

311.3  
(689.4)  
C33  
(1990/92)  
v.2  
pt.2  
SBL



REPUBLIC OF ZAMBIA

# **NATIONAL CENSUS OF AGRICULTURE**

**(1990/92)**

## **PART II**

**CENSUS REPORT**

**VOLUME II**

**STRUCTURAL TYPE AND 1991/92 POST-HARVEST DATA**

**CENTRAL STATISTICAL OFFICE  
P.O. BOX 31908  
LUSAKA**

**December, 1994**

With Assistance from the  
Government of the Netherlands/Food and Agriculture Organization  
of the United Nations (FAO) through Project GCPS/ZAM/039/NET:  
Early Warning System and Census of Agriculture.

## FOREWORD

---

Zambia first participated in the World Census of Agriculture Programme in 1971/72 agricultural season when a National Census of Agriculture was organized and successfully executed. Attempts to implement a follow-up Census in 1982/83 foundered on account of lack of resources. However, with the assistance of the Government of The Royal Netherlands and the Food and Agriculture Organization of the United Nations (FAO) through the Early Warning System and Census of Agriculture Project, it has been possible for a second Census of Agriculture to be conducted in the country.

The Census was organized in two parts. Part I of the Census was conducted alongside the Census of Population and Housing in August/September, 1990. Only limited data were collected in this part of the Census. A report on this part of the Census has already been printed and distributed. Part II of the Census in which more detailed data were collected was implemented in four phases during the 1991/92 agricultural season. In Phase I, a **sampling frame** of agricultural households was created as a basis for selecting a sample for Part II of the Census. Phase II collected structural type and 1990/91 post-harvest data. In Phase III, area and yield measurements, 1991/92 crop forecasting and some agricultural experiments were carried out. Phase IV collected more structural-type and 1991/92 post-harvest data.

This report gives the structural type and 1991/92 post-harvest data collected on small scale and medium scale holders. For large scale holders, separate reports have been written. In addition to the general Census reports, two specialized reports have been written on "**Women in Agriculture**" and "**A Statistical Profile on Agro-ecological Zones in Zambia**". There is scope for more specialised reports to be written using Census data.

We would like to take this opportunity to mention that as part of the Census of Agriculture activities, a **national agricultural data base (ZAMSTAT)** has been established with facilities for up-dating, consistency checks and retrieval of data in various forms suited to the needs of internal and authorized external users.

We would like to express our gratitude, first and foremost to The Government of The Netherlands and to the FAO for financial and technical assistance, and to the Government of the Republic of Zambia for making funds available for different Census activities. Without the combined support of the donor and the Government, this Census would not have been carried out. We would also like to express our gratitude to all institutions and individuals whose individual or collective contribution made it possible to design and successfully implement the Census programme. We would like to single out for mention the following individuals: Mr. P. Hamakona, Assistant Director and Head of the Agriculture and Environment Branch; Mr. Y. Phiri who until his untimely death in April 1992 was the Census of Agriculture Coordinator, Head of the Census Secretariat and Assistant Director responsible for Agriculture and Environment Division; Prof. B. Kiregyera, the FAO Statistical Adviser for his invaluable contribution to the design and implementation of the whole Census programme and various agricultural surveys, and for analysing data and writing this report; the late Mr. M. D. Simusonkwe who was the **Head of Agriculture and Environment Division** and the **Coordinator of Documentation Task Force** until his untimely death in April, 1993; Mr. A. C. Phiri then the **Coordinator of Field Strategies Task Force** and **Head of the Agriculture and Environment Division** from July to December, 1993; Mr. K. Chipako, the **Head of Data**

**Processing Unit (until September, 1993) and Coordinator of Data Processing and Data Base Management Task Force; Messrs J. V. Chanda (Programmer), M. D. Simwizyi (Statistician) and M. Sooka (Statistician), late C. Chitalima (Senior Agriculture Statistician), C. Nyasulu (Senior Statistical Officer). I would like to also acknowledge the roles played by the various census committees in the implementation of the Census of Agriculture programme.**

Unfortunately the country lost three of its experienced agricultural statisticians during the Census period - Mr. Y. Phiri who was until his death in March, 1992 the Assistant Director in charge of Agriculture and Environment Branch of the CSO; Mr. M.D. Simusonkwe who until his death in May, 1993 was Head of Agricultural Division and Mr. C. Chitalima who was the Head of Statistics Section in The Ministry of Agriculture, Food and Fisheries until his death in March, 1993. We acknowledge the invaluable contribution these officers made to the design of the Census programme.

We would also like to express our gratitude to our field personnel - the Provincial Statistical Officers, Field Supervisors, Enumerators and other field personnel whose untiring effort led to successful execution of field activities sometimes in difficult circumstances.

**DAVID S. DIANGAMO**

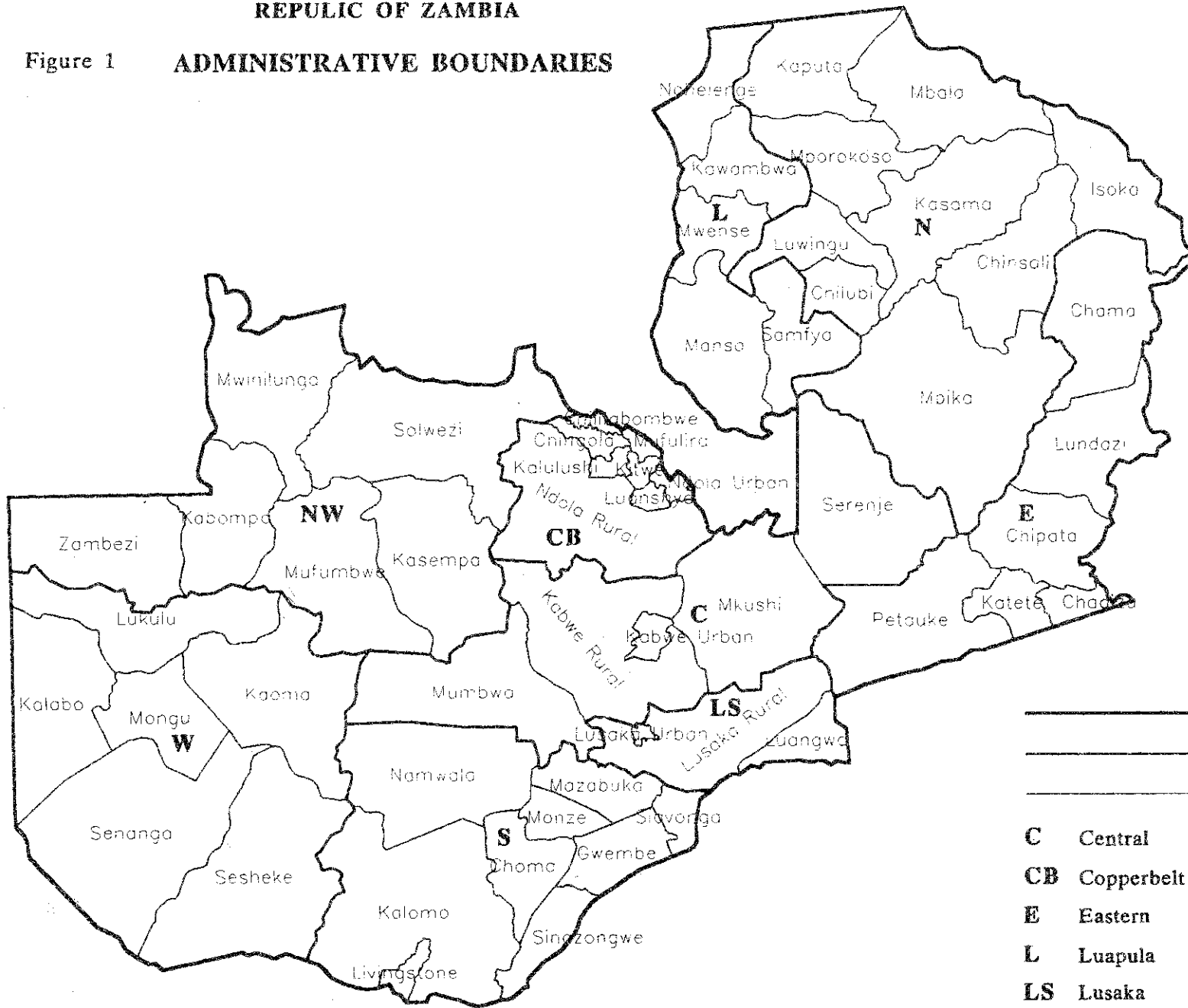
**DIRECTOR OF CENSUS AND STATISTICS**

**Lusaka**

**December, 1994**

REPUBLIC OF ZAMBIA

Figure 1 ADMINISTRATIVE BOUNDARIES



- Legend**
- National Boundary
  - ==== Provincial Boundary
  - District Boundary
- |                      |                         |
|----------------------|-------------------------|
| <b>C</b> Central     | <b>S</b> Southern       |
| <b>CB</b> Copperbelt | <b>W</b> Western        |
| <b>E</b> Eastern     | <b>NW</b> North-Western |
| <b>L</b> Luapula     | <b>N</b> Northern       |
| <b>LS</b> Lusaka     |                         |



# CONTENTS

	Page
Foreword . . . . .	(i)
Administrative Map of Zambia . . . . .	(iii)
Table of Contents . . . . .	(v)
Acronyms . . . . .	(vii)
List of Figures . . . . .	(viii)
List of Tables . . . . .	(ix)
Executive Summary . . . . .	(xiv)
Organization of the Report . . . . .	(xxx)

## PART ONE: INTRODUCTION

### Chapter 1: General Background

1.1	Introduction . . . . .	1
1.2	Census Objectives . . . . .	2
1.3	Census Scope and Coverage . . . . .	3
1.4	General Concepts and Definitions . . . . .	4
1.5	Summary of Census Design and Technical Management . . . . .	10

## PART TWO: MAIN CENSUS RESULTS AND EXPERIENCES

### Chapter 2: Main Results and Discussions

2.1	Introduction . . . . .	21
2.2	Characteristics of Holders . . . . .	21
2.3	Characteristics of Holdings . . . . .	24
2.4	Crops Production and Sales . . . . .	25
2.5	Fruits . . . . .	32
2.6	Vegetables . . . . .	32
2.7	Livestock Inventory . . . . .	33
2.8	Poultry Inventory . . . . .	36
2.9	Fish Farming . . . . .	37
2.10	Farm Input . . . . .	38
2.11	Farm Employment . . . . .	38
2.12	Draught Animals and Implements . . . . .	39
2.13	Farm Expenses . . . . .	42

### Chapter 3: Census Evaluation

3.1	Importance of Census Evaluation . . . . .	44
3.2	Achievement of Objectives . . . . .	44
3.3	Quality of Census Data . . . . .	46

### Chapter 4: Experiences, Problems and Constraints

4.1	Introduction . . . . .	52
4.2	Determinants of the Success of a Census of Agriculture Programme . . . . .	52
4.3	Other experiences, problems and constraints . . . . .	55

**PART THREE: APPENDIXES**

Appendix I:	Detailed Statistical Tables . . . . .	63
Appendix II:	Sampling Errors . . . . .	146
Appendix III:	Census Secretariat . . . . .	158
Appendix IV:	Major Census Activities . . . . .	159
Appendix V:	Census Questionnaire (CA91Q2A) . . . . .	160
Appendix VI:	Distribution of Materials from Headquarters (CA9101) . . . . .	187
Appendix VII:	Return of Materials from Headquarters (Form CA9102) . . . . .	188
Appendix VIII:	Distribution of Materials to Districts (Form CA9103) . . . . .	189
Appendix IX:	Return of Materials from Districts (Form CA9104) . . . . .	190
Appendix X:	Distribution of Materials to Individual Enumerators (Form CA9105) . . . . .	191
Appendix XI:	Distribution of Materials to Enumerators (Form CA9106) . . . . .	192
Appendix XII:	Observation Checklist (Form CA9107) . . . . .	193
Appendix XIII:	Spot-Check Report (Form CA9108) . . . . .	194

## ACRONYMS

---

<b>CSA</b>	Census Supervisory Area
<b>CSO</b>	Central Statistical Office
<b>FAO</b>	Food and Agriculture Organization of the United Nations
<b>NHSCP</b>	National Household Survey Capability Programme
<b>PFO</b>	Permanent Field Organization
<b>PSO</b>	Provincial Statistical Officer
<b>PSU</b>	Primary Sampling Unit
<b>SSU</b>	Secondary Sampling Unit
<b>ZAMSTAT</b>	Zambia Computer Based Statistical Information System (Data bank)



## LIST OF FIGURES

---

Figure No.		Page
1.1	Census Organisation at Headquarters . . . . .	12
1.2	Level of Supervision . . . . .	15
1.3	ZAMSTAT System Flow . . . . .	19
2.1	Number of Holders By Number of Fields Operated . . . . .	24
2.2	Number of Holders By Agricultural Activity By Province. . . . .	25
2.3	Yield Reduction Due to Drought. . . . .	26
2.4	Holders Raising Livestock . . . . .	33
2.5	Holders Raising Poultry . . . . .	36

# LIST OF TABLES

---

## (a) In body of Report

Table No.		Page
1.2	Sample Structure for the Census . . . . .	16
2.0	Number of Holders by Agricultural Activity By Province . . . . .	23
2.1	Percentage of Women Participating in Different Agricultural Activities . . . . .	24
2.2	Yield Reduction due to Drought . . . . .	26
2.3	Number of Holders Growing Fruits and Number of Trees . . . . .	32
2.4	Number of Cattle by Province . . . . .	34
3.1	Sampling Errors for National Estimates of Selected Variables . . . . .	49

## (b) In the Appendix

Table No.		
1	Number of Households by Sex of Head by Province and District . . . . .	63
2	Number of Rural Households by Sex, Percentage and Mean Age of Head by Province and District . . . . .	64
3	Male Heads of Households by Age Group by Province and District . . . . .	65
4	Female Heads of Households by Age Group by Province and District . . . . .	67
5	Number of Holders by Sex by Type of Agricultural Activity by Province and District . . . . .	69
6	Number of Holders Growing Crops by Number of Parcels Operated by Province and District During 1991/92 Season . . . . .	71
7	Number of Holders Growing Crops by Number of Fields Operated by Province and District During 1991/92 Season . . . . .	73
8	Number of Holders Reporting Area Under Crop, Area Planted During 1991/92 Season and Area Under Crop, Area Planted During 1990/91 Season by Province and District . . . . .	75
9	Total Area Planted to Maize, Area Harvested, Production, Sales, Value of Sales and Retention for Home Consumption During the 1991/92 Season by Province and District . . . . .	77
10	Total Area Planted to Sorghum, Area Harvested, Production, Sales, Value of Sales and Retention for Home Consumption During the 1991/92 Season by Province and District . . . . .	79

11	Total Area Planted to Rice (Paddy), Area Harvested, Production, Sales, Value of Sales and Retention for Home Consumption During the 1991/92 Season by Province and District . . . . .	81
12	Total Area Planted to Millet, Area Harvested, Production, Sales, Value of Sales and Retention for Home Consumption During the 1991/92 Season by Province and District . . . . .	82
13	Total Area Planted to Sunflower, Area Harvested, Production, Sales, Value of Sales and Retention for Home Consumption During the 1991/92 Season by Province and District . . . . .	84
14	Total Area Planted to Groundnuts, Area Harvested, Production, Sales, Value of Sales and Retention for Home Consumption During the 1991/92 Season by Province and District . . . . .	85
15	Total Area Planted to Soyabeans, Area Harvested, Production, Sales, Value of Sales and Retention for Home Consumption During the 1991/92 Season by Province and District . . . . .	87
16	Total Area Planted to Mixed Beans, Area Harvested, Production, Sales, Value of Sales and Retention for Home Consumption During the 1991/92 Season by Province and District . . . . .	89
17	Total Area Under Cassava, Area Ready for Harvest, Production, Value of Sales During the 1991/92 Season by Province and District . . . . .	91
18	Total Area Planted to Irish Potatoes, Area Harvested, Production, Sales, Value of Sales and Retention for Home Consumption During the 1991/92 Season by Province and District . . . . .	92
19	Total Area Planted to Sweet Potatoes, Area Harvested, Production, Sales, Value of Sales and Retention for Home Consumption During the 1991/92 Season by Province and District . . . . .	93
20	Total Area Planted to Virginia Tobacco, Area Harvested, Production, Sales and Value of Sales During the 1991/92 Season by Province and District . . . . .	95
21	Total Area Planted to Burley Tobacco, Area Harvested, Production, Sales and Value of Sales During the 1991/92 Season by Province and District . . . . .	96
22	Total Area Planted to Seed Cotton, Area Harvested, Production, Sales and Value of Sales During the 1991/92 Season by Province and District . . . . .	97
23	Number of Oranges Trees and Value of Sales During the 1991/92 Season by Province and District . . . . .	98
24	Number of Tangerine Trees and Value of Sales During the 1991/92 Season by Province and District . . . . .	99

25	Number of Grape Fruit Trees and Value of Sales During the 1991/92 Season by Province and District . . . . .	100
26	Number of Banana Stands and Value of Sales During the 1991/92 Season by Province and District . . . . .	101
27	Number of Holders Reporting Growing Vegetables for Sale, Value of Sales During the 1991/92 Season by Province and District . . . . .	102
28	Number of Holders Reported Raising of Cattle, Pigs 1 Years and Old, Pigs Less 1 Year, Goats and Sheep by Province and District . . . . .	111
29	Number of Livestock Held by Type by Province and District . . . . .	112
30(a)	Number of Cattle Held by Type, Births, Purchases, Receipts, Sales, Slaughters and Losses During the 1991/92 Season by Province and District . . . . .	113
30(b)	Number of Cattle Held by Type, Births, Purchases, Receipts, Sales, Slaughters and Losses During the 1991/92 Season by Province and District (Continued)	115
31(a)	Pigs One Year and Older: Number Held, Purchases/Barters, Receipts, Sales/Barters, Slaughters, Home Consumption, Gifts and Losses During the 1991/92 Season by Province and District . . . . .	117
32(a)	Goat: Number Held, Purchases/Barters, Receipts, Sales/Barters, Slaughters, Home Consumption, Gifts and Losses During the 1991/92 Season by Province and District . . . . .	118
32(b)	Goat: Number Held, Purchases/Barters, Receipts, Sales/Barters, Slaughters, Home Consumption, Gifts and Losses During the 1991/92 Season by Province and District (Continued) . . . . .	119
32(c)	Goat: Number Held, Purchases/Barters, Receipts, Sales/Barters, Slaughters, Home Consumption, Gifts and Losses During the 1991/92 Season by Province and District (Continued) . . . . .	120
33(a)	Sheep: Number Held, Purchases/Barters, Receipts, Sales/Barters, Slaughters, Home Consumption, Gifts and Losses During the 1991/92 Season by Province and District . . . . .	122
33(b)	Sheep: Number Held, Purchases/Barters, Receipts, Sales/Barters, Slaughters, Home Consumption, Gifts and Losses During the 1991/92 Season by Province and District (Continued) . . . . .	123
34	Production and Sales of Skins and Hides by Livestock type During 1991/92 Season by Province and District . . . . .	124
35	Chickens: Number Held, Sales and Value of Sales During the 1991/92 Season by Province and District . . . . .	125

36	Ducks: Number Held, Sales and Value of Sales During the 1991/92 Season by Province and District . . . . .	126
37	Turkeys: Number Held, Sales and Value of Sales During the 1991/92 Season by Province and District . . . . .	127
38	Guinea Fowls: Number Held, Sales and Value of Sales During the 1991/92 Season by Province and District . . . . .	128
39	Fish Farming: Number of Ponds, Fish Catch by Number and Weight, Number of Operational Ponds During the 1991/92 Season by Province and District	129
40	Number of Permanent Employees, Household Members and Casual Workers Worked on Holding, Wages/Salaries Paid During the 1991/92 Season by Sex by Province and District . . . . .	130
41	Farm Inputs: Quantity of Seed/Seedlings Purchased, Value of Purchases, Quantity of Seed/Seedlings Used and Value of Seed/Seedlings Used During 1991/92 Season by Province and District . . . . .	132
42	Chemical Fertilizers: Quantity Purchased, Value of Purchases, Quantity Used and Value of Chemical Fertilizers Applied During 1991/92 Season by Province and District . . . . .	134
43	Draught Animals: Number Held, Number Purchased, Value of Purchases, Number Sold and Value of Sales During the 1991/92 Season by Province and District . . . . .	135
44	Animal Drawn Ploughs: Number Held, Number Purchased, Value of Purchases, Number Sold and Value of Sales During the 1991/92 Season by Province and District . . . . .	136
45	Animal Drawn Harrows: Number Held, Number Purchased, Value of Purchases, Number Sold and Value of Sales During the 1991/92 Season by Province and District . . . . .	137
46	Animal Drawn Cultivators: Number Held, Number Purchased, Value of Purchases, Number Sold and Value of Sales During the 1991/92 Season by Province and District . . . . .	138
47	Animal Drawn Planters: Number Held, Number Purchased, Value of Purchases, Number Sold and Value of Sales During the 1991/92 Season by Province and District . . . . .	139
48	Animal Drawn Ridgers: Number Held, Number Purchased, Value of Purchases, Number Sold and Value of Sales During the 1991/92 Season by Province and District . . . . .	140

49 Animal Drawn Ox-Carts: Number Held, Number Purchased, Value of Purchases, Number Sold and Value of Sales During the 1991/92 Season by Province and District . . . . . 141

50 Animal Drawn Sledges: Number Held, Number Purchased, Value of Purchases, Number Sold and Value of Sales During the 1991/92 Season by Province and District . . . . . 142

51 Animal Drawn Trailers: Number Held, Number Purchased, Value of Purchases, Number Sold and Value of Sales During the 1991/92 Season by Province and District . . . . . 143

52 Farm Expenses: Expenditure on Repair of Farm Machinery, Expenditure on Hire of Farm Machinery and Expenditure on Transportation of Produce to Market During the 1991/92 Season by Province and District . . . . . 144

## EXECUTIVE SUMMARY

---

A National Census of Agriculture was carried out during the period 1990-92, some twenty years after the first agricultural census to underpin the national information system for food security and thereby improve the capacity of Government to design, implement and monitor agricultural policies and rural development plans and programmes.

The Census was conducted by the Central Statistical Office in collaboration with the Ministry of Agriculture, Food and Fisheries and with the assistance of the Government of The Royal Netherlands and the Food and Agriculture Organization of the United Nations. The Census was organized in two parts. Part I which was "piggy-backed" onto the Census of Population and Housing in August/September, 1990, collected limited data on the agriculture sector using 1989/90 agricultural season as reference period. For the first time in the history of census taking in Zambia the Census of Agriculture and the Census of Population and Housing were combined and this engendered enormous benefits to the Census organization. Part II was staggered over the 1991/92 agricultural season and collected detailed data on a sample enumeration basis on this sector.

The Census was carried out to collect data on the structure and organization of the agriculture sector required for planning, decision and policy making for the development of this sector. Determination of the census scope was done through extensive discussions with major data users.

The timing for the Census turned out to be opportune in two respects. Part I of the Census was held before major institutional and policy changes in the agriculture sector were ushered in by the new national Government that came to power in November, 1991. Also Part I of the Census preceded the drought that devastated much of the southern half of the country in the 1991/92 agricultural season. It therefore provided benchmarks against which the impact of both the fore-mentioned changes and policies and the drought will be measured.

In designing the Census programme, cognisance was taken of the need to coordinate its operation with that for the Census of Population and Housing to ensure minimum disruption to other statistical activities and to generate internationally comparable data. Again for the first time in the history of Census taking in the country, census data were processed on micro-computers and not on a main frame computer as was the case previously. An Agricultural Data Base has been established to facilitate management of integrated and harmonized multi-sectoral agricultural data from the Census and surveys as well as access by a variety of authorized users to meet their specific needs.

An evaluation of the Census shows that the Census achieved its stated objectives. Principally, it:

- collected basic data on the structure of the agriculture sector (see highlights below). The data agree with those from other sources. Also for most variables, estimates provided at national level and to a large extent at provincial level, are precise (reliable). However, estimates at district level are not very precise and should be used with a degree of caution.

- contributed immensely to the development of the national capability to build and manage an efficient agricultural statistical system by:
  - ◆ fostering data user-producer interaction and dialogue;
  - ◆ enhancing skills development through training; and
  - ◆ beefing up of the Permanent Field Organization.
- It provided a sampling frame for inter-censal agricultural surveys and led to the development of an agricultural data bank.

Part II of the Census was carried out in four Phases. The following are the highlights of the results from Phase IV on small and medium scale holders. The reference period for many items covered in this phase of the Census was the 1991/92 Agricultural season. During this season, however, Zambia experienced one of the worst droughts in its recorded history.

The drought was caused by failure of rains over much of southern half of the country during the most critical period of crop growth (tasselling and sulking) in the months of January and February, 1992. About 3 million people in 27 districts in Central, Lusaka, Southern and parts of Eastern, Copperbelt and Western Provinces were badly affected by the drought. Crop production failed in these areas, livestock were affected and incomes of holders most of whom derive their incomes from sale of maize and other produce were badly reduced. It was estimated that the drought could have reduced GDP by as much as 27%.

## **I: CHARACTERISTICS OF HOLDERS**

- The number of holders was estimated to be 588,651. Of these holders, 462,826 or 79% were males and 125,825 or 21% were females.
- The percentage of female holders was lowest in Copperbelt Province (16%), Lusaka Province (16%), Southern Province (19%). Central Province (19%) and Luapula Province (20%).
- The median age of male holders was estimated to be 44 while that of female holders was estimated to be 47. Female holders were, therefore, on average, three years older than their male counterparts.
- Of the estimated number of male holders of rural households, about 18% were below the age of 25, 44% were below the age of 35 and 64% were below the age of 45.
- Of the estimated number of female holders, about 12% were below the age of 25, 34% were below the age of 35 and about 57% were below the age of 45.
- Of the estimated total number of holders, 574,294 or 97.6% of all holders grew crops, 223,898 or 38% raised livestock, 423,895 or 72% raised poultry while 2,011 or 0.3% did fish farming.
- The distribution of holders in provinces shows that over 94% of the holders in



each province were engaged in growing of crops. Poultry raising was the second dominant agricultural activity with over 70% of holders in each province, except Copperbelt and Western Provinces, raising poultry.

- The percentage of female holders participating in agricultural activities was 21 for crop growing, 13 for poultry raising, 5 for livestock raising and 0.01 for fish farming.

## **II: CHARACTERISTICS OF HOLDINGS**

- An estimated 220,918 holders or 38% had 1 parcel, 153,152 holders or 27% had 2 parcels, 95,146 holders or 17% had 3 parcels while 119,435 holders or 21% had 4 or more parcels. These percentages broadly agree with the results from Phase I of the Census.
- The total number of fields operated during the season was 1,597,499. The number of holders operating 1, 2, 3 and 4 or more fields was estimated to be 96,542 or 17%, 161,542 or 28%, 138,777 or 24% and 191,790 or 33%, respectively.

## **III: CROP PRODUCTION AND SALES**

- Total area under crops during the season was 1,070,699 hectares. Of this area, 964,365 hectares or 90% of the total were planted during the season.

### **Maize (for grain)**

- An estimated 431,288 holders or 73% of the total grew maize for grain. The provinces with the highest number of maize growing holders were Eastern Province with 130,030 or 30% of the total, Southern Province with 63,859 holders or 15%, Central Province with 61,912 holders or 14%, Northern Province with 51,626 holders or 12% and Western Province with 42,616 holders or 10% of the total.
- Area planted to maize was estimated to be 555,162 hectares or 58% of area planted that season. Area harvested was 320,149 hectares or 58% of the area planted to maize that season. Due to the drought experienced during the season, harvested area was much lower than planted area and total production was low.
- Production was estimated at 4,335,193 bags (90kg) of which about 1.7 million bags or 40% was sold and about 2.5 million bags or 60% retained.
- Yield rates were very poor due to the drought. The national average yield was estimated to be 7 bags per hectare as apposed to 21 bags in the previous season.
- The provinces worst hit by the drought were Southern, Central, Lusaka, and

Eastern which experienced 90%, 78%, 69% and 67% reduction in maize yield over the 1990/91 season.

### **Sorghum (for grain)**

- An estimated 71,624 holders or 12% of crop growing holders grew sorghum.
- Area planted was estimated to be 46,979 hectares or 5% of total area planted during the season. Area harvested was 28,194 hectares or 60% of total planted area.
- Production was estimated at 190,885 bags (90 kg) down from 333,355 bags (reduction of 43%) produced in the previous season. 10,488 bags or 5% of total production were sold and 95% of the population retained for home consumption.
- National average yield was 4 bags per hectare down from 7 bags in the previous season. Central, Copperbelt, Luapula, Northern and North-Western provinces had higher yields of 6,8,7,9 and 5 bags per hectare, respectively.

### **Rice (Paddy)**

- Number of holders growing the crop was estimated at 19,190, or 3% of the total. These were mainly in Northern Province, Western Province, Eastern Province and Luapula Province where the estimates were 5,482 holders or 29%, 5,580 holders or 29%, 4,742 holders or 25% and 2,228 holders or 12% of the total, respectively.
- Area planted was estimated to be 11,369 hectares or about 1% of total area planted that season. Total area harvested was 7,711 hectares (32 % reduction from the previous season).
- Production was estimated to be 70,389 bags (80 kg) down to 37% of the production in the previous season. Rice sales were estimated to be 41,857 bags or 59% of total production..
- National average yield was estimated to be 6 bags per hectare down from 13 bags per hectare in the previous season.

### **Millet**

- An estimated 108,613 holders or 19% of the total grew millet. These were mainly in Northern Province, Western Province, Eastern Province and Central Province.
- Area planted to millet was estimated at 46,912 hectares or 5% of total area planted that season. Of this, 35,609 or 76% was harvested.
- Production was estimated to be 265,947 bags (90 kg) down from 437,289 bags produced in the previous season.
- National average yield was estimated at 6 bags per hectare. Luapula Province and Northern Province had higher yields of 7 and 8 bags, respectively.

## **Sunflower**

- Number of holders growing the crop was 30,019 or 5% of the total. Of these, 13,963 holders or 47% were in Southern Province, 8,874 holders or 30% were in Central Province while 5,497 holders or 18% were in Eastern Province.
- Area planted was estimated to be 31,139 hectares or 3% of the total area planted that season while area harvested was 15,035 (52% reduction).
- Production was estimated to be 123,197 bags (50 kg) down by 72% from the production level of the previous season. Out of the production realized, 114,271 bags or 93% of the total were sold and 7% retained.
- The estimated national yield was 4 bags per hectare.

## **Groundnuts**

- The crop was grown mainly in Eastern Province, Central Province, Northern Province and Southern Province by 272,464 holders or 47% of the total.
- The total area under the crop was estimated at 118,196 hectares or 12% of total area planted that season.
- Production was estimated at 286,781 bags (80 kg) down 46% from the previous year's production. From the total production, sales were estimated at 36% and retention at 64%.
- The average national yield was estimated at 2 bags per hectare, down from 4 bags in the previous season.

## **Soya beans**

- Only 14,549 holders or 3% of the total crop growing holders in the country grew the crop.
- Total area planted to the crop was estimated at 8,628 hectares while production was estimated at 30,601 bags (90 kg) down by 60% from previous year's production.
- Total production was 30,601 bags (90 kg) of which about 78% was sold.
- The national average yield was estimated at 4 bags per hectare. Only Luapula, Northern and North-Western provinces had higher average yields of 6, 6, and 8 bags respectively.

## **Mixed Beans**

- The crop was grown mainly in Central Province, Eastern Province, Luapula Province, Northern Province and North-Western Province by an estimated 71,102 holders or 12% of all crop growing holders.
- Total area planted to mixed beans was estimated at 29,366 hectares or 3% of the

total area planted to crops while harvested area was estimated at 27,012 hectares (8% reduction).

- 131,743 bags (90 kg) were produced and an estimated 56% of production was sold.
- The average national yield was 4 bags per hectare.

#### **Cassava**

- Cassava was grown mainly in Luapula, Northern, North-Western and Western Provinces by 201,777 holders or 35% of all crop growing holders.
- Area planted to the crop was estimated at 155,632 hectares or 16% of the total cultivated area to crops.
- Production was estimated at 1,706,897 bags (90 kg).

#### **Irish Potatoes**

- The crop was grown mainly in Central, Eastern, Northern and North-Western provinces by 2,811 holders or 0.5% of all crop growing holders.
- Area planted to was estimated at 992 hectares or 0.1% of the total area cultivated during the season while area harvested was estimated at 767 hectares (23% reduction).
- Production was estimated at 109,312 pockets (10 kg) of which 92,788 packets or 85% were sold and only 15% retained.
- National average yield was 110 pockets (10 kg) per hectare.

#### **Sweet Potatoes**

- Sweet potatoes were grown mainly in Central, Copperbelt, Eastern, Northern and North-Western provinces by 29,486 holders or 5% of all crop growing holders.
- Area planted was estimated at 6,909 hectares or about 1% of the total area cultivated that season.
- An estimated total of about 1,134,876 pockets (10 kg) were produced. Of these, 570,943 packets or 50% of the total were sold.
- National yield was estimated at 164 pockets per hectare.

#### **Tobacco (Virginia)**

- This crop was grown mainly in Central Province, Eastern Province and Southern Province by 1,653 holders or 0.3% of all crop growing holders.

- Area planted was 1,027 hectares.
- Total production was estimated at 621,564 kg. Virtually all the crop was sold.
- National average yield was 605 kg.

#### **Tobacco (Burley)**

- This crop was grown mainly in Eastern Province by 2,505 holders or 92% of those who grew the crop.
- Area planted was estimated at 1,568 hectares.
- Production was estimated at 1.1 million kg. Of this production, 1,061,419 kg or 98% came from Eastern Province. The rest came from Central Province and Southern Province.
- The average national yield was 687 kg per hectare.

#### **Seed Cotton**

- Cotton was grown mainly in Central, Eastern, Lusaka and Southern Provinces by 44,713 or 8% of all the holders.
- Area planted to seed cotton was estimated to be 49,188 hectares or 5% of the total planted area.
- Production was estimated at 23.7 million kilograms.
- National average yield was estimated at 483 kg per hectare.

### **IV: FRUITS**

- Data were collected on the number of holders growing different types of fruits and the estimated number of trees standing in the orchards. Only data on oranges, tangerines, grape fruits and bananas are presented, as data on other fruits were scanty.
- The number of holders growing oranges, tangerines, grape fruits and bananas was estimated to be 1384, 284, 497 and 6161 respectively while the number of trees (stands in the case of bananas) were estimated to be 64299, 7786, 5362 and 425184 respectively.

### **V: VEGETABLES**

In the past, efforts to collect data on area planted to and vegetable production have foundered on account of

- small areas planted (usually less than one lima)
- continuous planting and harvesting.

It was, therefore, decided to collect data on the number of holders reporting growing vegetables for sale and the value of sales during the season.

- The number of holders reporting growing vegetables for sale was estimated to be 80,362. This number is 66% of that of holders who grew vegetables for sale in the previous season. Of these holders, 15,691 or 20% grew rape, 10,902 or 14% grew cabbages, 10,174 or 13% grew tomatoes while 3,779 holders or 5% grew onions.
- The total amount of money realized from sale of vegetables was estimated at about K496 million.

## VI: LIVESTOCK INVENTORY

- The number of holders raising livestock was estimated at 223,898 or 35% of total holders.
- The number of holders raising cattle, pigs (one year and older), pigs (less than one year), goats and sheep was estimated at 115909, 85022, 65417, 113149 and 7347 representing about 30%, 22%, 17%, 29%, and 2% of all livestock raising holders, respectively.

### Cattle

- The estimated number of cattle was about 1,047,167. This estimate is much lower than the estimate of the 1.7 million cattle obtained in Phase I (pre-drought estimate).
- The provinces with the highest number of cattle were Southern Province with 384,109 heads or 37% of the total, Eastern Province with 211,519 heads or 20% of the total, Western Province with 160,515 or 14% of the total and Central Province with 149,271 heads or 14% of the total.
- Of the estimated number of cattle, 461,182 or 44% were cows and heifers, 42,360 or 4% were bulls, 203,342 or 19% were calves, 246,956 or 24% were untrained oxen, 93,327 or 9% were untrained tollies/steers while 249,942 or 24% were trained oxen/trollies/steers.
- The number of cattle held at beginning of the season was 1,362,669. The number of calves born was 224,313, the number purchased was 48,800 while the number received as gifts was 18,781. The money spent on purchase of cattle was K464 million.
- An estimated 93,949 heads of cattle were sold/bartered. The value of sales was one billion Kwacha. An estimated 14,123 were slaughtered for sale and the value of slaughters was K188 million. It is estimated that 11,681 heads of cattle were slaughtered for home consumption, 21,117 were given away as gifts, and 438,779 were lost through death or theft.

## Goats

- The number of goats held at the time of the interview was 674,712.
- The number of goats born during the season was 399,430, the number purchased/bartered was 182,613, while the number received as gifts was 13, 225.
- As estimated 76,088 goats were sold/bartered and the value of sales/barter was about K87 million. The number slaughtered was 15,642 and the value of slaughters was about K17 million. The number of goats slaughtered for home consumption, given away as gifts and lost due to death or theft was 87,975, 12,028 and 133,290, respectively.

## Pigs

- Pigs were raised mainly in Eastern Province and Southern Province.
- The estimated number of holders raising pigs held at the time of interview was 85,022 or 22% of all holders who raised livestock. Of this estimate, 51,007 holders or 60% of the total were in Eastern Province while 12,094 holders or 14% of the total were in Southern Province.
- The number of pigs (one year and older) was estimated at 168,817. Of this estimate, 90,248 pigs or 53% were in Eastern Province, 22,758 pigs or 13% were in Southern Province, 16,555 pigs or 10% were in Northern Province and 14,914 pigs or 9% were in Central Province.
- The number of pigs purchased/bartered was 22,236 and the number received as gift was 7,111. The number of pigs sold/bartered were estimated at 57,903, the number slaughtered for sale was 14,998, the number slaughtered for home consumption was 35,437, the number given away was 6,760 while the number lost through sickness, death and theft was 88,437.
- The number of pigs less than one year held at the time of interview was estimated to be 257,767.
- The number born during the season was 426,423, number purchased/bartered was 11,768 and number received as gifts was 4,251.
- On the other hand, the number sold/battered was 21,710, number slaughtered for sale was 2,349, number slaughtered for home consumption was 16,022, number given away was 7,825 while number lost through sickness, deaths and theft was 127,156.

## Sheep

- The number of sheep held at the time of interview was estimated at 37,027.
- The number born, purchased/bartered and received as gifts was 18547, 3752 and 1232, respectively. The value of purchases was estimated at about K9 million.

