



Government of Fiji  
Ministry of Agriculture



# IN-DEPTH COUNTRY ASSESSMENT OF THE NATIONAL SYSTEM OF AGRICULTURAL AND RURAL STATISTICS IN FIJI

(An implementation of the Global Strategy to Improve  
Agricultural and Rural Statistics)



## Foreword



I am very pleased to present the In-Depth Country Assessment Report (IdCA 2015) for Agriculture and Rural Statistics in Fiji. The IdCA Report is essential as it provides a benchmark to assist Fiji to improve and develop the quality of Agricultural and Rural Statistics used in decision making.

Fiji has embarked on an ambitious programme of agricultural development under the Fiji 2020 Agriculture Sector Policy Agenda. With the emphasis on further developing the agricultural sector, agricultural statistics are assuming increasing importance. I consider the improving statistics on agriculture is a high priority requirement for our policy making and in reviewing progress of development programmes. My need for quality agricultural statistics comes up almost on a daily basis.

Fiji is therefore fortunate to have been selected as one of the first countries in the Pacific Region for implementing the Global Strategy Initiative, an initiative taken by the international community to improve agricultural statistics. The preparation of the current report is the first step in implementing the Global Strategy in Fiji. The report is a comprehensive document covering the inputs, processes and outputs for Agriculture and Rural Statistics in the country. Data gaps and weakness are identified and areas of technical assistance and training needed to improve agricultural statistics are highlighted.

The report is a cooperative effort of the Fiji Government through the Ministry of Agriculture and the United Nations Food and Agriculture Organization (FAO) in consultations with all key stakeholders in the country.

I look forward very much to the follow – up action to implement the recommendations in the report and am sure that this will lead to significant improvements in the quality of agricultural and rural statistics in Fiji.

I sincerely thank the international community for their support for this work.

A handwritten signature in black ink, appearing to read 'Inia Batikoto Seruiratu', written over a dotted line.

**Honorable Minister, Inia Batikoto Seruiratu**  
**Ministry of Agriculture, Rural and Maritime Development and**  
**National Disaster Management.**

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## ACRONYMS

AH&P	Ministry of Agriculture – Animal Health and Production Division
AusAID	Australian Agency for International Development
BAF	Biosecurity Authority of Fiji
BQA	Bilateral Quarantine Agreement
CAPI	Computer Assisted Personal Interview
CEO	Chief Executive Officer
CPI	Consumer Price Index
CSPRO	Census and Survey Processing System
EA	Enumeration Area
FAO	Food and Agriculture Organisation of the United Nations
FASS	Fiji Agricultural Statistical System
FBOS	Fiji Islands Bureau of Statistics
FJD	Fijian Dollars (currency)
GDP	Gross Domestic Product
HIES	Household Income and Expenditure Survey
HS	Harmonised Commodity Description and Coding System
IdCA	In-depth Country Assessment
ISIC	International Standard Industrial Classification
ITC	International Trade Centre
MFF	Ministry of Fisheries and Forests
MOA	Ministry of Agriculture
MSF	Multiple sampling frame
NAC	National Agriculture Census
NGO	Non-Government Organisation
NSS	National Statistics System
OGAS	On-going Agricultural Survey
PARIS21	Partnership in Statistics for Development in the 21 <sup>st</sup> Century
PCCPP	People’s Charter for Change, Peace and Progress
SIAP	Statistical Institute for Asia and the Pacific
SITC	Standard International Trade Classification
SNA	System of National Accounts
SOPAC	SPC Geoscience Division
SPC	Secretariat of the Pacific Community
TCP	Technical Cooperation Programme (FAO)
UNDP	United Nations Development Program
USD	United States of America Dollars (currency)
WCPFC	Western and Central Pacific Fisheries Commission

## EXECUTIVE SUMMARY

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### Global Strategy to Improve Agricultural and Rural Statistics

The *Global Strategy to Improve Agricultural and Rural Statistics* is an international effort to improve the quality of the agricultural information used in decision making. It has three main pillars: (i) establishing a minimum set of core data required to meet current and emerging needs; (ii) integrating agriculture into the national statistical systems; and (iii) building the capacity to ensure sustainable agricultural statistics systems. Fiji has been selected as one of the group of Asian and Pacific Island countries for implementation of the Global Strategy.

The first step in implementing the Global Strategy for a country is to carry out an In-depth Country Assessment. This report presents the results of the assessment for Fiji. It describes the existing agricultural statistics system, identifies data gaps and weaknesses, and identifies the minimum set of core data. The report also assesses the country's statistical system and identifies the technical assistance and training interventions needed to improve the statistics.

For the purpose of the Global Strategy, the agricultural sector includes crops, livestock, fisheries and forestry.

During 2011 and 2012, the Food and Agriculture Organisation of the United Nations (FAO) conducted a preliminary Country Assessment survey on the capacity of agricultural statistics in Fiji. This survey sought information on a range of issues related to the four dimensions of country capacity, including Institutional Infrastructure, Resources, Statistical Methods and Practices and the Availability of Statistical Information.

Insufficient information about 'Resources' was available to make an assessment of that dimension, however, based on the various "quality" assessment indicators in the other three dimensions, the survey assessed Fiji as being either weak or very weak in the following elements of quality:

- Co-ordination of the National Statistics System (NSS);
- Strategic vision and planning for agricultural statistics;
- Integration of agriculture into the NSS;
- Information technology – infrastructure;
- Agricultural surveys; and
- Agricultural markets and price information.

In 2013, Fiji, through the Ministry of Agriculture (MOA), formally expressed interest in participating in the FAO *Global Strategy to Improve Agricultural and Rural Statistics* initiative through the Asia-Pacific Regional Action Plan. In early 2014, Fiji was selected as part of the second Global Strategy round, joining fellow Pacific Island nation, Samoa, who was selected in the initial round.

During the period 19 May – 13 June 2014, FAO undertook its first mission to Fiji as part of the Global Strategy project. The key focus of this mission was to meet with the major stakeholders who either produce or use agricultural statistics and to undertake an In-depth Country Assessment (IdCA) of Fiji's current agricultural and rural statistics' system.

A second mission was undertaken during November-December 2014, where the initial IdCA findings were discussed at a Stakeholder Workshop, including consideration of the minimum core data set for Fiji and discussions held on the way forward for the project.

A third and final mission was conducted from 27 July – 7 August 2015 during which further discussions were held with senior Ministry of Agriculture officials and representatives from a number of other Ministries and NGOs. This report is the primary output from the in-depth assessment and documents the findings and outcomes of the IdCA process in Fiji.



The assessment is a cooperative effort of the Government and FAO, and is the basis of a detailed diagnostic report for developing a Strategic Plan for Agriculture and Rural Statistics (SPARS) for Fiji. There is currently no such strategic plan and the Global Strategy initiative presents as an opportunity to move forward and develop such a plan.

### **Assessment of agricultural statistics in Fiji**

In Fiji, the Ministry of Agriculture (MOA) is responsible for the main agricultural collections, including the ten-yearly National Agriculture Census as well as collecting monthly information on agricultural activity at the locality level. The last National Agriculture Census (NAC) was conducted in 2009 and was the fourth census undertaken, with the three earlier censuses undertaken in 1968, 1978 and 1991, a lapse of some 18 years between the last two censuses. The next Agriculture Census is proposed for 2019, with the Ministry of Agriculture initially planning to conduct a 'mini' Census in 2016. However the timing of any future agricultural survey or 'mini' Census remains unclear at August 2015.

The 2009 NAC collected a wide range of agricultural household, land use, temporary and permanent crop information including type, area planted/harvested, crop production and sales and livestock data. Data on natural and planted forests and agricultural inputs (irrigation, fertiliser and pesticide use) as well as farm equipment and machinery used were also collected, however minimal information was collected on household fishing activity.

The immediate objectives of the 2009 NAC were to provide a benchmark as an objective criteria for planning and policy decisions in sustainable agricultural and rural development; and to strengthen and improve the ongoing Fiji Agriculture Statistics System to generate key agricultural data on a regular basis using the results of the 2009 NAC as the benchmark and the dissemination of this statistical information in the form of regular reports. However, there appears little activity in this regard in the ensuing five years, with no formal or regular agricultural surveys undertaken, and very little in terms of data disseminated.

Many stakeholders interviewed during the IdCA process mentioned the critical importance of regular, quality agricultural and rural statistics for planning and policy purposes. Several also commented on the current lack of agricultural data, particularly the lack of public accessibility to agricultural data and concerns with the quality of what limited data was available.

Whilst there is a ten-yearly Agricultural Census program, there is no annual or even regular agricultural survey program in Fiji. The Ministry of Agriculture does collect monthly crop and livestock data through its Animal Health and Production and Crop Extension Division officers. This information is collected from farmers and village heads at the locality level, then aggregated to District, Province, Division and finally National levels. Although total District, Province or Division level data are commonly supplied, these data are often not supported by the various sub-components which make up the relevant total. As a result it is very difficult to compare the information supplied with other data sources such as the Agricultural Census or to assess the accuracy of the data provided.

A number of stakeholders expressed reservations and a lack of confidence with the accuracy of this administrative data, which are highly dependent on Ministry extension officers actively monitoring and having a very good understanding of crop and livestock information in their locality, and being able to supply accurate estimates of area planted and livestock counts. Many suggested that this important data source needs to be reviewed, formalised and strengthened, as its 'real time' nature is most important to evidence-based decision and policy making, particularly in the absence of formal surveys.

In October 2014, the Minister of Agriculture issued a directive to Ministry of Agriculture Extension Officers requiring that they undertake a baseline data profile of each Fiji farming operation and complete this exercise by 15 December 2014. Each profile was to include details of household demographics, housing details, crops planted, harvested, production, cost of production, home consumption and sales in the previous six month period, as well as detailed information on livestock numbers, livestock production and sales, cost of production and market accessibility. The timetable for this profiling exercise was extremely tight and despite the best efforts of all concerned was not able to be completed by the due date.



Given this uncompleted task was seen as critical to establishing a baseline for agriculture statistics in Fiji, it was decided to extend and formalise the survey in early 2015. The reference period for crop production was extended to include the previous twelve months up to the date of enumeration. The Ministry's Economic Planning and Statistics Section provided Extension Officers with specific training on the importance of statistics to policy and decision making and reinforced the key role these officers had in supporting this initiative.

Initial feedback from both extension officers and senior Ministry management in relation to this capacity building exercise has been extremely positive. The survey field collection phase has continued through the first half of 2015, with the Ministry hopeful that data collection will be completed by the end of August 2015. Data entry and editing of completed returns has also commenced and will be ongoing during this period. This exercise has the potential to provide an important set of base-line data and to provide a good starting point to improve the quality of ongoing agriculture data throughout Fiji, including improved quality of administrative data collected by Ministry extension officers and submitted as part of their quarterly field reporting responsibilities.

The Fiji Bureau of Statistics (FBOS) is the Government agency responsible for the collection, processing, analysis and dissemination of statistical information related to the socio-economic and demographic structure of the country. This includes the ten-yearly Population and Housing Census as well as regular national household surveys including the five-yearly Household Income and Expenditure (HIES) and Labour Force Surveys. FBOS also collects other important national statistics and compiles Fiji's national accounts.

The 2007 Population and Housing Census collected limited agricultural information, namely whether any household land was being used for farming (subsistence or sale) – this was primarily to identify agricultural households, and the number of livestock held on the day of enumeration. However, none of this data has been publicly released.

The 2013/14 HIES collected information on agriculture, fishing and forestry activities, including income derived from main crop and vegetable production, livestock and livestock products and from forestry and fishing activities. Preliminary data from this HIES is expected to be released in the third quarter of 2015, with final data available late 2015.

A number of other organisations in Fiji collect detailed agricultural data relating to their specific demographic group or industry, and this information is provided to the Ministry of Agriculture. One such example is the Fiji Cooperative Dairy Co. Ltd, whose 270 members produce approximately half of Fiji's milk production. The Company collects regular and detailed information from their members on dairy herd demographics including by gender, age, milking status, production levels etc. as well as other farm activities undertaken.

The Fiji Sugar Corporation (FSC) produces weekly Mill Performance Reports from all four mills operating across Fiji, during the cane crushing season. This includes information on weekly and season to date crushings, sugar and molasses production, TCTS (ratio of tonnes of cane to produce a tonne of sugar), cane purity, crushing rates, proportion of burnt cane etc. Summary information is provided regularly on the FSC website ([www.fsc.com.fj](http://www.fsc.com.fj)) throughout the crushing season. No concerns were expressed by stakeholders as to the quality of this sugar data.

The iTaukei Affairs Board, a statutory body working to ensure that the Government develops, maintains and promotes policies that provide for the continued good governance and welfare of indigenous Fijians, collects population, crop and livestock production, as well as fishing and forestry information on a quarterly basis from village heads. This information is also provided to the Ministry of Agriculture. The Affairs Board has recently secured UNDP funding to undertake trial surveys of two villages from each Province, a total of 28 villages nationally, to collect detailed household demographic and agriculture information from its indigenous population. Should the outcome of these trials be successful, it is proposed that the initiative will be extended to all villages in Fiji.

Very little of the available agricultural information either provided to or collected by the MOA is disseminated or publicly available via websites or publications, and what limited data is available is now several years old.

## **Data gaps**

The major weakness identified through the In-depth Country Assessment (IdCA) phase was the lack of quality agricultural information and evidence upon which to base sound planning and policy decisions. This weakness is primarily due to the lack of regular collection and survey activity to supplement existing administrative data reporting and is further compounded by the fact that collected data are often not publicly available.

There is a clearly identified need to introduce some form of regular and sustainable statistical system in Fiji to produce the type and quality of agricultural information needed to guide evidence-based decision making. The timely availability of accurate and relevant agricultural data and business statistics is critical to the formulation of policies and strategies as well as the monitoring and evaluation of sector performance.

The 2009 National Agriculture Census report is available on the Ministry's website ([www.agriculture.gov.fj](http://www.agriculture.gov.fj)), along with crop production administrative data collected by the Ministry's Extension Officers. Unfortunately these two sets of published crop production data for 2009 differ, and there is no explanation as to the source of the non-census data, nor of the possible reasons for the data discrepancies. Users may therefore be confused as to which set of data are correct and can be confidently used. A critical component of any statistical system is the adoption of effective dissemination methods which ensure that information is available and accessible to policy and decision makers and other users. The internet provides one such medium for this dissemination, therefore it was disappointing that the websites of a number of ministries and organisations appeared to be not maintained or effectively utilised to publish important information that has either been collected by or is held by a Ministry or NGO.

Fiji currently plans to conduct a national agricultural census every ten years and has plans to undertake a 'mini' census in 2016. This 'mini' census is intended as a trial run to test frame and collection strategies and to identify funding required for the larger Agricultural Census planned for 2019. However, the conduct of the 2016 'mini' census will be largely dependent on the outcomes of the base-line survey conducted in late 2014 and 2015, particularly the coverage and quality of the resultant farming household frame.

Administrative reporting is used for most agricultural statistics, with monthly and quarterly 'non-sugar' commodity data flowing through the Ministry of Agriculture hierarchy from Extension Officer contact with farmers and village heads at the locality level, to Districts, Provinces, Divisions and finally to the Ministry's Head Office. The Ministry, with its current regional infrastructure and wide distribution of Extension Officers across the country, has the necessary framework to continue with this ongoing collection of monthly and quarterly administrative data.

However, concerns were identified during stakeholder discussions around the existing data collection methodologies, extension officer availability, workloads, expertise and statistical knowledge, supporting resources and pressure to achieve production targets. All these factors have resulted in a general lack of confidence in the administrative statistics derived. These issues will need to be addressed, but this will not be a quick or easy task.

Uniform standards, definitions, data collection methods and reporting mechanisms will need to be introduced; effective management, coordination, supervision and quality control arrangements put in place; ongoing training and development of extension officers will need to occur; and measures will be needed to ensure greater objectivity in the reported data. Also, the effective use and analysis of census and survey data as a benchmark for current administrative crop and livestock statistics will need to be introduced.

## **Capacity Assessment**

When seeking assistance through the Food and Agriculture Organisation of the United Nations' (FAO) Global Strategy project, the Fiji Government's response identified the following main areas where assistance was required to improve agricultural statistics:

- A review of preparatory activities relating to the establishment of the Fiji Agriculture Statistic System (FASS); and
- Preparation of FASS activities in terms of methodologies, sample frames and the resources available for implementation of the project, including:

- (i) Assistance and advice on the use of GIS platforms including GPS;
- (ii) Design sampling scheme including questionnaires, manuals, scope, definitions and concepts;
- (iii) Advice on appropriate data processing systems; and
- (iv) Organising and conducting user-producer workshops

An earlier FAO Technical Cooperation Project (TCP), instigated in 1997/98 to also establish an ongoing FASS, found that:

“A preliminary appraisal is that the Fiji current agricultural statistics system lacks an objective statistically sound methodology to collect data to produce objective, consistent, relevant, reliable and timely agricultural information. There are not methodological designs, formulation of concepts and their operational definitions, instruction manuals, adequate questionnaires and other instruments to standardize the statistical processes. There is no staff with the required expertise to design the system, carry out operational processes and to train the national staff in the procedures involved in the system.”<sup>1</sup>

This 1997/98 TCP proposed an annual On-going Agricultural Survey (OGAS) commencing in 1999, with a National Agriculture Census (NAC) in 2000/01, supplemented by cost of production and various crop-cutting surveys, some annual, others two to three-yearly or five-yearly, as key components of the FASS. Whilst the initial 1999 OGAS was conducted as proposed by the TCP report, despite the best intentions of all concerned, there were no further agricultural surveys or census activities undertaken by the Ministry of Agriculture until the 2009 National Agriculture Census. This was primarily due to budget constraints.

The challenge for Fiji and the Ministry of Agriculture, as with other Pacific Island nations, will be to find the necessary resources, both financial and human, to enable it to deliver and maintain a regular and sustainable agricultural and rural statistics system into the future, including regular data collection activities.

Financial resources, including an adequate budget to both introduce and sustain an ongoing agriculture statistical system will be critical, if Fiji is to avoid similar problems to those encountered following the 1997/98 TCP exercise. This includes the provision of adequate statistical and extension staffing levels in both MOA and FBOS, with appropriate administrative funds to support field activities.

The Secretariat of the Pacific Community (SPC) and FAO, through its Sub-regional office for the Pacific Islands (SAP) based in Samoa, can also play a key role in supporting MOA to build capacity around their administrative data reporting arrangements and other identified survey methodology weaknesses. SPC and FAO can also assist FBOS with the assessment and possible implementation of agriculture ‘modules’ to collect core crop and livestock data on existing funded surveys, such as the ten-yearly Population Census and five-yearly Household Income and Expenditure Survey (HIES).

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<sup>1</sup> Preliminary Plan for the Establishment of the On-going Fiji Agricultural Statistics System (FASS), FAO/TCP/FIJ/6712, May 1998

## COUNTRY CAPACITY INDICATORS

In complement to this IdCA, a set of country capacity indicators (CCI) were developed on the basis of the Country Assessment Framework (CAF)<sup>2</sup> of the Global Strategy as a means to monitor the development of statistical capacity at the country level for the production of agricultural and rural statistics. These indicators, spanning four dimensions and twenty-three elements, mirror the structure of the CAF (**Annex VII**), and are based on response collected during the in-depth assessment using a Standard Questionnaire revised for use in the Asia Pacific region.

This standard questionnaire fielded responses from the Ministry of Agriculture, Fiji Bureau of Statistics (FBOS), and relevant line ministries - representing the major producers of agricultural and rural statistics in the country. Responses received fed into the calculation of a complete set of indicators. Scores are recorded on a scale of 0 to 100, where a score of 100 defines a complete coverage of the criteria under the CAF.

Out of the four dimensions of country capacity, the agricultural and rural statistical system in Fiji showed relative strength across all four dimensions of the CAF recording a score of 59 in institutional infrastructure, 53 in resources, 55 in statistical methods and practices, and 64 in the availability of statistical information (figure 1).

### Country Capacity Indicators

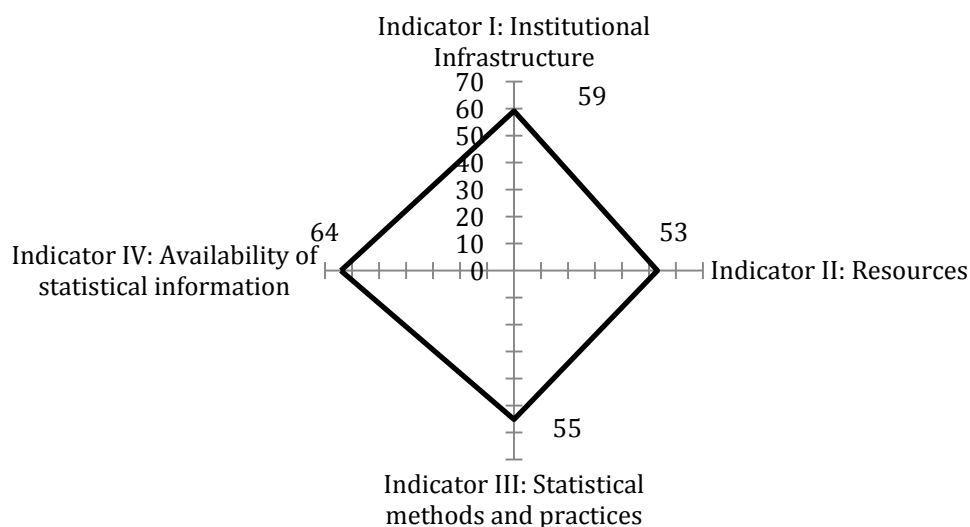


Figure 1. Country Capacity Indicators

In the dimension of *Institutional Infrastructure* (figure 2), relative strength is supported in the country by a strong legal framework with the existence of the Statistics Act of 1978 and the Census Act that currently provides the legal basis for statistical activities in the country. It is further supported in the element of Relevance of Data, where current informal channels exist between government, academia, media, and the private sector to provide user feedback on agricultural statistics. This strength is however dampened by the lack of (1) a legal mechanism for the coordination of agricultural and rural statistics in the country, (2) a National Strategy for the Development of Statistics, and (3) a national strategy specific to agricultural statistics.

<sup>2</sup>Assessing Country Capacity to Produce Agricultural and Rural Statistics, 2014

## Indicators of Institutional Infrastructure

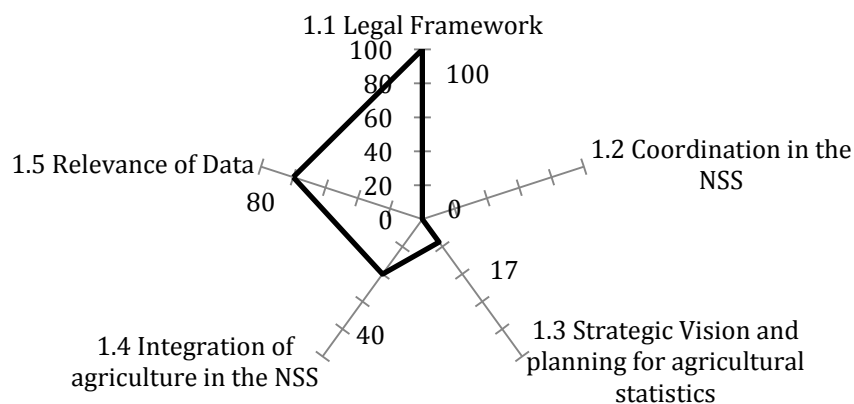


Figure 2. Institutional Infrastructure

## Indicators of Resources

In the dimension of *Resources* (figure 3), relative strength is supported by the existence of dedicated line budget items for statistical activities under the Ministry of Agriculture and the relevant line ministries covering fisheries, forestry, and rural development – which helps to support the sustainability of agricultural and rural statistics in the country over the longer term. It is estimated that the government budget supports 40 – 60 percent of activities related to agricultural statistics, and receives further supplement from donors for major statistical activities such as the agricultural census.

The Ministry of Agriculture however noted a key weakness in the training of its staff, in which it was specified that only four of its eight professional and technical staff had received training over the previous 12 months. Other weaknesses such as the availability of office space was noted as a relevant constraint, while office and transport equipment were only noted by the MoA and the FBoS as somewhat of a constraint to the production of agricultural and rural statistics.

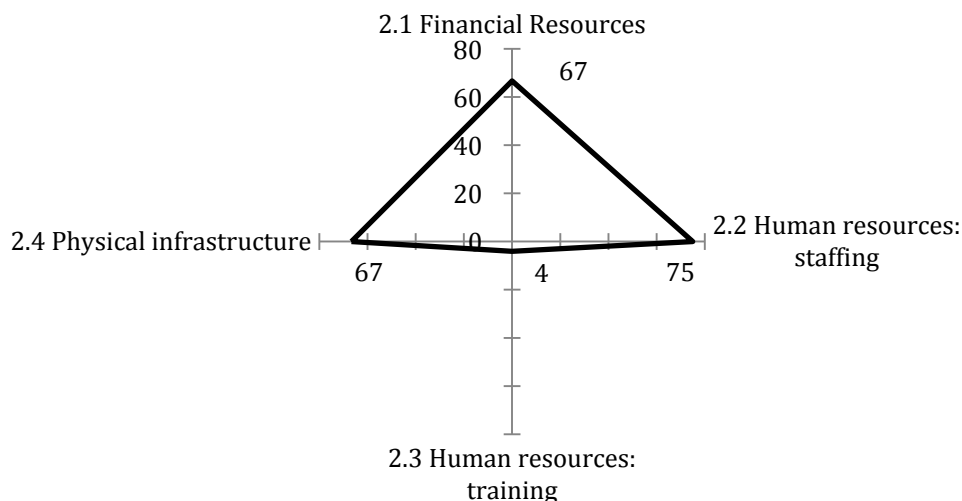


Figure 3. Resources

## Indicators of Statistical Methods and Practices

In the dimension of *Statistical Methods and Practices* (Figure 4), weaknesses were noted in several key areas, most notably: (1) Information technology infrastructure, where it was noted that the number of staff outweighed the number of available computers; (2) Agricultural market and price information where it was noted that wholesale and producer prices have not been produced; and (3) the lack of annual surveys conducted since the Agriculture Census in 2009.

The country however noted several strengths in (1) the use of various statistical software packages; (2) the use of data collection technologies; (3) the availability of general statistical infrastructure such as digitized maps, up-to-date farm lists, and geo-coded statistical units; and (4) Analysis and use of data in the national accounts and estimates of quarterly production.

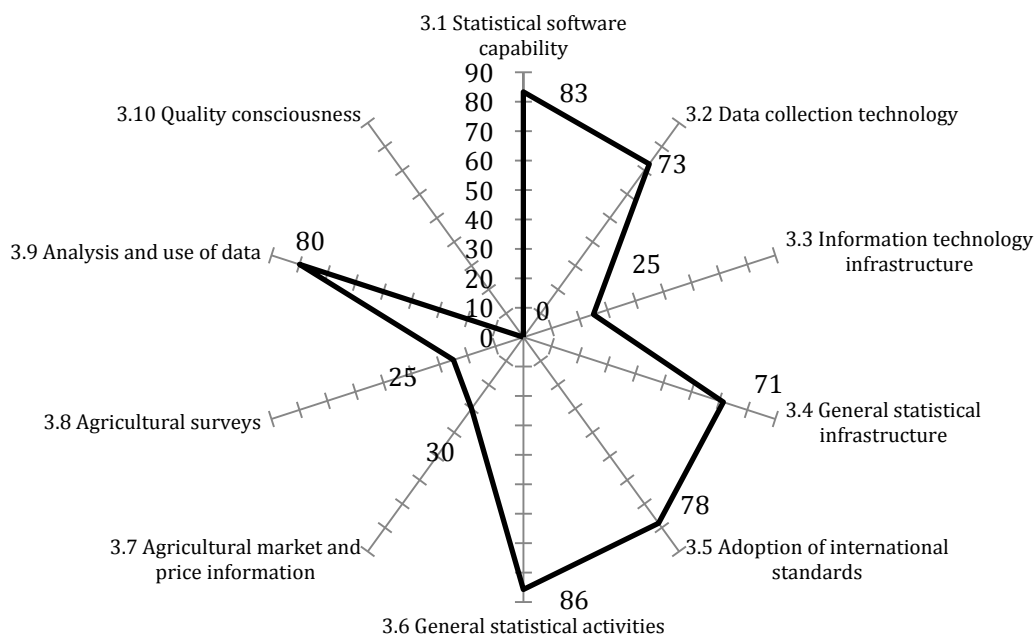


Figure 4. Statistical Methods and Practices

## Indicators of Core Data Availability

In the dimension of *Availability of Statistical Information* (Figure 5), it was noted that currently 36 items of the minimum core data set were being produced in the country across the main statistical domains outlined under the coverage of the Global Strategy – with deficiencies in the availability of both rural and environmental statistics. While availability across the minimum set was deemed broad, weaknesses were identified in the timeliness of the data and the perception of overall quality. It was also noted that while a website for the hosting of agricultural statistics exists, the database for agricultural statistics was not accessible for external users to access.

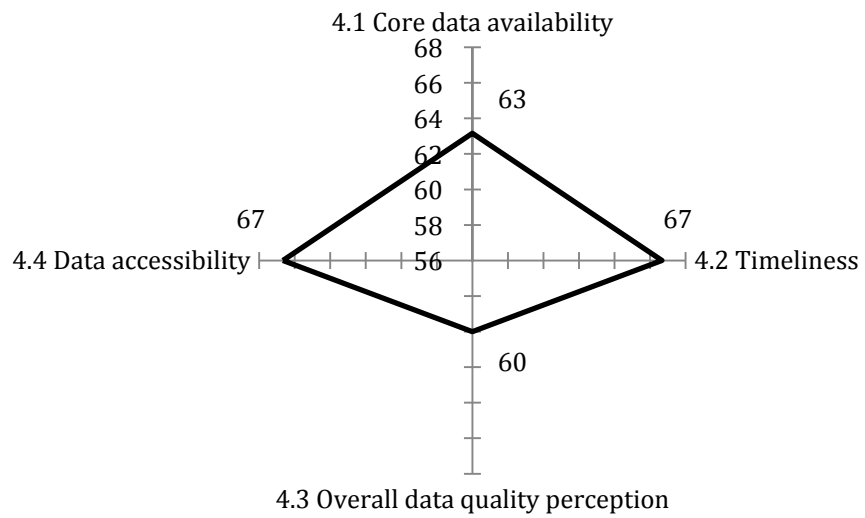


Figure 5. Core Data Availability

The full capacity profile of the NSS is included in **Annex VII**.



## CHAPTER 1

### INTRODUCTION

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#### 1.1. The Global Strategy to Improve Agricultural and Rural Statistics

Most of the poorer people in developing countries live in rural areas and rely heavily on agriculture for their livelihoods. Agricultural development is vital to alleviating poverty and achieving food security, but it is also a contributor to global warming, water scarcity, pollution and land degradation.

New data requirements are emerging in the quest to understand how population growth, demand for natural resources, competing uses of food crops, and the effects of extreme weather and climate change can affect food security, poverty and well-being. Importantly, decisions about aid and investments intended to promote agricultural growth need to be based on sound information.

In many countries there has been a decline in the availability and quality of agricultural statistics in recent years to the point that many countries now lack the capacity to produce and report even the minimum sets of data to monitor national trends, the Millennium Development Goals (MDGs) and the emerging issues in agriculture such as the environment and the use of food crops for biofuels.

In response to these concerns, the World Bank in collaboration with the United Nations and FAO, prepared the report *Global Strategy to Improve Agricultural and Rural Statistics* (World Bank et al, 2010). The main purpose of the Global Strategy is to provide a framework to enable national and international statistical systems to produce the basic agricultural information needed to guide decision-making both domestically and globally.

The Strategy is based on three pillars:

- Pillar 1. Establish a minimum set of core data required to meet current and emerging needs;
- Pillar 2. Integrate agriculture into the national statistical systems and use sound data management systems; and
- Pillar 3. Establish suitable governance processes and build the necessary statistical capacity to ensure sustainability of agricultural statistics systems.

Under Pillar 1, the Strategy provides a conceptual framework for agricultural statistics that covers the economic, social and environmental dimensions of agriculture. The economic dimension relates to agricultural production, marketing and household income. The social dimension includes aspects related to risk and vulnerability, food security and gender. The environmental dimension covers sustainability issues such as the impact on the environment, biofuels, land use and water use. For the purpose of the Global Strategy, the agricultural sector includes crops, livestock, fisheries and forestry.

A list of 33 key indicators needed to monitor the performance of the agricultural sector has been identified. A minimum set of core data items needed to measure those indicators has also been identified (see **Annex II**). The core data globally include eight core crops (wheat, maize, barley, sorghum, rice, sugar cane, soybeans and cotton) and five core livestock types (cattle, sheep, pigs, goats and poultry). The set of core items is intended to provide the starting point for building the agricultural statistics system in each country.

Under Pillar 2, integration of agriculture into the country's national statistics system is seen as the key to avoiding duplication of statistical effort and ensuring the use of consistent statistical standards. The aim is for each country to develop a master sample frame for use in conducting all agricultural sample surveys and censuses, taking into account the need for data at both the farm level (the economic unit) and the household level (the social unit), as well as to provide links with land use data. In each country, an integrated programme of agricultural surveys and censuses will be considered and recommended based on the master sample frame. Additional data sources such as administrative reporting systems may also be needed.

Under Pillar 3, it is recognized that an integrated agricultural statistical system will affect the roles and relationships between data producers, including the national statistical office and line ministries, with

coordination mechanisms needed. The Global Strategy proposes that a governance body such as a national statistics council be formed for this purpose. The need for capacity building should take account of the quality of agricultural statistics and the existing skills in data collection and analysis. Assistance from donor agencies and technical cooperation agencies will be needed to support capacity building.

An action plan has been prepared to implement the Global Strategy (FAO et al, 2012). A number of Asia-Pacific countries have been selected for early implementation of the Global Strategy.

Pacific Island countries, Fiji and Samoa have been identified as two of these early implementers, along with Asian countries Bhutan, Sri Lanka, Indonesia, Lao PDR, Georgia and Bangladesh.

## **1.2 In-depth Country Assessment (IdCA)**

### **1.2.1. Background and Scope**

Country assessments are the starting point for the implementation of the Global Strategy in each identified country. This is done in two stages. The first stage involves countries reporting on the current status of agricultural statistics in their country. In the Asia-Pacific region, these first-stage country assessments were completed in 2012.

As part of the initial country assessment, the Fiji Ministry of Agriculture (MOA) identified the following specific areas of need for assistance:

- A review of preparatory activities relating to the establishment of the Fiji Agriculture Statistic System (FASS); and
- Preparation of FASS activities in terms of methodologies, sample frames and the resources available for implementation of the project.

The second stage involves an In-depth Country Assessment (IdCA) to provide a comprehensive assessment of the agricultural statistics system in the country and determine the national capability to produce the required statistics on a sustainable basis. The IdCA involves the participation of all stakeholders including agricultural data producers, data users and research institutions. The specific objectives of the IdCA are to:

- Describe the statistical system in the country, document the current agricultural statistics system, and evaluate the data collection methodologies;
- Determine the extent to which the existing agricultural statistics system is capable of generating data needed by government, development partners, research agencies and the private sector;
- Determine the minimum set of core data for the country;
- Provide information necessary to design and deliver technical assistance, training and research support and to prepare a Country Proposal to seek short-term support;
- Provide baseline information to help monitor the impact and outcome of the support to be provided in the future to improve the agricultural statistics system; and
- Provide an authoritative reference document on the development of agricultural and rural statistics for the wider national and international community.

The assessment is a cooperative effort of the Government of Fiji and FAO, and is the basis of a detailed diagnostic report for developing a Strategic Plan for Agriculture and Rural Statistics (SPARS) for the country. The objective of the assessment is to assess the statistical capacity and state of the' (1) institutional infrastructure, (2) human, financial and technical resources, (3) statistical methods and practices and (4) the availability and accessibility of the "core data" required for an integrated and sustainable agriculture and rural statistics system.

### 1.2.2. Process followed

Following the selection of Fiji in the second round of Asia-Pacific countries to be supported under the *Global Strategy to Improve Agricultural and Rural Statistics* initiative, a Ministry-nominated National Strategy Coordinator commenced the in-depth country assessment process. Their initial tasks included:

- Identifying key stakeholder organisations in Fiji, both as users and/or producers of agricultural statistics;
- Providing these stakeholders with information about the Global Strategy;
- Organising and inviting stakeholders to a Stakeholder Workshop.

In conjunction with the FAO Global Strategy Regional Coordinator and FAO International and National Consultants, the detailed IdCA assessment processes commenced in May 2014:

- Separate briefings were held with the Minister of Agriculture and Executives members of the Ministry of Agriculture, and with the Fiji Bureau of Statistics Executive to both inform and obtain high level support for the Global Strategy;
- A Stakeholder Workshop was held on 20 May 2014 (attended by more than 40 participants representing 20 key government ministries and other public and private organisations);
- The FAO International and National Consultants conducted follow-up interviews with all available stakeholder organisations represented at the Workshop, as well as other organisations identified as either a key user and/or producer of agricultural statistics;
- Key discussion points from each meeting were summarised and provided to the relevant organisation for confirmation;
- Each stakeholder organisation was also requested to complete a comprehensive questionnaire detailing their use and/or production of agricultural statistics. This included an assessment of the frequency and quality of available agricultural data, and any identified data needs or constraints in terms of effective data analysis; and
- Where necessary, further information or clarification was sought from some stakeholders.

The first draft of this IdCA report was circulated to key MOA and FAO stakeholders for comment in September 2014. A revised version of the report was then circulated to stakeholders for consideration prior to a second workshop of national stakeholders which was held on 27 November 2014.

During this second Stakeholder Workshop, initial findings of the IdCA process were discussed, minimum core data for Fiji identified and the way forward discussed. Further meetings and interviews with agricultural statistics users and producers were conducted during the two-week period 24 November – 5 December 2014.

A third and final mission was conducted in July – August 2015, where further discussions were held with key Ministry of Agriculture personnel, as well as representatives from other line Ministries and NGOs. The focus of these discussions was on the future direction for agricultural and rural statistics in Fiji and development of a Strategic Plan for Agriculture and Rural Statistics (SPARS) looking ahead to the next five to ten years.

### 1.2.3. Workshops, meetings and interviews held

Details of workshops, meetings and interviews conducted during the initial Mission to Fiji (19 – 23 May 2014 and 9 – 13 June 2014), the second Mission (24 November – 5 December 2014) and third Mission (27 July – 7 August 2015) including participants, are included in **Annex V** to this report.

## CHAPTER 2

### THE AGRICULTURAL SECTOR IN FIJI

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#### 2.1. Overview of the Agricultural Sector

Fiji lies in the heart of the Pacific Ocean and contains approximately 330 islands of which about one third of the islands are inhabited. Fiji's total land area is 18,333 sq. km with two major islands - Viti Levu (10,429 sq. km) and Vanua Levu (5,556 sq. km). Other main islands are Taveuni (470 sq. km), Kadavu (411 sq. km), Gau (140 sq. km) and Koro (140 sq. km).

Fiji is split into 4 Divisions (Central, Western, Northern and Eastern) with 15 Provinces (including Rotuma Island) that are divided into 86 Districts. Some provinces include small island districts; some districts also include small islands.

The rural areas continue to be the home for about half of Fiji's population, though declining. Urbanisation remains the dominant contributing factor to this decline. However, Fiji's key economic opportunities are rural based, providing the greatest potential for future development and prosperity, particularly in the tourism, agriculture, forestry and fisheries sectors. But over recent years the rate of growth in agricultural production has stagnated and failed to keep pace with the needs of a rapidly growing population, resulting in a progressive increase in import bills for food and industrial raw materials. Low agriculture productivity has a serious implication on the country's ability to produce enough food for its growing population and thus undermines food security.

The Fiji Government recognizes the need for a demand driven approach both for export and import substitution. This will require greater commercialization of small farmers, strengthening of industry organizations and agri-business networks and promotion of young farmer training. Current government policy prioritises invigorating exports and effective implementation of import substitution programs to increase self-reliance and reduce imports.<sup>3</sup>

Key target areas are to increase non-sugar agriculture exports, reduce the value of fruit and vegetable imports and reviving the dairy, beef, goat and sheep sectors.

Fiji's agriculture, forestry, and marine resources are already threatened by population pressure and climate change. Fiji's export of sugar, fish, crude coconut oil, root crops, and horticultural crops is facing stiff international competition. The country is still importing many of its basic food requirements. These food products include rice, meat, milk, the needs of the tourism sector, and around 90 percent of the food lines in the supermarkets.

While Fiji's agriculture is struggling to be internationally competitive, it is more prudent to give attention to the domestic market, which offers the greatest opportunity for the sector. There is also a very challenging opportunity to produce the feedstock for biofuels to reduce the country's petroleum fuel importation bill. Renewable energy is therefore a huge market of agriculturally produced feedstock because the technological advancements in ethanol and gasification are now leading to renewable energy facilities being affordable and viable at smaller scale. The country's pace of transformation from subsistence to commercial scale agriculture is still slow and the current quarantine regulated export sector is inadequate for the agriculture of the country to move forward.<sup>4</sup>

##### 2.1.1. Contribution to GDP

The agriculture sector plays a pivotal role in Fiji's economy through its direct linkage with the rural population. Over the decade 2001 - 2011, the sector has contributed on average 10.6% to Fiji's total GDP and

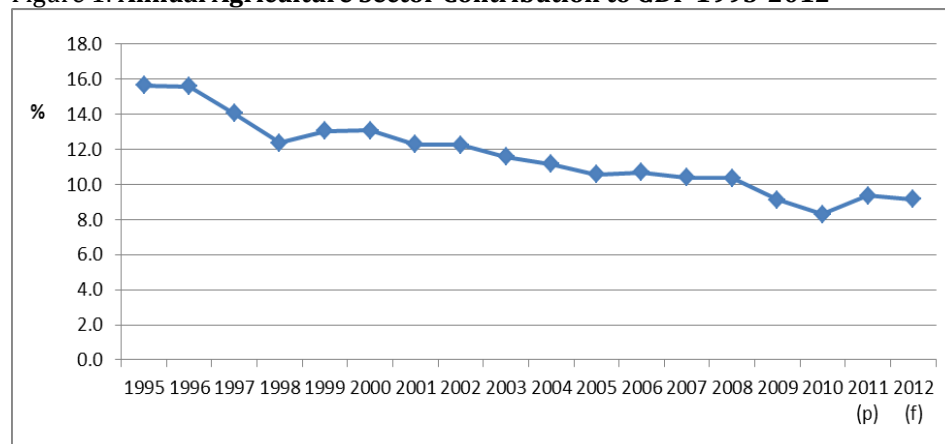
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<sup>3</sup> Pacific Multi-Country Country Programming Framework (CPF) 2013-2017, FAO (December 2012)

<sup>4</sup> Fiji 2020 Agriculture Sector Policy Agenda (August 2014)

has attracted the active participation of close to two thirds of the labour force. In the mid-1990s, the agriculture sector contributed close to 16% of GDP. However, a variety of factors such as the poor performance of the sugar industry, the slow adjustment to trade liberalization, the impact of natural disasters, incidences of pest and disease outbreaks, export trade restrictions, political instability and inconsistent public sector support has seen this contribution decline (see **Figure 1**). In 2012, the sector contributed 9.2% of GDP.

**Figure 1: Annual Agriculture Sector Contribution to GDP 1995-2012**



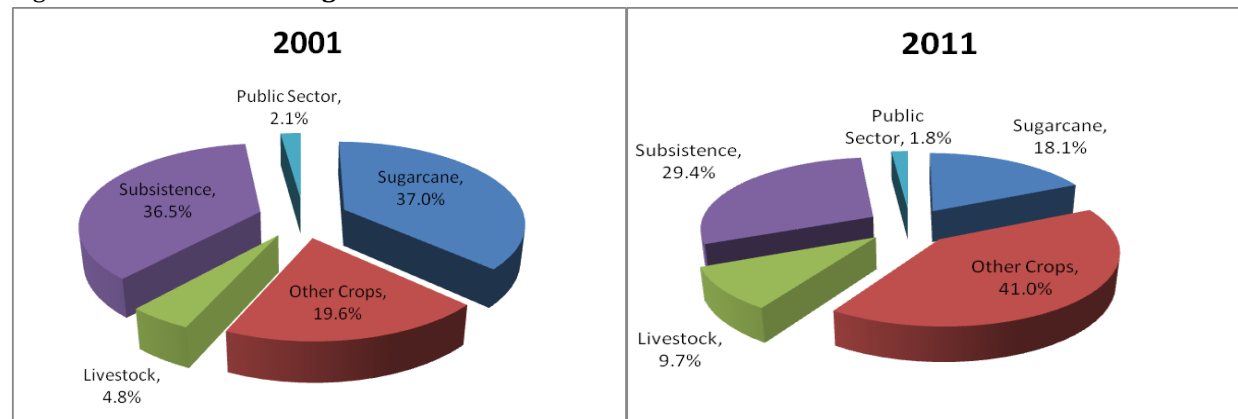
**Source:** Fiji Bureau of Statistics, Key Statistics

The Fijian agriculture sector’s recent performance has been affected by the 2009 floods and the devastation caused by tropical cyclones Mick and Tomas during 2010. These events have impacted significantly on production and resulted in a downward revision of overall growth for the sector.

Subsistence farming and sugarcane production have traditionally been the mainstay of Fiji’s agriculture sector. **Figure 2** illustrates the changing structure of the agriculture sector. Over the ten years between 2001 and 2011, these subsectors have shrunk while the shares of Other Crops, Livestock, and the Public Sector have increased. The doubling of the shares of Other Crops subsector is an indication of increased transformation from Subsistence to Semi-commercial farming. The Other Crops subsector has now surpassed Sugarcane as the dominant subsector in primary agriculture. The share of the Sugar subsector in the primary agricultural GDP has shrunk over 50 percent during this decade period.

The Other Crops (excluding sugar) and Livestock subsectors have contributed an average 6.8 percent of GDP in the decade to 2011. These subsectors include traditional food crops (dalo, cassava and yaqona), tropical fruits (pineapple, pawpaw and mango), vegetables, spices, cocoa, coconut products, beef, dairy, pork, poultry, and goat and bee stocks.

**Figure 2: Distribution of Agricultural GDP: 2001 and 2011**



**Source:** Fiji Bureau of Statistics, Key Statistics

## 2.1.2 Number and Size of Farms

The 2009 National Agriculture Census reported 65,033 farms with a total area of almost 252,000 hectares. The majority (80%) of farm land was located in the Western (42%) and Northern (38%) Divisions, see **Table 1**. The number of farms reported in 2009 was 32% less than the 95,400 farms reported in the previous 1991 Census.

Table 1: Number of Farms and Total Area by Type of Farm, 2009

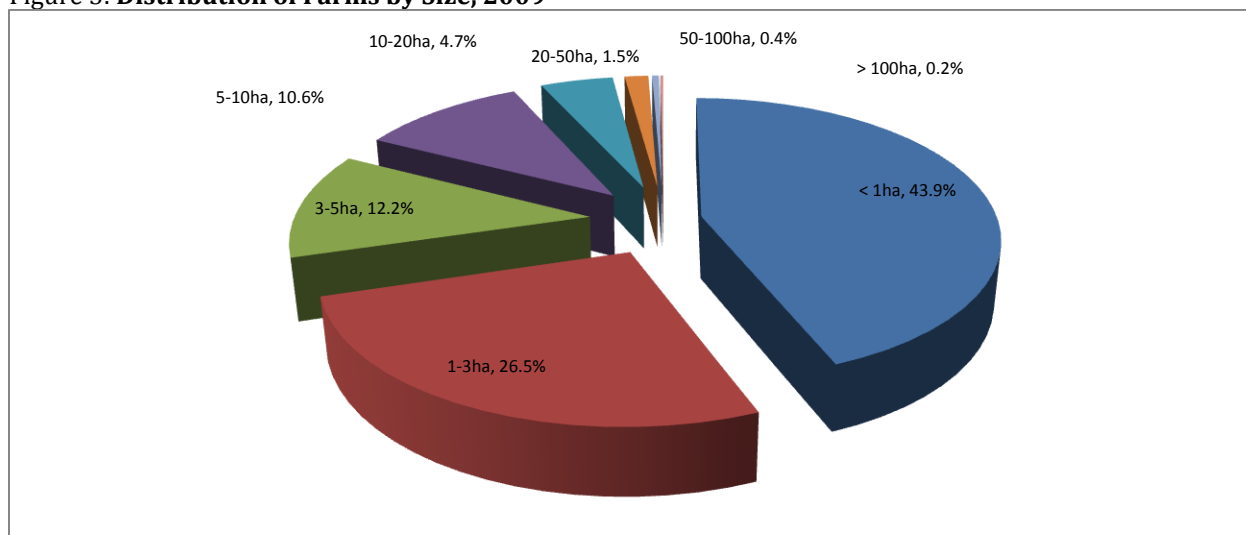
	Province	Total Farms (HA)	% Of Farms	Total Area (HA)	% Of Farm Area
Central	Naitasiri	5 495	32.40%	20 462.42	44.61%
	Namosi	1 261	7.40%	2 255.30	4.92%
	Rewa	2 115	12.50%	1 258.24	2.74%
	Serua	1 821	10.70%	5 205.91	11.35%
	Tallevu	6 278	37.00%	16 685.27	36.38%
	<b>Total</b>	<b>16 970</b>	<b>26.10%</b>	<b>45 867.15</b>	<b>18.21%</b>
Western	Ba	10 235	47.80%	56 048.44	53.07%
	Nadroga	5 429	25.40%	24 889.19	23.57%
	Ra	5 742	26.80%	24 665.66	23.36%
	<b>Total</b>	<b>21 406</b>	<b>32.90%</b>	<b>105 603.29</b>	<b>41.93%</b>
Northern	Bua	3 973	20.20%	14 326.72	15.16%
	Cakaudrove	7 632	38.90%	32 895.63	34.81%
	Macuata	8 038	40.90%	47 276.74	50.03%
	<b>Total</b>	<b>19 643</b>	<b>30.20%</b>	<b>94 499.10</b>	<b>37.52%</b>
Eastern	Kadavu	2 288	32.60%	1 676.03	28.45%
	Lau	1 723	24.60%	2 414.28	40.99%
	Lomaiviti	2 793	39.80%	1 537.85	26.11%
	Rotuma	209	3.00%	262.24	4.45%
	<b>Total</b>	<b>7 014</b>	<b>10.80%</b>	<b>5 890.40</b>	<b>2.34%</b>
<b>FIJI</b>		<b>65 033</b>		<b>251 858.83</b>	

Source: Ministry of Agriculture, 2009 National Agriculture Census

### Farm Size

Agriculture in Fiji is dominated by small farms, with 44% of farms below 1ha in size and used purely for subsistence farming. A further 39% of farms range in size from 1ha to less than 5ha, see **Figure 3**. There are a very small number (0.2%) of larger farms over 100ha in size, which are predominantly grazing, old coconut estates and forests. The average size per farm declined from 6.2 hectares in 1991 to 3.9 hectares in 2009.

Figure 3: **Distribution of Farms by Size, 2009**



Source: Ministry of Agriculture, 2009 National Agriculture Census

### 2.1.3. Crops

#### Sugar

Sugar has traditionally been Fiji's most important agricultural industry and has been the backbone of Fiji's economy, accounting for over one-third of all Fiji's industrial activity. Currently sugar contributes about 2.2% to Fiji's Gross Domestic Product and accounts for nearly 11.7% of Fiji's total merchandise export (FBOS).

Sugar cane plantings and production have declined significantly over the past two decades. The total area planted under sugarcane has decreased by 49%, from 112,192 hectares in 1991 to 57,177 hectares in 2009, whilst production has reduced by 35% from a total of 3,380,000 tonnes in 1991 (Fiji Sugar Corporation Ltd) to 2,200,000 tonnes in 2009. The decline in sugar output has been attributed to the movement of people off farms, the lower fertility of land due to unsustainable use and the ongoing use of low sugar content varieties of cane.

The Fiji Sugar Corporation reported 1.83 million metric tonnes of sugarcane were crushed in the 2014 season, a 14.3% increase in crushings and a 25.6% increase in sugar production over the 2013 season.



Table 2 details area and production of sugarcane by variety as reported in the 2009 NAC.

Table 2: Area and Production of Sugarcane by Variety, 2009

	Sugarcane Variety	Farm with Sugarcane	Planted Area (HA)	Harvested Area (HA)	Not Harvested Area (HA)	Production (Tonnes)
<b>Ba</b>	Beqa	50	93.40	93.40	0.00	3 124.06
	Kaba	911	1 897.03	1 435.13	461.90	81 291.72
	Mali	40	142.09	88.59	53.50	4 207.32
	Mana	5 019	19 502.40	13 976.62	5 525.78	785 179.02
	Naidiri	319	582.37	461.89	120.48	28 867.35
	Raghna	309	814.45	708.97	105.48	38 994.92
	Vomo	18	21.05	21.05	0.00	826.84
	Waya	104	199.18	154.02	45.16	9 858.68
	Other	1 317	4 388.63	3 795.28	593.35	187 459.05
	<b>Total</b>	<b>8 087</b>	<b>27 640.61</b>	<b>20 734.96</b>	<b>6 905.65</b>	<b>1 139 808.96</b>
<b>Cakaudrove</b>	Naidiri	51	137.58	124.27	13.32	8 869.22
	Raghna	20	55.67	55.67	0.00	3 829.29
	Other	11	10.95	10.95	0.00	797.31
	<b>Total</b>	<b>82</b>	<b>204.21</b>	<b>190.89</b>	<b>13.32</b>	<b>13 495.82</b>
<b>Macuata</b>	Beqa	69	83.36	64.26	19.10	3 868.03
	Kaba	149	256.57	191.18	65.39	12 257.54
	Mali	1 455	2 785.92	1 703.72	1 082.20	90 896.22
	Mana	36	63.56	41.53	22.02	1 367.13
	Naidiri	1 809	4 257.86	2 933.96	1 323.91	169 888.17
	Raghna	1 830	3 913.24	2 682.40	1 230.84	143 620.95
	Vomo	69	141.73	29.96	111.77	2 084.85
	Waya	1 039	2 066.92	1 006.47	1 060.45	52 558.59
	Other	1 442	3 462.78	1 942.22	1 520.56	94 406.75
	<b>Total</b>	<b>7 897</b>	<b>17 031.94</b>	<b>10 595.70</b>	<b>6 436.24</b>	<b>570 948.24</b>
<b>Nadroga</b>	Kaba	123	532.79	496.67	36.12	12 612.32
	Mali	33	257.26	257.26	0.00	4 166.15
	Mana	860	3 497.21	2 038.29	1 458.92	135 076.34
	Naidiri	34	103.45	59.83	43.61	5 843.03
	Raghna	95	396.81	281.22	115.60	9 235.55
	Vomo	21	120.60	54.06	66.54	2 094.77
	Waya	30	80.30	38.20	42.10	962.65
	Other	484	1 455.11	1 000.46	454.65	46 056.64
	<b>Total</b>	<b>1 679</b>	<b>6 443.53</b>	<b>4 225.99</b>	<b>2 217.54</b>	<b>216 047.44</b>
	<b>Ra</b>	Kaba	23	60.42	60.42	0.00
Mali		30	29.78	29.78	0.00	718.88
Mana		1 479	4 775.66	4 407.26	368.40	204 319.39
Naidiri		67	117.78	98.73	19.05	5 751.91
Raghna		11	59.20	45.54	13.66	1 911.52
Waya		16	37.75	37.75	0.00	3 096.00
Other		240	775.80	688.08	87.72	38 863.51
<b>Total</b>		<b>1 866</b>	<b>5 856.38</b>	<b>5 367.55</b>	<b>488.83</b>	<b>257 648.08</b>
<b>F I J I</b>	Beqa	119	176.76	157.66	19.10	6 992.09
	Kaba	1 207	2 746.81	2 183.40	563.41	109 148.45
	Mali	1 557	3 215.06	2 079.36	1 135.70	99 988.57
	Mana	7 395	27 838.83	20 463.70	7 375.12	1 125 941.87
	Naidiri	2 280	5 199.05	3 678.68	1 520.37	219 219.67
	Raghna	2 265	5 239.38	3 773.79	1 465.59	197 592.23
	Vomo	108	283.38	105.07	178.31	5 006.46
	Waya	1 188	2 384.15	1 236.44	1 147.71	66 475.93
	Other	3 493	10 093.27	7 437.00	2 656.27	367 583.27
	<b>Total</b>	<b>19 611</b>	<b>57 176.68</b>	<b>41 115.10</b>	<b>16 061.57</b>	<b>2 197 948.54</b>

Source: Ministry of Agriculture, 2009 National Agriculture Census

## Other Crops

The Other Crops subsector is mainly driven by the root crops and horticulture industry. The major commodities are dalo, ginger, papaya, pineapples and Bilateral Quarantine Agreements (BQA) commodities such as eggplant, okra, and breadfruit produced for export to Australia and New Zealand. Dalo and cassava are the most planted root crops, accounting for 73% of the area planted with temporary crops in 2009 (**Table 3**).

Table 3: Area, Production and Sales of Temporary Crops, 2009

Province	Crop	Farms with Crop	% of Farms	Planted Area (HA)	% of Total Area	Harvested Area (HA)	Total Production (KG)	Total Production Sold (KG)	Sold Locally (KG)	Total Value (FJ\$)
F I J I	Amaranthus	341	0.3%	36.53	0.1%	31.43	23 002	16 716	16 716	16 002.30
	Capsicum	494	0.4%	87.73	0.2%	43.68	85 873	68 191	60 908	126 389.93
	Carrot	187	0.2%	16.86	0.0%	8.89	43 504	34 507	34 507	17 645.76
	Cassava	38 757	32.3%	15 446.78	36.6%	6 680.28	58 771 606	32 899 419	29 535 661	21 006 616.21
	Chinese Cabbage	2 123	1.8%	388.54	0.9%	246.99	995 928	732 768	726 023	777 663.22
	Cow Pea	2 885	2.4%	598.44	1.4%	363.24	1 559 550	1 264 739	1 253 135	947 213.18
	Dalo	37 106	30.9%	15 194.68	36.0%	6 862.59	56 644 614	42 758 286	35 644 870	49 521 983.03
	Dalo ni Tana	2 981	2.5%	364.61	0.9%	84.90	612 776	258 310	246 300	211 270.20
	Eggplant	3 424	2.9%	571.12	1.4%	394.89	1 692 975	959 403	886 428	715 630.74
	English Cabbage	1 308	1.1%	312.05	0.7%	177.97	798 789	657 931	602 590	1 087 784.62
	French Beans	2 992	2.5%	639.45	1.5%	379.01	868 715	481 134	459 022	538 995.90
	Ginger	582	0.5%	217.25	0.5%	79.20	1 945 538	1 891 871	1 413 130	1 490 286.90
	Gourd	119	0.1%	32.42	0.1%	16.52	104 537	96 517	96 517	62 720.20
	Kawai	1 155	1.0%	172.20	0.4%	34.18	120 300	14 083	14 083	10 739.33
	Kumala (Sweet Potatoes)	3 747	3.1%	558.31	1.3%	268.84	1 270 638	662 530	628 656	540 587.21
	Maize	1 961	1.6%	535.55	1.3%	319.33	802 101	617 365	583 567	589 634.93
	Okra (Bhindhi)	1 678	1.4%	388.07	0.9%	244.83	912 489	677 737	614 950	686 260.75
	Peanuts	344	0.3%	108.48	0.3%	55.59	72 353	31 893	30 944	96 302.22
	Pumpkin	1 424	1.2%	302.93	0.7%	182.37	932 066	671 652	667 669	461 459.48
	Rice	2 821	2.4%	3 623.52	8.6%	2 854.42	4 287 515	1 195 025	1 181 885	891 432.64
	Tivoli	572	0.5%	60.97	0.1%	5.25	121 676	99 832	99 679	258 712.76
Tobacco	324	0.3%	108.93	0.3%	47.13	227 692	162 148	154 237	203 185.03	
Tomatoes	3 045	2.5%	621.83	1.5%	415.26	1 528 972	1 051 705	999 824	1 423 104.40	
Watermelon	2 715	2.3%	841.76	2.0%	449.60	2 781 065	2 384 328	2 354 238	2 637 686.91	
Yams	6 565	5.5%	851.31	2.0%	164.86	564 913	153 532	153 512	179 281.22	
Other assorted vegetables	348	0.3%	81.45	0.2%	38.97	45 734	19 586	19 586	22 051.77	
Other spices	-	-	-	-	-	-	-	-	-	-
<b>Total</b>		<b>120 005</b>		<b>42 163.98</b>		<b>20 450.21</b>	<b>137 814 919</b>	<b>89 861 210</b>	<b>78 478 638</b>	<b>84 520 640.83</b>

\*\* Totals include estimates of all temporary crops: "-" indicates that the crop was present but could not be estimated reliably

Source: Ministry of Agriculture, 2009 National Agriculture Census

Coconuts and yaqona (kava) accounted for almost 88% of the permanent crop area planted in 2009 with planted areas of 15,009ha and 8,884ha respectively. In terms of production, these crops produced 10,634 tonnes (coconuts) and 6,067 tonnes (yaqona), see **Table 4**. Bananas were the next major crop with total production of almost 3,400 tonnes from 1,087ha.

Table 4: Area, Production and Sales of Permanent Crops, 2009

	Crop	Farms with Crop	% Farms	Planted Area (HA)	% Planted Area	Bearing Area (HA)	Total Production (KG)	Total Production Sold (KG)	Sold Locally (KG)	Total Value (FJS)
FIJI	Banana	4 261	11.7%	1 086.77	4.0%	833.64	3 392 376	2 911 699	2 743 614	2 581 747.62
	Bele	768	2.1%	88.22	0.3%	55.86	251 240	111 942	93 271	31 595.25
	Breadfruit	81	0.2%	8.73	0.0%	1.88	10 406	2 411	2 411	1 889.07
	Chillies	1 220	3.3%	149.50	0.5%	113.51	269 342	192 068	141 947	383 305.87
	Cocoa (Wet Beans)	80	0.2%	298.85	1.1%	178.56	39 276	15 049	15 049	16 187.09
	Coconut (Copra) Nuts	2 755	7.5%	15 009.04	55.1%	14 270.06	10 634 196	8 945 394	8 570 858	3 244 276.66
	Dhania	111	0.3%	15.60	0.1%	7.24	3 421	2 373	2 885	3 385.20
	Duruka	1 340	3.7%	354.90	1.3%	318.39	538 775	421 288	361 850	761 790.42
	Kura	13	0.0%	37.48	0.1%	37.48	6 462	6 462	6 462	11 631.73
	Lemon	70	0.2%	14.97	0.1%	4.78	11 592	11 492	10 449	46 479.26
	Mandarin & Tangerine	13	0.0%	0.60	0.0%	0.33	70 259	70 259	70 259	7 025.86
	Masi	233	0.6%	46.63	0.2%	41.26	40 704	39 581	39 581	267 284.60
	Oranges	13	0.0%	144.95	0.5%	135.21	58 680	58 680	58 680	46 944.00
	Ota	36	0.1%	3.19	0.0%	3.19	17 654	13 207	13 207	16 397.10
	Other Citrus	10	0.0%	1.99	0.0%	1.99	24 557	24 557	24 557	491.14
	Passion Fruit	33	0.1%	6.85	0.0%	1.18	1 443	1 443	1 443	1 443.13
	Pawpaw	465	1.3%	219.52	0.8%	115.85	334 767	307 814	270 673	346 739.81
	Pineapple	914	2.5%	444.97	1.6%	299.77	2 829 304	2 348 966	2 341 608	1 865 578.72
	Plaintain	1 684	4.6%	241.67	0.9%	178.70	618 931	250 646	233 006	401 274.38
	Rourou	261	0.7%	40.67	0.1%	38.73	136 315	74 766	74 502	80 667.38
Voivoi	765	2.1%	107.67	0.4%	83.11	250 788	103 472	101 021	523 210.94	
Yaqona	21 306	58.3%	8 884.09	32.6%	3 601.71	6 066 833	4 728 397	4 155 524	66 395 034.18	
Other Fruit	74	0.2%	16.19	0.1%	6.04	11	11	11	20.84	
Other Spices	38	0.1%	9.71	0.0%	1.84	226	226	174	1 332.53	
	<b>Total</b>	<b>36 543</b>		<b>27 232.76</b>		<b>20 330.32</b>	<b>25 607 556</b>	<b>20 642 203</b>	<b>19 333 041</b>	<b>77 035 732.76</b>

Source: Ministry of Agriculture, 2009 National Agriculture Census

## Exports

The major agricultural exports are fruits (pawpaw), vegetables and dalo. A small but growing volume of certified organic products, including coconut and fruit products and nutraceuticals, are also exported. However, growth in the sector has been highly variable and drastically affected by market access issues, particularly relating to technical barriers to trade. Only a small percentage of farmers are involved in commercial farming given the level of technology, access to finance, and the risks involved.

Small scale processing of cassava into chips has provided an additional local market for the root crop. The production of fruits and vegetables and BQA commodities has been erratic mainly due to the impact of natural disasters.

### 2.1.4. Livestock

The livestock subsector is dominated by beef and dairy production. Both industries have been in decline in the past decade due to low private sector investment, impact of diseases (TB and Brucellosis), and poor quality breeding and milking stock. The industry relies on imports to meet domestic demand. On the other hand, pork, poultry and goat production have performed reasonable well and are growing in their capacity to meet domestic market demand.

#### Commercial Dairy Cattle

A total of 22,551 commercial dairy cattle were reported in the 2009 census of which 10,175 were milking cows. The number of dairy farms reported in 2009 (1,126) has declined by almost 45% since 1991 when there were 2,041 farms estimated to be involved in dairy production. Dairy farming is mainly undertaken in the Central Division, with approximately 70% of the commercial dairy farms reported in that Division.

Currently, local dairy production averages 20-25 million litres annually compared to domestic demand of 80 million litres. Around 10 million litres of milk is supplied annually by the 270 member farmers who form the Fiji Cooperative Dairy Company Limited (FCDCCL).

### Commercial Beef Cattle

The total number of commercial beef cattle reported in 2009 was 20,263 head, compared with 55,634 beef cattle reported in the 1991 census. Almost two-thirds of the commercial beef herd were reported in the Western Division.

The incursion of cattle diseases such as Tuberculosis and Brucellosis in 2009 has adversely impacted on the commercial dairy and beef cattle herds, leading to the culling of a number of cattle.

### Subsistence Dairy and Beef Cattle

All other cattle are classified as non-dairy and non-beef and are basically used for subsistence purposes. A total of 91,616 non-dairy and non-beef cattle were reported in the 2009 census from 19,961 farms. This was less than half the total of 187,782 head on 39,344 farms reported in 1991. Farms in the Western Division reported the highest number of cattle in this subsistence category.

### Goats

There has been high demand of goat meat in the domestic market, with demand at its peak during special occasions and festive seasons. There were a total of 101,196 goats reported in 2009, a significant (46%) decline from the 187,235 goats reported in 1991.

### Pigs

Although the number of pigs decreased from 90,850 in 1991 to 73,698 in 2009, the number of pigs has been increasing recently and self-sufficiency has almost been achieved for the local economy. The investment required for backyard production is minimal and pig rearing is less complicated than for other livestock. However, the cost of feed is relatively high leading to malnutrition in many cases. Farms with pigs are found in all of the islands at commercial, semi-commercial and subsistence level. The highest percentage (31%) of pigs is in the Central Division, as reported in the 2009 census.

### Poultry

A large increase in poultry production has occurred since the 1991 census. This increase has been a result of high local demand for chicken and eggs and a higher preference for chicken meat compared to lamb and beef. The 2009 census reported an estimated 19,751 farms with a total of 3.7 million chickens, of which just under 3.2 million were commercial broilers, 276,000 home poultry and 144,000 commercial layers. There were also an estimated 66,500 ducks reported in the 2009 census.

## **2.1.5. Fishing**

Fiji has a large and diverse fishery, encompassing many different resources and with significant on-shore processing and value adding. Consequently fish stocks and fishing activity are extremely important to the economy of Fiji. A large number of people are employed in the fisheries sector and fish makes an important contribution to the diet of the local population. In relative terms, fisheries is the third largest natural resource sector, behind sugar and 'other crops'. The fisheries sector contribution to the country's GDP was approximately 3.2% in 2012, with export earnings of over FJD 208 million or 17.1% of domestic exports for the country.

The fisheries sector also has important linkages with Fiji's substantial tourism industry both for food and amenity value. Fish, both local and imported, is an important element of food security and nutrition in Fiji. The 2009 Fiji Food Balance Sheet estimated that per capita consumption of fish in Fiji was around 64 kg.<sup>5</sup>

The government has several strategies to increase the national fish supply. This involves facilitating private sector growth, promotion of aquaculture, encouraging the harvesting of tuna resources by small-scale fishers,

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<sup>5</sup> Food Balance Sheet Report, 2009, National Food and Nutrition Centre (December 2012)

and supporting the marketing of fishery products landed in remote parts of the country. Major factors affecting the local supply of fish are overfishing, siltation, destructive fishing, transport links to the outer islands, the availability of Fish Aggregating Devices, and the production of non-export grades of fish by the offshore fleet.<sup>6</sup>

The national development policy proposes a multi-pronged approach to fisheries development which takes account of economic, environmental, and social performance. This model also recognizes the need to move away from simply production orientation towards a resource management, conservation and service orientation.<sup>7</sup>

The Fisheries Department faces many challenges as covered in their Ministry of Fisheries and Forests' Annual Corporate Plan 2010, and these include the lack of adequate fisheries policies and/or strategies and regulatory frameworks; the evolving institutional approach to fisheries management to demarcate the roles of government and the private sector; weak data and statistics collection and management systems; poor performance of aquaculture programmes; and high expectations of resource owners.<sup>8</sup>

### **2.1.6. Forestry**

The loss of forest cover, forest degradation and agro-deforestation is prevalent in Fiji. Most of the deforestation in the hilly areas has been caused by sugar cane and taro farmers clearing sloping areas for farming. These areas have experienced soil depletion, soil moisture deficits and hydrological imbalances and decreasing productivity.

The forestry sector comprises three main subsectors: the natural or indigenous forests, pine plantations, and hardwood plantations (mainly mahogany). Fiji has a standing forest resource of approximately 1,124,000 hectares, of which 952,000ha are in indigenous or natural forests; 67,000ha in mahogany plantations; and 105,000ha in softwood plantations.<sup>9</sup>

The forestry sector contributed approximately FJD 41 million or 0.87% to Fiji's GDP in 2013 with total export earnings in 2013 accounting for close to FJD 86 million, with Pine-wood chips and sawn timber the major export commodities.

The core of the Fijian Government's forestry policy is sustainably managing Fiji's forests and maintaining their natural potential to achieve greater social, economic and environmental benefits for current and future generations. Fiji recognises the significant role of forestry in economic activity, taking into account other important benefits it provides in terms of food, traditional medicine, protection to soil, management of watershed, and biodiversity.

### **2.1.7. Employment in the agriculture sector**

Based on the 2007 Population Census estimate of 299,000 employed persons in Fiji (both receiving income and subsistence), agriculture remains the largest employing sector. According to the 2009 National Agricultural Census, there were over 215,000 farm workers actively engaged on 65,033 farms around the country. Close to 58% of households engaged in farming derived more than 50% of their household income from farming. On the other hand, 26% of farming households derived less than 25% of their household income from the farm.

### **2.1.8. Land resources**

The bulk of prime agricultural land (Class I and II) were set aside for sugarcane farming. Decades of use and exposure to various pesticides and chemicals have taken its toll on the productivity of the land, as evident in

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<sup>6</sup> Pacific Multi-Country Country Programming Framework (CPF) 2013-2017, FAO (December 2012)

<sup>7</sup> Roadmap for Democracy and Sustainable Socio-Economic Development 2010-2014, Ministry of National Planning (Dec 2009)

<sup>8</sup> Fiji and the Secretariat of the Pacific Community – Joint Country Strategy 2010-14 (Feb 2011)

<sup>9</sup> Millennium Development Goals – 2<sup>nd</sup> Report 1990-2009 - Ministry of National Planning (Sept 2010)

current yields from sugarcane farms. Commercial farming of other crops is mainly undertaken on less conducive soil classified as Class III and IV. The expansion in urban development and thriving tourism sector has intensified competition for land located close to existing infrastructure. This includes former cane farming estates where leases have not been renewed and have been converted to commercial lots. Agricultural farming is therefore being crowded out of the prime agricultural areas and into marginal and less productive land.<sup>10</sup>

The key issue regarding land in Fiji is one of access and improving utilization and not ownership. Land is in abundance in Fiji, and ownership rights are well defined. What is lacking is a mutually beneficial system that encourages the leasing of land for all purposes, sets incentives to ensure productive utilization of the land, and ensures equitable returns for both tenants in the use of the land and land owners in the leasing of their land. Enduring solutions on the issue of access to land for productive economic and social purposes will be developed.<sup>11</sup>

Fiji is experiencing the effects of land degradation. Although more than 60% of the total land area is suitable for some form of agricultural activity, only about 16% is suitable for sustained arable farming. Apart from soil erosion, widespread and indiscriminate burning has been a recurrent problem over the years. Farming on excessively steep slopes continues to cause serious soil erosion in traditional ginger and root crop areas, and on marginal sugar lands. These lands are now more vulnerable to the impacts of cyclones and droughts. As a consequence, increasing areas within Fiji are becoming unsuitable for agriculture. Soil loss (50–80 tonnes/hectare/year on average) has already reached a level where it surpasses the acceptable soil loss rate in the tropics of 13.5 tonnes/hectare/year.<sup>12</sup>

## 2.2. Agriculture Sector Development Strategy

The goal of Government's agricultural policy, as espoused in Fiji's Roadmap for Democracy and Sustainable Socio-Economic Development 2010-2014, is to build '*Sustainable Community Livelihood through Competitive Exports and Food Security*'.

This goal is underpinned by three key macroeconomic targets:

- To increase the agriculture sector's economic contribution back to 15% of GDP;
- To increase the value of annual non-sugar agricultural exports to FJD 100 million over a period of three years; and
- To reduce the annual imports of fruits and vegetables to FJD 80 million over three years.

The Government believes that reforming existing practices and taking a targeted approach in the areas of competitive advantage provides a strong platform for sustained future growth in Fiji's agriculture sector.

The agricultural sector plays an important role in Fiji's economy. It offers both employment and opportunities for sustaining livelihoods, and there are strong linkages between the sector and the rest of the economy. Thus, Fiji requires an inclusive development framework for its agriculture economy to move forward by addressing new domestic and global challenges in line with food and nutrition security, climate change, feedstock for renewable energy, the utilization of water resources for aquaculture, agriculture export, and the rehabilitation of its traditional agriculture export industries, the sugarcane and the coconut industries. This led to the formulation of the Fiji 2020 Agriculture Sector Policy Agenda '*Modernizing Agriculture*'.

The national agriculture development goal alludes to the rural and urban communities because it is the national government's primary responsibility to ensure food security in conjunction with the primary economic development goal of increasing income and employment opportunities in the rural communities. Directly in line with this goal is the main purpose of the development agenda, which is the immediate result to be attained by the year 2020 and based on the analysis of identified development objectives. The

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<sup>10</sup> Review of the Non Sugar Agriculture Sector: Policy Paper Series 04/2013, Ministry of Strategic Planning, National Development and Statistics

<sup>11</sup> Roadmap for Democracy and Sustainable Socio-Economic Development 2010-2014, Ministry of National Planning (Dec 2009)

<sup>12</sup> Fiji and the Secretariat of the Pacific Community – Joint Country Strategy 2010-14 (Feb 2011)

underlying goal or purpose is to 'Establish a diversified and economically and environmentally sustainable agriculture economy in Fiji'.

To attain this purpose, five agriculture development objectives have been identified:

- a) To build modern agriculture in Fiji as an organized system of producing, processing, and marketing crops, livestock, and aquaculture products;
- b) To develop integrated production, processing, energy, and transport infrastructure support system for agriculture;
- c) To improve delivery of agriculture support services;
- d) To enhance capabilities to generate fund and secure investment through foreign investment, private public partnership, and other innovative business arrangements; and
- e) To improve project implementation and policy formulation capability within the Ministry of Agriculture (MOA) and its partner institutions.

The bottom line to Fiji's agriculture sector policy, as espoused in the Ministry's previous *Agriculture Strategic Development Plan 2010-2012*, was about improving crop and livestock productivity and increasing production to meet both domestic consumption needs and export opportunities.

Central to this were plans to restructure the sugar industry into a commercially viable and sustainable industry, with a focus on improved efficiency and productivity of cane production, and product diversification such as co-generation and ethanol production. A number of Key Performance Indicators were identified including increased sugarcane yield per ha from 61 metric tonne (mt) per hectare to 70 mt/ha, improving the TCTS (ratio of tonnes of cane required to produce a tonne of sugar) to 8 TCTS, increasing the extraction rate of sucrose from an average of 72% to 85%, reduced milling costs from FJD 280/mt raw sugar to FJD 200/mt raw sugar and reduced cost of production per ton cane from FJD 35 to FJD 20, all by 2012.

The 2009 NAC reported approximately 2.2 million metric tonnes of sugarcane produced from 41,115 hectares of harvested cane, a yield ratio of 54 tonnes/ha, well below the 70mt/ha target, and even below the starting point measure of 61mt/ha.

Increasing the production of crops such as rice and potatoes as well as beef, sheep and milk production were also targeted as part of Fiji's import substitution strategy, to increase self-sufficiency, increase food security and to reduce the heavy reliance on the importation of these commodities.

### **2.3. Recognition and importance of Agricultural and Rural Statistics**

A 2009 review of the Department of Agriculture observed that for policy formulation and planning purposes, the collection and publication of agricultural data, particularly output statistics, needed to be improved. Further, that in the past, policies have been adopted without being subjected to detailed economic analysis and without a good understanding of what can be expected from the farming sector. Areas specifically identified for attention included capacity building support to improve the sector's data collection and data management systems.

The *Fiji 2020 Agriculture Sector Policy Agenda* document, released in August 2014, proposes a reorganization of the Ministry of Agriculture to support the five core objectives of the agenda, as detailed in section 2.2 above. This reorganisation includes the establishment of an Agriculture Support Services Division, which includes an Agriculture Statistics Unit.

The agriculture statistics services are to be strengthened for the purposes of gathering, organising, analysing and reporting agriculture data. The new Agriculture Statistics Unit will provide professional, statistical services to research, price information monitoring and dissemination, regular farm surveys, contribution of agriculture to national income accounting, and actuarial studies for crop insurance. The service unit will also have the principal responsibility in organising, analysing, and reporting of data pertaining to natural disasters.<sup>13</sup>

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<sup>13</sup> Fiji 2020 Agriculture Sector Policy Agenda 'Modernizing Agriculture', August 2014



It is also proposed that the agricultural statistics unit, with the cooperation of FAO, will develop and maintain the CountryStat system at the national level in order that the public, private, and international sector decision makers and planners have easy access to timely and regularly up-dated data on the primary production sectors as a new benchmark for sustainable planning and development programs. CountryStat's web-based system will provide key variables on the agriculture sector and a decentralized and harmonized database for the Ministry which will be accessible to users at the regional and provincial levels. It is also intended that training in the CountryStat system will enhance Ministry staff understanding of the importance of data for decision making and improve the capacity of staff and methods of collecting timely and reliable data. Finally, it is expected that use of the system will improve the flow of reliable and timely statistical information on the agricultural sector, and strengthen the agriculture statistical system within the Ministry.<sup>14</sup>

Rural data is collected and maintained by a number of Ministries including Health, Education, Regional Development, Youth and Sports, the iTaukei Affairs Board, National Food and Nutrition Centre (NFNC), NGOs and Banks, however this information is often stored in their own databases and is not available or accessible by external users.

The critical importance of having timely, regular and quality agricultural and rural statistics for planning and policy purposes was well understood by stakeholders interviewed during the missions. Several stakeholders and data users commented on the current lack of agricultural data, the lack of public accessibility to agricultural data and concerns about the quality of what limited data were available.

The Minister of Agriculture has indicated his strong support of statistics and their importance in policy development and he was very conscious that the current agricultural statistics were inadequate. He observed that when making submissions to Cabinet he is often questioned about the cost/benefit analysis of proposed policies and he acknowledged that this can be deficient because of the poor quality of statistics on which it is often based. The Minister indicated that while he considered the agriculture sector was doing good things, these achievements were not captured in terms of data to support progress or for monitoring and evaluation purposes.

To improve the statistical knowledge in the Ministry's Agriculture and Rural Development Divisions<sup>15</sup>, in early 2014 the Minister actively recruited two skilled Statisticians from the Fiji Bureau of Statistics (FBOS), but it was acknowledged that this had not yet occurred for the Fisheries and Forests Divisions, both of which maintain their own statistical units.

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<sup>14</sup> Fiji 2020 Agriculture Sector Policy Agenda 'Modernizing Agriculture', August 2014

<sup>15</sup> Following the September 2014 General Elections these Divisions were split into separate Ministries

## CHAPTER 3

### INSTITUTIONAL ENVIRONMENT

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#### 3.1. Administrative Structure of Fiji

Since the British granted Fiji independence in 1970, there have been four military coups in Fiji: two in 1987, one in 2000 and one in late 2006. The military has been either ruling directly or heavily influencing governments since 1987.

On 1 July 2009, interim Prime Minister Bainimarama announced Fiji's strategic framework for change, the 'roadmap'. He announced that work on a new constitution for Fiji would begin in September 2012 and would be completed a year before elections in September 2014.

On 1 September 2009, the Commonwealth of Nations voted to suspend Fiji from the Commonwealth because the interim Government had failed to hold elections by 2010, as the Commonwealth of Nations had demanded following the 2006 coup.

The interim Government issued a new Constitution on 22 August 2013 for promulgation on 6 September 2013. Key features of the new constitution were:

- provision for a single chamber 50-member Parliament, which will be elected on the basis of one person, one vote using a proportional representation system;
- Elections are to be held every four years, with the interim government reiterating its promise to hold elections by 30 September 2014;
- Every Fijian over the age of 18 is entitled to vote;
- Individual regional constituencies are abolished. There will be one national constituency covering the whole of Fiji;
- A Prime Minister who commands the party with the most seats in Parliament will head the elected Government and a President will be the Head of State and perform the ceremonial function of Commander in Chief of the Republic of Fiji Military Forces;
- Land rights for traditional Fiji 'iTaukei' lands has been included in response to public submissions during the consultation process in April 2013;
- Immunity is provided to the military for actions since 1987, and immunity for public officials from December 2006

In March 2014, Fiji's full suspension from the Commonwealth of Nations was changed to a suspension from the councils of the Commonwealth, allowing them to participate in a number of Commonwealth activities, including the 2014 Commonwealth Games.

The 2014 General Election, the first since the 2006 coup, took place in September 2014, with the FijiFirst Party of interim Prime Minister Bainimarama elected with 59% of the vote.

#### 3.2. Legal and Institutional Framework for collection of statistics

As the National Statistical Office in Fiji, the Fiji Islands Bureau of Statistics (FBOS), is mandated under the Statistics Act and Census Act to:

- Collect, compile, analyse, abstract and publish statistical information relating to the commercial, industrial, agricultural, social, economic and general activities and conditions of the people of Fiji in a timely and coherent manner;
- Collaborate with government departments and other agencies in the collection, compilation, analysis and publication of statistical records of administration;
- Organise a coordinated scheme of social and economic statistics relating to Fiji; and
- Conduct a census of the population of Fiji as required according to the Census Act

In undertaking these activities, the Bureau will:

- Adhere to the principles of good governance and provide greater public accountability and transparency in all its activities; and
- Respect the multicultural nature of Fiji society.

It is the Government Statistician's responsibility to ensure that the above duties and powers are carried out. Unlike other countries, there is no Statistics Advisory Board or other body legislatively empowered to review the statistical needs of Government, commerce and industry, academic and research bodies, and other users of official statistics in Fiji, or to advise or direct the Statistician regarding programmes of work and priorities in official statistics to be undertaken by the Bureau to best serve the national interest.

The Government Statistician advised that the statistical legislation was currently being revised, and it was with the Solicitor-General for consideration. The intention is to strengthen the capacity for coordination. It will include a proposal for the creation of a Statistics Advisory Council. In terms of its impact on agriculture, the aim is to strengthen the statistical capacity of relevant agriculture ministries.

The Ministry of Agriculture indicated some concerns with the lack of information sharing between various government agencies and the difficulties it faced in obtaining such agriculture and rural data. It was further suggested that changes to the statistics legislation may be necessary to give the Ministry the legal mandate to access data from other agencies, which at present only FBOS can do.

It is not clear whether such changes to legislation are required or whether a similar outcome could be achieved through the Ministry and FBOS working closely and in a collegial manner to achieve cooperation from other ministries and NGOs.

### **3.3. Structure of the National Statistical System**

The National Statistical System is a system with a main operating office for general statistics but partially decentralized by sector and a coordinating mechanism to gather statistics from other sectors, including agriculture. Fiji has a formal allocation of responsibility among different agencies producing statistics with a functional mechanism to establish coordination among different agencies. The mechanism of coordination is fairly effective.

FBOS is the Government agency responsible for the collection, processing, analysis and dissemination of statistical information related to socio-economic and demographic structure of the country. This includes the ten-yearly Census of Population and Housing as well as regular national household surveys including the five-yearly Household Income and Expenditure (HIES) and Labour Force Surveys. It also collects other important national statistics and compiles Fiji's national accounts. To calculate agriculture GDP, FBOS obtains production data and farm gate prices from the Ministry of Agriculture (MOA) and conducts its own sample survey to obtain intermediate costs, i.e. cost of production.

In Fiji, MOA is responsible for the main agricultural collections, including the ten-yearly National Agriculture Census as well as collecting monthly and quarterly information on agricultural activity at the locality level. The last National Agriculture Census (NAC) was conducted in 2009 and was the fourth census undertaken, with the three earlier censuses undertaken in 1968, 1978 and 1991. The next Agricultural Census is proposed for 2019.

Fisheries and forestry data are compiled by the newly formed and separate Ministry of Fisheries and Forestry, previously part of the wider Ministry of Primary Industries.

Other Ministries, government and private organisations collect information as part of their normal business operations and many also undertake their own statistical collection work. A number of these organisations collect detailed agricultural data relating to their specific demographic group or industry, and this information is provided to the Ministry of Agriculture. An example is the Fiji Cooperative Dairy Co. Ltd, whose 270 members produce approximately 50% of Fiji's milk production. The Company collects regular and

detailed dairy herd demographic information from their members, including gender, age, milking status, production levels etc. as well as other farm activities undertaken.

Similarly, the iTaukei Affairs Board, a statutory body working to ensure that the Government develops, maintains and promotes policies that provide for the continued good governance and welfare of indigenous Fijians, collects population, crop and livestock production, as well as fishing and forestry information on a quarterly basis from village heads.

The Fiji Sugar Corporation (FSC) produces weekly Mill Performance Reports from all four mills operating across Fiji, during the cane crushing season. This includes information on weekly and season to date crushings, sugar and molasses production, TCTS (ratio of tonnes of cane to produce a tonne of sugar), cane purity, crushing rates, proportion of burnt cane etc. Summary information is also provided regularly on the FSC website ([www.fsc.com.fj](http://www.fsc.com.fj)) throughout the crushing season.

Disappointingly, very little of the information either provided to, or collected by MOA, is disseminated or publicly available via their website or publications, and what limited statistical information is available is several years old. The latest agricultural production data published are selected commodities for 2012, collected by the Ministry of Agriculture, and published on the FBOS website.

The National Food and Nutrition Centre, Fiji (NFNC) compiles an annual food balance sheet, with the most recent report publicly available being in respect of 2009. The NFNC reported difficulties in accessing regular and timely production data, particularly subsistence level production and consumption data, to compile the balance sheet.

### **3.4. Coordination mechanisms in the National Statistical System**

There is currently no national statistics committee or other body to formally oversee the statistical system in Fiji to ensure that the statistical system meets user needs and that statistical activities are coordinated and prioritised.

FBOS's mission is to provide high quality, objective and responsive statistical services, and meeting the ever-changing demands of users. Statistics has been identified as a key priority area in the national plan, and in order to increase the level of cross-sectoral activities, the Fiji Islands Bureau of Statistics (FBOS) is developing more communication channels with other government departments to ensure that a maximum range of data are covered. The focus of FBOS is on data dissemination and on producing timely applications that contribute to effective data analysis. This will ensure that more users of statistical data can access the information and in turn increase the quality of data provided by FBOS.

### **3.5. Review of National Strategy for the Development of Statistics (NSDS)/Strategic Plan for Agricultural and Rural Statistics (SPARS)**

The NSDS has not been prepared in Fiji. The Government Statistician has advised that they plan to commence work on a NSDS in August 2015, with assistance from the Secretariat of the Pacific Community (SPC) and Partnership in Statistics for Development in the 21<sup>st</sup> Century (PARIS21).

The Government Statistician stated that he will ensure that agriculture is included in the NSDS.

### **3.6. Stakeholder Analysis**

#### **3.6.1. Fiji Bureau of Statistics**

FBOS is Fiji's National Statistical Office and the main Government agency in terms of the collection, processing and publication of social, economic and demographic statistics. It has the legislative authority and responsibility under the Statistics Act to collect a wide range of statistics and under the Census Act to conduct the decennial Census of Population and Housing Census. Although the authority under the Statistics Act includes the approval to collect statistics relating to agriculture, including dairying, horticulture, pastoral and

allied industries, as well as forestry and fishing, much of this collection activity is undertaken by the Ministry of Agriculture (MOA) and Ministry of Fisheries and Forests (MFF).

FBOS uses data from MOA and other Government agencies including the Fiji Revenue and Customs Authority to measure the agriculture's sector to Gross Domestic Product (GDP) and other Government Finance statistics, the Consumer Price Index (CPI) and terms of trade, as well as household data collected in both the Population and Agriculture Censuses and in the five-yearly HIES (Household Income and Expenditure Survey).

### 3.6.2. Ministry of Agriculture

The Ministry of Agriculture's (MOA) Vision is *'To influence market forces through vibrant and sustainable agriculture activity that reduces poverty, reduces the risk of food insecurity and increases the contribution to GDP'*.

MOA's main responsibilities include:

- Maintaining food security through the provision of Extension and Research Services for both Livestock and Crops;
- Quick Economic Recovery through the implementation of the Demand Driven Approach Programme (DDA) and other commodity projects;
- Assisting in Poverty Alleviation by building capacity of farmers to increase production; and
- Sustainable management of Natural Resources through the Flood Protection programmes and other Sustainable Land Management practices.<sup>16</sup>

MOA has key responsibility for agriculture development in Fiji through its planning and policy activities and is the main Government agency in terms of the collection, processing and compilation of agricultural statistics. It undertakes the decennial Agricultural Census, agricultural surveys as required and collects monthly and quarterly commodity area and livestock information through administrative collections undertaken by its Extension Officer network. Unfortunately no recent agricultural production information is publicly accessible via the Ministry's website ([www.agriculture.gov.fj](http://www.agriculture.gov.fj)) and what limited crop and livestock production data is available dates back to 2009.

The Ministry last conducted a National Agriculture Census in 2009, with the next Census scheduled for 2019. MOA had plans to conduct a mini-Agricultural Census in 2016, midway through the intercensal period, with planning to commence in 2015. However a Ministerial decision in late 2014 to conduct an immediate baseline data collection exercise which has extended into the third quarter of 2015 has necessitated a rethink on this 'mini' census strategy.

The Ministry provides most of the key agriculture production data used by FBOS to measure the contribution of agriculture to the Fiji economy, including Gross Domestic Product (GDP).

MOA also has a Land Use section tasked to provide land-related information, such as land cover and soil quality to internal and external users, data on leases, land classification, and soil maps. Satellite imagery is being used to develop land use mapping and recording but its use is limited given the small and mixed cropping patterns in Fijian agriculture. However, tree crops and large plantations can easily be picked up by satellite imagery.

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<sup>16</sup> Ministry of Agriculture website ( <http://www.agriculture.gov.fj/index.php/about-us/roles-responsibilities>)

### **3.6.3. Other Line Ministries/Organisations/Community Boards**

#### Ministry of Strategic Planning, National Development and Statistics (later renamed Ministry of Finance and Strategic Planning)

The Ministry of Strategic Planning, National Development and Statistics is the main planning body within the Fiji Government and has a key role particularly in the formulation of policies, implementation and monitoring of government initiatives, in the implementation of the National Development Plan and Strategies, and the co-ordination and monitoring of all development efforts.

In its monitoring and evaluation role, the Ministry generates data but also utilises much data from various government and non-government sources. It observed that various Ministries conduct their own surveys but often the survey practices are not statistically sound and the quality and timeliness of administrative data is a problem with all ministries. There is no standard practice amongst data collectors and surveys are often done independently, with significant repetition in both content and data providers approached. It identified that some form of Statistical Clearing House arrangement, similar to that operating in Australia, may need to be established to avoid unnecessary survey duplication, to harmonise data, improve data availability and accessibility and to minimise respondent load.

In relation to agricultural data, the Ministry commented that field data is collected by Ministry of Agriculture field extension officers and is submitted to Headquarters, but quality of the data remains questionable due to the collection method as well as coverage. Furthermore, that generally agriculture production and livestock data are only available at the national and divisional level, therefore it is difficult to know what is happening at the lower regional or locality levels.

#### Ministry of Fisheries and Forests

The Ministry of Fisheries and Forests (MFF), formally the Department of Fisheries and Forestry under the Ministry of Primary Industries, was established as a separate Ministry following the 2014 General Elections. It has as its mission 'Improving Livelihood through Smart Policies on Sustainable Management of Fisheries and Forest Resources'.

The Fisheries Department has its own statistics unit. It collects inshore and offshore fisheries data on exports, local catches and aquaculture and on the general status of fisheries projects. This information is disseminated to stakeholders and users via annual reports, seminars and shows. Newsletters are published on a quarterly basis, but could not be located on the Department's website: [www.fisheries.gov.fj](http://www.fisheries.gov.fj).

Fisheries also provide their annual data to FAO, FBOS, SPC and Western and Central Pacific Fisheries Commission (WCPFC). SPC and WCPFC compile and report on annual catches for the Pacific region and this information is published on the WCPFC website: [www.wcpfc.int](http://www.wcpfc.int).

Fisheries personnel conduct a weekly market survey, collecting market volumes and prices each Wednesday through to Saturday and provided this information to FBOS. This involves the main markets only as it is very difficult to capture information on all the small catches sold at the roadside stalls and catches for home consumption.

The Forestry Department do not collect any data on household use of forestry but data is collected on commercial operations. The department is concerned about the cutting down of forests and conducts its own surveys to keep an updated forestry stock to assist planning of harvesting and reforestation. Degradation of forest resources is monitored by the Forestry Department and if need be they undertake rehabilitation works.

Forestry also has its own statistics unit that pulls together all forestry data, including exports, imports and commercial harvesting. These data are collected on a weekly, monthly, quarterly and annual basis and provided to FBOS for consideration as part of their forestry sector GDP compilation.

Fisheries and Forests data are stored at various levels of the Ministry, including with locality-based extension officers, at district and province offices and in Head Office. There is no central data repository or database,

and the Ministry advised that this lack of readily accessible information is adversely impacting on the Ministry's policy and planning and program monitoring and evaluation responsibilities.

#### Ministry of Rural and Maritime Development and National Disaster Management

The Ministry of Rural and Maritime Development is charged by government to implement its rural development policies, programmes and activities through its district and divisional administration. This includes the provision of administrative support services, regional planning research and policy advice, rural development and rural housing, disaster management and other ancillary services.

Due to the lack of a statistical unit, the Rural Development Department has very little by way of formalised statistics or data. In early a senior ex-FBOS Statistician was appointed to the Ministry to help build statistical capacity and to improve their data holdings. Work has commenced on the consolidation of Divisional level project records but this is expected to take some time to complete. Program and project data for 2007-2014 projects are held at Divisional Offices and efforts are about getting household data of project beneficiaries and recording the level of infrastructure developed. As part of the data improvement, all assistance requests by individuals are recorded. The database will have important details such as race, age, location etc. as there is a belief that a lack of data may have led to the uneven distribution of assistance at all levels.

The Disaster Management Committee (DISMAC), another arm of the ministry, uses information from various sources including FBOS and the Ministries of Agriculture, Education, Health and Infrastructure during disaster operations. Disaster management efforts are often constrained by the absence of appropriate and/or accurate baseline data. This is particularly the case when assessing the impact of disasters and climatic events on agricultural production, rural households and livelihoods.

#### Poverty Eradication Unit (formally Poverty Monitoring Unit)

The Poverty Eradication Unit, formally located within the Prime Minister's Office, was relocated to the Ministry of Women, Children and Poverty Alleviation as part of Ministry reshuffles following the 2014 General Elections.

Its core function is to monitor and evaluate Government's poverty-related programs and to make policy recommendations to Cabinet, emphasizing the review and development of poverty-targeted policies. With the Government's commitment to reducing poverty to a negligible level by 2015, as per Pillar 8 of the People's Charter for Change, Peace and Progress (PCCPP), all pro-poor programs need to be monitored against policy objectives to ensure the desired outcome of improving people's livelihood and the ultimate reduction of poverty is achieved.

In undertaking this monitoring and evaluation role, the Unit is a major user of agricultural and rural data, although the recency, quality and limited availability of these data often made this difficult.

The Unit's Director indicated that often there is no readily available data, including the number of growers by crop by region and there is no proper central data bureau for agriculture data. During natural disasters, surveys are conducted to determine the losses, but the lack of current base-line and infrastructure data makes any impact assessment difficult, therefore agricultural and rural statistics are very important for planners. Health, education, water and market information are some of the important rural statistics that support rural development. The lack of appropriate rural data undermines the implementation of proper plans to prioritise infrastructure development in rural areas.

#### Prime Minister's Office

The Development Cooperation and Facilitation Division is located within the Office of the Prime Minister. The Divisions' responsibilities are to:

- Co-ordinate and facilitate effective implementation of both donor assisted and locally funded projects;
- Obtain project profiles and dossiers for donor assistance;
- Provide close coordination on accessing of donor assistance;



- Being a control point for liaison with selected donors; and
- Administering development budgets for Fiji's minority communities.

Their focus is on public and rural infrastructure projects, specifically rural and remote school infrastructure, road access, electricity and other infrastructure programs.

#### Fiji Development Bank (FDB)

Being the government bank, most farmers requiring financial assistance will seek loans from FDB as it offers subsidised interest rates and has product offers that are backed by government incentives. The Bank produces data from its business and loan operations and produces a monthly report that includes total loans, bad loans, total amount outstanding etc. which is submitted to the Reserve Bank. The report is not published on the FDB website: [www.fdb.com.fj](http://www.fdb.com.fj). The Bank's Annual Reports are published on the website.

FDB analyses various agriculture data sources including Reserve Bank, MOA and FBOS when assessing commercial loan applications, including export trends, imports, production, local demands, and prices. For small loans FDB use MOA locality field officer on-farm reports that provides more farm specific data. Verification is done once proposal is accepted for funding. Loan applications also have to produce land ownership or lease details to secure loans.

FDB highlighted some challenges with MOA's agriculture data, such as a reluctance to release data, timeliness of data, an outdated farm management manual and crop calendar. There is also no compilation of all data at a national level as a one stop shop. The Reserve Bank website is up to date, with monthly reports released on time. However quarterly reports are often a bit late in release.

It was mentioned that the market price report prepared by MOA was a very useful data source, but that these reports were no longer available on the Ministry's website. However, recent checks have confirmed that while some Market Price reports have been published on the MOA website, they are often several months behind in their release schedule.

#### Biosecurity Authority of Fiji (BAF)

BAF is mandated to protect Fiji's agricultural sector from the introduction and spread of animal and plant pests and diseases, facilitate access to viable agro-export markets and ensure compliance of Fiji's agro-exports to overseas market requirements.

BAF manages quarantine controls at Fiji's borders to minimise the risk of exotic pests and diseases entering the country. It also provides import and export inspection and certification to help retain Fiji's favourable animal, plant and human health status and wide access to overseas export markets.

BAF's main priorities relate to plant and plant product importation and animal and animal product importation. Crafts and souvenirs importation are also managed.

BAF believes that the Harmonised Commodity Description and Coding System (HS), as used by most Customs' organisations, is inadequate for their purposes, and use their own more detailed classifications. As Customs records all across border transactions rather than those considered a biosecurity risk, their data is considered more complete as far as total export and import figures are concerned.

The BAF data is not available on their website and there is no verification process for internal data or with Customs. BAF provides their import data to the Ministry of Agriculture when required.

BAF is a user of Customs data, Permit Manifests and some FBOS data. However they find the agricultural imports and exports data difficult to use because of the HIS classification. For example, tissue culture importation is important for them, but BAF were unsure how this was classified in the HS 2012.

### **3.6.4. Other Data Producers/Users (Civil Society and NGOs)**

#### i'Taukei Affairs Board

The i'Taukei Affairs Board is a statutory body established to ensure that the Government develops, maintains and promotes policies that provide for the continued good governance and welfare of indigenous Fijians. The Board collects demographic, infrastructure, agricultural crop and livestock, fisheries, forestry and social information on a quarterly basis from the turaga-ni-koro (Village head). Some of the data collected is shared with MOA.

During 2014 the Affairs Board secured UNDP funding to undertake pilot surveys of two villages from each Province, a total of 28 villages nationally, to collect detailed household demographic and agriculture information from its indigenous population. Subject to the successful outcome of this trial, it is proposed that these surveys will be extended to all Fijian villages and be undertaken on a biennial basis.

The Board is keen to progress the development of an integrated database and website to further disseminate the extensive set of information collected in relation to the indigenous population. However at this stage the data collected in the pilot surveys will be for internal use only, as a baseline for establishing specific Village Development Programs.

#### Fiji Sugar Corporation

The Fiji Sugar Corporation Limited (FSC) was incorporated in Fiji by an Act of Parliament in 1972 to take over the milling activities with effect from 1st April 1973. It is the successor to SPSM Limited and CSR Limited. In 2006 the Fiji Sugar Corporation Act was repealed allowing it to be governed solely under the Companies Act.

The Corporation owns and operates four sugar mills located at Lautoka, Ba and Rakiraki on the main island of Viti Levu while Labasa Mill is located on the second largest island of Vanua Levu. The mills are strategically located on the drier side of the two larger islands where conditions are more suited to cane growing.

The Corporation is responsible for the manufacture and sale of raw sugar together with molasses as a by-product. The Sugar Industry is important to Fiji's economy as it contributes about 2.2 percent of GDP, and accounts for nearly 11.7% of Fiji's total merchandise export (FBOS).

FSC produces weekly Mill Performance Reports during the cane crushing season from all four mills. This includes information on weekly and season to date crushings, sugar and molasses production, TCTS (ratio of tonnes of cane to produce a tonne of sugar), cane purity, crushing rates, proportion of burnt cane etc. Summary information is provided regularly on the FSC website ([www.fsc.com.fj](http://www.fsc.com.fj)) during and at the conclusion of the crushing season. These FSC data are the main source of sugarcane and sugar production information in Fiji and along with export data are key inputs for FBOS in determining the industry's contribution to GDP.

#### Fiji Crop and Livestock Council (FCLC)

FCLC was established in 2010 by the Fijian Government to encourage greater participation by the private sector in the non-sugar sectors of agriculture. Its credentials were further strengthened when the Council was officially recognised through an MOU with the Government signed in January 2014.

The Council, with the backing of Government, the European Union and the International Trade Centre (ITC), currently has over 10,000 farmers signed up, of the estimated 30,000 farmers who comprise the 17 commodity associations it represents, including Pig, Dairy, Beef, Sheep/Goat, Root Crops, Ginger, Kava, Bee Keepers, Fruit, Salad Vegetables, Coconut Growers, Dalo, Cocoa, Poultry and Rice Producers, Market Vendors as well as Food Processors.

FCLC has plans to introduce a range of products and services to its members, including mobile phone applications for farmer record keeping and access to market and weather information, access to an updated Farm Manual, a new website, and the introduction of Financial Management Counsellors and Food Safety Counsellors. The Council would like to extend its database coverage to all farmers in the country by gaining access to the farmer profile information being collected by the Ministry of Agriculture's Extension Officer network.

ITC has assisted FCLC in developing a secure database, where farmer profiles are stored, and can be updated by either the farmer, FCLC or MOA Extension Officer as required, with information accessible by MOA field supervisors and senior management where appropriate. This database, with its information on area planted, area harvested, crop production, livestock numbers etc. and potential coverage of all Fijian farmers, could be an extremely valuable electronic data source for the Ministry in preparing its monthly and quarterly administrative commodity estimates.

ITC is also working closely with MOA and will shortly provide the Ministry with its own User account so that the farmer data can be imported or entered directly into the Fiji Agriculture database.

#### Fiji Cooperative Dairy Company Limited (FCDCL)

FCDCL currently has 270 dairy farmer members located in the Central Division of Fiji, the major milk producing area. Its members produce approximately 10 million litres of milk, about half of Fiji's annual production. FCDCL provides advisory services to members to increase productivity of farms and detailed records are kept. Farms are visited weekly and records such as dry cows, wet cows, calves and milk production and supplies are recorded.

Data is recorded and kept in the FCDCL data base, which is primarily for FCDCL's own use. However, milk production data is provided each quarter to the Ministry of Agriculture and FCDCL has a good working relationship with Ministry's Animal Health and Production (AH&P) Division and with its Extension Officers.

FCDCL has developed a website ([www.fcdcl.com.fj](http://www.fcdcl.com.fj)), and produces and publishes a bi-monthly newsletter for members as a source of information on FCDCL and dairy industry activities.

#### National Food and Nutrition Centre (NFNC)

The Fiji National Food and Nutrition Centre (NFNC) compiles an annual Food Balance Sheet (FBS), with the latest report produced for 2010. Information to construct the FBS is gathered from various sources including the Ministry of Agriculture, FBOS, Fiji Dairy Ltd and the Fiji Sugar Co. NFNC advised that there are considerable gaps in the production data, including difficulties in getting production data, particularly subsistence level production and for some commodities there is no data.

NFNC also conducts a Nutrition Survey every 10 years to assess the level of nutrition across the country. The last survey was conducted in August 2014 and involved the collection of information on household food security; infant consumption; individuals 5 years and above; food frequencies; and food consumption during the previous 24 hours. Preliminary data from the 2014 Nutrition Survey are expected in December 2015 with the final report due June 2016.

The Food Balance Sheet and Nutrition Survey reports are uploaded via pdf reports uploaded to the NFNC website ([www.nutrition.gov.fj](http://www.nutrition.gov.fj)). No raw or analysed data is uploaded in spreadsheet format.

## CHAPTER 4

### IN-DEPTH ASSESSMENT OF STATISTICAL ACTIVITIES

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#### 4.1. Censuses

##### Census of Population and Housing

The Fiji Bureau of Statistics is the agency responsible for conducting the Population and Housing Census. The census is conducted every ten (10) years with the last carried out in September 2007. It was the thirteenth census conducted since the first in 1881 and importantly a census has been conducted during every decade since the 1880's.

The 2007 Census collected demographic, ethnicity, educational, labour force and other characteristics of the population as well as housing and household characteristics. The census included two agriculture-related questions. The first related to land use, including whether farm land was used for subsistence production or produce for sale. This question helped to identify agricultural households and develop an agriculture frame for future survey activities, including the 2009 National Agricultural Census. A second question sought details of the number of livestock owned on Census night i.e. cows, pigs, goats, horses and poultry.

The Census did not contain any questions on the type of farming activity undertaken, i.e. cropping, livestock or mixed farming nor whether the household was involved in fishing or forestry activities.

First data from the 2007 Census of Population and Housing were released in October 2008, thirteen months after enumeration on Census Night (16 September 2007). This was in the form of a Statistical News report and provided basic characteristics of the population, its size, growth, structure and distribution. A second release, covering the labour force characteristics of eligible respondents, including employment and unemployment, was released in February 2009. Both releases were disseminated in pdf format only on the FBOS website, with no supporting Excel tables.

The initial release in October 2008 indicated that further releases relating to education, training, housing and other census topics were to be published shortly. However it is unclear whether these releases actually occurred prior to mid-2014, when FBOS implemented, in conjunction with SPC, a Fiji PopGIS 2.0 Online Mapping tool using GeoClip software. Over 1,300 interactive maps and pie charts of household and demographic data from the 2007 Census of Population and Housing at the Division, Tikina and Enumeration Area level can be accessed, manipulated, overlaid with other maps and data and downloaded by users. Supporting tabular data can also be exported into Excel or pdf formats. This is an excellent development and provides opportunities for planners and policy makers to fully utilise the valuable source of data collected in the 2007 Census. Individual stakeholder meetings were conducted by FBOS in August 2014 for their GDP compilation exercise, during which the availability of this data and use of the mapping tool were promoted. However, it appears that wider public promotion did not occur, as several Government ministries and NGOs were unaware that this Population Census data existed in such an interactive format.

There is no evidence that data reflecting the agriculture-related land use or livestock information collected in the 2007 Population Census has ever been generated or publicly released.

The next Census of Population and Housing is planned for 2017.

##### National Agriculture Census (NAC)

MOA generally plans to undertake a National Agriculture Census every ten years. The last census, which was conducted in 2009, was the fourth in the series (all with FAO assistance), with the three earlier censuses undertaken in 1968, 1978 and 1991, a lapse of 13 years and 18 years respectively between the last three censuses. The next Agriculture Census is proposed for 2019.

The 2014 Fiji Farm Management Manual published by the Ministry of Agriculture describes the Agricultural Census as “...a system and process carried out every 10 years to verify the area of crops, number of livestock and farmers and features of the farming systems that should be available with all Extension Officers if they keep records of all the farmers and projects which they supervise. Census figures when completed should be the benchmark in the formulation of agricultural development plans.”

At the time of planning for the 2009 NAC, users of agriculture statistics from the public, private and international sectors were demanding expansion of conventional production-oriented data to cover welfare measurements, particularly those required for measurement of poverty, food security and the role of women in development, among other Millennium Development Goals (MDGs). For this reason, the Government of Fiji, through the then Department of Agriculture, requested FAO assistance in the conduct of the agriculture census. The Government had envisaged that the census would be a major undertaking in terms of the significant resources (both physical and financial) that would be needed for the project.<sup>17</sup>

The FAO project documentation was signed in June 2009. The project was scheduled for a duration of 15 months, with FAO input of USD \$354,000 and a Government of Fiji contribution of FJD 1.5 million, both in kind and cash; however the project was further extended for nine months until June 2011 to fully complete all the activities including publication of the NAC report.

The project became operational in January 2009; with the first technical mission arriving in June 2009, although the Ministry of Agriculture’s Economic Planning and Statistics Division (EP&S) had conducted some pre-project activities, such as the establishment of the Agricultural Statistics Unit (within EP&S) to manage the census, provision of office space and the purchase of office equipment, computers and one vehicle. Enumeration commenced in October 2009, however data collection was interrupted by two cyclones and was not completed until March 2010.

The questions used in the 2009 NAC were based on previous census questions (to facilitate comparisons) and on internationally recommended questions (FAO) addressing the issues of globalization of markets, food security, poverty and gender equality. The census collected a wide range of agricultural household, land use, temporary and permanent crop information including type, area planted/harvested, crop production and sales, sugarcane, livestock, milk production, poultry, floriculture, aquaculture and apiculture. Data on natural and planted forests, land tenure and agricultural inputs (irrigation, fertiliser and pesticide use) as well as farm equipment and machinery owned or rented were also collected, however no quantitative data on household fishing activity was collected.

The immediate objectives of the 2009 NAC were: to provide a benchmark as an objective criteria for planning and policy decisions in sustainable agricultural and rural development; and to strengthen and improve the ongoing Fiji Agriculture Statistics System to generate and disseminate key agricultural data on a regular basis using the results of the 2009 NAC as the benchmark. However, there appears little subsequent activity in this regard in the ensuing five years, with no published analysis nor regular agricultural surveys undertaken, and very little in terms of data disseminated.

The 2009 Agriculture Census was based on FAO World Census of Agriculture guidelines using a multiple sampling frame (MSF) methodology. Previous censuses and a national agricultural survey had used an Area Sampling Frame (ASF) for estimation at Provincial and National levels. The census design methodology combined the advantages of an area frame (complete coverage) and a list frame (rare commodities and large and special farms). In the 2009 NAC, it was expected to provide reliable results at district level for most tables, whilst acknowledging that results for smaller districts might not be possible. In addition, a small island strategy (SIS) was used where complete enumeration of villages occurred within some districts. The addition of a comprehensive List Sampling Frame (LSF) - with complete enumeration - was expected to provide better estimates with fewer ASF segments. The segment size was targeted at 1 square kilometre (km<sup>2</sup>) (100 hectares) for all strata. Since some of the smaller districts consisted of only a few segments, it was decided that complete enumeration of all households in these districts would not only provide complete farm information, but with a minimum additional expenditure. These districts became part

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<sup>17</sup> 2009 National Agriculture Census Report, Department of Agriculture

of the Small Island Strategy (SIS). LSF and SIS farms were completely enumerated and each given a weight of 1.0.

Comprehensive training programmes were organised for national staff in all aspects of 2009 NAC procedures, including frame construction, data collection/interview techniques, processing, analysis, publication and dissemination and the Fiji Agricultural Statistics System (FASS).

A publicity campaign to promote the 2009 NAC commenced in February 2009. The Information and Communication Division of the Department of Agriculture conducted the census promotion through TV interviews and radio broadcasts in three languages: English, Fijian (iTaukei), and Hindustani. In addition to the brochure on the census objectives, a second brochure described the census methodology, farm activities, data requirements and uses were printed and distributed at Government offices in all provinces in the country. Other census news was published in all newspapers in different languages. A census poster was also printed in three languages and distributed around the country.

Agricultural Census data were disseminated by the Department of Agriculture via the MOA website in the form of a detailed report produced in pdf format. The report contained analytical and tabular data to the Province level, however spreadsheet (Microsoft Excel) versions of the various Tables contained in the report did not accompany the web release. Instead interested data users requiring data in spreadsheet format must either manually transpose data from the pdf version or contact MOA to obtain the required soft-copy spreadsheets. No sub-Province level data has been generated and therefore released due to security access problems with the computer servers hosting the various Census Microsoft Access databases.

The next National Agriculture Census is planned for 2019.

#### **4.2. Crop statistics**

Of the 252,000 hectares (ha) of agricultural land reported in the 2009 NAC, permanent crops accounted for 78,200 ha (or 31%), temporary crops 25,200ha (10%) and 34,200ha (14%) were left fallow during the preceding year.

The priority crops in Fiji in terms of area planted in 2009 were sugarcane (57,200ha), cassava (15,500ha), dalo (15,200ha), coconuts (15,000ha), yaqona (8,900ha) and rice (3,600ha). Other main crops included ginger, eggplant and tropical fruits. The profitability of crop farming has been affected by natural disasters (flooding, dry spells), low prices, poor market access, pests and diseases, high transport costs and theft. Other issues involve the perishability of commodities, quarantine inspections, and high production costs.

The 2009 National Agriculture Census collected detailed information temporary and permanent crops including:

- Type of crop and cropping pattern, i.e. pure stand, mixed, interplanted etc.;
- Month planted and harvested;
- Area planted and harvested;
- Total production (kg);
- Sales, quantity and value;
- Agricultural practices, i.e. use of irrigation, fertilisers and pesticides;
- For permanent crops, number of trees planted, bearing age and harvested;
- For sugarcane, variety, crop age and reasons if harvested production less than expected output; and
- For floriculture, flower type, area, sale quantity and value.

No formal agricultural surveys have been conducted in Fiji since the 2009 NAC. Whilst there is no annual or regular agricultural survey program, the Ministry of Agriculture does collect monthly crop and livestock data through its Extension Division (Crop) and Animal Health and Production Division officers. Information is collected from farmers and village heads at the locality level, then aggregated to District, Province, Division and finally National levels. Although total Province (crops only) and Division level (livestock) data are commonly supplied, these data are not supported by the various lower level sub-components which comprise the relevant total. As a result it is very difficult to compare the information supplied with other data sources such as the Agricultural Census to assess the accuracy of the data provided.

A number of stakeholders, both within and outside the Ministry, expressed reservations and a lack of confidence with the accuracy of this administrative data, which are highly dependent on Ministry officers actively monitoring and having a very good understanding of crop and livestock information in their locality, and being able to supply accurate estimates of area planted. Many suggested that this important data source needs to be reviewed, formalised and strengthened, as its 'real time' nature is most important to evidence-based decision and policy making, particularly in the absence of formal surveys.

In October 2014, the Minister of Agriculture issued a directive to Ministry of Agriculture Extension Officers requiring that they undertake a baseline data profile of each Fiji farming operation and complete this exercise by 15 December 2014. Each profile was to include details of household demographics, housing details, crops planted, harvested, production, cost of production, home consumption and sales in the previous six month period, as well as detailed information on livestock numbers, livestock production and sales, cost of production and market accessibility. The timetable for this profiling exercise was extremely tight and despite the best efforts of those concerned, was unable to be completed by the due date.

Given this task was seen as critical to establishing a baseline for agriculture statistics in Fiji, it was decided to extend and formalise the survey in early 2015. Extension officers were provided with specific training on the importance of statistics to policy and decision making and their key role in supporting this initiative was reinforced. Initial feedback from both extension officers and senior Ministry management in relation to this capacity building exercise has been extremely positive. The survey field collection phase has continued through the first half of 2015, with the Ministry hopeful that data collection will be completed by the end of August 2015. Data entry and editing of completed returns has also commenced and will ongoing during this period. This exercise has the potential to provide an important set of base-line data and a good starting point to improve the quality of ongoing agriculture data throughout Fiji, including improved quality of administrative data collected by Ministry extension officers and submitted as part of their quarterly field reporting responsibilities.

This profiling exercise is certainly a step in the right direction in providing a better understanding of the farming sector in Fiji. A further challenge for the Ministry's Agriculture Officers will present in assessing this raw information and in their ability to accurately estimate crop plantings and from that to then forecast expected annual production levels at the various administrative levels, i.e. locality, district, province, division and finally national levels. Having a good knowledge and understanding of current crop yield data across the various localities will also be critical in forecasting annual production levels.

Currently, crop yield data are sourced from the Ministry's 2014 Farm Management Manual, however these yields are mostly shown as ranges, often with considerable variation between the lower and upper ranges. It is unclear whether Agriculture Officers use the lower, upper or mid-point yield when estimating actual and expected production levels. In the absence of more recent data, information reported in the 2009 National Agricultural Census may be extremely valuable in providing indicative yield data, particularly at the locality or district geographic levels.

Unfortunately, none of the quarterly crop data regularly collected by the Ministry's Extension Division officers is published or made available on the Ministry's website. This was a source of much frustration for a number of data users wishing to better understand the current agricultural production situation in Fiji. It also casts further doubt as to the levels of confidence with this administrative data, even within the Ministry and Crop Extension Division itself.

Whilst a number of stakeholders to the Global Strategy have strongly indicated a desire for regular crop production volume data, there remains a question around the ability of farmers to accurately estimate their crop production for the previous twelve month period. This is particularly the case where regular harvesting may occur, where multiple cropping and harvesting occurs each year or where crops are harvested predominantly for a household's own use.

Land holders may be better able to estimate average yields for their specific crops, which together with information on area of crops or plant numbers harvested may enable a better estimate of crop production volumes. However the accuracy of such yield estimates is also doubtful, and it may be preferable for the Ministry's Crop Extension Division to undertake some on-the-ground research across various localities to

assess and better determine average crop yields, along the lines of the crop cutting surveys undertaken in some grain growing countries.

The 2008/09 Household Income and Expenditure Survey (HIES) collected information on household agriculture, fishing and forestry activities. This included income derived from sales, home consumption, costs of seeds, fertiliser etc. for eleven (11) main crops and eight (8) main vegetable commodities, livestock and livestock products, forestry (firewood and other forest products), handicrafts and fishing. Harvested production data was collected for sugarcane, dalo, ginger and yaqona and not for other crops and vegetables, and no current livestock numbers were sought.

The 2013/14 HIES is currently in the data production phase, with preliminary data expected to be released in the third quarter 2015 and final data in late 2015. The content of the 2013/14 HIES questionnaire was similar to that collected in 2008/09.

### **4.3. Livestock statistics**

The main livestock animals raised for domestic consumption in Fiji are beef and dairy cattle, poultry, goats and pigs.

Beef and dairy cattle are classified as either commercial or subsistence (non-commercial). The 2009 National Agriculture Census collected detailed information on farm herd demographics, including sex and age by classification and type of breed, along with details of cattle numbers sold or slaughtered. Milk production, sales, home consumption and calf feeding information in the seven days prior to enumeration were collected by main dairy breed type. Counts of other livestock (goats, pigs, sheep and horses) by age and sex were also collected.

Other livestock information collected included commercial and home poultry and duck numbers, aquaculture production and sales (shrimp and tilapia) and apiculture production (number of bee hives, honey production and sales).

As with crop statistics, no formal livestock surveys have been conducted in Fiji since the 2009 NAC, however the Ministry of Agriculture does collect monthly livestock data through its Animal Health and Production (AH&P) Division Extension Officers. This information is collected from farmers and village heads at the locality level, then aggregated to District, Province, Division and National levels. Although total Province or Division level data are commonly supplied, these data are often not supported by the various sub-components which make up the relevant total. As a result it is very difficult to compare the information supplied with other data sources such as the Agricultural Census or to assess the accuracy of the data provided.

Production data are verified with data collected from official slaughter houses, however the informal village or 'magiti' killings are estimated. About 7,800 cattle were officially slaughtered in 2013, but it is estimated that 'magiti' killings may be double that amount.

Any animal disease data collected by the MOA are provided to OIE (World Organization for Animal Health) for disease surveillance.

Unfortunately like the administrative crop information, none of the livestock administrative data regularly collected by the Ministry's AH&P Division officers is publicly available on the Ministry's website. The latest available livestock production data provided by the Ministry and released in FBOS' Key Statistics publication are provisional estimates for 2012, including beef, pork, goat and chicken meat and egg production.

The 2013/14 Household Income and Expenditure Survey (HIES) collected information on household livestock and livestock product sales, household consumption as well as related expenditure, for chicken, beef, goat, pig, other meat, eggs, milk and other dairy produce, however no current livestock numbers were collected. Final data from the 2013/14 HIES are expected to be released in late 2015.



#### 4.4. Forestry statistics

The forestry sector comprises three main subsectors: the natural or indigenous forests, pine plantations, and hardwood plantations (mainly mahogany). Fiji has a standing forest resource of approximately 1,124,000 hectares, of which 952,000ha are in indigenous or natural forests; 67,000ha in mahogany plantations; and 105,000ha in softwood plantations.<sup>18</sup>

The Forestry Department collects information on commercial forestry operations, but does not collect any data on household use of forestry. The department is concerned about the cutting down of forests and conducts its own surveys to keep an updated forestry stock to assist planning of harvesting and reforestation. Degradation of forest resources is monitored by the Department and if need be they undertake rehabilitation works.

The Department's statistical unit compiles all forestry data, including exports, imports and commercial harvesting. These data are collected on a weekly, monthly, quarterly and annual basis and provided to FBOS for consideration as part of FBOS's compilation of forestry sector GDP. However, these data are not published on the Ministry's website.

Information on natural forest and planted forest areas on farm land was collected on the 2009 National Agriculture Census, resulting in estimates of 41,700ha of natural forest and 3,000ha of planted forest, equivalent to 18% of total farm area.

#### 4.5. Fisheries and aquaculture statistics

Fish and fishing are extremely important to the economy of Fiji. A large number of people are employed in the fisheries sector and fish makes an important contribution to the diet of local residents. In addition, fishing is cherished for its recreational and social aspects. In relative terms, fisheries is the third largest natural resource sector, behind sugar and "other crops".<sup>19</sup>

The fisheries sector is one of Fiji's most important sectors given its important contribution to the country's GDP, which was approximately 3.2% in 2012, with export earnings of FJD 208 million or 17.1% of domestic exports for the country.

The Fisheries Department has its own statistics' unit. It collects inshore and offshore fisheries data on exports, local catches and aquaculture and on the general status of fisheries projects. This information is disseminated to stakeholders and users via annual reports, seminars and shows. Newsletters are published on a quarterly basis, but could not be located on the Department's website: [www.fisheries.gov.fj](http://www.fisheries.gov.fj).

Fisheries also provide their annual data to FAO, FBOS, SPC and the Western and Central Pacific Fisheries Commission (WCPFC). SPC and WCPFC compile and report on annual catches for the Pacific region and this information is published on the WCPFC website: [www.wcpfc.int](http://www.wcpfc.int).

Fisheries personnel conduct a weekly market survey, collecting market volumes and prices each Wednesday through to Saturday and provided this information to FBOS. This involves the main markets only as it is very difficult to capture information on all small catches sold at roadside stalls or catches for home consumption.

Some aquaculture data was collected in the 2009 National Agriculture Census. This included the number of fish ponds, amount of shrimp and tilapia harvested and the volumes and values of each variety sold. However no household fishing activities or catch volumes were collected.

Some of the challenges faced by the Fisheries Department include the lack of adequate fisheries policies and/or strategies and regulatory frameworks; the evolving institutional approach to fisheries management to demarcate the roles of government and the private sector; weak data and statistics collection and

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<sup>18</sup> Millennium Development Goals – 2<sup>nd</sup> Report 1990-2009 - Ministry of National Planning (Sept 2010)

<sup>19</sup> Fisheries of the Pacific Islands – regional and national information, FAO RAP publication 2011/03

management systems; poor performance of aquaculture programmes; and high expectations of resource owners.<sup>20</sup>

#### **4.6. Agricultural markets and price information system**

Fiji currently runs a balance of trade deficit, with the value of imports in 2013 exceeding exports by FJD 3.2 billion.

In 2013, export of agricultural-based commodities (Harmonized Commodity Description and Coding System (HS) Codes 01-10) were valued at FJD 337 million and made up 16.5% of Fiji's total merchandise exports. Import values of food-based products including fish, meat, fruit and vegetables have increased by approximately 70% from FJD 349 million in 2009 to FJD 589 million in 2013.

This increasing reliance on the importation of food products is one of the main reasons behind the Fijian Government's focus on boosting domestic production and substituting imported commodities with similar locally produced products. If achieved, this could have a significant impact both on enhancing food security and reducing Fiji's current trade imbalance.

##### Price Indices

FBOS compile a monthly Consumer Price Index (CPI) which is published on their website.

The CPI measures prices of over 30 fruit and vegetable commodities plus various meat and fish species as components of the Food and Non-Alcoholic Index.

The Ministry of Agriculture conducts monthly meat surveys and obtains production data and farm gate price information which are reported in the quarterly Divisional Commodity Reports. Unfortunately these quarterly reports are not published on the Ministry's website.

FBOS also conducts its own sample survey of farmers to obtain intermediate costs, i.e. cost of production.

#### **4.7. Water and environment statistics**

Extracting water from rivers and aquifers is already the subject of some conflict in Fiji. Conflicts between various users arise in part because there is no coordinating mechanism to ensure that water use for one sector (such as agriculture and irrigation) is recognised and that other sectors (such as town water supply, tourism or industrial water demand) do not adversely affect an existing development by other sectors. Currently, Fiji has no effective management mechanisms to control and monitor the extraction of water from the environment. A coordinating framework is required that can coordinate the allocation of water and stipulate the various rules and priorities under which it can be taken.<sup>21</sup>

Fiji's economy and its people, like other small island states, are also susceptible to the impacts of climate change. Policies adopted by Government in successive Development Plans have recognized the critical importance of managing the environment and natural resources, to ensure social and economic prosperity in the present and for the future.

Climate change is beginning to have substantial and widespread impacts on Fiji, affecting sectors as varied as health, coastal infrastructure, water resources, agriculture, forestry and fisheries. As a predominantly agricultural based economy, the impact is being felt more by the rural populace who depend on the agriculture sector for their livelihood. The increasing incidence and intensity of droughts, cyclones and flooding is taking its toll on the economy and the lives of ordinary citizens.

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<sup>20</sup> Fiji and the Secretariat of the Pacific Community – Joint Country Strategy 2010-14 (Feb 2011)

<sup>21</sup> Fiji and the Secretariat of the Pacific Community – Joint Country Strategy 2010-14 (Feb 2011)

The sea-level rise is leading to coastal erosion. With the majority of villages and settlements in Viti Levu located along the coast, there is a noticeable infiltration of the sea into village compounds during high tide. Continuous coastal erosion is also taking its toll on inshore fisheries on which the villages rely for food. The drop in the size of the catch is attributed to the build-up in sedimentation. Coastal populations and their assets are exposed to higher vulnerability to extreme events such as storm surges, tsunamis, and high tides. The erosion of coastal areas is also now slowly leading to the movement of villages away from low lying areas.

Providing relevant agricultural and rural data is critical to the ongoing monitoring of the environment, its valuable resources and the impact of climatic events on agriculture production and rural communities. The possible inclusion of an environmental block of questions should be considered for future agricultural censuses or surveys.

There is currently very little activity in terms of environmental and water surveys in Fiji. The 2009 National Agriculture Census included a question on irrigation, fertiliser and pesticide use for temporary or permanent crop production. However, information relating to water sources, irrigation methods, types of fertiliser or pesticide used and volumetric data were not collected. Furthermore, data relating to these farm inputs were not included in the 2009 National Agriculture Census Report, published by the Ministry of Agriculture.

The 2007 Census of Population and Housing sought information on the main water supply, reliability of supply, toilet facilities, waste disposal and other rural infrastructure information relating to households, and some of this information is now accessible down to Enumeration Area level via the Fiji PopGIS mapping tool link on the FBOS website ([www.statsfiji.gov.fj](http://www.statsfiji.gov.fj)).

#### **4.8. Rural development statistics**

Several ministries have an interest in information relating to rural development. This includes village-level information on issues such as road infrastructure, market access, access to electricity, sources of drinking water, waste water, sanitation methods, access to education and health facilities etc. These are important measures of progress against the various Millennium Development Goals, especially MDG 1 - eradicate extreme poverty and hunger; MDG 2 - achieve universal primary education; MDG 3 - promote gender equality and empower women; and MDG 7 - ensure environmental sustainability.

The ten-yearly Census of Population and Housing and five-yearly Household Income and Expenditure Survey (HIES) collect household-level information on electricity, water and sanitation methods, however information requirements specific to agriculture rural infrastructure and development should be considered in the context of future agricultural surveys or censuses.

#### **4.9. Food security and nutrition**

Fiji has become increasingly dependent on food imports. Over the past decade, food imports have been steadily rising. Traditionally, food security has always been achieved through sustainable agriculture and fishing practices relying mostly on traditional food crops. More recently, as demand continued to grow for more variety and quality, food imports have been brought in to supplement these excess demands. This includes fresh fish, rice, sugar, potatoes, milk and other dairy products where local production is currently not able to meet domestic consumption demand.

Fiji imports on average close to 44,000 tons of rice (semi-milled rice, broken rice, paddy rice, and brown rice) to meet around 80% of domestic consumption. Rice is able to be imported at a much lower cost compared to the cost of producing it locally. Rising international commodity prices has resulted in the cost of rice imports more than doubling from FJD 16.2 million in 2000 to FJD 36.2 million in 2011.

Similarly, the declining dairy industry has seen a greater reliance on milk imports to supplement local production to meet domestic demand. The industry currently spends over FJD 70 million annually on imported milk products that meet 87% of domestic consumption. To meet domestic demand, the industry would require importation of another 25,000 lactating cows to produce 37 million litres of milk and the development of 6,000 ha of improved pasture. Currently, local dairy production averages 20-25 million litres annually compared to domestic demand of 80 million litres.

The ever increasing reliance on imports, effects of climate change, decrease in efforts, and the attraction of other high yield sectors has resulted in the threatening of local food supply and questions about its ability to sustain local livelihoods and nutrition have become an issue.

Despite spending close to FJD 83.5 million on production (either in support of food security or export promotion) over the five years to 2013, the incidence of poverty, particularly among the rural population, remains high at 43%.<sup>22</sup>

Rural households spend about 47% of their total expenditures on food (HIES, 2008-09). These households are hardest hit when the cost of the food basket increases, and rising food prices coupled with the challenges of rapidly increasing levels of food and nutrition-related diseases in Fiji, make it imperative that increased emphasis is placed on the production and consumption of nutritious local foods.

The 2013-14 Household Income and Expenditure Survey (HIES) collected information on household food production and consumption. This information is extremely important in terms of assessing the nutritional aspect of Fijian household diets and in preparing the nation's annual Food Balance Sheet.

The Fiji National Food and Nutrition Centre (NFNC) compiles an annual Food Balance Sheet (FBS) with the last report produced for 2010. Information to construct the FBS is gathered from various sources including the Ministry of Agriculture, FBOS, Fiji Dairy Ltd and Fiji Sugar Co. but usually there are considerable gaps in the production data. These limitations include difficulties in getting production data, particularly in the non-sugar sector and specifically subsistence level production and for some commodities there is no data.

NFNC also conducts a Nutrition Survey every 10 years to assess the level of nutrition across the country. The last survey was conducted in 2014. The survey is at household level and records information on food intake in the past 24 hours. Approximately 1% of the population were sampled, with around 40 households selected in each of the 45 enumeration areas, each identified pre-survey from a frame maintained by the Department of Health Zone Nurses. Enumeration involved the collection of information on household food security; infant consumption; individuals 5 years and above, with all 5-15 years included, but only 2 adults per household (1 from each sex) over 15 years age; food frequencies; and food consumption in the previous 24 hours.

All the data collected is processed at NFNC with data entry using Epidata, analysis using SPSS and dissemination is via pdf reports uploaded to their website ([www.nutrition.gov.fj](http://www.nutrition.gov.fj)). No raw or analysed data is uploaded in spreadsheet format.

#### **4.10. Other domains**

Country level export and import data are collected by the Fiji Revenue and Customs Authority, and collated and disseminated by FBOS as part of their monthly Merchandise Trade release.

##### Household Income and Expenditure Survey (HIES)

FBOS now conducts a Household Income and Expenditure Survey (HIES) every five years to collect data on both household income and expenditure, the production and consumption of home produced foods and other commodities, household demographics, employment/activity, educational attainment, and household characteristics including access to water and sanitation, and energy utilisation for cooking and lighting.

The field phase of the 2013-14 HIES was completed in April 2014 and the survey data is currently being processed, with preliminary results expected to be released in the third quarter of 2015. The earliest HIES in Fiji was conducted in 1943 covering 23 European families. The more recent surveys were conducted in 1977, 1983, 1990-91, 2002-03 and 2008-09.

The next HIES is scheduled for 2018-19.

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<sup>22</sup> Review of the Non Sugar Agriculture Sector, Policy Paper Series 04/2013, Ministry of Strategic Planning, National Development & Statistics

## System of National Accounts

FBOS is the responsible agency for compilation of Fiji's National Accounts Statistics. The compilation is done in accordance with the United Nations System of National Accounts 2008 (2008 SNA). The economic activities are classified according to the Fiji Standard Industrial Classification [FSIC] 2010 which is based on the International Standard Industrial Classification (Revision 4).

In the absence of regular agricultural surveys providing crop and livestock production, FBOS calculate the Agriculture sector GDP share from a range of sources, including: the most recent production data provided by the Ministry of Agriculture, the most recent HIES and National Agriculture Census data, volumes and values from the monthly FBOS Local Market Survey and Export trade data provided by the Fiji Revenue and Customs Authority.

Annual Fisheries Department data on ocean fisheries unloadings and inshore fisheries catches, including weekly Market Survey volume and price data are used by FBOS to calculate the Fisheries sector GDP.

## CHAPTER 5

### INTEGRATION OF AGRICULTURAL STATISTICS INTO NSS

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#### 5.1. Extent of integration in Agricultural data collections

##### 5.1.1. Use of standard concepts and definitions across censuses and surveys

Fiji has adopted international classifications as below:

- ISIC Rev. 4 (International Standard Industrial Classification) at 4 digits
- SITC Rev. 4 (Standard International Trade Classification) at 1 digit
- ISCO-08 (International Classification of Occupations)
- HS 2012 (Harmonized Commodity Description and Coding System) at 8 digits
- COFOG (Classification of functions of Government)
- COICOP 2012 (Classification of Individual Consumption According to Purpose) at 9 digits

##### 5.1.2. Use of common frames (List/Area/Multiple Frames), remote sensing and cadastral maps

Initially the Fiji Bureau of Statistics (FBOS) enumeration areas (EAs) for the 2007 Census of Population and Housing Census were used to identify stratum for the 2009 National Agriculture Census. Subsequently it was determined that re-stratification of whole EAs and the subdivision of other EAs would be more efficient as in many of the FBOS EAs, farms were present only in small pockets; the uniformity of agriculture in the EA, one of the strengths of the stratification, did not exist. These EAs were, first, reviewed for the presence of natural pine forest and natural reserves. After these areas were removed, the remainder of the EA was divided into one square kilometre grids before the sampling process occurred. After the grids were selected, the Department of Agriculture's Land Use Section prepared maps using detectable boundaries "around the grid". It was not possible for segments to retain the gridlines as boundaries because they seldom were along recognizable boundaries; however, it was possible to approximate 100 hectares in that general area.

Maps and aerial photos (1994) from earlier surveys were the basis for the numbering of the grids and identification of EA and stratum boundaries. More current GIS software was obtained, but the processing centre was not located with the Agricultural Statistics Unit, hence efforts to split the EAs into more homogeneous areas were not feasible.

Enumerators marked farm tract boundaries on the copies of the 1994 photography and estimated tract areas based on a grid template.<sup>23</sup>

One of the limitations of area frame samples is the accurate assessment of rare or concentrated (non-uniform) variables – such as poultry houses or large dairy or beef farms. The list frame sample, developed from the knowledge and experience of Department of Agriculture Animal Health and Production Division and Crop Extension Division staff, was expanded as data collection occurred and there was better awareness of large and specialized farms. Data were collected from all of these farms.

##### 5.1.3. Use of GIS to map households, agricultural holdings and land parcels

GIS information was not collected for agricultural households enumerated in the 2009 National Agriculture Census.

However, household GIS locations were recorded during the 2007 Population and Housing Census, as well as in recent MOA Producer and Trader Surveys and are also being recorded by some Ministry extension/AH&P officers in the current agriculture baseline farmer profiling exercise. It is also proposed that GIS location information will be collected during the next Agricultural Survey or Census.

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<sup>23</sup> 2009 National Agriculture Census Report, Department of Agriculture

GIS locations have been collected in the 2015 Agriculture Baseline Survey, although for all households contained within a village area, a common way point was recorded. Because of this, it will not be possible to identify a specific village household for sampling through its GPS point, given as households share the same village way point. Individual GPS locations were however recorded for farms located outside the village environment.

#### **5.1.4. Existence of Master Sampling Frame for agricultural census/surveys**

A list of households in respect of each enumeration area in the country was prepared following the 2007 Census of Population and Housing. This updated household list was then used as a starting frame for the 2009 National Agricultural Census, however for frame efficiency reasons some re-stratification was necessary, see Section 5.1.2 above.

There is currently no master sampling frame available for agricultural survey/census. Frame considerations for the proposed 2016 Agricultural Survey are likely to include assessment of the frame of agricultural households from the 2009 NAC, recent land and land use mapping undertaken by SPC, and outcomes from the Agriculture Baseline Data Survey currently being undertaken by MOA Extension Officers that could help form the basis of the sample frame. FAO SAP have identified the assessment and development of a sample frame and sampling strategy as a priority Technical Cooperation Programme (TCP) project in 2015/16.

#### **5.1.5. Existence of integrated databases**

There are currently no integrated databases, although some Ministries have commenced projects to centralise their own respective data holdings. These data holdings are generally only accessible by individual agency staff, i.e. they are not publicly available but may be requested from the holding agency or organisation. Selected agriculture production data collected by both government and non-government organisations are shared with the Ministry of Agriculture and with FBOS, with some of this data published by FBOS as part of their Business Activity – Key Statistics releases.

The Ministry of Agriculture has previously proposed that the FAO CountrySTAT platform may be a good framework for an integrated database that could force agencies to share their data.

CountrySTAT is a web-based information technology system for food and agriculture statistics at the national and subnational levels. In practice, it acts as a one stop centre which centralizes and integrates the data coming from various sources and allows to harmonize it according to international standards while ensuring data quality and reliability.

Through national and regional CountrySTAT projects, FAO forms partnerships with statistical offices and the ministries of agriculture, fisheries and forestry among others to introduce the system and build the national capacity to use it. In each country, the national government makes a substantial contribution to ensure its deployment and continued training and maintenance.

#### **5.1.6. Other areas**

Whilst there is considerable agricultural and rural information collected and maintained by various Government and Non-Government organisations within Fiji, much of this data is not publicly accessible, meaning that the existence of this data is either not known or understood by other users. There is also no consolidated listing of all data holdings that are currently available.

The Ministry of Agriculture website ([www.agriculture.gov.fj](http://www.agriculture.gov.fj)) contains minimal information about its survey operations or statistical reports, and what information is available is dated and inconsistent. For example, the most recent agriculture production data available relate to 2009 (including differing production data from the 2009 NAC and the Ministry's own administrative collections), agricultural import and export data to 2011, and market price data to April 2014. Also, none of the Ministry's Annual Reports are published on their website.

It was a similar situation with the Department of Fisheries website ([www.fisheries.gov.fj](http://www.fisheries.gov.fj)), where no catch data or Annual Reports are available.

### Statistical Software Capability

The Ministry of Agriculture used a variety of statistical programs in the 2009 National Agriculture Census for its data entry, processing, analytical and dissemination operations. These included Microsoft Access databases for data entry, processing and data cleansing and editing. Tabulation and analysis of data were undertaken using Microsoft Excel and SPSS (Statistical Package for Social Sciences) software.

Data are most commonly collected through personal interviews, with centralised manual data entry at a later date.

No scanning or GPS technology was utilised for the 2009 National Agriculture Census. Databases are maintained in Microsoft Access format, however these databases, and therefore the raw data, are not currently accessible due to Server power supply and password security problems. Resolving these two issues has been identified as a priority in the short term, possibly requiring FAO or SPC technical assistance to resolve the password security issue.

## **5.2. Duplication in data collection**

Although there are no formal or regular, i.e. annual, agricultural data collections undertaken by the Ministry of Agriculture, there is considerable duplication of rural and agricultural information collected by various Ministries and NGOs. These Ministries have been collecting information from the communities based on their own specific needs, but as these collections are not coordinated nor is the data available in the public domain, duplication occurs and what information is available is not being effectively managed or utilised.

Such data are collected and generally retained by the collecting organisation, there is often minimal analysis of the data as agencies may not have the capacity or knowledge to do so, with information kept in its raw form which further limits its effectiveness and usefulness.

An example of data duplication includes household and demographic information obtained through FBOS household surveys (e.g. Population Census and HIES), the National Agricultural Census, iTaukei Affairs Board Turaga-ni-koro's (Village head) reports and village surveys, as well as information held by Ministry of Agriculture Extension Officers, Ministry of Health, Ministry of Youth and Sports, Ministry of Social Welfare (Women and Children), Fiji National Food and Nutrition Centre surveys and other NGOs.

Much of this duplication could be negated if the relevant organisations liaised more closely when assessing their data needs or prior to commencing any data collection activities and also ensured that any data they did collect were publicly available and accessible. In environments where public dissemination of data is generally lacking, as in the case of Fiji, this often leads to duplication of effort, unnecessary and additional respondent burden and differing data outcomes. This is not an ideal situation for any statistical system and not only is it costly, it can undermine confidence in the various data and result in ill-informed policy and planning decision making.

## **5.3. Scope for building synergies and partnerships**

The potential exists for even closer working relationships and partnerships between FBOS and MOA, particularly in developing survey methodologies, sample design, data analysis and particularly in the area of data dissemination.

Building statistical capacity and expertise within the Ministry of Agriculture has been acknowledged at Ministerial level, resulting in the recruitment of two experienced statisticians from FBOS to work in the Ministry's Agriculture and Rural Divisions. This cross-fertilisation of statistical, survey and subject matter knowledge across agencies can be most effective in delivering on joint outcomes, but also needs to be supported by the recruitment of other suitably skilled statistical personnel.



FBOS has an important facilitative role in building synergies and partnerships with and between other Ministries, in building statistical capacity in all ministries and particularly in assisting them with their data analysis and data sharing activities, as often other Ministries do not possess the relevant knowledge or expertise.

The FAO Sub-regional Office for the Pacific Islands (SAP), located in Samoa and the Secretariat of the Pacific Community (SPC) Office, based in Suva, also play important supporting roles by working with both MOA and FBOS to further develop these synergies and partnerships. They provide an independent perspective on issues, and can be enablers to building the various capacities and capabilities in each agency. Developing a collegiate approach will be critical to ensuring that there is effective use of available financial and staffing resources in any future agricultural statistics' system adopted in Fiji.

This issue is addressed in more detail in section 8.1.

#### **5.4. Other activities**

Given the difficult financial position in Fiji, and the past reliance on external donor funding to conduct recent National Agriculture Censuses, conducting annual or even biennial agricultural sample surveys may not be possible. It is therefore necessary to consider other possible data collection strategies which may not impose considerable additional costs on either the Ministry of Agriculture or FBOS.

One possible option for collecting agricultural and rural information is to include an agriculture module, containing a minimum set of core agricultural data items important to Fiji, on existing and funded household collections, such as the Census of Population and Housing and the five-yearly HIES Survey. This information would supplement the detailed agricultural and rural data collected each five years or so through either a National Agriculture Census or Agriculture Survey.

It is acknowledged that an approach of this kind will present a number of challenges, particularly in relation to the HIES, where sample and sub-sample design, agricultural content, and reference period issues will need to be carefully considered. However, by utilising such an approach it may be possible to collect agricultural production and rural data through a statistically designed sample survey on a more regular basis than the current five or ten-yearly scenario.

The Secretariat of Pacific Community (SPC) has commenced work on developing a standardised Population Census and HIES content for adoption across the various Pacific Island nations, including an agricultural module which could be adapted to provide core data items relevant to each specific country. The SPC-developed HIES has recently been trialled in the Solomon Islands and the outcomes of this trial will be important in terms of the future consideration of using a similar approach in a future Fiji HIES.

## CHAPTER 6

### MINIMUM SET OF CORE DATA

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#### 6.1. Accepted national minimum set of core data items

Fiji currently does not have an accepted minimum set of core data items, nor does it have a regular (i.e. annual or biennial) agricultural survey program in place, although key agricultural and rural information are collected in the National Agricultural Census, HIES and to a lesser degree the Census of Population and Housing. However, the frequency of these activities, at ten-yearly (both Censuses) or five-yearly (HIES) intervals, is considered insufficient to meet the needs of Fiji's government ministries and other public and private organisations for reliable, accurate and timely information.

Under the Government of Fiji's *'Roadmap for Democracy and Sustainable Socio-Economic Development, 2010-14'*, most government ministries were required to have development plans which require regular monitoring and evaluation of progress, usually on an annual or biennial basis. Similarly, many non-Government and private organisations have strategic or business plans which are monitored on an ongoing basis.

There is a clearly identified need to introduce some form of regular and sustainable agricultural statistics' system within Fiji to produce the basic agricultural information needed to guide evidence-based decision making. This is consistent with the main objective of the Global Strategy which is to improve Agricultural and Rural Statistics.

Whilst regular information on crop production and livestock numbers are critical to any such agriculture statistical system, the Global Strategy provides guidance and suggestions on other areas of economic data, social data, environmental data and geographic references which are considered important to "complete the picture" and provide for informed planning and policy decision making across the agriculture and rural sector.

The data items identified in **Annex II** are intended as a starting point for compiling a minimum core data set for Fiji. Sugarcane, cassava, dalo, coconuts and yaqona, were reported in the 2009 National Agriculture Census as the main crops grown, both in terms of area planted and value of production.

Although the value of rice production in Fiji reported in 2009 was less than several other fruit and vegetable crops, it was the sixth largest crop in terms of area planted. Rice is also critically important from a global perspective of food production and security and forms part of the eight core globally important crops, along with wheat, maize, barley, sorghum, sugarcane, soybeans and cotton. Of the eight globally important commodities, only sugarcane and rice are grown in Fiji, with only sugarcane production currently meeting domestic consumption needs. Fiji is therefore fully reliant on the importation of all other globally important commodities, and partially reliant on rice imports, for its domestic consumption requirements.

In determining what other crops should be included in the Fiji core data set, other important considerations include value of production, export importance, import substitution, food and dietary significance, secondary processing or value-adding potential etc. Whilst crops such as watermelon, bananas, pineapples, ginger, tomatoes and English cabbage each had an estimated value of production between FJD 1 million and FJD 3 million in 2009, their combined value remains considerably less than the proposed core data items of sugarcane (estimated FJD 154 million), yaqona (FJD 66 million), dalo (FJD 50 million) and cassava (FJD 21 million).

In 2011, potato imports totalled almost FJD 24m, ranking it second only to rice in terms of imported crop values. Data on potato plantings and production were not previously collected in the 2009 NAC, however in terms of assessing its import substitution performance, potato information should be considered as part of the wider set of agricultural commodity data collected in the more detailed agricultural surveys and censuses. Given the early stage of the potato crop's development in Fiji, it may be premature at this stage to include potatoes in the Fiji national core data set.

The main livestock categories in Fiji, namely beef and dairy cattle, poultry, goats, pigs and sheep, all form part of the globally identified core livestock groups.

## **6.2. Data gaps and future requirements**

The availability of accurate and relevant agricultural data and business statistics is critical to the formulation of policies and strategies as well as the monitoring and evaluation of agricultural sector performance. This baseline data required for quantitative analysis of sector performance and for setting sector targets is currently incomplete, of suspect quality, out of date or not available at all.

The 2009 National Agricultural Census data should be a rich source of agricultural information, however currently farm household unit records cannot be accessed on the server hardware used for data storage. The 'unlocking' of these records will involve replacement of the server hardware's power supply and then IT security action to 'break' the access password(s). Technical assistance and support in resolving these server issues, with the production of additional census datasets and the various analyses identified will be extremely valuable and assist data users through the dissemination of additional datasets and provide the Ministry with a valid data source in which to confront result from the Baseline Survey and improve the overall quality of administrative data collected.

In the absence of regular, formal agricultural surveys in Fiji, there is currently a heavy reliance on administrative reporting for most agricultural production statistics, with monthly and quarterly data collected at the locality level from farmers and village heads by the Ministry's Animal Health and Production (AH&P) and Extension Division officers. This data is then aggregated progressively to District, Province, Division and finally National levels. A criticism commonly expressed during stakeholder discussions was that generally agriculture production and livestock data were only available at the national level, and it was therefore difficult to know what was happening at the lower regional levels where many development projects were focussed.

Also, a number of stakeholders, both within and external to the Ministry of Agriculture expressed significant reservations and a general lack of confidence in the accuracy of these administrative data. The estimates are highly dependent on Ministry officers actively monitoring and having a very good understanding of crop plantings and production levels or livestock information in their locality, and being able to supply accurate estimates of crop areas planted and livestock counts. Many statistical stakeholders suggested that this important data source and associated collection methodologies need to be reviewed, formalised and strengthened, as its 'real time' nature can be an asset and significantly important to evidence-based decision and policy making, particularly in the absence of regular, formal survey activities.

The Ministry of Agriculture, with its existing wide distribution of Extension and AH&P officers, remains well placed to continue with this ongoing collection of monthly and quarterly administrative data. However the data concerns and level of confidence expressed in the statistics will need to be addressed. It is acknowledged that this will not be an easy task.

Uniform standards, definitions, data collection methods and reporting formats will need to be introduced; effective management, coordination, supervision and quality control mechanisms need to be put in place; training and development of extension and AH&P Division officers will need to occur; and measures will be needed to ensure greater objectivity in the reported data. Also, the use of census and other survey data as a benchmark for current crop and livestock statistics will need to be further explored and implemented.

It may be possible to implement a scientifically designed sample survey of farm households who would be visited by extension officers and data collected from each quarter. Such an option would place greater statistical rigour around the existing administrative collection processes but would require extension officer commitment to visiting the designated farms each quarter. Such a survey would be heavily dependent on the availability of a suitable quality frame with appropriate farm coverage. Whilst it is hoped that the current Agriculture Baseline survey may provide such a frame, if it doesn't, then the 2017 Population Census remains the next logical agriculture frame source, but this may not be available until 2018 or even 2019.

The International Trade Centre (ITC) is currently working with the Government of Fiji through the Ministry of Agriculture and Fiji Crop and Livestock Council (FCLC) to support its agricultural industry through the sharing

of expertise in technology and innovation. A new mobile application for Fiji farmers is expected to improve their knowledge on crop and livestock data.

ITC has devised a match-making service for buyers and suppliers to conduct their trading online in a project undertaken for the FCLC. Another application loaded onto a computer tablet facilitates the collation of market prices by officers from the Ministry of Agriculture, which can cover more than 40 types of farm products sold in municipal markets. Through a database and mobile application server, the information is published for municipal markets countrywide and can be accessed by farmers through their mobile phones.

FCLC and ITC are also considering the wider introduction of Notebook computers or Tablet technology and associated applications which will enable Ministry Crop Extension and AH&P officers to collect and collate their monthly and quarterly crop area and livestock count information and record this information in an already developed FCLC database.

Whilst administrative data remains the main source of regular production data, an apparent lack of analysis and value adding of agriculture data represents a serious weakness if policy making is to improve, and nationally driven data collection and management is to improve in a sustainable way. The 2009 National Agriculture Census provided an extensive set of valuable data but with the data's inaccessibility due to server problems, it is not clear whether any detailed analysis or data confrontation with administrative or other available data sources has occurred, or any value adding activity undertaken.

As a considerable amount of agriculture activity in Fiji occurs in the subsistence or informal sector, it is therefore important to understand what is happening outside of the market environment. The 2013/14 HIES is expected to provide data on the volume and value of household consumption of own production, and analysis of this data will be important in terms of confirming the contribution of the subsistence sector and the sector's coverage in the National Accounts.

As detailed in **Annex II**, most of the globally identified 'core' agricultural and rural data items relevant to Fiji have been or are currently collected, however the regularity of formalised collections or surveys is less frequent than required. Key data items such as crop area and livestock numbers are collected each ten years in the Agriculture Census, with livestock numbers also collected in the ten-yearly Population and Housing Census, but not published. The Global Strategy recommends that these and other core data be collected annually, where possible, hence the reliance on administrative collections in the intercensal periods.

There are other important core data items which are not currently collected in the Fiji National Agriculture Census, including the volume and value of farm inputs, i.e. fertilizers, pesticides, seeds, animal feeds, fuel, irrigation sources and methods, as well as crop and livestock products used in agro-processing. FBOS undertake a small sample survey of farms to collect information on intermediate costs for a range of commodities as part of its GDP compilation of the agriculture sector.

It is clear from stakeholders and user feedback that a sustainable statistical system within Fiji which produces quality and timely agricultural information is required. At a minimum, such a system should provide for the annual collection of the more important 'core' data items, with other data collected on a less regular basis, such as in the Agricultural Survey (proposed for 2016) or Agricultural Census (next scheduled for 2019).

Consideration could also be given to better sequencing the decennial Population and Agricultural Censuses, particularly if a mid-cycle agricultural survey arrangement is not considered sustainable. From 1936 to 1996 the Population and Housing Census was conducted in years ending in "6", however the most recent Population Census was undertaken in 2007 and the next is planned for 2017. On the current schedule, this will be followed two years later by the National Agriculture Census in 2019.

This census cycle presents a number of important considerations, both positive and negative. Firstly, the household frame generated by the Population Census is only two years old when the following agricultural census is conducted, therefore its accuracy and usefulness as an agricultural frame is optimised, particularly if farm household and locality level details form part of the frame.

Secondly and conversely, conducting the two Censuses only two years apart, i.e. 2007 and 2009, means that it will be 2017 or a further eight years before the next population census is conducted and detailed household and demographic data is again collected.

Thirdly, improved sequencing of the Agricultural Census with the Population Census, for example conducting the Agriculture Census five years after the Population Census would provide detailed demographic and household information every five years, rather than the current two year/eight year census cycle, and the inclusion of an agriculture 'module' on the Population Census would mean that 'core' agricultural data is collected at least every five years.

Further, if a core agriculture 'module' was also included as part of the Household Income and Expenditure Survey (HIES) conducted in the years ending in "3" and "8", this would further complement the availability of important agricultural data. This sample size could be 10% of identified agriculturally-active households, as determined by the HIES sample and specific data requirements.

Should this proposed HIES 'module' approach not be considered suitable to provide sufficient agricultural data, another option worthy of consideration is conducting an agricultural survey around the mid-point (year 3) between the Population and Agricultural Censuses, i.e. 2020, 2025, 2030 etc. Although it is acknowledged that this 'new' survey would incur additional costs over the existing Census and HIES survey program.

The following table provides a possible scenario of how such a statistical system might operate in terms of sequencing the Agricultural Census/Survey, Population Census and HIES collection activities, with the following presumptions:

- That the Agriculture Census in 2019 is deferred and moves to years ending in "2" from 2022, i.e. five years following the Census of Population and Housing;
- That the Population Census cycle continues in those years ending in "7", i.e. 2017, 2027 etc;
- That the five-yearly HIES cycle remains unchanged in years ending in "3 and 4" and "8 and 9", i.e. 2018/19, 2023/24, 2028/29 etc;
- That an agriculture 'module' to collect 'core' crop production and livestock information is considered for inclusion on both the Population Census and HIES; and
- That the proposed 2016 Agriculture Survey is only undertaken if a suitable farm frame results from the Agriculture Baseline survey, and may not be required if the agriculture 'module' concept is adopted.

Under the proposed scenario described below, household and demographic detail would be collected every five years in the Population and Agriculture Censuses and some form of agricultural survey activity would occur generally every second year or at worst, every third year. Under this proposal, six or seven agriculture collections would occur in the ten year period from 2016 to 2025 inclusive.

Possible Agricultural Statistics Survey Schedule

<b>Year</b>	
2015	<b>Agricultural Baseline Survey finalised</b>
2016	<b>Agricultural Survey – core and non-core data</b> (only to be undertaken if suitable frame is available)
2017	<b>Population and Housing Census</b> (including agriculture 'core' module)
2018/19	<b>HIES</b> (including agriculture 'core' module)
2020	<b>Agricultural Survey – core and non-core data</b>
2021	No agricultural survey activity proposed in this year
2022	<b>Agricultural Census – core and non-core data</b>

	(deferred from 2019 to better align with Population Census cycle)
2023/24	<b>HIES</b> (including agriculture 'core' module)
2025	<b>Agricultural Survey – core and non-core data</b>
2026	No agricultural survey activity proposed in this year
2027	<b>Population and Housing Census</b> (including agriculture 'core' module)
2028/29	<b>HIES</b> (including agriculture 'core' module)

#### Joint Population and Agriculture Census

Another option that has been successfully adopted in some Asian countries, is to fully align the timing of both the Population and Agricultural Censuses and to conduct them simultaneously. Under such a strategy, two enumerators would generally interview each household, one completing the population demographic and household component, whilst at the same time a second enumerator would complete the farm holding and agricultural component. Such an approach could also be considered for Fiji, possibly conducted every five years using the combined census budgets of both FBOS and MOA.

Under such a scenario, both demographic and agricultural data would be collected every five years, rather than separately each ten years as is currently the case.

## CHAPTER 7

### ASSESSMENT OF CAPACITY TO PRODUCE CORE DATA

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#### 7.1. Overall capacity profile of Fiji

Fiji has now conducted thirteen Census of Population and Housing, one in each decade since the 1880's and also four National Agriculture Censuses since 1968. It also produces a regular and ongoing system of national accounts and other finance, economic and social data.

A similar FAO Technical Cooperation Project (TCP) to establish an ongoing FASS, initiated back in 1997/98, found that:

“A preliminary appraisal is that the Fiji current agricultural statistics system lacks an objective statistically sound methodology to collect data to produce objective, consistent, relevant, reliable and timely agricultural information. There are not methodological designs, formulation of concepts and their operational definitions, instruction manuals, adequate questionnaires and other instruments to standardize the statistical processes. There is no staff with the required expertise to design the system, carry out operational processes and to train the national staff in the procedures involved in the system.”<sup>24</sup>

This earlier TCP proposed an annual On-going Agricultural Survey (OGAS) commencing in 1999, with a National Agriculture Census (NAC) in 2000-1, supplemented by cost of production and various crop-cutting surveys, some annual, others two to three-yearly or five-yearly, as key components of the Fiji Agricultural Statistics System (FASS). The initial 1999 OGAS was conducted as proposed by the TCP report, but despite the best intentions of all concerned, there were no further agricultural surveys or census activities undertaken by the Ministry of Agriculture until the 2009 National Agriculture Census. This was primarily due to budget constraints.

The challenge for Fiji and the Ministry of Agriculture, as with other Pacific Island nations, will be to find the necessary resources, both financial and human, to enable it to deliver and maintain a regular and sustainable agricultural and rural statistics system into the future, including regular data collection activities.

#### 7.2. Financial resources

The preface to the 2009 National Agriculture Census Report detailed that the Census was conducted with FAO input to the value of USD 354,000 mainly in-kind, including valuable technical assistance throughout the entire NAC project, as it had done for previous agricultural censuses. The Government of Fiji's contribution to the 2009 NAC was FJD 1.5 million (approximately USD 850,000), both in-kind and cash, bringing the total cost of the Census to around USD 1.2 million.

Fiji currently has plans to undertake a 'mini' census in 2016, followed by another national agricultural census in 2019. The 'mini' census is intended as a trial run to test frame and collection strategies and to identify funding required for the larger Agricultural Census planned for 2019. However, the conduct of the 2016 'mini' census will be largely dependent on the outcomes of the base-line survey conducted in late 2014 and 2015, particularly the coverage and quality of the resultant farming household frame.

It is expected that some external donor funding and technical support, in addition to the Government's Ministry funding, may be required to ensure that the 2016 'mini' census can proceed as planned. FAO SAP are currently considering Technical Cooperation Programme support options for the survey.

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<sup>24</sup> Preliminary Plan for the Establishment of the On-going Fiji Agricultural Statistics System (FASS), FAO/TCP/FIJ/6712, May 1998

In terms of future ongoing agricultural survey and census activities, it is likely that some form of external financial and technical support will be necessary, particular in the short to medium-term. However, in the longer term a commitment to provide appropriate levels of domestic funding to establish and sustain a regular agriculture statistics programme in Fiji will be essential if previous failed attempts to establish such a system are to be avoided.

In terms of funds available for field-oriented statistical activities, MOA assessed this as somewhat of a constraint to their agricultural statistical activities, which is at the lower end of the significance scale. The most significant constraint identified by the Ministry was the level of demand for statistics.

### **7.3. Human Resources**

#### **7.3.1. Staffing**

The Ministry's Economic Planning and Statistics Division currently consists of 3 established permanent staff, 2 temporary Officers and 16 Project Staff who are engaged on annual contracts which expire at year's end. Contracts are renewed at the beginning of each year based on approved projects and available funding.

Few of these staff have statistical skills and the MOA has assessed the number of professional staff available for statistical activities as a relevant constraint to their ongoing operations, with the technical skills of professional staff as somewhat of a constraint.

The Ministry of Agriculture has approximately 90 technical officers and less than 50 clinical and livestock extension officers in their Animal Health and Production Division. The Ministry's Extension Division (Crops) currently has around 150 officers, ranging from Agriculture Assistants (84 staff) and Agriculture Technical Officers (52 staff) through to Director level.

The number of professional and support staff and field workers for statistical activities was identified as a significant constraint to the development of agricultural statistics within FBOS.

#### **7.3.2. Training**

FBOS specifically identified that the technical skills of statistical staff was a relevant constraint to the Bureau's operations.

Although technical skills were considered somewhat of a constraint for the Ministry of Agriculture, feedback from stakeholders indicated that training of extension officers on the critical role of statistics for decision making and the importance of collecting quality data was a training priority for the Ministry. The Ministry did, however, identify training and assistance in survey methodologies, sample design, use of statistical and GIS software as areas for specific attention to improve agricultural statistics in the country.

In recent years, the Ministry of Agriculture has continued to receive technical support and assistance from both FAO and the Secretariat of the Pacific Community (SPC).

SPC and other Pacific-based regional organisations, including the Pacific Island Forum Fisheries Agency (FFA), support the sector through specific programs for capacity building in fisheries, crops, livestock and forestry.

### **7.4. Use of ICT in data process**

The Ministry's Economic Planning Division has around eighteen (18) personal computers in total, of which fourteen (14) are used for agricultural statistics and four (4) for other activities.

FBOS currently has a total of 120 desktop and notebook personal computers, of which 50% have internet access. Two of these computers are available for agricultural statistics, with one having internet connectivity.



FBOS identified up-to-date information technology hardware and software as significant constraints affecting the development of statistics in the organisation.

#### **7.4.1. Data collection**

Agricultural and Population and Housing censuses conducted by MOA and FBOS are most commonly collected through personal interviews, with responses recorded on paper forms requiring manual data entry into computer systems.

Scanning technology has not as yet been adopted in Fiji for the collection of agricultural or population and demographic information, and whilst scanning technologies remains an option for future agriculture census/surveys, this technology has in many ways been overtaken by mobile computer applications and technologies for the collection of information.

Given the relatively small number of farm households to be enumerated in Fiji, estimated at 65,000 in the 2009 National Agriculture Census, the use of hand-held electronic devices such as tablet devices, Personal Digital Assistants (PDAs) or smart phones may be a better data collection option in the future. Such a device provides for real time data entry, editing and correction of information entered whilst interviewing at the household, with data then uploaded to a central server via the internet each evening or when connectivity is available.

The Ministry of Agriculture has acknowledged that it needs to explore all options that are economically viable especially when technology can complement data collection activities. For example, the Ministry is considering the use of remote sensing for verifying land use, to obtain objective area measurements and crop area estimation. The application of remote sensing in various aspects of crop monitoring has been discussed extensively with the Ministry's partners, specifically as a substitute data collection mechanism for crop area and for assessing the impact of natural disasters like floods and typhoons. Remote sensing can also be a useful tool to validate probability sample survey results and for forecasting crop yields using sophisticated simulation.

At the Asia and Pacific Commission on Agricultural Statistics (APCAS 25) session in 2014, Fiji proposed their way forward in terms of remote sensing activities. This included:

1. The Ministry of Agriculture, Fisheries and Forests to continue the joint effort with SOPAC (SPC Geoscience Division) on remote sensing activity in Fiji on areas of interest;
2. The Ministry of Agriculture to continue collaboration with SOPAC on Satellite mapping activity to include demarcation of flood vulnerable areas;
3. Satellite mapping on cropping areas to be commodity-specific; and
4. Work to further explore the DOT SAMPLING crop estimation method with SPC. This was considered one of the most simple and cost effective methods of crop estimation at any given time.

#### **7.4.2. Data processing**

Technologies adopted by the Ministry of Agriculture for data processing of the agricultural census have included CSPro, Microsoft Access, SAS and SPSS used for data analysis. Databases are maintained in Microsoft Excel and SAS format.

FBOS uses CSPro and SAS for data entry and processing and the Bureau's Business Register Unit uses Microsoft Access to record the list of all establishments operating in Fiji.

#### **7.4.3. Data dissemination**

The Fiji Bureau of Statistics has a website at <http://www.statsfiji.gov.fj> for hosting official statistics for the country, which is accessible to external users. In the past year FBOS, with support from SPC, has undertaken considerable redevelopment of its website, including establishing a new Document Library page from where all released data can be accessed.

Although the vast majority of data on the FBOS website is provided in pdf format, recent releases of CPI, International Trade and National Accounts data have been supported by tabular data in Microsoft Excel

format. This is a positive initiative as providing information in spreadsheet format will assist users to import data into their own systems and hopefully may lead to greater analysis and reporting by these users.

Recent FBOS website improvements have also included development of a Fiji Islands PopGIS 2.0 Online Mapping tool using GeoClip software, accessible via a prominent link on the FBOS Home Page (to the SPC website). Over 1,300 interactive maps and pie charts of household and demographic data from the 2007 Population and Housing Census can now be accessed, manipulated, overlaid with other maps and data and downloaded by users. Supporting tabular data can also be exported in Excel or pdf formats. This is an excellent development and significantly enhances the opportunities for planners and policy makers to fully utilise the valuable source of data collected in the Population and Housing Census. Use of similar software for dissemination of the 2009 and future National Agricultural Censuses through such a dissemination tool would be a significant enhancement for the Ministry of Agriculture.

There is minimal agricultural production data published on the Ministry of Agriculture website, and what data is available is quite dated, i.e. 2009. The 2009 National Agriculture Census Report is provided in pdf format only, with no supporting tabular data in Microsoft Excel format.

Important releases such as the monthly Market Watch Reports, which includes details of local market prices, are irregularly disseminated via the Ministry's website, with only one edition published in 2013 and two editions currently available for 2014, the last release relating to April 2014. Also, none of the Ministry's Annual Reports were published on the website as at July 2015.

A check of other Ministry websites and those of public and private organisations revealed that whilst most have operational websites where their annual plans, annual reports and other publications are generally accessible, very few websites include any data or statistics collected or held by the organisation.

## **7.5. Physical Infrastructure**

Ministry of Agriculture staff are located in several different locations, with the Head Office in Raiwaqa, Suva and field offices located in most districts. The standard of accommodation in most offices is reported as fairly basic and cramped. Staff in the Research Division are located in a separate location to the Crop Extension and AH&P Divisions in Head Office, up to 40 minutes travelling time from each other. This physical dislocation is certainly neither ideal nor preferable and potentially leads to Divisions operating individually and independently in terms of processes, systems, data accessibility and storage.

The Ministry has recently undergone an accommodation restructure in Head Office, with the main objective of staff movement and relocations being the separate establishment of Strategic and Operational Headquarters where staff are collocated according to core activities. All Economic Planning and Statistics staff are now located on the same floor.

Not every Ministry employee has a personal computer and internet access is variable. The Ministry has a small vehicle fleet with the no vehicle currently available to the Statistics Unit, which is a major drawback to their operations.

FBOS Head Office staff are based on four floors of Ratu Sukuna House in central Suva, with staff also located in offices in Nadi, Ba and Labasa. These office facilities are generally quite good.

## CHAPTER 8

### STRENGTHS, WEAKNESSES, OPPORTUNITIES AND THREATS (SWOT)

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#### 8.1. Overall agricultural statistical system

The SWOT matrix for the Fiji agriculture sector, including fisheries and forestry statistical program is presented in **Annex III**. The matrix provides a summary of the key issues, strengths and weaknesses which are currently having an impact on the agricultural statistics system in Fiji, as well as several opportunities which may influence efforts to address these weaknesses. It will be important that strategies developed build on the existing strengths whilst grasping the opportunities to improve the statistical methods and practices used to produce regular (preferably annual or at least biennial) estimates of crop and livestock production and other important agriculture-related social and economic data.

It will also be important to mitigate against any identified threats, which may have the potential to stall or even prevent adoption of a workable agricultural statistical system in the country.

The Ministry of Agriculture and other ministries are focussing much attention on their respective sector plans, and the requirement for ongoing monitoring and evaluation of programs and activities and outcomes presents as an opportunity to develop and implement an agricultural statistics system which closely aligns with the key information needs of the sector.

A major weakness identified through the In-depth Country Assessment phase was the lack of quality, available information upon which to base sound planning and policy decisions. This weakness stems from infrequent agricultural census/survey activity and a lack of confidence in existing agricultural administrative data collected by the Ministry of Agriculture's Crop Extension and AH&P Division officers.

The lack of information is further compounded by the fact that most collected data in Fiji is not made publicly available. A critical component of any statistical system is the adoption of an effective dissemination methodology which ensures that information is both available and accessible to policy makers and users. The internet provides one such medium for this dissemination, therefore it was disappointing to observe that a number of ministry and organisation websites, including the Ministry of Agriculture's website, appeared to be not maintained or effectively utilised to disseminate important information that has been collected or is held by that agency.

Financial resources, including an adequate budget to both introduce and sustain an ongoing Fiji agriculture statistical system will be critical. This includes the provision of appropriate statistical staffing levels in both FBOS and MOA, and administrative funds to train Ministry extension officers and support field activities.

Capacity building and the up skilling of MOA technical staff in data collection methods and reporting, sample survey operations, analytical and dissemination skills have been identified as areas requiring some attention. There is a real opportunity to garner support from FAO, SPC and possibly the Statistical Institute for Asia Pacific (SIAP), based in Japan, who is responsible for the training component of the Global Strategy, to be involved in building statistical and survey capacity in both key agencies in these identified areas of weakness.

Relationships and partnerships, particularly between FBOS and MOA, as well as with other data suppliers and users could be further strengthened. The fairly recent recruitment of experienced statistical staff to the Ministry should provide a catalyst to introducing strategies, including joint survey and project collaborations, further staff exchanges between the two organisations and with other ministries to provide advice and assistance, particularly with sample survey activities and statistical analysis.

#### 8.2. Major sub-sectors

In terms of the SWOT analysis, most of the issues identified relate to the whole agriculture sector, including fisheries and forestry, rather than being specific to any sub-sectors.

Data on production, labour markets, market prices and functionality and household characteristics are considered weak or absent, particularly of the subsistence or informal market sectors. The lack of analysis and value adding of agriculture data also represents a serious weakness if policy making and nationally driven data collection and management are to improve in a sustainable way.

Fishery surveys are for the most part conducted by the Fisheries Department, part of the newly formed Ministry of Fisheries and Forests, including inshore and offshore fisheries data on exports, local catches and aquaculture and on the general status of fisheries projects. The Department finds it very difficult to capture information on the volume of small inshore catches sold at the roadside stalls and catches for home consumption.

Some aquaculture data was collected in the 2009 National Agricultural Census, however household fishing activities or catch volumes were not collected.

Weak data and statistics collection and management systems were identified as some of the challenges faced by the Fisheries Department.<sup>25</sup>

The Department of Forests' data collection activities are primarily focussed on commercial operations, as the Department does not collect any data on household use of forestry. Information on natural forest and planted forest areas on farm land was collected on the 2009 National Agriculture Census. This data was published as part of the NAC Report, but it is not clear whether any analysis of this information has occurred in the context of assessing Fiji's overall forest holdings.

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<sup>25</sup> Fiji and the Secretariat of the Pacific Community – Joint Country Strategy 2010-14 (Feb 2011)

## CHAPTER 9

### PRIORITY AREAS FOR TECHNICAL ASSISTANCE AND TRAINING NEEDS

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#### 9.1. Technical Assistance

Whilst the availability of annual agricultural survey data may be considered the main priority and clearly an expectation of many data users, the level of available financial and/or human resources or Government support may mean that such a survey program is not achievable or sustainable. Clearly, no one would wish to see a situation exist where an annual (or biennial) survey program is enthusiastically embraced, endorsed, funded, developed and implemented, only for it to stumble and be unsustainable after just a few years due to financial or other resource pressures or priorities.

Improving performance and sustainability of the broad agriculture sector will require clear sector policy and strategies based on credible evidence and which clarify the roles of government, private sector and civil society. Improving institutional capacity for data collection, analysis and evidence-based policy formation will therefore remain a priority for FAO assistance to the agriculture, forestry and fisheries sectors. Assistance may also be provided to build capacity for studies, reviews and surveys which inform and enhance strategic planning and help guide implementation of policy.<sup>26</sup>

In the short to medium term, a number of priority streams of work have been identified where technical assistance and training will be most beneficial to the Ministry of Agriculture.

As detailed in Section 4.2 above, the Minister of Agriculture has directed that a detailed, baseline data profile be completed for every Fijian farming operation. This profiling exercise has the potential to realise a rich set of base-line data and is certainly a step in the right direction in better understanding the farming sector in Fiji. It also provides a good starting point to improve the quality of agriculture data into the future.

The first stream of work identified is to assist the Ministry's Economic Planning and Statistics Section to assess the results of this Agricultural Baseline Survey. This assessment could examine the extent of farm coverage obtained, the validity and useability of the production and livestock data captured, the suitability of the farmer list as a potential frame for future sample surveys, and identifying possible rectification actions should coverage or other quality issues be identified.

Secondly, both technical and financial assistance will be required to support development of a 2016 Agricultural Survey, should it proceed. This relates to various research and planning activities including determining survey objectives, output requirements, survey scope, coverage and priority topics, development of a sample frame and sampling strategy, questionnaire design and overall operational planning. These activities are currently under consideration by FAO, through its Samoa-based Sub-regional Office for the Pacific Islands (SAP), to provide assistance during 2015/16 as part of its Technical Cooperation Programme (TCP).

Thirdly, technical assistance and training to support the ongoing administrative collection activities undertaken by the Ministry's Extension Officer network is also considered critical. In recent times the Crop Extension Division has acknowledged weaknesses in collection activities and processes and has taken steps to improve the quality of these collections through formalising procedures and a stronger focus on documentation, record-keeping and training. A further challenge for the Ministry's Agriculture Officers will be in assessing information gathered, in accurately estimating crop plantings and then in forecasting expected annual production levels at the various administrative levels, i.e. locality, district, province, division and finally national levels. Having a good knowledge and understanding of actual crop yield data across the various localities will be critical to accurately forecasting annual production levels.

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<sup>26</sup> Pacific Multi-Country Country Programming Framework (CPF) 2013-2017, FAO (December 2012)

Technical assistance with these activities, including ‘unlocking’ of the 2009 National Agricultural Census data, analysis of yield data from the NAC and the comparison with previous yield data sources, including possible ground-truthing exercises are several areas where technical assistance and support could be valuable and improve the overall quality of this important administrative data.

Fourthly, the use of tablet or mobile phone technology for data collection is now becoming well established, but has not been widely used in the Pacific for agriculture surveys. The Fiji Crop and Livestock Council (FCLC) and ITC are already considering the purchase of laptops and internet dongles or tablets for all Extension Officers. Technical assistance is to evaluate the possibility of adopting this Computer Assisted Personal Interview (CAPI) technology for the various Fiji agriculture data collections, both administrative and survey-based, building on the work already underway in Fiji. This could include a trial of the technology, as part of testing the 2016 Agricultural Survey design, to assess its ease of use, collection of a limited set of core items and the full process from field operations to data-base analysis.

FAO SAP and SPC are expected to be key players in providing ongoing technical assistance and support for these initiatives and for any agricultural statistics system adopted in the country.

### **9.1.1. Filling data gaps**

As previously discussed, the lack of regular, quality and publicly available agricultural statistics has resulted in a huge gap in knowledge about the sector and data users’ uncertainty about what data may exist together with a lack of confidence in what data is available. The existing decennial National Agriculture Census is costly to conduct and having important agriculture production and activity information available at ten yearly intervals simply does not meet the need of data users for regular and ongoing data to enable effective policy and planning decision making.

In the absence of an ongoing and affordable agriculture survey program, the established monthly and quarterly collection of crop area and livestock administrative data by Ministry of Agriculture officers does provide a valuable framework upon which to build a more reliable, acceptable and quality set of agricultural and rural data and indicators for Fiji.

Complementing this regular administrative data collection with the National Agriculture Census, further supplemented by the proposed inclusion of agriculture ‘modules’ on both the Population and Housing Census and Household Income and Expenditure Survey (HIES) could provide a relatively low cost, yet potentially effective and efficient agriculture and rural statistical survey program.

The possible inclusion of an agriculture module on the five-yearly HIES will present a number of challenges which will require technical assistance and support from FAO and SPC or possibly other organisations. These include sample and sub-sample design issues, agricultural content design, and consideration of reference period issues (i.e. the 2013/14 HIES was conducted over a 12 month period, involving an aggregate sample size of 3% of Fiji households with six independent household sub-samples each of two months duration.)

However, these challenges could be more than offset by the significant benefits of collecting supplementary agricultural and rural data on a more regular basis than the current ten-yearly Census cycle.

### **9.1.2. Development of master sample frame**

FBOS and MOA have previously developed master sample frames following the Population and Housing and National Agriculture Censuses, which have been used for subsequent survey activities. The ten year interval between agricultural censuses has meant that the quality of the agriculture frame declines as each post-Census year passes. Under the current Census cycles, it means that a further eight years pass before the agriculture frame is next refreshed, following the next Census of Population and Housing.

Technical assistance will be required around developing a suitable master sample frame which can be used for survey activity in the post-Census years, and determining how this frame can be revitalised and used when selecting the sample for the proposed 2016 Agricultural Survey or the next HIES, scheduled for 2018/19, assuming the agriculture ‘module’ is adopted for that survey. It is noted that the next Census of

Population and Housing is proposed for 2017, but it is unclear whether the master sample frame will be complete in time for the HIES sample design in early 2018.

### **9.1.3. Development of road map for SPARS**

As there is currently no strategic plan for agricultural and rural statistics in Fiji, technical support and advice in preparing such a plan will be essential. Critical to this will be the challenge of garnering stakeholder agreement on both the strategy to deliver the required agricultural and rural data, as well as the range of data required for monitoring and evaluation of Government agency sector plans and associated planning and policy activities.

The Global Strategy project can commence this development, however the fairly short project timeframe (12 - 18 months) will mean that ongoing support and assistance will be required. Again the Pacific-based offices of FAO, and perhaps SPC, are best placed to provide the required ongoing support and assistance.

### **9.1.4. Preparing country proposals**

The IdCA process aims to assess the agricultural statistics system in the country and the national capability to produce the required statistics, as a means to determining what national and international capacity building efforts are needed to improve the statistics. In some countries, it is recognized that international support may be required in terms of technical assistance, training and research. Donor financial assistance may also be required, particularly in the short to medium-term should the agreed agricultural statistical system entail new or additional survey or collection activities.

In this report, the agricultural statistics system in Fiji has been documented and data collection methodologies evaluated, with attention given to the need for regular, available and quality agricultural and rural statistics, integration of statistics into the national statistics system and the minimum set of core data required for international comparisons. A capacity assessment, including staff and administrative resources and the use of information technologies has also been included. The aim of the In-depth Country Assessment (IdCA) is to provide the information necessary to identify and deliver the required support necessary to carry out improvements to the Fiji agricultural statistics system.

This report has attempted to highlight weaknesses in the existing agricultural statistics system in Fiji, including: a lack of regular data collections; sample surveys are not used; the degradation of master sample frame given current Census infrequency; data collection activities between agencies are not always coordinated; quality concerns surrounding the accuracy of administrative data; agro-environmental statistics are unavailable; data sources for National Accounts are weak in some areas; information dissemination and communication technology is not fully utilized; and Ministry of Agriculture statistical staff lack skills in techniques such as sampling, data analysis and data dissemination.

Addressing these weaknesses will take some time and will be part of the PARIS21, NSDS and SPARS initiatives. In the short-term, a Country Proposal will be prepared, based on this IdCA report, to seek support in priority areas, especially improving data availability and quality for the minimum set of core data provided under the Global Strategy.

## **9.2. Training**

FBOS has identified that the technical skills of statistical staff are a relevant constraint to improving agricultural statistics whilst for MOA this was somewhat of a constraint.

Although the Ministry of Agriculture has successfully conducted several National Agriculture Censuses over the years, the time period between recent Censuses has been lengthy. The most recent in 2009 followed a gap of some eighteen years since the previous Census was held in 1991. This infrequency and the lack of agricultural survey activities in the intervening years presents difficulties in both retaining and developing staff with the necessary agriculture subject matter skills and statistical skills.

The introduction of a more regular system of agriculture statistical collections, as proposed in Section 6.2 will help address these subject matter knowledge gaps, build expertise in agricultural surveys and statistics and hopefully assist in the retention of statistically-skilled staff.

#### **9.2.1. In basic statistical methods**

MOA has sought assistance in developing expertise and technical capacity in terms of survey preparatory activities, including designing survey methodologies, developing sample frames, use of GIS platforms, selecting samples, questionnaire design and data processing systems etc.

#### **9.2.2. Methods used in agricultural statistics**

As it has been several years since MOA last conducted an agricultural sample survey, specific training and development in survey and sample design methodologies will be critical.

#### **9.2.3. In advanced statistical methods**

Any introduction of sample survey methodologies will require the measurement and publication of standard error rates, both sampling and non-sampling. This will assist users in both understanding and having confidence in the final data outcomes. As error rates have not previously been produced, even for the Agricultural Census sample component, MOA staff will require training and technical support to understand sampling and non-sampling errors, associated practices and estimation software systems.

Information and discussion forums for key stakeholder ministries and their staff in understanding the relative merits of estimates produced from sample surveys versus a census should also be considered.

#### **9.2.4. In specialised techniques**


The need to develop the analytical skills of statistical staff was identified by both FBOS and MOA, and other organisations. For example, the ability to analyse data, to confront and assess data obtained from different sources and by different methodologies, i.e. census versus sample versus administrative data, and to assess overall agricultural performance have been identified as areas requiring some development.

Website development and wider dissemination techniques and skills are also areas requiring some attention.



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## MAJOR AGRICULTURAL DATA COLLECTION ACTIVITIES

### 1. National Agricultural Census

Data collecting agency	Ministry of Agriculture
Data collection frequency	Each ten years: last census in 2009; next census planned for 2019.
Data collection methodology	Data collected directly from households, using face to face interviews.
Data collection staff	MOA and temporary enumerator workforce
Sample size (if applicable)	9,341 farms sampled, approximately 14.4% of total farms
Sample selection (if applicable)	Multiple sampling frame methodology, including area frame, list frame and small island strategy.
Variables	Household demographics; type of agricultural activity; land use and tenure; crop area grown and production harvested and sales by crop type; tree and plant numbers by crop type; sugarcane area, crop age and production by variety; livestock numbers by type, breed, gender and age, including numbers slaughtered or sold; floriculture; milk production; aquaculture and apiculture activity; farm employment and management; machinery and farm equipment; irrigation, fertiliser and chemical use.
Data processing	Computer processing by MOA.
Data dissemination	Report in pdf format only, published on Ministry website ( <a href="http://www.agriculture.gov.fj">www.agriculture.gov.fj</a> ).
Level of disaggregation available	National, Division, Province and District (however District level data not published).
Timeliness of data release	The Census Report was released during the Agriculture Shows of 2011, approximately 24 months after data collection commenced in October 2009.
Latest data available (at August 2015)	2009 data available.

## 2. Population and Housing Census

Data collecting agency	FBOS
Data collection frequency	Each ten years: last census in 2007; next census planned for 2017.
Data collection methodology	Data collected directly from all households, using face to face interviews.
Data collection staff	FBOS and temporary enumerator workforce recruited from outside the Public Service.
Sample size	n.a.
Sample selection	n.a.
Variables	Household demographics, including education level, literacy, employment (occupation and industry), land tenure, household facilities including water and sanitation, remittances, household disability, livestock and pets (cattle, pigs, goats, horses, poultry, dogs and cats).
Data processing	Computer processing by FBOS.
Data dissemination	Yes, via two Census Reports (in pdf format).
Level of disaggregation available	National, Division, Province and Enumeration Area.
Timeliness of data release	Census night was 16 September 2007. First report on population size and structure was released in October 2008 and another on Labour Force characteristics in February 2009. Recent developments have included an online mapping tool with over 1,300 interactive maps and pie charts of household and demographic data, accessible via FBOS website, which was released in mid-2014. Supporting tabular data can also be exported in Excel or pdf formats.
Latest data available (at August 2015)	2007 data available.
Comments/Evaluation/Issues/Potential for expansion or linking with other programmes:	Regular Census activity and potential to expand range of agricultural information collected to complement ten-yearly National Agriculture Census.

**3. Household Income and Expenditure Survey (HIES)**

Data collecting agency	FBOS
Data collection frequency	Each five years: most recent HIES conducted in 2013/14; next planned for 2018/19.
Data collection methodology	Face to face interviews and self-enumeration diary completion over 14 day period.
Data collection staff	FBOS Household Survey Unit Project staff and Enumerators recruited specifically for the Survey.
Sample size	Approximately 6,000 households selected, 3% sample of all households.
Sample selection	Data collected directly from a sixth of the sample households (approx. 1,000 households or 17% sub-sample) over a 2-month sub-round. There were six independent sub-samples. A two-stage sampling strategy was used. In the first stage, the frame was divided into 7 strata and representative samples of Urban and Rural Enumeration Areas were then selected from these strata. Enumeration Areas (EAs) or Primary Sampling Unit from the frame were selected with probability proportional to size, measured in terms of the total households in the frame. Within each EA a fixed number of households were then selected by systematic random sampling. The final HIES sample then selected 10 households from each selected.
Variables	2013/14 HIES included household demographics, primary and secondary activities, dwelling details, household expenditures and overseas remittances, individual expenditures, income and loans, information on agriculture, fishing and forestry activities, including income derived from main crop and vegetable production, livestock and livestock products, forestry, handicraft and fishing activities.
Data processing	Computer processing by FBOS.
Data dissemination	2013/14 HIES currently (at August 2015) in data preparation mode.
Level of disaggregation available	National; Census Region.
Timeliness of data release	2008/09 HIES report (in pdf format) released in July 2011. 2013/14 HIES data expected to be released in late 2015.
Latest data available (at August 2015)	2008/09 data available.
Comments/Evaluation/Issues/Potential for expansion or linking with other programmes:	The HIES is a regular survey activity and has potential to expand range of agricultural information collected each five years to complement ten-yearly National Agriculture Census.

**4. Crop – Administrative collection**

Data collecting agency	Ministry of Agriculture
Data collection frequency	Monthly and quarterly.
Data collection methodology	Data collected directly from village heads and farmers at locality level.
Data collection staff	Ministry of Agriculture Extension Division officers
Sample size (if applicable)	n.a.
Sample selection (if applicable)	n.a.
Variables	Crop area planted by crop type and some production data, both reported and estimated.
Data processing	Computer processing by MOA.
Data dissemination	Data analysis report in pdf format. Reports not available from Ministry website.
Level of disaggregation available	Available at National, Division and Province levels, but not lower levels.
Timeliness of data release	Quarterly, following the reporting Division's Quarterly meeting, which is usually sometime into the following quarter.
Comments/Evaluation/Issues/Potential for expansion or linking with other programmes:	Known discrepancies between administrative data and 2009 National Agriculture Census data.

**5. Livestock – Administrative collection**

Data collecting agency	Ministry of Agriculture
Data collection frequency	Monthly and quarterly.
Data collection methodology	Data collected directly from village heads and farmers at locality level.
Data collection staff	Ministry of Agriculture Animal Health and Production (AH&P) extension officers. Ministry also collects official slaughter data from slaughterhouses, however village or 'magiti' killings are estimated.
Sample size (if applicable)	n.a.
Sample selection (if applicable)	n.a.
Variables	Livestock counts at locality level.
Data processing	Computer processing by MOA.
Data dissemination	Data analysis report in pdf format. Reports not available from Ministry website.
Level of disaggregation available	Released at National, Division and Province levels, but not lower levels.
Timeliness of data release	Quarterly, following the reporting Division's Quarterly meeting, which is usually sometime into the following quarter.
Comments/Evaluation/Issues/Potential for expansion or linking with other programmes:	Known discrepancies between administrative data and 2009 National Agriculture Census data. Official slaughterings only are reported. It is estimated that village or 'magiti' killings may be double the number of official slaughterings.



**6. Fisheries Market Survey**

Data collecting agency	Ministry of Fisheries and Forests (previously part of Ministry of Agriculture)
Data collection frequency	Weekly market survey, collecting each Wednesday through to Saturday.
Data collection methodology	Data collected directly from market stallholders, mainly inshore catches.
Data collection staff	Department of Fisheries officers
Sample size (if applicable)	Unknown
Sample selection (if applicable)	Market and roadside stallholders, mostly between Nausori and Suva. No coverage of Island markets.
Variables	Market volumes and prices
Data processing	Computer processing by MOA.
Data dissemination	Quarterly newsletter, not currently published on website. Annual data provided to FAO, FBOS, SPC and Western and Central Pacific Fisheries Commission (WCPFC). SPC and WCPFC compile and report on annual catches for the Pacific region and this information is published on the website: <a href="http://www.wcpfc.int">www.wcpfc.int</a> .
Level of disaggregation available	Unknown
Timeliness of data release	Quarterly
Latest data available (at August 2015)	No data available on MFF website.
Comments/Evaluation/Issues/Potential for expansion or linking with other programmes:	Survey involves the main markets and some roadside stalls only as it is very difficult to capture information on small catches sold at all roadside stalls as well as catches for home consumption.





## PROPOSED CORE DATA FOR FIJI

Statistical Domain	Items	Geographical coverage	Units collected	Frequency	Source(s)	Remarks (Data gaps?)
<b>ECONOMIC DATA</b>						
<b>Production</b>	<b>Crops</b>					
	Sugarcane	District	Area, production, yield	Annual	Fiji Sugar Corporation (FSC)  FSC Field Division Extension Officers  Ministry of Agriculture	Detailed weekly cane production, crush data during crushing season.  Admin. collection monthly and quarterly.  Ag. Census data collected each 10 years.
	Cassava	District	Area, production, yield	Annual	Ministry of Agriculture Extension Officers  Ministry of Agriculture	Admin. collection monthly and quarterly.  Ag. Census data collected each 10 years.
	Dalo	District	Area, production, yield	Annual	Ditto	Ditto
	Rice	District	Area, production, yield	Annual	Ditto	Ditto
	Coconuts	District	Area, production, yield	Annual	Ditto	Ditto
	Yaqona	District	Area, production, yield	Annual	Ditto	Ditto
	Others (by value or importance?)	District	Area, production, yield	Annual	Ditto	Ditto
	<b>Livestock</b>					
	Meat	National by cattle, pigs, chickens, goats, sheep	Production	Annual	Ditto	Limited meat data currently collected, particularly home slaughtering

<b>Fisheries</b>					
Marine fisheries	National	Production	Annual	Min. of Fisheries and Forests	Quarterly 
<b>Aquaculture</b>					
Inland/aquaculture fisheries	National	Area cultured, Production	Annual	Agriculture Census (MOA)	Limited aquaculture data collected in Ag. Census each 10 years.
<b>Forestry</b>					
Forestry: wood	National	Area under forests, Commercial production of wood	Annual	Min. of Fisheries and Forests	Non-commercial forestry a current gap
Forestry: non-wood	National	Production of Non-wood products	Annual	Min. of Fisheries and Forests	Current gap? 

Statistical Domain	Items	Geographical coverage	Units collected	Frequency	Source	Remarks (Data gaps?)
<b>External Trade</b>	Exports of crop, livestock and fisheries products	National	Quantity and value	Monthly	Fiji Revenue & Customs Authority	Data currently available
	Imports of meat, fruit and vegetable products	National	Quantity and value	Monthly	Ditto	Ditto
<b>Stock of capital resources</b>	Land cover and use	National	Area	Annual	MOA Land Use Section; Agriculture Census (MOA)	Increasing use of satellite imagery for land use mapping. Agriculture land cover and use collected each 10 years.
	Economically active persons	Enumeration Areas, Districts	Number of persons	Ten-yearly	Census of Pop. and Housing (FBOS)	Some demographic data also collected in Agriculture Census and HIES.
	Cattle, pigs, chickens and sheep	District	Number of animals	Annual	Admin. collection (MOA); Agriculture Census	MOA admin. collection monthly and quarterly. Detailed cattle demographics and other livestock every 10 years in Ag. Census. Total livestock numbers collected in Pop Census but not published.
<b>Agricultural Inputs</b>	Agricultural machinery: tractors, harvesters, seeders	District	Numbers of machinery and farm equipment owned or rented.	Decennial	Agri. Census (MOA)	Currently 10 yearly – <b>is this needed more regularly?</b>
	Water used for agricultural purposes	District	Quantity	Decennial	Agri. Census (MOA)	Quantity a current gap – <b>is this needed more regularly?</b>
	Fertilizer use	District by crop type and fertilizer type	Quantity and value	Decennial	Agri. Census (MOA)	Fertilizer use only available. Quantity and value a current gap.

Statistical Domain	Items	Geographical coverage	Units collected	Frequency	Source	Remarks (Data gaps?)
<b>Agricultural Inputs</b>	Pesticide use	District by crop type and fertilizer type	Quantity and value	Decennial	Agri. Census (MOA)	Pesticide use only available. Quantity and value a current gap - <b>is this needed more regularly?</b>
	Seeds	National by crop type and seed type	Quantity and value	Five-yearly	HIES (FBOS)	Quantity a current gap, value collected as part of farm input expenditure for each crop.
	Animal feed purchased	National by animal type and feed type	Quantity and value	Five-yearly	HIES (FBOS)	Quantity a current gap, value collected as part of farm input expenditure for each livestock category.
<b>Agro-processing</b>	Crop products used in processing food	National by crop type	Quantity	Annual	?	<b>Current gap?</b>
	Livestock products used in processing food	National by livestock type	Number	<b>Annual</b>	MOA, AH&P Division	Slaughterhouse killing data available but not from on-farm killings.
<b>Prices</b>	Farm-gate prices	National by core crops/livestock/fisheries	Average price	Monthly	?	<b>Current gap?</b>
	Consumer prices	National by crop/livestock/fisheries products	Average price	Monthly	FBOS Min. of Fisheries and Forests (Fisheries Dept.)	Currently available
<b>Final expenditure</b>	Government expenditure on agriculture and rural development	National by sub-sector	Amount	Annual	Budget documents	Ministry of Strategic Planning, National Development and Statistics
	Agricultural subsidies	National by sub-sector	Amount	Annual	Budget documents	Ditto
	Government expenditure on fisheries	National by sub-sector	Amount	Annual	Budget documents	Ditto

Statistical Domain	Items	Geographical coverage	Units collected	Frequency	Source	Remarks (Data gaps?)
<b>Final expenditure (cont)</b>	Household consumption of core crops/livestock/fisheries products	National	Quantity and value	Three-yearly	HIES (FBOS)  Nutrition Survey (NFNC)	Currently collected five yearly  Currently collected ten yearly
	Area equipped for irrigation	National (District level preferred?)	Area	Annual		Current gap. Is it needed annually? Data available from I'Taukei Affairs Board for indigenous population?
<b>Rural infrastructure</b>	Rural roads	National (District level preferred?)	km	Annual		Current gap. Is it needed annually? Data available from i'Taukei Affairs Board?
	Official development assistance for agriculture and rural development	National	Value	Annual	Budget documents	Ministry of Strategic Planning, National Development and Statistics
<b>SOCIAL DATA</b>						
<b>Demographics of urban and rural population</b>	Sex by age	District	No. of persons	Five yearly	Census of Pop. and Housing (FBOS); Agri. Census (MOA)	Currently available ten yearly
	Household composition by sex	District	No. of persons	Five yearly	Census of Pop. and Housing (FBOS); Agri. Census (MOA)	Ditto
	Highest level of education	National by sex	No. of persons	Five yearly	Census of Pop. and Housing (FBOS); Agri. Census (MOA)	Ditto
	Labour force status (employed, unemployed, not in labour force)	National by sex	No. of persons	Annual	Census of Pop. and Housing (FBOS); Labour Force Survey (FBOS); Agri. Census (MOA)	No annual data. Labour Force Survey undertaken each 5 years; Pop. Census ten yearly; Agri. Census ten yearly

Statistical Domain	Items	Geographical coverage	Units collected	Frequency	Source	Remarks (data gaps?)
<b>Demographics of urban and rural population (cont)</b>	Status in employment (self-employed, employee)	National by sex	No. of persons	Annual	Census of Pop. and Housing (FBOS); Labour Force Survey (FBOS)	No annual data. Labour Force Survey undertaken each 5 years; Pop. Census ten yearly
	Economic sector of employment	National by sex	No. of persons	Annual	Ditto	Ditto
	Occupation of employment	National by sex	No. of persons	Annual	Ditto	Ditto
	Household income	District	Value	Three-yearly	HIES (FBOS)	Currently five yearly
	Number of hired workers on farm holdings	National by sex	No. of persons	Decennial	Agri. Census (MOA)	Currently available
	Housing conditions	District	No. of dwellings	Five yearly	Census of Pop. And Housing (FBOS)	Pop. Census currently ten yearly
<b>ENVIRONMENTAL STATISTICS</b>						
<b>Land</b>	Soil degradation	National (District level (non-standard geographies preferred?))	Area		Special studies	MOA Land Use Section
<b>Water</b>	Water pollution due to agriculture	National (District level and non-standard geographies preferred?))	Pollution parts per million (ppm)		Special studies	Current data gap?
<b>Air</b>	Emissions due to agriculture	National	GHG		Special studies	Current data gap?
<b>GEOGRAPHIC LOCATION</b>						
<b>GIS coordinates</b>	Administrative units	National, District, Village		Five yearly	Census of Pop. And Housing (FBOS)	Pop. Census currently ten yearly
	Parcels			Five yearly	Census of Pop. And Housing (FBOS); Agri. Census (MOA)	Pop. Census and Agri. Census both currently ten yearly
<b>Degree of urbanization</b>		Classification of Districts by urban and rural		Five yearly	Census of Pop. And Housing (FBOS)	Pop. Census currently ten yearly

## SWOT MATRIX - STRENGTHS WEAKNESSES OPPORTUNITIES THREATS

STRENGTHS	WEAKNESSES
Genuine interest and support from all levels to improve agricultural and rural statistics in Fiji.	Fiji has not yet developed a NSDS, including a framework for an agricultural statistics system, although work is scheduled to commence on the NSDS with training in August 2015.
General stakeholder support and enthusiasm for the Global Strategy project.	Previous attempts to establish a Fiji Agriculture Statistics System have been unsuccessful, primarily due to financial and time constraints.
FBOS has a well-established decennial Census of Population and Housing (years ending in '6' or '7') and five-yearly HIES (years ending '3' and '8').	No regular agricultural survey program currently exists to collect crop production, livestock numbers, inputs to production, environmental impacts of agricultural activity etc. Ten yearly Agriculture Census interval is considered inadequate.
Ministry of Agriculture has identified need for improved statistics and has recent focus on developing capacity and strength of Statistical Unit personnel and processes.	The lack of analysis and value adding of agriculture data represents a serious weakness to evidence-based planning and policy making.
Ministry of Agriculture has an extensive network of Extension and Animal Health and Production (AH&P) officers located throughout the country, with ongoing information collection responsibilities.	The lack of financial resources in MOA is a significant constraint to improving the agriculture statistical system in Fiji, specifically the introduction of a regular and sustainable agricultural sample survey program.
Population and Housing Census frames have been used for subsequent Agricultural Census and surveys.	In recent years, intervals between conduct of the National Agriculture Census have been irregular, i.e. 1968, 1978 (+10 yrs), 1991 (+13 yrs), 2009 (+18 yrs), which not only impacts on data availability but on analysis of movements, trends etc.
	Quality of Ministry's administrative collection processes and data outcomes has been questioned by stakeholders.
	Administrative data are often only available at national or division level, which presents problems when attempting to confront data with other sources or when wishing to monitor developments at lower geographic levels.
	FBOS has a well-structured <i>System of National Accounts</i> , however inputs for the agriculture sector are often based on limited, dated or unsubstantiated information.
	Agricultural data collected in 2007 Census of Population and Housing and recent HIES have not been released.
	Data dissemination is generally poor. The Ministry's website contains very little data and what is available is quite dated (latest 2009). Data is generally released in pdf format only, with no accompanying tabular spreadsheets (i.e. Excel). MOA administrative collection data are available from FBOS website only, and often as part of other releases; hence there is a lack of awareness and understanding of agriculture data both in the Ministry and other agencies and organisations.

	<b>WEAKNESSES (cont)</b>
	The technical skills of MOA statistics staff need further development, particularly in the areas of survey methodologies, sample survey design and conduct and analytical skills.
	Data differences between Census and administrative collections have not been thoroughly analysed or explained. This may have impacted on organisation and user confidence of Ministry data.
<b>OPPORTUNITIES</b>	<b>THREATS</b>
Build on the genuine support of FBOS and the Ministry of Agriculture to improve agricultural and rural statistics and to adopt sound statistical practices and methodologies for estimating crop and livestock production and other related information.	Heavy reliance on donor financial support and a lack of domestic funding may again inhibit the implementation and sustainability of a regular agriculture statistical system in Fiji.
To enhance existing administrative collection strategies to improve data quality outputs and increase user confidence and usability of information. This is timely as Minister has required extension officers to compile profiles of all Fijian farming operations including baseline crop and livestock information.	Ministry of Agriculture Extension and AH&P management and officers may not understand or be receptive of the need to improve current administrative collection arrangements.
To build on the recent developments by Fiji Crop and Livestock Council (FCLC) and International Trade Centre (ITC) including farmer information database and potential adoption of mobile technology and telecommunication applications.	Relevant ministries may be unwilling to share or disseminate their agricultural data either with other agencies or the wider public.
Improve data dissemination and availability across various Ministry websites, specifically MOA and Ministry of Fisheries and Forests.	Relevant ministries may not have the resources, staff capacity and/or expertise to successfully implement or manage any proposed agricultural statistics system.
Opportunity to develop an agriculture module of 'core' data items for inclusion in existing census/surveys, e.g. Census of Population and Housing and Household Income and Expenditure Survey (HIES). This would provide important information to support and verify administrative collections in non-Agriculture Census years.	FAO or SPC technical assistance and support may be directed to other priority country issues or focussed on other Pacific Island countries.
Consider realignment of the Population and Agriculture Census cycles to provide more regular (i.e. five-yearly) household and demographic data as well as 'core' agricultural data.	
Several 'core' data items are already collected, therefore can utilise knowledge and experience in collecting these data.	
To develop stronger partnerships between MOA, FBOS and other data suppliers and users, particularly around data definitions, statistical processes, surveys, data availability and accessibility.	
FAO and SPC have committed resources through their various Technical Cooperation Programmes to provide survey development and capacity building support in Fiji.	



<b>OPPORTUNITIES (cont)</b>	
<p>Opportunity to introduce new technologies which may improve data collection, data quality and reduce survey operation costs, i.e. hand-held tablet devices to record household responses.</p>	
<p>The collection of farm geo-spatial coordinates would be a useful development and would enable agricultural data to be generated for non-standard geographical regions. Some agencies have reporting responsibilities for various topographical or geographic regions, which are not consistent with the standard census enumeration areas or administrative districts.</p>	

## LIST OF MAIN STAKEHOLDERS IN FIJI

Stakeholder	Interest	Perception of Problem	Resources	Mandate
<b>Ministry of Agriculture (as data producer)</b>	<p>MOA is the peak agricultural policy-making body in Fiji responsible for the formulation and implementation of national agricultural policies and development plans. Key data producer, currently undertakes decennial National Agriculture Census and ongoing administrative collections. It has several main Divisions:</p> <ul style="list-style-type: none"> <li>• Extension Division (Crops);</li> <li>• Animal Health and Production Division;</li> <li>• Economic Planning and Statistics Division;</li> <li>• Research Division; Land, Water &amp; River Management Division;</li> <li>• Land Resource, Planning &amp; Development Division; and</li> <li>• Quarantine Division</li> </ul> <p>Statistical activities are carried out in the respective Divisions, with overall responsibility with the Economic Planning and Statistics Division.</p>	<p>Require more frequent and timely enumeration of livestock, crop, fruit and vegetable data as ten year period between Agricultural Censuses is considered too infrequent.</p> <p>Main constraints identified:</p> <ul style="list-style-type: none"> <li>• Level of demand for statistics (significant constraint);</li> <li>• Number of professional staff for statistical purposes (relevant constraint); and</li> <li>• Sound methodology implemented for agricultural surveys (relevant constraint);</li> </ul> <p>The Ministry is supportive of a review of the legal framework to authorize relevant ministries and organizations for the implementation of agriculture statistics.</p> <p>Importance of awareness and utilization of accurate agriculture statistics for decision makers and overall economic developments was acknowledged.</p>	<ul style="list-style-type: none"> <li>• Heavily reliant on donor support to undertake major statistical activities, including decennial National Agriculture Census.</li> <li>• Ministry of Agriculture staffing budget in 2014 is FJD 20.2 million, comprising approx. 611 staff and 507 wage earners. Main Division resources include Crop Extension (150 staff), Livestock Extension (AH&amp;P) (76 staff), Crop Research (74 staff), Land Use Section (40 staff) and EP&amp;S (26 staff).</li> <li>• Budget for agricultural statistics is around FJD 400,000.</li> <li>• Ministry advised that it has approx. 8 professional statistical staff and 18 support staff in headquarters and regional offices.</li> </ul>	<ul style="list-style-type: none"> <li>• Ministry has key responsibility for delivering on agriculture development in Fiji through its planning and policy activities.</li> <li>• MOA has lead responsibility for delivery of strategies outlined in Fiji 2020 Agriculture Sector Policy Agenda.</li> </ul>
<b>Fiji Bureau of Statistics - National Statistical Office</b>	<p>Part of the Ministry of Strategic Planning, National Development and Statistics. Key data producer and user, currently undertakes</p>	<ul style="list-style-type: none"> <li>• Limited professional and technical support staffing resources available for statistical activities a significant constraint.</li> <li>• Availability of up-to-</li> </ul>	<p>Bureau Budget Statement shows staffing budget in 2014 of FJD 2.7 million, comprising approx. 125 staff. FBOS did not</p>	<p>Statistics Act requires that FBOS will act as the Govt. agency for collection, processing, analysis and dissemination of</p>

	<p>regular Census and Survey activities, including Census of Population and Housing, Household Income and Expenditure Survey, Labour Force Survey. Also produces National Accounts, Government Accounts, Terms of Trade and CPI using own and others' data. The current functional Divisions are:</p> <ul style="list-style-type: none"> <li>• Economics Statistics Division;</li> <li>• Social Statistics Division;</li> <li>• Co-ordination and Information Services Division;</li> <li>• Household Survey Division; and</li> <li>• Corporate Services Division</li> </ul>	<p>date information technology hardware and software also a significant constraint.</p> <ul style="list-style-type: none"> <li>• Technical skills of available statistical staff was assessed as a relevant constraint.</li> </ul>	<p>complete resource section of Global Strategy questionnaire.</p>	<p>statistical information related to socio-economic and demographic structure of the country. This includes agriculture statistics, even though MOA produces most agricultural data.</p>
<p><b>Ministry of Strategic Planning, National Development and Statistics</b></p>	<p>Main planning body within the Fiji Government and has a key role particularly in the formulation of policies, implementation and monitoring of Government initiatives, in the implementation of the National Development Plan and Strategies, and the co-ordination and monitoring of all development efforts. FBOS is part of this Ministry.</p>	<p>As a key data user, identified quality and timeliness of administrative data as a problem with all ministries. Also, no standard practice amongst data collectors and surveys are often done independently.</p>	<p>Not provided</p>	<p>Data required to meet Ministry's monitoring, evaluation and reporting requirements to Government.</p>
<p><b>Ministry of Fisheries and Forests (previously part of Ministry of Primary Industry)</b></p>	<p>Responsible for the formulation and implementation of fisheries and forestry policy for the nation. Key data producer, currently undertakes various inshore (coastal) and offshore (ocean) fisheries monitoring and reporting and</p>	<p>Fisheries – monitoring of subsistence catches and home consumption difficult. Forestry – monitoring of household forest production and activity a current data gap.</p>	<p>Department staffing budget in 2014 was FJD 9.1 million, comprising 86 approx.. 319 staff and 122 wage earners.</p>	<ul style="list-style-type: none"> <li>• Fisheries Act</li> <li>• Marine Spaces Act</li> <li>• Fisheries Offshore Decree</li> <li>• Fiji Forest Policy Statement</li> </ul>

	local market surveys. Forestry Department mainly interested in commercial forestry activities.			
<b>Ministry of Rural and Maritime Development and National Disaster Management</b>	Responsible for implementing Government rural development policies, programmes and activities, including regional planning research and policy advice.	Due to the lack of a statistical unit, the Rural Development Department has very little by way of formalised statistics and data. This is being addressed with establishment of consolidation of Divisional level project records dating back to 2007.	Not provided	
<b>Poverty Eradication Unit, Ministry of Women, Children and Poverty Alleviation (previously located in the Office of the Prime Minister)</b>	Main role to monitor and evaluate the Government's development and poverty-related programs and to make policy recommendations to Cabinet, emphasizing the review and development of poverty-targeted policies. In undertaking this monitoring and evaluation role, the Unit is a major user of agricultural and rural data.	The recency, quality and limited availability of these data often made monitoring and evaluation difficult. Often there is no readily available data, including the number of growers by crop by region and there is no proper central data bureau for agriculture data. During natural disasters, surveys are conducted to determine the losses, but the lack of current baseline and infrastructure data makes any impact assessment difficult. The lack of appropriate rural data undermines the implementation of proper plans to prioritise infrastructure development in rural areas.	Not provided	
<b>Ministry of Sugar</b>	The Ministry was established in 2011 to help revitalize the sugar industry. The Ministry works very closely with the Fiji Sugar Corporation (FSC) and other industry bodies, i.e. Sugar Advisory Group, Sugar Industry Tribunal.	Primarily a user of data, which it mainly obtains from FSC.	A small Ministry of around 13 staff who provide support to industry stakeholders.	Recognising the importance of the sugar industry, the Prime Minister is also the Minister for Sugar.
<b>Fiji Crop and Livestock Council</b>	Established in 2010 by the Fijian	To address the shortage of information about	The Council currently receives	FCLC was officially recognised through

	Government to encourage a greater participation by the private sector in the non-sugar sectors of agriculture.	farming operations, FCLC has developed a database of approximately 10,000 farmer details. It is hoping to extend coverage to all farmers by gaining access to the farmer profile information currently being collected by the Ministry of Agriculture's Extension Officer network. FCLC also has plans to introduce a range of products and services to its members, including mobile phone applications for farmer record keeping and access to market and weather information.	backing from Fiji Govt, the European Union and the International Trade Centre, and has over 10,000 farmers signed up, of the estimated 30,000 farmers who comprise the 17 commodity associations it represents, including Pig, Dairy, Beef, Sheep/Goat, Root Crops, Ginger, Kava, Bee Keepers, Fruit, Salad Vegetables, Coconut Growers, Dalo, Cocoa, Poultry and Rice Producers, Market Vendors as well as Food Processors.	an MOU with the Government signed in January 2014.
<b>Fiji Sugar Corporation</b>	The Corporation is responsible for the manufacture and sale of raw sugar together with molasses as a by-product	FSC data are the main source of sugarcane and sugar production information in the country and along with export data are key inputs for FBOS in determining the industry's contribution to GDP. FSC produces weekly Mill Performance Reports during the cane crushing season from all four mills, including information on weekly and season to date crushings, sugar and molasses production, TCTS (ratio of tonnes of cane to produce a tonne of sugar), cane purity, crushing rates, proportion of burnt cane etc.		Incorporated by an Act of Parliament in 1972 to take over Fiji's sugar milling activities.
<b>Fiji Development Bank (FDB)</b>	Major producer and user of economic data. Produces data from its business and loan operations and produces a monthly report that is submitted to the Reserve Bank. FDB analyses various agriculture data	FDB highlighted some challenges with MOA's agriculture data, such as a reluctance to release data, timeliness of data, an outdated farm management manual and crop calendar. There is also no compilation of all data at a national level as a one stop shop. The	Not provided	Established under the Fiji Development Bank Act in 1967. Under the Act the Bank provides finance for projects that contribute to the development of the Fiji economy and to improve the quality

	<p>sources including Reserve Bank, MOA and FBOS when assessing commercial loan applications, including export trends, imports, production, local demands, and prices. For small loans FDB use MOA locality field officer on-farm reports that provides more farm specific data.</p>	<p>Reserve Bank website is up to date, with monthly reports released on time. However quarterly reports are often a bit late in release. The market price report produced by MOA was a very useful data source, but was no longer available on the Ministry's website. This survey is conducted every two weeks.</p>		<p>of life for the people of Fiji.</p>
<p><b>Biosecurity Authority of Fiji (BAF)</b></p>	<p>Main role is to protect Fiji's agricultural sector from the introduction and spread of animal and plant pests and diseases, facilitate access to viable agro-export markets and ensure compliance of Fiji's agro-exports to overseas market requirements.</p> <p>BAF manages quarantine controls at Fiji's borders.</p>	<p>BAF believes that the Harmonised Commodity Description and Coding System (HS), as used by most Custom's organisations, is inadequate for their purposes, and use their own more detailed classifications. The BAF data is not available on their website and there is no verification process for internal data or with Customs. BAF provides their import data to the Ministry of Agriculture when required. BAF is a user of Customs data, Permit Manifests and some FBOS data. However they find the agricultural imports and exports data difficult to use because of the HS classification and how it is applied. Data from BAF, Customs and FBOS differ vastly thus usage is limited. BAF considers their data is more detailed but has few users.</p>	<p>Not provided</p>	<p>Established under the Biosecurity Promulgation in December 2008. It is a Commercial Statutory Authority under the Public Enterprise Act 1996.</p>
<p><b>i'Taukei Affairs Board</b></p>	<p>Established to ensure that the Government develops, maintains and promotes policies that provide for the continued good governance and welfare of indigenous Fijians. Mainly a data collector.</p>	<p>Collects demographic, infrastructure, agricultural crop and livestock, fisheries, forestry and social information on a quarterly basis from the turaga-ni-koro (Village head). Some of the data collected is shared with MOA.</p>	<p>Not provided</p>	<p>Government Statutory body</p>

<p><b>National Food and Nutrition Centre (NFNC)</b></p>	<p>The organisation is a national resource centre for food and nutrition. Major data user and compiler of Fiji's annual Food Balance Sheet (FBS), with information gathered from various sources including the Ministry of Agriculture, FBOS, Fiji Dairy Ltd and Fiji Sugar Co. NFNC conducts a Nutrition Survey every 10 years to assess the level of nutrition across the country.</p>	<p>NFNC advised that there are considerable gaps in the production data, including difficulties in getting production data, particularly subsistence level production and for some commodities there is no data.</p>	<p>Not provided</p>	<p>NFNC was established by Government in 1982 to address the country's nutritional problems. It works under the Ministry of Health.</p>
<p><b>Fiji Co-operative Dairy Company Limited</b></p>	<p>Provides advisory services to members to increase productivity of farms and detailed records are kept. Farms are visited weekly and records such as dry cows, wet cows, calves and milk production and supplies are recorded.</p>	<p>Data is recorded and kept in the FCDCL data base, and is primarily for FCDCL's own use. Milk production data is provided each quarter to the Ministry of Agriculture.</p>	<p>Not provided</p>	<p>Non-Government, industry Co-operative organisation</p>

**SUMMARY OF WORKSHOPS, MEETINGS AND INTERVIEWS HELD AS PART OF THE FIRST GLOBAL STRATEGY  
MISSION TO FIJI  
(19 - 23 MAY 2014 and 9 - 13 JUNE 2014)**

<b>Date</b>	<b>Organisation</b>	<b>Name and Position Title</b>
19 May 2014	Ministry of Agriculture and Ministry of Rural and Maritime Development and National Disaster Management	<ul style="list-style-type: none"> <li>• Mr Inia B Seruiratu, Minister of Agriculture, Fisheries and Forests and Rural and Maritime Development &amp; National Disaster Management</li> <li>• Mr Ropate Ligairi, Permanent Secretary for Agriculture</li> <li>• Mr Ilimeleki Kaiyanuyanu, Chief Economist</li> <li>• Ms Sera Bose, Statistician, Economic Planning and Statistics</li> <li>• Ms Lanieta Vakadewabuka, Statistician, MRMD</li> </ul>
19 May 2014	Fiji Bureau of Statistics	<ul style="list-style-type: none"> <li>• Mr Epeli Waqavonovono, Government Statistician</li> <li>• Mr Serevi Baledrokadroka, Deputy Government Statistician</li> <li>• Mr Bimlesh Krishna, Senior Statistician, National Accounts</li> </ul>
20 May 2014	Global Strategy Workshop	Workshop opened by Permanent Secretary for Agriculture and attended by more than 40 participants representing 20 key government ministries and other public and private organisations.
21 May 2014	Secretariat of the Pacific Community (SPC)	Ms Anna Fink, Statistician
22 May 2014	International Labour Organization (ILO)	Ms Surkafa F Katafono, National Programme Officer
22 May 2014	Biosecurity Authority of Fiji	<ul style="list-style-type: none"> <li>• Mr Ravi Shankar, Supervisor</li> <li>• Ms Vika Kailau</li> </ul>
22 May 2014	Ministry of Strategic Planning, National Development and Statistics	<ul style="list-style-type: none"> <li>• Mr Paula Cirikiyasawa, A/Chief Economic Planning Officer</li> <li>• Mr Anare Leweniqila</li> <li>• Ms Kavita Ram</li> </ul>
23 May 2014	National Food and Nutrition Centre	Ms Penina Vatucawaqa, Research Officer
23 May 2014	FAO Crop Insurance Project Team	<ul style="list-style-type: none"> <li>• Mr Jan Kerer, International Consultant</li> <li>• Mr Akiula Nacoke, Senior Economic Planning Officer (Policy), Ministry of Agriculture</li> <li>• Mr Niumaia Tabunakawai, National Consultant</li> </ul>
9 June 2014	Ministry of Agriculture (Research Division), Koronivia Research Station	<ul style="list-style-type: none"> <li>• Dr Apaitia Macanawai</li> <li>• Apenisa Sailo,</li> <li>• Savenaca Cugumu</li> <li>• Unaisi Turagnivalu</li> <li>• Kemueli Seuseu</li> </ul>



		<ul style="list-style-type: none"> <li>• Ms Aradhana Deesh</li> </ul>
10 June 2014	Ministry of Social Welfare, Women and Poverty Alleviation	Mr Rupeni Fatiaki, Director
11 June 2014	Ministry of Rural and Maritime Development, Fisheries and Forests and Land Resource Planning and Development	<ul style="list-style-type: none"> <li>• Ms Lanieta Vakadewabuka, Statistician</li> <li>• Virisine Lalasava, EP&amp;S, MoA</li> <li>• Ms Maria Nainima</li> <li>• Ms Diana Ralulu, LROD</li> <li>• Ms Aradhana Deesh, MoA Research Division</li> <li>• Saimone Sela, LRPD</li> <li>• Mr Apimeleki Cokanasiga, Fisheries</li> <li>• Mr Lasanisa Turaga, Forestry</li> </ul>
11 June 2014	Ministry of Agriculture (Animal Health and Production Division)	Mr Tomasi Tunabuna, Director
11 June 2014	Fiji Bureau of Statistics (National Accounts and Social Statistics)	<ul style="list-style-type: none"> <li>• Mr Serevi Baledrokadroka, Deputy Government Statistician</li> <li>• Mr Bimlesh Krishna, Senior Statistician, National Accounts</li> <li>• Ms Artika Devi</li> </ul>
12 June 2014	Fiji Cooperative Dairy Company Limited	<ul style="list-style-type: none"> <li>• Mr Maciu Raikoso, Farm Services Manager</li> <li>• Mr Niten Raj</li> </ul>
13 June 2014	Ministry of Youth and Sports	<ul style="list-style-type: none"> <li>• Mr Philip Heneriko, PTO</li> <li>• Mr Viglesh ??, ITO</li> </ul>
13 June 2014	Fiji Development Bank	<ul style="list-style-type: none"> <li>• Mr James Swamy, Agriculture Officer</li> <li>• Mr Iliaaz Mohammed, Policy Officer</li> </ul>
13 June 2014	Office of the Prime Minister	<ul style="list-style-type: none"> <li>• Mr Meleti Bainimarama, Director Poverty Monitoring Unit</li> </ul>
13 June 2014	iTaukei Affairs Board	<ul style="list-style-type: none"> <li>• Mr Mosese Delai, Executive Officer</li> <li>• Mr Jokatama Ravono, Manager</li> <li>• Ms Ana Tagivetaua, Administrative Officer</li> </ul>

**SUMMARY OF WORKSHOPS, MEETINGS AND INTERVIEWS HELD AS PART OF THE SECOND GLOBAL STRATEGY MISSION TO FIJI  
(24 NOVEMBER – 5 DECEMBER 2014)**

<b>Date</b>	<b>Organisation</b>	<b>Name and Position Title</b>
24 November 2014	Fiji Crop and Livestock Council	<ul style="list-style-type: none"> <li>• Mr Simon Cole, Chairman</li> </ul>
24 November 2014	Ministry of Agriculture	<ul style="list-style-type: none"> <li>• Mr <u>Akuila Nacoke</u>, Senior Economic Planning Officer (Policy)</li> </ul>
25 November 2014	Ministry of Agriculture, Economic Planning and Statistics Division	<ul style="list-style-type: none"> <li>• Ms Sera Bose, Principal Economic Planning Officer, Statistics</li> <li>• Ms Sainiana Kristiana, Economic Planning Officer</li> </ul>
25 November 2014	Ministry of Agriculture	<ul style="list-style-type: none"> <li>• Ms Maria Ledua, previously Agriculture Census Project Officer</li> <li>• Ms Sera Bose, Principal Economic Planning Officer, Statistics</li> </ul>
25 November 2014	Ministry of Agriculture	<ul style="list-style-type: none"> <li>• Mr Ilimeleki Kaiyanuyanu, Chief Economist</li> </ul>

		<ul style="list-style-type: none"> <li>• Ms Sera Bose, Principal Economic Planning Officer, Statistics</li> </ul>
26 November 2014	Minister of Agriculture, Rural and Maritime Development and National Disaster Management	<ul style="list-style-type: none"> <li>• Mr Inia B Seruiratu, Minister of Agriculture, Rural and Maritime Development &amp; National Disaster Management</li> <li>• Ms Sera Bose, Principal Economic Planning Officer, Statistics</li> <li>• Ms Anna Fink, Statistician, SPC</li> <li>• Ms Helen Stott, Statistical Consultant, FAO SAP</li> </ul>
26 November 2014	Secretariat of the Pacific Community (SPC) and FAO SAP	<ul style="list-style-type: none"> <li>• Ms Anna Fink, Statistician, SPC</li> <li>• Ms Helen Stott, Statistical Consultant, FAO SAP</li> </ul>
26 November 2014	International Trade Centre	<ul style="list-style-type: none"> <li>• Mr Ian Sayers, Head, Product Sector Development, Sector Competitiveness</li> <li>• Ms Audrey Gavard-Lonchey, Project Officer</li> </ul>
27 November 2014	Global Strategy Workshop	Workshop opened by Chief Economist, Ministry of Agriculture and attended by more than 30 participants representing key government ministries and other public and private organisations.
1 December 2014	Biosecurity Authority of Fiji (BAF)	<ul style="list-style-type: none"> <li>• Mr Ravi Shankar, Supervisor</li> <li>• Mr Timoci Bukasogo, IT Officer</li> </ul>
1 December 2014	iTaukei Affairs Board	Mr Mosese Delai, Executive Officer
2 December 2014	Office of the Prime Minister, Development Cooperation and Facilitation Division	<ul style="list-style-type: none"> <li>• Mr Salimoni Karusi, Director</li> <li>• Ms Mere Namuda, Director, Poverty Monitoring Unit</li> </ul>
2 December 2014	Ministry of Agriculture	Ms Unaisi Waibuta, Director, Extension Division (Crops)
2 December 2014	Ministry for Rural and Maritime Development and National Disaster Management	Mr Sili Lomalagi, Principal Administrative Officer, Development
3 December 2014	Ministry of Sugar (Lautoka)	<ul style="list-style-type: none"> <li>• Ms Venina Bukateci, Senior Research Officer</li> <li>• Mr Napolioni D. Boseiwaqa, Research Officer</li> </ul>
3 December 2014	Fiji Crop and Livestock Council (Lautoka)	Ms Lavinia Kaumaitotoya, Chief Executive Officer
4 December 2014	Ministry of Fisheries and Forestry	<ul style="list-style-type: none"> <li>• Ms Leilani Kotobalavu, Principal Economic Planning Officer</li> <li>• Atelaite Rokosuka, PEPO</li> <li>• Saimone Tauvoli, EPO</li> <li>• Mr Apimeleki Cokanasiga, Fisheries Officer</li> <li>• Ms Losalini Tupou, TRCO</li> </ul>

**SUMMARY OF MEETINGS AND INTERVIEWS HELD AS PART OF THE THIRD GLOBAL STRATEGY  
MISSION TO FIJI  
(27 JULY – 7 AUGUST 2015)**

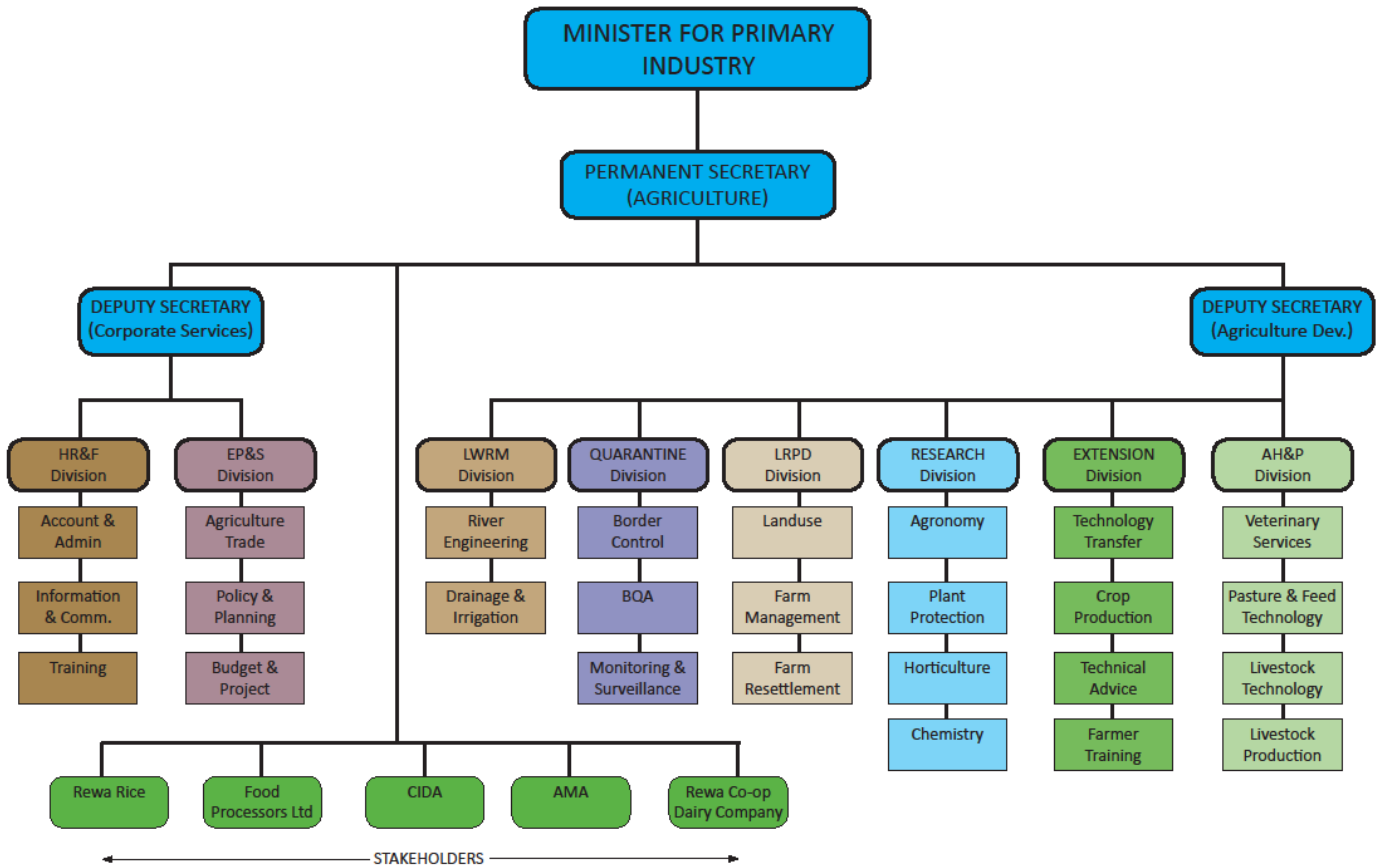
<b>Date</b>	<b>Organisation</b>	<b>Name and Position Title</b>
27 July 2015	Ministry of Agriculture	<ul style="list-style-type: none"> <li>• Mr Uraia Waibuta, Acting Permanent Secretary</li> <li>• Ms Sera Bose, Principal Economic Planning Officer, Statistics</li> </ul>
27 July 2015	Ministry of Agriculture	<ul style="list-style-type: none"> <li>• Mr Jone V Sovalawa, acting Director, Crop Extension Division</li> <li>• Ms Sera Bose, Principal Economic Planning Officer, Statistics</li> </ul>
27 July 2015	Ministry of Agriculture	<ul style="list-style-type: none"> <li>• Mr Pauliasi Tuilau, Chief Economist</li> <li>• Ms Sera Bose, Principal Economic Planning Officer, Statistics</li> </ul>
28 July 2015	Ministry of Agriculture	<ul style="list-style-type: none"> <li>• Mr Tomasi Tunabuna, Director Animal Health and Production Division (AHPD)</li> <li>• Ms Sera Bose, Principal Economic Planning Officer</li> </ul>
28 July 2015	Fiji Bureau of Statistics (National Accounts and Household Survey Statistics)	<ul style="list-style-type: none"> <li>• Mr Bimlesh Krishna, Senior Statistician, National Accounts</li> <li>• Mr Jone Fifita, Household Survey Statistics</li> <li>• Ms Kelere Nokelevu, Household Survey Statistics</li> <li>• Ms Sera Bose, Principal Economic Planning Officer, Statistics</li> </ul>
28 July 2015	National Food and Nutrition Centre	<ul style="list-style-type: none"> <li>• Ms Penina Vatucawaqa, Research Officer</li> </ul>
28 July 2015	Ministry of Agriculture	Ms Sera Bose, Principal Economic Planning Officer, Statistics
29 July 2015	Secretariat of the Pacific Community (SPC)	Ms Anna Fink, Statistician, SPC
29 July 2015	Fiji Crop and Livestock Council (FCLC)	<ul style="list-style-type: none"> <li>• Ms Rachael Varea, Commodity Associations Coordinator</li> <li>• Ms Gemma Kwong, Finance Manager</li> </ul>
30 July 2015	Minister of Agriculture, Rural and Maritime Development and National Disaster Management	<ul style="list-style-type: none"> <li>• Mr Inia B Seruiratu, Minister of Agriculture, Rural and Maritime Development &amp; National Disaster Management</li> <li>• Mr Osea Ratuyawa, Chief of Staff</li> <li>• Ms Sera Bose, Principal Economic Planning Officer, Statistics</li> </ul>
30 July 2015	iTaukei Affairs Board	Mr Jone Driu Drugunalevu, Administrative Officer, Provincial Services Division
30 July 2015	Ministry of Finance and Strategic Planning	<ul style="list-style-type: none"> <li>• Ms Kavita Ram, Policy Officer</li> <li>• Mr Tui Sikivou</li> </ul>
3 Aug 2015	Ministry of Agriculture	Mr Tevita Natasiwai, Acting Senior Economic Planning Officer

4 Aug 2015	Ministry of Finance and Strategic Planning	<ul style="list-style-type: none"> <li>• Mr Paula Cirikiyasawa, Acting Chief Economic Planning Officer</li> <li>• Ms Kavita Ram, Policy Officer</li> </ul>
5 Aug 2015	Ministry of Fisheries and Forests	<ul style="list-style-type: none"> <li>• Mr Inoke Wainiqolo, Permanent Secretary</li> <li>• Ms Leilani Kotobalavu, PEPO Monitoring &amp; Evaluation</li> <li>• Mr Saimone Tauvoli, Acting EPO Fisheries</li> <li>• Mr Binesh Dayal, EPO Forestry</li> <li>• Ms Patricia Clare, PEPO Policy</li> </ul>
6 Aug 2015	Ministry of Rural and Maritime Development and National Disaster Management	<ul style="list-style-type: none"> <li>• Mr Setareki Tale, Acting Permanent Secretary</li> <li>• Mr Simione Sorowale, SAO Projects</li> </ul>
7 Aug 2015	International Trade Centre and Fiji Crop & Livestock Council (FCLC)	<ul style="list-style-type: none"> <li>• Mr Kofi Essuman, Fiji Programme Coordinator</li> <li>• Mr Ronald Kumar, Fiji Project Operations Manager</li> </ul>
7 Aug 2015	Ministry of Agriculture	Mr Jiaoji Waqabaca, Market Price Collection, Agrtrade
7 Aug 2015	Fiji Bureau of Statistics (FBOS)	<ul style="list-style-type: none"> <li>• Mr Epeli Waqavonovono, Government Statistician</li> <li>• Mr Bimlesh Krishna, Senior Statistician, National Accounts</li> </ul>

ORGANOGRAMS OF MAJOR STAKEHOLDERS

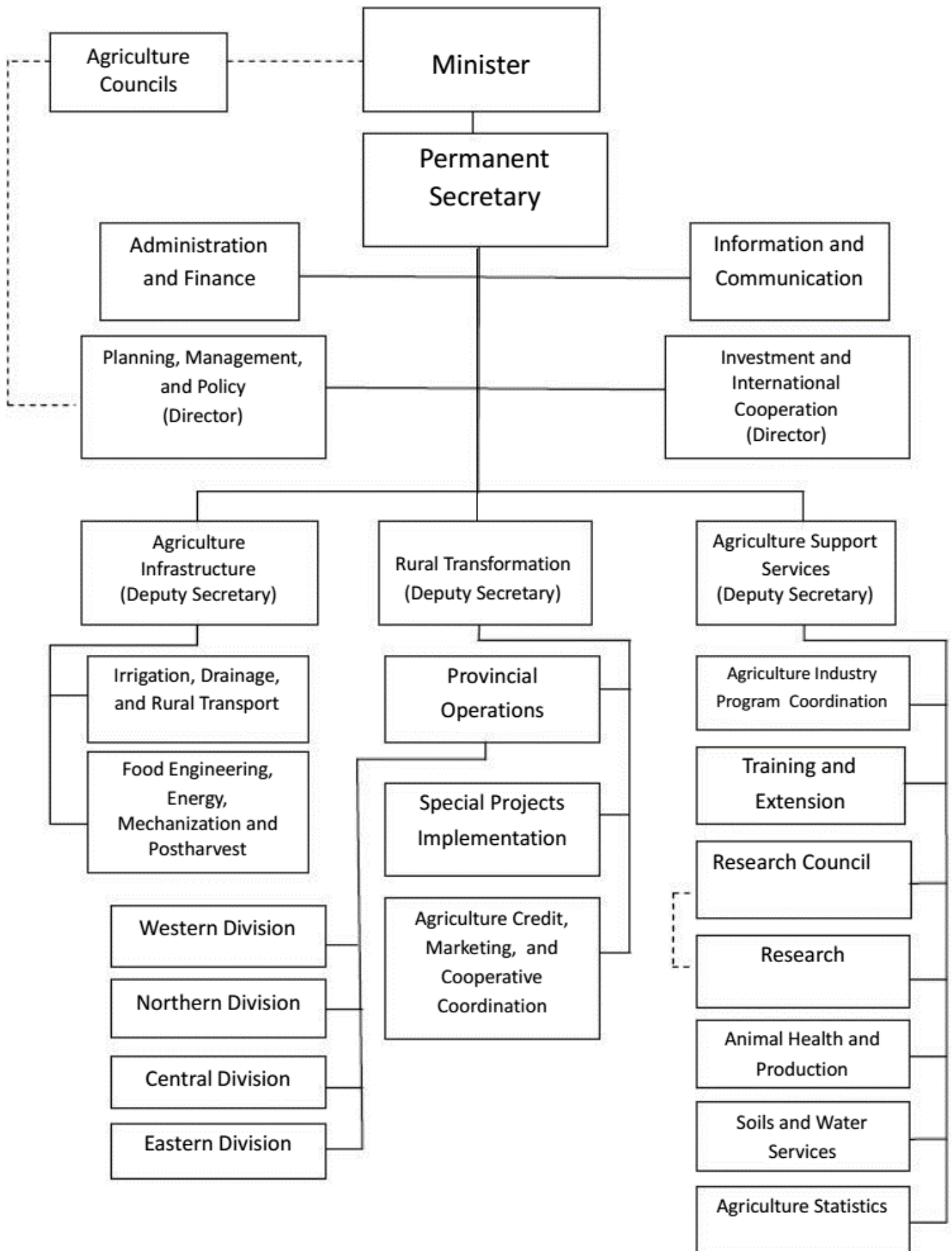
Organizational structure of Department of Agriculture, Ministry of Primary Industries  
(From web-page)

# DOA Organisation Structure

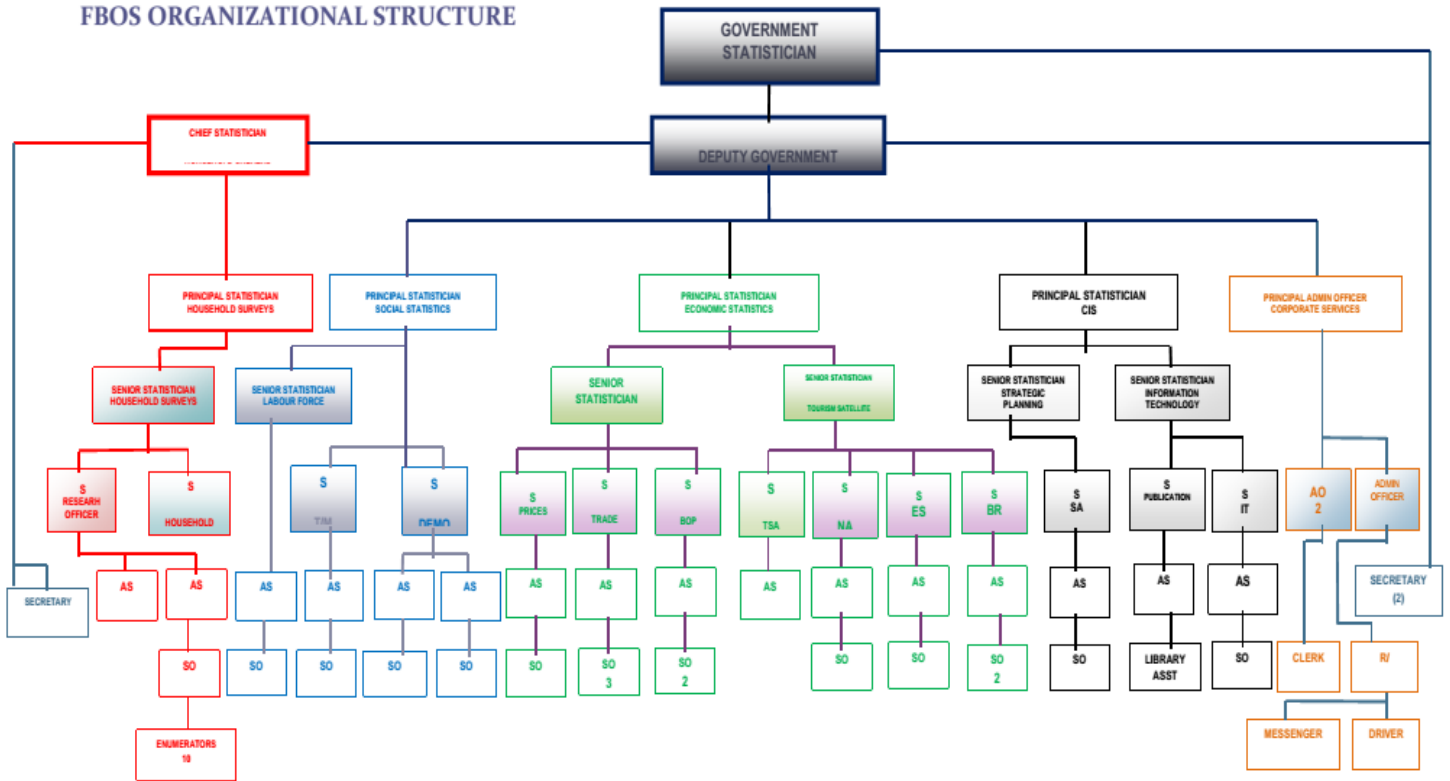


ECONOMIC PLANNING & STATISTICS (EP&S) DIVISION, Department of Agriculture. Ph: 3100291, 3100292, Fx: 3100293 E: agr@ep&s.gov.fj, @ep&s@connect.com.fj

**Proposed Organisational Structure of Ministry of Agriculture  
(Extract from 'Fiji 2020 Agriculture Sector Policy Agenda')**



# FBOS ORGANIZATIONAL STRUCTURE



**FIJI COUNTRY CAPACITY INDICATORS**

Note: Indicator scores are calculated on a scale of 0 – 100, where a score of 100 meets all the defined criteria.

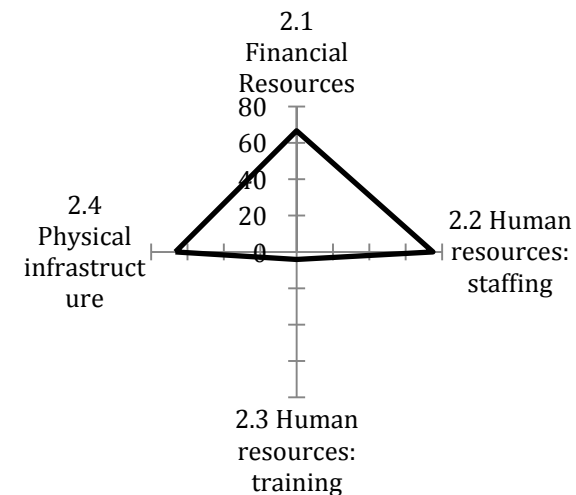
	Score	Notes	Graph
<b>Indicator I: Institutional Infrastructure</b>	<b>59</b>		
1.1 Legal Framework	100	The Statistics Act of 1978 and the Census Act provide the legal basis for statistical activities in the country, including agricultural statistics. The legal framework is deemed fully adequate for agricultural statistics.	
1.2 Coordination in the NSS	0	There exists no legal mechanism for coordination of agricultural and rural statistics.	
1.3 Strategic Vision and planning for agricultural statistics	17	There currently does not exist a national strategy specific to agricultural statistics, but there is one currently being planned.	
1.4 Integration of agriculture in the NSS	40	There is no current NSDS in place in Fiji.	
1.5 Relevance of Data	80	The population census in 2007 also included two questions related to agriculture, namely: (1) land used for subsistence, and (2) number of livestock. There exists informal channels for feedback from users of agricultural statistics in the country, and these adequacies of these channels are rated as “moderately adequate” with representatives from the government, academia, media, and the private sector.	



**Indicator II: Resources**

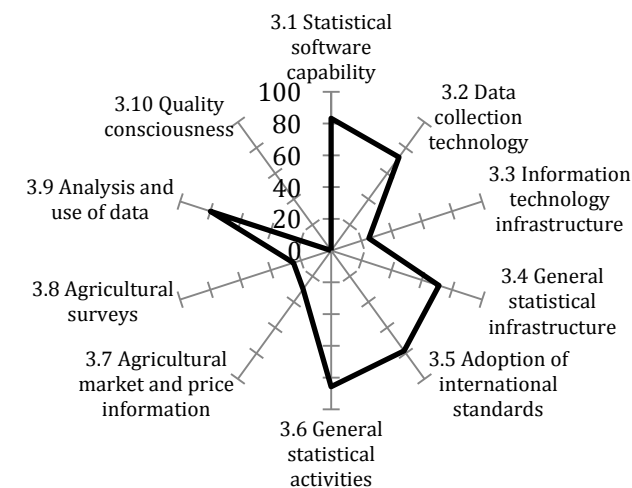
**53**

2.1 Financial Resources	67	<p>The Ministry of Agriculture noted a separate line budget item for statistical activities relating to crops/livestock, and each of the Ministries related to Fisheries, Forestry, and Rural Development noted a separate line item for statistical activities.</p> <p>It is noted that approximately 40 - 60 percent of the activities related to agricultural statistics are funded by the government budget. Donor funding has in the past covered major projects such as the agricultural census, and the ongoing annual budget is usually funded by the government.</p>
2.2 Human resources: staffing	75	<p>The MOA noted a total of eight professional and technical staff covering statistical activities.</p>
2.3 Human resources: training	4	<p>In the past 12 months, four staff (professional and technical) received training.</p>
2.4 Physical infrastructure	67	<p>The availability of transport equipment for field statistical activities and office equipment were rated by both the MOA and the FBOS as “somewhat” of a constraint to the production of statistics in the country. The availability of office space was also reported to be a “relevant” constraint.</p>



**Indicator III: Statistical methods and practices** 55

3.1 Statistical software capability	83	Various Statistical software packages are utilized for processing, analysis, and databases activities including: SPSS, CSPRO, Microsoft Access, and Excel.
3.2 Data collection technology	73	A number of technologies are used for collection of survey data including: GPS, Tablets for market prices, compass and measuring tapes, as well as paper based personal interviews that are either scanned or manually entered into the computer.
3.3 Information technology infrastructure	25	The computer to staff ratio for agricultural statistics in MOA is lower than 1. There also exists 1 computer server in MOA for data storage and communication.
3.4 General statistical infrastructure	71	To support statistical activities, the following services are available: up-to-date topographical maps, digitized maps available to other departments for statistical activities, up-to-date lists of large active agricultural farms, enumerators are provided with a printed map for data collection, and geo-coded statistical units.
3.5 Adoption of international standards	78	ISIC (Rev4, 4 digits), SITC (2012, 1 digit), HS (2012, 8 digits), COICOP (2012, 9 digits), and COFOG classifications are used.
3.6 General statistical activities	86	A variety of statistical activities are conducted including: a Population census, a consumer price index, and estimates of rural household income are published/ available. Up to date National Accounts and estimate of quarterly production from the agricultural sector are also available.
3.7 Agricultural market and price information	30	An index of wholesale or producer prices are not published. Agricultural retail market prices are also collected and disseminated covering crops, livestock, and fish/aquaculture products.
3.8 Agricultural surveys	25	An agricultural census was last conducted in 2009. No annual surveys have however been conducted since the Agricultural Census. The Ministry of Agriculture Extension officers also collect administrative data on a monthly and quarterly basis.
3.9 Analysis and use of data	80	Economic accounts for the agriculture sector are compiled for the production, generation of income, use of income, capital and finance, and the balance sheet accounts. Estimates of quarterly production from the agriculture

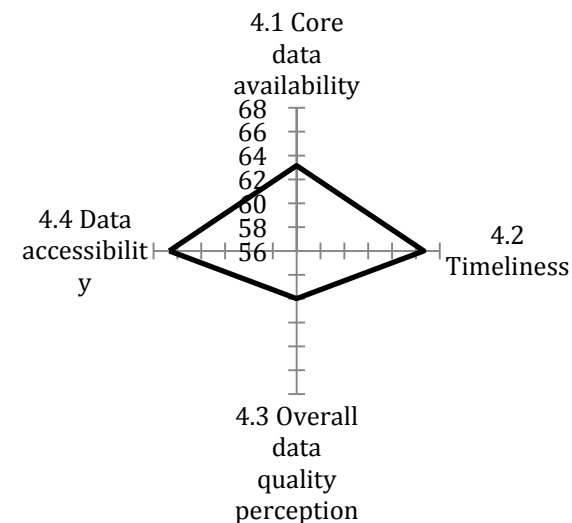



3.10 Quality consciousness	0	sector are also prepared and published. No annual surveys have however been conducted since the Agricultural Census in 2009.
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**Indicator IV: Availability of statistical information** **64**

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4.1 Core data availability	63	36 items of the minimum set of core indicators are covered with deficiencies in the availability of data for rural and environment statistics.
4.2 Timeliness	67	The modal year of availability of all items produced from the minimum set of core indicators is 2011
4.3 Overall data quality perception	60	The modal quality score of all items produced from the minimum set of core indicators is "Acceptable" among items asked.
4.4 Data accessibility	67	The website for the hosting of agricultural statistics exists, but the database for agricultural statistics is not accessible for external users to access.





# **IN-DEPTH COUNTRY ASSESSMENT OF THE NATIONAL SYSTEM OF AGRICULTURAL AND RURAL STATISTICS IN FIJI**

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