



A STUDY OF THE AGRICULTURE, FORESTRY AND FISHING INDUSTRIES 2008

JULY 2011

Published in July by the

**Fiji Bureau of Statistics
P.O. Box 2221,
Government Buildings
Suva
Republic of the Fiji**

Reproduction of Material

Any table or material published in this report may be reproduced and published without the Fiji Bureau of Statistics' prior approval. However, the source of information should always be identified and acknowledged in all modes of presentation.

ISBN 978-982-510-020-1

Key title: A Study of the Agriculture, forestry and Fishing Industries (Fiji Bureau of Statistics)

Abbreviated key title: A Study of Agri, forest and fish. ind. (Fiji Bur.Stat.)

© Fiji Bureau of Statistics

Printer: Quality Print Limited

Enquiries:

Fiji Bureau of Statistics
Ratu Sukuna House
MacArthur Street
Suva,
Fiji

P O Box 2221
Government Buildings
Suva
Fiji

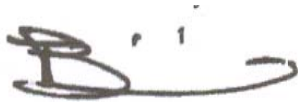
Telephone: [679] 3315822
Fax No.: [679] 3303656
E-mail: info@statsfiji.gov.fj
Website: www.statsfiji.gov.fj

PREFACE

A Study of the Agriculture, Forestry and Fishing Industries 2008 contains macroeconomic data on the agriculture, forestry and fishing activities taking place in Fiji as well as other relevant information on the industries.

Information contained in this report will help build up a system of national accounts so that a meaningful picture of the whole economy can be constructed. Data on agriculture, forestry and fishing are also needed for social and economic planning as the products of the industry provide a large part of the investment goods. Establishments engaged in the agriculture, forestry and fishing activity use the data to analyze market performance and developments.

This study would not have been possible without the assistance of the numerous people and organizations. The co-operation of all of them is acknowledged. Their effort is much appreciated and I look forward to their continued support.



T Bainimarama
Government Statistician

ACKNOWLEDGEMENT

Ms Nilima Lal Secretariat of the Pacific Community, Noumea, New Caledonia.

Mr Tevita B Natasiwai Department of Agriculture.

Mr Shalendra Singh Department of Fisheries.

NOTES TO THE REPORT

1. The interpretation of the symbols used in this report is as follows:

0 Nil return or a figure less than half the given value

R Revised

P Provisional

N/A Not Available

2 Total values are subject to rounding errors.

3 Key to Abbreviations:

Abbreviation	Terms
AH&P	Animal Health and Production
CFC	Consumption of Fixed Capital
COE	Compensation of Employees
EP&S	Economic Planning and Statistics
FBOS	Fiji Bureau of Statistics
FSIC	Fiji Standard Industrial Classification
FSC	Fiji Sugar Corporation
GFCF	Gross Fixed Capital Formation
GO	Gross Output
IC	Intermediate Consumption
MFE	Milk Fat Equivalent
MPI	Ministry of Primary Industries
OS	Operating Surplus
SNA	System of National Accounts
VA	Value Added

4 VA in the report refers to Gross Value Added

5 Some commodities have been studied for the first time since over time their production became significant. For these commodities, comparative analyses are not done with the 2002 study.

6 Wages do not include an imputation for family help. This labour compensation appears under operating surplus.

7 A lot of farmers engage in mixed farming together with the main crop eg farming of vegetables together with taro, which is the main crop. In such a case the activities of the farmer will be covered under taro which is assigned FSIC 01131.

CONTENTS

	<u>Page No</u>
Preface	iv
Acknowledgement	v
Notes to the Report	vi
1. Introduction	
1.1 History of Study	1
1.2 Need for statistics relating to Agriculture, Forestry and Fishing	1
1.3 Peculiar features of the Agriculture, Forestry and Fishing industries	1
2. Methodology	
2.1 Legal Basis	2
2.2 Reference Period	2
2.3 Classification and Standard Used	2
3. Results	3
4. Detailed discussion by activities within the Agriculture, Forestry and Fishing industries	12

LIST OF TABLES

Summary Tables

Table A: Macroeconomic Aggregates (\$)	4
Table B: Value Added 1989, 1995, 2002 and 2008 (\$)	6
Table C: Value Added Percentage Change Compared to the Previous Period	8

Agriculture

Crops

Growing of cereals (except rice) leguminous crops and oil seeds	
Table 1: Gross Output	12
Table 2: Input Ratios	12
Table 3: Macroeconomic Aggregates	12
Growing of rice	
Table 4: Gross Output	13
Table 5: Input Ratios	13
Table 6: Macroeconomic Aggregates	13
Growing of taro	
Table 7: Gross Output	14
Table 8: Input Ratios	14
Table 9: Macroeconomic Aggregates	14
Growing of cassava	
Table 10: Gross Output	15
Table 11: Input Ratios	15
Table 12: Macroeconomic Aggregates	15

Contents continued.....

Growing of yam	
Table 13: Gross Output	15
Table 14: Input Ratios	16
Table 15: Macroeconomic Aggregates	16
Growing of kumala	
Table 16: Gross Output	16
Table 17: Input Ratios	16
Table 18: Macroeconomic Aggregates	17
Growing of vegetables and melons, roots and tubers not elsewhere specified	
Table 19: Gross Output	17
Table 20: Input Ratios	17
Table 21: Macroeconomic Aggregates	18
Growing of sugar cane	
Table 22: Gross Output	18
Table 23: Sugar cane- Number of Growers and Area Harvested	18
Table 24: Input Ratios	19
Table 25: Macroeconomic Aggregates	19
Growing and curing of tobacco	
Table 26: Gross Output	20
Table 27: Input Ratios	20
Table 28: Macroeconomic Aggregates	20
Growing of bananas	
Table 29: Gross Output	20
Table 30: Input Ratios	21
Table 31: Macroeconomic Aggregates	21
Growing of pineapples	
Table 32: Gross Output	21
Table 33: Input Ratios	21
Table 34: Macroeconomic Aggregates	22
Growing of mangoes	
Table 35: Gross Output	22
Table 36: Input Ratios	22
Table 37: Macroeconomic Aggregates	22
Growing of papayas	
Table 38: Gross Output	23
Table 39: Input Ratios	23
Table 40: Macroeconomic Aggregates	23
Growing of noni	
Table 41: Gross Output	23
Table 42: Input Ratios	24
Table 43: Macroeconomic Aggregates	24

Contents continued.....

Growing of watermelon	
Table 44: Gross Output	24
Table 45: Input Ratios	24
Table 46: Macroeconomic Aggregates	25
Growing of citrus fruits	
Table 47: Gross Output	25
Table 48: Input Ratios	25
Table 49: Macroeconomic Aggregates	25
Growing of other tree and bush fruits and nuts	
Table 50: Gross Output	26
Table 51: Input Ratios	26
Table 52: Macroeconomic Aggregates	26
Growing of oleaginous fruits	
Table 53: Gross Output	27
Table 54: Input Ratios	27
Table 55: Macroeconomic Aggregates	27
Growing of cocoa	
Table 56: Gross Output	28
Table 57: Input Ratios	28
Table 58: Macroeconomic Aggregates	28
Growing of ginger	
Table 59: Gross Output	29
Table 60: Input Ratios	29
Table 61: Macroeconomic Aggregates	29
Growing of yaqona	
Table 62: Gross Output	30
Table 63: Input Ratios	30
Table 64: Macroeconomic Aggregates	30
Growing of Vanilla	
Table 65: Gross Output	31
Table 66: Input Ratios	31
Table 67: Macroeconomic Aggregates	31
Growing of growing of spices, aromatic, drug and pharmaceutical crops not elsewhere specified	
Table 68: Gross Output	31
Table 69: Input Ratios	32
Table 70: Macroeconomic Aggregates	32
Plant propagation	
Table 71: Gross Output	32
Table 72: Input Ratios	32
Table 73: Macroeconomic Aggregates	33

Contents continued.....

Livestock products	
Beef cattle farming	
Table 74: Gross Output	33
Table 75: Input Ratios	33
Table 76: Macroeconomic Aggregates	34
Dairy cattle farming	
Table 77: Gross Output	34
Table 78: Input Ratios	35
Table 79: Macroeconomic Aggregates	35
Sheep farming	
Table 80: Gross Output	35
Table 81: Input Ratios	36
Table 82: Macroeconomic Aggregates	36
Goat farming	
Table 83: Gross Output	36
Table 84: Input Ratios	37
Table 85: Macroeconomic Aggregates	37
Pig farming	
Table 86: Gross Output	37
Table 87: Input Ratios	37
Table 88: Macroeconomic Aggregates	38
Poultry farming	
Table 89: Gross Output	38
Table 90: Input Ratios	38
Table 91: Macroeconomic Aggregates	39
Production of egg	
Table 92: Gross Output	39
Table 93: Input Ratios	39
Table 94: Macroeconomic Aggregates	40
Bee-keeping	
Table 95: Gross Output	40
Table 96: Input Ratios	40
Table 97: Macroeconomic Aggregates	41
Forestry and logging	
Table 98: Gross Output	42
Table 99: Input Ratios	42
Table 100: Macroeconomic Aggregates	43
Gathering of non-wood forest products	
Table 101: Gross Output	43
Table 102: Input Ratios	43
Table 103: Macroeconomic Aggregates	44
Contents continued.....	

Fishing

Fishing on a commercial basis	
Table 104: Gross Output	45
Table 105: Input Ratios	45
Table 106: Macroeconomic Aggregates	46
Taking of marine or freshwater crustaceans and molluscs	
Table 107: Gross output	46
Table 108: Input Ratios	46
Table 109: Macroeconomic Aggregates	47
Beach-de-mer diving	
Table 110: Gross output	47
Table 111: Input Ratios	47
Table 112: Macroeconomic Aggregates	48
Gathering of other marine organism and materials	
Table 113: Gross output	48
Table 114: Input Ratios	48
Table 115: Macroeconomic Aggregates	49
Marine Aquaculture	
Table 116: Gross output	49
Table 117: Input Ratios	49
Table 118: Macroeconomic Aggregates	50
Freshwater Aquaculture	
Table 119: Gross output	50
Table 120: Input Ratios	50
Table 121: Macroeconomic Aggregates	51

LIST OF GRAPHS

Graph 1: Agriculture, Forestry and Fishing Value Added	11
Graph 2: The drivers of the Value Added in Agriculture	11

LIST OF APPENDICES

Appendix I: Concepts and Definitions	52
Appendix II: Industrial Classification Used	54
Appendix III: Sample Questionnaire	68
Appendix IV: Primary Production : Selected Agricultural Products	73
Appendix V: Sugar Industry Production and Prices	74

1 INTRODUCTION

1.1 History of studies undertaken

This report contains the results of the 2008 study on the Agriculture, Forestry and Fishing industries taking place in Fiji together with other relevant information on the industry. It is an ad hoc study and was conducted by the Fiji Bureau of Statistics (FBOS) because of the need by its National Accountants to re-base the constant price Gross Domestic Product (GDP) to 2008.

A brief description of similar studies done in the past is given below in chronological order:

1989

The purpose of conducting a study for 1989 was to enable determine the benchmark levels for the agriculture, forestry and fishing industries in the rebasing of the constant price GDP from 1977 to 1989. The results of the study are contained in the report titled “*A Study of the Agriculture, Forestry and Fishing Sector for the compilation of the 1989 Gross Domestic Product.*”

1995

The 1995 study was also conducted to enable determine the benchmark levels for the agriculture, forestry and fishing industries in the rebasing of the constant price GDP, but this time, from 1989 to 1995. The results of the study are contained in the report titled *1995 Gross Domestic Product Sources and Methods.*

2002

Another study of the Agriculture, Forestry and Fishing industries was conducted in 2002, for the rebasing of the constant price GDP from 1995 to 2002. The outcomes of the study are contained in the report titled *A Study of the Agriculture, Forestry and Fishing Sector 2002.*

1.2 Need for statistics relating to Agriculture, Forestry and Fishing

Agriculture forestry and fishing activities are widely scattered in the country and the economic function they perform in channeling the flow of goods from the producer to the consumer is of great importance. These industries account for a substantial proportion of the total economic activity, whether in terms of the sector to the GDP or in terms of its share of total employment and gross fixed capital formation (GFCF).

Statistics on agriculture, forestry and fishing are needed for the preparation of national accounts so that a meaningful study of the whole economy can be made. The data can also be used to construct the input-output table that shows the inter-connection of the agriculture, forestry and fishing industries with other industries. Policy makers too require the data for formulating sound economic and social policies that augment capital formation. In addition, the entities engaged in the agriculture, forestry and fishing industries find the data helpful.

1.3 Peculiar features of the Agriculture, Forestry and Fishing industry

Despite difficulties faced due to the peculiar features of the sector, great care was taken whilst conducting the study. Nevertheless, it is possible that some omission or double-counting may

have occurred, but not that large to be able to affect the overall results in any significant way. The peculiar features of the industries are:

- The industries are highly sensitive to weather. Droughts, floods and hurricanes are natural disasters that have great impact on the industries.
- Period of production is relatively long in some cases, for example, trees take years to mature so therefore the forestry sector can experience high intermediate costs in some years, but suddenly a very high value added in a particular year.
- Activities are carried out by a wide variety of units, eg
 - small and large business units. Due to the different size of business units engaged eg small and large farms in the growing of coconuts, caution has to be exercised in calculating the input ratios as they have an impact on the macroeconomic aggregates,
 - own account individuals. It has to be ascertained that they are not producing for own consumption only, and
 - other units whose main activities are in other industries. The need to include them in the study, if market activity is involved.
- Sub-leasing of farms is prevalent eg in the case of sugarcane – there is a probability that some work may have been double counted (if the co-tenant’s work is not deducted from the main tenant, and also picked up for the co-tenant) or sometimes not counted at all (if the co-tenant’s work is correctly deducted from the main tenant, but not picked up for the co-tenant).
- Many small establishments go in and out of business with changing economic and seasonal factors.
- Most small business units do not maintain proper records, so careful estimates are calculated.

2. METHODOLOGY

2.1 Legal Basis

The study was conducted under the provisions of the Statistics Act (Cap 71). This Act stipulates the collection of data, as well as protects the confidentiality of the information submitted.

2.2 Reference Period

The study conducted was for the calendar year 2008. If the accounting year differed from the calendar year, information was provided for the accounting year that covered the major part of the calendar year 2008.

2.3 Classification and Standard Used

- The Fiji Standard Industrial Classification (FSIC) 2010 has been used for classifying industries and commodities.
- The Macroeconomic Aggregates obtained are based on the 2008 System of National Accounts (SNA).

The coverage and scope of each activity and the survey procedures used are discussed in detail under **Detailed Discussion by commodities produced in the Agriculture, Forestry and Fishing industries.**

3. RESULTS

All data contained in this report are in Fiji Dollars and in current prices.

3.1 Macroeconomic Aggregates

Table A below gives the GO, IC, VA, COE, CFC and OS by products

Table A: Macroeconomic Aggregates (\$)

FSIC 2010				DESCRIPTION	GO	IC	VA	COE	CFC	OS
DIVISION	GROUP	CLASS	SUB-CLASS							
				TOTAL AGRICULTURE, FORESTRY AND FISHING	750,807,252	414,401,013	336,406,239	77,926,061	31,320,981	227,159,197
01				CROP AND ANIMAL PRODUCTION, HUNTING AND RELATED SERVICE ACTIVITIES	545,271,452	278,756,525	266,514,927	59,211,267	21,113,801	186,189,859
	011			Growing of non-perennial crops	311,721,671	152,187,005	159,534,666	39,054,339	12,355,795	108,124,532
		0111	01111	Growing of cereals (except rice)leguminous crops and oil seeds	653,800	241,971	411,829	58,804	0	353,025
		0112	01121	Growing of rice	6,485,084	3,022,049	3,463,035	508,431	0	2,954,604
		0113		Growing of vegetables and melons, roots and tubers	160,099,500	60,577,071	99,522,429	28,951,546	378,011	70,192,872
			01131	Growing of taro	74,009,000	28,344,526	45,664,474	18,191,657	0	27,472,817
			01132	Growing of cassava	39,041,100	13,242,039	25,799,061	6,115,641	0	19,683,420
			01133	Growing of yam	4,031,000	1,173,982	2,857,018	316,892	0	2,540,126
			01134	Growing of kumala	3,227,700	901,497	2,326,203	459,700	0	1,866,503
			01139	Growing of vegetables and melons, roots and tubers not elsewhere specified	39,790,700	16,915,027	22,875,673	3,867,656	378,011	18,630,006
		0114	01141	Growing of sugar cane	143,089,650	87,515,794	55,573,856	9,505,455	11,977,784	34,090,617
		0115	01151	Growing and curing of tobacco	1,393,637	830,120	563,517	30,103	0	533,414
	012			Growing of perennial crops	110,334,991	44,473,844	65,861,147	9,639,807	1,087,200	55,134,140
		0122		Growing of tropical and subtropical fruits	16,635,000	3,984,663	12,650,337	599,233	0	12,051,104
			01221	Growing of bananas	6,319,500	824,618	5,494,882	92,480	0	5,402,402
			01222	Growing of pineapples	3,155,400	951,616	2,203,784	79,301	0	2,124,483
			01223	Growing of mangoes	300,000	31,073	268,927	13,330	0	255,597
			01224	Growing of papayas	5,812,000	1,992,686	3,819,314	323,811	0	3,495,503
			01225	Growing of noni	162,500	13,170	149,330	4,107	0	145,223
			01226	Growing of Watermelon	885,600	171,500	714,100	86,204	0	627,896
		0123	01231	Growing of citrus fruits	48,100	25,172	22,928	2,435	0	20,493
		0125	01251	Growing of other tree and bush fruits and nuts	712,000	111,100	600,900	34,089	0	566,811
		0126	01261	Growing of oleaginous fruits	9,805,056	3,807,599	5,997,457	1,085,230	171,308	4,740,919

FSIC 2010				DESCRIPTION	GO	IC	VA	COE	CFC	OS
DIVISION	GROUP	CLASS	SUB-CLASS							
		0127		Growing of Beverage crops	17,085	3,900	13,185	5,024	0	8,161
			01271	Growing of cocoa	17,085	3,900	13,185	5,024	0	8,161
		0128		Growing of spices, aromatic, drug and pharmaceutical crops	83,067,750	36,511,466	46,556,284	7,906,376	911,671	37,738,237
			01281	Growing of ginger	2,014,750	982,392	1,032,358	345,127	0	687,231
			01282	Growing of yaqona	80,510,000	35,308,747	45,201,253	7,464,851	897,885	36,838,517
			01283	Growing of vanilla	27,000	3,225	23,775	1,550	0	22,225
			01289	Growing of spices, aromatic, drug and pharmaceutical crops n.e.c	516,000	217,102	298,898	94,848	13,786	190,264
		0130	01301	Plant propagation	50,000	29,944	20,056	7,420	4,221	8,415
	014			Animal production	123,214,790	82,095,676	41,119,114	10,517,121	7,670,806	22,931,187
		0141		Raising of cattle and buffaloes	15,489,240	7,050,931	8,438,309	1,788,866	465,392	6,184,051
			01411	Raising and breeding of cattle and buffaloes	9,824,400	3,916,575	5,907,825	709,147	328,303	4,870,375
			01412	Production of raw cow milk from cows or buffalo	5,664,840	3,134,356	2,530,484	1,079,719	137,089	1,313,676
		0144		Raising of sheep and goats	9,418,900	2,411,959	7,006,941	322,613	223,399	6,460,929
			01441	Raising and breeding of sheep	571,900	228,740	343,160	24,901	24,925	293,334
			01442	Raising of goats	8,847,000	2,183,219	6,663,781	297,712	198,474	6,167,595
		0145	01451	Raising of swine/pigs	4,140,000	2,926,000	1,214,000	512,840	304,912	396,248
		0146		Raising of poultry	91,191,650	68,819,282	22,372,368	7,354,305	6,622,668	8,395,395
			01461	Raising and breeding of poultry	78,191,300	58,088,317	20,102,983	6,442,963	5,793,975	7,866,045
			01462	Production of eggs	13,000,350	10,730,965	2,269,385	911,342	828,693	529,350
		0149		Raising of other animals	2,975,000	887,504	2,087,496	538,497	54,435	1,494,564
			01491	Bee-keeping	2,975,000	887,504	2,087,496	538,497	54,435	1,494,564
02	021	0210		FORESTRY AND LOGGING	47,446,095	19,059,961	28,386,134	6,083,688	3,510,838	18,791,608
			02101	Native forest						
			02102	Pine						
			02103	Mahogany						
			02201	Logging	45,247,095	18,135,281	27,111,814	5,751,419	3,510,838	17,849,557
			02301	Gathering of non-wood forest products	2,199,000	924,680	1,274,320	332,269	13,786	942,051
03				FISHING AND AQUACULTURE	158,089,705	116,584,527	41,505,178	12,631,106	6,696,342	22,177,730
	031	0311/ 0312		Fishing	135,524,594	103,150,867	32,373,727	11,429,308	6,091,980	14,852,439
			03111	Marine Fishing on a commercial basis						
			03121	Freshwater fishing on a commercial basis	98,827,690	76,455,248	22,372,442	7,877,978	4,717,227	9,777,237

FSIC 2010				DESCRIPTION	GO	IC	VA	COE	CFC	OS
DIVISION	GROUP	CLASS	SUB-CLASS							
			03112	Taking of marine crustaceans and molluscs						
			03122	Taking of freshwater crustaceans and molluscs	9,386,904	6,507,941	2,878,963	901,143	157,700	1,820,120
			03114	Beach-de-mer	9,810,000	7,787,178	2,022,822	467,937	307,053	1,247,832
			03115	Gathering of other marine organism and materials						
			03124	Gathering of freshwater materials	17,500,000	12,400,500	5,099,500	2,182,250	910,000	2,007,250
	032			Aquaculture	22,565,111	13,433,660	9,131,451	1,201,798	604,362	7,325,291
		0321	03211	Marine aquaculture	20,379,290	12,418,611	7,960,679	1,081,618	543,926	6,335,135
		0322	03222	Freshwater aquaculture	2,185,821	1,015,049	1,170,772	120,180	60,436	990,156

3.2 Value Added 1989, 1995, 2002 and 2008

Table B below gives the VA by products and their contribution to the total Agriculture, Forestry and Fishing VA for 1989, 1995, 2002 and 2008.

Table B: Value Added 1989, 1995, 2002 and 2008 (\$)

FSIC SUB-CLASS	DESCRIPTION	1989		1995		2002		2008	
		VA \$	% Contribution	VA \$	% Contribution	VA \$	% Contribution	VA \$	% Contribution
	TOTAL AGRICULTURE, FORESTRY AND FISHING	241,439,355	100.00	313,194,141	100.00	307,566,405	100.00	336,406,239	100.00
	CROP AND ANIMAL PRODUCTION, HUNTING AND RELATED SERVICE ACTIVITIES	209,793,817	86.89	250,100,922	79.85	253,267,218	82.35	266,514,927	79.22
	Growing of non-perennial crops	177,962,168	73.71	206,234,201	65.85	173,828,236	56.52	159,543,666	47.42
01111	Growing of cereals (except rice)leguminous crops and oil seeds	316,152	0.13	1,466,126	0.47	494,179	0.16	411,829	0.12
01121	Growing of rice	7,308,579	3.03	3,570,061	1.14	2,303,872	0.75	3,463,035	1.03
	Growing of vegetables and melons, roots and tubers	15,571,462	6.45	22,141,285	7.07	63,823,502	20.75	99,522,429	29.58
01131	Growing of taro	3,816,684	1.58	10,683,791	3.41	28,837,974	9.38	45,664,474	13.57

FSIC SUB- CLASS	DESCRIPTION	1989		1995		2002		2008	
		VA \$	% Contribution	VA \$	% Contribution	VA \$	% Contribution	VA \$	% Contribution
01132	Growing of cassava							25,799,061	7.67
01133	Growing of yam	3,786,179	1.57	5,122,265	1.64	24,219,810	7.87	2,857,018	0.85
01134	Growing of kumala							2,326,203	0.69
01139	Growing of vegetables and melons, roots and tubers not elsewhere specified	7,968,599	3.30	6,335,229	2.02	10,765,718	3.50	22,875,673	6.80
01141	Growing of sugar cane	154,436,744	63.97	178,607,269	57.03	106,853,729	34.74	55,573,856	16.52
01151	Growing and curing of tobacco	329,231	0.14	449,460	0.14	352,954	0.11	563,517	0.17
	Growing of perennial crops	17,180,683	7.12	27,187,464	8.68	57,112,408	18.57	65,861,147	19.58
	Growing of tropical and subtropical fruits	1,929,975	0.80	2,566,706	0.82	9,252,953	3.01	12,650,337	3.76
01221	Growing of bananas	N/A	N/A	N/A	N/A	4,620,472	1.50	5,494,882	1.63
01222	Growing of pineapples	N/A	N/A	N/A	N/A	1,405,870	0.46	2,203,784	0.66
01223	Growing of mangoes							268,927	0.08
01224	Growing of papayas	1,929,975	0.80	2,566,706	0.82	2,925,024	0.95	3,819,314	1.14
01226	Growing of watermelon							149,330	0.04
01225	Growing of noni	N/A	N/A	N/A	N/A	301,587	0.10	714,100	0.21
01231	Growing of citrus fruits	N/A	N/A	N/A	N/A	426,519	0.14	22,928	0.01
01251	Growing of other tree and bush fruits and nuts	N/A	N/A	N/A	N/A	413,638	0.13	600,900	0.18
01261	Growing of oleaginous fruits	2,879,756	1.19	3,274,697	1.05	3,885,715	1.26	5,997,457	1.78
	Growing of Beverage crops	302,168	0.13	61,592	0.02	24,799	0.01	13,185	0.00
01271	Growing of cocoa	302,168	0.13	61,592	0.02	24,799	0.01	13,185	0.00
	Growing of spices, aromatic, drug and pharmaceutical crops	12,068,784	5.00	21,284,469	6.80	42,797,686	13.91	46,556,284	13.84
01281	Growing of ginger	1,913,457	0.79	878,583	0.28	2,565,418	0.83	1,032,358	0.31
01282	Growing of yaqona	10,155,327	4.21	20,405,886	6.52	40,048,216	13.02	45,201,253	13.44
01283	Growing of vanilla	N/A	N/A	N/A	N/A	N/A	N/A	23,775	0.01
01289	Growing of spices, aromatic, drug and pharmaceutical crops n.e.c	N/A	N/A	N/A	N/A	184,052	0.06	298,898	0.09
01301	Plant propagation	N/A	N/A	N/A	N/A	311,098	0.10	20,056	0.01
	Animal production	14,650,966	6.07	16,679,257	5.33	22,326,574	7.26	41,119,114	12.22
	Raising of cattle and buffaloes	6,008,665	2.49	4,889,932	1.56	7,251,928	2.36	8,438,309	2.51
01411	Raising and breeding of cattle and buffaloes	3,620,596	1.50	2,109,941	0.67	4,050,619	1.32	5,907,825	1.76
01412	Production of raw cow milk from cows or buffalo	23,88,069	0.99	2,779,991	0.89	3,201,309	1.04	2,530,484	0.75
	Raising of sheep and goats	2,182,578	0.90	1,787,097	0.57	2,843,693	0.92	7,006,941	2.08
01441	Raising and breeding of sheep	N/A	N/A	N/A	N/A	62,680	0.02	343,160	0.10
01442	Raising of goats	2,182,578	0.90	1,787,097	0.57	2,781,013	0.90	6,663,781	1.98
01451	Raising of swine/pigs	774,694	0.32	1,221,205	0.39	924,304	0.30	1,214,000	0.36
	Raising of poultry	4,693,803	1.94	8,517,605	2.72	10,758,015	3.50	22,372,368	6.65
01461	Raising and breeding of poultry	3,941,082	1.63	7,268,004	2.32	9,246,263	3.01	20,102,983	5.98
01462	Production of eggs	752,721	0.31	1,249,601	0.40	1,511,752	0.49	2,269,385	0.67

FSIC SUB- CLASS	DESCRIPTION	1989		1995		2002		2008	
		VA \$	% Contribution	VA \$	% Contribution	VA \$	% Contribution	VA \$	% Contribution
	Raising of other animals	991,226	0.41	263,418	0.08	548,634	0.18	2,087,496	0.65
01491	Bee-keeping	117,728	0.05	180,436	0.06	548,634	0.18	2,087,496	0.65
01492	Other animal farming; production of animal products n.e.c.	873,498	0.36	82,982	0.03	N/A	N/A	N/A	N/A
	FORESTRY AND LOGGING	15,273,086	6.33	23,196,283	7.41	21,317,790	6.93	28,386,134	8.44
02101	Native forest								
02102	Pine								
02103	Mahogany								
02201	Logging	15,273,086	6.33	23,196,283	7.41	21,317,790	6.93	27,111,814	8.06
02301	Gathering of non-wood forest products	N/A	N/A	N/A	N/A	N/A	N/A	1,274,320	0.38
	FISHING AND AQUACULTURE	16,372,452	6.78	39,896,936	12.74	32,981,397	10.72	41,505,178	12.34
	Fishing	N/A	N/A	N/A	N/A	27,347,722	8.89	32,373,727	9.62
03111	Marine Fishing on a commercial basis								
03121	Freshwater fishing on a commercial basis	N/A	N/A	N/A	N/A	19,491,403	6.34	22,372,442	6.65
03112	Taking of marine crustaceans and molluscs								
03122	Taking of freshwater crustaceans and molluscs	N/A	N/A	N/A	N/A	3,663,833	1.19	2,878,963	0.90
03114	Beach-de-mer	N/A	N/A	N/A	N/A	1,187,562	0.39	2,022,822	8.84
03115	Gathering of other marine organism and materials								
03124	Gathering of freshwater materials	N/A	N/A	N/A	N/A	3,004,924	0.98	5,099,500	1.52
	Aquaculture	N/A	N/A	N/A	N/A	5,633,675	1.83	9,131,451	2.71
03211	Marine aquaculture	N/A	N/A	N/A	N/A	N/A	N/A	7,960,679	2.47
03222	Freshwater aquaculture	N/A	N/A	N/A	N/A	N/A	N/A	1,170,772	0.35

3.3 Value Added Percentage Change Compared to the Previous Period

Table C below gives the percentage change of the VA by products for 1989, 1995, 2002 and 2008.

Table C: Value Added Percentage Change Compared to the Previous Period

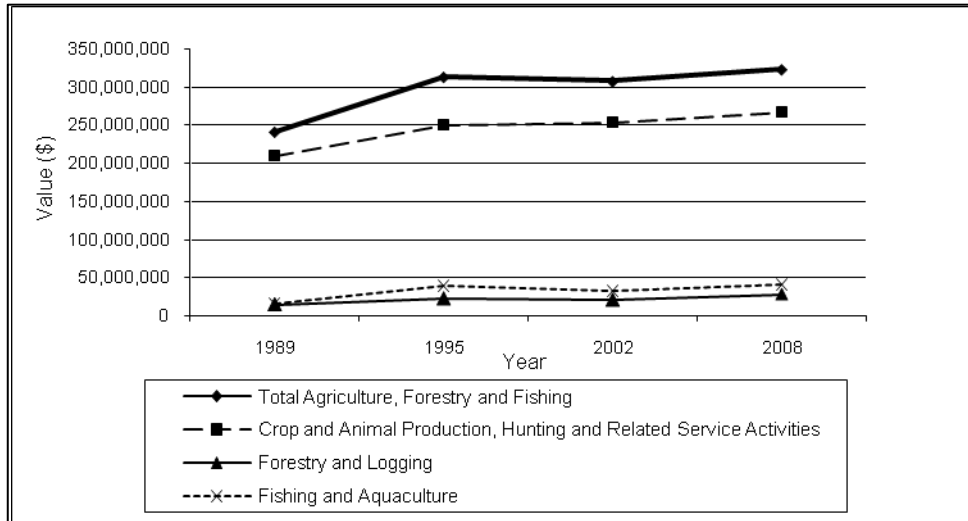
FSIC SUB- CLASS	DESCRIPTION	1989	1995		2002		2008	
		VA \$	VA \$	Percentage change	VA \$	Percentage change	VA \$	Percentage change
	TOTAL AGRICULTURE, FORESTRY AND FISHING	241,439,355	313,194,141	29.72	307,566,405	-1.80	336,406,239	9.38
	CROP AND ANIMAL PRODUCTION, HUNTING AND RELATED SERVICE	209,793,817	250,100,922	19.21	253,267,218	1.27	266,514,927	5.23

FSIC SUB- CLASS	DESCRIPTION	1989	1995		2002		2008	
		VA \$	VA \$	Percentage change	VA \$	Percentage change	VA \$	Percentage change
	ACTIVITIES							
	Growing of non-perennial crops	177,962,168	206,234,201	15.89	173,828,236	-15.71	159,534,666	-8.22
01111	Growing of cereals (except rice) leguminous crops and oil seeds	316,152	1,466,126	363.74	494,179	-66.29	411,829	22.15
01121	Growing of rice	7,308,579	3,570,061	-51.15	2,303,872	-35.47	3,463,035	50.31
	Growing of vegetables and melons, roots and tubers	15,571,462	22,141,285	42.19	63,823,502	188.26	99,522,429	55.93
01131	Growing of taro	3,816,684	10,683,791	179.92	28,837,974	169.92	45,664,474	58.35
01132	Growing of cassava						25,799,061	N/A
01133	Growing of yam	3,786,179	5,122,265	35.29	24,219,810	372.83	2,857,018	N/A
01134	Growing of kumala						2,326,203	N/A
01139	Growing of vegetables and melons, roots and tubers not elsewhere specified	7,968,599	6,335,229	-20.50	10,765,718	69.93	22,875,673	112.49
01141	Growing of sugar cane	154,436,744	178,607,269	15.65	106,853,729	-40.17	55,573,856	-47.99
01151	Growing and curing of tobacco	329,231	449,460	36.52	352,954	-21.47	563,517	59.66
	Growing of perennial crops	17,180,683	27,187,464	58.24	57,112,408	110.07	65,861,147	15.32
	Growing of tropical and subtropical fruits	1,929,975	2,566,706	32.99	9,252,953	260.50	12,650,337	36.72
01221	Growing of bananas	N/A	N/A	N/A	4,620,472	N/A	5,494,882	18.92
01222	Growing of pineapples	N/A	N/A	N/A	1,405,870	N/A	2,203,784	56.76
01223	Growing of mangoes						268,927	N/A
01224	Growing of papayas	1,929,975	2,566,706	32.99	2,925,024	13.96	3,819,314	N/A
01226	Growing of Watermelon						149,330	N/A
01225	Growing of noni	N/A	N/A	N/A	301,587	N/A	714,100	136.78
01231	Growing of citrus fruits	N/A	N/A	N/A	426,519	N/A	22,928	-94.62
01251	Growing of other tree and bush fruits and nuts	N/A	N/A	N/A	413,638	N/A	600,900	45.27
01261	Growing of oleaginous fruits	2,879,756	3,274,697	13.71	3,885,715	18.66	5,997,457	54.35
	Growing of Beverage crops	302,168	61,592	-79.62	24,799	-59.74	13,185	-46.83
01271	Growing of cocoa	302,168	61,592	-79.62	24,799	-59.74	13,185	-46.83
	Growing of spices, aromatic, drug and pharmaceutical crops	12,068,784	21,284,469	76.36	42,797,686	101.07	46,556,284	8.78
01281	Growing of ginger	1,913,457	878,583	-54.08	2,565,418	191.99	1,032,358	-59.76
01282	Growing of yaqona	10,155,327	20,405,886	100.94	40,048,216	96.26	45,201,253	12.87
01283	Growing of vanilla	N/A	N/A	N/A	N/A	N/A	23,775	N/A
01289	Growing of spices, aromatic, drug and pharmaceutical crops n.e.c	N/A	N/A	N/A	184,052	N/A	298,898	62.40
01301	Plant propagation	N/A	N/A	N/A	311,098	N/A	20,056	-93.55
	Animal production	14,650,966	16,679,257	13.84	22,326,574	33.86	41,119,114	84.17

FSIC SUB- CLASS	DESCRIPTION	1989	1995		2002		2008	
		VA \$	VA \$	Percentage change	VA \$	Percentage change	VA \$	Percentage change
	Raising of cattle and buffaloes	6,008,665	4,889,932	-18.62	7,251,928	48.30	8,438,309	16.36
01411	Raising and breeding of cattle and buffaloes	3,620,596	2,109,941	-41.72	4,050,619	91.98	5,907,825	45.85
01412	Production of raw cow milk from cows or buffalo	23,88,069	2,779,991	16.41	3,201,309	15.16	2,530,484	-20.95
	Raising of sheep and goats	2,182,578	1,787,097	-18.12	2,843,693	59.12	7,006,941	146.40
01441	Raising and breeding of sheep	N/A	N/A	N/A	62,680	N/A	343,160	447.48
01442	Raising of goats	2,182,578	1,787,097	-18.12	2,781,013	55.62	6,663,781	139.62
01451	Raising of swine/pigs	774,694	1,221,205	57.64	924,304	-24.31	1,214,000	31.34
	Raising of poultry	4,693,803	8,517,605	81.46	10,758,015	26.30	22,372,368	107.96
01461	Raising and breeding of poultry	3,941,082	7,268,004	84.42	9,246,263	27.22	20,102,983	117.42
01462	Production of eggs	752,721	1,249,601	66.01	1,511,752	20.98	2,269,385	50.12
	Raising of other animals	991,226	263,418	-73.43	548,634	108.28	2,087,496	280.49
01491	Bee-keeping	117,728	180,436	53.27	548,634	204.06	2,087,496	280.49
01492	Other animal farming; production of animal products n.e.c.	873,498	82,982	-90.50	N/A	N/A	N/A	N/A
	FORESTRY AND LOGGING	15,273,086	23,196,283	51.88	21,317,790	-8.10	28,386,134	33.16
02101	Native forest							
02102	Pine							
02103	Mahogany							
02201	Logging	15,273,086	23,196,283	51.88	21,317,790	-8.10	27,111,814	27.18
02301	Gathering of non-wood forest products	N/A	N/A	N/A	N/A	N/A	1,274,320	N/A
	FISHING AND AQUACULTURE	16,372,452	39,896,936	143.68	32,981,397	-17.33	41,505,178	25.84
	Fishing	N/A	N/A	N/A	27,347,722	N/A	32,373,727	18.38
03111	Marine Fishing on a commercial basis							
03121	Freshwater fishing on a commercial basis	N/A	N/A	N/A	19,491,403	N/A	22,372,442	14.78
03112	Taking of marine crustaceans and molluscs							
03122	Taking of freshwater crustaceans and molluscs	N/A	N/A	N/A	3,663,833	N/A	2,878,963	-21.42
03114	Beach-de-mer	N/A	N/A	N/A	1,187,562	N/A	2,022,822	70.33
03115	Gathering of other marine organism and materials							
03124	Gathering of freshwater materials	N/A	N/A	N/A	3,004,924	N/A	5,099,500	69.70
	Aquaculture	N/A	N/A	N/A	5,633,675	N/A	9,131,451	62.09
03211	Marine aquaculture	N/A	N/A	N/A	N/A	N/A	7,960,679	N/A
03222	Freshwater aquaculture	N/A	N/A	N/A	N/A	N/A	1,170,772	N/A

Graph 1: Agriculture, forestry and fishing value added

VA when graphed for the Agriculture, Forestry and the Fishing industries shows a steady increase from

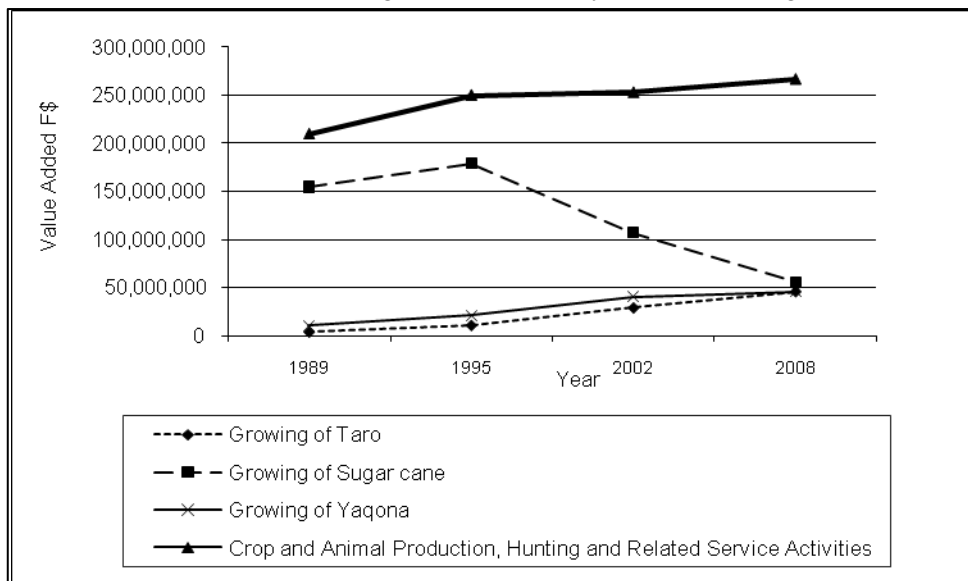


1989 to 1995, but takes a slight dip in 2002 and increases again in 2008. Of the agriculture, forestry and fishing activities, it is the VA of agriculture that is driving the rise. The primary sector is dominated by agriculture, the VA of which comprised 79.22 per cent of the total Agriculture, Forestry

and the Fishing Sector in 2008, 82.35 per cent in 2002, 79.85 per cent in 1995 and 86.89 per cent in 1989.

Graph 2: The drivers of the Value Added in Agriculture

Previous studies done on the agriculture, forestry and the fishing industries show sugarcane as having



sugarcane as having driven, not only the agriculture VA, but the entire Primary Sector VA.

Refer Graph 2, which shows that this is no longer the case. Despite a decline of 47.99 per cent in the VA of the sugarcane, the VA of Agriculture goes up by 5.23 per cent

The commodities that are showing strong growths are

taro and yaqona which are very close to the \$50m VA mark.

Sugarcane in 2008 comprised 16.52 per cent of total VA compared to 2002 when it comprised 34.74 per cent of the total VA, and years before that, much more. Taro and yaqona on the other hand have steadily grown to comprise 13.57 and 13.44 per cent of total VA in 2008.

4. DETAILED DISCUSSION BY COMMODITIES PRODUCED IN THE AGRICULTURE, FORESTRY AND FISHING INDUSTRIES.

DIVISION 01: CROP AND ANIMAL PRODUCTION, HUNTING AND RELATED SERVICE ACTIVITIES

1. SUB-CLASS 01111: GROWING OF CEREALS (EXCEPT RICE), LEGUMINOUS CROPS AND OIL SEEDS

A. OUTPUT

Table 1: Gross Output

	Quantity Tonnes	Prices \$ per Tonne	GO (\$)
Maize	604	600	362,400
Cowpea	227	1,000	227,000
Pulses	92	700	64,400
Total			653,800

Production and producer price data of maize, cowpea and pulses were obtained from MPI's EP&S division. Compared to 2002 when the last study was done, production of pulses (including cowpea) shows a decline of 27.0 per cent; from 439.27 tonnes in 2002 to 319 tonnes in 2008. Maize in the 2002 study was included with miscellaneous crops, but its production

having increased in the last 6 years, it is now being studied on its own.

B. INPUT

Table 2: Input Ratios

	IC	VA	COE	CFC	OS
	[expressed as percentages of GO]				
2008 Average Ratios	37.01	62.99	9.00	0.00	54.00

Data obtained through personal interviews of farmers by FBOS have been used to calculate the input ratios.

C. MACROECONOMIC AGGREGATES

Table 3: Macroeconomic Aggregates

	\$
GO	653,800
IC	241,971
VA	411,829
COE	58,804
CFC	0
OS	353,025

A comparative analysis with the 2002 study is not possible since in 2002, this was included together with growing of cereals and crops not elsewhere classified.

2. SUB-CLASS 01121: GROWING OF RICE

Rice is one of the commercial crops having great potential.

Paddy cultivation, which is spread all over Fiji, produces different varieties of rice depending on the soil texture, weather conditions, cultivation techniques etc.. It is one of the major income generating commodities in the Northern and Central division.

A. OUTPUT

Table 4: Gross Output

Total Production (tonnes)	11,595
Calculation of GO using weighted average producer price	
a) Rewa Rice: 10% of production at \$643 per tonne	745,559
b) MPI: 90% of production at \$550 per tonne	5,739,525
GO (\$)	6,485,084

Data on the total paddy production and price was obtained from MPI's EP&S division. To get the total value, the total production was multiplied

by a weighted average producer price calculated using the price farmers got from Rewa Rice Limited and the price farmers received from shops and municipal markets.

B. INPUT

Table 5: Input Ratios

	IC	VA	COE	CFC	OS
	[expressed as percentages of GO]				
2008 Average Ratios	46.60	53.40	7.84	0.00	45.57
2002 Average Ratios	42.79	57.21	9.94	0.00	47.27
Absolute Change	3.81	-3.81	-2.10	0.00	-1.70

The source utilised to obtain the average input ratios was a survey of the rice farmers conducted by FBOS. The absolute change in the IC ratio from 2002 to 2008 shows an increase, and this is due to the increase in the production costs.

C. MACROECONOMIC AGGREGATES

Table 6: Macroeconomic Aggregates

	2008	2002	% change: 2002 to 2008
	\$		
GO	6,485,084	4,027,045	61.04
IC	3,022,049	1,723,173	75.38
VA	3,463,035	2,303,872	50.31
COE	508,431	400,288	27.02
CFC	0	0	0.00
OS	2,954,604	1,903,584	55.21

The value added, shows an increase of 50.31 per cent purely because of better prices paid to the farmers.

3. SUB-CLASS 01131: GROWING OF TARO

Increased demand from both overseas and local markets led to the expansion of the taro industry. The opening up of the new markets brought in more foreign earnings through exports. Rural farming families are benefitting from the taro industry. Tausala is the main variety grown.

A. OUTPUT

Table 7: Gross Output

Production (tonnes)	74,009
Price \$ per tonne	1,000
GO \$	74,009,000

Production and producer price data were obtained from MPI's EP&S division.

B. INPUT

Table 8: Input Ratios

	IC	VA	COE	CFC	OS
	[expressed as percentages of GO]				
2008 Average Ratios	38.30	61.70	24.58	0.00	37.12
2002 Average Ratios	28.08	71.92	25.68	0.00	46.24
Absolute Change	10.22	-10.22	-1.10	0.00	-9.12

Average input ratios of taro have been calculated using surveys carried out by FBOS. The CFC ratio indicates no investment in the industry, whilst the increased IC ratio indicates an increase in the cost of production mainly due to

the cost of the fertiliser. The COE ratio shows a small decline and this could be due to the fact that even though taro harvesting requires labour, it is still common for people to get together and help each other do the work.

C. MACROECONOMIC AGGREGATES

Table 9: Macroeconomic Aggregates

	2008	2002	%change: 2002 to 2008
	\$		
GO	74,009,000	40,276,500	83.75
IC	28,344,526	11,438,526	147.80
VA	45,664,474	28,837,974	58.35
COE	18,191,657	16,110,600	12.92
CFC	0	0	0.00
OS	27,472,817	12,727,374	115.86

The VA when compared to 2002 shows an increase of 58.35 per cent, despite a decline in the price of taro from \$1,100 per tonne in 2002 to \$1,000 a tonne in 2008 and also despite an increase in the intermediate cost. The increase in the VA is solely due to the 74,009 tonnes of taro production in 2008 compared to 36,615 in 2002.

4. SUB-CLASS 01132: GROWING OF CASSAVA

A. OUTPUT

Table 10: Gross Output

Production (tonnes)	55,773
Price (\$/per tonne)	700
GO (\$)	39,041,100

Production and producer price data were obtained from MPI's EP&S division.

B. INPUT

Table 11: Input Ratios

	IC	VA	COE	CFC	OS
	[expressed as percentages of GO]				
2008 Average Ratio	33.92	66.08	15.66	0.00	50.42

Average input ratios of cassava have been calculated using surveys carried out by FBOS. Higher input cost is due to increased cost of haulage as the farms are mostly in

the interiors. A comparative analysis with the 2002 study is not possible since in 2002 cassava was studied together with cereals and crops.

C. MACROECONOMIC AGGREGATES

Table 12: Macroeconomic Aggregates

	\$
GO	39,041,100
IC	13,242,039
VA	25,799,061
COE	6,115,641
CFC	0
OS	19,683,420

A comparative analysis with the 2002 study is not possible since in 2002 cassava was studied together with cereals and crops.

5. SUB-CLASS 01133: GROWING OF YAM

A. OUTPUT

Table 13: Gross Output

Production (tonnes)	4,031
Price (\$/per tonne)	1,000
GO (\$)	4,031,000

Production and producer price data were obtained from MPI's EP&S division.

B. INPUT

Table 14: Input Ratios

	IC	VA	COE	CFC	OS
	[expressed as percentages of GO]				
2008 Average Ratios	29.12	70.88	7.86	0.00	63.01

Surveys carried out by FBOS have been used to calculate the input ratios. A comparative analysis with the 2002 study is not possible since in 2002 yam was

studied together with cereals and crops.

C. MACROECONOMIC AGGREGATES

Table 15: Macroeconomic Aggregates

	\$
GO	4,031,000
IC	1,173,982
VA	2,857,018
COE	316,892
CFC	0
OS	2,540,126

A comparative analysis with the 2002 study is not possible since in 2002 yam was studied together with cereals and crops.

6. SUB-CLASS 01134: GROWING OF KUMALA

A. OUTPUT

Table 16: Gross Output

Production (tonnes)	4,611
Price (\$/per tonne)	700
GO (\$)	3,227,700

Production and producer price data were obtained from MPI's EP&S division.

B. INPUT

Table 17: Input Ratios

	IC	VA	COE	CFC	OS
	[expressed as percentages of GO]				
2008 Average Ratios	27.93	72.07	14.24	0.00	57.83

Average input ratios of kumala have been calculated using surveys carried out by FBOS. A comparative analysis with the 2002 study is not possible since in 2002

kumala was studied together with cereals and crops.

C. MACROECONOMIC AGGREGATES

Table 18: Macroeconomic Aggregates

	\$
GO	3,227,700
IC	901,497
VA	2,326,203
COE	459,700
CFC	0
OS	1,866,503

A comparative analysis with the 2002 study is not possible since in 2002 kumala was studied together with cereals and crops.

7. SUB-CLASS 01139: GROWING OF VEGETABLES AND MELONS, ROOTS AND TUBERS NOT ELSEWHERE SPECIFIED

A. OUTPUT

Table 19: Gross Output

Commodity	Production (tonnes)	Price \$ per tonne	GO (\$)
Assorted Vegetables	25,153	1,200	30,183,600
Tomato	230	3,500	805,000
Egg plant	923	800	738,400
Dalo ni tana	3,683	700	2,578,100
Kawai	1,102	800	881,600
Via	60	300	18,000
Breadfruit	386	1,000	386,000
Vudi	5,024	700	3,516,800
Tivoli	854	800	683,200
Total	37,415		39,790,700

Production and price data were obtained from MPI's EP&S division.

B. INPUT

Table 20: Input Ratios

	IC	VA	COE	CFC	OS
	[expressed as percentages of GO]				
2008 Average Ratios	42.51	57.49	9.72	0.95	46.82

Surveys conducted by FBOS have been used to calculate the input ratios. A comparative analysis of the input ratios has not been done with 2002 due to changes

made to the classification as well as, some commodities are being studied on its own in 2008 whereas in 2002 they were studied together under Crops nec.

C. MACROECONOMIC AGGREGATES

Table 21: Macroeconomic Aggregates

	\$
GO	39,790,700
IC	16,915,027
VA	22,875,673
COE	3,867,656
CFC	378,011
OS	18,630,006

A comparative analysis has not been done with 2002 due to changes made to the classification as well as, some commodities are being studied on its own in 2008 whereas in 2002 they were studied together under Crops nec.

8. SUB-CLASS 01141: GROWING OF SUGAR CANE

Sugarcane is mostly grown on the Western side of Viti Levu and on Vanua Levu. Production is seasonal and starts around June-July and ends in December every year. Sometimes the season spills over to January of the next year, but the production is not significant.

This study is based on the financial year data ie year ended 31 March 2009 which reflects the season 2008. The 2008 season data is slightly different to the calendar year data that is required for the study. The reason for not using the calendar year data is that except production data no other data required for the study were available on a calendar year basis. Use of 2008 season data gives the best estimates for the calendar year 2008.

A. OUTPUT

Table 22: Gross Output

Production (tonnes)	2,321,000
Price Paid To Growers \$	61.65
GO (\$)	143,089,650

Data on total sugar-cane production and the prices paid to the growers have been obtained from the Fiji Sugar Corporation (FSC). Compared to 2002, when the last detailed study was done, production shows a decline of

32.17 per cent. This is due to the decline in the number of growers and the area harvested. Refer table 2 below.

Table 23: Sugar cane – Number of Growers and Area Harvested

Season	Number of Registered Growers	Number of Active Growers	Area Harvested (000 hectares)
2002	21,253	17,773	63
2008	18,683	14,096	51
% change	-12.09	-20.69	-19.04

The decline in the number of growers, and as a consequence the area harvested is due to farmers moving out of sugarcane farming.

B. INPUT

The input ratios -calculated as percentages of GO- were derived from the FSC's annual survey, which is considered the most acceptable since it is a well established on-going survey which is representative of the sugar-cane industry.

Table 24: Input Ratios

	IC	VA	COE	CFC	OS
	[expressed as percentages of GO]				
2008 Average Ratios	61.16	38.84	6.64	8.37	23.82
2002 Average Ratios	41.96	58.04	19.01	21.64	17.39
Absolute change	19.20	-19.20	-12.37	-13.27	6.43

The absolute change in input ratios from 2002 to 2008 shows an increase in the IC ratio whilst the COE and CFC ratios have declined. The decline in the output had a significant impact

on the ratios, other than that the increase in the IC ratio is due to increased input costs due mostly to price increases of inputs and the decline in CFC ratio indicates less capital formation. The decline in the COE ratio is due to the decline in the number of growers, and as such people employed by them.

C MACROECONOMIC AGGREGATES

Table 25: Macroeconomic Aggregates

	2008	2002	% change: 2002 to 2008
	\$		
GO	143,089,650	184,103,600	-22.28
IC	87,515,794	77,249,871	13.29
VA	55,573,856	106,853,729	-47.99
COE	9,505,455	34,998,094	-72.84
CFC	11,977,784	39,840,019	-69.94
OS	34,090,617	32,015,616	6.48

Compared to 2002 the GO shows a decline of 22.28 per cent whilst the IC shows an increase of 13.29 per cent. As a consequence the VA declined by 47.99 per cent.

The above facts indicate that the sugar cane industry is not doing well. The idle farms as a result of expired land leases coupled with the scare amongst farmers that they too would eventually lose their farm soon and hence lack of incentive for them to farm will continue to drive the industry backwards.

9. SUB-CLASS 01151: GROWING AND CURING OF TOBACCO

Tobacco farming is prominent in the Sigatoka Valley area.

Most of the farmers engaged in tobacco farming either farm themselves or engage family workers. It is only the master farmers who, cure their own leaves, hire workers. Farmers also do not own capital equipment but hire it out from Leaf Growing Division of British American Tobacco, previously known as Southern Development Company.

Data from the British American Tobacco, which is the sole buyer of tobacco in Fiji, supplies the farmers with almost all the inputs required for tobacco farming eg seeds, fertiliser, weedicide, fungicide, insecticide, pesticide; tractors to do ploughing, levelling and harrowing and it also undertakes to supply the farmers tractor driven pumps for irrigation. Decision was therefore taken to get output and, on behalf of the farmers, input data from the Leaf Growing Division.

A. OUTPUT

Table 26: Gross Output

Land Area Cultivated (Hectares)	263
Average Price Paid To Farmers (\$ Hectare)	5,299
GO (\$)	1,393,637

Output has been derived as a product of the land area cultivated and the average price paid to farmers.

B. INPUT

Table 27: Input Ratios

	IC	VA	COE	CFC	OS
	[expressed as percentages of GO]				
2008 Average Ratios	59.57	40.43	2.16	0.00	38.27
2002 Average Ratios	47.86	52.14	6.47	0.00	45.66
Absolute Change	11.71	-11.71	-4.31	0.00	-7.39

Data from British American Tobacco's financial record of contracted farmers involved in tobacco farming was used. The absolute change in the input ratios from 2002 to 2008 indicates an increase in IC due increased cost of fertilizers and other inputs.

COE declined since some farmers were assisted by unpaid family workers.

C MACROECONOMIC AGGREGATES

Table 28: Macroeconomic Aggregates

	2008	2002	% change: 2002 to 2008
	\$		
GO	1,393,637	676,995	105.86
IC	830,120	324,041	156.18
VA	563,517	352,954	59.66
COE	30,103	43,809	-31.29
CFC	0	0	0.00
OS	533,414	309,145	72.54

The industry in 2008 performed better than in 2002.

10. SUB-CLASS 01221: GROWING OF BANANAS

Bananas grow all the year round and are in demand by local consumers.

A. OUTPUT

Table 29: Gross Output

Production (tones)	8,426
Price \$ per tonne	750
GO (\$)	6,319,500

Production data and prices for bananas have been obtained from MPI's EP&S division. Compared to 2002 when the last study was done, production increased by 79.12 per cent whilst the price dropped by 31.82 per cent.

B. INPUT

Table 30: Input Ratios

	IC	VA	COE	CFC	OS
	[expressed as percentages of GO]				
2008 Average Ratios	13.05	86.95	1.46	0.00	85.49
2002 Average Ratios	10.71	89.29	1.08	0.00	88.21
Absolute Change	2.34	-2.34	0.38	0.00	-2.72

Surveys conducted by FBOS have been used to calculate the input ratios. The absolute change in the input ratios from 2002 to 2008 indicates increase in the IC and COE ratios. The main component of the IC is the transport cost.

C. MACROECONOMIC AGGREGATES

Table 31: Macroeconomic Aggregates

	2008	2002	% Change: 2002 to 2008
	\$		
GO	6,319,500	5,174,400	22.13
IC	824,618	553,928	48.87
VA	5,494,882	4,620,472	18.92
COE	92,480	56,059	64.97
CFC	0	0	0.00
OS	5,402,402	4,564,413	18.36

The value added shows improvement by 18.92 per cent.

11. SUB-CLASS 01222: GROWING OF PINEAPPLES

Pineapple has become a source of hope for many local farmers. It is grown mainly for local markets.

A. OUTPUT

Table 32: Gross Output

Production (tonnes)	3,506
Price \$ per tonne	900
GO (\$)	3,155,400

Production data and prices have been obtained from MPI's EP&S division. Compared to 2002 when the last study was done, production increased by 87.99 per cent whilst the price dropped by 10 per cent.

B. INPUT

Table 33: Input Ratios

	IC	VA	COE	CFC	OS
	[expressed as percentages of GO]				
2008 Average Ratios	30.16	69.84	2.51	0.00	67.33
2002 Average Ratios	25.00	75.00	3.00	0.00	72.00
Absolute Change	5.16	-5.16	-0.49	0.00	-4.67

Surveys conducted by FBOS have been used to calculate the input ratios. The absolute change in the input ratios from 2002 to 2008 indicates an increase in IC due to the rising costs of inputs. COE has declined slightly.

C. MACROECONOMIC AGGREGATES

Table 34: Macroeconomic Aggregates

	2008	2002	% Change: 2002 to 2008
	\$		
GO	3,155,400	1,864,900	69.20
IC	951,616	459,030	107.31
VA	2,203,784	1,405,870	56.76
COE	79,301	62,163	27.57
CFC	0	0	0.00
OS	2,124,483	1,343,707	58.11

Value added improved by 56.76 per cent.

12. SUB-CLASS 01222: GROWING OF MANGOES

Mango a seasonal delicacy and is currently taking up market opportunities overseas.

A. OUTPUT

Table 35: Gross Output

Production (tonnes)	200
Price \$ per tonne	1,500
GO (\$)	300,000

Production data and prices have been obtained from MPI's EP&S division.

B. INPUT

Table 36: Input Ratios

	IC	VA	COE	CFC	OS
	[expressed as percentages of GO]				
2008 Average Ratios	10.36	89.64	4.44	0.00	85.20

Surveys conducted by FBOS have been used to calculate the input ratios. A comparative analysis with the 2002 study is not possible since in 2002 growing of

mangoes was studied together with growing of fruits, nuts, beverages and spice crops.

C. MACROECONOMIC AGGREGATES

Table 37: Macroeconomic Aggregates

	\$
GO	300,000
IC	31,073
VA	268,927
COE	13,330
CFC	0
OS	255,597

A comparative analysis with the 2002 study is not possible since in 2002 growing of mangoes was studied together with growing of fruits, nuts, beverages and spice crops.

13. SUB-CLASS 01222: GROWING OF PAPAYAS

Pawpaw is grown for both local and overseas markets.

A. OUTPUT

Table 38: Gross Output

Production (tonnes)	7,265
Price \$ per tonne	800
GO (\$)	5,812,000

Production data and prices have been obtained from MPI's EP&S division.

B. INPUT

Table 39: Input Ratios

	IC	VA	COE	CFC	OS
	[expressed as percentages of GO]				
2008 Average Ratios	34.29	65.71	5.57	0.00	60.14

Surveys conducted by FBOS have been used to calculate the input ratios. A comparative analysis with the 2002 study is not possible since in 2002 growing of papayas was studied together with growing of fruits, nuts, beverages and spice crops.

C. MACROECONOMIC AGGREGATES

Table 40: Macroeconomic Aggregates

	\$
GO	5,812,000
IC	1,992,686
VA	3,819,314
COE	323,811
CFC	0
OS	3,495,503

A comparative analysis with the 2002 study is not possible since in 2002 growing of papayas was studied together with growing of fruits, nuts, beverages and spice crops.

14. SUB-CLASS 01225: GROWING OF NONI

This sub-class includes growing of noni, also known as kura. It is mainly used for medicinal purposes.

A. OUTPUT

Table 41: Gross Output

Production [tonnes]	325
Producer price [\$ per tonne]	500
GO	162,500

Data on production and prices were obtained from MPI's EP&S division. Compared to 2002 when the last study was done, production declined by 24.24 per cent whilst the price dropped by 32.43 per cent.

B. INPUT

Table 42: Input Ratios

	IC	VA	COE	CFC	OS
	[expressed as percentages of GO]				
2008 Average ratios	8.10	91.90	2.53	0.00	89.37
2002 Average ratios	5.00	95.00	1.00	0.00	94.00
Absolute Change	3.10	-3.10	1.53	0.00	-4.63

Surveys conducted by FBOS have been used to calculate the input ratios. The absolute change from 2002 to 2008 shows increase in the IC and COE ratios. The lower GO is responsible for the increase in the IC ratio whereas the

COE despite a drop in the GO is also due to labour cost increasing during harvesting. Due to lower returns, farmers appeared to be opting for other types of crop farming.

C. MACROECONOMIC AGGREGATES

Table 43: Macroeconomic Aggregates

	2008	2002	% change: 2002 to 2008
	\$		
GO	162,500	317,460	-48.81
IC	13,170	15,873	-17.03
VA	149,330	301,587	-50.49
COE	4,107	3,175	29.35
CFC	0	0	0.00
OS	145,223	298,412	-51.33

The decline in GO is due to the down turn in production and the lower price that noni fetched.

15. SUB-CLASS 01226: GROWING OF WATERMELON

A. OUTPUT

Table 44: Gross Output

Production (tonnes)	1,107
Price \$ per tonne	800
GO (\$)	885,600

Production data and prices for the respective commodities have been obtained from MPI's EP&S division.

B. INPUT

Table 45: Input Ratios

	IC	VA	COE	CFC	OS
	[expressed as percentages of GO]				
2008 Average Ratios	19.37	80.63	9.73	0.00	70.90

Surveys conducted by FBOS have been used to calculate the input ratios. A comparative analysis with the 2002 study is not possible since in 2002

growing of watermelon was studied together with growing of fruits, nuts, beverages and spice crops.

C. MACROECONOMIC AGGREGATES

Table 46: Macroeconomic Aggregates

	\$
GO	885,600
IC	171,500
VA	714,100
COE	86,204
CFC	0
OS	627,896

A comparative analysis with the 2002 study is not possible since in 2002 growing of watermelon was studied together with growing of fruits, nuts, beverages and spice crops.

16. SUB-CLASS 01231: GROWING OF CITRUS

A. OUTPUT

Table 47: Gross Output

Production (tonnes)	74
Price \$ per tonne	650
GO (\$)	48,100

Production data and prices for the respective commodities have been obtained from MPI's EP&S division. Compared to 2002 when the last study was done, production declined by 90.62 per cent whilst the price dropped by 40.91 per cent.

B. INPUT

Table 48: Input Ratios

	IC	VA	COE	CFC	OS
	[expressed as percentages of GO]				
2008 Average Ratios	52.33	47.67	5.06	0.00	42.60
2002 Average Ratios	50.85	49.15	10.15	0.00	39.00
Absolute Change	1.48	-1.48	-5.09	0.00	3.60

Data from MPI have been used to calculate the input ratios. The absolute change in the input ratios from 2002 to 2008 indicates a slight increase in IC ratio but a decline in COE ratio.

C. MACROECONOMIC AGGREGATES

Table 49: Macroeconomic Aggregates

	2008	2002	% Change: 2002 to 2008
	\$		
GO	48,100	867,790	-94.46
IC	25,172	441,271	-94.30
VA	22,928	426,519	-94.62
COE	2,435	88,081	-97.24
CFC	0	0	0.00
OS	20,493	338,438	-93.94

The macroeconomic aggregates indicate that the industry has contracted significantly. Not much new planting was done rather, the old trees were maintained and this gave low returns.

17. SUB-CLASS 01251: GROWING OF OTHER TREE AND BUSH FRUITS AND NUTS

Peanut is the only edible nut grown in Fiji.

A. OUTPUT

Table 50: Gross Output

OUTPUT

Production (tonnes)	178
Price \$ per tonne	4,000
GO (\$)	712,000

Production data and prices have been obtained from MPI's EP&S division.

B. INPUT

Table 51: Input Ratios

	IC	VA	COE	CFC	OS
	[expressed as percentages of GO]				
2008 Average Ratios	15.60	84.40	4.79	0.00	79.61
2002 Average Ratios	9.29	90.71	1.99	0.00	88.72
Absolute Change	6.31	-6.31	2.80	0.00	-9.11

Data from MPI has been used to calculate the input ratios. The absolute change in the input ratios from 2002 to 2008 indicates increased IC and COE ratios.

C. MACROECONOMIC AGGREGATES

Table 52: Macroeconomic Aggregates

	2008	2002 (R)	% Change: 2002 to 2008
	\$		
GO	712,000	456,000	56.14
IC	111,100	42,362	162.26
VA	600,900	413,638	45.27
COE	34,089	9,074	275.68
CFC	0	0	0.00
OS	566,811	404,564	40.10

The VA when compared to 2002 shows an increase of 45.27 per cent.

18. SUB-CLASS 01261: GROWING AND DRYING OF COCONUTS

Two distinct types of growers grow coconut in Fiji: the medium to large estates and the small estates. Medium to large estates comprise units in excess of 100 hectares and employ full-time labour, whereas the small estates, many of which are the result of sub-divisions of larger estates, do not employ full-time labour.

A. OUTPUT

Table 53: Gross Output

Production (tonnes)	13,056
Millgate Buying Price (\$)	751
GO (\$)	9,805,056

Data on total coconut production and their average mill-gate buying price were obtained from the Coconut Industry Development Authority. Compared to 2002 when the last study was done, production declined by 9.21 per cent whilst the price increased substantially by 87.75 per cent.

B. INPUT

To get the input structure, estates predominantly engaged in the coconut industry were surveyed. Average ratios were worked out for medium to large estates and small estates and then a composite ratio using weighted average derived from each items contribution to GO was calculated.

Table 54: Input Ratios

	Weight	IC	VA	COE	CFC	OS
[expressed as percentages of GO]						
Medium to Large Estate: Average		59.55	52.55	16.20	2.73	33.62
	40	23.82	21.02	6.48	1.09	13.45
Small Estate: Average		25.01	66.91	7.65	1.11	58.15
	60	15.01	40.15	4.59	0.66	34.90
2008 Composite Ratios	100	38.83	61.17	11.07	1.75	48.35
2002 Composite Ratios		32.30	67.70	17.98	2.03	47.69
Absolute Change		6.53	-6.53	-6.91	-0.28	0.66

The absolute change in input ratios from 2002 to 2008 indicates an increase in the IC ratio. The increase in the IC ratio is due to the increased cartage and freight costs for large estates, as well

as increased cost of pesticides. COE and CFC declined as most of the production was done by the small estate farmers who do not hire many laborers.

C. MACROECONOMIC AGGREGATES

Table 55: Macroeconomic Aggregates

	2008	2002	% change: 2002 to 2008
	\$		
GO	9,805,056	5,739,600	70.83
IC	3,807,599	1,853,885	105.38
VA	5,997,457	3,885,715	54.35
COE	1,085,230	1,032,230	5.13
CFC	171,308	116,608	46.91
OS	4,740,919	2,736,877	73.22

The value added, despite the increase in the intermediate cost, improved when compared to 2002.

19. SUB-CLASS 01271: GROWING OF COCOA

The cocoa industry in Fiji has not been doing well. Added to the lack of market demand locally, the industry in 2008 also suffered damages due to natural disasters and for the industry to recover and bear fruit it will take quite a number of years.

A. OUTPUT

Table 56: Gross Output

Total Production (tonnes)	12.75
Of which: 80% Grade 1	10.2
Producer price \$ per ton	1,500
Value (\$)	15,300
20% Grade 2	2.55
Producer price \$ per ton	700
Value (\$)	1,785
Total GO (\$)	17,085

Production data were obtained from MPI's EP&S division. Percentage split of total output by grade was supplied by MPI who also made available the producer prices according to the grades.

B. INPUT

Table 57: Input Ratios

	IC	VA	COE	CFC	OS
	[expressed as percentages of GO]				
2008 Average ratios	22.83	77.17	29.40	0.00	47.77
2002 Average ratios	18.85	81.15	32.15	0.00	49.00
Absolute Change	3.98	-3.98	-2.75	0.00	-1.23

Average input ratios have been calculated using data obtained from surveys conducted by FBOS. The absolute change in the input ratios from 2002 to 2008, indicate a slight increase in the IC ratio but a decline in the COE ratio.

C. MACROECONOMIC AGGREGATES

Table 58: Macroeconomic Aggregates

	2008	2002	% change: 2002 to 2008
	\$		
GO	17,085	30,560	-44.09
IC	3,900	5,761	-32.30
VA	13,185	24,799	-46.83
COE	5,024	9,825	-48.87
CFC	0	0	0.00
OS	8,161	14,974	-45.50

The macroeconomic aggregates indicate the contraction of the industry.

20. SUB-CLASS 01281: GROWING OF GINGER

Although sold locally, ginger is mostly grown for the export market. Ginger is one of Fiji's major foreign exchange earners apart from sugar, kava and taro. A large number of farmers grow small quantities of ginger in rotation with other crops.

A. OUTPUT

Table 59: Gross Output

Total Production (tonnes)	2,488
Mature ginger (tonnes)	595
At producer price \$/tonne	1,000
Value (\$)	595,000
Immature ginger (tonnes)	1,893
At producer price \$/tonne	750
Value (\$)	1,419,750
GO (\$)	2,014,750

Production data broken down by mature and immature ginger were obtained from MPI's EP&S division. Compared to 2002 when the last study was done, the GO declined by 45.44 per cent. Production and prices for both mature and immature ginger declined.

B. INPUT

Table 60: Input Ratios

	Weight	IC	VA	COE	CFC	OS
[expressed as percentages of GO]						
Mature: Average		40.40	59.60	25.51	0.00	42.74
	23.91	9.66	14.25	6.10	0.00	10.22
Immature: Average		51.39	48.61	14.50	0.00	31.40
	76.09	39.10	36.99	11.03	0.00	23.89
2008 Composite Ratios	100	48.76	51.24	17.13	0.00	34.11
2002 Composite Ratios		30.54	69.46	15.88	0.00	53.58
Absolute Change		18.22	-18.22	1.25	0.00	-19.47

Average ratios were worked out for mature and immature ginger and then a composite ratio using weighted average derived from each items contribution to GO was calculated. The absolute change in the input ratios from 2002 to 2008 shows no change in the CFC ratio, thus

indicating no investment. The IC ratio shows increase and this is because of the decline in the GO.

C. MACROECONOMIC AGGREGATES

Table 61: Macroeconomic Aggregates

	2008	2002	% change: 2002 to 2008
	\$		
GO	2,014,750	3,693,375	-45.45
IC	982,392	1,127,957	-12.91
VA	1,032,358	2,565,418	-59.76
COE	345,127	586,508	-41.16
CFC	0	0	0.00
OS	687,231	1,978,910	-65.27

The substantial decline in the VA is due to the decline in the production and the lower prices the commodity fetched.

21. SUB-CLASS 01282: GROWING OF YAQONA

A. OUTPUT

Table 62: Gross Output

Total Production (tonnes)	3,286
of which a) waka (tonnes)	986
At producer price \$/tonne	35,000
Value (\$)	34,510,000
b) lewena (tonnes)	2300
At producer price \$/tonne	20,000
Value (\$)	46,000,000
GO (\$)	80,510,000

Production data obtained from MPI showed that waka accounted for 30% of the total production and lewena the remaining 70%. Their respective prices have also been obtained from MPI.

When compared to 2002, production shows a decline of 18.64 per cent. The shortage in supply resulted in an increase in the price and this led the GO to increase by 25.36 per cent.

B. INPUT

Table 63: Input Ratios

	IC	VA	COE	CFC	OS
	[expressed as percentages of GO]				
2008 Average Ratios	43.86	56.14	9.27	1.12	45.76
2002 Average Ratios	37.64	62.36	12.83	1.82	47.71
Absolute Change	6.22	-6.22	-3.56	-0.70	-1.95

Average input ratios of yaqona have been calculated using surveys carried out by FBOS and data obtained from MPI. The absolute change in the input ratios from 2002 to 2008 shows a decrease in the CFC, thus indicating

less investment. COE ratios show decline while IC ratios show increases. This is due to the fact that only harvesting of yaqona requires more labour, even then, it is still common for people to get together and help each other do the work as opposed to hiring labourers. Increase in input cost of production such as fertilizers led to a rise in IC ratio.

C. MACROECONOMIC AGGREGATES

Table 64: Macroeconomic Aggregates

	2008	2002	% change: 2002 to 2008
	\$		
GO	80,510,000	64,221,000	25.36
IC	35,308,747	24,172,784	46.07
VA	45,201,253	40,048,216	12.87
COE	7,464,851	8,239,554	-9.40
CFC	897,885	1,168,822	-23.18
OS	36,838,517	30,639,840	20.23

The VA when compared to 2002 shows a growth of 12.87 per cent. Yaqona growing is not labour intensive hence a decline in COE.

22. SUB-CLASS 01283: GROWING OF VANILLA

A. OUTPUT

Table 65: Gross Output

Production (tonnes)	0.27
Price \$ per tonne	100,000
GO (\$)	27,000

Production data and prices have been obtained from MPI's EP&S division.

B. INPUT

Table 66: Input Ratios

	IC	VA	COE	CFC	OS
	[expressed as percentages of GO]				
2008 Average Ratios	11.94	88.06	5.74	0.00	82.31

Data from MPI has been used to calculate the input ratios. A comparative analysis with the 2002 study is not possible since in 2002 growing of vanilla was studied together with

growing of fruits, nuts, beverages and spice crops.

C. MACROECONOMIC AGGREGATES

Table 67: Macroeconomic Aggregates

	\$
GO	27,000
IC	3,225
VA	23,775
COE	1,550
CFC	0
OS	22,225

A comparative analysis with the 2002 study is not possible since in 2002 growing of vanilla was studied together with growing of fruits, nuts, beverages and spice crops.

23. SUB-CLASS 01289: GROWING OF SPICES, AROMATIC, DRUG AND PHARMECEUTICAL CROPS NOT ELSEWHERE SPECIFIED

This sub-class includes growing of perennial and non-perennial spices and aromatic crops. Only chillies are included here.

A. OUTPUT

Table 68: Gross Output

Production (tones)	258
Price (\$ per tonne)	2,000
Total	516,000

Production data and prices for the respective commodities were obtained from MPI's EP&S division.

B. INPUT

Table 69: Input Ratios

	IC	VA	COE	CFC	OS
	[expressed as percentages of GO]				
2008 Average Ratios	42.07	57.93	18.38	2.67	36.87

Surveys conducted by FBOS have been used to calculate the input ratios. Much of the costs are related to planting and harvesting. A comparative analysis with

the 2002 study is not possible since in 2002 growing of chillies was studied together with other crops.

C. MACROECONOMIC AGGREGATES

Table 70: Macroeconomic Aggregates

	\$
GO	516,000
IC	217,102
VA	298,898
COE	94,848
CFC	13,786
OS	190,264

A comparative analysis with the 2002 study is not possible since in 2002 growing of chillies was studied together with growing of fruits, nuts, beverages and spice crops.

24. SUB-CLASS 01122: PLANT PROPAGATION

This sub-class includes the production of all vegetative planting materials including cuttings, suckers and seedlings for direct plant propagation or growing of plants for planting, ornamental purposes, including turf for transplanting. Floriculture is included here.

A. OUTPUT

Table 71: Gross Output

Production (tonnes)	25
Price(\$ per tonne)	2,000
Gross output (\$)	50,000

Production data and prices for the respective commodities were obtained from MPI's EP&S division.

B. INPUT

Table 72: Input Ratios

	IC	VA	COE	CFC	OS
	[expressed as percentages of GO]				
2008 Average Ratios	59.89	40.11	14.84	8.44	16.83

Surveys conducted by FBOS have been used to calculate the input ratios. IC mostly comprises transport, fertilizer and fungicide costs. A comparative study with 2002 is not

possible due to changes made to the classification.

C. MACROECONOMIC AGGREGATES

Table 73: Macroeconomic Aggregates

	\$
GO	50,000
IC	29,944
VA	20,056
COE	7,420
CFC	4,221
OS	8,415

A comparative study with 2002 is not possible due to changes made to the classification.

20. SUB-CLASS 01411: BEEF CATTLE FARMING

A. OUTPUT

Table 74: Gross Output

	Numbers killed	Weight (tonnes)	Producer price (\$/ton) DW	GO
Bulls	1374	332	5200	1,726,400
Working bullocks	1912	655	5200	3,406,000
Steers	1903	451	5400	2,435,400
Cows	2009	354	5200	1,840,800
Heifers	390	74	5400	399,600
Calves	166	3	5400	16,200
Total				9,824,400

Production data specified by weight and numbers killed for bulls, working bullocks, steers, cows and heifers and their producer price (dressed weight) have been obtained from MPI'S AH&P division.

B. INPUT

Table 75: Input Ratios

	IC	VA	COE	CFC	OS
	[expressed as percentages of GO]				
2008 Average Ratios	39.87	60.13	7.22	3.34	49.57
2002 Average Ratios	33.47	66.53	6.01	2.70	57.82
Absolute Change	6.40	-6.40	1.21	0.64	-8.25

Input ratios are based on field data and assumed to be representative of all the cattle farmers in Fiji. The absolute changes in the input ratios from 2002 to 2008 indicate an

increase in the IC, COE and CFC ratios.

C. MACROECONOMIC AGGREGATES

Table 76: Macroeconomic Aggregates

	2008	2002	% Change: 2002 to 2008
	\$		
GO	9,824,400	6,088,410	61.36
IC	3,916,575	2,037,791	92.20
VA	5,907,825	4,050,619	45.85
COE	709,147	365,913	93.80
CFC	328,303	164,387	99.71
OS	4,870,375	3,520,319	38.35

Value added improved by 45.85 per cent when compared to 2002. Beef production has potential to grow as there is a strong local market for it.

21. SUB-CLASS 01412: DAIRY CATTLE FARMING

Dairy farmers in Fiji can be classified into three distinct groups:

1. Full-time dairy farmers in the Central Division supplying milk and/or cream to Rewa Cooperative Dairy Company,
2. Registered dairy farmers supplying milk to consumers known as town milk suppliers, and
3. Other dairy farmers, found throughout Fiji, who keep cows on their farms for milk and ghee for own consumption.

A. OUTPUT

Table 77: Gross Output

	Weight		Unit price (\$)	Value (\$)
	Unit	MFE		
Milk supply to Factory	Litres	10,335,803	0.5	5,167,902
Milk supply to Town	Litres	483,776	1.00	483,776
Cream	Kg	2393	5.50	13,162
GO				5,664,840

Value and unit price of milk supply to factory, weight in milk fat equivalent (MFE) for milk supply to town and cream was obtained from MPI's AH&P Division.

B. INPUT

In calculating the input ratios of milk and cream, surveys were carried out by FBOS of dairy farmers. Average ratios were worked out for milk supply to the factory, milk supply to town and cream and then a composite ratio using weighted average derived from each items contribution to GO in 2008 was calculated. The absolute changes in the input ratios from 2002 to 2008 indicate increases in the IC and the COE ratios, but a decline in CFC ratios. Large milk suppliers, due to land tenure problems are reluctant to reinvest in the farms and as a result the CFC declined. On the other hand, smallholder farmers who supply milk to towns are gaining strong foothold and have progressively increased their milk production with the help of the Dairy Industry Support Project.

Table 78: Input Ratios

	Weight	IC	VA	COE	CFC	OS
		[expressed as percentages of GO]				
Factory Milk Supply Average Ratios		56.12	43.88	20.18	2.55	21.15
	91.23	51.20	40.03	18.41	2.32	19.30
Town Milk Supply: Average Ratios		47.67	52.33	7.12	1.10	44.11
	8.54	4.07	4.47	0.61	0.09	3.77
Cream Supply: Average Ratios		26.09	73.91	17.85	6.04	50.02
	0.23	0.06	0.17	0.04	0.01	0.12
2008 Composite Ratios	100	55.33	44.67	19.06	2.42	23.19
2002 Composite Ratios		44.26	55.73	15.80	2.50	37.44
Absolute Change		11.07	-11.07	3.26	-0.07	-14.25

C. MACROECONOMIC AGGREGATES

Table 79: Macroeconomic Aggregates

	2008	2002	% change: 2002 to 2008
	\$		
GO	5,664,840	5,744,319	-1.38
IC	3,134,356	2,543,010	23.25
VA	2,530,484	3,201,309	-20.95
COE	1,079,719	907,028	19.04
CFC	137,089	143,608	-4.54
OS	1,313,676	2,150,673	-38.92

The industry did not perform well in 2008. With a decline in the GO, and an increase in the IC, VA declined by 20.95 per cent.

22. SUB-CLASS 01441: SHEEP FARMING

There was growth in the sheep farming in 2008 due to the Import Substitution Program. This has attributed to the increase in the new sheep farms and improvement in overall sheep management, handling and infrastructure development.

A. OUTPUT

Table 80: Gross Output

Weight (Tonnes)	60.2
Producer Price (\$/Ton) DW	9500
GO	571,900

Production data specified by weight (dressed weight) and their producer price have been obtained from MPI's AH & P division.

B. INPUT

Table 81: Input Ratios

	IC	VA	COE	CFC	OS
	[expressed as percentages of GO]				
2002 Average Ratios	40.00	60.00	4.35	4.36	51.29
2008 Average Ratios	36.46	63.54	4.55	3.83	55.16
Absolute Change	3.54	-3.54	-0.20	0.53	-3.87

Survey conducted by FBOS, assumed to be representative of all the sheep farmers in Fiji, have been used to derive the ratios. The absolute change in the input ratios from 2002 to 2008 indicates increase in the IC and CFC

ratios and a decline in the COE ratio.

C. MACROECONOMIC AGGREGATES

Table 82: Macroeconomic Aggregates

	2008	2002	% change: 2002 to 2008
	\$		
GO	571,900	98,647	479.74
IC	228,740	35,967	535.97
VA	343,160	62,680	447.48
COE	24,901	4,488	454.83
CFC	24,925	3,778	559.74
OS	293,334	54,414	439.08

The macroeconomic aggregates indicate an expansion in the sheep industry.

23. SUB-CLASS 01442: GOAT FARMING

Commercial goat farming shows considerable growth in 2008. It is a private sector driven industry with less funding from the government.

A. OUTPUT

Table 83: Gross Output

Production (tonnes)	983
Producer price (\$/tonne) DW	9,000
GO (\$)	8,847,000

Production data specified by weight (dressed weight) and the producer price have been obtained from the MPI's AH&P division. The price, dollar per tonne of goat, when compared to 2002 has increased by

175.31 per cent.

B. INPUT

There are a lot of variations in the input structure of goat farming in Fiji. The input ratios derived by FBOS through personal interviews of prominent goat farmers, is fairly representative of goat farming in Fiji. The absolute changes in the input ratios from 2002 to 2008 indicate increases in the IC, COE and the CFC ratios. The increase in IC is due to increased transport costs as farms are located in the interiors. Most of the live goats are not slaughtered at the abattoirs but slaughtered backyard and supplied to the retailers and consumers. The increase in CFC is due to farmers investing in fencing and infrastructures for the safe keeping of stock.

Table 84: Input Ratios

	IC	VA	COE	CFC	OS
	[expressed as percentages of GO]				
2008 Average Ratios	24.68	75.32	3.37	2.24	69.71
2002 Average Ratios	15.77	84.23	1.01	1.22	82.00
Absolute Change	8.91	-8.91	2.36	1.02	-12.29

C. MACROECONOMIC AGGREGATES

Table 85: Macroeconomic Aggregates

	2008	2002	% change: 2002 to 2008
	\$		
GO	8,847,000	3,301,690	167.95
IC	2,183,219	520,677	319.30
VA	6,663,781	2,781,013	139.62
COE	297,712	33,347	792.77
CFC	198,474	40,281	392.72
OS	6,167,595	2,707,385	127.81

The macroeconomic aggregates indicate an expansion of the goat industry.

24. SUB-CLASS 01451: PIG FARMING

A. OUTPUT

Table 86: Gross Output

Production (tonnes)	920
Producer price (\$/tonne)	4,500
GO (\$)	4,140,000

Production data specified by weight (dressed weight) and their producer price have been obtained from MPI's AH&P division. Production when compared to 2002, when the last study was done, shows a 41.53 per cent increase, from 650 to 920 tonnes.

B. INPUT

Table 87: Input Ratios

	IC	VA	COE	CFC	OS
	[expressed as percentages of GO]				
2008 Average Ratio	70.68	29.32	12.39	7.37	9.57
2002 Average Ratio	50.07	49.93	12.03	7.11	30.79
Absolute Change	20.61	-20.61	0.36	0.26	-21.22

Data were collected by FBOS through personal interviews of farmers and these farmers were assumed to be representative of all the pig farmers in Fiji. The absolute change in the input ratios from 2002 to 2008 indicate increases in the IC, COE and the

CFC ratios. The increase in the input ratios is due to the farms becoming more commercialized.

C. MACROECONOMIC AGGREGATES

Table 88: Macroeconomic Aggregates

	2008	2002	% change: 2002 to 2008
	\$		
GO	4,140,000	1,851,200	123.64
IC	2,926,000	926,896	215.68
VA	1,214,000	924,304	31.34
COE	512,840	222,699	130.28
CFC	304,912	131,620	131.66
OS	396,248	569,985	-30.48

As a consequence of farms moving towards becoming commercialized costs have soared and will settle down with passing time as farmers become more stable commercially.

25. SUB-CLASS 01461: POULTRY FARMING

This industry continues to grow and contribute to economic development.

A. OUTPUT

Table 89: Gross Output

Production (tonnes)	14,429
Producer Price \$/tonne	5,500
Value (\$)	79,359,500
Less Cull Hens ¹	1,168,200
GO	78,191,300

Production data and their producer price have been obtained from farmers engaged in poultry farming. The value obtained has been adjusted for the value of poultry included in egg production.

B. INPUT

Table 90: Input Ratios

	IC	VA	COE	CFC	OS
	[expressed as percentages of GO]				
2008	74.29	25.71	8.24	7.41	10.06
2002	77.40	22.6	8.13	4.58	9.89
Absolute Change	-3.11	3.11	0.11	2.83	0.17

The weighted average input ratios are based on the survey FBOS conducted of establishments engaged in the poultry industry. The weights are based on each establishment's contribution to the total GO. The absolute changes in the input ratios from 2002 to 2008 indicate a decline in

the IC ratio and increases in the COE and CFC ratios.

¹ Egg-laying hens: the primary activity of these hens is to lay eggs. After they finish laying eggs they are sold off. Whatever amount is received from their sales is taken as income from the sale of cull hens under eggs. A counter adjustment is made under poultry.

C. MACROECONOMIC AGGREGATES

Table 91: Macroeconomic Aggregates

	2008	2002	% change: 2002 to 2008
	\$		
GO	78,191,300	40,912,666	91.12
IC	58,088,317	31,666,403	83.44
VA	20,102,983	9,246,263	117.42
COE	6,442,963	3,326,200	93.70
CFC	5,793,975	1,873,800	209.21
OS	7,866,045	4,046,263	94.40

The macroeconomic aggregate indicates expansion of the industry.

26. SUB-CLASS 01462: PRODUCTION OF EGG

A. OUTPUT

Table 92: Gross Output

Production (dozen)	4,722,850
Wholesale price(\$/dozen)	3
Value(\$)	14,168,550
Add Cull Hens (\$)	1,168,200
GO	13,000,350
Note: 1 dozen eggs = 694 grams	

Egg production and their wholesale price in dozens have been obtained from MPI's AH&P division.

B. INPUT

Table 93: Input Ratios

	IC	VA	COE	CFC	OS
	[expressed as percentages of GO]				
2008 Average Ratios	82.54	17.46	7.01	6.37	4.07
2002 Average Ratios	82.02	17.98	6.05	4.46	7.47
Absolute Change	0.52	-0.52	0.96	1.91	-3.40

Input ratios have been derived as an average from the study of prominent egg producers which FBOS conducted. The absolute change from 2002 to 2008 indicates an increase in the IC, COE and CFC ratios.

C. MACROECONOMIC AGGREGATES

Table 94: Macroeconomic Aggregates

	2008	2002	% change: 2002 to 2008
	\$		
GO	13,000,350	8,407,967	54.62
IC	10,730,965	6,896,215	55.61
VA	2,269,385	1,511,752	50.12
COE	911,342	508,682	79.16
CFC	828,693	374,995	120.99
OS	529,350	628,075	-15.72

27. SUB-CLASS 01491: BEE-KEEPING

By 2008 not only the existing apiaries expanded but the industry also phased out from the cottage production level to the commercial level. New large-scale producers entered the market as well.

A. OUTPUT

Table 95: Gross Output

Production (tonnes)	595
Price (\$/tonne)	5,000
GO	2,975,000

Production data were obtained from MPI and the producer price from the MPI's AH&P division. Production when compared to 2002, when the last study was done, shows an increase of 387.7 per cent whilst price shows a decline of 16.67 per cent.

B. INPUT

Table 96: Input Ratios

	IC	VA	COE	CFC	OS
	[expressed as percentages of GO]				
2008	29.83	70.17	18.10	1.83	50.24
2002	25.05	74.95	15.15	1.77	58.03
Absolute Change	4.78	-4.78	2.95	0.06	-7.79

Data from surveys conducted by FBOS have been used for the construction of the input ratios. The absolute changes in the input ratios from 2002 to 2008 indicate increases in the IC, COE and CFC ratios.

C. MACROECONOMIC AGGREGATES

Table 97: Macroeconomic Aggregates

	2008	2002	% change:
	\$		2002 to 2008
GO	2,975,000	732,000	306.42
IC	887,504	183,366	384.01
VA	2,087,496	548,634	280.49
COE	538,497	110,898	385.58
CFC	54,435	12,956	320.15
OS	1,494,564	424,780	251.84

The macroeconomic aggregates show expansion of the industry.

DIVISION 02: FORESTRY AND LOGGING

1. **SUB-CLASS:** **02101- Native forest**
 02102- Pine
 02103- Mahogany
 02201: Logging

A. **OUTPUT**

Table 98: Gross Output

Native: Total production in cu.m	64,991
unit price/per cu.m	193
Native: total value (\$)	12,543,263
Exotic: total production in cu.m	375,048
softwood production in cu.m	294,956
unit price/per cu.m	62
Value (\$)	18,287,272
hardwood production in cu.m	80,092
unit price/per cu.m	187
Value (\$)	14,416,560
Exotic: total value (\$)	32,703,832
GO (\$)	45,247,095

Production data, broken down by native and exotic logs, were obtained from the Forestry Department. Unit price for both the varieties is the weighted average mill-gate price worked out by the Forestry Department for the native logs and by us, with information provided by the Fiji Pine Limited and Fiji Hardwood, for the exotic logs.

B. **INPUT**

Table 99: Input Ratios

	WEIGHT	IC	VA	COE	CFC	OS
		[expressed as percentages of GO]				
Indigenous	15.60	71.91	28.09	10.87	3.56	13.66
		11.22	4.38	1.70	0.56	2.13
Exotic	84.40	34.19	65.81	13.05	8.53	44.23
		28.86	55.54	11.01	7.20	37.33
2008	100.00	40.08	59.92	12.71	7.76	39.45
2002		36.19	63.81	12.76	5.45	45.61
Absolute Change		3.89	-3.89	-0.05	2.31	-6.15

A composite ratio has been calculated using data from the Fiji Hardwood Corporation Limited, Fiji Pine Commission and data obtained through surveys of forest contractors by FBOS. The absolute changes in the input ratios from 2002 to 2008 indicate an increase in the IC and the CFC ratios whilst a decrease in the COE ratio.

C. MACROECONOMIC AGGREGATES

Table 100: Macroeconomic Aggregates

	2008	2002	% change: 2002 to 2008
	\$		
GO	45,247,095	33,408,228	35.44
IC	18,135,281	12,090,438	50.00
VA	27,111,814	21,317,790	27.18
COE	5,751,419	4,262,890	34.92
CFC	3,510,838	1,820,748	92.82
OS	17,849,557	15,234,152	17.17

The industry performed better in 2008 than it did in 2002.

2. SUB-CLASS 02301: GATHERING OF NON-WOOD FOREST PRODUCTS

This sub-class includes production of voivoi leaves and masi.

A. OUTPUT

Table 101: Gross Output

Commodity	Production (tonnes)	Price \$ per tonne	GO (\$)
Voivoi ²	1,010	900	909,000
Masi	860	1,500	1,290,000
Total	1,870		2,199,000

Production and price data were obtained from MPI's EP&S division.

B. INPUT

Table 102: Input Ratios

	IC	VA	COE	CFC	OS
	[expressed as percentages of GO]				
2008 Average ratio	42.05	57.95	15.11	0.00	42.84

Special studies conducted by FBOS have been used to calculate the input ratios. A comparative analysis with the 2002 study is not possible since in

2002 this was covered under the informal sector together with other items.

² Voivoi is used for plaiting/weaving. It is being covered here and not under FSIC sub-class 01299 because it is a non-wood forest product that is gathered and not specially grown. Had it been specially grown then it would have been covered under sub-class 01299.

C. MACROECONOMIC AGGREGATES

Table 103: Macroeconomic Aggregates

	\$
GO	2,199,000
IC	924,680
VA	1,274,320
COE	332,269
CFC	0
OS	942,051

A comparative analysis with the 2002 study is not possible since in 2002 this was covered under the informal sector together with other items.

DIVISION 03: FISHING AND AQUACULTURE

Fishing includes the catching, gathering, breeding and cultivation of marine life from ocean, coastal and inland waters within Fiji's domestic territory on a commercial basis.

1. SUB-CLASS 03111/03121: FISHING ON A COMMERCIAL BASIS

Commercial fishing comprises:

- a) Industrial fishing: operates on a large scale and mainly export oriented;
- b) Artisinal fishing: comprises small scale commercial production for domestic market,

A. OUTPUT

Table 104: Gross Output

	Quantity (MT)	Unit Price (\$)	Value (\$)
1 Offshore	14,316		74,070,328
Total Tuna by Species	11,084		59,849,528
Albacore	7,650	5,310	40,621,500
Big Eye	671	5,860	3,932,060
Yellowfin	2,763	5,536	15,295,968
By-Catch	3,232	4,400	14,220,800
2 Inshore	4,886		24,757,362
Inshore Fin Fish	4,886	5,067	24,757,362
Total Inshore & Offshore	19,202		98,827,690

To calculate the GO of the fishing sector, data on production and prices of fish, which the Fisheries Department compiles annually, was used. Total value of production was obtained by grading fish by species and then multiplying them by their respective unit prices.

B. INPUT

Table 105: Input Ratios

	WEIGHT	IC	VA	COE	CFC	OS
		[expressed as percentages of GO]				
Large scale: Average ratio		78.82	21.18	7.75	4.98	8.45
	88.76	69.96	18.80	6.88	4.42	7.50
Small scale: Average ratio		65.85	34.15	9.72	3.14	21.29
	11.24	7.40	3.84	1.09	0.35	2.39
2008 Composite ratio	100	77.36	22.64	7.97	4.77	9.89

Large and small-scale commercial fishing enterprises were surveyed by FBOS and their input costs were obtained. A composite input ratio based on the share of output of each sector - large, and small- to the

total fish production was then calculated.

C. MACROECONOMIC AGGREGATES

Table 106: Macroeconomic Aggregates

	\$
GO	98,827,690
IC	76,455,248
VA	22,372,442
COE	7,877,978
CFC	4,717,227
OS	9,777,237

The percentage change from 2002 to 2008 in the macroeconomic aggregate is not calculated due to the valuation method used in 2002 which took into account trade and transport margins.

2. SUB-CLASSES: 03112/03122 - TAKING OF MARINE AND FRESHWATER CRUSTACEANS AND MOLLUSCS

This sub-class includes taking of marine or freshwater crabs, prawns, kai etc.

A. OUTPUT

Table 107: Gross output

	Qty (MT)	Unit Price (\$)	Value (\$)
Inshore Non-Fin	2,724	3,446	9,386,904
Total GO	2,724		9,386,904

To calculate the GO, data on production and prices of inshore non-fin, which the Fisheries Department compiles annually, was

used. Total value of production was obtained by grading crustaceans and molluscs by species and then multiplying them by their respective unit prices.

B. INPUT

Table 108: Input Ratios

	IC	VA	COE	CFC	OS
	[expressed as percentages of GO]				
2008 Average ratio	69.33	30.67	9.60	1.68	19.39
2002 Average ratio	71.45	28.55	13.14	2.19	13.22
Absolute Change	-2.12	2.12	-3.54	-0.51	6.17

Input ratios were compiled using data from surveys conducted by FBOS. The absolute change in the input ratios from 2002 to 2008 indicates decline in the IC, COE, and CFC ratios.

C. MACROECONOMIC AGGREGATES

Table 109: Macroeconomic Aggregates

	2008	2002	% change: 2002 to 2008
	\$		
GO	9,386,904	12,833,039	-26.85
IC	6,507,941	9,169,206	-29.02
VA	2,878,963	3,663,833	-21.42
COE	901,143	1,686,261	-46.56
CFC	157,700	281,044	-43.89
OS	1,820,120	1,696,528	7.28

The macroeconomic aggregates show considerable decline and this clearly indicates that this industry did not do well in 2008.

3. SUB-CLASS 03114: BEACH-DE-MER DIVING

Production and prices data were supplied by the Fisheries department.

A. OUTPUT

Table 110: Gross output

	Quantity (MT)	Unit Price (\$)	Value (\$)
Beach-de-mer	218	45,000	9,810,000

B. INPUT

Table 111: Input Ratios

	IC	VA	COE	CFC	OS
	[expressed as percentages of GO]				
2008 Average ratio	79.38	20.62	4.77	3.13	12.72
2002 Average ratio	89.85	10.15	3.55	3.04	3.56
Absolute Change	-10.47	10.47	1.22	0.09	9.16

Input ratios were compiled using data from surveys conducted by FBOS of beach-de-mer producers.

C. MACROECONOMIC AGGREGATES

Table 112: Macroeconomic Aggregates

	2008	2002	% Change: 2002 to 2008
	\$		
GO	9,810,000	11,700,000	-16.15
IC	7,787,178	10,512,438	-25.92
VA	2,022,822	1,187,562	70.33
COE	467,937	415,732	12.56
CFC	307,053	355,154	-13.54
OS	1,247,832	416,676	199.47

The macroeconomic aggregates indicate that the industry did well in 2008.

4. SUB-CLASS 03115: GATHERING OF OTHER MARINE ORGANISMS AND MATERIALS

This sub-class consists of Aquarium fish and corals.

A. OUTPUT

Total value of production for the aquarium fish and coral was worked out with assistance from the Fisheries Department.

Table 113: Gross output

	Unit of measure	Quantity	Value (\$)
Coral	pieces	122,274	
Ornamental Fish	pieces	190,861	
Ornamental Invertebrates	pieces	39,644	
Live rock	metric tonnes	1,043	
Coral base rock	metric tonnes	45.22	
GO (\$)			17,500,000

B. INPUT

Table 114: Input Ratios

	IC	VA	COE	CFC	OS
	[expressed as percentages of GO]				
2008 Average ratio	70.86	29.14	12.47	5.20	11.47
2002 Average ratio	70.66	29.34	10.10	11.51	7.74
	0.20	-0.20	2.37	-6.31	3.73

Input ratios were compiled using data from surveys conducted by FBOS.

C. MACROECONOMIC AGGREGATES

Table 115: Macroeconomic Aggregates

	2008	2002	% Change: 2002 to 2008
	\$		
GO	17,500,000	10,240,000	70.90
IC	12,400,500	7,235,076	71.39
VA	5,099,500	3,004,924	69.70
COE	2,182,250	1,034,494	110.95
CFC	910,000	1,178,209	-22.76
OS	2,007,250	792,221	153.37

The macroeconomic aggregates reflect an expansion of the industry.

5. SUB-CLASS 03211: MARINE AQUACULTURE

Marine Aquaculture includes brackish water shrimps, black lip oysters and seaweed farming.

A. OUTPUT

Table 116: Gross output

	Unit of measure	Quantity	Unit Price (\$)	Value (\$)
Brackish Water Shrimp	metric tonnes	10.5	30,476	319,998
Seaweed	metric tonnes	64	650	41,600
Black Pearl	pieces	53,811	372	20,017,692
GO				20,379,290

Production and prices were supplied by the Fisheries department.

B. INPUT

Table 117: Input Ratios

	IC	VA	COE	CFC	OS
	[expressed as percentages of GO]				
2008 Average ratio	60.94	39.06	5.31	2.67	31.09

Input ratios were compiled using data from surveys conducted by FBOS of major producers. A comparative analysis of input ratios with the 2002

study is not possible since in 2002 marine aquaculture was studied together with operation of fish hatcheries and farms.

C. MACROECONOMIC AGGREGATES

Table 118: Macroeconomic Aggregates

	\$
GO	20,379,290
IC	12,418,611
VA	7,960,679
COE	1,081,618
CFC	543,926
OS	6,335,135

A comparative analysis of input ratios with the 2002 study is not possible since in 2002 marine aquaculture was studied together with operation of fish hatcheries and farms.

6. SUB-CLASS 03222: FRESHWATER AQUACULTURE

Freshwater Aquaculture includes tilapia and carps.

Production and prices were supplied by the Fisheries department.

A. OUTPUT

Table 119: Gross output

Aquaculture	Unit of measure	Quantity	Unit Price (\$)	Value (\$)
Tilapia/deep sea snapper	metric tonnes	192	5,000	960,000
Polyculture				
Grass & Silver Carps	Pieces	300,000	2.25	675,000
Prawns	metric tonnes	24.75	22,000	544,500
Ornamental Fish				
Fancy carps & Goldfish	pieces	903	7	6,321
GO				2,185,821

B. INPUT

Table 120: Input Ratios

	IC	VA	COE	CFC	OS
	[expressed as percentages of GO]				
2008 Average ratio	46.44	53.56	5.50	2.76	45.30

Input ratios were compiled using data from surveys conducted by FBOS of major producers. A comparative analysis of input ratios with the 2002

study is not possible since in 2002 freshwater aquaculture was studied together with operation of fish hatcheries and farms.

C. MACROECONOMIC AGGREGATES

Table 121: Macroeconomic Aggregates

	\$
GO	2,185,821
IC	1,015,049
VA	1,170,772
COE	120,180
CFC	60,436
OS	990,156

A comparative analysis of input ratios with the 2002 study is not possible since in 2002 freshwater aquaculture was studied together with operation of fish hatcheries and farms.

APPENDIX I

CONCEPTS AND DEFINITIONS

All concepts and definitions used in this report are based upon the recommendations of the United Nations. The major concepts and definitions and their treatment are briefly explained below.

<i>Compensation of Employees</i>	Includes payments, whether in cash or in kind, made by the employer during the inquiry period for the work done to all persons included in the count of employees. It includes all cash payments, commissions, bonuses, cost of living allowances and wages paid during periods of vacation and sick leave, contributions in respect of their social security and pension and payments in kind.
<i>Consumption of Fixed Capital</i>	In theory this is the value of the current replacement cost of fixed assets used up during the accounting period as a result of normal wear and tear. The consumption of fixed capital shown in this report is derived from the information supplied by the firm. This is expected to conform largely to the requirements of Income Tax Act.
<i>Employees</i>	This includes all persons who work in the establishment and receive regular pay and persons working away from the establishment when paid by and under the control of the establishment, including persons on sick leave, holiday or vacation. Also included are salaried managers, and directors of incorporated businesses except when paid solely for their attendance at board of directors meetings. This category excludes working proprietors and unpaid family workers.
<i>Establishment</i>	An establishment can be referred to as an enterprise that engages in one or predominantly one kind of economic activity, at or from one location, for which data are available or can be meaningfully compiled, that allow the calculation of the operating surplus.
<i>Fixed Assets</i>	Fixed assets include the value of all physical assets expected to have a productive life of more than one year and intended for use by the establishment. Included are major additions, alterations and improvements to existing fixed assets that extend their normal economic life or raise their productivity.
<i>Gross Fixed Capital Formation</i>	This is the outlay on new and second-hand durable goods less their sales plus their own account capital construction work done.
<i>Gross Output</i>	This is the gross value of all goods and services produced during the accounting period, the value of own account capital construction and other income.
<i>Intermediate Consumption</i>	Intermediate consumption consists of non-durable goods and services which have a lifetime of use of less than one year. Compensation of employees do not form part of intermediate consumption, but expenditure such as travelling expenses of management personnel are included. Intermediate consumption

differs from total purchases of raw materials, fuels etc. by the amount of stock changes of such goods. Valuation of intermediate consumption is at purchasers' value i.e. it is inclusive of all costs incurred by producers in the acquisition of the required goods and services.

Operating Surplus This is the excess of value added by producers over compensation of employees, consumption of fixed capital and net indirect taxes.

Payments in kind This is defined as the net cost to the employer of those goods and services furnished to employees free of charge or at markedly reduced cost that are clearly and primarily of benefit to the employees as consumers. The item includes food, beverages, clothing (except uniforms for civilians as these are not worn off-duty) and lodging etc.

Persons Engaged This is defined as the total number of persons who worked in or for the establishment during the reference period, including working proprietors, active business partners, unpaid family workers and regular paid workers.

Statistical Unit Statistical unit is the Unit for which information is collected.

Unpaid Family Workers Unpaid family workers are persons living in the household of any of the proprietors of the owning establishment and working in the establishment without regular pay for at least one third of the working time normal to the establishment.

Value Added Value added is the difference between the gross output and the intermediate consumption. It provides a useful way of measuring without duplication the economic importance of an industry or industrial sector.

Working Proprietors Working proprietors are owners of establishments who are actively engaged in the work of the establishment. Excluded are silent or inactive partners.

APPENDIX II

INDUSTRIAL CLASSIFICATION USED

SECTION A: AGRICULTURE, FORESTRY AND FISHING from the Fiji Standard Industrial Classification 2010, commonly known as FSIC 2010 has been used. FSIC 2010 is based on the International Standard Industrial Classification Rev. 4.

AGRICULTURE, FORESTRY AND FISHING includes the exploitation of vegetal and animal natural resources, comprising the activities of growing of crops, raising and breeding of animals, harvesting of timber and other plants, animals or animal products from a farm or their natural habitats.

DIVISION	GROUP	CLASS	SUB-CLASS	DESCRIPTION
01				<p>CROP AND ANIMAL PRODUCTION, HUNTING AND RELATED SERVICE ACTIVITIES</p> <p>This division includes two basic activities, namely the production of crop products and production of animal products, covering also the forms of organic agriculture, the growing of genetically modified crops and the raising of genetically modified animals. It also includes service activities incidental to agriculture, as well as hunting, trapping and related activities.</p> <p>Group 015 (Mixed farming) breaks with the usual principles for identifying main activity. It accepts that many agricultural holdings have reasonably balanced crop and animal production and that it would be arbitrary to classify them in one category or the other.</p> <p>Agricultural activities exclude any subsequent processing of the agricultural products (classified under division 10 for manufacture of food products; 11 for manufacture of beverages and 12 for manufacture of tobacco products), beyond that needed to prepare them for the primary markets. However, the preparation of products for the primary markets e.g. drying of tobacco leaves is included here.</p> <p>The division excludes field construction (e.g. agricultural land terracing, drainage, preparing rice paddies etc.) classified in section F (Construction) and buyers and cooperative associations engaged in the marketing of farm products classified in section G.</p>
	011			<p>Growing of non-perennial crops</p> <p>This group includes the growing of non-perennial crops, i.e. plants that do not last for more than two growing seasons. Included is the growing of these plants for the purpose of seed production.</p>

DIVISION	GROUP	CLASS	SUB-CLASS	DESCRIPTION
		0111	01111	<p>Growing of cereals (except rice) leguminous crops and oil seeds</p> <p>This sub-class includes all forms of growing of cereals e.g. maize grains, leguminous crops e.g. beans and lentils and oil seeds e.g. groundnuts in open fields, including those considered organic farming and the growing of genetically modified crops. The growing of these crops is often combined within agricultural units.</p> <p>This sub-class excludes: -growing of maize for fodder, see 01191 -growing of edible nuts, see 01251</p>
		0112	01121	<p>Growing of rice</p> <p>This sub-class includes growing of rice (including organic farming and the growing of genetically modified rice)</p>
		0113		Growing of vegetables and melons, roots and tubers
			01131	<p>Growing of taro</p> <p>This sub-class includes growing of taro.</p>
			01132	<p>Growing of cassava</p> <p>This sub-class includes growing of cassava</p>
			01133	<p>Growing of yam</p> <p>This sub-class includes growing of yam</p>
			01134	<p>Growing of kumala</p> <p>This sub-class includes growing of kumala</p>
			01139	<p>Growing of vegetables and melons, roots and tubers n.e.c.</p> <p>This sub-class includes: -growing of leafy or stem vegetables such as cabbages, cauliflower, lettuce, spinach and other leafy or stem vegetables -growing of fruit bearing vegetables such as cucumbers, eggplants (aubergines), tomatoes and other melons and fruit-bearing vegetables -growing of root, bulb or tuberous vegetables such as carrots, turnips, garlic, onions (incl. shallots), other alliaceous vegetables and other root, bulb or tuberous vegetables -growing of mushrooms -growing of vegetable seeds -growing of other vegetables -growing of roots and tubers</p>

DIVISION	GROUP	CLASS	SUB-CLASS	DESCRIPTION
				This sub-class excludes: -growing of watermelons, see 01226 -growing of mushroom spawn, see 01301 -growing of chilies and peppers (capsicum) and other spices and aromatic crops, see 01289
		0114	01141	Growing of sugar cane This sub-class includes growing of sugar cane.
		0115	01151	Growing and curing of tobacco This sub-class includes growing of unmanufactured tobacco. Preliminary processing e.g. drying of tobacco leaves is included.
		0116	01161	Growing of fibre crops This sub-class includes growing of cotton or other vegetable textile fibres.
		0119	01191	Growing of other non-perennial crops This sub-class includes the growing of non-perennial crops n.e.c. such as -growing of fodder roots, clover, alfalfa, maize and other grasses, forage kale and similar forage products -growing of seeds of forage plants -growing of flowers, including production of cut flowers and flower buds -growing of flower seeds This sub-class excludes: -growing of sunflower seeds, see 01111 -growing of non-perennial spice, aromatic, drug and pharmaceutical crops, see 01289
	012			Growing of perennial crops This sub-group includes the growing of perennial crops, i.e. plants that lasts for more than two growing seasons, either dying back after each season or growing continuously. Included is the growing of these plants for the purpose of seed production.
		0112	01121	Growing of grapes This sub-class includes: -growing of wine grapes and table grapes in vineyards
		0122		Growing of tropical and subtropical fruits

DIVISION	GROUP	CLASS	SUB-CLASS	DESCRIPTION
			01221	Growing of bananas This sub-class includes growing of bananas
			01222	Growing of pineapples This sub-class includes growing of pineapples
			01223	Growing of mangoes This sub-class includes growing of mangoes
			01224	Growing of papayas This sub-class includes growing of papayas
			01225	Growing of noni This sub-class includes growing of noni.
			01226	Growing of watermelon This sub-class includes growing of watermelon.
			01229	Growing of tropical and subtropical fruits n.e.c. This sub-class includes growing of tropical and subtropical fruits e.g. avocados and other tropical and subtropical fruits
		0123	01231	Growing of citrus fruits This sub-class includes growing of oranges and other citrus fruit.
		0125	01251	Growing of other tree and bush fruits and nuts This sub-class includes: -growing of berries: -growing of fruit seeds -growing of edible nuts e.g. peanuts -growing of other tree and bush fruits: This sub-class excludes: -growing of coconuts, see 01261
		0126	01261	Growing of oleaginous fruits This sub-class includes growing of oleaginous fruits e.g. coconuts and other oleaginous fruits This sub-class excludes: -growing of soya beans, groundnuts and other oil seeds, see

DIVISION	GROUP	CLASS	SUB-CLASS	DESCRIPTION
				01111
		0127		Growing of beverage crops
			01271	Growing of cocoa This sub-class includes growing of cocoa
			01272	Growing of coffee This sub-class includes growing of coffee
		0128		Growing of spices, aromatic, drug and pharmaceutical crops
			01281	Growing of ginger This sub-class includes growing of ginger.
			01282	Growing of yaqona This sub-class includes growing of yaqona.
			01283	Growing of vanilla This sub-class includes growing of vanilla
			01289	Growing of spices, aromatic, drug and pharmaceutical crops n.e.c. This sub-class includes: -growing of perennial and non-perennial spices and aromatic crops not elsewhere specified e.g. pepper (piper), chilies and peppers (capsicum) and other spices and aromatic crops -growing of drug and narcotic crops -growing of plants used primarily in perfumery, in pharmacy or for insecticidal, fungicidal or similar purposes
		0129	01299	Growing of other perennial crops This sub-class includes growing of vegetable materials of a kind used primarily for plaiting
		0130	01301	Plant propagation This sub-class includes the production of all vegetative planting materials including cuttings, suckers and seedlings for direct plant propagation or to create plant grafting stock into which selected scion is grafted for eventual planting to produce crops e.g. growing of plants for planting; growing of plants for ornamental purposes, including turf for transplanting; growing of live plants for bulbs, tubers and roots; cuttings and slips;

DIVISION	GROUP	CLASS	SUB-CLASS	DESCRIPTION
				<p>mushroom spawn; operation of tree nurseries, except forest tree nurseries</p> <p>This sub-class excludes: -growing of plants for the purpose of seed production, see groups 011 and 012 -operation of forest tree nurseries, see class 0210</p>
	014			<p>Animal production</p> <p>This group includes raising (farming) and breeding of all animals, except aquatic animals.</p> <p>This group excludes: -breeding support services, such as stud services, see 01619 -farm animal boarding and care, see 01619 -production of hides and skins from slaughterhouses, see 10102</p>
		0141		Raising of cattle and buffaloes
			01411	<p>Raising and breeding of cattle and buffaloes</p> <p>This sub-class includes raising and breeding of cattle and buffaloes</p> <p>This sub-class excludes: -production of raw milk, see 01412</p>
			01412	<p>Production of raw cow milk from cows or buffaloes</p> <p>This sub-class includes production of raw cow milk from cows or buffaloes</p> <p>This sub-class excludes: -processing of milk, see 10501</p>
		0142	01421	<p>Raising of horses and other equines</p> <p>This sub-class includes raising and breeding of horses (including racing horses)</p> <p>This sub-class excludes: -operation of racing and riding stables, see 93199</p>
		0144		Raising of sheep and goats
			01441	<p>Raising and breeding of sheep</p> <p>This sub-class includes raising and breeding of sheep</p> <p>This sub-class excludes: -sheep shearing on a fee or contract basis, see 01619</p>

DIVISION	GROUP	CLASS	SUB-CLASS	DESCRIPTION
				-production of pulled wool, see 10102
			01442	Raising of goats This sub-class includes raising and breeding of goats
		0145	01451	Raising of swine/pigs This sub-class includes raising and breeding of swine (pigs)
		0146		Raising of poultry
			01461	Raising and breeding of poultry This sub-class includes fowls of the species Gallus domesticus (chickens and capons), ducks, geese, turkeys and guinea fowls This sub-class excludes: -production of feathers or down, see 10101
			01462	Production of eggs This sub-class includes -poultry farming for production of eggs -operation of poultry hatcheries
		0149		Raising of other animals
			01491	Bee-keeping This sub-class includes the production of honey.
			01492	Other animal farming; production of animal products n.e.c. This sub-class includes raising of live animals and production of animal products n.e.c.
		0150	01501	Mixed farming This sub-class includes the combined production of crops and animals without a specialized production of crops or animals. The size of the overall farming operation is not a determining factor. If either production of crops or animals in a given unit exceeds 66 per cent or more of standard gross margins, the combined activity should not be included here, but allocated to crop or animal farming. This sub-class excludes: -mixed crop farming, see groups 011 and 012 -mixed animal farming, see group 014
	016	0161	01619	Support activities to agriculture and post-harvest crop

DIVISION	GROUP	CLASS	SUB-CLASS	DESCRIPTION
				<p>activities</p> <p>This sub-class includes:</p> <ul style="list-style-type: none"> -support activities for crop production <ul style="list-style-type: none"> -agricultural activities on a fee or contract basis e.g. preparation of fields, establishing a crop, treatment of crops, crop spraying, including by air, trimming of fruit trees and vines, transplanting of rice, thinning of beets, harvesting and pest control (including rabbits) in connection with agriculture -operation of agricultural irrigation equipment -provision of agricultural machinery with operators and crew -maintenance of land to keep it in good condition for agricultural use -support activities for animal production <ul style="list-style-type: none"> -agricultural activities on a fee or contract basis e.g. activities to promote propagation, growth and output of animals, herd testing services, droving services, poultry caponizing, coop, cleaning etc., activities related to artificial insemination, stud services, sheep shearing, farm animal boarding and care -activities of farriers -post-harvest crop activities <ul style="list-style-type: none"> -preparation of crops for primary markets, i.e. cleaning, trimming, grading, disinfecting -cotton ginning -preparation of tobacco leaves -preparation of cocoa beans -waxing of fruit -sun-drying of fruit and vegetables -seed processing for propagation <ul style="list-style-type: none"> -all post-harvest activities aimed at improving the propagation quality of seed through the removal of non-seed materials, undersized, mechanically or insect damaged and immature seeds as well as removing the seed moisture to a safe level for seed storage. This activity includes the drying, cleaning, grading and treating of seeds until they are marketed. The treatment of genetically modified seeds is included here. <p>This sub-class excludes:</p> <ul style="list-style-type: none"> -activities of agronomists and agricultural economists, see 74909 -landscape gardening, planting, see 81301 -maintenance of land to keep it in good ecological condition, see 81301 -organization of agricultural shows and fairs, see 82301 -activities of farriers -veterinary activities, see 75001 -vaccination of animals, see 75001 -renting of animals (e.g. herds), see 77301

DIVISION	GROUP	CLASS	SUB-CLASS	DESCRIPTION
				-pet boarding, see 96099 -preserving of fruit and vegetables, including dehydration by artificial means, see 10301 -stemming and redrying of tobacco, see 12001
	017	0170	01701	Hunting, trapping and related service activities This sub-class includes: -hunting and trapping on a commercial basis -taking of animals (dead or alive) for food, fur, skin, or for use in research, in zoos or as pets -production of fur skins, reptile or bird skins from hunting or trapping activities This sub-class excludes: -hunting for sport or recreation and related service activities, see 93199
02				<u>FORESTRY AND LOGGING</u> This division includes the production of round wood for the forest-based manufacturing industries as well as the extraction and gathering of wild growing non-wood forest products. Besides the production of timber, forestry activities result in products that undergo little processing, such as fire wood, charcoal, wood chips and round wood used in an unprocessed form (e.g. pit-props, pulpwood etc.). These activities can be carried out in natural or planted forests.
	021	0210		Silviculture and other forestry activities This group includes the growing of standing timber: planting, replanting, transplanting, thinning and conserving of forests and timber tracts; growing of coppice, pulpwood and fire wood and operation of forest tree nurseries
			02101	Native Forest This sub-class includes growing of standing timber and operation of native forest tree nurseries. This sub-class excludes: -operation of tree nurseries, see 01301 -gathering of wild growing non-wood forest products, see 02301 -production of wood chips and particles, see 16101
			02102	Pine This sub-class includes growing of standing timber operation of pine tree nurseries.

DIVISION	GROUP	CLASS	SUB-CLASS	DESCRIPTION
				<p>This sub-class excludes:</p> <ul style="list-style-type: none"> -operation of tree nurseries, see 01301 -gathering of wild growing non-wood forest products, see 02301 -production of wood chips and particles, see 16101
			02103	<p>Mahogany</p> <p>This sub-class includes growing of standing timber and operation of mahogany tree nurseries.</p> <p>This sub-class excludes:</p> <ul style="list-style-type: none"> -operation of tree nurseries, see 01301 -gathering of wild growing non-wood forest products, see 02301 -production of wood chips and particles, see 16101
	022	0220	02201	<p>Logging</p> <p>This sub-class includes:</p> <ul style="list-style-type: none"> -production of round wood for forest-based manufacturing industries -production of round wood used in an unprocessed form such as pit-props, fence posts and utility poles -gathering and production of fire wood -production of charcoal in the forest (using traditional methods) <p>The output of this activity can take the form of logs, chips or fire wood.</p> <p>This sub-class excludes:</p> <ul style="list-style-type: none"> -growing of standing timber: planting, replanting, transplanting, thinning and conserving of forests and timber tracts, see class 0210 -gathering of wild growing non-wood forest products, see 02301 -production of wood chips and particles, not associated with logging, see 16101
	023	0230	02301	<p>Gathering of non-wood forest products</p> <p>This sub-class includes the gathering of non-wood forest products and other plants growing in the wild e.g. nuts, lac and resins, mushrooms, truffles, berries, balata and other rubber-like gums, cork, balsams, vegetable hair, eelgrass, acorns, horse chestnuts, mosses and lichens</p> <p>This sub-class excludes:</p> <ul style="list-style-type: none"> -growing of mushrooms or truffles, see 01139 -growing of berries or nuts, see 01251 -gathering of fire wood, see 02201

DIVISION	GROUP	CLASS	SUB-CLASS	DESCRIPTION
	024	0240	02401	<p>Support services to forestry</p> <p>This sub-class includes</p> <ul style="list-style-type: none"> -forestry service activities: <ul style="list-style-type: none"> -forestry inventories -forest management consulting services -timber evaluation -forest fire fighting and protection -forest pest control -logging service activities: <ul style="list-style-type: none"> -transport of logs within the forest <p>This sub-class excludes:</p> <ul style="list-style-type: none"> -operation of forest tree nurseries, see class 0210
03				<p>FISHING AND AQUACULTURE</p> <p>This division includes capture fishery and aquaculture, covering the use of fishery resources from marine, brackish or freshwater environments, with the goal of capturing or gathering fish, crustaceans, molluscs and other marine organisms and products (e.g. aquatic plants, pearls, sponges etc).</p> <p>Also included are activities that are normally integrated in the process of production for own account (e.g. seeding oysters for pearl production).</p>
	031			<p>Fishing</p> <p>This group includes capture fishery, i.e. the hunting, collecting and gathering activities directed at removing or collecting live wild aquatic organisms (predominantly fish, molluscs and crustaceans) including plants from the oceanic, coastal or inland waters for human consumption and other purposes by hand or more usually by various types of fishing gear such as nets, lines and stationary traps. Such activities can be conducted on the intertidal shoreline (e.g. collection of molluscs such as mussels and oysters) or shore based netting, or from home-made dugouts or more commonly using commercially made boats in inshore, coastal waters or offshore waters. Unlike in aquaculture (group 032), the aquatic resource being captured is usually common property resource irrespective of whether the harvest from this resource is undertaken with or without exploitation rights. Such activities also include fishing restocked water bodies.</p>
		0311		<p>Marine fishing</p> <p>This class includes activities of vessels engaged in fishing in ocean and coastal waters.</p>

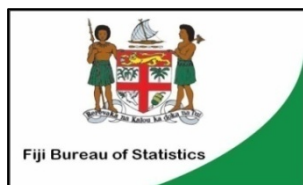
DIVISION	GROUP	CLASS	SUB-CLASS	DESCRIPTION
				<p>This class excludes:</p> <ul style="list-style-type: none"> -capturing of marine mammals see 01701 -processing of fish, crustaceans and molluscs on factory ships or in factories ashore, see 10201 -fishing inspection, protection and patrol services, see 84231 -fishing practiced for sport or recreation and related services, see 93299 -operation of sport fishing preserves, see 93299
			03111	<p>Marine fishing on a commercial basis</p> <p>This sub-class includes fishing on a commercial basis in ocean and coastal waters.</p>
			03112	<p>Taking of marine crustaceans and molluscs</p> <p>This sub-class includes taking of marine crabs, prawns, etc in ocean and coastal waters.</p>
			03113	<p>Taking of marine aquatic animals: turtles, sea squirts, tunicates, sea urchins etc</p> <p>This sub-class includes turtle hunting, fishing for octopus etc in ocean and coastal waters.</p>
			03114	<p>Beach-de-mer diving</p> <p>This sub-class includes beach-de-mer diving in ocean and coastal waters.</p>
			03115	<p>Gathering of other marine organisms and materials</p> <p>This sub-class includes gathering of other marine organisms and materials: natural pearls, sponges, coral and algae in ocean and coastal waters.</p>
		0312		<p>Freshwater fishing</p> <p>This class includes fishing in inland waters.</p> <p>This class excludes:</p> <ul style="list-style-type: none"> -fishing inspection, protection and patrol services, see 84231 -fishing practiced for sport or recreation and related services, see 93299 -operation of sport fishing preserves, see 93299
			03121	<p>Freshwater fishing on a commercial basis</p> <p>This sub-class includes fishing on a commercial basis in inland waters.</p>
			03122	<p>Taking of freshwater crustaceans and molluscs</p>

DIVISION	GROUP	CLASS	SUB-CLASS	DESCRIPTION
				This sub-class includes taking of freshwater crabs, prawns, kai etc in inland waters
			03123	Taking of freshwater aquatic animals This sub-class includes taking of freshwater aquatic animals in inland waters
			03124	Gathering of freshwater materials This sub-class includes gathering of freshwater organisms and materials: pearls, etc in inland waters
	032			Aquaculture This group includes aquaculture (or aqua farming), i.e. the production process involving the culturing or farming (including harvesting) of aquatic organisms (fish, molluscs, crustaceans, plants, etc) using techniques designed to increase the production of the organisms in question beyond the natural capacity of the environment (for example regular stocking, feeding and protection from predators). Culturing/farming refers to the rearing up to their juvenile and/or adult phase under captive conditions of the above organisms. In addition, aquaculture also encompasses individual, corporate or state ownership of the individual organisms throughout the rearing or culture stage, up to and including harvesting.
		0321	03211	Marine aquaculture This sub-class includes: -fish farming in sea water including farming of marine ornamental fish -production of bivalve spat (oyster mussel etc.), lobster lings, shrimp post-larvae, fish fry and fingerlings -growing of laver and other edible seaweeds -culture of crustaceans, bivalves, other molluscs and other aquatic animals in sea water -aquaculture activities in brackish waters -aquaculture activities in salt water filled tanks or reservoirs -operation of fish hatcheries (marine) -operation of marine worm farms This sub-class excludes: -operation of sport fishing preserves, see 93299
		0322	03222	Freshwater aquaculture This sub-class includes:

DIVISION	GROUP	CLASS	SUB-CLASS	DESCRIPTION
				-fish farming in freshwater including farming of freshwater ornamental fish -culture of freshwater crustaceans, bivalves, other molluscs and other aquatic animals -operation of fish hatcheries (freshwater)

APPENDIX III

SAMPLE QUESTIONNAIRE



Ratu Sukuna House, Mac Arthur Street, Victoria Parade, Suva

*P O Box 2221
Government Buildings
Suva, FIJI
Website: www.statsfiji.gov.fj*

*Telephone: [679] 331 5822
Fax No. [679] 330 3656
E-mail: info@statsfiji.gov.fj*

CONFIDENTIAL

DATE: 15/03/2010

2008 AGRICULTURE, FORESTRY AND FISHING CASE STUDY

Please specify the name and address.

Dear Sir\Madam,

PURPOSE: The study provides an important means of assessing the contribution this sector makes to the economy of Fiji, and indicates the changing composition and structure of the industry. The results of the Study are used by the Fiji Islands Bureau of Statistics in the estimation of the National Income of Fiji and in the provision of other key indicators.

REFERENCE PERIOD: Reference period is the calendar year 2008. If your accounting year is different provide information approximating closest to the calendar year 2008.

COMPULSORY REQUIREMENT: The Study is conducted under the provisions of the Statistics Act 1961(Cap 71). In accordance with Section 8 subsection 2 of this Act you are required to provide the correct data during the interview. Failure to provide data could result in legal action without further notice.

CONFIDENTIALITY OF INFORMATION: Information supplied will be used by the Department for the preparation of statistics. Any release of information will be in accordance with the Statistics Act and only persons authorized will have access to individual information.

CONTACT PERSON FOR HELP AND ADVICE: Miss Artika Devi on Ext.117 or email artikad@statsfiji.gov.fj

T Bainimarama
Government Statistician

QUESTIONNAIRE

All relevant questions – QUESTIONS THAT ARE RELEVANT TO YOUR OPERATIONS – must be answered with clear and correct figures. Estimates will be accepted where actual data are not available. Values are to be expressed in Fiji dollars. **Note:** Farm gate price is to be included.

A PARTICULARS OF THE ESTABLISHMENT

NAME OF ORGANISATION:

LOCATION ADDRESS:

1. **NATURE OF WORK** : Please give a brief description of the main activity and any other substantial activity of the establishment covered by this return :

Main activity :

Other activity :

2. EMPLOYMENT	NUMBER EMPLOYED
a) Operatives (wage earners)	
b) Other (salary earners)	
c) Working proprietaries	
d) Unpaid family workers	
Total	

B OUTPUT

3. VALUE OF PRODUCTION DURING THE ACCOUNTING YEAR

a)	DESCRIPTION OF PRODUCT	QUANTITY PRODUCED (TONNES)	PRICE PAID TO GROWERS (\$/TONNE)	TOTAL VALUE (\$)
		A	B	A*B
	TOTAL			
b)	Value of goods used for own consumption (\$)			

4. OTHER INCOME EARNED DURING THE YEAR		VALUE (\$)
a)	Minor repairs & maintenance to plant, machinery, transport, buildings etc.	
b)	Value of own account capital construction work done	
c)	Rental income received for the hire of building; plant machinery transport etc.	
d)	Insurance claim received	
e)	Interest received	
f)	Gain on sale of fixed assets	
g)	Others (specify)	
	Total	

5.	TOTAL INCOME DERIVED DURING THE YEAR (QUESTIONS 3 AND 4)	\$
----	--	----

C INPUT

6. PURCHASE OF MATERIALS DURING THE YEAR		VALUES (\$)
	Eg. For crops seeds, fertilizers, weedicide	
	For livestock and poultry : feed	
	TOTAL	

7. OPERATING EXPENDITURE DURING THE YEAR		VALUE (\$)
a)	Cost of fuel eg petrol, automotive and industrial diesel oil, LPG, Kerosene etc	
b)	Cost of electricity and water	
c)	Cost of minor repairs & maintenance paid for on vehicles, buildings, machinery etc.	
d)	Cost of transport expenses paid for on carriage and haulage and business travel	
e)	Value of contract and commission work done	
f)	Rental income paid for the hire of building; plant, machinery; transport etc.	
g)	Bad & doubtful debts written off, business licenses & interest paid; loss on sale of assets	
h)	Insurance paid	
i)	Depreciation claimed	

j)	Others (specify)	
	TOTAL	

8. COMPENSATION OF EMPLOYEES		GROSS WAGES AND SALARIES (2)	EMPLOYERS CONTRIBUTION TO FNP (3)	PAYMENT IN KIND (4)
		VALUES (\$)		
a)	Operatives			
b)	Others			
	Total			

9. GRAND TOTAL OF ALL EXPENDITURE INCURRED [QUESTIONS 6+7+8 (2), (3) AND (4)]	\$
--	----

D STOCKS

10. MATERIALS, FUELSUPPLIES & COMPONENTS	OPENING (1)	CLOSING (2)	CHANGE (2) - (1) = (3)
TOTAL			

E NET EARNINGS

11.	Net profit \ loss of your establishment \ enterprise (Question (5+10 (3) – 9)	\$
------------	---	----

F FIXED CAPITAL ASSETS

12 .		VALUE (\$)						
		Opening book value (1)	Purchase of new and second hand goods at cost		Own account Constr. (4)	Sale of capital Assets (5)	Depreciation (6)	Closing book value (7)
Locally (2)	From abroad (3)							
	TYPE OF FIXED ASSETS							
a)	Land							
b)	Land development & improvement							
c)	Buildings							
d)	Plant and Machinery							
e)	Furniture, fixtures and office equipment							
f)	Transport vehicle and related equipment							
g)	Others (specify) :							
	TOTAL							

Signature of person completing the questionnaire: Date:

Name:
.....

Position:
.....

Telephone No: Fax No:

THANK YOU FOR COMPLETING THE QUESTIONNAIRE

APPENDIX IV

PRIMARY PRODUCTION : SELECTED AGRICULTURAL PRODUCTS

	Sugar Cane	Copra	Paddy Rice	Virginia Tobacco	Cocoa	Beef	Pork	Goat	Chicken	Eggs	Fish	Ginger	Yaqona
Period	[000 Tonne]	[Tonne]	[Tonne]	[Tonne]	[Tonne]	[Tonne]	[Tonne]	[Tonne]	[Tonne]	[Tonn]	[Tonne]	[Tonne]	[Tonne]
	[1]			[2]	[7]	[3]	[3]	[8]	[4]	[9]	[5]	[6]	
1995	4,110	10,724	18,496	136	100	2,217	754	801	8,763	2,576	17,375	2,220	2,619
1996	3,729	20,964	17,370	214	126	2,401	791	806	9,602	2,844	13,847	2,404	2,685
1997	3,384	11,551	17,385	215	72	3,279	737	833	9,156	2,629	13,230	2,683	3,310
1998	2,263	17,041	5,092	167	146	3,177	778	875	7,775	4,103	13,920	3,500	3,204
1999	3,747	16,511	17,301	233	148	2,984	750	905	8,261	3,137	20,515	2,608	3,216
2000	3,598	13,422	13,170	313	15	2,688	891	934	8,100	3,201	21,078	3,622	3,082
2001	3,077	16,553	14,612	390	5	2,874	673	971	8,237	2,668	18,598	1,437	4,575
2002	3,216	14,349	12,852	238	16	2,452	677	762	10,623	2,771	20,687	3,710	4,039
2003	2,817	9,506	15,504	385	15	2,452	780	810	12,165	2,839	15,654	3,290	2,691
2004	2,971	14,805	14,359	224	12	2,233	981	1,158	12,900	2,908	22,973	3,680	2,149
2005	2,826	11,291	15,189	333	15	2,252	1,117	930	12,090	3,791	29,609	3,652	2,259
2006	3,192	11,139	12,732	318	12	2,252	928	946	13,579	3,522	24,661	3,210	1,700
2007	2,513	10,079	14,870	266	14	1,958	973	969	14,413	3,438	9,841	3,111	3,350
2008	2,322	13,056	11,595	257	13	1,866	920	983	14,429	3,401	19,202	2,488	3,286

Notes:

[1] From 1996 figures relate to calendar year and not seasons, therefore may not necessarily tie in with sugarcane production data given elsewhere in this report.

[2] Does not include Virginia tobacco used for twist tobacco.

[3] For animals killed in slaughter houses only.

[4] Refers to the output of registered chicken abattoirs only and includes dressed chicken as well as sales of live chickens.

[5] Estimates of fish caught inside Fiji waters excluding 'subsistence'.

[6] Includes rejects, planting ginger rhizomes and diseased ones.

[7] Sales to NATCO

[8] Includes animals killed in slaughter houses.

[9] Data on eggs have been revised due to the new weight conversion from 636 grams per dozen to 694 grams per dozen.

Source: Fiji Sugar Corporation, Agriculture Department and Fisheries Department

APPENDIX V

SUGAR INDUSTRY PRODUCTION AND PRICES

Year/ Season	Number of Contracts / Growers	Sugar Cane [c]					Input of Cane per Tonne of Sugar [tonnes]	Sugar Production [000 tonnes]	Molasses Production [000 tonnes]	Exports of Sugar [a] [b]		
		Area Harvested	Production	Average Production per Hectare	Prices Paid to Growers	Quantity				Value [fob]	Unit Value	
		[000 hectares]	[000 tonnes]	[tonnes/ hectares]	[F\$/ tonnes]	[000 tonnes]				[F\$000]	[F\$/ tonne]	
1995	22,449	74	4,110	55.5	53.78	9.1	454	181	445	276,112	620	
1996	22,304	74	4,380	59.2	44.82	9.6	454	186	500	301,731	603	
1997	22,100	73	3,280	44.9	50.07	9.5	347	139	308	213,449	693	
1998	22,146	57	2,098	36.8	81.79	8.2	256	96	237	244,246	1,031	
1999	22,178	65	3,958	60.9	50.76	10.5	377	159	355	263,200	741	
2000	22,179	66	3,786	57.0	44.01	11.1	341	164	302	237,059	785	
2001	21,882	66	2,805	42.5	60.80	9.6	293	106	247	225,179	912	
2002	21,253	82	3,423	54.3	53.80	10.4	330	149	284	234,384	825	
2003	20,693	61	2,610	42.8	60.12	8.9	294	107	270	225,743	836	
2004	20,492	61	3,001	49.0	55.48	9.6	314	113	262	209,214	799	
2005	20,290	58	2,789	47.6	58.13	9.7	289	118	303	223,682	738	
2006	18,636	58	3,226	55.6	59.06	10.4	310	157	250	215,084	860	
2007	18,691	54	2,478	45.9	58.21	10.5	237	115	220	185,014	841	
2008	18,683	51	2,321	45.5	61.65	11.2	208	120	260	248,184	955	

Notes:

[a] In 1998 bulk of the sugar was exported to the European Union markets which paid higher prices.

[b] Relates to calendar year.

[c] Relates to seasons.

Source: Fiji Sugar Corporation except for Sugar Exports data.

Trade Section of Fiji Bureau of Statistics for Sugar Exports Data.