catchment, district boundaries, land tenure, general soil and land use capability description. Ba districts sites will be treated to similar activities conducted at the Nadi catchment previously under the GEF funded Fiji medium sized project on "Capacity Building and Mainstreaming of Sustainable Land Management". Such activities include biophysical surveys for present land use, soils, land use capability and land tenure.



## LAND USE PLANNING

### Land Use Capability

In order to promote proper land use planning and sustainable agricultural developments, the section carries out land capability classification studies of requested areas to assist clients in farm planning. Maps supplied were new and existing ones in the section while majority were GIS outputs from the soils database. Soil surveys, characterization and mapping are also carried out on request basis

## TOWN AND COUNTRY PLANNING

In order to promote proper land use planning and sustainable agricultural developments, the section carries out land capability classification studies of requested areas to assist clients in farm planning. Maps supplied were new and existing ones in the section while majority were GIS outputs from the soils database. Soil surveys, characterization and mapping are also carried out on request basis

## FARM MANAGEMENT

2011 was a challenging and also a memorable one, a year that will be recorded in the history of Farm Management section in Fiji.

The year started with three Staff trainings on Farming System Development [FSD] conducted for Extension Officers from Central Eastern, Northern and Western Divisions and one training ,specifically for Principal Agricultural officers and Senior Agricultural Officers in Nadave.

Second Quarter focused more on the identification of Farming Systems in the Geographical divisions and the 3rd & 4th Quarter was more on the documentation of the Identified Farming Systems Development.

Lastly the Farm Management Section is of the view that the success of the farm or farm household is really in the terms of its profitability and this is exactly where all effort should be concentrated. This leads too many other things, foremost would be "Improved Livelihood "for the individual households. Once the household needs are fully addressed, progress and prosperity is assured



## 2011 ACHIEVEMENTS

### Capacity Building for Extension Officers

This was one of the major achievements for the section, after a lapse of 11 years, the section managed to carry out its core function with the assistance of Extension Division. The farm Management Training Course for the Department of Agriculture Extension Officers and other Stakeholders in particular Fiji Sugar Corporation Field officers and Farm advisors was conducted over a one month period from 31st January to the 25th February, covering the four geographical divisions. A total of 86 of-



ficers participated in a one week program that covered Farming Systems Development Concept, Farm Business Planning Systems and Processes Theory and Farm Business Planning Field Practical and presentation by trainees on systems/processes followed in the development of Better Farm Plan Reports.

The sole purpose of the training is to streamline the preparation of farm reports and analysis of farm profitability with Extension Officers and also to clarify the designed and Monitoring Framework [DMF] process and the use of the whole farm budgets in the financial and economic analysis of capital projects.

### FARMING SYSTEM DEVELOPMENT [FSD]

The farming Systems Development Approach had been advocated for decades by Food and Agriculture Organization [FAO], however the DOA has somehow not fully adopted the requirement and the contrary has bogged itself with the commodity approach in development of prioritized crops with significant market opportunities. This had resulted in our narrow focus with regards to commodity development where mono cropping has been encouraged even though this had been proven unsustainable.

It is an approach to Development Farm Household systems and rural communities on a sustainable basis.





There were little case studies done for some of the categorized Farming Systems above. Most of the case studies were carried out in the 3rd quarter. They includes Farm Inventory or the Property Report, Management Report which covers the limitations and suggests improvement and the Better Farm Plans

Trainings	Venue	Date
1. Capacity Building for Farmers Tikina Verata, Namalata and Wainibuka	Naivuruvuru, Na- vunisole, Naiyavu	1st-5th/08/11
2. Farming as a Business for Farm- ers in Suweni	Suweni Village	9/11/11
3. Capacity Build- ing for Rewa Farmers	Narocivo, Rewa	September,2011

#### PREPARATION OF FARM PLANS

The preparation of Farm Plans had been one of the activities that keep the Farm Management staffs busy all throughout the year. Preparation of Farm Plans were done for farmers requesting for new Agricultural Leases with ITaukei Land Trust Board [ILTB], for securing loans from Financial Institutions and for capital projects undertaken by DOA.

#### FARMER TRAINING

Farm management section had been invited to be part of farmers' training proposals that have been conducted by Extension Officers from various districts.

#### OTHER ACTIVITIES

##### AGRICULTURE SHOW /DISPLAY AT GIRC

The Farm Management section continues to take part in the Crest Agriculture Show and the public service display at the Government Referral Information Centre as a way to get close to the public and create awareness of their roles in Agriculture and also to promote to the public at large, the concept of "Farming as Business". Agriculture show was on July 19th-23rd and Display for Public at GRIC was on September 12th-19th, 2011

##### STAFF QUARTER AWARDS

Two of the Farm Management staffs have been nominated towards the staff Quarterly Award. They were Mr. Timoci Vakaboro [a/AO Farm Management North] for second Quarter Award and Mrs. Naomi. Naiqumu [AO Verification] for Third Quarter Award.

##### PROGRESSIVE REPORTS

The Farm Management section submitted 52 weekly progressively reports, Four [4] quarterly reports and 8 monthly updates and an Annual Report. All these reports highlighted the achievements and the constraints of the section and also put forward recommendations to strengthen the section.

##### REVIEW OF ALTA SCHEDULE EXERCISE

The Farm Management Section was also involved in the ALTA Schedule Review Exercise through the PAO Farm Management who was the chairman of the ALTA Committee of Valier's. The new schedules have since been gazette by government and are already in force.





## LAND AND WATER RESOURCE MANAGEMENT

The year 2011 has been challenging for the Division with its current staff resources to meet the demands for support services to the Department and technical assistance to the Ministry and other government agencies.

The Land and Water Resource Management Division's primary responsibility towards meeting the Ministry's corporate and strategic goals is to facilitate sustainable use of agricultural land and water resources through effective engineering services.

*The major works completed was :*

- Rewa River dredging works undertaken by China Railway First Group
- Qaraniki Creek by Rewa Provincial Holdings
- Environment Impact Assessment for the Ba River in preparation for implementation of river dredging works.

Technical assistance was provided to the Department of National Roads to facilitate and provide project management support for the Port Denerau Dredging works in Nadi.

### WATERSHED MANAGEMENT

Under the watershed management program, construction material was procured for an additional dam K2 in the Nawaka catchment. In February, the dam K1 completed in late December, 2010 was damaged following intense rainfall. The plan to construct an additional dam did not eventuate due to the damage to the Nawaka dam in February following intense rainfall. The costs for the rehabilitation exceeded the funds available and the legal advice to claim damages against the contractor was not successful. The work program suffered a setback when the Principal Engineer was recommended unfit to continue works due to illness and was medically boarded.

Activities in support of agriculture development included the construction of the coconut processing building in Mua, Taveuni, drainage improvement works in Muanaira, Sigavou and Sigatoka Valley, technical assistance and contract management for drainage subsidy works in the Central, Western and Northern Division, and the maintenance of land estates in Navovo under the management of the Land and Resource Planning Division. The Division also undertook land drainage and infrastructure improvement works in four (4) villages in Cakaudrove completing the 1st phase works which was initiated in 2010.

### IRRIGATION SERVICE

The irrigation program activities involved the:

- Maintenance of the irrigation network and infrastructure of four (4) irrigation schemes in the Northern Division and the Navua Irrigation scheme in the Central Divisions.
- Investigation and design works were also undertaken for proposed rice irrigation in Dawasamu, Vunaniu and Calia in the Central Division and in Nabua and Vatubogi in the Northern Division.
- The Division's role in providing engineering technical support included investigation works for Nakorovou and Daku village under threat from sea level rise and inundation, design and cost estimates for river bank and coastal protection works in Ra, Kadavu and Lau. The Division's expertise was also requested to assist the Department of National Roads investigation into problems of flooding affecting cane farmers in Yadua in Sigatoka.
- The Division as the implementing agency for the Global Environment Facility (GEF) funded regional projects also made significant progress. The Pacific Adaptation to Climate Change Project completed the Qaraniki 1st Phase Improvement works and entered into a Consultancy Agreement with the National Institute Atmospheric Research Ltd (NIWA) to undertake scientific and engineering studies towards developing guidelines for climate proofing drainage infrastructure.

The project also signed an MOU with the Research Division for crop resilience research in support of the adaptation strategy to build resilience and improve the livelihood of communities in the project area. The project also provided financial assistance towards the development of the national climate change policy.

The Division GEF Funded Integrated Water Resource Management (IWRM) Project which aims to improve flood preparedness and management within the Nadi Basin made significant impact with a number of high profile delegation visiting the project site. This included the GEF Senior Advisor Dr Alfred Duda, and the Ecosystem Based Management Committee for the International Union for the Conservation of Nature (IUCN). The establishment of the rainfall and water level recording stations to support flood disaster preparedness became fully operational. Capacity building support was also provided to the Water Authority of Fiji through installation of a server in Lautoka and training in the use of its system. This provides disaster management organizations with real time data to make informed decision to inform the community in Nadi.

The Division has an establishment of seventy six (76) staff of which fifteen (15) are professional positions, five (5) occupied by expatriates at senior management level. Local staff comprise of two (2) senior surveyors and one senior engineer. A total of seven (7) engineer posts is vacant. This is a major challenge the Division faces in resources to meet the demand for its services.

The Division will continue to build upon its manpower development plans and technology improvements to improve in the delivery of its services.

Key issue to address will be the review of staff establishment to meet functional outputs and adaptability to meet the changing environment to support agriculture development.

## LAND DRAINAGE & FLOOD PROTECTION

The major works undertaken was the completion of the Rewa River dredging works, the total volume excavated was 1.2million cubic meters. In the Labasa River Dredging works, the planned target to dredge 150,000 cubic meters was not achieved due to the delay in the supply of the gear box parts to undertake maintenance works. In the Ba River, the environment impact assessment was outsourced and completed as required under the Environment Management Act. Hydrological monitoring of the Qawa, Labasa, Wailevu, Rewa, and Nawaka Rivers was also undertaken and the engineering designs completed for Navua River dredging works.

## WATERSHED MANAGEMENT

The watershed management promotes the construction of small scale check dams (retention weirs) to regulate the flow of flood waters to minimize the impact of flooding in the developed lower river basin areas. The project is in the Nadi Watershed. Investigation to identify suitable sites, undertake land tenure issues and negotiation, engineering surveys, and the procurement of construction materials was undertaken in 2011. The plan to construct an additional dam did not eventuate due to the damage to the Nawaka dam in February following intense rainfall. The plan to construct an additional dam did not eventuate due to the damage to the Nawaka dam in February following intense rainfall. The costs for the rehabilitation exceeded the funds available and the legal advice to claim damages against the contractor was not successful.

## IRRIGATION SERVICES

A total of eight (8) irrigation schemes with 1,700 hectares land developed under which rice and vegetable crops cultivated. Works were undertaken in four schemes; Korokadi, Vunivau, Dreketi, Nasarawaqa in the Northern Division and one in the Navua irrigation scheme in the Central Division.





## DRAINAGE SUBSIDY

There are (3) Drainage Boards namely the Central Division Drainage Board, Western Division Drainage Board and Labasa Drainage Board in the Northern

Division. The Board is responsible for the maintenance and improvement of the drainage of all land within the drainage area for which it is appointed

The Central Division Drainage Board comprise of 40 schemes covering an area of 12,000 hectares. Under its jurisdiction the Board is responsible for the maintenance of 516 km of drains, 47 km of seawalls, 58 outfall (floodgate and flap gate) structures and 1,010 associated drainage structures.

DIVISION	Performance Indicators	Performance Target	Actual Performance
NORTHERN	Number of schemes	4schemes	4schemes
	Canal desilting	81km	91.438km
	Access Graveling	1,250m <sup>3</sup>	745.35m <sup>3</sup>
	Boulder protection	600m <sup>3</sup>	482.28m <sup>3</sup>
	Sluiceway maintenance	22no	28no
	Floodgate door maintenance	5sets	3sets
	Stone Pitching	40m <sup>2</sup>	36.96m <sup>2</sup>
	Construction of check gate	1no	1no
CENTRAL	Number of schemes	1scheme	1scheme
	Drain and canal desilting	30km	35km
	Outlet waterway desilting	250m	250m
	New drain excavation	3,700m <sup>3</sup>	3,779.15m <sup>3</sup>
	Boulder protection	330m <sup>3</sup>	330m <sup>3</sup>
	Canal bund repairs	340m <sup>3</sup>	344.3m <sup>3</sup>
	Access graveling	490m <sup>3</sup>	496.2m <sup>3</sup>

Source: Land & Water Resource Management Division, DOA

## AGRICULTURE DEVELOPMENT

### Mua Coconut Processing Building

The Division undertook the design and contract supervision of the building construction works in Taveuni. Works was completed on 25th November and handed over to the Research Division

### Sigatoka Valley Improvement Works

Contract for the implementation of the works was signed in December. Issues on availability of funds from Extension Division were the factors that delayed the Fiji Procurement Office making a decision on the award of the contract. A total of 1.266km of drains excavated in five farms in the lower valley.

### Sigavou Drainage Works

The Division facilitated the MOU for the Western Division Drainage Board to undertake 7.763km of drainage works in Tova and Waililai.

### Muanaira Drainage Works

Drainage improvement works undertaken to improve land in support of Extension Divisions initiative for vegetable crop production. The works undertaken, excavation of new drains, construction of one culvert crossing and flap gate structure.

### Navovo Estate Rehabilitation Works

Rehabilitation works undertaken for improvement in water supply and access road works for incoming tenants.

### Cakaudrove Drainage Works

Land drainage and infrastructure constructed in four (4) village Balego, Vakativa, Nabalebale and Nakorovou comprising of 3.331km of drainage works, and three (3) culvert crossing constructed.

### Rice Irrigation Projects

Engineering investigations undertaken in Dawasamu, Vunaniu and Calia in the Central Division and Nabua in the Northern Division .

## REGIONAL PROJECTS

To meet the challenges of climate change, sea level rise and the flooding problems, the Division has through assistance from regional agencies obtained funding from the Global Environment facility (GEF) to undertake the following projects.

### Integrated Water Resource Management

The project has established the Nadi Basin Catchment Committee which provides the forum for government agencies, NGO and civil society to meet and discuss issues on project implementation, understanding and improving resilience to flooding.

The rainfall and water level recording stations to support flood disaster preparedness became fully operational. This provides disaster management organizations with real time data to make informed decision to inform the community in Nadi. Significant progress made in community engagement with 10 villages vulnerable to flooding trained in disaster preparedness, school outreach awareness, and the establishment of land use best practices.

### Pacific Adaptation to Climate Change Project

Under the project, adaptation measures for the Qaraniki Creek Improvements was completed. The major output being the award of the Consultancy to the National Institute Atmospheric Research Ltd (NIWA) to undertake scientific and engineering studies towards developing guidelines for climate proofing drainage infrastructure. The project also signed an MOU with the Research Division for crop resilience research in support of the adaptation strategy to build resilience and improve the livelihood of communities in the project area. The project also provided financial assistance towards the development of the national climate change policy.

## OTHER ACTIVITIES

### Port Denerau Dredging Works

The Division provided technical support to the Department of Roads on the designs EIA and contract documents for this project. Further assistance provided in the supervision, quality assurance monitoring of the dredging works and processing claims for payment.

### Investigation into Complaint of Flooding by Sugar Cane Farmers in Yadua, Sigatoka

The Division undertook an investigation on behalf of the Department of National Roads to determine the effect of the multi plate culvert crossing construction which was reported as the cause of upstream flooding of sugar cane farms.

## RURAL DEVELOPMENT

*The following works were undertaken :*

### CENTRAL/EASTERN DIVISION

- Nasali River Bank protection survey, design and costing
- Three sand extraction license applications processed
- Nadaro village erosion protection investigation
- Pacific Prawn Farm [Navua] bank protection investigation
- Bau Island coastal erosion protection design works
- Wainadoi river alignment investigation
- Nasegai Village in Kadavu protection works designs

### WESTERN DIVISION

- Coastal protection design works for four villages in Ra
- Elevuka Creek culvert crossing design for Ba Town Council
- Rakiraki Town flood mitigation proposals
- Three sand extraction license applications processed
- Impact of multi plate culvert crossing on flooding of sugarcane farmers in Yadua, Sigatoka for Department of National Roads

## FUTURE DIRECTION

The Division will continue to build upon its manpower development plans and technology improvements to improve in the delivery of its services. Key issue to address will be the review of staff establishment to meet functional outputs and adaptability to meet the changing environment to support agriculture development.



## RESEARCH DIVISION

### REVIEW BY DIRECTOR RESEARCH

The Research Division received an approved capital funding of \$0.67 million the bulk of which went for the following activities: to the infrastructure Improvement for Research Stations that included upgrading of station roads at Koronivia Research Station and Legalega Research Station and replacement of signboards for all the research stations. The management of pests was another project that received funding and it mainly looked at research into a whole range of pests and diseases that included the continuing work on taro beetle, the management of coconut insect pests, and the weed pests that continue to pose problems to farmers. The Agriculture Research Services programme mainly concentrated on projects as root crop research, fruit research, vegetable research, rice research, dry zone commodities, fruit research for hotel industry, work in maintaining the HTFA machine, Upgrade of the Insect Museum, agricultural mechanization and soil fertility project. The Division also had some projects that were funded under the DDA programme that made possible the procurement of a tractor for the Koronivia Research Station through the ROI project and the potato and rice research projects were funded from the Food Security Program. There were projects undertaken by the Division funded by donor agencies like ACIAR, through SPC and these included the Soil Health Project undergoing in Taveuni and the Taro Cleaner Export pathway project.

During the year, a significant achievement was the release of an open pollinated sweet corn variety to the farmers in the Sigatoka Valley. Early in 2011 the Division had harvested first trial of off-season potatoes from Nadarivatu. The Fiji Agricultural Chemistry Laboratory also opened their lounge where staff can now enjoy their small leisure hours and other activities.

### **MAJOR ISSUES IN 2011**

Some of the inadequacies that faced by the Division during the year were:

- Reliance on old, depleted vehicles and un-operational pool of machineries to carry out research activities.
- Late dispatch of funds for some activities, limited funds for other activities which in total affected the performance of the Division.
- Unfavorable weather conditions that delayed research experimental trials of different commodities were also a major issue.

The year proved to be a successful one in terms of achieving anticipated outputs despite numerous stumbling blocks such as late arrival and/or unavailability of funds and adverse weather conditions, old and defunct machineries, obsolete vehicles and shortage of staff.

During the year, the agronomic studies of root crops, tree crops, vanilla and rice were carried out. This included crop improvement which focused on introduction and evaluation of crops as well as conservation and management of introduced and local plant genetic resources and providing general research services to the agricultural sector.

The highlight of the cereal and vegetable research activities were the release of the Hawaii Super Sweet Corn variety and the offseason potato trial initiated at Nadarivatu with the intention of producing seed potatoes during the offseason. The introduction and evaluation of vegetable remained as an ongoing activity as the search for the best vegetable variety for our farmers continued. New farming system like the grafting of tomato is currently been developed together with an organic fertilizer rates for carrot. The production and supply of vegetable seeds is still performed by the Horticulture Section at Sigatoka Research Station to meet the demand of our farmers.

The tomato and chilli varieties introduced from AVRDC were evaluated at SRS. Outstanding yields of CLN2777F (30t/ha) and TT034 (31.4 t/ha) were obtained. An ongoing research activity for the production of tomato, eggplant and maize seeds continued during the year providing seeds to farmers at subsidized price. A total of 16.6kg tomato, 63kg egg plant and 3,225kg maize seeds were produced.

Fertilizer trials were conducted on the six commodities namely tomato, potato, carrot, eggplant, English cabbage and chili to determine the specific fertilizer rate for each crop.

Collaborative work with other stake holders continued as with ACIAR funded Fiji Papaya and Breadfruit project, collaborating with SPC and Bio-security on the control of Damping off disease of papaya seedlings, preliminary evaluation of banana varieties and providing technical expertise to WWF conservation program.

Conservation and maintenance of bread fruit, pineapple, banana, indigenous and exotic fruits continued in 4 research stations; 18 accessions of breadfruit were maintained at LRS, 4 accessions at SqRS & SRS; 5 varieties of pineapple maintained at SqRS; 17 banana varieties maintained at SRS; 22 exotic fruits at SqRS, LRS & SRS; and 7 indigenous fruits conserved in-situ at SRS, SqRS, SRS, LRS. Production of foundation seed of pawpaw and pawpaw seedlings for commercial growers was also undertaken.

Research was conducted on several pests and their control measures including use of chemicals and biological control. Field trials were laid to study the effect of pest and find their control.

The laboratory received 5,963 samples (15,333 in 2010, 29,115 in 2009, 16,998 in 2008 and 10,740 in 2007) and conducted a total of 27,175 tests (39,755 in 2010, 45,446 in 2009, 16,998 in 2008 and 31,929 in 2007). About 77.1% of the tests performed were associated with research and development in agriculture and 22.9% for other purposes.

#### OUTLOOK FOR THE FUTURE

The Research Division continues to strive to better its service delivery by strengthening its staff establishment and advancing on their capabilities through trainings, improving working conditions, upgrading research facilities and enhance networking with regional and international institutions as well as our stakeholders so that we are abreast with new findings and technologies.

#### SERVICE (OUTPUTS)

The Research Division has the mandate to complement and support the Ministry of Agriculture and Primary Industries through the development of new technologies and its transfer to suit the need of farmers, the clients and the stakeholders for the enhancement of the agricultural sector through applied research. The scientific, technical and professional support services are an integral part of this Division.

The main thrust of research is on agronomy of crop development excluding sugar and on providing services to the agricultural sector. The agronomy of crop development includes:

- Crop improvement – introduction and evaluation of plant genetic resources, the conservation and management of plant genetic resources
- Crop Production – development of adaptable and affordable technologies; and
- Appropriate information dissemination to stakeholders are the core functions of the Division.
- supply of certified seed and plant materials.

The other services of the Division include:

1. Crop Production;
  - Plant Pathology and Nematology
  - Entomology (including ICM, Chemical and Biological control)
  - Weed Science (including biological control)
2. Agricultural Engineering;
3. Analytical, diagnostic and regulatory services;
  - Soil, Plant, Feed, Food, Forensic and Product Development
  - Seed gene bank and Seed Testing
  - Pesticide registration
4. Production and supply of certified seed and plant materials.

The Agronomy and the Horticulture Sections form the core units to devise and develop technologies while the Chemistry and the Plant Protection Section provide technical, scientific support and regulatory mechanism of the Division. In addition the administration and management section of the Division provide internal support and governance for the smooth production of deliverables.

#### HUMAN RESOURCES

The Division comprises 96 scientific and administrative staff with 157 field workers, all of whom are distributed at eight Research Stations in different agro-ecological zones of the country.

#### TRAINING & DEVELOPMENT

Seven (7) staff are away on study leave both at the University of the South Pacific and universities abroad. During the year, about 12 staff were trained at different institutions overseas in relation to the work that they do and about 4 attended conferences and meetings.

Local short term courses provided by the Centre for Training & Development, were attended by 10 of the Research staff. During the year, the different stations accommodated approximately 35 school visits and about 30 tertiary students were attached to the different sections to gain hands-on experience.

## FINANCES

### Budget Performance

The Division operated with an annual budget on Policy and Administration (30-1-3) of \$0.724m and Crop Research (30-2-3) of \$2.56m. There were 3 Capital Projects approved by MOFNP that permitted the Division with the platform to implement the projects and programmes effectively. This included Infrastructure improvement of Research Stations, Pest Management and Agriculture Research Services. One project namely Integrated Pest management was funded through ACIAR.

Collaborative programmes with SPC on Taro Beetle, Rhinoceros Beetle and Stick Insects were also undertaken, for which funds have been provided directly through SPC. Extension Division also provided funds for Rice seed and Dalo planting material production.

### State Revenue

During the year, the revenue collected by the Division amounted to \$78,181.20.

### Revenue Collected

The revenue collected by the Division included sales of farm produce, sale of farm manure, analytical and post entry quarantine fees charged to private organizations and water bills from all the research stations. The summaries of revenue collected by the Division are listed below. Sigatoka Research Station did not furnish any revenue collection figures as the revenue record books and receipt book copies were taken by Main Accounts during one of their checks in Nov 2011

Table 43: Revenue Collected from Various Sources.

Sources	Stations (\$)						Total (\$)
	SRS	KRS & NRS	TCC	DRS	LRS	SqRS	
Analysis Fees		25,982.34					25,982.34
Farm Produce		11,284.36	493.70	3,201.71	1,803.85	5,545.32	22,328.94
Retirement of acc Adv		361.35					361.35
Reversal of payments		5,739.15					5,739.15
Livestock Produce			891.75			18,487.25	19,379.00
Water Bills				12.08		250.37	262.45
Electricity Bills		372.05	253.10	18.67			643.82
Telephone							
Hire of machinery/ Irrigation				280.00			280.00
Rest House			3,204.15				3,204.15
Total		43,739.25	4,842.70	3,512.46	1,803.85	24,282.94	78,181.20

Source: Research Division, DOA

## VEHICLES, MACHINERY AND PLANTS

The Division had a total of 40 vehicles and 26 tractors including other machineries distributed among the eight Research Stations throughout the country, of which most are obsolete and expensive to maintain. Most of the vehicles, machineries and tractors in the Division had been purchased under overseas funded research projects in the past decade and to date have not been replaced with new ones. Some vehicles have been boarded with no replacement which included a Hino truck and D3 Bulldozer. The Division is in great need of good vehicles to undertake on-farm research work.

### BUILDINGS

Overall, the building numbers have not changed and the Division has a total of 249 buildings, which included office and laboratories, farm sheds, storage rooms, workshops, nurseries, glasshouses and institutional & prefab quarters. Public Works Department maintains the Office buildings and the institutional quarters. Most of these buildings were built in 1950's and required urgent repairs and maintenance. This year, PWD undertook repair works on institutional quarters and office buildings at Koronivia and Sigatoka Research Stations. The entire roof of the Chemistry building was also replaced after complaints of leakage.

### LAND

The Division had a total of 1,329 ha of landmass to develop and design its findings over the eight (8) Research Stations distributed in the two main islands to give a maximum coverage of the different agro-ecological zones prevalent in Fiji, and constituting major soil types of the country. Table 46 highlights the different land types and the areas at each respective research station.

Station	Land Type (Ha)			Total Land Area (Ha)	Lease term
	Crown	Native	Freehold		
Koronivia	28.3	177.7	-	206	99
Sigatoka	-	327	-	327	30
Legalega	-	55	-	55	99
Seaqaqa	-	104	-	104	20
Wainigata	-	116	-	116	99
Naduruloulou	-	99	-	99	99
Dobuilevu	13	25.1	-	38.1	99
Taveuni	-	-	384	384	
<u>Total</u>	41.3	903.8	384	1,329.1	

Source: Research Division, DOA

## RESEARCH ACTIVITIES

During the year, various research activities were undertaken and the significant achievements and highlights are presented below under each commodity.

### TREE CROPS

The year 2011 was a challenging year to the Tree Crops Unit to display its roles effectively because of the limited resources allocated. Research activities of sustainable Tree Crops with the Agronomy section of the Research Division includes; Cocoa, Coconuts as well as the conservations of indigenous Tree crops species at Naduruloulou, Dobuilevu, Wainigata and Taveuni Research Development Centre. The aspects of Tree Crops Bio-Diversity collection within the four Research Stations include Cocoa, Coffee, Coconuts, Almond (Tavola), kavika, Dawa, Tarawau, Ivi, Citrus, as well as Duruka, Pepper (both White & Black), Spices. The major research Tree Crops species that was of paramount to the Division was coconut and second to it is cocoa.

The disbanded of Coconut Industry Development Authority (CIDA) has forced the Human Resource reformation and restructure within the organization structure of the Agronomy section of the Research Division. Creation of a Senior Research Officer (Coconut) was initiated to undertake all the coconut research and its related development components, which was initially part of the responsibilities and accountabilities of the Senior Research Officer (Tree Crops).

With this transition, the Tree Crops Unit of the Agronomy Section, continue to focus its Research Work on the components of Cocoa rejuvenation program with sustainable farming systems integration with potential economic crops to increase agriculture commodity trade to benefit our farmers. There is a need for adaptable and affordable methods of transferring new technologies and information to farmers, as well as the need for further research on key areas such as genetics, insect pests, and disease.

Releasing of virus-infected beetles in the field and placing *Metarhizium anisopliae* ground traps were the two major biological control methods used for controlling rhinoceros beetle and stick insect. With the assistance of the SPC and Coconut Industry Development Authority, 3,651 grubs were collected from Koro, Ovalau, Navua, Taveuni, Wakaya and other infested areas around the country. One hundred and seven (107) beetles were inoculated with virus and release to infested fields with 13 virus vials and 21 vials fungus were produced. Pheromone traps with a total of 53 were also constructed and set up in different targeted infested areas of Koro, Ovalau, Taveuni, Gau and Vanua levu to monitor the population movement of beetles.

In recent years the population of the coconut stick insect infestations has become severe and it has reached serious levels on the island of Taveuni and parts of Vanua Levu. The survey revealed that the most affected areas in Taveuni were Salialevu Estate, Tartes Estate farm and at Wai. In Savusavu, the main affected areas were Wailevu, Nagigi, and Buca Bay. Other areas around Savusavu had lower population than the mentioned sites. Biological control is the only effective, sustainable and cost effective methods to control stick insect population in the field. The use of *Paranastatus verticalis* as egg parasites has proven itself in the past to kill up to 80% of stick insect eggs in Fiji. A total of 6,372 fresh eggs collected were reared in the lab and were exposed to the parasitoids in the lab to multiply the parasitoid population. The total number of parasitoids released was 4,470 to infested sites of Taveuni, Cakaudrove, Macuata, Bua, Ra, Serua/Namosi, Tailevu, Lau, Rewa, Ovalau and Koro.



## ROOT CROPS

Most of the research activities for 2011 were delayed due to the unavailability of tractors at Koronivia & Dobuilevu. This was compounded by the unpredictable weather condition that hinders the progress of land preparation so most of the trial activities will be completed in 2012.

Research activities during the year were mostly concentrating on the conservation, improvement & utilization of conserved plant genetic resources mainly for Dalo (*Colocasia esculenta*), Yams (*Dioscorea* spp) – Uvi (*Dioscorea alata*), Kawai (*Dioscorea esculenta*), Tivoli (*Dioscorea nummularia*) & Suran, Cassava (*Manihot esculenta*) and Kumala (*Ipomea batatas*). These are maintained at four research station in Fiji namely: Koronivia, Dobuilevu, Seaqaqa and Taveuni. A yam poster was drafted during the year with the assistance provided from the Secretariat of the Pacific Community (SPC) and will be published in January 2012. Germplasm are important in conserving Fiji's crop diversities and also as a back up support to Fiji's agricultural development in terms of ensuring availability of true to type varieties.

The evaluation of dalo elite lines continued during the year of which 8 varieties were selected from the 13 varieties evaluated in 2010. The trial is to evaluate their growth & yield performances against the export variety Tausala ni Samoa and also assessing the eating quality & shelf life of some of these promising varieties using various storage conditions. This is to explore other potential dalo varieties as alternative variety to Tausala ni Samoa, as other regional competitors enters the dalo market. During the year, Prevathon a new pesticide was used on a trial experiment to test its efficacy against taro beetle. One experimental trial of Rewa variety was planted on a farmer established field in Baulevu using Randomized Complete Block Design. Two insecticides with recommended doses plus control (untreated) were replicated 3 times. A re-trial of the experiment in Lakena warranted to sufficiently assess the efficacy of Prevathon against Suncloprid and data will be known in 2012 after harvest.

Thirty new drought tolerant kumala varieties were release by BioSecurit of Fiji for evaluation outside quarantine areas. This year a trial was established at Koronivia, five potential varieties were selected from these lines and evaluated with a local recommended variety. The wetland dalo assessment completed this year at Koronivia with one introduced variety tested against 6 local varieties suitable for wetland condition. The supply of seed and planting materials continued to be one of the component of this project, which includes the supply of Tausala ni Samoa dalo planting materials, dalo hybrids, kumala, cassava and yams for food security and export.

## YAQONA (kava)

Yaqona research activities undertaken concentrated mainly on the conservation and assessment of 13 varieties. These 13 varieties and accessions of 44 vials were conserved and well maintained in the tissue culture laboratory.

## GINGER

Ginger research activities this year concentrated mainly on the evaluation of the 5 micro-propagated ginger cultivars together with the 2 locals and the Jamaica variety, developing a package of practice for dry land and wet land ginger, conservation and maintenance of all the Tissue cultured accessions including 2 local and the ginger Jamaica varieties that are in the station and the production and supply of ginger seed and planting materials for farmers.

## RICE

Rice research activity for 2011 was focused on better genetic crop improvement work to raise yield potentials of rice, management techniques of external inputs to better crop production and farming systems to improve farming, with good crop and land management practices.

High yielding varieties consist of semi-dwarf, earliness and resistant to lodging, insect pests and diseases. Other desirable characteristics being sought include photo period sensitivity or non-sensitivity. Varieties/lines with diverse genetic origin introduced in 2007 from International Rice Research Institute, Philippines, National Agricultural Research Institute, Papua New Guinea and Directorate of Rice Research, India were again utilized for the varietal improvement traits. Sixty one aerobic and Forty five rain fed rice varieties/lines were screened for their potential performances in second phase with results showing some of aerobic varieties having better yield ranging from 5.2 – 12.5 t/ha with crop duration to 110 days. The rain fed varieties/lines and the seven varieties from India are being further evaluated against Star for their yield potential and resistance to pest and diseases.

The method of planting revealed that Drum seeder had significantly better yield with 5.2 t/ha compared to other methods of planting. The results also further revealed that parachute was significantly better compared to transplanted rice.

Studies on upland rice based intercropping systems showed that many crops can be successfully grown in strip geometry without any effect on sole rice. The rice intercropped with two different morphotypes of cassava showed that intercropping significantly reduced the grain yield of rice as sole cropped rice significantly yielded higher than those intercropped with cassava.

A total of 35,570 kg of seeds was produced during the year as foundation seed which mainly consisted of cultivar Star, Boldgrain and Maleka. The Star variety dominated the production as per its demand. A total of 26,610 kg of foundation seeds were supplied to the farmers all around the country with a total of 8,700 kg seeds in stock. A total of 736 samples of rice seeds were received from Koronivia Research Station for germination tests. Among the rice samples, a high percentage were for germination tests of Star seed; viability was high ranging from 80% to 99%. The purity tests were conducted on milled rice and split peas. A total of 167 rice sample includes 61 aerobic, 45 rain fed, 20 traditional, 34 collections from local farmers and 7 improved varieties are maintained as germplasm banks in cool storage.

#### PLANT BIODIVERSITY

The conservation and maintenance of the plant biodiversity continued to be one of the main activities of the Research Division. Crops of different varieties like root crops, spices, fruits, vegetables, pulses, coconut, tree crops etc. were maintained at the eight (8) Research stations. A total of 136 Dalo, 60 Yam, 39 kumala, 1 suran, 1 tivoli, 2 dalo-ni-tana, 20 kawai, 27 cassava, 5 ginger, 17 banana, 27 citrus, 5 pineapple, 47 mango, 7 coconut, 36 rice, 150 vegetable varieties, 2 urd, 8 mung, 7 peanut, 189 cowpea, 20 chicken pea, 15 wheat, 1 drum stick and 8 pigeon pea cultivars were conserved and maintained in field germplasm or in cool storage respectively. Six (6) crops of different varieties were micro propagated and conserved through tissue culture at Koronivia Research Station.

These included dalo, cassava, yam, kava, ginger and vanilla. These genetic resources are duplicated and maintained. The clean planting materials were multiplied for supply, utilization and for further research work.

The Research Division continued to participate in Regional networks on the conservation and utilization of Plant Genetic Resources; these include the Pacific Agricultural Plant Genetic Resources Network (PAPGREN), Pacific Tissue Culture Network (PTCN) and Pacific Crop Improvement Programme (PACIP). These are regional co-operation that enables Pacific Island Countries (PICs) to share information and work towards a regional approach on the conservation and utilization of Plant Genetic Resources with the support of the Secretariat of the Pacific Community (SPC).

#### VEGETABLES & CEREALS

The highlight of the cereal and vegetable research activities was the release of an open pollinated sweet corn variety to the farmers. The offseason potato trial also initiated with the intention of producing seed potatoes during the offseason. The introduction and evaluation of vegetable remain as an ongoing activity of the section searching for the best vegetable variety for our farmers. New technologies like the grafting of tomato is currently been developed together with an organic fertilizer rates for carrot. The production and supply of vegetable seeds is still performed by the section to meet the demand by our farmers.

One of the major activities for the fruit research undertaken at Sigatoka Research Station involves the maintenance of fruit genetic material. Preliminary evaluation was conducted on different fruit varieties based on nutritive values and value adding products in collaboration with the Food lab at Koronivia research Station. Furthermore, the production and supply of farmer seedlings and planting materials remain as one of its core function.

Through conservation and maintenance of plant genetic resources, 150 vegetable varieties were classified and conserved under cool storage, with 1 variety of cucumber and 1 variety of pumpkin seeds. Establishing and maintaining bulk seed plots & processing seeds to be supplied as farmer seed and planting materials continued for the year with seed production of Alton 3.39 kg, Alafua 0.5 kg, Pritam 21 kg, Chahat 17.6 kg. From the seed production, 5.9kg Alton, 11.56kg Pritam, 12.82kg Chachat and 1314kg Maize were supplied. Introduction and evaluation of improved genetic materials of various potential and emerging crops was also carried out at the station with 13 varieties of tomato, 11 varieties of chilli evaluated at SRS and 9 tomato varieties evaluated at KRS.

Sweet corn was planted in an open field and released to farmers during field day on 1/06/11

There was a consultation with Victoria seed companies for the introduction of new potato varieties, the station received 8 varieties and maintained 5 varieties of tissue cultured variety of potato.

Infestation of anthracnose really affected the growth of chilli which resulted in the removal of chilli trial due to severe infestation.

The station conducted a vegetable training in Namosi, this same training was also introduced to the Fiji World Cup Rugby reps. Staffs also participated in the West and National Agricultural Show and attended to 30 school station visits during the year. The station also established a partnership with our local and regional agencies and has been working along with SPC on potato varieties and English cabbage trial and collaborating with AVRDC on new vegetable varieties to be introduced.

## PULSES

Research activities under the pulse programme undertaken at Legalega Research Station (LRS) were on pigeon pea, cow-pea, chicken pea, mung bean, peanuts, wheat, and drum stick. Activities for 2011 comprised of varietal evaluation, and maintenance of pulse crop to achieve pure lines of crop cultivars and renewal of pulse genetic resources for availability of viable crop seeds and seed production. Eight pigeon pea, 1 cowpea, 20 chicken pea, 8 mung bean, 7 peanuts, 15 wheat, and 1 drum stick varieties were evaluated for good yield potentials. A total of 194kg cowpea seeds, 36kg peanut seeds, 9kg mung seeds, 4.5kg Urd seeds and 65kg pigeon pea seeds were produced during the year. About 56 % of the total seeds produced were maintained for next years planting season, 23% for rehabilitation programme and 21% sold to farmers. The activity carried out at LRS was also aimed at providing sugarcane farmers with viable cropping systems to enhance production and livelihood of farmers in which 4 farmers were involved in sugar cane farming intercropped with 2 varieties of potato (ivory & rocket).

The station also attended to 13 school visits, 105 clients and also participated in 3 Agriculture shows and 1 display. One English Cabbage IPM trial was established at LRS by Plant Protection/ SPC at the end of the year.

## PAWPAW

The main objective on pawpaw research was to produce homogenous and high quality seeds for establishment of mother plants and seedling production for commercial growers. A total of 77,000 seedlings and 6.4kg foundation seeds was produced during the year with 65,806 seedlings supplied to farmers mostly to the SVIP project. Fertilizing and bagging of pawpaw flowers also continued in 2011 for the homogeneity of seeds for solo sunrise.

## PINEAPPLE

A total of 5 varieties of pineapple maintained at Seaqaqa Research Station at the year end of 2011. A total of 2 experiment trials were conducted during the year, a revised package of practice of pineapple production and hormone experiment for all year round pineapple production. The two experiments were established in 2010 at Seaqaqa Research Station and is an on-going trial for 3 years which will be carried out again in the next year, 2012. The first crop was harvested in 2010; second crop was harvested this year, 2011. All the experiment data will be collated in 2012 to recommend the best package of practice and also recommend the best of the two hormone treatments with the different rates of application and the agro-nomic practice involved. A total of 100,966 pineapple plantlets were brought forward from 2010 with 50,148 plantlets produced during the year and 96,890 plantlets supplied to farmers and the remaining 54,244 plantlets maintained in the nursery.

## CITRUS

A total of 27 Citrus varieties were maintained at Seaqaqa Research Station and 26 varieties at Sigatoka Research Station. The production of grafted and budded seedlings was undertaken at Seaqaqa and Sigatoka. The citrus varieties grafted at Sigatoka included Meyer Lemon, Seedless Lime, West Indian Lime, Washington Navel Orange, Late Valencia Orange, Emperor Mandarin, Satsuma Mandarin, Page Mandarin, Grapefruits Minneola Tangelo and Kumquat. A total of 2,391 grafted citrus plants were produced and 1,785 grafted citrus plants were supplied to farmers. A total of 2,300 citrus root stocks were conserved and maintained.

## BREADFRUIT

Maintenance of fruit germplasm and different propagation techniques for rapid multiplication of planting materials for replanting continued this year. A total of 18 accession of breadfruit maintained at Legalega Research Station, 3 more were collected with 4 accessions maintained at Sigatoka Research Station and Seaqaqa Research Station. A total of 580 breadfruit plants marcotted in the 3 stations with a total of 72 breadfruit plants potted during the year.

## BANANA

A total of 17 banana varieties were maintained at Sigatoka Research Station and Naduruloulou Research Station at the year end 2011. The research on banana was focused on the evaluation of FIAH varieties for yield and disease resistance in the germplasm plots. Seven (7) FIAH varieties, 3 other varieties namely Cavendish dwarf, lady finger, and veimama, and 6 vudi varieties (green tall, long finger green, qamudre, blue java, damu loa, joe vudi) were planted along in the evaluation trial that was established and maintained.

## MANGO

The research focused on mango this year was less due to limited funds provided. However, the 69 mango varieties consisting of 47 exotic and 22 local were maintained at Legalega Research Station. All necessary tree and orchard maintenance work was carried out during the year. Production of homogenous mango seedlings for farmers was undertaken at Legalega and Seaqaqa Research Station. The five (5) recommended varieties, Tommy Atkins, Mapulehu, Kensington, Edward, and Mexican Kent, were propagated through grafting on local rootstocks. Seedlings of a number of other exotic and local lines with promising performance were also produced for interested gardeners. A total of 275 mango roots stock and 75 grafted plants were produced during the year.

## INDIGENOUS & EXOTIC FRUITS

This year, focus was largely on collection, conservation and management of the existing indigenous fruit and exotic fruits germplasm plots at SRS, LRS, NRS and SQRS. Indigenous fruits consisted of kavika, large wi, avacado, ivi, vatu kana and tarawau.

A total of 7 indigenous fruits and 22 exotic fruits have been established at SRS, LRS, SqRS, NRS. This includes Avocado Pear, Breadfruit, Bullocks Heart, Bilimbi, Black Sapote, Beyer Fruit, Custard Apple, Cashew apple nut, Carambola, Dawa, Guava, Ivi, Pomogranet, Jack fruit, Rambutan, Kavika, Rose apple, Kura, Sapodilla, Litchi, Star apple, Loquat, Soursop, Langset, Sikeci, Longan, Tarawau, Mangosteen, Tavola, Macademia Nut, Vutukana, Nut Meg, Wi, Passionfruit and Yagai nut. Assorted exotic fruit and indigenous fruit seedlings produced during the year total to 4,131 and 922 respectively, 771 assorted exotic fruit seedlings and 157 indigenous fruits were supplied to farmers.

#### AGRICULTURAL MECHANIZATION

This year's activities concentrated on designing and fabrication of cassava harvester, nursery pot filler, manure spreader and dalo cum planter. The unit also designed and constructed a new hardening nursery for the new tissue culture laboratory and was commissioned upon completion. Other activities attended to upon request such as repairing of break down machines including water pumps, tractors, compressors, etc. form various sections and stations in the division. Assistance was also rendered in the project evaluation of Agricultural Engineering students of the Fiji National University.

#### FRUIT FLIES

Research conducted on fruit flies has generated much data on the export potential of crop commodities. This includes the use of quarantine treatments such as High temperature Forced Air (HTFA) and Non Host Status Test (HST). Commodities of which HTFA was used included 3 varieties of egg plant (chahat, long purple, and round) sun rise papaya, mangoes and breadfruit. Under HST, 3 varieties of chilies (hot rod, red fire, birds eye), pineapples and squash had been approved.

During the year, there were two economic fruit fly species reared in the mass-rearing laboratory at the Koronivia Research Station, namely *B. passiflorae* (Froggatt) and *B. xanthodes* (Broun). The improvement of bait spraying technology, biological control (fruit fly parasitoids) and fruit bagging were on-going activities for the development of field control measures. The reason for focusing on these methods stems from the need to reduce our over-reliance on the use of chemicals, hence minimizing the toxic effects on the environment, livestock and people. Field control measures derived from this research were utilized in the development of export pathways for approved commodities, of protein bait spraying currently a compulsory component of the various pathways.

A total of 250 fruit samples weighing 154.90 kg, were collected from around Viti Levu and the Southern Lau Group. Of these, a total of 74 samples or 29.6% showed positive signs of fruit fly infestation.

For those infested fruits, 22 samples or 29.7% showed positive signs of fruit fly parasitism by the biological control agents *Fopius arisanus*. Only one female *Diachasmimorpha longicaudata* was reared from one guava (*Psidium guajava*) fruit sample. Host fruit surveys conducted on Rotuma involved 48 samples weighing a total of 55.22kg. A total of 8 samples showed positive signs of fruit fly infestation, particularly *B. kirki* in mango (*Mangifera indica*) and *B. xanthodes* in orange (*Citrus sinensis*). There were no new hosts recorded.

The known biological control agents of the two economic fruit fly species are *Fopius arisanus* and *Diachasmimorpha longicaudata*, both of which are Braconid wasps. Towards the end of the year, *F. arisanus* were reared from infested guavas, which are currently being maintained for further research.

#### WEED CONTROL

*Wedelia* (*Sphagneticola trilobata*) is a creeping, mat-forming perennial herb (Fig. 1) with rounded stems and rooting at the nodes. *Wedelia* as commonly known is native to the tropics of Central America and has naturalized in many wet tropical areas in the world (PIER, 2005). It spreads vegetatively and encroaches the neighboring area easily. Stems form new plants where they touch the ground and stem sections readily take root. In Fiji *wedelia* thrives well in both moist and dry areas. It is a threat to the ecosystem because it displaces other smaller plants. It is tolerant to herbicide applications of paraquat (contact) and glyphosate (systemic) (ARR 2004) and not suitable for grazing ruminants. On pastures that are not managed in Fiji *wedelia* has become a serious weed.

A number of surveys were undertaken in selected areas in Fiji to determine the incidence of *wedelia*. The areas surveyed were Cikobia (the weed was found in Vuninuku settlement), Yasawa (*wedelia* was present in Gunu village, Naviti and in Nacula Island), Rotuma (75 sites found infested with *wedelia* along the roadsides ranging from 25 to 50 m<sup>2</sup>), Vaturova; Cakaudrove (the weed was found in Vaturova/Koroalau Sec. School).

The eradication of *wedelia* work in Rotuma commenced on 01/08/2011. About 600g of Escort which was issued to the Agriculture Extension Office all have been given to farmers upon request. It is estimated that with 600g Escort, about 25,000m<sup>2</sup> of *wedelia* infested area should have been treated in Rotuma. A total of four awareness training for the management of *wedelia* were conducted in four villages in Rotuma. They were Peppei village (30 participants), Noatau village (12 participants), Etumuta village (20 participants), and Toakoi village (20 participants). A total of one hundred *wedelia* brochures were given out to the participants and other interested farmers in Rotuma. The only herbicide available in Fiji that could effectively control *wedelia* is Escort (Metsulfuron methyl ester 600g/kg) at 0.4g/L water for 100% eradication.



Control of African Tulip trees (ATT) was also undertaken during the year. The invasive species has invaded a large proportion of land in Fiji where it has now become recognized more as an invasive species rather than an ornamental. African tulip tree is found to be an aggressive weed posing a serious threat to the plant biodiversity attributed to its growth habit, seed biology and vegetative reproduction potential. The chemical method for controlling ATT is glyphosate herbicide at the rate 1:1 water applied immediately after ringbarking the trunk. Dissemination of the control method for ATT to the general public is vital and conducting awareness program to farmers would help in managing ATT at the agriculture production areas.

Awareness programs were conducted in Namosi where 12 farmers participated, with demonstrations on ATT control at the Crest Agriculture Show in Suva. Awareness was also undertaken during the Vaturova/Koroalau Secondary School festival, PSC Week and Lomaiviti festival. The control of ATT was also presented to 3 primary schools, 11 secondary schools, B.Agr year 1 students at FNU and PGDip students from USP. Unfortunately, the impact study for ATT was not materialized as the project coordinator's contract at SPC was not renewed and as the result the FAO funding was withdrawn.

#### SPECIALIST AND SUPPORT SERVICES

This section records the activities of the specialist services and is directly involved in support work in major agricultural programme. The achievements of these activities were:

#### CHEMISTRY LABORATORY

The Chemistry Laboratory provides analytical services to the Ministry, other government departments, private industries and the public throughout the country. These services include soil, foliar, animal feed, pure food analyses, forensic, water and general chemical analyses, product development, some advisory services, training and cooperation with other laboratories. The laboratory is also engaged in international proficiency programs as Australasia Soil and Plant Analysis Council (ASPAC) through the South Pacific Agricultural Chemistry Network (SPACNET) and the Global Proficiency Programs.

During the year the laboratory received 5,963 samples and conducted a total of 27,175 tests of which 77% of the tests performed were associated with research and development in agriculture and 23% for other purposes. The food analysis consisted of various food samples brought by the Health Department in processed or fresh forms to check for cases of adulteration. Forensic activity consisted of mainly analysis of Marijuana plants, blood, urine and stomach contents for toxicology and alcohol levels.

#### DEVELOPMENT OF SOIL FERTILITY

This project was also carried out by the Chemistry Laboratory and involved addressing relevant stakeholders on the importance of soil testing and how best these data be utilized in order to achieve the maximum return of their lime and fertilizer investments.

Three (3) demonstration plots were established each in central division and in Cakadrove, where ameliorates and fertilizers were adjusted according to soil test results. This project was based on participatory approach concept, where nine extension officers and fifty farmers participated in order to further strengthen their understanding and capacity, utilizing this technology in economical and sustainable manner.

#### CHEMISTRY LABORATORY ACCREDITATION

Under the Lab Accreditation project, Institute of Applied Sciences came in as consultants. They conducted an initial assessment of the current laboratory operations with recommendations for necessary improvement and implementations. The following documents were reviewed by IAS in line with the requirements under ISO/IEC 17025.

1. Laboratory Quality Manual
2. Laboratory Safety Manual
3. Standard Operating Procedures (SOP)
  - SOP – Test Methods
  - SOP – Equipment Operation & Calibration

Laboratory staff also underwent three (3) awareness trainings from overall accreditation guidelines and requirements, to audit processed. Activities undertaken this year included, strengthening proficiency programs for soil and plants through ASPAC programs, feed, food and water through Global Proficiency Ltd.

#### PLANT PROTECTION

The Plant Protection Section continued to provide technical advisory and support services by undertaking investigations on pests (insects, diseases, nematodes and weeds) affecting agricultural production through laboratory diagnosis as well as making field investigations on request and subsequently advising clients on control methodologies. Parts of research activities carried out by Plant Protection on various crop commodities have already been highlighted under each commodity. This part comprises the regulatory, diagnostic and advisory services provided by the section.

#### ENTOMOLOGY

A total of 76 samples of insect specimens and crops commodities damaged by pests were received from farmers, private sector and extension officers. The section also provided identification services to farmers, pest control operators and general public with control measures. Farm visits were made upon complaints received by Farmers, Extension Officers and Exporters, field situation observations conducted, samples were collected, problems diagnosed and appropriate advice given.

## PLANT PATHOLOGY

A total of 142 samples of plant specimens including root crops, fruit trees, vegetables and ornamentals were received for diagnosis. Of these 142 samples, 45 disease, 27 weeds and 76 insects diagnosis were recorded; appropriate control measures were taken with a total of 139 diagnosed reports released to clients.

## WEED SCIENCE

The Weed Science unit identified 27 weeds and other plant specimens and also provided weed control information to agricultural officers, farmers and students. Complaints were attended to and appropriate advice given on control methods.

## PESTICIDE REGISTRATION

Pesticide registration is a regulatory function assigned with Plant Protection Unit to implement Pesticide Act and its regulation in proper management of pesticide. In 2011, a total of twenty (22) applications were received for registration. The applications were scrutinized and promising products were tested for their efficacy against target pests. One pesticide was given full registration for its sale and use in Fiji. The illegal importation and sale of pesticides was also monitored upholding the Pesticides Act and Regulations. A total of 57 companies were being monitored during the year, 36 breaches detected, with 7 complains investigated.

## FUTURE DIRECTION

The activities which are on on-going in nature would continue and these include the conservation and maintenance of Plant Genetic Resources (PGR) at all eight (8) Research Stations. Other work will include crop improvement programmes that looks at Introduction, evaluation, collection, conservation and management and production of seeds and planting materials; Crop Production Practices including farming systems, cultivation practices, post harvest technology and value addition; Crop Protection consisting of pest and disease management, harmonize international standards and guidelines for trade facilitation and integrated pest management (IPM) strategies; Regulatory services involving pesticides registration, analytical and diagnostic services; Information Dissemination through publications, trainings, displays, demonstrations and field days.

Studies on new emerging crops such as potatoes, chick peas, blue peas, lentils, sweet sorghum, sweet corn, millets would be undertaken. Tissue culture activities will be enhanced to produce disease free plant materials of ginger, vanilla, yaqona, banana, kumala and dalo including the resistant Taro leaf blight varieties.

# AUDIT REPORT

## SCOPE

I have audited the special purpose financial statements which have been prepared under the cash basis of accounting and notes thereon of the Department of Agriculture for the year ended 31 December 2011, as set out on pages 6 to 16. The financial statements comprise the following;

- (i) Statement of Receipts and Expenditure
- (ii) Appropriation Statement
- (iii) Trading and Manufacturing Account;
- (iv) Statement of Receipts and Payments- Trust Fund Account; and
- (v) Statement of Losses

The Department of Agriculture is responsible for the preparation and presentation of the special purpose financial statements and the information contained therein.

My responsibility is to express an opinion on these special purpose financial statements based on my audit.

My audit was conducted in accordance with the Fiji Standards on Auditing to provide reasonable assurance as to whether the special purpose financial statements are free of material misstatements. My audit procedures included examination, on a test basis, of evidence supporting the amounts and other disclosures in the special purpose financial statements and evaluation of accounting policies. These procedures have been undertaken to form an opinion as to whether, in all material respects, the special purpose financial statements are fairly stated and in accordance with government policies in Note 2 and the Financial Management Act 2004, so as to present a view which is consistent with my understanding of the financial performance of the Department of Agriculture for the year ended 31 December 2011.

The audit opinion expressed in this report has been formed on the above basis.

### Qualifications

1. Included in the Trading and Manufacturing Account is a TMA Surplus Capital Retained to Consolidated Fund and TMA Accumulated Surplus of \$1,016,866 and \$1,973,511 respectively. I have been unable to verify the amounts as the Department was not able to provide appropriate audit evidence to support the balances. Accordingly, I have been unable to ascertain the accuracy and completeness of the Trading and Manufacturing Account as at 31 December 2011.

2. There is an un-reconciled difference amounting to \$97,211 between the General Ledger (FMIS) and Department of Agriculture TMA bank reconciliation. Accordingly, I have been unable to ascertain the accuracy and completeness of the TMA Cash at Bank account as at 31 December 2011.
3. I have been unable to substantiate the Trust Receipts and Payments as the Department was not able to provide appropriate audit evidence to support the amount. Accordingly, I have been unable to ascertain the accuracy and completeness of the Trust Fund Account as at 31 December 2011.

### Qualified Audit Opinion

In my opinion:

- a. except for the matter referred to in the qualification paragraphs, the financial statements present fairly, in accordance with the accounting policies stated in Note 2, the financial performance of the Department of Agriculture for the year ended 31 December 2011.
- b. the financial statements give the information required by the Financial Management Act 2004 in the manner so required.

I have obtained all the information and explanations which, to the best of my knowledge and belief, were necessary for the purpose of our audit



Tevita Bolanavanua  
AUDITOR GENERAL

Suva, Fiji



## DEPARTMENT OF AGRICULTURE

### CONSOLIDATED STATEMENT OF RECEIPTS AND EXPENDITURE FOR THE YEAR ENDED 31ST DECEMBER 2011

		2011	2010
	Notes	\$	\$
REVENUE			
Agricultural produce & inspection fees		14,877	422,964
License		18,184	23,447
Meat inspection		19,876	21,643
Veterinary and animal quarantine		12,359	28,909
Sale of sheep and wool		39,942	52,624
Agriculture commercial undertaking		522	2,266
Rest house		4,394	5,705
Hire of plant and vehicle		22,664	54,480
Rental of quarters		38,350	1,115
Rental for building		1,422	1,984
Registration		2,416	2,838
Commission		7,503	9,145
Sale of farm product		36,996	59,314
Sale of surplus farm produce		5,380	5,401
Miscellaneous revenue		86,796	209,868
Overpayment recoveries		115,885	259,982
Agricultural landlord and tenant		3,567	3,557
Water charges		3,624	2,278
Rural electrification		1,402	282
Total Revenue	3 (a)	436,159	1,167,802

### CONSOLIDATED STATEMENT OF RECEIPTS AND EXPENDITURE (CONT..) FOR THE YEAR ENDED 31ST DECEMBER 2011

		2011	2010
	Notes	\$	\$
EXPENDITURE			
Establish staff	3(b)	8,607,849	9,956,061
Government wage earners		5,247,554	4,927,044
Travel and communications		576,794	469,323
Maintenance & operations		1,646,266	1,212,110
Purchase of goods and services		489,382	332,810
Operating grants and transfers		3,146,294	3,328,174
Special expenditures		795,779	1,311,163
Total Operating Expenditure		20,509,918	21,536,685
Capital construction	3(c)	10,705,714	21,296,601
Capital purchase	3(d)	600,405	2,527,831
Capital grants and transfers	3(e)	8,369,543	6,327,611
Total Capital Expenditure		19,675,662	30,152,043
Value Added Tax		2,201,394	3,290,599
Total Expenditure		42,386,974	54,979,327



## DEPARTMENT OF AGRICULTURE

### APPROPRIATION STATEMENT STATEMENT FOR THE YEAR ENDED 31ST DECEMBER 2011

SEG	Item	Budget	Changes	Revised	Actual	Lapsed
		Estimate	(Note 4)	Estimate	Expenditure	Appropriation
		\$	\$	\$	\$	\$
1	Established Staff	11,028,568	1,216,874	9,811,694	8,607,849	1,203,845
2	Government Wage Earner	4,856,883	85,217	4,942,100	5,247,554	305,454
3	Travel and Communications	500,842	125,600	626,442	576,794	49,648
4	Maintenance and Operations	1,432,321	263,579	1,695,900	1,646,266	49,634
5	Purchase of Goods and Services	489,000	48,814	537,814	489,382	48,432
6	Operating grants and Transfers	3,095,537	-	3,095,537	3,146,294	50,757
7	Special Expenditures	1,204,003	-	1,204,003	795,779	408,224
	Total Operating Expenditure	22,607,154	693,664	21,913,490	20,509,918	1,403,572
8	Capital Construction	10,840,000	245,965	11,085,965	10,705,714	380,251
9	Capital Purchases	200,000	350,000	550,000	600,405	50,405
10	Capital Grants and Transfers	8,517,131	-	8,517,131	8,369,543	147,588
	Total Capital Expenditure	195,571,311	595,965	20,153,096	19,675,662	477,434
13	Value Added Tax	2,130,460	97,699	2,228,159	2,201,394	26,765
	TOTAL EXPENDITURE	44,294,745	-	44,294,745	42,386,974	1,907,771

## DEPARTMENT OF AGRICULTURE

### CONSOLIDATED TRADING AND MANUFACTURING ACCOUNT FOR THE YEAR ENDED 31ST DECEMBER 2011

		2011	2010
<u>MANUFACTURING ACCOUNT</u>		\$	\$
Opening Raw Material		-	-
Purchasess		1,341,393	1,138,267
		1,341,393	1,138,267
Less: Closing Raw Material		-	-
<u>Raw Material Used</u>		1,341,393	1,138,267
Add: Direct Labour		71,038	1,432,321
<u>Cost of Manufacturing Goods Transferred to Trading Account</u>		1,412,431	1,146,602
<u>TRADING ACCOUNT</u>			
Sales	3 (f)	1,028,127	1,212,854
Opening Stock of finished goods		624,036	310,623
Add: Cost of Manufacturing goods		1,412,431	1,146,602
		2,036,467	1,457,225
Less: Closing Stock of Finished goods		988,079	624,036
Cost of Finished goods sold		1,048,388	833,189
Gross (Loss) /Profit		(20,261)	379,665

## DEPARTMENT OF AGRICULTURE

### CONSOLIDATED PROFIT AND LOSS ACCOUNT FOR THE YEAR ENDED 31ST DECEMBER 2011

		2011	2010
		\$	\$
INCOME			
Gross (Loss) / Profit transferred from Trading A/C		(20,261)	379,665
Total Income		(20,261)	379,665
Expense			
Travelling & Communication Expenses		9,208	8,288
Maintenance and Operation		214,510	59,546
Other Expenses		41,629	205
VAT		301,540	119,985
Total Expense	3 (g)	566,887	188,024
Net (Loss)/ Profit		(587,148)	191,641

## DEPARTMENT OF AGRICULTURE

### FINANCIAL STATMENTS FOR THE YEAR ENDED 31ST DECEMBER 2011

	2011	2010
	\$	\$
<u>Current Assets</u>		
Cash	216,488	525,010
Accounts Receivable	2,075	2,075
Finished Goods	988,079	624,036
Total Current Assets	1,206,642	1,151,121
<u>Current Liability</u>		
VAT Payable	249,997	155,918
Total Current Liability	249,997	155,918
NET ASSETS	956,645	995,203
<u>EQUITY</u>		
TMA Surplus Capital Retained to CFA	(1,016,866)	(1,565,068)
TMA Accumulated Surplus	1,973,511	2,560,271
TOTAL	956,645	995,203