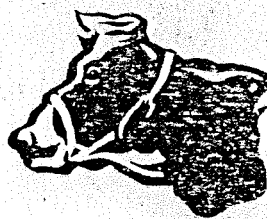
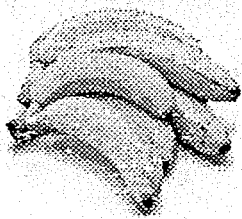




# PRELIMINARY RESULTS

## NATIONAL AGRICULTURAL CENSUS 2000

Government of St. Vincent & the Grenadines  
Ministry of Agriculture and Labour



*In collaboration with*

*Food and Agriculture Organization of the United Nations  
and the European Union*

16 October 2000

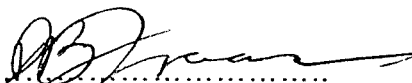
## **PREFACE:**

After nearly 15 years (1985/86 – 2000) we had another opportunity to measure our Nation's Agricultural Pulse, for this is the way we regard an Agricultural Census. It does not provide answers, solutions or recommendations, but simply gives us an indication of the agricultural status at a particular point in time.

We are indeed indebted to the United Nations Food and Agricultural Organization (FAO) and the European Union (E.U) who contributed technical support and financial assistance.

Similarly we wish to thank all the persons who worked directly and behind the scenes. The Census Steering Committee, The Census Office Staff, The Supervisors and Enumerators, and not forgetting all you good people who opened your doors to us and provided the information; We will honor our commitment to keep all this information confidential. Along with the staff of the Ministry of Agriculture and Labour together we have worked to provide this document which you now hold, and it is our hope that you will find the information useful, either for just knowing, for writing your agricultural documents or in planning your agricultural enterprises.

Please be reminded that the complete document will be available subsequently.



.....  
Philmore Isaacs  
Chief Agricultural Officer

# **Agricultural Census 2000, St. Vincent & the Grenadines**

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# AGRICULTURAL CENSUS 2000 ST. VINCENT & THE GRENADINES

## OVERVIEW

Agricultural Census 2000 in St. Vincent and the Grenadines was conducted from 14 February to 31 March 2000 with follow-up visits through the end of May. Agricultural holdings were identified through a listing form used by enumerators who visited every dwelling unit in St. Vincent and the Grenadines. When an agricultural holding was identified, an agriculture census questionnaire was administered. The Agriculture Census Unit (ACU) of the Ministry of Agriculture and Labour (MAL) processed the questionnaires and also prepared tables and reports about the results of the census. National funding for the agriculture census came from two sources: 1) STABEX funds and 2) the annual budget of the MAL for office space, staff time, materials and supplies. Technical assistance was provided by the Food and Agriculture Organization of the United Nations (FAO).

## I. BACKGROUND

### PREVIOUS AGRICULTURE CENSUSES

Agricultural Census 2000 is the fifth agricultural census to be conducted in St. Vincent and the Grenadines. In the 1946 census detailed questionnaires were used for holdings greater than one acre with a shorter version for holdings of one acre or less. At that time a holding consisted of all land area, of any size, regardless of whether it was actively farmed, and included very small plots.

The 1961 and 1972 agricultural censuses were conducted as sample surveys with the results expanded to national level. These censuses used internationally standardized definitions and concepts, but established a minimum criterion for farm size. The 1985/86 census was a complete enumeration of all holdings meeting the minimum criteria. Agricultural Census 2000 is a complete enumeration of all holdings meeting the minimum criteria, but these criteria have been modified slightly to address changes in the way agriculture has evolved.

### LEGAL AUTHORITY

The 1983 Census and Statistics Act (under which the 1986 Agriculture Census was conducted) was amended in 1991. Under this act the Chief Statistician was given the authority to conduct all censuses in St. Vincent and the Grenadines. As had happened in 1985/86 when the previous Agriculture Census had been conducted, he/she would be able to delegate the responsibility to coordinate and undertake the agriculture census to the Permanent Secretary of the Ministry of Agriculture and Labour (MAL). The MAL in September 1999 requested the responsibility to conduct Agricultural Census 2000 and the Chief Statistician delegated it shortly thereafter.

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## AGRICULTURE CENSUS UNIT (ACU)

The MAL created the ACU in November 1999 to be responsible for the overall management and coordination of Agricultural Census 2000. The Agriculture Census Coordinator and two Assistant Agriculture Census Coordinators were recruited. Additional staff included the Data Processing Supervisor (seconded from the Data Processing Department in the Ministry of Finance), a Statistician from the Agriculture Planning Unit (APU), a secretary, a driver, an office attendant and a cleaner. MAL staff served as supervisors, enumerators, coders and editors and data entry personnel. Other persons were recruited as needed. As part of the FAO technical assistance the FAO Regional Statistician, a National Statistician and an international Statistical Data Processing consultant advised the ACU on technical and procedural issues.

## AGRICULTURE CENSUS STEERING COMMITTEE

An Agricultural Census 2000 Steering Committee (ACSC) was formed with representatives from the MAL, from other public sector agencies, from farmer organizations and international organizations, and also individual farmers to act as a national governing unit that would advise the MAL and approve the methodology, census instruments and tabulation plan. The ACSC also approved the data collection procedures and the purchase of various equipment for the ACU.

## II. CENSUS MATERIALS

### DEFINITIONS AND CONCEPTS FOR AGRICULTURAL CENSUS 2000

The definitions for the agricultural census follow the guidelines of FAO; many of them are found in more detail in the FAO Statistical Development Series Publication No. 5, "*Programme for the World Census of Agriculture 2000*".

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

A **holding parcel** is any piece of land entirely surrounded by other land, water, road, forest, etc. not forming part of the holding. The holding's land may consist of one or more parcels, located in one or more separate areas or in one or more territorial or administrative divisions, providing the parcels share the same production means utilized by the holding, such as labour, farm buildings, machinery or draught animals. The requirement of sharing the same production means utilized by the holding is necessary if the various parcels are to be considered as components of one economic unit.

The **holder** is a civil or juridical person who makes major decisions regarding resource use and exercises management control over the agricultural holding operation. The holder has technical and economic responsibility for the holding and may undertake all responsibilities directly, or delegate responsibilities related to day-to-day work management to a hired manager. Single management may be exercised by an individual or household, jointly by two or more individuals or households, by a clan or tribe, or by a juridical person such as a corporation, cooperative or government agency (**Legal status**). Two types of legal status are first differentiated: private and

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government; then a further disaggregation of private holders is provided. Private holders not specified in any of the above classes are identified separately. Examples are tribes, clans, private schools and religious institutions other than collective monastic orders or their equivalent.

In St. Vincent and the Grenadines there are many so-called “landless” holders. These holders own livestock but do not restrict them to a specific area; the livestock are allowed to wander and graze in different areas at different times. These livestock may graze on the same land as other livestock. When these livestock are not “housed” in a farm building or structure, there is no land area associated with the livestock. A “landless” holding has no area and no parcels.

Open rangeland (such as land open to communal grazing) is not normally considered a holding. A specified area delimited by fencing, or any other form of boundary demarcation may be an exception if its use is supervised. Such land qualifies as a communal grazing land holding and is included as a special category. Otherwise, common grazing land has not been considered a holding. Data collected for communal grazing land holdings should include only the following items: location and holding area; holder's legal status (government, tribe and/or clan, etc.); and, if possible, the number of livestock holders having access to this holding. This information is not tabulated with other holdings.

**Land use** provides a classification of the holding according to the activity that is directly related to the land, makes use of its resources or has an impact upon it. A schematic of **Total Land** is found below:

**PRODUCTIVE LAND**

AGRICULTURAL LAND

CULTIVATED LAND

CROPLAND

ARABLE LAND

Land under temporary crops in open air

Land under temporary meadows

Land temporarily fallow

All other arable land

LAND UNDER PROTECTIVE COVER

Land under protective cover temporary crops

Land under protective cover permanent crops

LAND UNDER PERMANENT CROPS - IN OPEN AIR

LAND UNDER PERMANENT MEADOWS AND PASTURES

Cultivated

Naturally grown

WOODLAND OR FOREST

**ALL OTHER LAND**

Unused and undeveloped potentially productive land

Land in holding n.e.s.

**Arable land** includes all land used in most years for growing temporary crops, which would normally be so used in the census year but which is lying fallow or has not been sown due to unforeseen circumstances. **Cropland** is often defined as including all arable land plus land under permanent crops.

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Note that for St. Vincent and the Grenadines “other agricultural land” is included in the category “all other land”. Thus, agricultural land cannot be broken out separately.

**Land tenure** refers to arrangements or rights under which the holder holds or uses holding land. Land rented out is not considered to be a part of the holding. A holding may be operated under one or more tenure forms, with each parcel normally operated under one tenure form. In fact, tenure for this census is associated only with parcels and not with the holding. However, it would be possible to identify holdings where all parcels are operated under one form of tenure and holdings operated under two or more forms of tenure.

- A. Area Owned (or in Ownerlike possession): The area owned is the holding area for which the holder possesses title of ownership and has the right to determine the nature and extent of its use. It does not include area owned but rented to others. Area held in ownerlike possession comprises the land area held under conditions that enable it to be operated as if owned by the holder, without possessing an ownership title. It does not include area held in ownerlike possession but rented to others.
- B. Area rented from others is the total area of all holding parcels rented or leased by the holder from other persons, usually for a limited time period. Rental arrangements may take different forms:
- (a) Land rented for an agreed sum of money and/or produce with land administration, management and operation generally being the holder's responsibility, i.e. the holder is the lessee.
  - (b) Land rented for a share of the produce (in exceptional cases an equivalent in money), the share amount depending on local conditions and type of agriculture involved with technical responsibility for management lying exclusively with the holder or shared, to a limited degree, with the landlord if the latter contributes tools, fertilizers, or other aids and with holder and landlord sharing the economic risks.
  - (c) Land rented in exchange for services - the usufruct being granted to the holder instead of wages. Two examples are: agricultural labourer operates a piece of land in return for which he must work, unpaid, for the landlord for a certain number of days; and holder is granted land use in partial payment for services to government, religious organization or other institution.
  - (d) Land operated under other rental arrangements such as areas of usufructuary mortgages and land operated gratuitously (namely, granted rent free).
- C. Area operated on a squatter basis is total land area operated by holder without ownership title and without paying rent while retaining total usufruct. Land occupied by squatters may be private or public property occupied without owner's consent, sometimes tolerated, particularly in public domain.

**Irrigation** refers to purposely providing land with water, other than rain, for improving pastures or crop production.

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**Pure stand** refers to the situation where a single crop is cultivated alone in a field. A pure stand crop may be either temporary or permanent. When different crops are cultivated simultaneously on the same land, those crops are considered to be in a **mixed stand**.

When plants, trees and shrubs are planted in a regular and systematic manner these crops are said to be in **compact plantation**.

A **permanent agricultural worker** is a person whose services are utilized regularly and continuously during the agricultural year for agricultural work on the holding. In some countries the total number of days worked during the agricultural year (normally six months or more) distinguishes a permanent from an occasional worker. However, a permanent worker may actually work less than six months during the agricultural year, especially in crop production in countries with one crop season. An **occasional worker** is a person working one or more times during the agricultural year who is not expected to work regularly or continuously on the holding. The census emphasis is on the source of labour inputs rather than volume of employment.

## THE QUESTIONNAIRE

Since one objective of the analysis of Agricultural Census 2000 is to detect and analyse changes in the structure of the agriculture sector since the last agriculture census in 1986, the initial questionnaire design was based on the questionnaire used in the previous agriculture census. This questionnaire was modified to reflect the data requirements that were mentioned in a September 1999 user/producer workshop. The concepts and definitions and core tables are consistent with the international standards developed by FAO in its publication, *Programme for the World Census of Agriculture 2000*.

The questionnaire is divided into eight parts. The first part (Section 0) refers to holder and holding identification. Section 1 refers to holder household information. Section 2 records information about land use among the parcels of the holding. Data about permanent and temporary crops are entered in Sections 3 and 4, respectively. Section 5, refers to livestock, Section 6 to Equipment and Machinery and Section 7 to Farmer Practices, such as use of chemicals, use of credit, marketing of produce and identification of problems encountered during the previous year.

The reference year for the agriculture census is the agricultural year from 1 January 1999 to 31 December 1999. Some questions record the status of the holding/household on the day of enumeration.

Because of the presence of many small holdings with one or two chickens or one or two permanent crop trees, or backyard gardens that collectively contribute little to the workings of the agricultural sector, this type of small holding was to be excluded from the enumeration as was done in previous censuses in St. Vincent and the Grenadines and in the region.



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The lower limits for production factors were modified slightly to reflect changes in the structure of the sector and the impact on policy issues. These limits are listed below:

- One head of cattle
- 2 Heads of Pigs, Goats, Sheep or 1 head of any 2
- A flock of at least 12 chickens
- 10 or more Bearing of any tree crops, bananas or plantains
- One eighth of an acre or more of Vegetables, Provision, Food or Cash Crop
- A raised stand or greenhouse of 200 square feet or more

An agriculture holding was counted and enumerated if it satisfied one or more of the above criteria.

### **CARTOGRAPHY**

The Statistical Office (SO) provided the ACU with copies of maps it used during the 1990 Population Census. Since the SO was in the process of preparing for the 2001 Population Census, some of the maps had already been updated. Photocopies of the enumeration district maps were given to the supervisors and enumerators so that they would be able to identify boundaries. The National Statistician and the census data collection Supervisors verified the accuracy of the boundaries and showed them to the enumerators during field visits.

### **LISTING BOOK**

Separate listing books were prepared for each enumeration district in St. Vincent and the Grenadines. Heads of household were asked whether anyone in his/her household would satisfy one or more of the minimum criterion for an agricultural holding. The responses (yes/no) for each household for *all* criteria were recorded in the listing book. When a holding was identified, an agricultural census questionnaire was filled out and the questionnaire number entered in the listing book. It was possible that more than one household lived in the same dwelling place. In that case one set of responses was required for each household.

### **LISTS OF LARGE FARMS(25 ACRES OR MORE) AND SPECIALIZED FARMS**

The MAL Regional Extension Supervisors prepared lists of the large and specialized farms in their regions. These lists were used to confirm that all of these holdings were included in the census. The Regional Extension Supervisors enumerated all large and specialized farms not identified through the listing procedures.

### **TRAINING MATERIALS**

The ACU prepared a set of overhead transparencies and training notes for the supervisor training. Since the supervisors were responsible for the training of the enumerators, sets of transparencies and notes were prepared for each enumerator training site.

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## **SUPERVISOR AND ENUMERATOR MANUALS**

Separate manuals were prepared for supervisors and for enumerators. The supervisors were expected to be familiar with the content of both manuals. The supervisor manual contained background information and guidelines for collection and processing of the census data. Suggestions were provided for training of enumerators and management of the fieldwork. Administrative procedures were spelt out.

The enumerator manual contained definitions and concepts that would be used during the census. Interview techniques were included. In one section instructions were given for using the maps. The listing book and the questionnaire were reviewed in detail and a description of each of the requested responses was provided. Guidelines for solving special problems and administrative procedures were also discussed.

## **CODING AND EDITING MANUAL**

Instructions were prepared for coding and editing of the questionnaires. For example, in the ACU numeric codes assigned to the various permanent and temporary crops were put on the questionnaires. The proper distribution of areas for interplanted crops was verified (or corrected) and simple checks were made on parcel land use totals and on livestock category totals. The coders/editors made sure that responses were readable.

## **TABULATION PLAN**

The tabulation plan includes tables that permit comparisons with previous censuses in St. Vincent and the Grenadines and with agricultural censuses in the Caribbean Region. Standardized tables for international comparisons are also included; these tables follow the guidelines found in the *Programme for the World Census of Agriculture 2000*.

# **III. DATA COLLECTION PROCEDURES**

## **ENUMERATION**

Over 220 potential enumerators were interviewed and 191 persons were trained. Out of this group one hundred sixty one (161) enumerators were selected to work on the census. These individuals were mainly unemployed young people with a minimum educational background of no less than five (5) 'O' Level subjects including English language; some staff from the MAL who had experience as data collectors and individuals from other public service agencies were also used as enumerators.

These enumerators worked under the direction of thirty-five (35) supervisors drawn mainly from the Extension Staff of the MAL. These supervisors were in turn supervised by the three Regional Extension Supervisors (their regions coincided with the agriculture regions used by the MAL in its normal work). On the average each supervisor was responsible for approximately five enumerators.

The official period of census enumeration was from 14 February to 31 March 2000. Follow-up visits were made as required following the coding and editing of the completed questionnaires.

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Enumerators visited every household in the assigned enumeration district, first to identify agricultural holdings and then to conduct follow-up interviews when appropriate. In all cases the **confidentiality of the respondent data** was stressed.

The holdings were identified at the household level rather than at the field level. The respondent, however, reported information about all parcels that were part of the holding, regardless of location. In the tabulation, all land is reported at the location of the holder.

### **QUALITY CONTROL**

Although manuals are produced, training sessions are conducted and supervisory controls are maintained, it is not uncommon in any survey for errors to appear. The elimination of non-sampling error is a major goal for every survey, but it rarely happens. Quality control teams actively seek to reduce these errors at every stage of the survey process.

In this census the Quality Control Team (QCT) consisted of the FAO National Statistician and the MAL statistician assigned to the ACU. They travelled throughout the country in co-ordination with the Regional Extension Supervisors to check the work of the enumerators (and supervisors).

Supervisors were asked to collect sample of questionnaires from the enumerators and submit them to the QCT for checking. Re-interviews were conducted in randomly selected households to confirm that the households were visited and that the information was properly recorded.

When the coding and editing stage was under way, the QCT would review questionnaires that had been coded and edited to verify that it was done correctly.

### **REINTERVIEWS AFTER COMPUTER EDITS**

Computerized edits identified possible outliers, inconsistent data and incomplete information. The coders and editors then reviewed the information on the questionnaire to determine whether the data had been correctly recorded. Some questionnaires were returned to the supervisor for follow-up on inconsistent or missing responses.

Several queries arose which warranted revisits to the field. These re-interviews were carried out by the QCT or by the Regional supervisors. During the re-interviews some individuals cooperated while others expressed the view that they had already provided the information requested and were reluctant to redo the exercise.

One of the most important of the queries was the case where a name of a holder appeared in the listing book and a questionnaire was assigned, but the questionnaire was not returned to the ACS. Some persons had indicated their refusal to fill out the questionnaire, but this fact had not been noted in the listing book. In some cases it became apparent during the interview that the "holding" did not meet the minimum criteria and the interview was terminated, but no annotation was made in the listing book. There were a few cases where the person listed in the listing book could not be located; even the person in the households listed next to that name could not identify the individual. Other queries involved cases of incomplete questionnaires, incorrect area of holdings and land use, improper legal status, and improper tenure.

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## IV. PROBLEM AREAS

### COVERAGE

The agricultural census was designed as a complete enumeration of all agricultural holdings in St. Vincent and the Grenadines. Since there was no list of holdings, it was necessary to visit every household and to identify agricultural holdings. Although many of the enumerators were assigned to areas where they lived and worked and, consequently, were familiar faces, there were still some heads of household and holders who were reluctant to provide the Government with any information. It became clear during the processing of the questionnaires that other interviewees gave incorrect answers.

Overall, the number of persons who refused to cooperate or who were not available for the interviews was small. In addition to the 7480 holdings that were identified and processed, less than 75 additional holdings were identified. Some of these questionnaires were not completed because of refusals; some were not completed because the person interviewed did not have all of the information and others were not completed because the enumerator was not able to find the interviewee during subsequent visits.

Since the minimum criterion for a holding requires at least two small ruminants, persons with only one sheep or one goat or one pig were not interviewed (unless they had sufficient crops). Similarly, those persons whose only livestock was less than twelve chickens or who had less than one-eighth of an acre of temporary crops or who had less than ten fruit trees were omitted. The loss of information from these persons is noted, but the impact of that information on the final results would have been minimal.

### LEGAL STATUS & TENURE

These two definitions gave many enumerators difficulty and the holders were not familiar with the concepts either. Many enumerators confused the two characteristics. In fact, on one questionnaire legal status was recorded as "other" because the holding consisted of land that had been rented. Although the supervisors attempted to identify problem areas for the enumerators, some were not detected until after the data on the questionnaires had been coded and edited.

A large number of holdings were recorded with legal status of Government. On further inspection it was discovered that many of these holdings consisted only of parcels where the tenure was "squatting on Government land". A similar situation existed when an individual rented Government land and reported a legal status of Government. In both cases the legal status of these holdings was then revised to Individual or Household.

An area where some changes in the preliminary results may occur is when a holding was reported to have legal status of "Partnership". The tenure for many of this type of holding was "rented for cash", "rented for a share of produce" or "rented for cash for a share of produce". In addition, the presence of this particular legal status appeared to be concentrated in three or four enumeration districts. Investigations showed that some of these "partners" considered the owner of the land to be a partner although he/she had no input into the management of the land rented. Follow-up actions are being taken to confirm the proper legal status of these holdings.

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## LAND USE

The use of land for agricultural purposes has been divided into seven categories. In St. Vincent and the Grenadines, a large percentage of the agricultural land is used to grow permanent crops, but many of the holdings have only scattered trees/ plants. It was difficult for some enumerators to determine whether land use for these holdings should be counted as permanent cropland, as pasture or natural grassland or as other land (including other agricultural land). When the major use of the land was for the tree crops, it was considered permanent cropland. However, when the number of scattered trees was small, the land use was generally not classified as permanent cropland.

When temporary crops were interplanted with permanent crops, the total land area was classified as permanent cropland; HOWEVER, this area was divided among the individual crops when the area for individual crops was determined.

## LANDLESS HOLDINGS

As pointed out on page 25 in the *Programme for the World Census of Agriculture 2000*, some holdings may have no significant land area (e.g., poultry hatcheries or holdings keeping livestock). In St. Vincent and the Grenadines a large number of individuals own small herds of cattle, sheep and/or goats. Many of these individuals do not provide shelter for the animals. They turn them loose to graze wherever they want during the day and bring them back to their residence in the evening. The animals may be fenced in to protect them from theft and/or stray dogs, but are not confined. These “holdings” are classified as “landless holdings”. In addition to these holdings, there are some holdings where a shelter is provided for the livestock. When a building is used for agricultural purposes, then the land on which the building is located is agricultural land (usually other agricultural land).

It is also possible that some “landless” holdings are not landless, but should have included parcels of land that had previously been used for cropland, but were currently fallow or were woodland. In other words, it is possible that fallow land and woodland were only identified when the holding had other land used for cropland or pastureland.

## **V. SELECTED TABLES FOR AGRICULTURAL CENSUS 2000**

### INTRODUCTION

Even before the preparations for Agricultural Census 2000 began it was clear that the structure of the agricultural sector of St. Vincent and the Grenadines had changed significantly since the previous census in 1985/86. The Government of St. Vincent and the Grenadines and, especially, the MAL gave a high priority to this data collection activity as a means to update the information on the sector. The results of Agricultural Census 2000 have important implications for policy, planning and decision-making for the MAL. But they also have an impact on planning and decision-making for farmers, agribusinesses and the general public. Thus, the dissemination of the results has also been given a high priority.

The preliminary results are not the final results; however, the statistics in the tables in the official publication of the results should not change significantly from the information found below. The final results will also contain tables and charts not found in the preliminary results.

Three basic components of the sector are the persons involved in the sector, the land used for agricultural purposes (holdings) and the manner in which those persons obtain agricultural production from this land. The focus of the holding may be on crops, it may be on livestock or it may encompass both types of agricultural production. The tables and charts below highlight some of the information obtained about these components. Other tables and charts appear in the annexes.

### "WHO" IS AGRICULTURE

Five types of persons are identified in the agricultural census. An important person is the "holder", the person responsible for the overall management of the "holding". The person who makes the day-to-day on-the-spot decisions is the "farmer". In many cases the "farmer" is also the "holder"; in other cases there is a hired manager who is employed to make these decisions and to be responsible for the required work. Permanent or temporary (occasional/seasonal) workers may be hired to do the work. The last type of persons identified are members of the "holder's household".

Table 1 below includes information about the number of holdings and area of holdings by census division. There are 876 "landless" farmers. Calliaqua is the census division with the most holdings (and, also, the most landless holdings). The Southern Grenadines has the fewest holdings. Sandy Bay has the fewest landless holdings. Bridgetown has the largest area of agricultural land use. Almost 27.5% of the landed holdings are less than 0.5 acres, while only 3.5% of the holdings consist of 10 acres or more. Table 1 in the ANNEX shows the distribution of all holdings by size of holding and census division.

**Table 1: Number and Area of Holdings by Census Division**

Census Division/ Agricultural Region	Agr. Reg. 1	Agr. Reg. 2	Agr. Reg. 3	Acres
	Holdings			
	Land less	With Land	Total	
Kingstown	13	229	242	247
Kingstown Suburbs	105	403	508	588
Calliaqua	237	1,193	1,430	2,135
Marriaqua	49	787	836	2,222
Bridgetown	62	632	694	2,270
Colonaire	76	549	625	1,811
Georgetown	38	612	650	2,089
Sandy Bay	4	292	296	893
Layou	67	443	510	1,518
Barouallie	89	393	482	1,845
Chateaubelair	83	479	562	1,475
Northern Grenadines	45	269	314	386
Southern Grenadines	8	223	231	312
<b>TOTAL</b>	<b>876</b>	<b>6,504</b>	<b>7,380</b>	<b>17,789</b>

In Table 2 below the legal status of the holders is presented. Except for a few juridical holdings (managed by co-operatives, corporations, Government, etc.), the form of management is individual or household (over 96%). In a few cases (223) individuals from more than one household jointly make the decisions about the operation of the holding. Table 3 in Annex 1 provides information about legal status by census division.

**TABLE 2: NUMBER AND AREA OF HOLDINGS BY LEGAL STATUS**

	Private (Civil)		Juridical			Total
	Individual or Household	Partnerships	Co-operative/ Corporation	Government	Other	
No. of Holders	7130	223	11	14	2	7380
Area (acres)	16066	781	326	609	7	17789

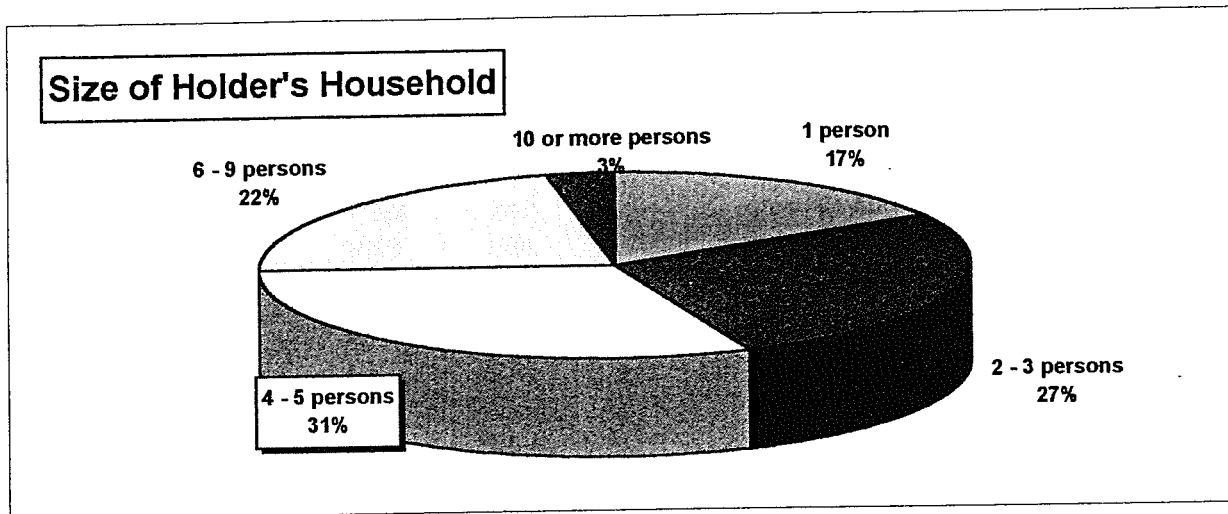
A distribution of the age and sex of the civil holders is found in Table 3 below. Since juridical holdings are not managed by specific individuals, a "holder" and the "holder's household" are not well-defined and can not be included in these tables.

**TABLE 3: AGE BY SEX FOR CIVIL HOLDERS**

Age Category	Male	Female	Total
Under 15 yrs	12	0	12
15 - 24 yrs	232	67	299
25 - 34 yrs	760	294	1054
35 - 44 yrs	1425	518	1943
45 - 54 yrs	1113	470	1583
55 - 64 yrs	862	330	1192
65 yrs & Over	798	336	1134
Age Not Specified	94	35	129
<b>Total</b>	<b>5296</b>	<b>2050</b>	<b>7346</b>

The distribution of members of the holder's household by sex and age is found in Table 4 in the Annex and the distribution by size of the holder's household is in Table 5 in the Annex.

Because some households operate more than one holding, there are only 7274 households. The largest holder household contains 20 persons; over 1800 households contain 6 or more persons; 1205 households consist of only the holder. Households in Layou have the smallest average size (3.66 persons), while Sandy Bay has the largest (5.01 persons). The average household size is 4.1 persons.



Most of the work on the holdings was done by the holder and by members of the holder's household. Only a few holdings (78) employed hired managers while approximately 2200 holdings of all sizes hired permanent and/or occasional workers (See Table 4 below and Table 7 in the Annex.)

**Table 9: Number of Holdings Reporting Permanent and Occasional Workers on Holdings**

Census Division	Permanent workers		Occasional Workers	
	No. of Holdings	No. of Workers	No. of Holdings	No. of Workers
Kingstown	24	45	26	101
Kingstown Suburbs	15	33	34	82
Calliaqua	70	190	208	550
Marriaqua	92	308	325	871
Bridgetown	108	406	225	699
Colonarie	103	263	239	727
Georgetown	77	206	290	862
Sandy Bay	2	6	89	524
Layou	26	60	145	545
Barrouallie	20	50	133	1017
Chateaubelair	27	99	151	888
Northern Grenadines	5	9	2	2
Southern Grenadines	4	64	2	3
<b>Total Holdings With Workers</b>	<b>573</b>	<b>1739</b>	<b>1869</b>	<b>6871</b>



## 'WHERE' IS AGRICULTURE

In the listing procedure characteristics of the agriculture holdings were identified. This set of information will serve as a guide for use during special surveys. The following table (Table 5) shows the location of holdings that qualified under the various criteria.

**Table 5: Holdings Qualifying Under the Minimum Criterion**

Census Division	1 Head Cattle	2 goats/ Sheep	12 + Chickens	1/8 th Acre	12 + Trecrop	Raised Stand	Green house	Total
Kingstown	22	133	43	54	88	5	2	247
Kingstown Suburbs	97	272	60	109	232	23	1	509
Calliaqua	351	854	204	429	529	25	8	1437
Marriaqua	232	256	70	522	418	13	4	839
Bridgetown	103	239	57	523	286	7	2	696
Colonarie	115	300	70	297	362	3	2	630
Georgetown	103	271	90	384	268	7	0	664
Sandy Bay	50	178	42	217	122	3	0	303
Layou	165	259	65	205	257	9	3	512
Barrouallie	88	234	48	297	207	1	0	482
Chateaubelair	135	329	37	363	261	8	4	561
Northern Grenadines	4	185	46	70	145	4	3	314
Southern Grenadines	43	163	26	80	38	4	0	231
Total	1508	3673	858	3550	3213	112	29	7425

Approximately 17,800 acres of land are used for agricultural purposes. As a percentage of land area, this represents approximately 18.6% of the total land area of St. Vincent and the Grenadines. The farmers use about 42% of the agricultural land for permanent crops and about 15% for temporary crops.

Although the census division of Bridgetown has the largest amount of total agricultural land, Calliaqua, Marriaqua and Georgetown are not far behind (see Table 6 below). The largest number of landless farmers (237) is found in Calliaqua while the highest percentage of landless farmers among holders (20.7%) is in the Kingstown Suburbs (see Table 7 below).

The largest amount of permanent cropland is in Bridgetown with 19.3% of total permanent cropland. The largest amount of temporary cropland with 14.4% of total temporary cropland is Calliaqua. It should be noted that if temporary crops are interplanted with permanent crops, the land use is recorded as permanent cropland. All census divisions have at least one farm of twenty-five acres or more (large farm) with the largest number of large farms (13) in Calliaqua. Calliaqua also contain the largest percentage of landed farms under 25 acres. The distribution is in Table 7 below.

**TABLE 6: Land Use (acres) by Census Division/Agricultural Region**

Census Division/ Agricultural Region	Total Land <sup>1</sup>	Total Agr. Land	Perm. Crops	Temp. Crops	% of Total Land in Agric.	% Agr. Land in Perm crops	% Agri. Land in Temp crops
Kingstown	1150	247	94	45	21%	38%	18%
Kingstown Suburbs	3850	588	204	90	15%	35%	15%
Calliaqua	7550	2135	605	386	28%	28%	18%
Marriaqua	6000	2222	1354	356	37%	61%	16%
Bridgetown	4600	2270	1471	286	49%	65%	13%
Colonaire	8600	1811	1294	164	21%	71%	9%
Georgetown	14200	2089	1201	194	15%	57%	9%
Sandy Bay	3400	893	185	294	26%	21%	33%
Layou	7100	1518	180	222	21%	12%	15%
Barouallie	9100	1845	519	279	20%	28%	15%
Chateaubelair	19800	1475	300	324	7%	20%	22%
Northern Grenadines	5710	386	29	12	7%	8%	3%
Southern Grenadines	4740	312	31	19	7%	10%	6%
<b>Total</b>	<b>95800</b>	<b>17789</b>	<b>7466</b>	<b>2669</b>	<b>19%</b>	<b>42%</b>	<b>15%</b>

<sup>1</sup> Digest of Statistics for 1998, Statistical Office

Agr.Reg. 1 Agr.Reg. 2 Agr.Reg. 3

**Table 7: NUMBER OF HOLDINGS BY SIZE OF HOLDING**

Census Division	Size of Holding Category			Total
	Landless	Under 25 acres	25+ acres	
Kingstown	13	226	2	241
Kingstown Suburbs	105	402	1	508
Calliaqua	237	1181	13	1431
Marriaqua	49	784	3	836
Bridgetown	62	622	10	694
Colonarie	76	543	6	625
Georgetown	38	608	4	650
Sandy Bay	4	287	5	296
Layou	67	432	11	510
Barrouallie	89	387	6	482
Chateaubelair	83	476	3	562
Northern Grenadines	45	266	3	314
Southern Grenadines	8	221	2	231
<b>Total</b>	<b>876</b>	<b>6435</b>	<b>69</b>	<b>7380</b>

Agriculture Region 3 contains the most total land, the most agricultural land, the most permanent cropland and the most temporary cropland.

**Table 8: Land Use by Agricultural Regions**

Region 1			Region 2			Region 3		
Total Land	Perm	Temp	Total Land	Perm	Temp	Total Land	Perm	Temp
5361.5	1194.3	882.4	5365.5	2120.6	850.7	7062.3	4150.8	936.4

The tenure of the land is established according to parcel. There are 8233 parcels and 73% of them are operated under owner/ownerlike possession. These 6070 parcels account for 13,069 acres of land (approximately 73% of the total land area) and contain about 87% of the parcels greater than 10 acres. The distribution of parcels by tenure by census division is found in Table 16 in the Annex. Table 17 in the Annex contains the distribution by size of parcel. In Table 9 below is a synopsis of the land use for crops under the different forms of tenure.

**Table 9: Land Under Various Types of Tenure**

Type of Tenure	Total Agricultural Land	Permanent Crops	Temporary Crops
Owner/ Ownerlike possession	13093.8	5482.5	1758.4
Rented cash – Govt	1810.5	1088.7	262.5
Rented cash – Others	1037.0	361.1	184.0
Rented cash for share of produce	378.4	146.9	92.7
Rented share of produce	606.9	123.2	144.1
Rent free/ peppercorn tenancy	237.1	79.4	56.6
Squatting - Govt land	401.8	107.4	126.2
Squatting - other land	62.9	9.6	12.4
Other	161.1	67.1	32.5

Out of the 6504 landed holdings, 6237 operate under one form of tenure. Of these, 4696 holdings are operated over 12500 acres under ownerlike possession. The largest number of these holdings was in Calliaqua; Sandy Bay had the least holdings (167), but the Southern Grenadines had the smallest area (174 acres). There were 1200 holdings with single tenure form of Renting and these holdings consisted of 3141 acres. The largest number of these holdings (237) was in Georgetown and the smallest (11) in the Northern Grenadines. Chateaubelair had the most holdings (75) with single form of Squatting and also the largest number of acres in the holdings (138 acres). Table 10 below contains a distribution of these holdings by census division.

**Table 10: Number and Area of Holdings Under a Single Form of Tenure**

Census Division	Form of single tenure for Holding								All Hold.	Total Acres
	Owner/ownerlike		Rent		Squatting		Other			
	Holdings	Acres	Holdings	Acres	Holdings	Acres	Holdings	Acres		
Kingstown	203	219	21	25	3	3	0	0	227	246
Kings. Suburbs	356	513	26	50	16	9	0	0	398	572
Calliaqua	1008	1805	127	213	19	7	15	26	1169	2050
Marriaqua	518	1460	185	349	3	4	2	6	708	1818
Bridgetown	448	1639	104	241	29	52	4	10	585	1941
Colonarie	398	1334	104	284	6	10	9	22	517	1651
Georgetown	331	1117	237	803	18	18	9	16	595	1954
Sandy Bay	167	539	71	201	36	76	8	11	282	827
Layou	298	1061	110	347	13	7	3	5	424	1421
Barouallie	247	1463	91	169	38	80	7	7	383	1719
Chateaubelair	282	905	91	305	75	138	9	16	457	1364
N. Grenadines	240	365	11	15	16	5	2	1	269	386
S. Grenadines	200	174	22	139	1	0	0	0	223	312
<b>Totals</b>	<b>4696</b>	<b>12593</b>	<b>1200</b>	<b>3141</b>	<b>273</b>	<b>409</b>	<b>68</b>	<b>118</b>	<b>6237</b>	<b>16261</b>

**“What” is agriculture doing**

**1. CROPS**

Permanent crops (including bananas and plantains) are found throughout St. Vincent and the Grenadines. These crops do not require replanting after harvesting. These trees/ plants are found either in compact plantation or scattered around the holding. Some of the trees/plants are bearing while others are non-bearing (too young to bear). For planning purposes, the MAL has prepared and uses a standardized plant density (area, plants, and spacing between plants) for permanent crops. These values were used as a check against the reported density of trees/plants. In cases where the spacing was not known and the number of trees/plants was not reported the standardized density was used to impute the number of trees/plants. If the spacing was reported then it was used to determine the appropriate number of trees/plants. If the density calculated from the reported information was too high (or too low), then the questionnaire was referred to the field supervisor.

The reported areas in compact plantation for bearing and non-bearing trees/plants as well as the reported number of scattered bearing and non-bearing trees/plants are found in Tables 12 and 13 in the Annex. The Northern Grenadines reported no permanent crops in compact plantation. The most common permanent crop for farmers of St. Vincent and the Grenadines is bananas. Almost 2600 farmers have either bearing or non-bearing plants. The next most prevalent tree crop is coconut followed by mangoes (all varieties).

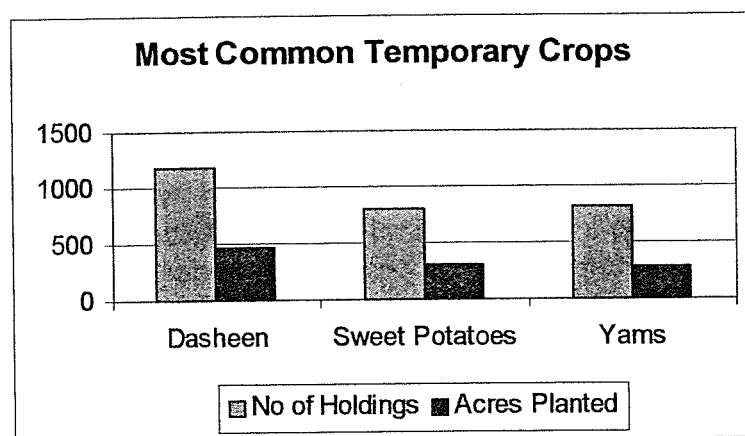
The total area reported under compact plantation of bearing banana plants is 3738 acres with 1003 acres of non-bearing banana plants. The census division with the largest area under compact plantation of bananas is Colonarie with approximately 885 acres of bearing and 230 acres of non-bearing plants. Marriaqua reported 852 acres of bearing and 143 acres of non-bearing plants.

In the calculation of area planted and area harvested for temporary crops the following definition was used:

**Area planted** refers to the physical area planted. If the same crop was planted in the same area, that area is reported only once.

**Area harvested** refers to the total area harvested to obtain the holding's production; if the same area is planted twice and harvested twice, that area is reported twice. Information was also collected about the number of times harvested.

The numbers of holdings reporting temporary crops are found in Table 14 in the Annex. The harvested and planted areas for all temporary crops are found in Table 15 in the Annex. Dasheen is the most common temporary crop, followed by sweet potatoes and then yams. The largest planted areas are also (in the same order) dasheen, sweet potatoes and yams. From the Chart below it is clear that the small farmer produces these three food crops since the average number of acres planted is less than 1 acre.



The census division with the largest area of dasheen is Marriaqua, but Calliaqua has a larger area of sweet potatoes. Bridgetown has the greatest area of yams. Layou has the largest area of eddoes and Chateaubelair, of tannia.

## 2. LIVESTOCK

Data about Livestock in St. Vincent and the Grenadines has been collected by breed and by age category. These tables are found in the Annex. In Table 11 is a summary of the various types of livestock and poultry reported. Note that these data were collected over a two-month period and represent head of livestock on the day of data collection. For these Tables to be completely accurate, it is necessary to assume that livestock births and deaths occurred at the same rate for both male and female animals.

**Table 11: Number of Heads of Livestock and Poultry Reported on Holding and Number of Reporting Holdings**

Livestock/Poultry	Total	Male	Female	No. of Holdings
Cattle and Calves	4767	1402	3365	1515
Sheep & lambs	10038	2875	7163	2139
Goats	9554	2779	6775	2193
Pigs	4807	1868	2939	804
Horses	44	15	29	11
Donkeys	265	145	120	203
Rabbits	1249	386	863	160
Beehives	42	0	0	8
Chickens	65920	7008	58912	918
Turkeys	131	44	87	25
Ducks	342	99	243	48
All other birds	2961	1078	1883	151

## 3. PRACTICES

Farmers in St. Vincent and the Grenadines have used irrigation and chemicals or organic fertilizers to improve the production of their crops. The prevalence of improved varieties of seed and use of crop rotation will be measured on annual surveys to be conducted by the Agricultural Planning Unit.

Although only 341 farmers reported using irrigation, over 4200 used chemicals and/or organic fertilizers to improve production.

The use of credit to obtain inputs for the holding was not widespread; only 1644 holders (approximately 23%) received credit in the form of cash or direct farm inputs. Twelve percent received both types of inputs. Most of the credits were obtained from produce associations.

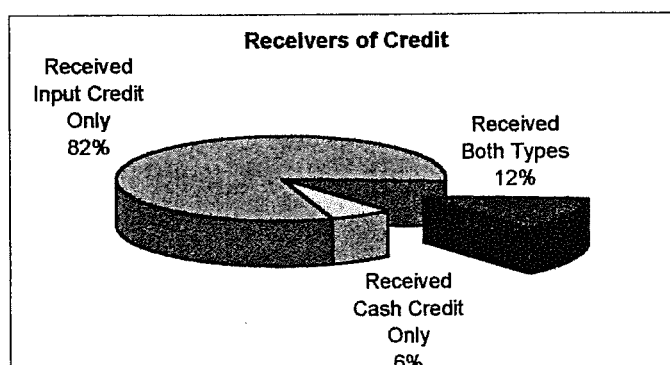
**Table 12: Reported Use Of Irrigation By Census Division (In Acres)**

Census Division	Acres Irrigated
Kingstown	4.90
Kingstown Suburbs	9.06
Calliaqua	62.02
Marriaqua	16.17
Bridgetown	83.66
Colonarie	50.80
Georgetown	263.34
Sandy Bay	5.50
Layou	28.19
Barrouallie	40.34
Chateaubelair	20.50
Northern Grenadines	0.25
Southern Grenadines	132.55
<b>Total Acres</b>	<b>717.27</b>

**Table 13: Holders Reporting Use of Chemicals/Organic Fertilizers**

Census Division	Total Holders
Kingstown	97
Kingstown Suburbs	131
Calliaqua	550
Marriaqua	676
Bridgetown	566
Colonarie	477
Georgetown	491
Sandy Bay	208
Layou	283
Barrouallie	309
Chateaubelair	393
Northern Grenadines	37
Southern Grenadines	23
<b>Total Holders</b>	<b>4231</b>

Although over 2500 farmers did not report problems, over 2000 cited three problems affecting the operation of their holdings. The problems most often cited by the farmers in St. Vincent and the Grenadines during the last year were, in order, thieves, pests and diseases, and animals (either attacking livestock or destroying crops). Predial larceny is a major problem and appears to occur in all census divisions and to all sizes of holdings. One concern mentioned quite often in written comments is the poor state of the road system in the country.



The families of almost 50% of the farmers have been farming for over 15 years. Only 491 reported family experience of less than two years. While 3525 indicated that they had over 15 years experience, over half of these farmers operate holdings of more than 2.5 acres. Out of the 68 farms with holdings of 25 acres or more, 44 of them are civil farmers with more than 15 years experience. Four of the large holdings are juridical holdings. Over 67% of the farmers with less than two years family experience have holdings of less than 0.5 acres.

## VI. COMPARISON OF DATA FROM AGRICULTURAL CENSUS 2000 WITH DATA FROM PREVIOUS CENSUSES.

The first agriculture census took place in 1946. Detailed questionnaires were used for holdings greater than one acre with a shorter version for holdings of one acre or less. At that time a holding consisted of all land area, of any size, regardless of whether it was actively farmed, and included very small plots. The 1961 and 1972 agricultural censuses were conducted as sample surveys with the results expanded to national level. The 1985/86 census was a complete enumeration of all holdings meeting the minimum criteria. Agricultural Census 2000 is a complete enumeration of all holdings meeting the minimum criterion, but these criteria have been modified slightly to address changes in the way agriculture has evolved. Only for Agricultural Census 2000 was individual holding data available for comparisons. The earlier censuses have only summarized data.

Although the content of the questionnaire has changed from the first census, some basic questions remain. A few comparisons are provided below.

The number of holdings in 2000 is less than in 1985/86, both in terms of landless holdings and also landed holdings. The number of landless holdings decreased from 2061 to 876 and the number of landed holdings decreased from 6799 to 6504. The total area of holdings decreased by 40% from 29,696 acres to 17,789 acres. Both the number of holdings and the total area of holdings has been steadily decreasing since 1961 when there were over 11,350 holdings and over 39,475 acres (data reported for private holdings in 1961).

**Table 14: Comparisons for 1985/86 and 2000**

Indicator	1986	2000
Landless Holders	2061	876
Holders With Land	6799	6504
Total Holders	8860	7380
Total Agric. Land (acres)	29696	17789

**Table 15: Land Use (acres) 1985/86**

Total Agric. Land	Permanent Crops	Temporary Crops	Pasture & Grassland	Fallow	Forest/ Woodland	All Other
29655	16064	4017	2629	2290	3625	1030

A large percentage of the decrease from 1985/86 to 2000 was in permanent cropland. A major contributor was the closing of the sugar cane industry. Although some of that land is now being used for agricultural purposes, much of it has been shifted to development.

Over the last 40 years, livestock numbers have fluctuated up and down for goats with a decreasing trend for cattle and pigs, an increasing trend for sheep. Current Tables show a substantial increase in the number of goats and pigs with the number of cattle and sheep approximately the same.



**Table 16: Number of Livestock on all Holdings**

Livestock	1946	1961	1972	1985/86	2000
St. Vincent Island					
Cattle	6944	6458	5891	4010	4615
Sheep	2243	4724	4766	8609	8724
Goats	8475	6284	3293	5268	8740
Pigs	8602	5044	5096	1668	4642
The Grenadines					
Cattle	797	1444	578	358	152
Sheep	1511	799	1254	1978	1314
Goats	2564	583	905	1348	814
Pigs	767	428	428	183	165

The number of holdings with bananas and coconuts has been steadily decreasing. Holdings with oranges, grapefruit, limes, avocados and mangoes have been increasing. The number of holdings reporting coconuts has decreased by over 30%. Holding reporting nutmeg and coffee are approximately the same in 2000 as in 1985/86, but substantially less than earlier.

The number of holdings reporting temporary crops shows a steady decrease from 1961. The number of holdings with maize (329 holdings) is less than 50% of the 1985/86 Table (699 holdings). The number of holdings reporting dasheen/eddoes/tannia (1757 holdings) is also less than 50% of the number reporting in 1985/86 (3680 holdings).

**Table 17: Selected Permanent Crops**

Holdings Reporting	1961	1972	1986	2000
Avocado	1625	1594	461	1051
Banana	6779	2735	4100	2576
Cocoa	2225	1190	503	254
Coconut	6508	2863	3469	2249
Coffee	340	124	15	17
Grapefruit	762	637	180	471
Lime	1282	941	350	837
Mangoes	6293	2729	1381	2037
Nutmeg	980	611	114	126
Oranges	1625	1594	461	1121
Plantain	1105	645	1806	820
Pineapple				115

**Table 18: Selected Temporary Crops**

Holdings Reporting	1961	1972	1986	2000
Maize	2997	1269	699	329
Pigeon peas	3779	2782	992	700
Sweet potatoes	3137	2049	1371	808
Tannia/Dasheen/ Eddoe	5328	3861	3680	1757
Yams	3951	2381	885	817
Arrowroot	1280	380	140	117
Cassava		581	172	161
Groundnuts		453	397	229
Ginger		313	326	139

Holdings reporting arrowroot declined rapidly between the other census years, but the current number of holdings (117 holdings) is only slightly less in 1985/85 (140 holdings).