

*THE FEDERAL DEMOCRATIC REPUBLIC OF ETHIOPIA
CENTRAL STATISTICAL AUTHORITY*

**AGRICULTURAL SAMPLE SURVEY
1996/97 (1989 E.C.)**

VOLUME IV

REPORT ON

CROP LAND UTILISATION

(PRIVATE PEASANT HOLDINGS, MEHER SEASON)

*ADDIS ABABA
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ABBREVIATIONS

| | | |
|-------|---|--|
| AVG | - | AVERAGE |
| CSA | - | CENTRAL STATISTICAL AUTHORITY |
| CV | - | COEFFICIENT OF VARIATION |
| EC | - | ETHIOPIAN CALENDAR |
| EA | - | ENUMERATION AREA |
| HA | - | HECTARE |
| HH | - | HOUSEHOLD |
| NS | - | NOT STATED |
| PCs | - | PERSONAL COMPUTERS |
| PSUs | - | PRIMARY SAMPLING UNIT |
| SE | - | STANDARD ERROR |
| SNNPR | - | SOUTHERN NATION, NATIONALITIES & PEOPLES' REGION |

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REPORT ON
CROP LAND UTILISATION

1. INTRODUCTION

Ethiopia's economy is predominantly agrarian and the majority of the population in the country is engaged in agriculture. In this respect, the collection of reliable, comprehensive and timely statistical information on agriculture is very essential. The information is expected to be used for the formulation of agricultural policy.

The Central Statistical Authority (CSA) has been conducting Agricultural Sample Surveys on annual basis since 1980/81 (1973 E.C.) to produce some of the statistical data that can be used in planning and policy making activities.

This volume presents the objectives of the survey; coverage and content of the survey; concepts and definitions; sample design; field organization; training of field staff; method of data collection and survey results on all land uses, number of agricultural households, number of holders, number of household members, average household size and land by size of holding, number of holders by type of holding, age and sex. In addition the reader is referred to *Volume I* of the same survey which is "Report on Area and Production of Major Crops; Private Holdings, Main Season, Addis Ababa, April 1997." That volume presents in its appendices number of sampled EAs, number of EAs that are actually covered and not covered in the survey; number of households planned to be covered and those actually covered in the survey for the purpose of crop land use, area and production of major crops and number of fields measured. Moreover, estimation procedures, standard errors and coefficient of variations for all estimates on crop land use, number of households by size of holding and household members by type of holding, age and sex are presented in appendix I and II of this report.

2. OBJECTIVES OF THE SURVEY.

The general objective of the agricultural sample survey was to collect basic quantitative information on the nation's agriculture that are considered essential for development planning and socio-economic policy formulation.

In particular, the objectives of the survey were to estimate the total cultivated land; total production and yield of major crops per hectare; crop land uses (temporary and permanent); quantity and cost of agricultural inputs by type; number of livestock and poultry by type, purpose, sex and age; number of beehives and honey production in the private peasant holdings for the nation, regions and group of zones.

3. COVERAGE AND CONTENT.

The 1996/97 (1989 E.C.) annual agricultural sample survey was designed to cover sedentary rural agricultural population in all regions of the country. Urban and nomadic areas were not included in the survey. Accordingly, a total of 55 zones and 375 weredas were covered by the survey. The areal coverage of the survey is given in the following table.

AREAL COVERAGE OF THE 1996/97 AGRICULTURAL SAMPLE SURVEY

| REGION REGION | NUMBER OF ZONES | | | NUMBER OF WEREDAS | |
|-----------------------|-----------------|-----------------------------|------------------------------------|--|-----------------------------|
| | TOTAL | COVERED BY THE SURVEY | NOT COVERED BY THE SURVEY | PLANNED TO BE COVERED BY THE SURVEY | COVERED BY THE SURVEY |
| TIGRAY ¹ | 5 | 4 | 1 | 35 | 33 |
| AFAR ² | 5 | 3 | 2 | 7 | 7 |
| AMHARA | 10 | 10 | - | 95 | 95 |
| OROMIYA | 12 | 12 | - | 148 | 148 |
| SOMALIE ³ | 9 | 3 | 6 | 7 | 6 |
| BENSHANGUL-GUMEZ | 3 | 2 | 1 | 7 | 7 |
| S.N.N.P.R. | 16 | 16 | - | 68 | 68 |
| GAMBELA | 1 | 1 | - | 5 | 4 |
| HARARI | 1 | 1 | - | 1 | 1 |
| A. ABABA ⁴ | 6 | 2 | 4 | 5 | 5 |
| DIRE DAWA | 1 | 1 | - | 1 | 1 |
| TOTAL | 69 | 55 | 15 | 379 | 375 |

Note

- 1 - In Tigray Region, four out of five zones have rural settled population. In the remaining one zone the entire population is urban residents.
- 2 - Afar region has a total of five zones, but only two zones have significant sedentary rural population.
- 3 - Somalie region has a total of nine zones, however only three zones have significant sedentary rural population.
- 4 - Addis Ababa has a total of six zones, however, only two zones have rural settled population. In the remaining four zones the entire population is urban residents.

S.N.N.P.R = Southern Nations and Nationalities Peoples' Region

Moreover, for the survey a total of 705 Enumeration Areas were selected to be covered in all regions. Nevertheless, 5 of them were closed due to various reasons and the survey succeeded to cover 700 Enumeration Areas(EAs). Furthermore, from each of the selected EAs a sample of 25 agricultural households were selected to represent the agricultural population of the sampled EA.

From these households, information on area under crops, Meher and Belg season production of crops, crop land utilisation, agricultural practices, crop damage, quantity and price of agricultural inputs used, number of livestock and poultry by type, purpose, age and sex, number of beehives by type, honey yield, milk yield and milk for butter were collected.

4. CONCEPTS AND DEFINITIONS.

In order to standardize the data the same concepts and definitions should be applied during data collection. Hence, some of the concepts and definitions used in the survey are given below.

Enumeration Area (EA): An Enumeration Area in rural parts of the country is a locality that is less than or equal to a farmer's association area and usually consists of 150 - 200 households.

Holder: A holder is a person who exercises management control over the operations of the agricultural holding and takes the major decision regarding the utilization of the available resources. He has technical and economic responsibility for the holding. He may operate the holding directly as an owner or as a manager. Under conditions of traditional agricultural holding the holder may be regarded as the person, who with or without the help of other, operates land or raises livestock in his own right, i.e. the person who decides on what, when, where and how to grow crops or raise livestock and has the right to determine the utilization of the products.

Holding: a holding is all the land and/or livestock kept which is used wholly or partly for agricultural production and is operated as one technical unit by one person alone, or with others without regard to title, legal form, size or location.

Size of Holding: In this report size of holding is determined by total area under different crops, such as area under temporary crops and permanent crops.

Household: A household may be either;

a) a one person household, that is a person who makes provision for his own food or other essentials for living without combining with any other person to form part of a multi person household or

b) a multi person household, that is, a group of two or more persons who live together and make common provision for food or other essentials for living. The persons in the group may pool their incomes and have a common budget to greater or lesser extent. They may be related or unrelated persons, or a combination of both. These persons are taken as members of the household.

Agricultural household: A household is considered an agricultural household when at least one member of the household is engaged in growing crops and/or breeding and raising livestock in private or in partnership with others.

Parcel: A parcel of holding is any piece of land entirely surrounded by land, water, road, forest, ...etc. which is not part of the holding. It may consist of one or more cadastral units, plots or fields adjacent to each other.

Field: A field is defined as any plot of land which is a parcel or part of a parcel under the same crop.

Meber(Main) Season Crop: Any crop harvested from Meskerem (September) to Yekatit (February) is considered as meher season crop.

Temporary Crops: Temporary crops are those crops which are grown with a cycle of under one year, sometimes only a few months with a view to be sown or planted anew for further production after the harvest. Similarly, crops grown in rotation are also considered temporary crops as these are destroyed when land is ploughed.

Permanent Crops: Crops which occupy land for a long period of time and are not planted for several years after each harvest are considered as permanent crops. All fruit trees (e.g. oranges, mandarins, apples, ...etc.) and trees used for beverages (like coffee, tea, ... etc.) are considered as permanent crops. Permanent meadows and pastures, however, are excluded.

5. SAMPLE DESIGN.

A two stage stratified sample design was used for the 1996/97 (1989 E.C.) Annual Agricultural Sample Survey. In three regions, namely in Amhara, Oromiya and Southern Nations and Nationalities Peoples' Region, group of contiguous zones were treated as strata/reporting levels of the survey results. In the remaining regions, the reporting levels were the regions themselves. The primary sampling units (PSUs) in all strata were Enumeration Areas (EAs). Agricultural households were the ultimate sampling units. The survey questionnaires were administered to all agricultural holders in the sampled agricultural households.

A fixed number of sample EAs was determined for each stratum/ reporting level based on precision of estimates, household size of the stratum and cost considerations. The overall sample number of EAs in a stratum was proportionately allocated to zones/special weredas within the stratum to their household size. From within each Zone/Special Wereda sample EAs were selected with probability proportional to size, size being the total number of households of EAs as obtained from the 1994 census map work. From each sample EA, 25 agricultural households were sampled systematically without replacement from a fresh list of agricultural households.

All information were collected from these households except for crop-cutting exercise, for which data were collected only from the last 15 agricultural households starting from the 11th selected agricultural households. Moreover, holders within these households were enumerated and the required data were collected from these holders.

6. FIELD ORGANIZATION.

CSA branch statistical office heads, field supervisors and enumerators, experts from head office, other support staff and drivers were involved in the operation of the survey.

For all enumerators the necessary survey equipment, such as compasses, protractors, ruler, measuring tapes, balance scales, poles, ropes, sample bags...etc. were made available and to assist the field work a certain number of vehicles were put on operation.

7. TRAINING OF FIELD STAFF.

The training program for the field staff was carried out in two stages. In the first stage trainees from the head office, branch statistical office heads and some of the field supervisors were given training for one week at the head office. Some of those trained in the first stage conducted similar training for field supervisors and enumerators for 10 days in all the 15 branch offices all over the country. During the training, the field staff were given detailed class room instruction on the objective and uses of the survey, concept and definitions of terms used, method of area measurement, method of crop cutting, interviewing procedures,... etc. The training sessions included thorough field practices with regard to data collection.

8. METHOD OF DATA COLLECTION.

Survey data were collected on questionnaires both by subjective and objective methods. Information on agricultural practices (application of fertilizer, pesticide, use of improved seed and irrigation), livestock and poultry information were collected subjectively by interviewing the holders in the sampled households.