Fiji - National Agricultural Census 2009

Economic Planning and Statistics Division

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Overview

Identification

ID NUMBER
FJI_2009_NAC_v01_EN_M_v01_A_OCS

Overview

ABSTRACT
The Agriculture Census is a national obligation conducted by the country to provide benchmark data for planning and policy decisions in sustainable agricultural and rural development; and to strengthen and improve the ongoing Fiji Agriculture Statistics System (FASS) 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. The 2009 National Agriculture Census (NAC) is the first census programme to be conducted in the country using Multiple Sample Frame (MSF) as the main methodology. Given the experiences of the previous census programmes in terms of funding and availability of resources, the 2009 agriculture census programme provides a platform for more diversification and improvement programmes within the agriculture sector thus ensuring compatible foreign exchange earnings as well as uplifting the living standards of rural populace.

KIND OF DATA
Census/enumeration data [cen]

UNITS OF ANALYSIS
Agricultural holdings

Scope

NOTES
The scope of Agricultural Census 2009 includes:

· General Characteristics of the Farm

· Information on Farm Household Members

· Distribution of Land Use

· Temporary Crops

· Permanent Crops

· Sugarcane

· Scattered Plants

· Types of Pastures

· Floriculture

· Livestock and Poultry; Other livestock, Apiculture; Poultry, Aquaculture

· Milk Production

· Employment in the Total Farm

· Machinery and Farm Equipment

· Farm Management in the Total Farm

TOPICS

Topic	Vocabulary	URI
Agriculture & Rural Development	FAO	
Land (policy, resource management)	FAO	
Livestock	FAO	
Forests & Forestry	FAO	
Labor	FAO	

Coverage

GEOGRAPHIC COVERAGE
National

Producers and Sponsors

PRIMARY INVESTIGATOR(S)

Name	Affiliation
Economic Planning and Statistics Division	Department of Agriculture

FUNDING

Name	Abbreviation	Role
Food and Agricultural Organization of the United Nations	FAO	Funding

Metadata Production

METADATA PRODUCED BY

Name	Abbreviation	Affiliation	Role
Office of Chief Statistician	OCS	Food and Agriculture Organization	Adoption of metadata for FAM
Development Data Group	DECDG	The World Bank	Generation of the DDI

DDI DOCUMENT VERSION
FJI_2009_NAC_v01_EN_M_v01_A_OCS_v01

DDI DOCUMENT ID
DDI_FJI_2009_NAC_v01_EN_M_v01_A_OCS_FAO

Sampling

Sampling Procedure

(a) SURVEY DESIGN

The survey design used the multiple sampling frame methodology. This methodology combines 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, although 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 underlying basis for an area frame sample is to select small areas (in this case, one square kilometre - 100 hectares) that represent the entire area of interest. To improve the efficiency of the sample, the entire country was stratified (or characterized) by the intensity of agriculture. The stratification split the country into areas of high intensity agriculture, medium intensity agriculture, low intensity agriculture, forest areas, peri-urban areas and urban areas/non-agricultural areas. The overall sample size was limited by the resources available; it was determined to use a ten percent sample of "agricultural land" as determined during the stratification process.

(b) SAMPLING

Initially the Fiji Bureau of Statistics (FIBOS) enumeration areas (EAs) for the 2007 Population and Housing Census were used for stratum identification. Subsequently it was determined that re- stratification of whole EAs and subdivision of other EAs would be more efficient. In many of the FIBOS 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 kilometer grids before the sampling process occurred. After the grids were selected, the Land Use Section of the DOA 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. A farm can consist of land areas that are separated by physical boundaries or by land use patterns; these are called tracts. The method of data collection was to account for each tract inside the segment, but, also to collect information about areas outside the segment for farms with tracts both inside and outside. If a segment boundary splits an existing tract, it is divided into one tract inside the segment and one tract outside the segment. The percentage of the farmland inside the segment is used as a weighting factor for the farm in the expansions.

The census estimates were requested at national, divisional, provincial and also tikina levels. The 15 provinces including Rotuma Island were the main focus of the tabulation. Consequently, the entire country was divided into strata according to the intensity of land use for agriculture. They were further subdivided into sub-strata according to specific land use. This sub-stratification technique guaranteed the sample allocation for priority and special crops. Another stratum was created for special farms including large commercial and freehold farms. A total of 1,602 existing EAs from the 2007 population census were overlaid on the ASF topographic maps scale 1:50,000 in preparation for stratification activities according to land use. Each EA was classified into one of the strata keeping the same geographical identification codes as those used in the population census. The percentage of area under crops, pastures, forest, etc. (land use) of each EA was estimated by field observation to check that each EA was classified in the right stratum and sub-stratum.

(c) LIMITATIONS

One of the limitations of area frame samples is the accurate expansion 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 DOA Animal Health and Production Division and 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. It should be noted that shortly before the beginning of data collection, a severe outbreak of brucellosis occurred, and some culling took place. Three levels of data presentation were identified for tabulation of the data of the National Agriculture Census 2009 (NAC 2009). The first is tables and expansions at district level; the second is tables and expansions at provincial and national level; the third is tables and (estimates) for special variables. The census data were collected at farm level, at tract level, at crop level and at animal/poultry level. Information about households and their demographics were also collected. One priority area has been the role of gender in agriculture in Fiji. A special section of the census questionnaire was targeted at identifying these roles and highlighting any special differences. These data also have been broken out by age group. Accurate land stratification for the 2009 NAC was essential; it was necessary to estimate the percentage of agriculture land use. Initially the stratification was made for each of the Fiji Islands Bureau of Statistics (FIBOS) enumeration areas (EAs).

The sampling procedures are more fully described in "National Agricultural Census 2009 - Final Report" pp.7-13.

Weighting

The percentage of the farmland inside the segment is used as a weighting factor for the farm in the expansions.

Questionnaires

No content available

Data Collection

Data Collection Dates

Start	End	Cycle
2009-10-06	2009-12	N/A

Data Collection Mode

Face-to-face [f2f]

Data Processing

Data Editing

After a prioritized order of data collection from the provinces, the questionnaires were received at the Agricultural Statistics Unit in batches. Unique questionnaire numbers were assigned by the data processing administrator and recorded in a management system designed to prevent duplicate numbers and to coordinate the collection and processing of the three types of questionnaires. The questionnaire numbers consisted of province, district and a sequence number starting with an initial value assigned previously to each of the segments.

The editing and coding process for a total of 9,341 NAC 2 questionnaires containing farm data started in mid-November 2009. Four persons managed the archives of census materials (questionnaires, cartography and photo-enlargements, etc.). Eleven coders were contracted and trained using the Field Team Manual and the Coding, Editing and Data Processing Manual. One table head checked the manual editing and coding. Data entry activities were conducted by ten data entry operators beginning in early December.

Consistency checks were also carried out in the ACCESS databases. Queries were designed to identify data entry and coding errors. Data were entered into 15 provincial databases (including Rotuma Island) which were combined into four divisional databases. The LSF database was kept separate but combined in SPSS for tabulation and analysis.

Data Appraisal

No content available