



Ministry of Finance and Economic Development

2014 CENSUS OF AGRICULTURE (CA 2014)

Methodological Report

January 2018

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LIST OF ACRONYMS

AID	Agricultural Information Division
APAU	Agricultural Planning and Analysis Unit
APD	Animal Production Division
FAREI	Food and Agricultural Research and Extension Institute (ex AREU)
CA 2014	2014 Census of Agriculture
CSPro	Census and Survey Processing System
FAO	Food and Agricultural Organization of the United Nations
FAORAF	FAO Regional Office for Africa
HH	Household
ICC	Indicative Crop Classification
IMPS	Integrated Microcomputer Processing System
MAIFS	Ministry of Agro Industry and Food Security
MBC	Mauritius Broadcasting Corporation
MCA	Mauritius Chamber of Agriculture
MSIRI	Mauritius Sugar Industry Research Institute
NHH	Non-Household
RRA	Rodrigues Regional Assembly
SFWF	Small Farmers Welfare Fund

SIFB Sugar Insurance Fund Board

SM Statistics Mauritius

WCA 2010 FAO World Programme for the Census of Agriculture 2010

CONVERSION FACTORS FOR AREA

1 hectare = 2.36922 arpent

1 arpent = 100 perches

1 perche = 11 toises

1 toise = 0.09 perche approx.

1 perche = 40 m² approx.

2014 Census of Agriculture

1. INTRODUCTION

1.1 Introduction

Statistics Mauritius conducted a Census of Agriculture jointly with the Ministry of Agro Industry and Food Security and the technical assistance of the FAO in the islands of Mauritius and Rodrigues from July to December 2014.

The first Census of Agriculture was carried out in 1930 and this was followed by a similar exercise in 1940. Since then, there has not been any complete census, although data on agricultural statistics are collected on a regular basis by several organisations including Statistics Mauritius through surveys and also through established administrative reporting systems. The current Census of Agriculture was carried out in 2014 after more than 70 years.

1.2 Background Information

1.2.1 Census Objectives

The main objectives of the 2014 Census of Agriculture were:

- (a) To provide important information on the organisational structure of farms at geographic level for better and informed decision making (e.g. farm size, land use, land tenure, crop area harvested, presence of irrigation, livestock numbers, farm labour as well as the number of holdings with each crop and livestock type);
- (b) To improve estimates on the contribution of agriculture for the economy;
- (c) To provide information on the household sector including subsistence farming which is important for food security; and
- (d) To improve the completeness of existing sampling frame that will be used as the base for sample selection for future agricultural surveys.

1.2.2 Census Coverage

The CA2014 covered agriculture, in the Islands of Mauritius and Rodrigues, excluding

- (i) sugar cane since most of the data required is available at the Sugar Insurance Fund Board (SIFB);
- (ii) tea since most of the data required is available at NAPRO (formerly Tea Board);
- (iii) tobacco since nearly all tobacco growers have stopped cultivating tobacco and this activity ceased in 2015.

1.2.3 Legal basis

The CA 2014 was conducted according to the provisions of the Statistics Act 2000 amended in 2011. The notice of the taking of the Census was published under Section 13 of the

Statistics Act in the Government Gazette as General Notice No. 1541 of 2014 on 18 June 2014.

CENSUS ORGANISATION AND OPERATIONS

2.1 Census Organisation

The CA2014 was conducted by SM with the collaboration of various organisations:

- (a) Food and Agriculture Organisation (FAO) for technical assistance
- (b) Ministry of Agro Industry and Food Security
- (c) Food and Agricultural Research and Extension Institute (FAREI)
- (d) Government Printing Office for printing the survey documents
- (e) Ministry of Finance and Economic Development for the budget

2.2 Office organisation

The planning, organisation and execution of the census rested with the Deputy Director responsible, amongst others, for agriculture statistics. The preparatory work for the Census, which started in January 2012, was under the responsibility of a Senior Statistician with long experience in agricultural statistics.

The CA2014 unit was set up in December 2013 and was headed by the Senior Statistician who was, as from January 2014, supported by a Statistician. Initially, the unit comprised two Senior Statistical Officers and 2 Statistical Officers. A group of 10 editors and coders was in place as from July 2014 together with 3 additional Statistical Officers.

2.3 Responsibilities of office staff

The Senior Statistician had the overall responsibilities of the census, at the same time coaching the Statistician in various tasks including census operations, editing and coding, data processing and analysis.

Two Senior Statistical Officers assisted the Statistician in his tasks. They were mainly involved in the following duties:

- (i) Preparing appointment letters, survey materials and payment lists for field staff
- (ii) Verifying edited and coded questionnaires
- (iii) Liaising with the private firm for the flow of the questionnaires for data capture
- (iv) Working on the correction of invalid records at the validation stage of the census in parallel with the editing and coding exercise

Experienced Statistical Officers controlled the flow of census documents from the field to the office and vice versa.

The coders were mainly involved in the editing and coding of the completed questionnaires.

2.4 Training of office staff

At the initial stage of the training, coders familiarised themselves with all the questionnaires used for the Census. They were then briefed according to the guidelines given in the editing and coding manuals including classifications of crops (vegetables, fruits and flowers) and localities. Emphasis was laid on how to verify the questionnaires for errors, inconsistencies and omissions.

2.5 Field organisation

The CA 2014 was conducted in three phases as follows:

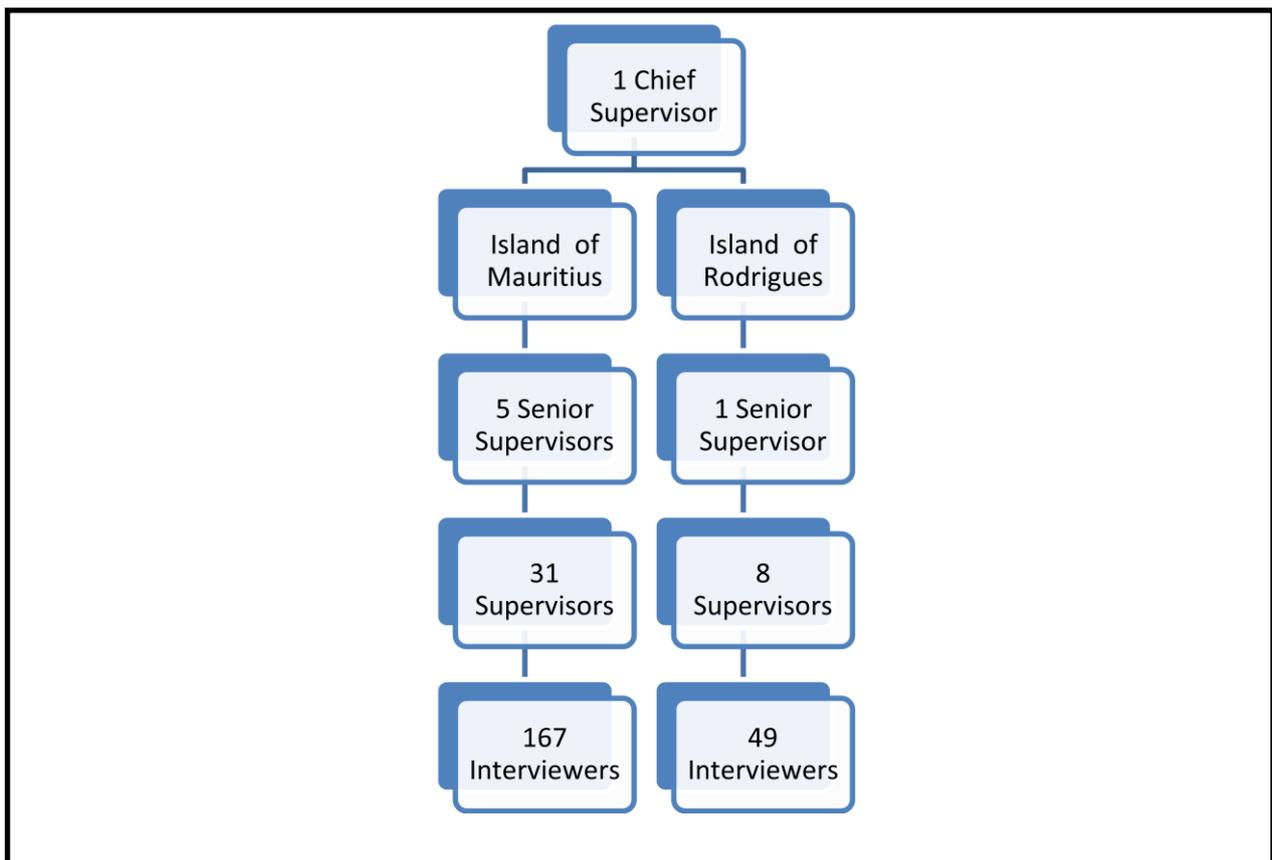
Phase 1 covered a complete census of 113 agricultural businesses (i.e. those operating in the non-household sector, namely corporations, NGOs, Government institutions etc). Data collection was carried out from July to December 2014.

Phase 2 covered a sample 10,339 household farms. Data collection was carried out from July to September 2014, and

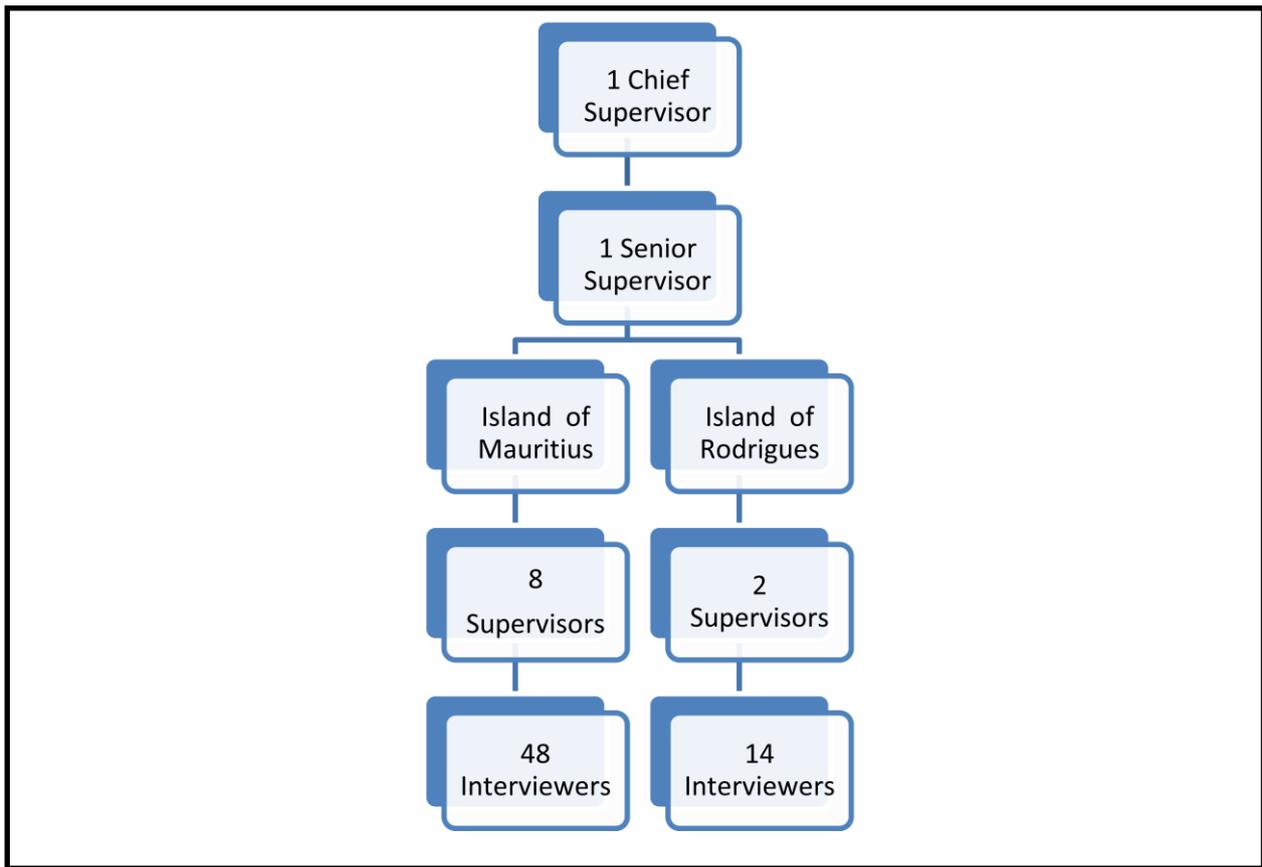
Phase 3 covered a sample of 8,778 private households. Data collection was carried out from October to November 2014.

Phases 2 and 3 were carried out after office hours and especially during weekends and five grades of field staff were employed as shown in Boxes 1 and 2 respectively.

Box1: Field organisation of Phase 2 – “Farm” questionnaire



Box 2: Field organisation of Phase 3 – “Household” questionnaire



2.6 Recruitment of field staff

The field staff was recruited from government employees and also from Food and Agricultural Research and Extension Institute (FAREI). The Public Service Commission appointed the Chief Supervisor and the Senior Supervisors on the recommendation of the Director of Statistics. As regards the other grades, the Commission delegated its authority to the Director of Statistics for their recruitment. This was done on the advice of a departmental selection board according to pre-defined criteria as approved by the Commission. The selection criteria were:

- (a) Availability to work outside office hours and the number of daylight hours to be devoted to the survey
- (b) Experience in previous censuses and surveys
- (c) Place of residence
- (d) Other things being equal, preference will be given to staff of Statistics Mauritius, the Ministry of Agro Industry and Food Security, and FAREI.

2.6.1 Chief Supervisor

The main duties of the Chief Supervisor are:

- (i) Overall responsibility for the fieldwork and ensuring the quality in data collected
- (ii) Conducting briefing and training sessions for Supervisors and Senior Supervisors
- (iii) Organising meetings with Senior Supervisors and Supervisors
- (iv) Conducting sample field checks
- (v) Control of quality of work of Senior Supervisors and Supervisors and deal with problems not specifically covered in instruction manuals
- (vi) Sample editing of completed questionnaires
- (vii) Settling of difficult cases, queries and dealing with any unforeseen problems
- (viii) Ensuring a constant flow of questionnaires from office to field and back
- (ix) Filling in of control documents

The fee paid for phase 2 was Rs 60,000 payable in 3 monthly instalments. A monthly travelling allowance of Rs 6,000 was paid over a period of 3 months.

The fee paid for phase 3 was Rs 33,000 payable in 2 monthly instalments. A monthly travelling allowance of Rs 6,000 was paid over a period of 2 months.

2.6.2 Senior Supervisor

The Senior Supervisor is responsible for a group of 6 to 7 Supervisors. His main duties are:

- (i) Ensuring the quality of information collected
- (ii) Conducting briefing and training sessions for Interviewers and Supervisors
- (iii) Organising meetings with Supervisors and Interviewers
- (iv) Sample field checks and re-interviews
- (v) Control the quality of work of Supervisors
- (vi) Sample editing of completed questionnaires
- (vii) Settling of difficult cases and problems
- (viii) Keeping records in diaries provided for field activities including problems encountered and progress of work

The fee paid for phase 2 was Rs 48,000 payable in 3 monthly instalments. A monthly travelling allowance of Rs 5,000 was paid over a period of 3 months.

The fee paid for phase 3 was Rs 28,000 payable in 2 monthly instalments. A monthly travelling allowance of Rs 5,000 was paid over a period of 2 months.

2.6.3 Supervisor

The Supervisor has the responsibility for the work of a group of 6 to 7 interviewers, including:

- (i) Attending briefing/training sessions with his/her team of Interviewers and ensuring that they understand all relevant concepts and instructions
- (ii) Conducting practical sessions of questionnaire completion with the team of interviewers
- (iii) Consolidating interviewers' training and understanding by accompanying/ assisting them as and when needed, but especially during the first interviews while monitoring closely the work of poor performers
- (iv) Providing prompt assistance to interviewers in identifying/locating the selected farmers/ persuading reticent farmers into cooperation, etc

- (v) Controlling the quality of work of interviewers on field. This is done by carrying out field checks and re-interviews; re-interview of at least two farmers should be done for each interviewer falling under their responsibility
- (vi) Ensuring that work is not disrupted, and that there is a constant flow of questionnaires from field to the Senior Supervisors
- (vii) Regulating the flow of all documents between the Senior Supervisor and the Interviewers, while ensuring that the confidentiality issues are strictly observed throughout the fieldwork
- (viii) Collecting and editing all the questionnaires before returning them to the CA2014 unit
- (ix) Keeping records in diaries provided for field activities including problems encountered and progress of work.

The Supervisor for phase 2 had to furnish around 130 hours of work outside office hours. The fee paid for the job was Rs 36,000 payable in 3 monthly instalments. A monthly travelling allowance of Rs 5,100 was paid over a period of 3 months except for 2 of them who were paid Rs 3,500 monthly due to a lesser workload.

The Supervisor for phase 3 had to furnish around 79 hours of work outside office hours from October to November 2014. The fee paid for the job was Rs 22,000 payable in 2 monthly instalments. A monthly travelling allowance of Rs 4,000 (for large area) Rs 3,000 (for small area) and Rs 3,500 (for Rodrigues) was paid over a period of 2 months.

2.6.4 Interviewer

The role of the Interviewer is of utmost importance in the census. He/She is the person, who collects the required information directly from the farmer at the interview, and records them in the questionnaire. Interviewers are therefore in a better position to evaluate and ensure the plausibility of the answers obtained before these are recorded.

The duties of the interviewer consist broadly of the following:

- (i) Attend training/briefing sessions with aims at mastering the concepts, definitions and procedures necessary for the good conduct of interviews and obtention of reliable and relevant data from farmers.
- (ii) Locate around 50 selected farmers
- (iii) Contact and interview the selected farmers for the census and complete the questionnaires
- (iv) Do an eye estimate of land use for agricultural production and also physically see the current crops grown and/or livestock kept for farmers having their farms either located at their residential address or close to their residence
- (v) Scrutinise all completed questionnaires, preferably at the conclusion of each interview, to ascertain their completeness and correctness, making further enquiries if necessary
- (vi) Complete editing of all questionnaires
- (vii) Submit completed schedules and other relevant documents to the Supervisor within the prescribed delays

The Interviewer for phase 2 had to furnish around 85 hours of work outside office hours from July to September 2014. The fee paid for the job was Rs 18,000 inclusive of travelling expenses.

The Interviewer for phase 3 had to furnish around 62 hours of work outside office hours from October to November 2014. The fee paid for the job was Rs 13,000 inclusive of travelling expenses.

2.7 Training of field staff

The Chief Supervisor, the Deputy Director responsible for the Census and the Senior Supervisors conducted the training sessions to the field staff in the Islands of Mauritius and Rodrigues.

2.7.1 Island of Mauritius

The quality of the data obtained through a survey being largely dependent on the performance of the fieldworkers, an elaborate reference manual 'Instructions for field work was provided to all Interviewers and Supervisors. Furthermore, intensive training sessions were carried out by the Chief and Senior Supervisors to ensure that all concepts and procedures were clearly understood. Two trainings sessions were organised for phase 2.

The first training of trainers' session was conducted around 2 weeks before the start of the Census at Statistics Mauritius by the FAO Consultant. During that training, the Deputy Director responsible for the Census, Chief Supervisor, Senior Supervisors and Supervisors were provided with a concise knowledge of an agricultural census and its objectives. Emphasis was laid on the following aspects:

- (a) Objectives and methodology of the survey
- (b) Terms of appointment of field staff
- (c) Legal authority/importance of Identity Card
- (d) Confidentiality
- (e) Office and field organisation
- (f) Duties of field staff
- (g) Concepts and definitions
- (h) Interviewing techniques
- (i) Identification of Household farms and filling in of questionnaires

The second training session was conducted by Senior Supervisors before the data collection started. The session was meant to discuss and clear problems encountered and to explain to Interviewers how to verify the data collected. During that session, emphasis was laid on the following:

- (a) Assessment of quality of the data collected
- (b) Clarification of concepts
- (c) Probing exercise with respondent to clear doubtful figures and obtain missing information
- (d) Consistency checks of data from the different sections of the questionnaire

Senior Supervisors had to attend additional briefing sessions every week after office hours. These aimed at assessing the progress of work and discussed problems on the field and to seek clarifications on particular issues. Any shortcomings were recorded and appropriate remedial measures were taken for the smooth continuation of the fieldwork.

For phase 3, a training session was conducted at Statistics Mauritius by the Chief Supervisor.

2.7.2 Island of Rodrigues

2.9 Census Cost

The project value of the 2014 Census of Agriculture was estimated at Rs 20.1 million (Rs14.0 million from the Government of Mauritius and Rs 6.1 million from FAO under the TCP Project). A breakdown of the project value and the expenses incurred by the Government of Mauritius is given below.

Table 2: Project value and actual expenditure of CA 2014

	Expenditure Item	Government of Mauritius	
		Project Value Rupees ('000)	Actual Expenditure Rupees ('000)
1	Personnel expenses	9,100,000	7,483,900
	Office Staff (comprises Census & Survey Assistants for Editing and	700,000	-
	Field staff:	8,400,000	7,483,900
	Fees for field work	7,750,000	6,727,000
	Travelling allowances	650,000	756,900
2	Non-personnel expenses	2,935,000	596,712
	<i>of which :</i>		
	Stationery and other office equipment ¹	450,000	-
	Printing of census documents	150,000	-
	Furniture ¹	100,000	-
	Data processing	1,200,000	596,712
	Pilot census ¹	150,000	-
	Mission to Rodrigues ¹	75,000	-
	Publicity ¹	450,000	-
	Dissemination of census results ¹	360,000	-
3	Contingencies	1,965,000	-
	TOTAL	14,000,000	8,080,612

¹ covered by FAO under TCP Project

The expenditure items covered by FAO under the TCP Project were mainly for:

- International consultant fees and travelling
- National consultants fees and travelling
- FAO supervisory staff fees and travelling
- Dissemination seminars (2 in Mauritius and 1 in Rodrigues)

- Equipments and furniture

Under the TCP Project, FAO purchased and transferred to SM some equipments and furniture namely 10 Laptops, 3 printers, 2 scanners, 1 multimedia projector, 1 A0 colour plotter and 5 armchairs. Out of these equipments, three (1 laptop, 1 printer and 1 scanner) were transferred to the Statistics Unit of the Rodrigues Regional Assembly.

2.10 Census Publicity

Publicity helps to create a better awareness on the conduct of the Census, and thus increases response rate. In this context, press releases on the taking of the Census were published in newspapers both in Mauritius and Rodrigues. For phases 1 and 2 of the Census, a press communiqué dated 23 July 2015 was published in two main newspapers in Mauritius. Similarly for phase 3, a press release dated 16 October 2015 was published in two main newspapers in Mauritius. Press releases on the Census were also published in Rodrigues.

An extensive coverage of a training session held for phase 2 of the Census at the Queen Elizabeth College was shown during TV news on MBC TV.

During data collection, pamphlets with explanation on CA2014 were given to farmers for better understanding of the aim, purpose and usefulness of the Census.

3. CONCEPTS AND DEFINITIONS

The main concepts and definitions used in CA 2014 were based on the WCA 2010 guidelines of the FAO. More concepts and definitions are found at Appendix A – Glossary of Terms.

3.1 Farm (Agricultural Holding)

An agricultural holding is an economic unit of agricultural production under single management comprising all livestock kept and all land used for agricultural production purposes without regard to title, legal form or size.

A farm is an agricultural holding consisting of agricultural production activities of an enterprise, where an enterprise is a corporation, a government institution, or (most commonly) a household. It may be operated by a single individual, jointly by several individuals with or without contractual agreement belonging to the same or to different households.

Farms in the household sector are holdings that are operated by household members. Usually there is only one farm in a household (single-holding household), but there can be two or more farms in a household (multiple-holding household). A farm may also consist of a partnership of two or more households. In many developing countries, including Mauritius, most farms are in the household sector.

3.2 Farmer (Agricultural Holder)

A farmer (or agricultural holder) is the person or persons making the major decisions about the agricultural operation. The agricultural holder has technical and economic responsibility for the agricultural production and may undertake all responsibilities directly or through a hired manager.

3.3 Land Parcel

A land parcel is a piece of land entirely surrounded by other land, water, road, forest or other features not forming part of the holding.

3.4 Household

A household, for the purpose of the agricultural census, is defined as:

- either *A person living on his/her own.*
- or *A group of two or more persons, who may or may not be related, but who live together and make common provision for food and other essentials for living.*

Two or more families, living in one house constitute one household if they have common housekeeping arrangements, but should be considered as distinct and separate households if they have separate housekeeping arrangements, and should be enumerated as separate households. In case of varying degrees of housekeeping arrangements, a group of persons who make common provision for at least one meal per day is regarded as one household.

3.5 Head of Household

The head of household is any adult member, male or female, who is acknowledged as such by the other members of any household.

4. TECHNICAL ASSISTANCE FROM FAO

FAO provided technical assistance, under the TCP Facility (TCPF) and TCP Project, to assist Statistics Mauritius in the design, conduct and data analysis of CA2014.

4.1 TCP Facility

4.1.1 Mission 1 under TCPF

An exploratory mission was carried out under TCPF/MAR/3402 – FAO TCP Facility Component 1 – “Planning for the Census of Agriculture in Mauritius” to review the need for the census and to formulate a TCP Project proposal.

The project provided for the services of a UN Retired Expert for a 3-week mission as well as one week of technical support from the Statistician of FAORAF.

The Terms of Reference of the mission of the UN Retired Expert were:

- Review the current system of agricultural statistics;
- Discuss with all the partners the crucial points, priority in data needs and the questions of financing of the agricultural census;
- Present the FAO recommendations such as expressed in the "World Programme for the Census of Agriculture 2010 (WCA 2010)";
- Estimate the technical capacities of the staffs and the needs in training and external technical assistance concerning the collection/ processing /archiving/disseminating of the data;
- Prepare a draft TCP project document to provide technical support to the agricultural census;
- Prepare an assignment report

In this context, Mr. David Marshall was on mission between 7 and 24 November 2012 to prepare an agricultural census. He had meetings with high level representatives of Ministries/ departments, parastatal bodies and private sector representatives. He also made a presentation on the WCA 2010 on 21 November 2012 at Statistics Mauritius.

4.1.2 Users/Producers Workshop

During his first mission under the TCP Facility, Mr. David Marshall recommended to carry out a one-day users/producers workshop to bring together the stakeholders to discuss their data needs and the draft questionnaire. Prior to the workshop, all stakeholders from public and private sectors were requested to submit written requests for data items to be included in the census, with justification and a draft census questionnaire was submitted to them.

The workshop was held at Domaine Les Pailles on 21 March 2013 and the cost was covered under the TCP Facility. One of the resource persons was Mr. Eloi Ouedraogo, Regional Statistician of FAORAF. The list of participants of this important workshop is found at Appendix B. Following the outcomes of the workshop, the draft census questionnaire was further developed and tested.

4.1.3 Mission 2 under TCPF

Following the first mission conducted in November 2012, Mr. David Marshall carried out a second mission between 9 and 28 July 2013. The Terms of Reference of the mission were:

- Review the report of the one-day users/producers workshop held in March 2013
- Review the work on preparing the census frame of commercial farmers and, in particular, the material collected by the Small Farmer's Welfare Fund (SFWF)
- Advise on the design of the questionnaires and enumerators manuals and the tabulation plan for the census
- Advise on the census methodology
- Participate in training sessions for staff of Statistics Mauritius and FAREI related to the testing of the census instruments and/or the pilot census (training of trainers)
- Undertake a field visit to Rodrigues to determine an appropriate methodology for the Census on Rodrigues
- Provide group training and on-the-job training, as required

4.2 TCP Project

The Technical Cooperation Programme TCP/MAR/3403 - Support to Census of Agriculture was signed by the Permanent Secretary of the Ministry of Agro Industry and Food Security and Mr. Patrice Talla Takoukam, FAO representative on 4 November 2013. The starting date of the TCP was September 2013 with a completion date of 31 December 2015. The TCP provided for a contribution of USD 204,000 by the FAO with the following services:

- Retired expert in Agricultural Census
- National consultants for thematic analysis
- FAO technical supervisory services
- Official travel
- Training
- Supplies and materials
- Equipment
- General operating expenses

Mr. B. Unmar, Senior Statistician was appointed as National Project Coordinator for the TCP Project to give technical support for the implementation of the Census with the following specific responsibilities:

- (i) Contribute to the preparation of the programme/work plan of the project
- (ii) Ensure the collection of all essential documents relevant to project implementation
- (iii) Act as contact/liaison person between the various government entities involved in project implementation, FAO and project team
- (iv) Provide logistical support to consultants
- (v) Assist in organising training workshops (venue, equipment, invitations, transport and accommodation)
- (vi) Assist in organising travel arrangements and meeting relevant people
- (vii) Ensure that communication channels are open and that information is provided in a timely manner to all participants and stakeholders throughout the project
- (viii) Prepare the final project report and the project Terminal Statement

Mr. David Marshall fielded three missions under the TCP Project.

4.2.1 Mission 1 under TCP Project

The first mission under the TCP Project was carried out between 7 and 27 June 2014. The Terms of Reference of the mission were:

- Review progress made since the previous mission under TCPF/MAR/3402/in July 2013
- Review the preparations for the census and, in particular, the census frame and advise on ways to improve the coverage
- Review the sample design and advise on ways to improve it
- Review the sample selection for the household survey of agricultural activities
- Participate in training sessions for trainers and supervisors
- Provide group training and on-the-job training, as required
- Prepare an end-of-assignment report with a summary of activities undertaken, results, conclusions and recommendations as well as an up-dated work plan

4.2.2 Mission 2 under TCP Project

The second mission under the TCP Project was undertaken between 10 and 30 November 2014. The Terms of Reference of the mission were:

- Review progress made since the previous mission in June 2014
- Review the census fieldwork for coverage and quality
- Review the quality control procedures put in place for the field work and advise on corrective measures, if any
- Conduct training sessions for staff of SM on the checking, editing and coding of the completed questionnaires
- Provide group training and on-the-job training, as required
- Prepare an end-of-assignment report with a summary of activities undertaken, results, conclusions and recommendations as well as an updated work plan

4.2.3 Mission 3 under TCP Project

The third and last mission under the TCP Project was carried out between 7 and 25 November 2015. The Terms of Reference of the mission were:

- Review progress made since previous mission in November 2014
- Review the evaluation and analytical work done by staff of SM and MAIFS/FAREI
- Review the thematic reports prepared by the national consultants
- Participate in a seminar to present and disseminate the census results
- Advise and develop a medium-term plan for the enhancement of statistics in the sector
- Provide group training and on-the-job training, as required
- Prepare a draft Terminal statement according to FAO guidelines for finalization and submission by FAO to the Government, and
- Prepare an end-of-assignment report with a summary of activities undertaken, results, conclusions and recommendations

5. CENSUS METHODOLOGY

5.1 Sampling frame for household farms

The sampling frame for household farms consisted of a list of agricultural production units obtained from the databases of MAIFS and FAREI for livestock and poultry breeders, supplemented with information from other administrative sources such as small farmers registered at SFWF, persons engaged in growing of crops - vegetables, fruits and flowers (including vegetable crops in kitchen gardens and fruit trees in backyard) mainly for sale or own consumption with at least 5 perches of land (identified from the 2011 HC), etc.

5.2 Frame for non-household farms

The frame for non-household farms consisted of a list of agricultural establishments obtained from the databases of MAIFS and FAREI for crops, livestock and poultry breeders, supplemented with information from other administrative sources.

5.3 Phase 1 - Census of non-household farms

Some 113 farms of the non-household sector (90 in the Island of Mauritius and 23 in the Island of Rodrigues), mostly private sector establishments and Government institutions involved in agricultural production (excluding sugarcane, tea and tobacco), were surveyed.

5.4 Phase 2 - Sampling design for household farms

The sample comprised 10,339 farms (8,007 for the Island of Mauritius and 2,332 for the Island of Rodrigues) of the household sector which were allocated to the different strata according to disproportionate stratified random sampling. The stratifying factors were agricultural intensity, types of crops/livestock and geographical region. This type of allocation was considered to be more appropriate than the usual proportional allocation. Within the strata, selection of units was effected by systematic random sampling to ensure representativeness. It covers all large farms and samples of medium and small farms. The sample represented some 38% of the estimated number of household farms.

5.5 Phase 3 - Sampling design for survey of private households

A random sample of around 8,778 private households was interviewed. The sampling design was a stratified cluster sampling. The clusters or Primary Sampling Units (PSUs), around 1,110 for Island of Mauritius and 41 for the Island of Rodrigues, were stratified according to their agricultural intensity. A representative sample of PSUs (25 for Mauritius and 7 for Rodrigues) was drawn. Each private household in the selected PSU was interviewed. The sample represented around 2% of households in the Island of Mauritius and around 13% in the Island of Rodrigues.

6. CENSUS DOCUMENTS

The Census necessitated a separate questionnaire for each phase as follows:

- (a) Phase 1–Business Questionnaire (CA1);
- (b) Phase 2 –Farm Questionnaire (CA3);
- (c) Phase 3 –Household Questionnaire (CA4)

6.1 Business Questionnaire (CA1)

The Business questionnaire was used to collect information on all farms of the non-household sector (agricultural businesses).The contents of the questionnaires are as follows:

(i) Identification of Business

- Name, address, Business licence holder’s name, registration with authorities, date of start of operation, telephone and fax number and e-mail address

(ii) Characteristics of Business

- Activities of Business, Type of ownership

(iii) Agricultural activities of Business

- Crops, Livestock and Other

(iv) Employment in agriculture

- Number of persons engaged

(v) Land use and tenure for agricultural production

- Type of land use and land tenure of areas operated by the business

(vi) Land owned by business but rented to others

(vii) Temporary and permanent crop production

- Vegetables – crop name, method of planting, number of planting, total area harvested in open field and under protective cover and production
- Fruits and beverage crops – crop name, method of planting, total area harvested, Size of production unit for permanent plant/ trees and of which bearing, sale, production
- Flowers – crop name, total area harvested in open field and under protective cover and production

(viii) Livestock

- Cattle – cattle type, total number for meat and dairy purposes, number sold live and slaughtered, Milk production
- Goat –goat type, total number for meat and breeding purposes, number sold live and slaughtered
- Sheep – sheep type, total number for meat and breeding purposes, number sold live and slaughtered
- Pigs – pig type, total number for meat and breeding purposes, number sold live and slaughtered
- Poultry for meat production – animal type and quantity sold, number of layers, number of eggs sold, other livestock - animal type, number as at 30 June 2014 and quantity sold
- Apiculture – number of productive and non-productive beehives, production of honey

(ix) Agricultural practices

(x) Marketing practices

- Disposal of agricultural produce

6.2 Farm Questionnaire (CA3)

The Farm questionnaire was used to collect information on a sample of farms of the household sector. The contents of the questionnaires are as follows:

(i) Number of farmers operating this farm

(ii) Identification of farmers

- Surname, other names, ID number

(iii) Characteristics of household

- Surname and other names of household head, address of household, number of separate farms
- For members aged 12 years and above –age, sex, farm number, whether farmer or not, and type of employment
- Total household members aged below 12 years, proportion of total household income from agriculture

(iv) Agricultural activities of Farm

- Crops, Livestock and Other

(v) Main purpose of production

(vi) Number of paid employees who usually worked on the farm

(vii) Land Use and Tenure for agricultural production

- Type of land use and land tenure of areas operated by farmer
- Number of land parcels operated by farm for agricultural production

(viii) Land area rented to others by the farmer

(ix) Temporary and permanent crop production

- Vegetables – crop name, method of planting, number of planting, total area harvested in open field and under protective cover and production
- Fruits and beverage crops – crop name, method of planting, total area harvested, Size of production unit for permanent plant/ trees and of which bearing, sale, production
- Flowers – crop name, total area harvested in open field and under protective cover, production

(x) Livestock

- Cattle – cattle type, total number for meat and dairy purposes, number sold live and slaughtered. Number of cows milked and average quantity of milk produced
- Goat -goat type, total number for meat and breeding purposes, number sold live and slaughtered
- Sheep – sheep type, total number for meat and breeding purposes, number sold live and slaughtered
- Pigs – pig type, total number for meat and breeding purposes, number sold live and slaughtered
- Poultry for meat production – animal type, number and quantity sold
- Poultry for egg production – number of layers, number of eggs sold
- Other livestock – animal type, number and quantity sold
- Area of exercise yard for livestock
- Apiculture – number of productive and non-productive beehives, production of honey

(xi) Agricultural practices

(xii) Marketing practices

- Disposal of agricultural produce

(xiii) Outstanding agricultural loan

(xiv) Main constraints as a farmer

(xv) Registration with authorities

6.3 Household Questionnaire (CA4)

The Household questionnaire was used to collect information on a sample of households. The contents of the questionnaires are as follows:

(i) Characteristics of the household

- Surname and other names of household head, address of household, telephone number of household and number of persons in household

(ii) Whether the household was interviewed for the 2014 Census of Agriculture at Phase 2.

(iii) Agricultural operations

- Area of land (if any) cultivated on own account and mainly for commercial purpose, Area of kitchen garden (if any), name, sex, and age of person responsible for decision making on the agricultural activities of household

(iv) Agricultural activities of household

- Crops, livestock and other activities such as aquaculture, nursery for sale etc

(v) Fruit and nut trees

- Number of trees and of which bearing

(vi) Vegetables grown

- Crop grown and area harvested

(vii) Main purpose of agricultural production

6.4 Instruction manuals

Instruction manuals were made available to the field staff for reference for phases 2 and 3. The manuals were meant to help the field staff in the successful performance of their duties. Their aims were to set field work procedures, standardise the method of data collection and summarise the instructions received during briefing and training sessions. It covered various aspects of the census namely:

- (a) Objectives and uses
- (b) Duties of field staff
- (c) Interviewing techniques
- (d) Concepts and definitions
- (e) Filling in of questionnaires

6.5 Other training materials

Given that the data collection of agricultural data is complex, some case studies were designed to help field staff better understand some definitions and concepts such as crop cycle, reference period, dwelling parcel, staggered/compact/scattered plantation, mixed cropping, multiple harvests, etc.

7. DATA COLLECTION

Data collection for the CA2014 was carried out in three phases.

7.1 Phase 1 – Business Questionnaire (CA1)

A letter was sent to around 200 agricultural businesses on 14 July 2014 with the request that the completed questionnaire be returned to this office by 14 August 2014. A reminder was sent to all non-respondents on 28 August 2014 with a request that the questionnaire be returned by 16 September 2015. SM officers visited the non-respondents during office hours in order to improve the response rate. At the end there were only 113 farms of the non-household sector. The remaining farms had either ceased operation or were not traceable.

7.2 Phase 2 – Farm Questionnaire (CA3)

Phase 2 comprised of a sample survey of 10,339 farms of the household sector from July to September 2014. The training of interviewers was held on 26 and 27 July 2014 in both islands of Mauritius and Rodrigues. Each interviewer was allocated around 50 farmers and had to contact them for filling of the questionnaires. Data collection started on 28 July 2014 and was completed in end-September 2014. The completion rate was around 90%.

7.3 Phase 3 – Household Questionnaire (CA4)

Phase 3 comprised of a sample survey of 8,778 private households from October to November 2014. The training of field staff started on Saturday 18 October 2014 and data collection started on Monday 20 October 2014 and was completed in end-November 2014.

7.4 Supervision and control

As the Census of Agriculture involved the collection of a huge amount of data, field supervision and control were vital to ensure good quality data. Supervisory staff was required to exercise close and continuous control throughout the data collection process. They had to ensure that the interviewers adhered to instructions and procedures prescribed all along the survey.

Supervisors accompanied their interviewers during the first few interviews to consolidate the interviewers' understanding of the instructions. Less competent ones were spotted early and given special attention. Completed questionnaires were examined, as soon as possible so that any mistake/misunderstanding could be cleared promptly and effectively.

Difficulties met by an interviewer were reported immediately to the concerned Supervisor who was responsible to deal with such cases as quickly as possible.

Senior Supervisors closely monitored the work of Supervisors through weekly diaries of field work filled in by the latter. They also helped the Supervisors to resolve difficult cases and settle queries.

7.5 Census Steering Committee

A Census Steering Committee was set up with the following objectives:

- (i) to monitor the progress of work;
- (ii) to get the stakeholders involved; and
- (iii) to find out the strengths and weaknesses of the data collected

The Committee was composed of the following members:

- Mr. D. Bahadoor, Deputy Director, SM (Chairperson)
- Mr. B. Unmar, Senior Statistician (SM), National Project Coordinator and Chief Supervisor (CA 2014)
- Dr B. Neerunjun, Divisional Veterinary Officer (MAIFS) and Senior Supervisor (CA 2014)
- Mr. R. K. Ramnauth, Principal Biometrician (FAREI) and Senior Supervisor (CA 2014)
- Mr. P. Sookar, Senior Scientific Officer (MAIFS) and Senior Supervisor (CA 2014)
- Other staff of CA 2014 Unit, SM

Several weekly meetings were held between August and November 2014.

8. DATA PROCESSING AND REPORTING

8.1 Editing and coding

The editing and coding of completed business questionnaires (CA1) were carried out by staff of CA 2014 unit.

The completed questionnaires were checked for completeness and consistency at the office and were edited and coded directly thereon. The editing and coding of completed CA3 questionnaires started as scheduled in September 2014 and was completed by end-November 2014. A coding instruction manual containing all the relevant codes was supplied to each member of the editing and coding team.

8.2 Data capture and validation

The data capture of business questionnaires was done in-house by staff of CA 2014 unit through the IMPS application. Tables were compiled using CSPro software.

The data capture of the farm and household questionnaires was contracted out to a private company. The data capture started in November 2014 and was completed in March 2015.

The coded questionnaires were sent in batches to the service provider which ran validation and consistency checks. Validation reports were then submitted to SM after the data capture. Data files in text and Excel formats were made available to SM after the validation reports have been worked upon by SM.

8.3 Tabulation

The tables were compiled in-house using the CSPro (Census and Survey Processing System) software, which is a public domain statistical package, designed for Microsoft Windows and developed by the U.S Census Bureau.

8.4 Reporting of results

8.4.1 CA 2014 Main results

The preliminary results of the CA 2014 were published in October 2015 in the Economic and Social Indicators, Issue No. 1213, “2014 Census of Agriculture – Main results” and can be accessed through the following link:

<http://statsmauritius.govmu.org/English/Publications/Pages/Census-of-Agriculture-2014.aspx>

8.4.2 First Dissemination Seminar

Statistics Mauritius organised jointly with the FAO and MAIFS a one-day seminar on 18 November 2015 at Maritim Crystal Beach Hotel, Palmar, Mauritius to disseminate the main results of the 2014 Census of Agriculture and also thematic analyses on gender, land and livestock prepared by the National Consultants.

The Hon M.K. Seeruttun, Minister of AgroIndustry and Food Security, made the opening speech.

Mr. D. Marshall, FAO Lead Consultant talked about “*Census methodology, data quality and lessons learned*”.

Mr. B. Unmar, Senior Statistician presented the “*Main results of CA 2014*”.

The three national consultants made PowerPoint presentations based on their respective draft thematic reports on gender, land and livestock.

Mr. Eloi Ouedraogo from FAORAF made a presentation on “*Establishing a permanent system of agricultural statistics*”.

8.4.3 Second Dissemination Seminar

Statistics Mauritius organised jointly with the FAO and the RRAa half-day seminar on Wednesday 24 February 2016 at Les Cocotiers Beach Hotel, Anse aux Anglais, Rodrigues to disseminate the main findings of the draft thematic report on Rodrigues undertaken by the Rodriguan national consultant.

The seminar was opened by Mr. L. Serge Clair, G.C.S.K, Chief Commissioner of Rodrigues.

Mr. B. Unmar, Senior Statistician presented the “*Census methodology and data quality*”.

8.4.4 Third Dissemination Seminar

Statistics Mauritius organised jointly with the FAO and MAIFS a half-day seminar on 23 March 2016 at Maritim Crystal Beach Hotel, Palmar, Mauritius to disseminate the main findings of the draft thematic report on crops prepared by the national consultant. The seminar was opened by Mr P. Teeloku, Deputy Permanent Secretary of MAIFS on behalf of The Hon M.K. Seeruttun, Minister of Agro Industry and Food Security.

Mr. B. Unmar, Senior Statistician presented the “*The Way Forward*”.

9. RELIABILITY OF CENSUS DATA

Every sample survey is subjected to two types of errors, namely sampling errors and non-sampling errors.

9.1 Sources of non-sampling errors and controls

Non-sampling errors arise from various sources. In contrast to sampling errors, these errors are difficult to measure but are usually reduced by putting in place quality controls at various stages of the census. Below are the possible sources of non-sampling errors in CA2014 together with the respective controls.

9.1.1 Questionnaire design

While conducting any survey, sources of errors in the design of a questionnaire are mainly layout of the questionnaire, wordings including ambiguous and vague words and phrases, non-exhaustiveness of pre-coded answers.

For the CA2014, the above possible errors were minimised with the support of the technical group, which comprised professional statisticians.

9.1.2 Data Collection

During the data collection stage possible sources of errors are non-response, interviewers' bias, respondents' bias, lack of understanding of concepts and definitions by both respondent and field staff, lack of supervision on field, errors of recording in the schedule, etc.

The above errors were reduced by:

- (a) Intensive training of field staff who were provided with a detailed instruction manual;
- (b) Incorporating checks in the questionnaire to ensure consistency of information provided;
- (c) Providing supervisory staff with a diary in which they had to fill in their itineraries, problems encountered and solution thereof;
- (d) Interviewers being accompanied by their supervisors during the first few interviews and also in difficult cases;
- (e) Re-interviews being carried out to clear out queries, if any and ensure corrections of data collected; and
- (f) Intensive editing and consistency checks carried out at office where outliers were flagged and reported to supervisory staff for call backs if necessary.

9.1.3 Data Processing

Editors and coders were intensively trained by the Senior Statistician in charge of the CA2014 Unit. In addition, team leaders (Senior Statistical officers) carried out sample verifications of the questionnaires ensuring consistency in the editing and coding process. After the completion of data capture, computer editing, consisting of checks on totals, range of values and other consistency checks, was carried out.

9.2 Sampling errors

The CA2014 estimates are based on a sample of observations. Hence, they are subject to sampling errors; that is estimates could differ from the figures that would have been produced if information had been collected from all farmers in the country.

Appendix A – Glossary of Terms

Agricultural census - Collection of structural data from agricultural holdings

Agricultural household - A household whose largest source of income consists from income derived from agricultural production.

Agricultural land - Total of arable land, permanent crops, and permanent pastures and meadows

Built up areas - Land occupied by buildings, parks, roads, lanes, open spaces needed for storing equipment and products, etc

Compact plantation (permanent crop) - Plants and trees planted in a regular or systematic manner.

Forest or other wooded land - Land which includes wood lots or tracts of timber, natural or planted, which have or will have value as wood, timber or other forest products. Nurseries of forest trees should be classified under this category.

Land under temporary crops - Land used for crops with a less than one year growing cycle. This includes all vegetables and food crops with a growing cycle of less than one year such as, melons, some types of flowers and also fodder crops.

Land under temporary meadows and pastures - Land temporarily cultivated with herbaceous forage crops for mowing or pasture. A period of less than five years is used to differentiate between temporary and permanent meadows.

Land fallow - Arable land at rest for a period of time before it is cultivated again (maximum 5 years). This may be part of the holding's crop rotation system or because the normal crop cannot be planted because of flood damage, lack of water, unavailability of inputs, or other reasons.

Land under permanent crops - Land which is cultivated with crops which occupy it for a year or longer and which do not have to be planted after harvest. For example land under trees and shrubs producing crops, fruits and flowers, such as roses and jasmine.

Land under permanent meadows and pastures - Land used permanently (for five years or more) to grow herbaceous forage crops, through cultivation or naturally (wild prairie or grazing land) including land used solely for livestock.

Land suitable for agriculture - Land suitable for agriculture but not used in the last 5 years for agricultural production.

Other lands - Wasteland, land under water, etc

Landless holding - An agricultural holding with no land

Land tenure - Arrangements under which a holder operates land on a holding

Land use - Classification of land according to the activity undertaken on the land

Mixed cropping - Several temporary crops grown simultaneously as a mixture on the same piece of land.

Organic fertilisers - Fertilizers prepared from processed plant and animal material

Pesticide - Substances intended to repel, mitigate, control or destroy diseases and pests in plants or animals and to prevent any harm to agricultural commodity during production, storage, transport, processing and marketing etc.

Appendix B – List of participants of Users/Producers Workshop

2014 Census of Agriculture (CA 2014)			
Users/Producers Workshop - 21 March 2013			
List of Participants			
#	Name	Ministry/Dept/ Institution	Occupation
1	Mr. Eloi Ouedraogo	FAO-RAF	Regional Statistician
2	Ms. Y.Cassimally	SM	Ag. Director of Statistics
3	Mr. D.Bahadoor	SM	Deputy Director
4	Mr. C. Rammath	SM	Principal Statistician
5	Mr. B.Unmar	Agriculture Unit, SM	Statistician
6	Mr. P. Seenauth	Agriculture Unit, SM	Senior Statistical Officer
7	Mr. D. Chinnee	Agriculture Unit, SM	Senior Statistical Officer
8	Ms. R.Bundhun-Sahye	Agriculture Unit, SM	Statistical Officer
9	Ms. T.Ramtahal	Agriculture Unit, SM	Statistical Officer
10	Ms.F. Koussa	National Accounts Unit, SM	Statistician
11	Ms. S. Nunhuck	Labour Unit, SM	Statistician
12	Ms. N. Gujadhur	Housing & Population Census Unit, SM	Statistician
13	Ms.Z.Oodally	Statistics Unit of Ministry of Fisheries, SM	Senior Statistical Officer
14	Mr. R. Bahadoor	APAU, MAIFS	Chief Agricultural Planning Officer
15	Mr. S. P. Benimadhu	AREU	Ag. Assistant Director
16	Mrs. D. Boodhun	Ministry of Environment	D.E.O
17	Mr. Chan Sip Siong Dong-Liang	AREU	Agricultural Coordinator
18	Mr. Dana Chengan	MCA	
19	Mr. Krishna Chikhuri	APAU, MAIFS	Senior Agricultural Planning Officer
20	Mrs. Cecily Cyparsade	Forestry Services, MAIFS	Scientific Officer
21	Ms. M. Dookhan	AREU	Biometrician
22	Mr. S.Dhunoo	SFWF	Technical Officer
23	Mr. G. Geeane	Ministry of Fisheries	Technical Officer
24	Mr. S. Gopee	AID, MAIFS	Agricultural Executive Assistant
25	Mr. Jalloo	Tobacco Board	
26	Mr. K. C. S. Kong Thoo Lin	Irrigation Authority	Head of Operation & Maintenance
27	Mr. L. M. Monvoisin	Ministry of Cooperatives	Ag. Registrar of Cooperatives
28	Dr. B. Neerunjun	Veterinary Services, MAIFS	Divisional Veterinary Officer
29	Mrs. D. M. Nunkoo	Tea Board	Technical Officer
30	Mrs. M. M. Seenevassen Pillay	AREU	Assistant Director
31	Mr. V. A. Punchoo	MAIFS	Chief Agricultural Officer
32	Mr. Shrawan Kumar Sonatun	MSIRI	Scientific Officer
33	Mr. P. Sookar	Entomology Division, MAIFS	Senior Scientific Officer
34	Mr. J. Sookdeb	SIFB	Claims Manager
35	Mr. G. Volbert	Rodrigues	Ag. Scientific Officer
36	Mr. K. L. Yee Tong Wah	APD, MAIFS	Divisional Scientific Officer
37	Mr. L.Mootosamy	Ministry of Fisheries	Scientific Officer

Appendix C – Census Questionnaires

CA1

CONFIDENTIAL

S.N



Republic of Mauritius
STATISTICS MAURITIUS

Ministry of Finance and Economic Development

LIC Centre, John Kennedy Street, Port Louis

Tel No: 212 2316/7 Fax No: 211 4150 E-mail: sm_agricensus@mail.gov.mu

2014 CENSUS OF AGRICULTURE (CA2014)

BUSINESS QUESTIONNAIRE

Statistics Mauritius is conducting a Census of Agriculture in 2014 (CA2014). Data supplied on crops should relate to the period 1 July 2013 - 30 June 2014 whereas number of heads for livestock should relate to 30 June 2014.

The Census is being conducted under the provision of the Statistics Act 2000 Amended in 2011 which guarantees the confidentiality of information collected as provided for in the Act.

Before completing the questionnaire, please read carefully the explanatory notes enclosed. If you need further clarification or assistance, feel free to contact the 2014 Census of Agriculture Unit (CA2014 Unit) of this office.

1. IDENTIFICATION OF BUSINESS

1.1 Name of Business :

1.2 Business address :

(Head Office) :

:

For office use

1.3 Business licence holder's name :

1.4 Business Registration Number (BRN) :

1.5 Date of start of operation: Month Year

1.6 Tel No. : Fax No. : E-mail :

FOR OFFICE USE

Edited and coded by : Input by :

Checked by : Verified by :

2. CHARACTERISTICS OF BUSINESS

Please circle the correct codes or write on the dotted lines or write in the boxes where applicable

2.1 Activities of business

2.1.1 Main activity :

For office use

--	--	--	--	--

2.1.2 Secondary activity (if any) :

For office use

--	--	--	--	--

2.2 Type of ownership of business

- | | | | |
|------------------------------|---|--------------------------|---|
| (a) Company..... | 1 | (c) Cooperatives..... | 3 |
| (b) Private partnership..... | 2 | (d) Other, specify | 4 |

3. AGRICULTURAL ACTIVITIES OF BUSINESS OVER THE PERIOD

1 JULY 2013 - 30 JUNE 2014

(Circle the appropriate code; Multiple answers are allowed)

3.1 Crops

	Yes	No
(a) Sugar cane	1	2
(b) Tea	1	2
(c) Vegetable	1	2
(d) Fruits	1	2

	Yes	No
(e) Flowers for sale	1	2
(f) Fodder	1	2
(g) Other, specify.....	1	2

3.2 Livestock

	Yes	No
(a) Cattle	1	2
(b) Goat	1	2
(c) Sheep	1	2
(d) Pig	1	2
(e) Poultry-Layer	1	2

	Yes	No
(f) Poultry-Broiler	1	2
(g) Bee keeping	1	2
(h) Deer	1	2
(i) Other, specify.....	1	2

3.3 Other

	Yes	No
(a) Nursery for sale	1	2
(b) Forestry (timber for sale)	1	2
(c) Aquaculture for sale	1	2
(d) Agro-processing of agricultural products for sale	1	2

4. EMPLOYMENT IN AGRICULTURE

4.1 Number of persons engaged as at end March 2014 ^{1/}

Employment status	Mauritian		Expatriate		Total	
	Male	Female	Male	Female	Male	Female
1. Employer/ Working proprietor						
2. Contributing family worker						
3. Employee						
Total						
<i>of whom persons with disabilities</i>						

^{1/} Including recruitment under Youth Employment Programme

5. LAND USE AND TENURE FOR AGRICULTURAL PRODUCTION

5.1 Land use of areas operated by the business over the period 1 July 2013 - 30 June 2014

Type of land use	Area (perches)				
Land used:					
1. Land under temporary crops					
2. Land under temporary meadows and pastures					
3. Land fallow					
4. Land under permanent crops					
5. Land under permanent meadows and pastures					
6. Forest or other wooded land					
Land not used:					
7. Suitable for agriculture					
8. Built up areas (e.g land occupied by buildings, parks, roads, lanes, open spaces needed for storing equipment and products etc)					
9. Other (e.g wasteland, land under water, etc)					
Total					

Land Use

Land under temporary crops: Land used for crops with a less than one year growing cycle; that is, they must be newly sown or planted for further production after the harvest.

Land under temporary meadows and pastures: Land temporarily cultivated with herbaceous forage crops for mowing or pasture. A period of less than five years is used to differentiate between temporary and permanent meadows.

Land fallow: Arable land at rest for a period of time before it is cultivated again. This may be part of the holding's crop rotation system or because the normal crop cannot be planted because of flood damage, lack of water, unavailability of inputs, or other reasons.

Land under permanent crops: Land which is cultivated with crops which occupy it for a year or longer and which do not have to be planted after harvest. For example land under trees and shrubs producing flowers, such as roses and jasmine.

Land under permanent meadows and pastures: Land used permanently (for five years or more) to grow herbaceous forage crops, through cultivation or naturally (wild prairie or grazing land).

Forest or other wooded land: Land which includes wood lots or tracts of timber, natural or planted, which have or will have value as wood, timber or other forest products.

5.2 Land tenure of areas operated by the business over the period 1 July 2013 - 30 June 2014

Type of land tenure	Area (perches)				
1. Land owned					
2. Land leased from Government					
3. Land rented/leased from others					
4. Other types of land tenure (please specify.....)					
Total					

Land Tenure

Rented/Leased: Land that is rented or leased by the holding from other persons, usually for a limited time period. Rental arrangements can take different forms. Land may be rented for an agreed sum of money and/or produce, for a share of the produce, or in exchange for services.

Total at 5.2 should equal Total at 5.1

6. LAND OWNED BY BUSINESS BUT RENTED TO OTHERS OVER THE PERIOD 1 JULY 2013 - 30 JUNE 2014

Area (perches)

7. TEMPORARY AND PERMANENT CROP PRODUCTION OVER THE PERIOD

1 JULY 2013 - 30 JUNE 2014

7.1 Vegetables (including melons, cereals, oilseed crops, root/tuber crops and leguminous crops):

If not applicable, go to Section 7.2

Crop Name	Harvest over the period 1 July 2013 - 30 June 2014										Production over the period 1 July 2013 - 30 June 2014									
	1=Mono; 2=Mixed; 3=Scattered	No. of plantings	Open field					Under protective cover			Specify kg or unit	Quantity produced								
			Specify unit for area	Total area harvested				Hydroponic=1 Non- hydroponic=2	Total area harvested (m ²)											
1																				
2																				
3																				
4																				
5																				
6																				
7																				
8																				
9																				
10																				
11																				
12																				
13																				
14																				
15																				
16																				
17																				
18																				
19																				
20																				

7.2 Fruits and beverage crops: *If not applicable, go to Section 7.3*

Crop Name	Size of production unit										Sold			Production over the period 1 July 2013-30 June 2014					
	1= Mono; 2= Mixed; 3= Scattered	Specify unit for area	Total area harvested			Permanent plants/ trees		Yes (wholly)	Yes (partly)	No	Specify kg or unit	Quantity produced							
						Number	Of which bearing												
1.										1	2	3							
2.										1	2	3							
3.										1	2	3							
4.										1	2	3							
5.										1	2	3							
6.										1	2	3							
7.										1	2	3							
8.										1	2	3							
9.										1	2	3							
10.										1	2	3							
11.										1	2	3							
12.										1	2	3							

7.3 Flowers: *If not applicable, go to Section 8*

Crop Name	Harvest over the period 1 July 2013 - 30 June 2014					Production over the period 1 July 2013 - 30 June 2014														
	Total area harvested			Total area harvested under protective cover (m ²)	Quantity produced (unit)															
	Specify unit for area	Open field																		
1.																				
2.																				
3.																				
4.																				
5.																				

8.4 Sheep: If not applicable, go to Section 8.5

Sheep type	Number as at 30 June 2014									Sales over the period 1 July 2013 - 30 June 2014					
	Meat purposes			Breeding purposes			Total			Number sold live			Slaughtered (kg)		
1. Ram															
2. She Sheep (Ewe)															
3. Male Lamb (up to 1 yr)															
4. She Lamb (up to 1 yr)															
Total															

8.5 Pigs: If not applicable, go to Section 8.6

Pig type	Number as at 30 June 2014									Sales over the period 1 July 2013 - 30 June 2014					
	Meat purposes			Breeding purposes			Total			Number sold live			Slaughtered (kg)		
1. Boar															
2. Sow															
3. Gilt															
4. Male Piglet															
5. She Piglet															
Total															

8.6 Poultry-Meat production: If not applicable, go to Section 8.7

Animal type	Number as at 30 June 2014									Sales over the period 1 July 2013 - 30 June 2014					
										Quantity (kg)					
1. Broiler															
2. Duck															
3. Turkeys															
4. Other (specify)															

8.7 Egg production: If not applicable, go to Section 8.8

8.7.1 Number of layers as at 30 June 2014

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8.7.2 Number of eggs sold over the period 1 July 2013 - 30 June 2014

--	--	--	--	--	--	--

8.8 Other livestock: *If not applicable, go to Section 8.9*

Animal type	Number as at 30 June 2014						Sales over the period 1 July 2013 - 30 June 2014					
							Quantity (kg)					
1. Deer ("chassée")												
2. Deer (feedlot)												
3. Other (specify)												

Deer ("chassée"): Deer which is kept extensively in forests (used as hunting grounds)

Deer (feedlot): Deer reared in confined system, feeding is effected mostly on cut and carry fodder and supplemented with concentrate feed

8.9 Apiculture: *If not applicable, go to Section 9*

8.9.1 Number of productive beehives as at 30 June 2014

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8.9.2 Number of non-productive beehives as at 30 June 2014

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8.9.3 Production of honey over the period 1 July 2013 - 30 June 2014

--	--	--	--	--	--

 litres

9. AGRICULTURAL PRACTICES

	Yes	No
(a) Irrigation system	1	2
(b) Mechanisation	1	2
(c) Fertilisers (chemical)	1	2
(d) Fertilisers (organic)	1	2
(e) Pesticides	1	2
(f) Herbicides	1	2
(g) Improved/selected seeds	1	2

An **irrigation** system consists of an intake structure, a conveyance system, a distribution system, a field application system, and a drainage system.

Mechanisation in agriculture is the process of using agricultural machinery to increase farm worker productivity.

Organic fertilisers are fertilisers derived from animal or vegetable matter. (e.g. compost, manure).

Improved/selected seeds are normally seeds that farmers purchase as opposed to their own-produced seeds.

10. MARKETING PRACTICES

10.1 How do you dispose your agricultural produce?

(Multiple answers are allowed)

	1. VEGETABLES	2. FRUITS	3. FLOWERS	4. CATTLE	5. GOATS
	%	%	%	%	%
(a) Retailers	<input type="text"/>				
(b) Wholesalers	<input type="text"/>				
(c) Auction	<input type="text"/>				
(d) Exported	<input type="text"/>				
(e) Use as feed	<input type="text"/>				
(f) Use in agro-processing	<input type="text"/>				
Total	1 0 0				

(Multiple answers are allowed)

	6. SHEEP	7. PIGS	8. POULTRY MEAT	9. EGSS	10. HONEY
	%	%	%	%	%
(a) Retailers	<input type="text"/>				
(b) Wholesalers	<input type="text"/>				
(c) Auction	<input type="text"/>				
(d) Exported	<input type="text"/>				
(e) Use as feed	<input type="text"/>				
(f) Use in agro-processing	<input type="text"/>				
Total	1 0 0				

Person to be contacted for further information or queries about this questionnaire

Name :

Status in business :

Telephone number : (Office)..... (Mobile).....

E-mail address :

Website Address :

Date :

Collected under the provisions of Statistics Act and in accordance with sections 22, 24, 25, and 50 of the Data Protection Act

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CA3

S.N

Republic of Mauritius
STATISTICS MAURITIUS
Ministry of Finance and Economic Development
2014 CENSUS OF AGRICULTURE (CA2014)
FARM QUESTIONNAIRE (2)

Please write on the dotted lines or write in the boxes where applicable

1. NUMBER OF FARMERS OPERATING THIS FARM

2. IDENTIFICATION OF FARMERS

2.1 Farmer (1)

(a) Surname of farmer :

(b) Other names of farmer :

(c) ID Number of farmer :

2.2 Farmer (2)

(a) Surname of farmer :

(b) Other names of farmer :

(c) ID Number of farmer :

2.3 Farmer (3)

(a) Surname of farmer :

(b) Other names of farmer :

(c) ID Number of farmer :

Name of Interviewer:.....	Date of interview:	<input type="text"/>
Name of Supervisor:.....	Date submitted:	<input type="text"/>
Fieldcheck by Supervisor:.....		<input type="text"/>
Name of Senior Supervisor:.....	Date submitted:	<input type="text"/>

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Checked by :	Verified by :

3. CHARACTERISTICS OF HOUSEHOLD

Please circle the correct codes or write on the dotted lines or write in the boxes where applicable

3.1 Surname of household head:

3.2 Other names of household head:

3.3 Address of household:

.....

 MVCA code

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3.4 How many separate farms do members of this household operate?

If only 1 farm, skip to Q 3.7

3.5 Farm (2)

(a) Name of farmer :

(b) ID Number of farmer :

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

(c) Main activity: Crop 1 Livestock 2 Both Crop & Livestock 3 Other, specify..... 4

3.6 Farm (3)

(a) Name of farmer :

(b) ID Number of farmer :

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

(c) Main activity: Crop 1 Livestock 2 Both Crop & Livestock 3 Other, specify..... 4

3.7 Complete the table below for all household members aged 12 years and above

Serial Number (S.N)	Name of household member (First name only)	Age (Last birthday- years)		Sex		Work on Farm number				Farmer		Type of employment	
				Male	Female					Yes	No	Full Time	Part Time ^{1/}
				1	2	1	2	3	NA	1	2	1	2
01													
02													
03													
04													
05													
06													
07													
08													
09													
10													

^{1/} working less than half of usual working hours on the farm

Male	Female	Total

3.8 Number of household members aged below 12 years

3.9 Proportion of total household income from agriculture

(a) Up to 50% 1 (b) Above 50% 2

**4. AGRICULTURAL ACTIVITIES OF FARM OVER THE PERIOD
1 JULY 2013 - 30 JUNE 2014**

4.1 Crops **Yes No**

(a) Sugar cane	1	2
(b) Tea	1	2
(c) Vegetable	1	2
(d) Fruits	1	2

Yes No

(e) Flowers for sale	1	2
(f) Fodder	1	2
(g) Other, specify	1	2

4.2 Livestock **Yes No**

(a) Cattle	1	2
(b) Goat	1	2
(c) Sheep	1	2
(d) Pig	1	2
(e) Poultry-Layer	1	2

Yes No

(f) Poultry-Broiler	1	2
(g) Poultry-Local	1	2
(h) Bee keeping	1	2
(i) Deer	1	2
(j) Other, specify	1	2

4.3 Other

Yes No

(a) Nursery for sale	1	2
(b) Forestry (timber for sale)	1	2
(c) Aquaculture for sale	1	2
(d) Subsistence fishing	1	2
(e) Agro-processing of agricultural products for sale	1	2

5. MAIN PURPOSE OF PRODUCTION

- (a) Mainly for sale 1 (b) Mainly for own consumption 2

**6. NUMBER OF PAID EMPLOYEES WHO USUALLY WORKED ON THE FARM
OVER THE PERIOD 1 JULY 2013 - 30 JUNE 2014: *If no employee, go to Section 7***

Type of employment	Mauritian		Expatriate		Total	
	Male	Female	Male	Female	Male	Female
Full time						
Part Time ^{2/}						

^{2/} working less than half of usual working hours on the farm

7. LAND USE AND TENURE FOR AGRICULTURAL PRODUCTION

7.1 Land area operated by farmer by land use over the period 1 July 2013 - 30 June 2014

Type of land use	Area (perches)				
Land used:					
1. Land under temporary crops					
2. Land under temporary meadows and pastures					
3. Land fallow					
4. Land under permanent crops					
5. Land under permanent meadows and pastures					
6. Forest or other wooded land					
Land not used:					
7. Suitable for agriculture					
8. Built up areas (e.g land occupied by buildings, parks, roads, lanes, open spaces needed for storing equipment and products etc)					
9. Other (e.g wasteland, land under water, etc)					
Total					

7.2 Number of land parcels operated by farm for agricultural production over the period 1 July 2013 - 30 June 2014

Parcel 1

(a) Area (perches)
 For office use

(b) Main crop
 (specify)

(c) Address:
 For office use

(d) MVCA code

Parcel 2

(a) Area (perches)
 For office use

(b) Main crop
 (specify)

(c) Address:
 For office use

(d) MVCA code

Parcel 3

(a) Area (perches)
 For office use

(b) Main crop
 (specify)

(c) Address:
 For office use

(d) MVCA code

Parcel 4

(a) Area (perches)
 For office use

(b) Main crop
 (specify)

(c) Address:
 For office use

(d) MVCA code

7.3 Details of land area owned, leased or rented by the farmer over the period 1 July 2013 - 30 June 2014

	Area (perches)				
1. Land owned					
2. Land leased from Government					
3. Land rented/leased from others					
4. Other types of land tenure (please specify.....)					
Total					

8. LAND AREA RENTED TO OTHERS BY THE FARMER OVER THE PERIOD 1 JULY 2013 - 30 JUNE 2014

Area (perches)				

9. TEMPORARY AND PERMANENT CROP PRODUCTION OVER THE PERIOD

1 JULY 2013 - 30 JUNE 2014

9.1 Vegetables (including melons, cereals, oilseed crops, root/tuber crops and leguminous crops):

If not applicable, go to Section 9.2

Crop Name	Harvest over the period 1 July 2013 - 30 June 2014											Production over the period 1 July 2013 - 30 June 2014									
	1= Mono; 2= Mixed; 3= Scattered	No. of plantings	Open field					Under protective cover			Specify kg or unit	Quantity produced									
			Specify unit for area	Total area harvested	IF AREA NOT KNOWN: Total no. of plants/heaps	Hydroponic=1 Non-hydroponic=2	Total area harvested (m ²)														
1																					
2																					
3																					
4																					
5																					
6																					
7																					
8																					
9																					
10																					
11																					
12																					
13																					
14																					
15																					
16																					
17																					
18																					
19																					
20																					

10. LIVESTOCK

10.1 Cattle: *If not applicable, go to Section 10.3*

Cattle type	Number as at 30 June 2014						Sales over the period 1 July 2013 - 30 June 2014								
	Meat purposes			Dairy purposes			Total			Number sold live			Slaughtered (kg)		
1. Bulls (breeding)															
2. Bulls (non-breeding)															
3. Cows (milking)															
4. Cows (non-milking)															
5. Heifers (young)															
6. Heifers (adult)															
7. Male Calves															
8. Female Calves															
Total															

10.2 Milk production

10.2.1 Number of cows milked during the past week

--	--	--

10.2.2 Average quantity of milk produced during the past week

--	--	--	--

 litres

10.3 Goat: *If not applicable, go to Section 10.4*

Goat type	Number as at 30 June 2014						Sales over the period 1 July 2013 - 30 June 2014								
	Meat purposes			Breeding purposes			Total			Number sold live			Slaughtered (kg)		
1. Buck															
2. Doe															
3. Male Kid (up to 1 yr)															
4. She Kid (up to 1 yr)															
Total															

10.4 Sheep: If not applicable, go to Section 10.5

Sheep type	Number as at 30 June 2014									Sales over the period 1 July 2013 - 30 June 2014					
	Meat purposes			Breeding purposes			Total			Number sold live			Slaughtered (kg)		
1. Ram															
2. She Sheep (Ewe)															
3. Male Lamb (up to 1 yr)															
4. She Lamb (up to 1 yr)															
Total															

10.5 Pigs: If not applicable, go to Section 10.6

Pig type	Number as at 30 June 2014									Sales over the period 1 July 2013 - 30 June 2014					
	Meat purposes			Breeding purposes			Total			Number sold live			Slaughtered (kg)		
1. Boar															
2. Sow															
3. Gilt															
4. Male Piglet															
5. She Piglet															
Total															

10.6 Poultry-Meat production: If not applicable, go to Section 10.7

Animal type	Number as at 30 June 2014									Sales over the period 1 July 2013 - 30 June 2014					
										Quantity (kg)					
1. Poultry-Broiler															
2. Poultry-Local															
3. Duck															
4. Turkeys															
5. Other (specify)															

10.7 Egg production: If not applicable, go to Section 10.8

10.7.1 Number of layers as at 30 June 2014

--	--	--	--	--	--	--

10.7.2 Number of eggs sold over the period 1 July 2013 - 30 June 2014

--	--	--	--	--	--	--

10.8 Other livestock: *If not applicable, go to Section 10.9*

Animal type	Number as at 30 June 2014							Sales over the period 1 July 2013 - 30 June 2014				
								Quantity (kg)				
1. Deer ("chassée")												
2. Other (specify)												

Deer ("chassée"): A deer which is kept extensively in forests (used as hunting grounds)

10.9 Area of exercise yard for livestock: *If not applicable, go to Section 10.10*

--	--	--	--	--

m²

10.10 Apiculture: *If not applicable, go to Section 11*

10.10.1 Number of productive beehives as at 30 June 2014

10.10.2 Number of non-productive beehives as at 30 June 2014

10.10.3 Production of honey over the period 1 July 2013 - 30 June 2014

litres

11. AGRICULTURAL PRACTICES

Yes No

	Yes	No
(a) Irrigation system	1	2
(b) Mechanisation	1	2
(c) Fertilisers (chemical)	1	2
(d) Fertilisers (organic)	1	2
(e) Pesticides	1	2
(f) Herbicides	1	2
(g) Improved/selected seeds	1	2

An **irrigation** system consists of an intake structure, a conveyance system, a distribution system, a field application system, and a drainage system.

Mechanisation in agriculture is the process of using agricultural machinery to increase farm worker productivity.

Organic fertilisers are fertilisers derived from animal or vegetable matter. (e.g. compost, manure).

Improved/selected seeds are normally seeds that farmers purchase as opposed to their own-produced seeds.

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Republic of Mauritius
STATISTICS MAURITIUS
Ministry of Finance and Economic Development
2014 CENSUS OF AGRICULTURE (CA2014)

HOUSEHOLD QUESTIONNAIRE

Please circle the correct codes or write on the dotted lines or write in the boxes where applicable

PSU Number

--	--	--	--

 Enumeration Area

--	--	--	--	--	--

 HH No

--	--	--

1. CHARACTERISTICS OF THE HOUSEHOLD

1.1 Surname of household head :

1.2 Other names of household head :

1.3 Address of household :

1.4 Telephone number of household:

--	--	--	--	--	--	--	--

 Fixed line

5							
---	--	--	--	--	--	--	--

 Mobile

1.5 Number of persons in household

--	--

2. WAS HOUSEHOLD PREVIOUSLY INTERVIEWED FOR THE 2014 CENSUS OF AGRICULTURE?

YES

1

 NO

2

3. AGRICULTURAL OPERATIONS

3.1 Does any member of the household cultivate any land on own account or mainly for commercial purpose ?

YES

1

 NO

2

 If YES, Area (perches)

--	--	--	--

 Year first cultivated

--	--	--	--

3.2 Does the household have a kitchen garden ?

YES

1

 NO

2

 If YES, Area (perches)

--	--	--	--

 Year first cultivated

--	--	--	--

3.3 Who are responsible for decision making on the agricultural activities of the household ?

	Name	Sex		Age (Last birthday-years)
		M	F	
Person 1		1	2	
Person 2		1	2	
Person 3		1	2	

4. AGRICULTURAL ACTIVITIES OF HOUSEHOLD OVER THE PERIOD

1 JULY 2013 - 30 JUNE 2014

4.1 Crops

	Yes	No		Yes	No
(a) Sugar cane	1	2	(e) Flowers for sale	1	2
(b) Tea	1	2	(f) Fodder	1	2
(c) Vegetable	1	2	(g) Other, specify.....	1	2
(d) Fruits	1	2			

Name of Interviewer:.....	Date of Interview:	<table border="1" style="display: inline-table; vertical-align: middle;"><tr><td></td><td></td><td></td><td></td><td>1</td><td>4</td></tr></table>					1	4
				1	4			
Name of Supervisor:.....	Date submitted:	<table border="1" style="display: inline-table; vertical-align: middle;"><tr><td></td><td></td><td></td><td></td><td>1</td><td>4</td></tr></table>					1	4
				1	4			
Fieldcheck by Supervisor:.....		<table border="1" style="display: inline-table; vertical-align: middle;"><tr><td></td><td></td><td></td><td></td><td>1</td><td>4</td></tr></table>					1	4
				1	4			

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Checked by :	Verified by :

4.2 Livestock

	Yes	No	Number			
(a) Cattle	1	2				
(b) Goat	1	2				
(c) Sheep	1	2				
(d) Pig	1	2				
(e) Poultry-Layer	1	2				

	Yes	No	Number			
(f) Poultry-Broiler	1	2				
(g) Poultry-Local	1	2				
(h) Bee keeping	1	2				
(i) Deer	1	2				
(j) Other, specify	1	2				

4.3 Other

	Yes	No
(a) Nursery for sale	1	2
(b) Forestry (timber for sale)	1	2
(c) Aquaculture for sale	1	2
(d) Subsistence fishing	1	2
(e) Agro-processing of agricultural products for sale	1	2

5. FRUIT AND NUT TREES

If **YES** to 4.1(d) enter the number of fruit trees owned by household; If **NO** go to 6

	Number		of which bearing:			Number		of which bearing:	
(a) Avocado					(f) Lychee				
(b) Banana					(g) Guava				
(c) Breadfruit					(h) Mango				
(d) Citrus					(i) Papaya				
(e) Coconut					(j) Other, specify.....				

6. VEGETABLES GROWN OVER THE PERIOD 1 JULY 2013- 30 JUNE 2014

If **YES** to 4.1(c) enter area harvested in the reference period and unit of area. If **NO** go to 7

Crop	Specify unit for area	Area harvested			
1. Beans					
2. Brinjal					
3. Cabbage					
4. Calabash					
5. Carrot					
6. Cassava					
7. Cauliflower					
8. Chillies					
9. Creepers					
10. Cucumber					
11. Eddoes					
12. Ginger					
13. Groundnut					
14. Herbs					
15. Maize					
16. Onion					
17. Potatoes					
18. Pumpkin					
19. Sweet potato					
20. Tomato					
Other, specifv:					
21.					
22.					
23.					
24.					
25.					
26.					

7. WHAT IS THE MAIN PURPOSE OF THE YOUR AGRICULTURAL ACTIVITY?

Mainly for sale 1

Mainly for own consumption 2