



# **Agricultural Censuses and Gender**

**LESSONS LEARNED IN AFRICA**

September 2005



**Regional Office for Africa  
Food and Agriculture Organization  
of the United Nations**



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## FOREWORD

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The production and use of accurate gender-disaggregated data are a key area of intervention for the Food and Agriculture Organization of the United Nations. They are considered an essential step for the elaboration of sustainable development programmes, crucial for genuine gender mainstreaming, and a powerful way to combat the persisting invisibility of rural women. Only gender mainstreaming can ensure that attention to gender equality is a central part of all agriculture and rural development interventions.

Over the past two decades, much progress has been observed in the production and use of gender-specific agricultural statistics. Governments have shown an increased commitment to address gender concerns in their agricultural development programmes and policies. In addition, users and producers of statistics have become more aware of the importance of producing and using gender-disaggregated agricultural statistical data for the planning, implementation, monitoring and evaluation of sound, effective and sustainable agricultural development policies and programmes. This has resulted in an increased demand for and integration of gender concerns into national agricultural censuses and surveys.

It is against this background that the FAO Statistics Division and the FAO Gender and Development Service developed the idea to document experiences of selected African countries with regard to the integration of gender concerns into their agricultural censuses in a *Lessons Learned* document. The experiences highlighted in this document have been based on the outcomes of case studies undertaken in Mozambique, Namibia and Senegal, and information obtained from Burkina Faso, Cameroon, Guinea and Lesotho.

The case studies show that differences exist in the ways and extent that gender concerns have been integrated into agricultural censuses conducted in Africa. Some countries have started acknowledging the need to produce gender-disaggregated agricultural statistical data whereas others have already mainstreamed gender into all aspects of agricultural data production. The case studies have also provided valuable insight into statistical concepts and methods used to enhance the availability of gender-disaggregated data.

It is expected that this document will prove useful for both users and producers of agricultural statistical data in the region and elsewhere, promoting an enhanced production and use of gender-disaggregated agricultural statistical data and further integration of gender concerns into agricultural censuses and surveys.

## ACKNOWLEDGEMENTS

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A word of thanks goes to all governments, institutions and individuals who helped with the development of these case studies or provided other statistical data highlighted in this document. Besides, the author recognizes the valuable assistance provided by selected data producers in Burkina Faso, Cameroon, Lesotho and Guinea, who have provided free access to their agricultural data supporting the findings of the case studies.

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Caroline M.J. Brants

## ACRONYMS

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AAS	Annual Agricultural Survey (Namibia)
AFCAS	African Commission on Agricultural Statistics
ENSA	National Agricultural Statistical Survey/ Enquête nationale des Statistiques agricoles (Burkina Faso)
EPA	Annual Agricultural Survey / Enquête Permanente Agricole (Burkina Faso)
ESS	FAO Statistics Division
FAO	Food and Agriculture Organization of the United Nations
FAO-RAF	FAO Regional Office for Africa
MAWRD	Ministry of Agriculture, Water and Rural Development (Namibia)
NAC	Namibia Agricultural Census
PROAGRI	National Agricultural Development Plan (Mozambique)
SDWW	FAO Gender and Development Service
WCA	World Census of Agriculture
WCA 2010	World Programme for the Census of Agriculture 2010

### **Definitions of gender-related concepts used in this document**

*Gender* refers to the economic, social, political and cultural attributes and opportunities associated with being male or female, whereas *sex* refers to the biological differences between men and women. While biological differences hardly change the social roles and responsibilities ascribed to men and women may vary from one society to another and may change over time. *Sex-disaggregated data* refer to the collection of data by physical attributes, whereas *gender-disaggregated data* are analytical indicators derived from sex-disaggregated data on social and economic attributes. These concepts are used interchangeably, although this is not correct from a technical point of view. *Gender statistics* refer to sex-disaggregated data that reflect observed gender relations.

## EXECUTIVE SUMMARY

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This document highlights lessons learned in Africa with regard to the integration of gender concerns into agricultural censuses and provides recommendations on how to further improve the integration of these concerns into agricultural data collection systems.

Past policies for agricultural development often focused on production growth while overlooking the importance of human resources, as well as the social and welfare aspects of agricultural development. By the late 1980s this started changing as more evidence became available of the importance of human capital to sustainable agricultural development. Moreover, users and producers of agricultural statistics increasingly noted that agricultural statistics all too often did not reflect the actual roles and responsibilities of women in agricultural production. This led to a first increase in demand for the production of accurate and up-to-date socio-economic and gender-disaggregated data through agricultural censuses and surveys for the planning, implementation, monitoring and evaluation of agricultural development policies and programmes geared towards the sustainable development of the agricultural sector.

The production of gender-disaggregated agricultural data has improved over the past two decades as a result of:

- increased concerns among governments about the lack of gender-disaggregated agricultural data and their increased willingness and commitment to address this problem;
- an increased awareness among users and producers of statistics of the usefulness of such data for the development of effective agricultural policies and programmes;
- an increased need for such data due to political changes and to be able to respond effectively and appropriately to emerging issues affecting the organizational structure of the agricultural sector and its labour force;
- technical support provided in the field of gender and statistics.

The following valuable insights were obtained with regard to the integration of gender concerns into agricultural censuses from case studies conducted in Mozambique, Namibia and Senegal, and information obtained from Burkina Faso, Cameroon, Guinea and Lesotho:

- A further substantial increase of the **demand for gender-disaggregated agricultural data** is needed if gender concerns are to be effectively mainstreamed into agricultural censuses and surveys. Ideally, this demand is obtained from data users through user-producer collaboration and interaction. At the same time, data producers must be made aware that the collection and analysis of gender-disaggregated data can be achieved with commonly used statistical methodologies and without substantial extra work or costs.
- The production of gender-disaggregated agricultural data is positively linked to whether **gender concerns have been integrated into the planning and design of agricultural censuses**. The incorporation of gender concerns into the scope and objectives of the census justifies not only the collection of gender-disaggregated agricultural data, but also all other actions related to the production and analysis of such data.
- Agricultural censuses may fail to accurately highlight existing gender interactions, disparities and inequalities in the agricultural sector due to gender biases resulting from the way that concepts and definitions are used. This has called for an **adjustment of a number of concepts and definitions used** such as the *head of household* and the *head of holding and/or the introduction of new concepts* such the *sub-holding* and the *sub-holder*. In some cases, gender biases can be reduced by highlighting possible pitfalls during training sessions, sensitizing respondents on the importance of both men's and women's work and assets in agricultural production, and interviewing various household members, not only the head of the household, to collect data on small-scale agricultural production units.
- **Capacities of statisticians need to be strengthened in order to produce gender-disaggregated agricultural data**. The production of gender statistics is a dynamic field in which new options for gender-specific data collection are developed and new needs and demands established. Statisticians require a good understanding of gender concepts and gender analytical tools for data collection, processing, analysis and dissemination if they

are to adapt to such changes. Furthermore, they need to be able to question the gender-disaggregated data that they collect in order to produce meaningful information for planning purposes. Training programmes and instruction manuals should address these issues.

- The roles and responsibilities of male and female farmers in the agricultural sector have become more apparent as a result of an **increased collection and analysis of gender-disaggregated data** in particular when presented at sub-national level. Moreover, these data have enabled policy-makers and planners to design appropriate programmes and policies for those who are most actively involved in farming activities. The demand for sub-national data has increased considerably over the past decade due to political changes, such as the decentralization of decision-making and the increased stakeholder participation in planning and decision-making processes.
- The **analysis and presentation of gender-disaggregated agricultural data** strongly depend on the extent to which gender concerns have been taken into account in the planning and design stages of the census. They also depend on the abilities of statistics producers to analyse the data from a gender perspective and whether there has been an explicit demand for a gender analysis of collected data. Considerable amounts of sex-disaggregated data can still be obtained through re-tabulations of agricultural statistics available from past agricultural censuses that have not yet been analysed due to a lack of human and/or financial capacity at the time of data collection.
- Statistics producers need to explore different ways **to disseminate gender-disaggregated agricultural data** in a flexible and more user-friendly manner. The use of modern data dissemination tools and techniques such as the Internet and CD-ROMs has significantly improved the availability of statistical data for users who are computer literate and have access to computers and the Internet.
- The **capacities of data users need to be strengthened to allow for a better use of gender-disaggregated agricultural data**. Statistics users need to be trained in the correct use of gender-disaggregated agricultural data for planning, design, monitoring and evaluation purposes. They also require a clear idea of the prerequisites of statistics production to enable them to formulate appropriate requests and to provide feedback on how they use statistics in their work and how suitable the collected data have been. An increase in the use of gender-disaggregated agricultural data will contribute to greater production of such data.

The production and use of gender-disaggregated agricultural data has increased significantly in the past two decades. Nonetheless, challenges still remain as governments, development partners and international organizations continue to identify ways to harmonize the use of definitions and concepts, address complex gender issues, strengthen the capacities of data users and producers to address gender issues, improve user-producer collaborations, and secure funds for the production, analysis and presentation of sub-national data.

## RESUME ANALYTIQUE

Ce document présente les leçons apprises en Afrique sur l'intégration des questions du genre dans les recensements agricoles. Il propose un certain nombre de recommandations susceptibles de favoriser une meilleure intégration de la dimension genre dans les systèmes de collecte de données agricoles.

Dans le passé, les politiques de développement agricole mettaient surtout l'accent sur la croissance de la production, sous-estimant l'importance des ressources humaines et la dimension sociale du développement agricole. Vers la fin des années 1980, néanmoins, cette situation a commencé à changer car il devenait de plus en plus évident que le capital humain était important pour le développement agricole durable. En outre, les utilisateurs et les producteurs des statistiques agricoles se sont rendus compte que les données agricoles ne reflétaient de manière adéquate les rôles et les responsabilités des deux sexes, surtout des femmes dans la production agricole. Ceci a d'abord suscité une demande croissante pour la production de données socio-économiques fiables, actualisées et différenciées par sexe par le biais de recensements et enquêtes agricoles pour la planification, la mise en œuvre, le suivi et l'évaluation des politiques et programmes agricoles en vue de promouvoir le développement durable du secteur agricole.

La production de statistiques agricoles différenciées par sexe a donné de meilleurs résultats au cours des deux dernières décennies grâce aux facteurs suivants :

- les gouvernements ont constamment exprimé beaucoup d'inquiétudes à propos de l'absence de données agricoles différenciées par sexe et ont manifesté la volonté et la détermination de solutionner le problème ;
- les utilisateurs et les producteurs des statistiques sont devenus beaucoup plus conscients de l'importance de ces données pour l'élaboration de politiques et programmes agricoles efficaces ;
- la demande croissante pour ces données, qui résulte des changements de politiques et du besoin de répondre effectivement et de manière appropriée aux nouveaux défis liés à la structure organisationnelle du secteur et de la main-d'œuvre agricole ; et
- l'appui technique dans le domaine du genre et statistique.

Les informations importantes ci-après ont été obtenues dans le contexte de l'intégration de la dimension genre dans les recensements agricoles, à partir des études de cas entreprises au Mozambique, en Namibie et au Sénégal et des informations provenant du Burkina Faso, du Cameroun, de la Guinée et du Lesotho :

- Une plus forte augmentation de la **demande en les données agricoles différenciées par sexe** pourrait favoriser de manière significative l'intégration des questions du genre dans les recensements et enquêtes agricoles. Une telle demande est normalement obtenue des utilisateurs d'informations à travers la collaboration et les interactions entre utilisateurs et producteurs de données. En même temps, les producteurs de données doivent être sensibilisés sur le fait que la collecte et l'analyse des données différenciées par sexe peuvent se faire avec les méthodes statistiques habituelles et sans aucun coût et ni travail supplémentaire.
- La production de données agricoles différenciées par sexe est étroitement liée au fait que **la dimension genre a été prise en compte dans la planification et la conception des recensements agricoles**. L'intégration des questions du genre dans le cadre et les objectifs du recensement justifie, non seulement la collecte des données différenciées par sexe, mais aussi toutes les autres actions relatives à la production et à l'analyse de telles données.
- Les recensements agricoles pourraient souligner insuffisamment les interactions, les disparités et les inégalités entre les sexes dans le secteur agricole en raison de certaines tendances discriminatoires liées à l'interprétation et à l'application des divers concepts et définitions. Cette situation a occasionné la **réadaptation de certains concepts et définitions couramment utilisés** (tels que *le chef de ménage* et *le chef de l'exploitation*) **ou bien à l'introduction de nouveaux concepts** (comme ceux de la *sous-exploitation* ou du *sous-exploitant*). Dans certains cas, la discrimination entre les sexes peut être évitée en

identifiant les écueils possibles au cours des séances de formation, en sensibilisant les répondants sur l'importance du travail et des actifs des hommes tout comme des femmes dans la production agricole et en interviewant les différents membres de la famille et non seulement le chef du ménage.

- Il y a lieu de **renforcer les capacités des statisticiens pour la production des données différenciées par sexe**. La production des données sur le genre est un domaine dynamique dans lequel de nouvelles méthodologies de collecte d'informations spécifiques sont mises au point et de nouveaux besoins et demandes sont identifiés. Pour pouvoir s'adapter à ces changements et y répondre efficacement, les statisticiens ont besoin de bien maîtriser les concepts et les outils analytiques pour la collecte, le traitement, l'analyse et la diffusion des données sur le genre. Ils doivent en outre être en mesure de se poser des questions sur les données différenciées par sexe qu'ils recueillent en vue de produire des informations pertinentes pour la planification des actions. Les programmes de formation et les manuels d'instruction doivent prendre en compte ces questions.
- Les rôles et les responsabilités des hommes et des femmes oeuvrant dans le secteur de l'agriculture se sont avérés de plus en plus évidents grâce à **la collecte et à l'analyse accrues des données différenciées par sexe** en particulier quand elles sont présentées au niveau sous - national. Ces données ont par ailleurs permis aux décideurs et aux responsables de la planification d'élaborer des politiques et des programmes appropriés à l'intention de ceux qui sont activement engagés dans les activités agricoles. La demande pour les données au niveau sous - national a considérablement augmenté au cours des dix dernières années en raison des changements politiques, tels que la décentralisation de la prise de décisions et la participation accrue des partenaires aux processus de planification et de prise de décision.
- **L'analyse et la présentation des données agricoles par sexe** dépendent largement de la manière dont les questions du genre ont été prises en compte lors des étapes de planification et de conception du recensement. Elles dépendent également, d'une part, de l'aptitude des producteurs de données à analyser les données selon la perspective du genre, et d'autre part, de l'existence d'une demande explicite pour une analyse différenciée par sexe des données obtenues. Un volume important de données différenciées par sexe peut toujours être obtenu en retraitant les statistiques obtenues lors des recensements précédents et qui, faute de capacités humaines ou financières n'ont entre temps pas encore été analysées.
- Les producteurs des données doivent rechercher différents moyens pour simplifier **la diffusion des données différenciées par sexe** afin de les rendre faciles à utiliser. L'utilisation d'outils et des techniques modernes de dissémination des données, tels que l'internet et les CD-ROMs a beaucoup facilité la disponibilité des données pour les utilisateurs qui savent exploiter les outils informatiques et qui ont accès à l'Internet.
- **Les capacités des utilisateurs de données doivent être renforcées en vue d'une meilleure exploitation des données agricoles différenciées par sexe**. Ceux qui utilisent les statistiques doivent être formés en matière d'utilisation appropriée des données agricoles différenciées par sexe pour des fins de planification, de conception, de suivi et d'évaluation. Ils doivent également avoir une idée claire des paramètres de production des statistiques afin qu'ils puissent formuler des demandes appropriées et donner aux statisticiens, du *feedback* sur la manière dont ils appliquent les statistiques dans leur domaine d'intervention et sur la pertinence et l'utilité des données obtenues. Une utilisation accrue des données agricoles différenciées par sexe devrait sans doute promouvoir la production de ce type de données.

Le niveau de production et d'utilisation des données agricoles différenciées par sexe a beaucoup augmenté au cours des deux dernières décennies. Cependant, il reste toujours certains défis à relever comme les gouvernements, les partenaires du développement et les organisations internationales continuent à chercher les voies et moyens pour harmoniser l'utilisation des définitions et concepts, trouver des réponses aux nombreuses questions complexes relatives au genre, renforcer les capacités des producteurs et des utilisateurs des données pour pouvoir mieux aborder les questions du genre, promouvoir une meilleure collaboration entre utilisateurs et producteurs de données et trouver le financement nécessaire pour la production, l'analyse et la présentation des données au niveau sous - national.

# INTRODUCTION

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## Background

Past policies for agricultural development often narrowly focused on product growth while overlooking the importance of human resources as well as the social and welfare aspects of agricultural development. Agricultural statistics mainly focused on economic activities, large-scale production units and the use of production factors, while emphasizing physical outputs such as area, yield and production. Data produced with reference to human resources involved were often limited to a few variables relating to the heads of agricultural holdings/households and demographic characteristics of the agricultural population. While agricultural planners tended to overlook the human factor, social planners tended to overlook the production or market factors related to agricultural development (FAO, 1999a: 9; FAO, 2000: 2; Tempelman and Keita, 2005: 1).

The need for data on the social and human aspects of agricultural development became more pronounced during the late 1980s as evidence became available that human capital was a crucial factor to agricultural development. Agricultural plans and policies formulated on the basis of inadequate information had contributed to a low impact of the policy and planning efforts and the wastage of scarce human, financial and environmental resources. Hence, agricultural planners, policy-makers, statisticians and other stakeholders acknowledged the need for accurate and reliable agricultural statistical data on both human and production factors for the planning, implementation, monitoring and evaluation of agricultural development policies and programmes geared towards the sustainable development of the agricultural sector.

## **An increased need for socio-economic and gender-disaggregated agricultural data**

Users and producers of agricultural statistics expressed a need for more socio-economic and gender-disaggregated agricultural data because agricultural statistics all too often did not reflect the actual contributions made by men and women of different ages to agricultural production and food security. Women's contributions were generally under-reported due to quantitative and qualitative undervaluing of their agricultural work. The Heads of State and Governments highlighted this aspect during the World Food Summit held in Rome in 1996, as reflected in the Rome Declaration on World Food Security and the related Plan of Action. They also indicated that agricultural development policies often did not adequately reflect the needs of women farmers in particular, and even when their needs were taken into account, they often failed to be translated into concrete actions due to the unavailability or inadequate availability of gender-disaggregated data and information. The Heads of State and Governments therefore highlighted the need to improve "the collection, dissemination and use of gender-disaggregated data in agriculture, fisheries, forestry and rural development" (FAO, 1999a: Preface; Tempelman and Keita, 2005: 1).

Political changes observed in many African countries have also contributed to an increased demand for socio-economic and gender-disaggregated agricultural data. Whereas rural development policy used to strongly rely on central governments in the previous decades, policy-makers today face three fundamental changes: (i) the expanding role of the private sector and civil society; (ii) increased decentralization in decision-making, with corresponding demands for more transparency; and (iii) increased stakeholder participation in planning and decision-making at all levels. This implies that governments are shifting from their traditional role of centrally defining rural development policies towards that of providing an enabling environment for rural and agricultural development through the setting of conditions and standards for development and control mechanisms. This new role cannot be performed without having access to a solid and broad statistical information base on rural producers, both landowners and landless farm workers (FAO, 1999a: 7-8; Tempelman and Keita, 2005: 1).

Many governments have also come to realize that socio-economic and gender-disaggregated agricultural data are essential for the planning of appropriate and effective responses to issues such as increasing poverty and food insecurity. The need for gender-disaggregated agricultural

data and information has become even more imperative in the past two decades due to the increased impact of the HIV/AIDS pandemic on the agricultural sector and an increased out-migration, in particular of men from rural areas in search of paid work, leading to a rise in the percentage of *de facto* female farm managers (FAO, 1997: 1; FAO, 1998: 7; Tempelman and Keita, 2005: 1).<sup>1</sup> Both developments affect the structure and organization of the agricultural sector and the gender division of labour within the sector.

## The production of gender-disaggregated agricultural data

Agricultural censuses and surveys are two of the most important sources of gender-disaggregated agricultural data.<sup>2</sup> The two data collection activities are closely related as they both involve the collection of agricultural data from agricultural production units. An agricultural census is best suited for the collection of data on characteristics of agricultural holdings that change only slowly over time due to its decennial frequency. This generally limits the scope of the agricultural censuses to the collection of structural data (such as areas of holding, land use, livestock numbers, use of machinery and farm labour inputs) rather than performance data (such as prices, production, farm costs and farm incomes). Performance data are best collected through frequent sample surveys. Consequently, agricultural censuses may not be able to produce all the required gender-disaggregated agricultural data and more in-depth data may need to be obtained from thematic agricultural surveys. As a result, the World Programme for the 2010 Round of Agricultural Censuses encourages countries to plan such surveys as an integral part of agricultural census planning (FAO, 2005:2-3).

FAO has provided assistance to its member countries since the 1980s in order to enhance their production and use of gender-disaggregated statistics. Common constraints faced by countries include: (i) a lack of adequate concepts, definitions and methods to reflect the different gender roles of men and women across different socio-economic groups and their contributions to agriculture, (ii) stereotypes and biases that make women less visible and prevent survey enumerators and respondents from providing correct and reliable information; (iii) an under-utilization of existing data for gender analysis; and (iv) a lack of communication between producers and users of data (FAO, 2003a: iii). Together with other development partners, FAO has tried to address these constraints by developing training methodologies and tools to enhance the capacities of statistics producers and users to address gender issues (FAO, 2003b: 32). Moreover, efforts have been made to remove gender biases in concepts and definitions used in data collection and/or to promote the use of new insights concerning male and female farmers' contributions to agricultural production (FAO, 1997: 1). FAO has also strongly supported processes leading to increased interactions between data users and producers.

The production of gender-disaggregated agricultural data has increased in the African region over the past two decades<sup>3</sup>, as a result of activities undertaken by national and international organizations in the region. Many African countries<sup>4</sup> have organized national user-producer workshops to determine the overall framework of agricultural statistics, including the availability of gender-disaggregated data, and to raise awareness on the need for such data. The African Commission on Agricultural Statistics (AFCAS), the FAO statutory body for agricultural statistics for the African region, first discussed the need for increased production of gender-disaggregated agricultural data during its 15<sup>th</sup> Session held in Ghana in 1997. The issue was formalized to a

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<sup>1</sup> The growing dominance of women in agricultural production and the simultaneous decrease of men in the sector is often referred to as the *feminization of the agricultural sector*. Men may work off-farm on a daily basis returning to their homes in the evening, or depart for weeks, months or even years. In many of these cases, women become the effective farm managers, even though they usually lack legal authority to sign credit agreements and commit resources.

<sup>2</sup> A census of agriculture is a large-scale, periodic, statistical operation for the collection of quantitative information on the structure of agriculture (FAO, 1995: vi). The main objective of an agricultural census is to provide detailed structural data on agricultural holdings. Moreover agricultural censuses aim to provide benchmarks to improve current crop and livestock statistics and to provide sampling frames for agricultural sample surveys (FAO, 2005: 8).

<sup>3</sup> Reference is made to data collection notably in Benin, Burkina Faso, Cameroon, Côte d'Ivoire, Guinea, Mozambique and Senegal

<sup>4</sup> These countries include Benin, Botswana, Burkina Faso, Côte d'Ivoire, the Gambia, Ghana, Guinea, Lesotho, Mauritania, Niger, Senegal, Togo, Uganda and Zimbabwe.

standing agenda item during the Commission's 16<sup>th</sup> Session in Guinea in 1999, thus providing a good forum for exchanging information on progress made in the region with regard to the integration of gender concerns into agricultural data collection systems.

## Objectives and structure of the document

The production and use of accurate gender-disaggregated data are one of FAO's key areas of support to the development of agricultural statistical data. It is considered an essential step for the elaboration of sustainable development programmes, crucial for genuine gender mainstreaming and a powerful way to combat the persisting invisibility of rural women. Only gender mainstreaming can ensure that attention to gender equality is a central part of all agriculture and rural development interventions (FAO, 2003b: 32). It is within this context that the FAO Statistics Division (ESS) and the FAO Gender and Development Service (SDWW) developed the idea to document experiences of selected African countries on the integration of gender concerns into agricultural censuses.

The objectives of this document are to:

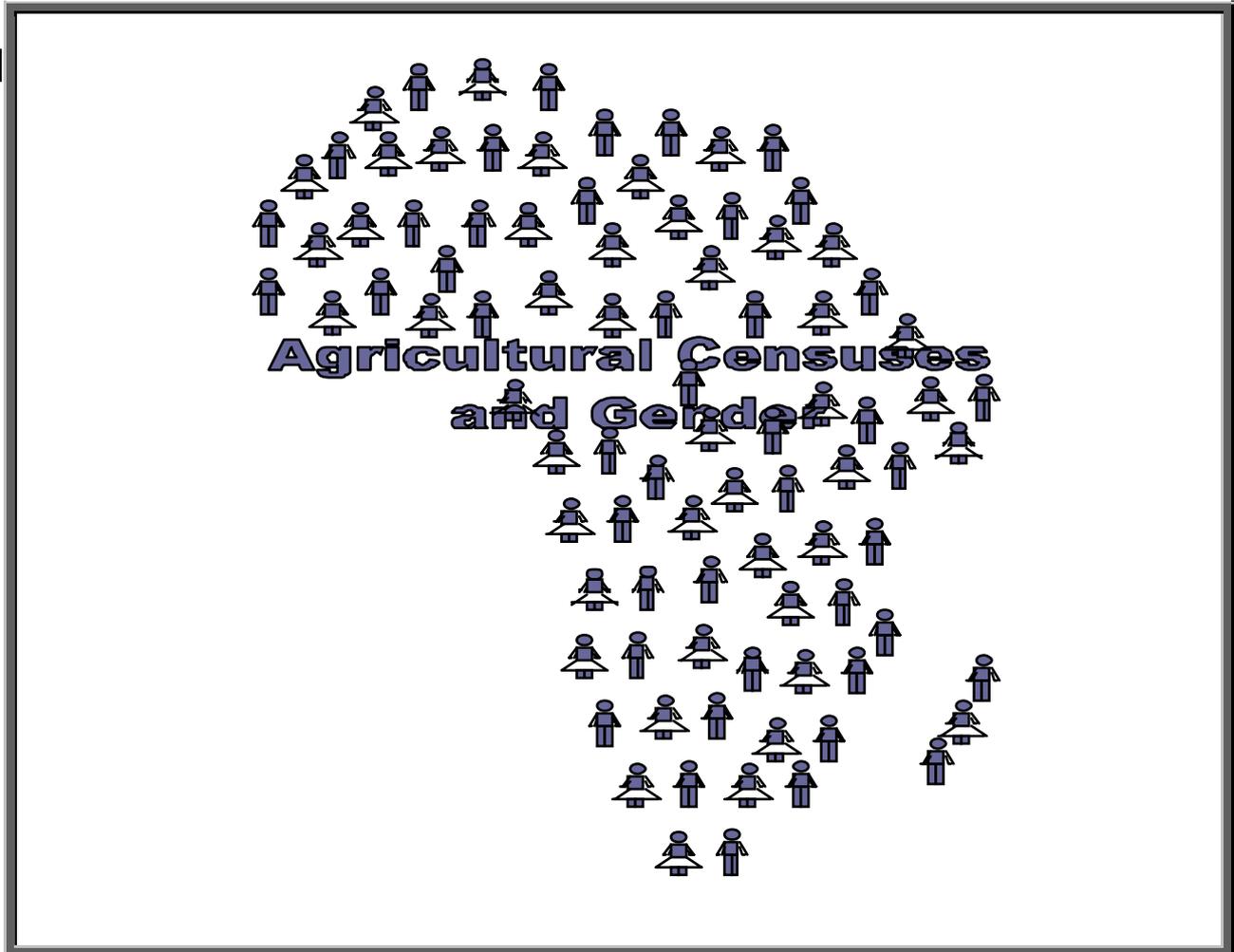
- Share information on **lessons learned** with regard to the integration of gender concerns into agricultural censuses undertaken in the African region in the framework of the 2000 Round of the World Census of Agriculture;<sup>5</sup>
- Further **promote the production and use of gender-disaggregated data** for agricultural and rural development;
- Provide **recommendations** on how to expand the integration of gender concerns in the World Programme for the Census of Agriculture 2010.

This document contains six chapters, presented in two sections. **Part I** focuses on lessons learned in the African region (Chapter 1) with regard to the integration of gender concerns into agricultural censuses and remaining challenges (Chapter 2). Conclusions and recommendations on how to further enhance the integration of gender concerns into agricultural censuses and surveys are presented in Chapter 3. **Part II** highlights the outcomes of case studies undertaken in Mozambique (Chapter 4), Namibia (Chapter 5) and Senegal (Chapter 6) with regard to the integration of gender concerns into national agricultural censuses.

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<sup>5</sup> This ten-year programme (1996-2005) provides updated guidelines to countries on concepts, definitions, classifications and methodologies for conducting agricultural censuses. Through this programme, FAO offers technical assistance to member countries in planning and implementing their agricultural censuses.

# PART I



## LESSONS LEARNED AND REMAINING CHALLENGES

# 1 LESSONS LEARNED

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This chapter highlights lessons learned with regard to the integration of gender concerns into agricultural censuses undertaken in Africa. These censuses were conducted in the framework of the 2000 World Census of Agriculture (WCA).<sup>6</sup> The lessons, highlighted in the grey boxes below, have been drawn based on the outcomes of case studies conducted in Mozambique, Namibia and Senegal, and information obtained from Burkina Faso, Cameroon, Guinea and Lesotho. An overview of the lessons learned is presented at the end of this chapter.

## 1.1 Promoting the demand for gender-disaggregated agricultural data

The production of gender-disaggregated data strongly depends on interactions between the users and producers of agricultural statistics. Ideally, the demand for gender-disaggregated agricultural data comes from data users. Stakeholders involved in agricultural development, such as policy-makers, planners, the general public, national and international development agencies, research institutes and the media all require gender-disaggregated agricultural data.

***Data producers focus more on the collection, compilation, analysis and presentation of gender-disaggregated data when there is a clear demand for such data from data users.***

The 1998/99 Agricultural Census conducted in Senegal produced a considerable amount of gender-disaggregated data based on demands expressed by data users during user-producer workshops organized in the course of the design phase of the census. Some of the requests made could not be accommodated due to their specific nature and complexity (Soumaré, 2002). Similarly, census organizers in Mozambique made special efforts to collect socio-economic and gender-disaggregated data during the 2000 National Census on Agriculture and Livestock due to the fact that the National Agricultural Development Plan (PROAGRI) required gender-disaggregated data for planning, monitoring and evaluation purposes (Diogo and Waterhouse, 2004). In contrast, the 1994/95 Agricultural Census conducted in Namibia did not provide much gender-disaggregated data because the production of such data was not considered a priority for the Central Bureau of Statistics, neither during the planning and development of the Statistics Development Programme for Namibia, nor during the actual implementation of the census. The fact that no requests were received for such data from data users further contributed to the limited quantity of gender-disaggregated data collected (Nantanga-Masudi, 2004).

***The demand for gender-disaggregated data increases when potential users are actively involved in the preparation of the census, including consultative meetings.***

Development planners and policy-makers in Namibia, for example, did not recognize the importance of collecting gender-disaggregated data and its usefulness in development planning at the time that preparations were made for its 1994/95 Agricultural Census (Nantanga-Masudi, 2004). The outcomes could have been different, however, if staff from women's organizations, ministries and/or other organizations using gender-disaggregated data were represented on the Census Planning Committee and/or invited to partake in preparatory workshops, as was the case in Senegal (Soumaré, 2002; FAO, 2003c: 4; FAO, 2004: 5).

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<sup>6</sup> New to the World Census of Agriculture (WCA) 2000 were the integration of gender and environmental issues and the need for geo-referencing data (FAO, 1995: 4/21).

Continuous coordination and collaboration are required between statistics producers and users in order to allow for the articulation of specific data requirements and the effective incorporation of these demands in data collection. Statistic users may be inadequately informed about what data have been and/or can be collected through agricultural censuses and surveys and at times may not be able to accurately indicate the kind of data they require. On the other hand, statistic producers may not be trained to be sensitive to the needs and demands of all potential statistic users.

User-producer workshops have proven to be a very effective forum for bringing together users' demands and the possibilities of producers to meet them. These workshops have served as a catalyst to establish user-producer dialogues. User-producer collaboration can also be furthered through technical committees, expert consultations and a more proactive role of statisticians in policy-making processes (FAO, 1999a: 21-22; FAO, 2004: 5).

Opportunities for expressing gender-specific data demands may need to be created or improved in countries where such demands are lacking or insufficient. This can be accomplished, for example, by:

- creating common understanding among data producers and users on the importance of producing gender-disaggregated agricultural statistics;
- enhancing dialogue between the producers and users of statistics on the need for and use of gender-disaggregated agricultural statistical data;
- improving the knowledge of gender concepts and definitions as well as the capacity for socio-economic and gender analysis of all actors involved in the production and use of statistics;
- increasing the availability of gender-disaggregated data through re-tabulations of existing raw data;
- finding new ways of disseminating data, for example, by developing user-friendly databases allowing for easy-to-do specific tabulations;
- promoting of the use of gender-specific management, monitoring and evaluation systems.

## **1.2 Integrating gender concerns into the planning and design of agricultural censuses**

An agricultural census will only provide a true reflection of who does what, who owns what and who has access to and control over which resources in the agricultural sector when **all** agricultural activities undertaken by **all** farmers are taken into account. Hence, choices made during the planning and design phases on what data to collect and tabulate strongly affect the outcomes of the census.

***The production of gender-disaggregated agricultural data is positively linked to whether specific references are made to the need for gender-disaggregated information in the objectives of agricultural censuses.***

The case studies revealed that the integration of gender concerns into the objectives of agricultural censuses is of crucial importance to ensure the production of gender-disaggregated agricultural data. It dictates a gender-aware review of the statistical methodology and tools used, and determines the analysis, presentation and dissemination of such data. Gender concerns tend to be ignored or overlooked when they are not specifically referred to in the objectives of the census.

Gender concerns were specifically mentioned in the objectives of Senegal's 1998/99 National Agricultural Census. The aim of the census was to "enhance the analysis of the differences, similarities and distinctive characteristics of gender and produce statistical data disaggregated by sex on the role and place of both men and women in agriculture, fisheries, forestry and animal production". As a result, the census produced a large number of tables reflecting the different roles and responsibilities of male and female farmers in Senegal (Soumaré, 2002). Gender concerns were also highlighted in the objectives of Mozambique's 2000 Agriculture and Livestock Census. One of its specific objectives was to obtain an up-to-date database of gender, environmental,

economic and socio-demographic information (Diogo and Waterhouse, 2004). Gender issues were not addressed in the objectives of Namibia's 1994/95 Agricultural Census because the production of gender-disaggregated data was not considered a priority (Nantanga-Masudi, 2004).

***The outcomes of agricultural censuses can be gender-biased as a result of their limited scope and coverage.***

Agricultural censuses may under-report the contributions of women to agricultural production if they focus on **commercial** rather than **communal or subsistence farming activities** and on **large-scale agricultural production units** but omit **small-scale agricultural production units**, and/or exclude **peri-urban and urban agricultural activities** from the scope of the census. This is due to the fact that women tend to be more actively involved in small-scale subsistence and (peri) urban farming activities in many countries in the African region.

Many households strongly depend on agricultural activities carried out in small-scale production units such as horticulture and homestead production, hatcheries/small-scale animal production and tree cultures. Information on the activities and characteristics of such units is decisive for policy formulation (FAO, 1999b: 47). Countries such as Burkina Faso, Côte d'Ivoire, Guinea, Mozambique, Senegal and Togo have tried to address the above shortcoming by organizing specific surveys on urban agriculture, homestead production and/or small-scale animal production during census operations or shortly after. These surveys have provided valuable information that can be used to enhance the productivity of small farms in order to stem the outflow of rural people into the large cities, avoid the accentuation of urban problems and improve the living standards of rural people (FAO, 1999b: 27). Mozambique's 2000 Agricultural and Livestock Census, for example, included small-, medium- and large-scale holdings. All plots of agricultural holdings were taken into account, irrespective of size or type of cultivation (cash crops versus food crops). This was done to avoid an under-representation of women farmers' contributions to agricultural production because Mozambican female farmers often cultivate small sub-plots of land within larger agricultural holdings, including vegetable gardens and other parcels located around the house (Diogo and Waterhouse, 2004).

The exclusion of peri-urban and urban agricultural activities from the sample is a commonly observed bias in agricultural censuses. Such decisions are usually taken because of an undervaluation of the importance of such activities, financial constraints or for technical reasons. The Communal Sector Survey conducted in Namibia as part of the 1994/95 Agricultural Census, for example, did not take urban farming activities into account because it was assumed that no farming activities of importance took place in large urban areas. Neither did the census look into home gardening activities. Both activities were not considered important enough to be included in the census (Nantanga-Masudi, 2004). The 2000 Agriculture and Livestock Census conducted in Mozambique, on the other hand, meant to cover both rural and urban areas. Several factors, delayed the start of the Census, however, such as the late arrival of funds, campaigning activities for general elections and severe floods in the south of the country. As a result, the census organizers felt compelled to drop the collection of data in urban and peri-urban areas (Diogo and Waterhouse, 2004). These choices were likely to have contributed to an under-reporting of women's contributions to agricultural production in Namibia and Mozambique.

Senegal's Agricultural Census of 1998/99 covered rainfed agriculture as well as peri-urban horticulture. The peri-urban horticulture survey was based on three questionnaires: one to identify the peri-urban horticultural areas and sites, another to prepare a comprehensive sampling frame of the holdings, and a third to collect information on the structural characteristics of the holdings, which included the collection of socio-demographic data on male and female horticultural holders and production factors used (Soumaré, 2002).

***There is a need to improve data collection on agricultural labour in order to obtain a comprehensive presentation of who does what in the agricultural sector and to be able to react to new labour-related developments.***

Improved data collection on agricultural labour is essential from a development perspective given the following: (i) the impact of the HIV/AIDS pandemic (especially on the economically active age groups); (ii) the importance of labour in otherwise resource-poor households; and (iii) the increasing feminization of the agricultural sector in many countries.

Although agricultural statistics usually do indicate women's involvement in the agricultural labour force, their contributions are often underestimated in terms of national income and production. This is related to the fact that women's economic activities are frequently undervalued or not recorded because many of their activities are perceived as being **domestic** or **reproductive** rather than **economic** or **productive** (refer to Box 1). Moreover, questionnaires may not provide appropriate classifications for agriculture-related activities performed by women farmers such as the transportation, processing, storage and/or marketing of agricultural produce, and the collection of water and firewood.

#### **Box 1: Reproductive versus productive activities**

According to the 4<sup>th</sup> revision (1993) of the UN System of National Accounts, economic activities have been defined as: "All primary, manufacturing and construction activities (even if they are non-market orientated) that fall within the boundaries of production measured by the Gross Domestic Product (Economic Commission for Africa, 2004: 20)."

Examples of activities previously classified as domestic work but presently considered productive work are: (i) shelling maize, gathering fruit and their storage; (ii) processing primary products (produced or bought) and collecting water; and/or (iii) other processing activities, whether sold or not, such as weaving, dress-making and furniture making.

Most of the activities performed by women are carried out as unpaid family work and are therefore often undervalued. In addition, social and cultural habits are so strongly embedded in people's mentalities that male and female respondents to the surveys, the interviewers and/or the statisticians in charge of the implementation of the surveys continue to accept that economic activities performed by women go unrecorded (Economic Commission for Africa, 2004: 20).

The Senegal case study noted that despite Senegalese women being active in all economic sectors, producing goods and services for home consumption and generating income, the bulk of their work does not have a formal economic value. This is because their work is underestimated and undervalued and there is a lack of reliable statistical data on it (Soumaré, 2002).

Time-use surveys would do greater justice to the visibility of women in the labour force since they record the number of hours spent by individuals on various activities throughout the day, such as farming, food processing, storage, firewood collection, cleaning and cooking (ECA, 2004: 20) (refer to Box 2).

#### **Box 2: Time-use surveys**

The best tool for evaluating gender contributions to economic and non-economic activities is the time-use survey, which is ideal for examining the gender division of both paid and unpaid labour within the household. Time-use surveys are especially useful for measuring the gender-specific contributions of rural people in farm work, particularly if all relevant periods of work and travel time are recorded for the holder, family workers and paid workers (FAO, 1999b: 46; Economic Commission for Africa, 2004: 20).

Countries such as Burkina Faso, Guinea, Lesotho, Namibia, Mozambique and Senegal have tried to improve the availability of agricultural labour data by collecting data on the sex and age of agricultural labourers and the type of labour provided, e.g. family versus non-family labour; paid versus non-paid labour; permanent, seasonal and occasional labour; and labour support groups.

The 1998/99 Agricultural Census conducted in Senegal produced sex-disaggregated data on various kinds of paid and unpaid farm labour arrangements and mutual support groups. The census, however, did not cover men's and women's time and labour spent on so-called reproductive tasks such as fetching water and firewood, food processing and child-care (Soumaré, 2002). Similarly, the 2000 Census of Agriculture and Livestock undertaken in Mozambique did not collect data on reproductive labour inputs provided by women and men. The census, however, did collect data on the use of external workers (non-household members) (Diogo and Waterhouse, 2004).

The 1999/2000 Agriculture Sample Census conducted in Lesotho revealed that a larger percentage of male heads of agricultural households provided agricultural work than female heads of agricultural households (refer to Annex 1: Table 1.1). One would have expected the reverse because female-headed households normally comprise fewer male adult household members and are therefore often forced to take up more of the agricultural work, especially if they lack the finances to hire labour. The census also highlighted that women accounted for 53 percent of all permanent farm workers and 51 percent of all occasional farm workers at the national level. Considerable differences, however, were observed between the districts (refer to Annex 1: Table 1.2).

The 2000/2001 National Agricultural Census of Guinea revealed that male heads of holdings could call upon a greater number of active household members than female heads of holdings (refer to Annex 1: Table 1.3). This observation is often made but seldom proven for lack of data. The census showed that almost two-thirds (63 percent) of the female heads of holdings could call upon less than three agriculturally active persons, whereas more than two-thirds (70 percent) of the male heads of households could depend on more than three agriculturally active persons. This affects not only the size of area cultivated by the households, but also their productivity, the income generated and their food security.

Further research is required on the collection of agricultural labour data, given the quality of the data presently obtained. Moreover, additional information needs to be collected on reproductive labour inputs of men and women in order to gain greater insight into time use and time constraints faced by women and men engaged in agricultural production.

***More gender-disaggregated data need to be produced on ownership of, access to and control over productive resources in order to gain greater insight into intra-household decision-making processes.***

Having information on ownership of, access to and control over productive resources is important for obtaining a better understanding of who owns what, who has access to and control over which productive resources such as land, water, equipment, inputs, information and credit, and who decides on what agricultural activities will be undertaken. This is essential for the planning and development of agricultural interventions and poverty reduction strategies.

The 1994/95 Agricultural Census conducted in Namibia provided some information on the use of productive resources such as labour, equipment, inputs, livestock, land and credit in the agricultural sector, but did not assess individual household members' access to, ownership of and control over these resources. Greater insight into some of these issues was obtained through the annual agricultural surveys conducted between 1996 and 2000. These surveys showed that female-headed households owned fewer cattle, fewer oxen and fewer ploughs than male-headed households in all six regions covered by the surveys (Nantanga-Masudi, 2004). This affects not

only their abilities to use draught power for farming activities, but also their access to organic fertilizers and ultimately their productivity, farm incomes and food security.

Data collected during the 2001/02 Annual Agricultural Survey (EPA) conducted in Burkina Faso showed that male farmers cultivated on average more land than female farmers, possibly as a result of differences in access to and control over production resources (refer to Annex 1: Figure 1.1).

The 1998/99 Agricultural Census conducted in Senegal highlighted the prevalence of significant disparities between men and women in terms of resource allocation, access to agricultural extension services and access to inputs. It also allowed for cross tabulations between the sex of the operator of the plot and characteristics of the cultivated plots, such as cropped areas, crop type, land development, mode of occupation or acquisition, past cropping patterns, crop typology, type of seed used, manure application and penning of livestock. Data regarding the quantities of the inputs applied or the kind of agricultural equipment used were collected at the household level because such items are generally purchased in bulk (inputs) or for the collective use of the household members. The census was not in a position to collect sex-disaggregated data on intra-household decision-making processes, crop yields, the impact of land ownership on its use, control over financial returns and access to training programmes, since multiple visits would have been required for the collection of such information (Soumaré, 2002).

Land management and use were key topics for the collection of gender-sensitive data in Mozambique's 2000 Agricultural and Livestock Census. Detailed information was obtained on men's and women's access to and control over land while data were collected on a sub-holder basis. Data on credit, the production of non-agricultural products, agricultural output and sales, tree crop and livestock production were collected at the agricultural holding level and not disaggregated by sex (Diogo and Waterhouse, 2004).

The above shows that progress has been made with regard to the collection of gender-disaggregated data on ownership, access to and control over productive resources. However, there is still a need to further assess ways to address complex gender issues related to, for example, intra-household decision-making, time use, control over productive resources and financial returns, the impact of land ownership on its use, and access to credit, training programmes and extension services.

### 1.3 Adapting concepts and definitions to reduce gender-biases

***Concepts and definitions used in agricultural censuses may need to be adjusted and the introduction of new concepts and definitions could help reduce gender biases.***

Agricultural censuses may fail to accurately present gender disparities existing in the agricultural sector because of biases in the concepts and definitions used, in particular, the way they are applied. This applies, for example, to concepts such as: (i) head of household; (ii) agricultural holder; and (iii) agricultural holding.

There is a tendency in many countries to report a man, usually the eldest male, as the *head of household* or the *agricultural holder*, regardless of his role in household/farm management and decision-making. This is because of the greater status ascribed to men as compared to women. Such socio-cultural perceptions lead to an over-recording of the number of male-headed households and male agricultural holders, undervaluing of the role of women in rural development, and may have contributed to low percentages of female-headed households in Guinea (2 percent), Tunisia (6.7 percent), Burkina Faso (10 percent) and Benin (10 percent) (Tempelman and Keita, 2005:2). The use of such biased data can lead to the development of ineffective development plans and policies for the agricultural sector. Examples related to the use of both concepts are highlighted in Annex 2.

Efforts to boost agricultural productivity should be directed towards those who are actually responsible for and most knowledgeable about the holding. Selected countries, such as Mozambique and Senegal, have tried to improve the accuracy of data collection related to the number of households and holdings headed by men and women by: (i) discussing possible gender biases in responses during supervisor and interviewer training; (ii) sensitizing respondents on the importance of acknowledging contributions made by women farmers to agricultural development during agricultural censuses and surveys; (iii) stressing the need to focus on the agricultural activities of all household members; and/or (iv) modifying the definition of *head of household* by including a minimum presence of six months per year. Mozambique's 2000 Agriculture and Livestock Census recorded household members who were "temporarily" absent but had participated in the previous harvest. Anyone absent for more than six months out of the year was not recorded as a household member. This contributed to greater accuracy in the data collected on the actual head of household (Diogo and Waterhouse, 2004). In the case of Senegal's 1998/99 Agricultural Census, special attention was given to the correct recording of the "owner" or "holder". S/he was considered the person taking the most important decisions with regard to the agricultural holding. This was done to avoid an underreporting of female holders.

In defining the holder, one tries to identify one person as the principal decision-maker of the holding, which may not, however, provide a realistic picture of management and decision-making processes in all holdings. At times a holding may be jointly managed by, for example, a wife and husband, or different household members may have distinct responsibilities for managing particular aspects of the operations of the holding. For instance, one person may take the broad-level decisions (e.g. on what to plant), whereas another may be responsible for operational decisions on when to plant and whom to employ (FAO, 2005: 22).<sup>7</sup>

The complexity of the agricultural holder concept has been recognized in the World Programme for the Census of Agriculture 2010 and has resulted in an amendment of the *agricultural holder* definition. The new definition (refer to Box 3) allows for the possibility that a group of people be considered as the holder (FAO, 2005: 6).

### Box 3: Definition of an agricultural holder

The *agricultural holder* is defined as the person or group of persons who make the major decisions regarding resource use and exercise management control over the agricultural holding operation. The agricultural 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. The agricultural holder is often, but not always, the household head (FAO, 2005: 22).

Shortcomings were also observed with regard to the use of the *agricultural holding* concept (refer to Box 4), which is the statistical unit generally used for data collection in agricultural censuses and surveys. The concept does not accommodate: (i) the possibility that household members may play a more or less extended role in the management of their own sub-production units (sub-holdings) within a holding;<sup>8</sup> or (ii) the fact that two or more persons belonging to different households could operate on one agricultural holding.<sup>9</sup>

<sup>7</sup> The frequently used term *holder* is not a very appropriate choice from a gender perspective since it almost always refers to one male individual only. This ambiguity persists even when the sex is specified because only one person is generally listed as the holder, despite the fact that the definition states that more than one person may be responsible for a holding. When only one person is considered, that person is unlikely to be a woman due to the greater status ascribed to men (FAO, 1999b: 25).

<sup>8</sup> It is not uncommon in many African countries for women farmers to manage their own sub-production units (sub-holdings) within the agricultural holding headed, for example, by their male spouse. These women need to be recorded as individual farmers.

<sup>9</sup> For example, in the case of Mozambique, customary tenure rules of the country state that different people within and outside the immediate household may have different and possibly overlapping rights over the same parcel of land.

#### Box 4: Definition of an agricultural holding

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 households. 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. 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 such as labour, farm buildings, machinery and draught animals (FAO, 2005: 19).

The agricultural holding is defined as being under single management and therefore there cannot be more than one agricultural holder for an agricultural holding. If there is one person making the major decisions, he/she should be defined as the holder. If more than one person is involved in making the major decisions, then that group of people should be considered the holder. If there are two quite distinct agricultural management units in a household, the household should be split into two agricultural holdings. All persons making up the holder should be from the same household (FAO, 2005: 22).

Another limitation observed with regard to the use of the agricultural holding concept as the basis for data collection in agricultural census is that the census does not take communal lands into account and leaves out a large segment of the agricultural population, namely landless agricultural households. The need for more appropriate statistics and reliable statistical indicators on the rural landless has been highlighted by FAO in various forums and was one of the recommendations of the 1991 Inter-Agency Consultation on gender statistics (FAO, 1999b: 24). The introduction of a new chapter on community-level data in the new programme (WCA2010) should partially correct the situation regarding communal lands.

Various countries such as Burkina Faso, Côte d'Ivoire, Guinea, Mozambique, Niger and Senegal have tried to capture more detailed information on the management of agricultural holdings through the introduction of *sub-holding* and *sub-holder* concepts (also referred to as *head of plot/field*, *plot manager* or "*responsable de parcelle*" in French-speaking countries). The Senegal 1998/99 Agricultural Census, for example, introduced the sub-holder concept to avoid an under-reporting of agricultural activities carried out by female farmers. The use of this concept has permitted extensive cross tabulations of production factors (e.g. plot/field sizes, cultures and inputs used) and socio-demographic factors, thus providing the basis for in-depth analysis of intra-household gender and age-based differences in agricultural production.

Data from the 1993 Agricultural Census held in Burkina Faso reported that female heads of households managed between 1 and 4 percent of the areas cultivated with crops such as millet, maize, groundnuts, *vouandzuo* (a local crop), and white and red sorghum. This may give the impression that women's contribution to the production of these crops is rather limited. A very different picture evolved, however, when crop production was displayed at a sub-holder level, with female plot managers overseeing up to 80 percent of the area cultivated with *vouandzuo*, 68 percent cultivated with groundnuts and 55 percent cultivated with millet (refer to Annex 1: Table 1.4). A combination of both categories revealed that women were responsible for 50 percent of the areas cultivated with *vouandzuo* and 46 percent of the area cultivated with groundnuts. These findings illustrate that data collected and presented at sub-holder levels give a better reflection of the actual involvement of women in crop production and can also show male and female preferences in crop production.

The *sub-holder* and *sub-holding* concepts are complex because they revolve around notions of management, decision-making and delegation of authority (refer to Box 5). The sub-holder concept provides greater insight into intra-household gender and age-based differences in the management and operations of holdings and related decision-making processes, thus providing valuable information required for planning, monitoring and evaluation purposes. This concept can also be

used to identify the agricultural holder by evaluating the roles of the sub-holders in the overall management of the holding (FAO, 2005: 23).

**Box 5: Definitions of a *sub-holding* and *sub-holder***

A *sub-holding* is defined as a single agricultural activity or group of activities managed by a particular person or group of persons in the holder's household on behalf of the agricultural holder. There may be one or more sub-holdings in a holding. A sub-holding could comprise a single plot, a whole field, a whole parcel, or even the whole holding. A sub-holding could also be a livestock operation associated with a plot, field, parcel, *inter alia*, or a livestock operation without any land (FAO, 2005: 23).

A *sub-holder* is person or group of persons responsible for managing a sub-holding on the holder's behalf. There is only one sub-holder for a sub-holding (FAO, 2005: 23). S/he does not necessarily have to be the formal owner.

Identifying each sub-holding and sub-holder in the holding requires answering a series of questions on the role of each household member in the management and operations of the holding during the census reference year (FAO, 2005: 79).

The sub-holder and sub-holding concepts have been introduced in the World Programme for the 2010 Round of Agricultural Censuses in order to obtain a better understanding of the roles of selected household members, especially female members, in the management of a holding. These concepts, which may not be applicable to all countries, need to be developed and tested in accordance with national agricultural practices.

#### **1.4 Strengthening the capacities of statisticians to produce gender-disaggregated agricultural data**

***Data producers often assume that the collection and analysis of gender-disaggregated data will create a great deal of extra work, extra costs and a need to significantly modify survey instruments and methods, which may have contributed to a certain reluctance to collect this data.***

Experiences have shown that this need not be the case if a gender perspective is adequately taken into account during the definition of census objectives and survey design. A gender focus in an agricultural census that allows for a more accurate documentation of men's and women's participation in the management of agricultural production units can be achieved at almost no additional cost (FAO, 1999a: 20).

Senegal's experience in integrating gender concerns into its 1998/99 National Agricultural Census shows that: "[c]ontrary to what some data producers and users think, the collection and analysis of gender-disaggregated data do not require any specific [statistical] method. Conventional statistical methods were used to analyse the gender-disaggregated data". (Soumare, 2002) Moreover, it was noted that the integration of a gender perspective into the census did not create any technical problems nor lead to additional human or financial costs. The statisticians needed to be convinced that the mainstreaming of gender aspects into the census and the collection of gender-disaggregated data were only a question of changing aims and mentalities and would not necessarily lead to an increased workload or costs.

***Census personnel need to be trained on how to take gender issues into account while collecting and processing agricultural data.***

There is a need to strengthen the capacities of data producers at all levels with regard to the collection, production, analysis and presentation of gender-sensitive agricultural data in order to obtain more accurate and reliable data for the planning, implementation, monitoring and evaluation of gender-sensitive policies and programmes geared towards the sustainable development of the agricultural sector.

The production of gender statistics is a dynamic and developing field in which new concepts are developed in response to newly evolving data requirements. It is therefore important that statisticians are able to adopt new gender perspectives to meet such needs when they arise. This implies that census personnel at all levels – enumerators, supervisors and senior technical staff in charge of the design, management, publicity and data processing of the census, among others – need to be sensitized on gender issues prevailing in the agricultural sector and the importance of collecting gender-disaggregated data. They need to have a good understanding of gender concepts and skills, and knowledge on how to take prevailing gender relations into account in their work. Moreover, they need to be familiar with the use of gender analytical tools for data collection, processing and dissemination. These tools are more than just checklists or guidelines for data collection because they try to capture and comprehend existing gender differences and interactions. In addition, data producers should also be able to determine the usefulness of the gender-related data that they collect in order to be able to develop meaningful data for planning purposes. Supervisors need to be well trained in the field of gender and statistics before they can properly instruct enumerators in the same field and correct gender biases emerging in the course of field activities (FAO, 1999b: 58). Finally, census organizers need to be aware of the importance of collecting gender-disaggregated agricultural data in order to provide the required support for the production of such data.

Countries such as Burkina Faso, Guinea, Namibia, Togo and Zambia have invested much time and effort to enhance the skills and capacities of statisticians to produce gender-disaggregated agricultural data. Some of these training activities were conducted after the 2000 Round of National Agricultural Censuses. However, it is the queries raised on the lack of gender-specific information in the data obtained from this round of censuses that have contributed to improved gender disaggregation in subsequent agricultural surveys.

***Gender concerns need to be incorporated into training programmes and instruction manuals used by census personnel.***

Properly trained enumerators and carefully prepared instruction manuals can do much to reduce gender biases in data collection. A well-prepared training programme should:

- explain why it is important that the data collected reflect the actual situations of men and women in society;
- train enumerators to use gender-neutral language, avoiding terms such as “man months” and gender-biased phrases when referring to the head of household or holding;
- point out to enumerators the concepts and definitions that cause most problems when compiling gender-disaggregated data;
- ensure that enumerators develop adequate skills in interviewing persons of both sexes and are aware of possible implications of interviewing persons of the same or opposite sex;
- provide manuals that show balanced examples of both men and women, and depict men and women performing non-traditional roles;
- discuss the problems and stereotypes that emerge in measuring women’s occupations;
- balance interviews at training sessions with both sexes equally and discuss the differences between the two sets of results (FAO, 1999b: 57-58).

The case studies revealed that gender concerns were largely neglected in the manuals prepared for the respective censuses. The manuals used by supervisors and enumerators during Namibia’s 1994/95 National Agricultural Census provided instructions on field operations and how to complete the questionnaires; the aims, objectives and coverage of the census; definitions,

concepts and classifications used; and desired interviewers' behaviour. Gender concerns were not addressed in the manuals (Nantanga-Masudi, 2004). Similarly, the training manuals used during the 1998/99 Agricultural Census in Senegal did not highlight the need for gender sensitivity or address gender concerns. Trainers, however, tried to rectify these shortcomings during the enumerator and supervisor training by stressing the importance of recording information on both male and female farmers and ways to minimize gender biases during the interviews (Soumaré, 2002). Gender concerns were also not included in the instruction manuals used during the 2000 Agriculture and Livelihood Census in Mozambique. The enumerators' manual even stressed that every effort should be made to locate the head of the household and they were only to interview another "authoritative representative of the household in the case that the head was absent". There were no special instructions on gender sensitivity apart from a verbal recommendation that the head of household, usually a man, could receive help from his spouse to answer the questions and an emphasis on the fact that the Census needed to take account of gender issues in order to be able to formulate agricultural policies with a gender perspective (Diogo and Waterhouse, 2004).

## **1.5 The collection and processing of gender-disaggregated agricultural data**

The collection of gender-disaggregated data goes beyond the simple disaggregation of data by sex; it attempts to reflect the diverse and differentiated situation of men and women, their specific contributions to the agrarian economy and the consequences of their traditional roles in different social and economic situations (FAO, 1999a: 9).

The quality of the data collected at the household level could be improved by allowing for more respondents per household. At times, census guidelines explicitly instruct enumerators to contact the head of the household to complete the questionnaires. Influenced by socio-cultural traditions, this usually means that a male household member is requested to answer the questions on behalf of the household. Interview procedures should allow for more respondents per household, thus allowing the primary producers (men and women) to provide the required information. This implies that interviews preferably take place at a time when farmers are not occupied with other activities, which may differ for men and women.

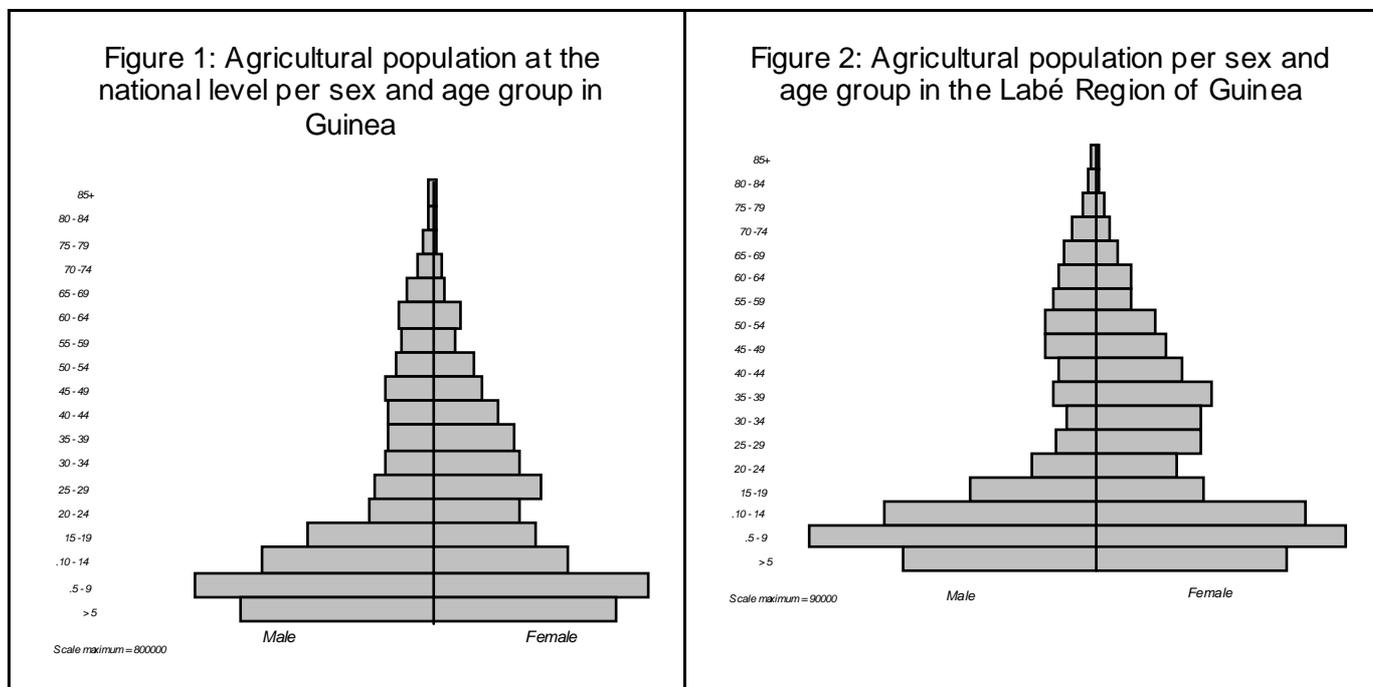
Household-level data collection could also improve by increasing the number of female enumerators. Most data collectors/enumerators are men because most are drawn from agricultural extension services, which are also dominated by male agents since gender stereotyping tends to classify agriculture as a male domain. Women need to be encouraged to become enumerators, without compromising on the level of competency, especially in countries where women farmers may not feel free to talk directly to male enumerators due to social and/or cultural factors. Conscious efforts were made in the cases of Senegal and Mozambique to recruit female enumerators for their agricultural censuses. This was done, for example in the case of Mozambique, by improving the provision of information on the registration of candidates and by sensitizing provincial authorities on the importance of also including women enumerators in the selection process (Diogo and Waterhouse, 2004).

***Gender differences and their implications are more visible when gender-disaggregated data are collected, analysed and presented at sub-national levels and by age groups.***

Experiences have shown that the roles and responsibilities of male and female farmers have become more apparent with the increased availability of sub-national, gender-disaggregated data by age groups. Such data have provided greater insight into trends such as the "feminization of the agricultural sector" or intra-regional variations in agro-ecological, political, social, cultural and economic circumstances within a country.

Agricultural population figures in most African countries show a close to equal representation of men and women at the national level. This ratio, however, may change significantly when data are presented at the sub-national level. For example, the National Agricultural Census of 2000

conducted in Guinea reported that the agricultural population consisted of 48 percent men and 52 percent women at the national levels. This rather balanced representation did not apply to the 25 to 49 year age group, however, where the number of women exceeded the number of men (refer to Figure 1). This could be due to the rural out-migration of men in search of work elsewhere. Even greater differences were observed at sub-national levels: the Labé region, for example, registered 21 percent men and 79 percent women in the 30 to 34 years age group, indicating four female farmers to one male farmer in this age category (refer to Figure 2).



Source: National Agricultural Census (RNA), Guinea, 2000

The National Agricultural Statistical Survey (ENSA)<sup>10</sup> conducted in Burkina Faso in 1993 recorded a male-female representation of 49 percent men to 51 percent women among the agricultural population at the national level. This ratio changed only slightly ten years later as the Annual Agricultural Survey (EPA)<sup>11</sup> for 2002/2003 recorded a male-female representation of 48 percent men to 52 percent women among the agricultural population. However, women were clearly over-represented in the 15 to 54 years age groups. This again could be due to the rural out-migration of men in search of work elsewhere. (For regional details, refer to Annex 1: Table 1. 5.)

The Agricultural Census conducted in Cameroon in 1984 also highlighted substantial regional differences with regard to the distribution of the agricultural population by age and sex – the national average being 47 percent men versus 53 percent women (refer to Annex 1: Table 1.6). Western, Northwestern and Central Provinces recorded the highest percentages of women among the agricultural population – 68 percent in the 25 to 34 years age group in Northwestern Province and also 68 percent in the 35 to 44 years age group in Western Province, and 66 percent in the 35 to 44 years age group in the Central Province.

The demand for sub-national data has increased over the past decade in the African region due to increased decentralization of decision-making and stakeholder participation in planning and decision-making processes. The 1994/95 Agricultural Census conducted in Namibia, for example, produced good quality national data, whereas the regional data were of a lower quality due to smaller sample sizes. The census did not reflect district-level data because this would have required a sample size that was considered too large and costly at the time that the census was undertaken (Nantanga-Masudi, 2004).

<sup>10</sup> Enquête Nationale des Statistiques Agricoles (ENSA)

<sup>11</sup> Enquête Permanente Agricole (EPA)

## 1.6 The analysis and presentation of gender-disaggregated agricultural data

***The analysis and presentation of gender-disaggregated agricultural data depends on the extent to which gender concerns have been taken into account in the planning and design stages of the census.***

The case studies have shown that the analysis and presentation of gender-disaggregated data was high in countries where gender concerns had been integrated into the objectives, tabulation plans and questionnaires of the agricultural censuses, and where data users had been able to explicitly express their data needs. It was low in Namibia where the above concerns did not apply.

No special attempts were made during Namibia's 1994/95 Agricultural Census to analyse census data from a gender perspective even though this could have been done on the basis of data collected with regard to sex of the head of the household (Nantanga-Masudi, 2004). Three tables were tabulated by sex out of a total of 37 tables presented in the report entitled, Namibia Agricultural Census: Basic Analysis of Communal Agriculture (FAO, 2003: 5). Mozambique's 2000 Census of Agriculture and Livestock produced a greater variety of sex-disaggregated tables, e.g. on the composition of the household by sex and age; the number of holdings by size and sex of the head of household; the number of plots by size and household member responsible for the plots; and the number of holdings with different types of livestock by sex of the head of household. These outcomes were presented in a separate document, *Agriculture, Gender and Development* (Diogo and Waterhouse, 2004). The mainstreaming of gender concerns into Senegal's 1998/99 Agricultural Census resulted in the presentation of sex-disaggregated data in many tables relating to the agricultural sector in general and peri-urban horticulture in particular. The tables provided answers to questions such as who does what, to what extent and how. Special efforts were made to present sex-disaggregated data in a series of tables highlighting, for example, the distribution of male and female farmers among different age groups, gender-based intra-household differences in agricultural production, and gender differences in access to productive resources (Soumaré, 2002).

***Considerable amounts of gender-disaggregated agricultural data can be obtained through re-tabulations of available agricultural censuses data.***

The re-tabulation of data from existing censuses was identified as a key action for increasing the availability of gender-disaggregated statistical information during the FAO High-Level Consultation on rural women and information held in Rome in 1999. This recommendation followed the observation that many national statistics services have collected a wealth of statistical data disaggregated by age and sex. However, the gender-specific information is obscured due to the aggregated level at which these data are presented, thereby limiting their usefulness for gender and other policy-relevant analysis (FAO, 2003c: 3). This could be due to a lack of skills and capacities among statistical personnel to analyse gender disaggregate data, a limited demand for such data and/or a lack of funding.

The Namibia case study, for example, highlighted the fact that the 1994/95 Agricultural Census had shown a positive correlation between the holding size and the age of the holder. This comparison could have been taken one step further by assessing the possible correlation between the size of the holding and the sex of the holder. Such information would have provided greater insight into men's and women's access to and control over land. Furthermore, re-tabulations of the census data could also reflect existing correlations between the sex of the holder and land access, land ownership and access to credit (Nantanga-Masudi, 2004).

FAO has worked successfully in countries such as Guinea, Namibia, Togo and Zambia with specialists from ministries of agriculture and central statistics offices to re-tabulate existing data in order to produce gender-disaggregated databases.

## 1.7 The dissemination of gender-disaggregated agricultural data

***Data producers need to find ways to increase access to gender-disaggregated agricultural data for all data users.***

The use of modern data dissemination techniques such as the Internet and CD-ROMs has significantly improved access of statistical data for users who are computer literate and have access to computers and the Internet. The general public may still have little access to such information tools, however, and would be better served through other means of communication, such as rural radio and leaflets. Different means need to be explored for the dissemination of gender-disaggregated agricultural data in a flexible and more user-friendly manner.

The findings of the 2000 Agriculture and Livestock Census conducted in Mozambique were presented to the head of the state, the central government and decentralized authorities through national and provincial dissemination seminars. The results were also disseminated through reports, monographs, public presentations and debates, the Internet and CD-ROMs (Diogo and Waterhouse, 2004). The results of Senegal's 1998/99 Agricultural Census were published in six volumes. In addition, modern data dissemination techniques were used to further spread the information such as CD-ROMs, electronic files and the launching of all census publications on the Internet. The census organizers had planned to translate summaries of the census reports into five national languages, but could not pursue this due to financial constraints (Soumaré, 2002).

## 1.8 The use of gender-disaggregated agricultural data

***The capacities of data users need to be strengthened to allow for a better use of gender-disaggregated agricultural data.***

Planners, policy-makers, development officers, research institutions and other statistics users need first to recognize the importance of using gender-disaggregated data for development planning. Furthermore, they need to be trained in the use of gender-disaggregated agricultural data for planning, design, monitoring and evaluation purposes. They need to develop a basic set of skills in order to read, interpret and use statistics correctly. Furthermore, they also require a clear idea of the prerequisites of statistics production to understand the work that statisticians carry out. This will enable users to frame realistic requests and provide feedback to statisticians on how they use statistics in their everyday work and what progress has been achieved (FAO, 1999b: 4).

Experience has shown that an increase in the use of gender-disaggregated agricultural data will contribute to a greater demand for the production of such data. Statistics users have become more aware in recent years of gender concerns and are demanding more sophisticated statistics. Statistics producers, on the other hand, are becoming increasingly aware of socio-economic issues and now tend to include such data in their work (FAO, 1999b: 5).

***The establishment of a gender co-ordination committee could contribute to a greater use and production of gender-disaggregated agricultural data at country and regional levels.***

All means should be put in place to increase the access of data users to gender-disaggregated agricultural data. Such data must be presented in a form that allows easy access to a wide range of users, many of whom may not have special expertise in statistics. The Namibia case study

recommended the establishment of a gender statistics co-ordination committee to oversee the execution of a plan for using and producing gender-disaggregated data (Nantanga-Masudi, 2004).

Other countries have also proposed the establishment of a national data bank to store gender statistics. This data bank could become part of a larger regional data bank system managed, for example, by an international organization such as the United Nations or the Economic Commission for Africa. These organizations could also play an important role in developing standard methods for the integration of gender concerns into statistical data collection, providing technical support to countries and institutions when required, and/or promoting an exchange of experiences in the field of gender and statistics between individuals, institutions and government departments.

***Gender-disaggregated agricultural data are used for many different purposes by a wide range of people.***

Much progress has been observed in the last two decades with regard to the use of gender-disaggregated agricultural data. The first and most important reason for the increase has been the increased production of gender-disaggregated agricultural data. Second, statistics users have become more aware that socio-economic and gender-disaggregated agricultural data are essential for the planning of appropriate and effective policies and programmes for the agricultural sector. Third, the production of sub-national gender-disaggregated data has provided a whole new perspective of the actual situation in which agricultural production takes place. Fourth, the use of the sub-holder concept has provided greater insight into intra-household gender and age-based differences in the management and operations of agricultural holdings and related decision-making processes. Finally, the increased use of gender tools for data collection and analysis has allowed for a better understanding and reflection of the roles and responsibilities of men and women in agricultural production.

Today, a wide range of data users – researchers, planners, local community officials, policy-makers, gender specialists and other development partners and others – use gender-disaggregated agricultural data for many different purposes such as:

- advancing gender advocacy;
- using the census sampling frame for special surveys for in-depth gender-specific analysis;
- developing gender-related policy documents and action plans;
- elaborating agricultural programmes and policies;
- distributing agricultural inputs among male- and female-headed households;
- integrating socio-economic indicators with gender perspectives into annual and mid-term planning exercises;
- monitoring and evaluating agricultural programmes and policies.

Improving the collection and analysis of data on the gender division of labour, and on the roles and responsibilities of rural men and women in agricultural production can help shape more effective and equitable agricultural programmes and policies. However, better statistics alone will not ensure that these policies and programmes address the needs and priorities of men and women farmers. For that to happen, policies and programmes must be shaped through rural people's own understanding of the problems they face and the strategies that will eliminate these problems (FAO, 2003b: 32). This calls for an active involvement of both rural women and men in all aspects of agricultural development.

An overview of the lessons learned with regard to the integration of gender concerns into agricultural censuses in selected African countries is presented in Box 6.

## **Box 6: An Overview of Lessons Learned**

### **Promoting the demand for gender-disaggregated agricultural data**

- Data producers focus more on the collection, compilation, analysis and presentation of gender-disaggregated data when there is a clear demand for such data from data users.
- The demand for gender-disaggregated data increases when potential users are actively involved in the preparation of the census including participating in census preparatory user — producer consultative meetings

### **Integrating gender concerns into the planning and design of agricultural censuses**

- The production of gender-disaggregated agricultural data is positively linked to whether specific references are made to the need for gender-disaggregated information in the objectives of agricultural censuses.
- The outcomes of agricultural censuses can be gender-biased as a result of the scope of the census.
- There is a need to improve data collection on agricultural labour in order to obtain a comprehensive presentation of who does what in the agricultural sector and to be able to react to new labour-related developments.
- More gender-disaggregated data need to be produced on ownership, access to and control over productive resources in order to gain greater insight into intra-household decision-making processes.

### **Adapting concepts and definitions to reduce gender biases**

- Concepts and definitions used in agricultural censuses may need to be adapted and new concepts and definitions need to be introduced to reduce gender biases.

### **Strengthening the capacities of statisticians to produce gender-disaggregated agricultural data**

- Data producers often assume that the collection and analysis of gender-disaggregated data will create a great deal of extra work, extra costs and a need to significantly modify survey instruments and methods, and adjust statistical methodologies for data collection and analysis. This has contributed to a certain reluctance to collect gender-disaggregated data. Experience has shown that this is not the case.
- Census personnel need to be trained in how to take gender issues into account while collecting and processing agricultural statistical data.
- Gender concerns need to be incorporated into instruction manuals used by census personnel.

### **The collection and processing of gender-disaggregated agricultural data**

- Gender differences and their implications are more visible when gender-disaggregated data are collected, analysed and presented at sub-national levels and by age groups.

### **The analysis and presentation of gender-disaggregated agricultural data**

- The analysis and presentation of gender-disaggregated agricultural data depend on the extent to which gender concerns have been taken into account in the planning and design stages of the census.
- Considerable amounts of gender-disaggregated agricultural data can be obtained through re-tabulations of available agricultural censuses data.

### **The dissemination of gender-disaggregated agricultural data**

- Statistics producers need to find ways to increase accessibility to gender-disaggregated agricultural data for all data users.

### **The use of gender-disaggregated agricultural data**

- The capacities of data users need to be strengthened to allow for a better use of gender-disaggregated agricultural data.
- The establishment of a gender co-ordination committee may be one of the options that contribute to a greater use and production of gender-disaggregated agricultural data at country and regional levels.
- Gender-disaggregated agricultural data are used for many different purposes by a wide range of people.

## **2 REMAINING CHALLENGES**

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This chapter highlights some remaining challenges with regard to the integration of gender concerns into agricultural censuses and surveys.

### **2.1 Further mainstreaming of the production of gender-disaggregated data in agricultural censuses**

National statistic services may need to further mainstream the production of gender-disaggregated data into the design and implementation of their agricultural censuses if these are to provide sufficient, accurate and reliable gender-specific information for the planning, implementation, monitoring and evaluation of sound agricultural development policies and programmes geared towards the sustainable development of this sector. Experience has proven that the production of such data does not necessarily increase the workload or costs of the census/survey.

### **2.2 Adapting concepts and definitions for a better visibility of women's roles in agriculture**

Definitions and concepts used in agricultural censuses and surveys need constant appraisal and, if necessary, improvement with regard to potential gender biases because they may not give a complete and adequate picture of gender roles and responsibilities prevailing in the agricultural sector. The new Programme for the World Census of Agriculture 2010 provides for such an improvement with the amendment of the agricultural holder concept and the introduction of the sub-holder/holding concepts. These concepts should allow future censuses to better reflect the actual roles and responsibilities of men and women in the agricultural sector. Training on the correct use of definitions and concepts could also help reduce current gender biases.

Newly introduced concepts may need to be fine-tuned for effective use in specific contexts. For example, the use of the sub-holder concept in Mozambique's latest agricultural census encountered significant problems because only one person could be inserted as the "person responsible for a field." According to the customary tenure rules of the country, different people within and outside the immediate household may have different and possibly overlapping rights over the same field. The person who decides on what and when to plant may not be the same person as the one who controls the use of the product. These rights are often differentiated on the basis of gender.

### **2.3 Harmonizing the use of definitions and concepts**

Experiences have shown that there are differences between countries in the application of standard concepts and definitions. More efforts are therefore required in training statisticians so that the actual use of definitions and concepts in agricultural censuses and surveys in selected countries is better harmonized, providing internationally comparable data.

### **2.4 Identifying different ways to address complex gender issues**

There is a need to further study how agricultural censuses and surveys can best address complex gender issues related to agricultural labour, time use, decision-making, access to and control over agricultural inputs, involvement in training and extension programmes, and crop yields. This would produce a wealth of information for a more in-depth gender analysis of agricultural production, which would be of great benefit for the planning, implementation, monitoring and evaluation of agricultural development policies and programmes geared towards the sustainable development of the agricultural sector. Agricultural censuses may not be the most appropriate tool to take all of these aspects into account, however, since they could make the questionnaires too long and the census too costly. Instead, an agricultural census could provide a sampling frame for specialized surveys to look into some of these issues.

## **2.5 Enhancing capacities to analyse, use and produce gender-disaggregated data and improve collaboration between data users and producers**

Planners, policy-makers, development officers, research institutions and other data users need to be trained in the use of gender-disaggregated agricultural data for planning, design, monitoring and evaluation purposes. Concurrently, all means should be put in place to increase the access of data users to gender-disaggregated agricultural data. It has been noted that existing sex-disaggregated data at times are not processed and/or analysed due to lack of gender awareness, inadequate technical capacities of staff, lack of funding or demand for such data, and/or unawareness of the existence of such information.

Similarly, there is also a need to strengthen the capacities of data producers in the collection, production, analysis and presentation of gender-disaggregated agricultural data. The high turnover among statistical personnel creates an extra challenge because trained personnel are transferred to other posts. This has resulted in a continuous need for upgrading the skills and expertise of statistical personnel. Integrating gender concerns in the formal education of statisticians can address part of the problem.

There is also a need to further strengthen co-operation between the users and producers of statistics in general and gender statistics in particular in order to improve the use of the existing statistics and the production of agricultural data. This can be achieved by organizing user-producers workshops and by involving gender and development experts in the elaboration of the tabulation plan, the design of the questionnaires, data collection manuals, communication plans and training programmes for the enumerators. A permanent dialogue between users and producers of statistics should be encouraged to ensure the relevance and validity of the data.

## **2.6 Securing funds for the production, analysis and presentation of sub-national data**

The sample sizes of agricultural censuses and surveys often depend on the availability of funds; the larger the amount of funding available, the more detailed the level of analysis can be. Funding is often insufficient, however. As a result, countries tend to collect a limited amount of sub-national data despite an increased need for such data due to the decentralization of decision-making and an increased stakeholder participation in development processes.

### 3 CONCLUSIONS AND RECOMMENDATIONS

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Efforts undertaken in the African region to integrate gender concerns into existing agricultural censuses have provided valuable insights into what has worked and what can be done to further enhance the integration of gender concerns into the World Programme for the Census of Agriculture 2010. This chapter presents conclusions with regard to the lessons learned<sup>12</sup> and provides recommendations on how to proceed.

#### 3.1 Conclusions

Clear differences were observed between countries in the region with regard to the integration of gender concerns into their national agricultural censuses. Some countries such as Namibia had just started the process, whereas others such as Senegal had successfully mainstreamed gender into most aspects of agricultural data production. An important observation highlighted in the case of Senegal has been the fact that the integration of gender concerns into the 1998/1999 National Agricultural Census did not require new statistical data collection methods, nor did it lead to increased workloads or costs. However, data producers did require new gender-sensitive conceptual and analytical perspectives and skills, which allowed them to deal explicitly, effectively and efficiently with gender-related data collection issues of relevance to the agricultural sector.

The case studies illustrated the need for the production of gender-specific agricultural statistical data for the planning, implementation, monitoring and evaluation of sound, effective and sustainable agricultural development policies and programmes. The production of such data, however, was often hampered by factors such as: (i) a lack of awareness among data users and producers about the importance of producing gender-disaggregated agricultural data; (ii) a lack of skills and expertise among data producers to collect such data; (iii) the fact that data producers were reluctant to produce such data because doing so was considered an additional activity/extra work; and/or (iv) a limited demand for such data from data users.

The demand for gender-disaggregated statistical data was linked to the levels of gender awareness of data users and producers, their understanding of gender concepts and whether users of gender-disaggregated agricultural data had had an opportunity to express their needs to data producers. It was also linked to the abilities of statisticians to use gender-disaggregated agricultural data and their access to such data. User-producer workshops proved to be an effective tool for bringing together the demands and options of data users and producers, i.e. if the potential users of gender-disaggregated data were invited to partake in these workshops.

The consideration of gender perspective in defining the scope and objectives of the census proved critical to the production of gender-disaggregated agricultural data. It not only justified the collection of gender-disaggregated agricultural data, but also ensured that all other actions related to data production maintained a gender-specific perspective. The case studies further stressed upon the need to take gender concerns into account when: (i) designing and testing questionnaires, (ii) developing the tabulation plan, (iii) generating census publicity, (iv) identifying the statistical units, (v) preparing the sample frame and selecting the sample (vi) recruiting staff, (vii) preparing instruction manuals and training supervisors and enumerators, (viii) choosing the respondents, (ix) processing the data, (x) analysing and presenting the data, and (xi) disseminating the data.

To further reduce gender biases in the data collection, suggestions were made to allow all agricultural active household members to partake in census interviews. Also, the recruitment of more qualified female enumerators is recommended. Moreover, the case studies came out with specific recommendations on the use of the *head of the household*, *agricultural holder* and *agricultural holding* concepts in order to better reflect gender-based roles and responsibilities in the management of agricultural households and holdings. The *sub-holder* concept was successfully

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<sup>12</sup> based on the outcomes of case studies conducted in Mozambique, Namibia and Senegal and information obtained from Burkina Faso, Cameroon, Guinea and Lesotho

introduced in a number of countries in the region, thus providing greater insight into intra-household gender and age-based differences in agricultural production. Country-specific circumstances may affect the usefulness of this concept, however.

Not all of the sex-disaggregated data collected during agricultural censuses were analysed from a gender perspective due to a lack of skills and capacities among statistical personnel, a limited demand for such data and/or a lack of funding for a more elaborate data analysis. This is the reason why additional gender-disaggregated agricultural data could still be obtained from many of the national agricultural censuses undertaken in the region through re-tabulation efforts.

Other challenges remain with regard to the integration of gender concerns into agricultural censuses and surveys. The case studies underlined the need to further harmonize the use of definitions and concepts, identify ways to address complex gender issues, strengthen the capacities of statistics users and producers to address gender issues, improve user-producer collaborations, and secure funds for the production, analysis and presentation of sub-national data. Governments, development partners and international organizations have all been ascribed active roles in this process.

### **3.2 Recommendations**

The following recommendations have been formulated for member countries and FAO based on the outcomes of the lessons learned:

#### Member countries:

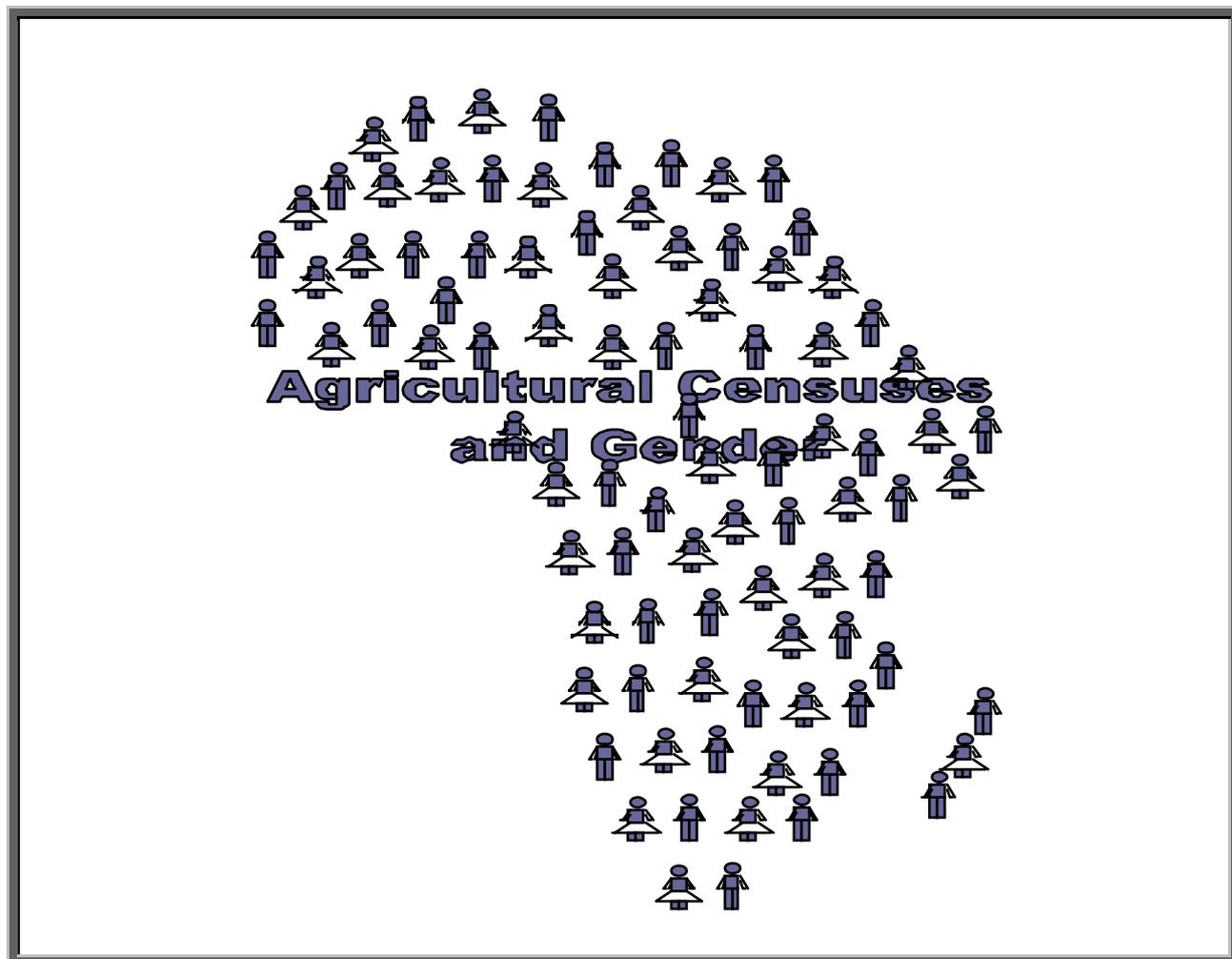
- ★ Member countries need to integrate gender concerns into their agricultural surveys and censuses for the benefit of planning, implementing, monitoring and evaluating sound agricultural development policies and programmes. The need for gender-specific data should be clearly stated in the objectives of the census/survey and should become part and parcel of the agricultural statistics information system.
- ★ National Bureaus of Statistics responsible for the implementation of agricultural censuses and surveys should endeavour to review, and if necessary, amend statistical tools and methodologies currently used for possible gender biases and should highlight these issues in the training modules. In addition, the topics addressed by censuses and surveys should be reviewed regularly to determine whether new topics need to be introduced. This should be done in collaboration with other development stakeholders such as representatives of the ministries of agriculture/rural development, NGOs and national gender specialists.
- ★ National Bureaus of Statistics responsible for the design and implementation of agricultural censuses and surveys should promote a continuous and effective exchange of information between users and producers of statistics in general and gender statistics in particular. They should identify, synthesize and prioritize current and future statistical data needs and existing data gaps on a regular basis and in collaboration with other ministries, development agencies and advocacy groups
- ★ Member countries should strengthen the capacities of all staff dealing with agricultural statistics in the use of socio-economic and gender analysis tools and take steps to ensure relevant training. This is recommended in view of making more gender-disaggregated agricultural data available for the planning, implementation and monitoring and evaluation of sustainable and equitable agricultural development, poverty reduction and food security enhancing strategies. The integration of gender analysis tools into the curricula of statistics training institutions could be envisaged to avoid the need for recurrent in-service training due to staff mobility. Similarly, planners and other data users also need to be trained in using gender-disaggregated agricultural data in order to create an effective demand and use of such data.

- ★ Where applicable, all future agricultural censuses should make an effort to: (i) apply the sub-holder concept in order to allow for in-depth analysis of gender-based intra-household differences in agricultural production; (ii) collect more sex-specific data on agricultural labour; (iii) collect information on small-scale and landless agricultural production units; (iv) collect data on peri-urban and urban agricultural activities; and (v) adjust the definitions of the *head of household*, *agricultural holder* and *agricultural holdings* to reduce gender-based biases.
- ★ Data should be presented as much as possible at national and sub-national levels in support of decentralized planning and to facilitate private sector involvement.
- ★ Producers of statistical data and information should make an effort to enhance the accessibility of their products to all possible data users. The use of different means of information dissemination, such as data banks, the Internet, CDs, reports, booklets, leaflets, and mass media should be explored. The distribution of the data in electronic format may facilitate a more “custom-made” use of the information by the computer/Internet-literate.
- ★ Member countries may consider setting up a gender statistics co-ordination committee, which could be one of the options to promote the integration of gender concerns into agricultural censuses and surveys, enhance the coordination of the production of gender-disaggregated agricultural data, and improve on the dissemination of such data.
- ★ Member countries should develop partnerships with other countries and organizations to learn from each other’s experiences in integrating gender concerns into agricultural censuses and surveys.

FAO:

- ★ The FAO Statistics Division (ESS), in collaboration with the Gender and Population Division (SDWW), should continue to provide clear and systematic guidance to member countries on how to adopt and integrate new gender perspectives into agricultural censuses and surveys, as well as harmonize methods for collecting and analysing gender-disaggregated data in a coordinated manner at the country level. A uniform use of concepts and definitions should be promoted in order to allow for comparisons of country-specific data.
- ★ Both divisions should continue to improve the guidelines on the integration of gender concerns into the World Programme for the Census of Agriculture 2010, in particular with regard to sample design, concepts and definitions used, the questionnaire design, and data analysis and dissemination.
- ★ FAO should expand its training of data producers and especially data users, on the production and use of gender-disaggregated data for the planning, monitoring and evaluation of rural development and poverty reduction programmes.
- ★ FAO should establish a data bank highlighting successful experiences of member countries in integrating gender concerns into agricultural censuses and/or surveys. The data bank could contain examples of gender-relevant questionnaires, training manuals, tabulation plans and/or communication strategies and messages.
- ★ Finally, the FAO Regional Office for Africa should make an effort to share the findings of this document to a wide audience of statistics users and producers, to synthesize the lessons learned in the African region and to translate them into relevant training materials.

## PART II



## CASE STUDIES

### ON THE INTEGRATION OF GENDER CONCERNS INTO AGRICULTURAL CENSUSES

# **4 Mozambique**

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**By Domingos Diogo**

**May 2004**

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## Acronyms

AH	Agricultural Holding
CAP	Census of Agriculture and Livestock (Censo Agro-Pecuário)
CCCAP	Central Commission for the Census of Agriculture and Livestock (Comissão Central do Censo Agro-Pecuário)
DESE	Directorate of Economics and Sectoral Statistics (Direcção de Estatísticas Sectoriais e de Empresas)
FAH	Family Agricultural Holding
GOM	Government of Mozambique
INE	National Institute of Statistics (Instituto Nacional de Estatística)
MADER	Ministry of Agriculture and Rural Development
MIA	Agricultural Survey Mission (Missões de Inquérito Agrícola)
MPF	Ministry of Planning and Finance
PAEI	Agrarian Policy and Implementation Strategy (Política Agrária e Estratégia de Implementação)
PARPA	National Plan of Action for the Reduction of Absolute Poverty
PROAGRI	National Agricultural Programme
PSU	Primary Sampling Unit
TIA	Agricultural Survey Work (Trabalhos de Inquerito Agrícola)
UN	United Nations
WB	World Bank

## Executive summary

Mozambique's first agricultural census since independence, the 2000 Agriculture and Livestock Census, was undertaken between September 2000 and July 2001 within the context of the National Programme for Agricultural Development. The Census aimed to obtain up-to-date, accurate and reliable statistical information on structural features of the agricultural sector as well as on agricultural production in Mozambique. Such information was considered essential for the design, monitoring and evaluation of development policies and plans geared towards improving the living conditions of the population, alleviating poverty and advancing research.

The need to include statistical elements that would allow for a strengthening of gender policies and plans and for the formulation of adequate and non-biased rural development policies was acknowledged in the Census Master Plan. Thus, the collection of gender-specific agricultural data was included in the specific objectives of the census.

Census organizers, however, came across two major challenges when trying to integrate gender concerns into the census. First, there were no requests for gender-specific data from potential data users at the time of preparation for the census. Second, the guidelines on how to integrate gender concerns were limited. Nevertheless the census organizers made considerable efforts to take gender considerations into account in the questionnaire design. Socio-demographic information was obtained with regard to the sex, age, civil status and education of the household members. Moreover, information was also collected on the *head of the household/holding*, the person responsible for each field/plot as well as crop production, inputs used and the legal status of each field. The collected information allows for ample comparison of different types of household structures and their access to, use of and control over agricultural resources.

The overall outcome of the 2000 Agriculture and Livestock Census has been positive, as it enriched and updated existing structural information on the agricultural sector in Mozambique and encouraged dialogue between the users and producers of statistics. Moreover, it contributed to an increased availability of gender-specific agricultural information in the country. This has had a positive effect on the use of gender-disaggregated data for the design, implementation, monitoring and evaluation of rural development policies and programmes.

The impact of the census on the availability of gender-specific data and information would have been greater if census staff had been better trained on the use of gender analytical tools for data collection, processing, analysis and dissemination. Moreover, much of the data collected during the census is yet to be analysed from a gender perspective. Efforts should be made to learn from the 2000 experiences in order to further improve the production of gender-specific agricultural data in Mozambique by means of agricultural censuses and surveys.

## Introduction

National governments and international organizations have increasingly underlined the important role played by African women in the agricultural sector (Boserup, 1970; USAID, 1981; Cleaver (WB), 1993; GOM, 1995). They are often actively involved in food crop production, while male farmers tend to focus more on cash crop production. Women farmers are also frequently called upon to provide extra labour on lands controlled by their husbands without directly receiving a share of the financial rewards (Lasterria-Cornhiel, 1997). Research carried out in Mozambique, has pointed out that women provide the bulk of the labour required for the production of food crops for home consumption, as well as the production of crops for sale on the domestic market and for export (Casimiro, 1994). Farming activities were recorded as the main occupation of 66 percent of the men and over 90 percent of the women, according to the 1997 Population Census of Mozambique (INE, 1998).

The Government of Mozambique (GOM) acknowledged the importance of the agricultural sector by identifying agricultural- and rural development as one of its six priority areas<sup>13</sup> in the Poverty Reduction Strategy.<sup>14</sup> Details of the strategy have been outlined in the five-year National Plan of Action for the Reduction of Absolute Poverty (PARPA 2001-2005). According to this plan, 82 percent of the National population classified as *poor* live in the rural areas while over two thirds (71 percent) of the rural population live in *absolute poverty* (GOM, 2001: 60). Poverty studies conducted in Mozambique have identified women – especially women in female-headed households – as being particularly vulnerable to poverty (MPF, 1996; Pontara et al, 2000). Data collected by the 2000 Agriculture and Livestock Census and subsequent agricultural surveys have reported an increase in the percentage of female-headed rural households from respectively 23 percent in 2000 to 24 percent in 2002 and 26 percent in 2003.

The long-term development of the agricultural sector in Mozambique has been guided by the Agrarian Policy and Implementation Strategy (PAEI). This strategy, which is part of the overall Poverty Reduction Strategy, aims to transform the agricultural sector from subsistence agriculture to a more market orientated agricultural system. Conditions for attaining the overall objectives of the PAEI have been specified in five-year National Agricultural Plans (PROAGRI).

<sup>13</sup> The other main areas for action are: (i) education; (ii) health; (iii) basic infrastructure; (iv) good governance and (v) macro-economic and financial management.

<sup>14</sup> This strategy aims to reduce the incidence of absolute poverty from 70% in 1997 to less than 60% by 2005 and less than 50% by the end of 2010.

One of the “basic principles” adopted by PROAGRI is the fact that gender considerations need to be integrated into agricultural policies, - programmes and -activities and that this should be reflected (amongst other indicators) by an increase in women's access to improved technology (GOM, 2001: 62). PROAGRI Phase I (1999 - 2004) aimed to increase agricultural production and reduce deep and widespread rural poverty. PROAGRI Phase II has further stressed the need to take account of gender concerns when collecting agricultural data, in order to be able to better address constraints faced by women and men farmers in terms of agricultural production.

This chapter highlights Mozambique's experiences with regard to the integration of gender concerns into the 2000 Agriculture and Livestock Census, the first agricultural census conducted since independence. Paragraph 1 elaborates on how gender concerns have been integrated into the census, whereas paragraph 2 highlights the challenges encountered and remaining challenges. Paragraphs 3 and 4 reflect upon the impact of the census on the availability of gender-specific agricultural information and the use of such information in rural development policy and programmes design and implementation. Paragraph 5 presents suggestions on how to improve the data collection methods used, followed by general conclusions and recommendations for follow-up action in paragraph 6.

### 4.1 Integration of gender concerns into the 2000 Agriculture and Livestock Census of Mozambique

The need for a national agricultural census had become pressing in Mozambique by the late nineties. Portuguese colonial authorities had conducted two agricultural surveys (Missões de Inquérito Agrícola - MIA)<sup>15</sup> prior to Mozambique's independence in 1975 (INE, 2000: 2). In addition, the government conducted a series of limited agricultural surveys (Trabalhos de Inquerito Agrícola - TIA) after independence. These TIAs were conducted in 1993, 1994 and 1996.<sup>16</sup> However, up-to-date statistical data on Mozambique's agricultural sector, in terms of its

<sup>15</sup> These surveys were conducted between 1961-1969, and 1971- 1972. Results of the first MIA only were published because of civil strife at the time of the latter.

<sup>16</sup> The 1993 TIA covered 20 of Mozambique's 128 districts, whereas the 1994 TIA covered 30 districts and the 1996 TIA covered 60 districts. The 1994 TIA collected information on the gender division of labour, including reproductive tasks such as child-care and the collection of water and firewood.

structure and agricultural production, were lacking.

#### 4.1.1 Objectives of the census

The overall objective of the 2000 Agriculture and Livestock Census (Censo Agro-Pecuário - CAP) was to obtain up-to-date statistical information on the structure of agriculture, as well as on agricultural production in order to gain better knowledge of reality needed to design, monitor and evaluate development policies and plans geared towards improving living conditions of the population, alleviating poverty and advancing research (INE, 2000: 5).

The census staff recognized the need to include statistical elements that would provide data required for gender policies and plans (INE, 2000: 2). This is why the census master plan includes, as fifth specific objective, the need "to obtain an up-to-date database of gender, environmental, economic and socio-demographic information" (INE, 2000: 5).

#### 4.1.2 Identification of data requirements

The design and implementation of the 2000 CAP was assigned to the National Institute of Statistics (INE) - the Directorate of Economics and Sectoral Statistics (DESE) – and the Ministry of Agriculture and Rural Development (MADER). Various Ministries and Directorates were invited to join the Central Commission for the Census of Agriculture and Livestock (Comissão Central do Censo Agro-Pecuário - CCCAP) in order to assist with the organization of the Census.<sup>17</sup>

The 2000 CAP focused, in line with standard census guidelines, on the collection of structural data relating to agricultural holdings (FAO, 1995:

2-3). The census also collected socio-demographic data on the producers themselves, as they play a key role in the way that agricultural production is organized. As a result, data were collected on the characteristics of the farmers and farm-workers with regard to their sex, civil status, educational level and legal status in relation to the land. Furthermore attempts were made to collect data on the different labour responsibilities of men and women in relation to the production of various crops as well as differences in their access to and control over resources. Such aspects were considered important for obtaining a better understanding of constraints faced by farmers and the structure and social organization of agricultural production, as shown in the following example. In southern Mozambique, men generally have *control* over the land (they inherit and decide how to use it) and women have *access* to the land (they can use the land attributed to them by their husband's family unless/until there is change in their relationship with their husband). The situation is different in northern Mozambique, where land is usually inherited through the maternal line - meaning that a woman's relationship with the land does not depend on the relation with her husband. Knowledge of such aspects is important for rural development policies and planning.

The census organizers at MADER and INE followed the standard principal that the data collection needed to respond to information needs expressed by the main users of the census data; the most important being MADER and the Ministry of Planning and Finance (MPF). However, there were no specific requests from potential data users for gender-specific agricultural data in the case of the 2000 CAP.

#### 4.1.3 Training of census personnel

The sensitization and training of census personnel took place at various levels and under the overall supervision of the Technical Director of the CAP and an FAO adviser.

Training sessions were conducted at the central level to guide trainers and supervisors operating at this strategic level in matters related to census management and quality control. They further received specific training on the questionnaire design, concepts and definitions used, training methodologies and the planning of field operations. Provincial supervisors received a one-week training, organized by the Technical Director and central staff. This training focused on the questionnaire, definitions used, field measurement, managerial aspects of the 2000 CAP (field supervision, logistics, planning and organization of field work) and quality control. Senior census staff subsequently implemented an intensive training programme at successive census levels together with international advisors

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<sup>17</sup> **Members of the Central Commission for the Census of Agriculture and Livestock**

- President of the CCCAP - Vice-President of the INE
- Vice-President of the CCCAP - Director of Economy, MADER
- Director of Sectoral and Company Statistics, INE
- Director of Censuses and Surveys, INE
- Director of Integration, Co-ordination and External Relations, INE
- National Director of Agriculture, MADER
- National Director of Livestock, MADER
- National Director of Rural Extension, MADER
- Representative of the Ministry of Planning and Finances
- Representative of the Ministry of Industry and Commerce
- Representative of the Ministry of State Administration
- Representative of the National Directorate of Geography and Surveying
- Representative of the University of Eduardo Mondlane

(Source: INE, 2000)

who participated as observers in the training sessions conducted at the provincial level. District Directors of Agriculture (DDA) received a one-day sensitization-cum-training to obtain a better understanding of the census objective, methodology and fieldwork strategy. Enumerators received a two-week training at the provincial or regional (involving 3 provinces) level, organized by the Provincial Supervisors in collaboration with staff from the National Census Office. Supporting presentations, particularly with regard to crop- and livestock production, were provided by Senior Provincial MADER staff. The training discussed topics such as: the objectives of the 2000 CAP, the concepts and terminology used, how to fill the questionnaire, the organization of the field work, interview techniques, methodologies to be used for field measurements and the legal aspects of the census (INE, 2000a). The training programme comprised theoretic and practical work, both at the training site as well as in the field.

The selection and recruitment of the enumerators, which fell under the responsibility of the INE and the Chief of the Provincial Department of Economics in MADER, was generally carried out with the support of the DDAs. Most of the enumerators had some experience with survey fieldwork, either from the Population and Housing Census, Agricultural Surveys conducted by the Ministry of Agriculture, the Early Warning Project and/or surveys conducted for NGOs working in the country. A large number of the census enumerators were provincial- or district-level extension workers or other agricultural technicians. Most of the enumerators (almost 82 percent) were men, despite the fact that a conscious effort was made to encourage women to become enumerators.

#### 4.1.4 Questionnaires and manuals

The 2000 CAP consisted of two questionnaires; one for small and medium scale holdings (mainly family holdings) and one for large-scale holdings (generally commercial or market orientated holdings).

The questionnaires focused on:

- the agricultural production of: (i) basic food crops; (ii) cash crops; (iii) vegetables; (iv) fruit trees; and (v) cashew nut and coconut trees;
- livestock production and use of veterinary services;
- use of external workers (non-household members);
- use of production implements; and
- plot characteristics;
- socio-economic characteristics of the agricultural household.

Census staff made considerable efforts to take account of gender considerations in the questionnaire design, even though there were no

requests for gender-specific data from potential data users at the time of preparation for the Census.<sup>18</sup> This was done based on FAO guidelines on the integration of gender issues in agricultural censuses. Land management and - use were selected as key topics for the collection of gender-specific data, as land was considered a crucial factor in agricultural production, and land management and use were considered key indicators of gender relationships.

Four instruction manuals and a census glossary were developed for the 2000 CAP to obtain a correct and uniform understanding, especially among enumerators and their supervisors, of census procedures and definitions and concepts used.

The manuals did not make any reference to gender concerns. On the contrary, the enumerators' manual even stressed that enumerators had to make every possible effort to locate the *head of the household* (usually a man) and were only to interview another 'authoritative' representative of the household in the case that the head was absent (INE, 2000a: 59). No specific instructions were given with regard to being gender sensitive, apart from a verbal recommendation that the head of the household (usually a man) could receive help from his spouse to answer the questions and an emphasis on the fact that the census needed to take account of gender issues in order to be able to formulate agricultural policies with a gender perspective.

The questionnaires and manuals were extensively discussed with potential users and other stakeholders and tested in a pilot survey prior to being used in training sessions and for data collection.

#### 4.1.5 Concepts and definitions used<sup>19</sup>

The Mozambique case study has provided some interesting gender-related observations with regard to the use of the following definitions and concepts in the 2000 CAP: *family agricultural holdings*, *household*, *head of household*, person responsible for the field and production/labour inputs.

##### Family agricultural holdings

Agricultural holdings were identified as being either "*Family agricultural holdings* (FAH)" or "*Commercial agricultural holdings*" based upon their sizes, the technologies used and their orientations (i.e. subsistence or market orientated).

<sup>18</sup> Representatives of MADER's Gender Unit did not partake in this exercise because the Unit was not yet operational at the time of the Census.

<sup>19</sup> All definitions highlighted in this section have been translated by the author from Portuguese.

A FAH was defined as “an economic unit consisting of one or more fields or plots, used fully or partially for agricultural and/or livestock purposes, aimed at satisfying the needs of the household” (INE, 2000b: 8). The total area of the FAH includes all household fields and plots - used, rented or fallow - including orchards, non-communal pasturelands, vegetable plots and other small plots of land surrounding the home. The FAH<sup>20</sup> is made up, according to the INE definition, of an autonomous management unit in which the head of the household takes most of the decisions.

This aforementioned definition allows for the collection of more accurate data on women's involvement in agricultural production as it takes account of the fact that an agricultural holding may consist of more than one field or plot managed by different household members/persons.

### Household

A *household* was defined as the collection of people who may or may not be linked by blood, who normally live under the same household roof and eat from the same 'pot' through joint living arrangements (INE, 2000b: 4). Household members who are 'temporarily' absent but participated in the latest agricultural harvest carried out by the household are also considered members of the household.

Although not mentioned in the Census Glossary, another rule was applied to define household members. Family members absent for more than six months were not considered members of the household. This rule has contributed to the collection of more accurate data with regard to the sex of the actual head of the household, as social and cultural factors frequently instigate automatic replies, which identify the most senior male member of the household as the head of household even though he may not be present for the major part of the year.

### Head of household

A *head of household* was defined as the person, man or woman, who is recognized within the household as being the person responsible for managing all the affairs of the household (INE 2000b: 5). If the head of the household is a polygamous man, he is selected as the *head* only in the house of the wife with whom he happens to be on the day of the census, while the households of his other wife/wives are considered female-headed.

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<sup>20</sup> The main characteristics used to define a FAH are: use of family labour, total area of 10 ha or less, orientation towards production for own consumption, use of traditional technology and use of non-specialized seeds.

This definition has contributed to a very heterogeneous mix of households categorized as being female-headed households in the outcomes of the Mozambique 2000 CAP, namely: (i) households with a single, female adult who is solely responsible for the holding; (ii) households with a single, female adult who receives remittances from a spouse having migrated elsewhere, and (iii) households of women living under polygamous arrangements. This causes problems for the interpretation of CAP data on female- and male-headed households and indicates a need for further fine-tuning of these definitions and related sections in the training manuals.

### Person responsible (*responsável*) for the field

A *person responsible for a field* was defined as a household member who takes care of a particular field of the household and who makes operative decisions about its use. “Taking care of the field” has been defined as physically cultivating the field and taking responsibility for agricultural tasks performed on it such as tilling, leveling, weeding and harvesting (INE, 2000b: 11).

The use of this concept is particularly interesting from a gender perspective because it allows for the distinction between *sub-holders* (“person responsible (*responsável*) for a field”) and the *head of the agricultural holding* (usually the *head of the household*). In other words, it does not assume, as it is often done in other censuses, that there is only one *holder* e.g. the household head, who is responsible for all the fields.

Nonetheless, the case study shows that the term “*responsável*” remains ambiguous in the Mozambican context. According to the customary tenure rules, which are widely practiced in Mozambique, different people from within and outside the immediate household may have different, often overlapping, rights over the same parcel of land (= field). The person who decides on what and when to plant may not be the same person as the one who controls the use of the product and may not have the right, for example, to lend or sell the land. These rights are often differentiated on the basis of gender. Moreover, men tend to control most, if not all, of the money obtained by the household after the sales of its production, whether these are food- and/or cash crops. So also in a situation where women are recognized as being responsible for managing most tasks in crop production on a specific field, they may not automatically reap all the benefits of their work as their husbands control the incomes obtained through the sales of surpluses. This clearly shows the need for adaptation of common statistical concepts to national circumstances and may require further testing. Moreover, the 2000 CAP questionnaire allows for the identification of

only one household member as the sub-holder. This influences the accurate recording of the actual situation in Mozambique, where different household members may be 'responsible' for the same field in different ways. The situation is further complicated by the problem of translating '*responsável*' from Portuguese into local Mozambican languages.

#### **Production/labour Inputs**

Production/labour inputs were defined as those activities resulting directly in an exchangeable product. Hence, reproductive labour (referring to child bearing, household responsibilities, firewood collection and caring for household members), which is mostly performed by women, is not covered by this definition. This may lead to a distorted picture of the overall labour required to achieve production and may hide the time constraints that especially women farmers face.

#### **4.1.6 Publicity campaigns**

Publicity campaigns and special meetings were organized at different levels (national, provincial, district and village) to disseminate information on the 2000 Census. This was done by using different mediums such as television, radio and newspapers, and with the help of many people such as census staff, government staff and community leaders. Special messages were developed to inform the population about the census and to appeal for their cooperation. Furthermore, a census mascot was developed, showing a man and woman ploughing the land while using animal traction.

#### **4.1.7 Census coverage, sample design and data collection**

The 2000 CAP meant to cover both rural and urban areas. Several factors, however, delayed the start of the census<sup>21</sup> such as the late arrival of funds, campaigning activities for general elections and severe floods in the south of the country. As a result, the census organizers felt compelled to drop the collection of data in urban and peri-urban areas. This decision may have contributed to a certain under-reporting by the 2000 CAP of women farmers' involvement in the agricultural production because women are often actively involved in (peri) urban agricultural activities.

The *basic unit of enquiry* of the 2000 CAP was either the *household* or the *enterprise* depending on the size of the agricultural holdings. The household was taken to be the unit of enquiry for small and medium scale agricultural holdings, which could include a number of different fields (*machambas*) or plots (*parcelas*), as well as the production of different kinds of animals. The

enterprise was taken as the unit of enquiry for large-scale agricultural holdings.

The 2000 CAP used an *agricultural holding* as its basic statistical unit. This unit was sub-divided into small, medium and large-scale holdings, depending on the size of the area cultivated and the number of animals reared. It did not use rigid terms such as *commercial* and *non-commercial holdings*, in recognition of the fact that small-scale family holdings may also sell some of their produce (INE, 2000: 7). All plots of an agricultural holding were taken into account by the census, irrespective of their size or cultivation. This is, as mentioned before, a gender-sensitive approach to agricultural statistical data collection, since women farmers often cultivate small sub-plots of land within larger holdings, including vegetable gardens and other plots around the house. Exclusion of small plots would result in an under-representation of the contributions made by women farmers to agricultural production.

The 2000 CAP collected data on 429 large-scale agricultural holdings (almost all of them) 1 885 medium-scale agricultural holding and 21 146 small-scale agricultural holdings (94 percent) of the sample and 0.7 percent of the total number of small agricultural holdings in Mozambique).<sup>22</sup> The person interviewed was generally the head of household, though the census organizers indicated that women were actively involved in the interviews - often giving more details and precision to their husbands' answers - and during the field measurements. Another adult household member was interviewed if the head of the household was not present or available. The interviews were generally conducted in the local language, although interpreters were used in some cases.

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<sup>22</sup> In terms of sampling, the census aimed to cover 100 percent of large-scale commercial holdings, 7.5 percent of medium-scale and 0.75 percent of small-scale holdings. Sampling of the medium and small-scale holdings was conducted as follows: between eight and forty Primary Sampling Units (PSU) were selected in each district, depending on its total population. A PSU corresponds with a village or rural settlement. All medium-scale holdings located within a PSU were selected as well as eight households with small-scale holdings (INE, 2000, 7). Individual holdings were selected based on a random sampling procedure. Sampling frames of all agricultural households and 'heads' of household in the PSU were drawn up either from the general Population Census of 1997 or through other existing local lists, and were verified at village meetings or by house-to-house calls. Village authorities received a list of the eight randomly chosen households before the day of the census interviews. These households were then asked to collaborate on the day of the interviews.

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<sup>21</sup> The census was initially planned to take place in 1999.

#### 4.1.8 Data processing and tabulation

A total of 25 data-entry operators were recruited and trained to process the census data with the help of computer programmes. It took eight months to enter, screen, edit and validate the collected data.

The tables were prepared based on the pre-designed tabulation plan. The resulting information clearly reflected that the analysis of the census data was done without a specific demand for gender-disaggregated agricultural data from potential data users. The data were processed and tabulated on the basis of a number of predetermined variables, such as:

- the composition of the household by sex, age, civil status, education, number of household members and number of members engaged in agriculture;
- the number of holdings by size and sex of the head of the household;
- the number of plots by size and household member responsible for the plots; and
- the number of holdings with different types of livestock by sex of the head of the household.

The 2000 CAP did not present gender-specific tabulations on topics such as crop production, the use of inputs, access to credit and/or the marketing of agricultural produce. Nonetheless, the socio-demographic information collected for all household members has provided a basis to compare data on different types of household structures in terms of access to, use of and control over agricultural resources.

#### 4.1.9 Data analysis

Census data were analysed based on two systems of analysis, namely: basic data analysis<sup>23</sup> and detailed data analysis.<sup>24</sup> The basic data analysis exercises provided information on: food and crop production (including fruit-tree production); livestock production; use of agricultural inputs; and the commercialization of agricultural production. The detailed data analysis exercises provided more in-depth information on issues such as: land tenure and use; relationships between agriculture, gender and development; and the marketing of agricultural products in Mozambique.

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<sup>23</sup> The basic data analysis entailed primary analysis and interpretation of Census data based on the original tables planned for, some additional tables generated on demand and relevant information obtained from other sources. It essentially involved characterisation of what is typical in the selected categories of agricultural holdings studied; an analysis of the level and distribution of selected variables/indicators; and a comparison of the Census data with related data from other sources and explanations of differences, if any.

<sup>24</sup> Subject-matter specialists were used for a more detailed analysis of the data.

Most of the data analysed by the 2000 CAP from a gender perspective related to the sex of the *head of the household/holding* and/or plot. Much of the data, however, has not yet been analysed. Re-tabulations of census data, carried out for the purpose of this case study, have revealed a number of interesting gender-related observations with regard to the agricultural population; the head of the holding/plot; ownership of, access to and control over resources; agricultural production and access to inputs and services. The observations are highlighted below, whereas the data are presented in Annex 3: Section 3.2.

#### Agricultural population

The number of women in the agricultural population exceeds the number of men at the national level for the age group of 20 to 50 years. The opposite applies to the other age groups (i.e. younger than 20 years and older than 50 years). This could be due to the out-migration of especially men from rural areas during their most productive ages of their lives in search of other income-generating activities (Annex 3: Table 3.2.1).

The representation of women farmers among the agricultural population was greater in areas with a low potential for agricultural production (such as the Maputo and Gaza Provinces) than in areas with a high potential for agricultural production (such as the Zambézia and Manica Provinces). This could be because of a greater involvement of men in non-farm activities in areas with a low potential for agricultural production and/or a higher out-migration of especially male household members from such areas because of its low potential for agricultural production (Annex 3: Table 3.2.2 to 3.2.5).

#### Head of holding/plot

Three quarters of the agricultural holdings (77 percent) were headed by a man, one quarter (23 percent) by a woman (Annex 3: Table 3.2.6.). Moreover, men managed two-thirds (65 percent) of the family plots, whereas women managed one-third (35 percent) of the family plots (Annex 3: Table 3.3.7).

#### Ownership of, access to and control over productive resources

The average size of the *agricultural holdings* managed by female heads of holdings was smaller than those managed by male heads of holdings. Respectively two-thirds (65 percent) of the holdings managed by women were smaller than 1 ha compared to half (50 percent) of the holdings managed by men. Similarly, *family plots* managed by women were smaller than those managed by men. Respectively 66 percent of the family plots managed by a woman were smaller than 0.5 ha compared to 59 percent of the family plots managed by a man. The average size of an

agricultural holding, according to the census, was 1.26 ha (Annex 3: Table 3.2.6 - 3.2.8).

Male- and female plot managers obtained family plots mainly through occupation (this applied to 45 percent of the plots managed by male plot managers and 37 percent of the plots managed by female plot managers) and inheritance (this applied to 32 percent of plots managed by a male plot manager and 38 percent of plots managed by a female plot manager). Only a small percentage of the plots (respectively 4 percent and 3 percent) had been purchased by the male- or female plot managers (Annex 3: Table 3.2.9).

Female-headed holdings owned fewer animals compared to male-headed holdings. The latter owned on average respectively 5.0 cattle, 6.1 ruminants and 11.3 poultry, whereas the former owned on average 3.9 cattle, 4.6 ruminants and 7.9 poultry (Annex 3: Table 3.2.10). Male heads of holdings also had greater access to production enhancing farm tools such as hoes, cutlasses and ploughs than female heads of holdings. Respectively 80 percent of the male heads of holdings had access to hoes, compared to 23 percent of the female heads of holdings. The percentages for the use of cutlasses and ploughs were respectively 80 percent and 83 percent for male heads of holdings and 21 percent and 17 percent for female heads of holdings (Annex 3: Table 3.2.11).

Female plot managers also had less access to farm inputs such as organic- and chemical fertilizers, and phytosanitary products than male plot managers. Moreover, their access to organic products was greater than their access to chemical products (Annex 3: Table 3.2.12).

#### **Agricultural production**

There was little difference between female and male *heads of holdings* with regard to crop preferences. The most important crops grown by female heads of holdings were maize, cassava, groundnuts and cowpeas, whereas the most important crops grown by male heads of holdings were maize, cassava, groundnuts and sorghum. Female heads of holdings were responsible for respectively 21 percent of the total area cultivated with cowpeas, 19 percent cultivated with maize and 19 percent cultivated with groundnuts (refer to Annex 3: Table 3.2.13).

The most important crops grown by male and female *sub-holders* (plot managers) were maize, rice and cassava. Female sub-holders were responsible for respectively 52.5 percent of the total area cultivated with millet, 36 percent of the total areas cultivated with rice, 29 percent of the total area cultivated with cowpeas and 29 percent of the total area cultivated with sorghum (refer to Annex 3: Table 3.2.14).

The average sizes of the agricultural holdings differed according to the crop produced and the sex of the head of the holding. Agricultural holdings managed by a female head of holding were smaller than those managed by a male head of holding for crops such as maize, sorghum, millet, cowpeas and groundnut, though were equal in size for crops such as rice and cassava (refer to Annex 3: Table 3.3.13). Similarly, plots managed by women were smaller than those managed by men for crops such as maize, sorghum, rice, cassava and groundnut, but not for millet (larger) and cowpeas (equal) (refer to Annex 3: Table 3.3.14).

#### **4.1.10 Data dissemination**

The outcomes of the 2000 CAP were presented to the Head of the State, the Central Government and relevant authorities in all provinces. They were also disseminated through reports, monographs (e.g. on "Agriculture, Gender and Development"), public presentations and debates, via the Internet and on CD-ROMs.

## **4.2 Challenges in integrating gender concerns**

The following challenges were encountered but solved with regard to the integration of gender concerns in the 2000 CAP:

- First, the census organizers were confronted with: (i) a limited request for gender sensitive data from the potential census users at the time of preparation for the 2000 CAP, and (ii) limited guidelines in the FAO technical documents for the 2000 round of the WCA on how to collect gender sensitive data. Nevertheless, the organizers decided to collect gender-disaggregated data on a number of predetermined issues in the absence of specific user requests, in an effort to follow the FAO guidelines on conducting agricultural censuses (reference Paragraph 4.1.2).
- Second, as mentioned before, the enumerators' manual stressed that "... every effort [had to be made] to locate the head of the household ..." for the interview but did not provide specific advice on how to ensure that other household members would also be present during the interview. Hence, in view of the need for obtaining accurate information, also from women farmers, verbal recommendations were made during the enumerator training that the head of household (usually a man) could receive help from his spouse to answer the questions (reference Paragraph 4.1.3).

A number of important challenges, nevertheless, remain with regard to the production of adequate

and appropriate gender-specific agricultural data in Mozambique.

With regard to the *planners*, there is need to:

- ensure that people in charge of planning and other key decision makers in MADER are sensitive to gender issues;
- ensure that representatives of the Gender Unit of MADER, the Gender Nucleus of the Demographic and Social Department of INE, as well as other users of gender-disaggregated data are fully involved in the census or survey design and are familiar with the need for and use of gender-specific information; and
- assure that gender-disaggregated data and information are used in planning and policy formulation processes.

With regard to the *statisticians* there is need to:

- ensure that gender-specific information and characteristics of household members are collected with regard to the most relevant aspects of agricultural production, while avoiding that the census questionnaire becomes too large;
- ensure that peri-urban and urban agriculture is also covered in data collection to avoid an under-representation of women's involvement in the agricultural sector as they often grow food crops/vegetables for their families in the areas around the main cities;
- refine and improve definitions used, notably of the *head of household* and *field/plot manager* (reference Paragraph 4.1.5);
- ensure that a considerable percentage of enumerators are women; and
- ensure that gender-disaggregated data are adequately analysed and disseminated.

#### **4.3 Impact of the last agricultural census on the availability of gender-specific agricultural information in the country**

The 2000 CAP has enriched and updated existing structural information on the agricultural sector in Mozambique. The census helped to encourage dialogues between the users and producers of statistics and promoted inter-institutional collaboration especially between INE, MADER and the Eduardo Mondlane University. It provided on-the-job trainings for the national staff working in agricultural statistics.

The wealth of gender-specific data collected by the census can be used for a detailed statistical analysis of land rights, cropping patterns and access to key inputs differentiated by the farmer's sex and the type of household to which they belong. Much of these data, however, are yet to be analysed. The impact of the 2000 CAP on the

availability of gender information would have been greater if the data analysts would have been better trained in the use of gender analytical tools for data collection, processing, analysis and dissemination.

Gender-specific outcomes of the census have been presented in a publication entitled: "Agriculture, Gender and Development". This publication is part of a document, comprising of nine census reports, which is widely used by many individuals and organizations.

#### **4.4 Use of gender-specific agricultural information for rural development policy and programmes design and implementation**

The Department of Planning and Monitoring as well as the Department of Cooperation and the decision makers of MADER have become increasingly aware of the need for producing gender-specific agricultural data in the framework of the country's high commitment to eradicate poverty and the increasing awareness of inequities existing between men and women in terms of their access to and control over resources and their opportunities to participate in development processes.

The Planning Unit of the Ministry of Agriculture, which is responsible for the monitoring of the impact of agricultural development programmes, is using more and more gender-specific indicators to monitor their programmes and activities, thus increasing the responsibility of the Statistics Department to collect such data.

The integration of gender issues into agricultural development policies and plans by planners is improving. This has led to the use of socio-economic indicators with a gender perspective in their annual and mid-term planning. Particular emphasis on the production and use of gender sensitive data has been placed in PROAGRI Phase II, which is expected to start by 2005. There is, however, still a need to improve and strengthen the collaboration between the Gender Units and Departments responsible for statistics, planning and policy analysis.

The number of topics, however, on which gender-specific data have been collected by the Census remains insufficient to allow for an in-depth analysis of gender relations in the agricultural sector in Mozambique. Efforts should be made to improve the future production of gender-specific agricultural data by means of agricultural censuses and surveys.

#### 4.5 Suggestions to improve the methods used

The following recommendations have been derived from Mozambique's experience in integrating gender concerns into the 2000 CAP:

- Wide user-producer consultation is needed prior to an agricultural census or survey, to ensure that the data to be collected are identified based upon an existing demand. Potential users of gender-disaggregated data, such as gender units of governmental institutions (notably the Ministry of Agriculture), women advocacy groups and NGO's working in rural areas, need to be actively involved in the consultative process.
- The recruitment of female enumerators should be encouraged, without compromising the level of competency. Publicity around the registration of potential candidates should be improved and provincial authorities should receive guidance on the importance of also including women enumerators in the selection process.
- Agricultural census personnel at all levels need to be sensitized on gender issues prevailing in the agricultural sector and the importance of collecting gender-disaggregated agricultural data. Furthermore, they should be trained in the use of gender analytical tools for data production and analysis. The training of trainers on gender-related topics should involve staff from the Gender Unit of MADER and other gender specialists.
- Efforts should be made to include other household members engaged in agriculture, apart from the head of the household, in the interviews in order to improve the quality of household level data collected by agricultural censuses and surveys.
- The *head of the household/holding* and *sex of head of household/holding* concepts need to be refined to allow for more accurate data collection with regard to regarding male- and female-headed agricultural holdings (reference Paragraph 4.1.5. concerning the identification of heads of household by sex in polygamous relationships). In order to make a better distinction between male- and female-headed households, it is recommended that the male head of a polygamous household is regarded head of the household for all "sub-households" with the co-wives are identified as sub-holders (plot managers) for the fields on which they work.
- The questionnaires and resulting tables should provide more information on the labour inputs provided by male and female household members and on gender differences in control over agricultural outputs and income.
- Agricultural surveys should collect complementary information on reproductive

labour inputs provided by women and men e.g. in water and firewood collection, food processing and child-care to better illustrate differences in time constraints faced by women and men engaged in agricultural production.

#### 4.6 Recommendations

*The Government of Mozambique should endeavour to:*

- strengthen the MADER Gender Unit with regard to its understanding and use of agricultural statistics and the need for gender-disaggregated data;
- enhance the capacity of its planning staff to use gender-disaggregated data in the planning, implementation, monitoring and evaluation of its five-year national plan of action for the reduction of absolute poverty ('PARPA 2001-2005') and other programmes focusing on the agricultural sector;
- promote that INE and MADER diversify their methods for information dissemination related to gender issues through the use of: the Internet, CDs, booklets, mass media, etc.;
- include gender indicators in MADERs' Management Information System; and
- seek further information from other countries and international development partners to improve the understanding of gender issues.

*FAO should strive to:*

- provide clear and systematic guidance on how to integrate gender-considerations into agricultural census and surveys. Particular attention should be given to: (i) sample design, (ii) concepts and definitions, (iii) design of questionnaires (taking into account the collection of information on producers at intra-household level); and (iv) data analysis and dissemination (including report writing);
- increase its support to MADER and INE through guidelines and trainings on how to further improve the integration of gender concerns into agricultural censuses and surveys; and
- promote and support broad-based discussions on the issues discussed in this case study, not only among the census planners, but also among the key intended users of the census data.

# **5 Namibia**

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**By: Theopolina L Nantanga-Masudi**

**October 2004**

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## Acronyms

AAS	Annual Agricultural Survey
CBS	Central Bureau of Statistics
CSO	Central Statistics Office
CTC	Census Technical Committee
CWSMSP	Community Water Supply Management Support Programme
DOP	Directorate of Planning
FAO	Food and Agriculture Organization of the United Nations
HoAH	Head of Agricultural Holding
MAWRD	Ministry of Agriculture, Water and Rural Development
NAC	Namibia Agricultural Census
NHIES	Namibia Household Income and Expenditure Survey
NOLIDEP	Northern Regions Livestock Development Programme
NPC	National Planning Commission
PSU	Primary Sampling Unit
UN	United Nations

## Executive summary

The agricultural sector is the main source of employment and livelihood for more than two-thirds of the population in Namibia. Hence, the Government of Namibia recognizes the need for accurate and up-to-date agricultural statistical data for the planning, implementation, monitoring and evaluation of sound agricultural development policies and programmes in Namibia.

The government received considerable support for the development of a National Statistical Agricultural System, as no statistical organization or body existed in Namibia prior to its independence in 1990. Much of the system had to be developed from scratch, especially with regard to the communal agricultural sector. Namibia's first Census of Agriculture was conducted in 1994/95. The nation-wide census focused on both the commercial- and the communal agricultural sectors. It was carried out within the framework of the five-year Plan for the Development of Statistics in Namibia. The immediate objective of the census was to obtain regional and national baseline agricultural data for the agricultural sector.

Gender concerns were hardly taken into account in the 1994/95 Census, as it was not considered a priority by the census organizers, the development planners or the policy-makers at that time. In addition, no specific requests were received for gender-disaggregated agricultural data from other data users. As a result, the census collected sex-disaggregated data only on a small number of topics and few attempts were made to analyse the data from a gender perspective.

The direct outcome of the 1994/95 census may have been limited in terms of the production of gender-specific agricultural data. Its indirect impact, however, has been quite significant. The census results illustrated men's and women's productive contributions to agricultural production and increased awareness among data users and producers for the need to collect gender-disaggregated data. Moreover, it provided a baseline that allowed for the identification of data gaps in gender statistics. Some of these gaps could be filled through additional analysis and tabulation of existing raw data, while others were addressed in subsequent annual agricultural surveys. It has also led to changes in the ways that ministries (such as the Ministry of Agriculture, Water and Rural Development) address gender issues and concerns in their programmes and projects.

Namibia's 1994/95 Agricultural Census has highlighted a number of challenges that need to be addressed in order to enhance the integration

of gender concerns in future agricultural censuses and surveys. These challenges relate to: (i) low levels of coordination between users and producers of gender-specific agricultural data; (ii) low-level of awareness on the importance of gender-disaggregated data; (iii) lack of skills among data users and producers to address gender issues; (iv) high mobility rate among statistical personnel; (v) the absence of a co-ordination committee to promote and oversee the production, dissemination and use of gender statistics; (vi) high costs related to the collection of sub-national data; (vii) weak data dissemination methods, and (viii) few gender variables in agricultural censuses. Considering gender as an analytical variable in agricultural censuses and surveys necessitates statistics producers to acquire a new set of conceptual and analytical perspectives and skills, which will allow agricultural development planners and other data users to deal explicitly, effectively and efficiently with gender-related issues.

The census has contributed to the start of a process aiming to set up an efficient and operational information system in support of gender-sensitive planning, programming and decision-making in Namibia. Active roles have been ascribed to the Government of Namibia and the FAO to overcome the above-mentioned challenges and to further support the use and production of gender-disaggregated agricultural statistical data in Namibia.

## Introduction

The agricultural sector is the main source of employment and livelihood for approximately 70 percent of the population in the Republic of Namibia (Central Statistics Office, 1997a: 4). The commercial agricultural sector accommodates nearly 16 percent of the total labour force, while in some communal areas up to 90 percent of the local population is engaged in mainly subsistence farming (Labour Survey 2000). Many households largely depend on the income obtained from their agricultural activities. It is therefore important that accurate and up-to-date agricultural statistical data are available for the planning, implementation, monitoring and evaluation of sound agricultural development policies and programmes.

Until Namibia's independence in 1990, agricultural statistical data collection mainly focused on the commercial sector. Communal farms, which supported an estimated 120 000 households, were largely ignored at the time. As a result, there was little documentation on the agricultural production and welfare of farmers involved in communal farming during this period.

The Government of Namibia shifted its focus to the development of the communal sector and human resources after independence. This was done to combat unemployment and dependency on food imports. The shift has led to an increased demand for basic statistical data concerning the communal agricultural sector and farmers engaged in predominantly subsistence farming.

No statistical organization or body existed in Namibia prior to independence. Thus, one of the first priorities of the newly elected government was the establishment of a Central Bureau of Statistics (CBS) –formally known as the Central Statistics Office (CSO)- within the National Planning Commission (NPC).<sup>25</sup> A group of international advisors<sup>26</sup> undertook a mission to Namibia in February/March 1993 to assess together with the CSO user requirements for statistics and the availability of statistics. They formulated statistical programmes for each subject matter identified and prepared a five-year

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<sup>25</sup> Technical support for the establishment of a new CSO was initially provided for by the United Nations Development Programme. In 1992, long term technical cooperation begun between the Namibian Government and the governments of Sweden and the United Kingdom with the objective of strengthening Namibia's statistical data collection capacity.

<sup>26</sup> The mission consisted of a group of advisors from the International Consulting Office of Statistics Sweden, the Overseas Development Administration of the United Kingdom, the Zimbabwe Central Statistical Office and the United Nations-Economic Commission for Africa

work programme for CSO, also known as the National Household Survey Programme.<sup>27</sup>

The National Household Survey Programme provided follow-up to the 1991 Population and Housing Census and comprised the following components:

- the 1993/94 Namibia Household Income and Expenditure Survey;
- the 1994/95 National Agricultural Census;
- annual agricultural surveys;
- the Intercensal Demographic Survey;
- the Namibia Labour Force Survey; and
- the Level of Living / Health and Nutrition / Equal Opportunity Survey.

The programme supported the collection of two types of agricultural statistical data, namely: structural data (through the Agricultural Census) and performance data (through annual agricultural surveys).<sup>28</sup> Both data collection systems are closely related. In this, Namibia took note of the globally increased appreciation for the need for gender statistics as already highlighted during UN Decade for Women (1975 to 1985).

This chapter highlights Namibia's experiences with regard to the integration of gender concerns into its first National Agricultural Census. Paragraph 1 describes the integration of gender concerns into the 1994/95 Agricultural Census of Namibia. Paragraph 2 elaborates on the challenges encountered with regard to the integration of gender concerns. Paragraph 3 describes the impact of the census on the availability of gender-specific information regarding the agricultural sector. Paragraph 4 analyses the use of gender-specific agricultural information for rural development policies, programme design and implementation. Paragraph 5 offers recommendations on improving the methods used, while paragraph 6 provides concluding remarks with specific recommendations for follow-up action to be taken by the Government of Namibia and FAO.

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<sup>27</sup> The findings of the mission were presented in a report titled "A statistical programme for Namibia. Development of statistics in Namibia: A five year plan 1993/94".

<sup>28</sup> *Structural data* focus on aspects related to the structure of the agricultural production sector, which do not change a great deal from year to year. Structural data are obtained from variables focusing on, for example, land use, types of enterprises, basic features of crop cultivation, farm labour inputs used, tenure arrangements and socio-demographic characteristics of agricultural holders. *Performance data* allow for an analysis of the performance of the agricultural sector and focuses, for example, on prices and quantities of inputs and outputs, enterprise costs and returns from net farm income.

## 5.1 Integration of gender concerns into the 1994/95 agricultural census of Namibia

The first national agricultural census of Namibia, the Namibia Agricultural Census (NAC), was conducted in 1994/95 by the Central Bureau of Statistics (CBS), in close collaboration with the Ministry of Agriculture, Water and Rural Development (MAWRD). It was part of the five-year plan for the development of statistics in Namibia (1993/94-1997/98).

### 5.1.1 Objectives of the census

The census' main objective was to obtain regional and national level baseline data on the structure and production of the communal<sup>29</sup> and commercial<sup>30</sup> agricultural sectors in Namibia. The data were required for many different purposes, such as: policy-making and analysis, monitoring and evaluation, crop and livestock research, rural development planning, agricultural marketing and food security monitoring. More specific, the census aimed to acquire reliable data on agricultural holdings, land areas, crop production and animal production. Gender concerns were not specifically mentioned in the objectives of the census.

### 5.1.2 Identification of data requirements

In 1994, the government established a Census Technical Committee (CTC)<sup>31</sup> for the planning and implementation of the 1994/95 NAC. This was done with the assistance of technical advisers. Preparations for the census started in June 1994 with the organization of a user – producer workshop,<sup>32</sup> which discussed the basic design and focus of the Census, as well as data requirements and questionnaire designs.

The data requirements were largely determined on the basis of their relevance for planning,

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<sup>29</sup> *Communal agriculture* refers to agricultural activities (crop cultivation, livestock rearing) carried out on farms operated by family units on communal lands (lands belong to the community and to which they have user rights but no title). The communal sector is subsistence oriented and more labour intensive with a low utilisation of modern technology and external inputs.

<sup>30</sup> *Commercial agriculture* refers to agricultural activities (mainly on livestock and game farming) carried out on farms operated by private families and agricultural entrepreneurs who have titles to the land. This sector is well developed, more capital intensive and oriented to export markets, mainly livestock products. It accounted for about 90 percent of the value of agricultural production in the late 1980's.

<sup>31</sup> This Committee was established through the National Planning Commission. The Directors of CBS and the Directorate of Agricultural Planning within the MAWRD appointed the members of CTC.

<sup>32</sup> The workshop proceedings have been summarised in a document entitled "Namibia 1994/95 Comprehensive Agriculture Survey Report".

monitoring and evaluation purposes. The census did not collect information on issues such as land use planning, environmental changes nor did it provide a comprehensive baseline of existing physical resources. The identified data requirements did not entail any reference to the need for gender-specific agricultural data, as development planners and policy-makers did not express a need for it during the census preparations nor did CBS consider the production of such data a priority.

### 5.1.3 Training of census personnel

The training of census personnel was part of the overall five-year plan for the development of statistics in Namibia: some staff participated in in-country training workshops and seminars, while others were sent on attachment to national statistical offices and/or joined courses in statistics at specialized training institutes abroad.

Training needs of the agricultural census staff were identified during the planning stage of the census. A detailed training programme was developed for field staff (both supervisors and enumerators), focusing on:

- the need for a census and its importance;
- general information related to the job;
- the objectives of the census;
- definitions used and procedures of the census;
- the design of the census;
- sampling techniques used;
- how to conduct field surveys;
- data processing and analysis; and
- administrative instructions with regard to the census.

Training activities continued to take place after the 1994/95 NAC, as an intensive training programme was provided to supervisors and enumerators involved in the implementation of annual agricultural surveys<sup>33</sup> on interview techniques and survey procedures.

No training was provided prior to the implementation of the 1994/95 Agricultural Census on the need for gender-disaggregated data and the collection of such data through agricultural censuses or surveys. However, in November 2001, staff of CBS, academic and research institutions and the Statistics Unit of the MAWRD participated in a workshop on this topic organized by the Gender Unit of the Ministry, following the implementation of the protocol on

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<sup>33</sup> The first Annual Agricultural Survey (AAS) was conducted in 1996/97 in the northern communal areas of Caprivi, Kavango, Ohangwena, Omusati, Oshana and Oshikoto. The surveys have taken place on an annual basis ever since.

gender statistical data compilation.<sup>34</sup> The objective of the workshop was to sensitize statistical data-users and producers about the need for incorporating gender considerations into agricultural/rural statistics and to provide practical tools for gender-disaggregated data production and analysis.

#### 5.1.4 Questionnaires and manuals

The 1994/95 NAC made a distinction between the communal and the commercial agricultural sector. Questionnaires for the communal sector were administered with the help of enumerators, whereas those for the commercial sector were sent out by mail for the commercial farmers to complete themselves.

The census questionnaires addressed the following topics:

- demographic characteristics of the agricultural households;
- employment characteristics of the holder and household (including for the commercial sector the number of permanent/seasonal paid workers);
- equipment used and investments made;
- number and types of livestock raised;
- composition of herds/flocks (only for the commercial sector);
- changes in livestock numbers due to births, purchase, deaths, sales, etc;
- land areas (including area under fallow; area planted; area harvested; grazing land and farmers' estimates of production);
- use of inputs (such as: seeds, fertilizers, pesticides, irrigation and water);
- access to services; and
- source of income and food.

The instruction manuals highlighted the duties and responsibilities of census staff, provided background information on the census aim, objectives and scope, listed concepts and definitions used and provided guidance with regard to field operations and procedures. No reference was made to gender concerns.

#### 5.1.5 Concepts and definitions used

Most of the concepts and definitions used during the 1994/95 NAC were based on or adaptations of the standard concepts and definitions recommended by international organizations such as FAO under the Programme for the World Census of Agriculture 2000.

It is possible that a certain degree of gender-bias occurred in the 1994/95 NAC as a result of the definitions and concepts used, as no reference

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<sup>34</sup> This was one of the components of the "Integrated support to sustainable development and food security programme (IP)" for Namibia (also refer to paragraph 5.4).

was made to gender issues in agricultural production and potential gender-biases in data collection. This may have led to an over-reporting of the number of male heads of households and male heads of holdings due to socio-culturally desirable responses and an underreporting of the contributions made by women farmers to agricultural production.

#### 5.1.6 Publicity campaigns

Wide spread publicity campaigns were conducted prior to the implementation of the 1994/95 NAC to inform the mass public about the need and importance of the census and to ask for their support in this exercise. Information about the census was disseminated with the help of different mass media, such as radio, television and newspapers. Regional governors and local leaders/authorities were briefed about the census and asked to assist the enumerators with the identification of sampled households.

#### 5.1.7 Census coverage and sample design

The 1994/95 NAC aimed to collect data at the national and regional level (i.e. for all 13 regions). The sample-size was adequate for the provision of statistically reliable data at the national level, but the regional-level data could contain a certain margin of error due to the smaller sample sizes. The census did not reflect district-level data.

The sample design used for the 1994/95 NAC closely resembled the one used by the 1993/94 Namibia Household Income and Expenditure Survey (NHIES). The agricultural holdings were sub-divided into commercial and communal holdings. Communal agricultural holdings were further sub-divided into small and large holdings, depending on the size of land cultivated and/or the number of animals reared.<sup>35</sup>

There was a complete enumeration of the commercial holdings, while a sampling approach was adopted for the selection of the communal agricultural holdings. This was done according to a two-stage stratified sampling design.

The selected sample design has most probably contributed to an underreporting of the involvement of women in agricultural production in Namibia due to the fact that urban farming and

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<sup>35</sup> At least one of the following criteria had to be fulfilled for an economic unit to be included in the census as a *small communal agricultural holding*: (a) having or operating at least one field of cultivated land; (home gardens not included) (b) raising one or more cattle, (c) raising five or more goats and/or sheep; and/or (d) raising 25 or more poultry. At least one of the following criteria needed to be fulfilled for an economic unit to be included in the census as a *large communal agricultural holding*: (a) having or operating more than 50 ha of arable land; (b) raising more than 25 cattle; (c) raising more than 100 goats; and/or (d) raising more than 500 poultry.

home-garden farming activities were not covered by the census. Both activities were not considered of enough importance to be included in the census even though research has pointed out that such activities, generally managed by women farmers, can be of major importance to households from both an economic and food-security point of view.

Another general shortcoming of the sample design has been the exclusion of landless households from the sample. Their contributions to agricultural production could be significant as farm labourers.

### 5.1.8 Data collection

Communal agricultural holdings were visited twice for data collection: data relating to the planting season were recorded during Visit 1, whereas the focus of Visit 2 was on data related to the harvest season.<sup>36</sup> Similarly, two sets of data were also collected for the commercial agricultural holdings.

Sex-disaggregated data were collected in relation to the agricultural holder and other household members. The 1994/95 Census collected data on the sex, age, marital status and educational level of the holder, and the age, sex and main occupation of other members of the household.

Insight into who has access to, control over and ownership of which productive resources is essential for the planning of development interventions and for the identification of poor and vulnerable households. The 1994/95 NAC provided household level information on the use of productive resources (such as equipment, seeds and fertilizers) and access to services (e.g. extension services) but did not focus on intra-household differences in access to and control over productive resources and access to services.

### 5.1.9 Data processing

The Survey Section within CBS was responsible for the overall coding and verification of the questionnaires received from the field. CBS' Electronic Data Processing, Publications and

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<sup>36</sup> Data collected during *Visit 1* focused on, for example, the collection of basic demographic data, information on economic activities of household members, listings and measurements of all fields, forecasts on yield and production outputs, recordings of the total number of animals raised by age and sex, and information on the characteristics of land use and crops planted including the facilities used for preparing the fields, planting methods, irrigation, type and quantity of seed(s) used, distance to nearest seed outlet, and comparisons of the current crop area and production to the previous year was done. Data collected during *Visit 2* focused on, for example, the use of inputs such as fertilizers and chemicals, access to water for livestock production; changes in the herd structure; farm equipment used and access to information, credit facilities and training programmes.

Reproduction Section used standard software programmes for data entry and processing. There was no specific focus on gender issues in the data processing phase and no attempts were made to produce classifications that could clearly reflect existing gender differences.

### 5.1.10 Tabulation and data analysis

An initial draft tabulation plan was prepared by the Agriculture Statistics Section and sent to the Directorate of Planning (DOP) of MAWRD for necessary corrections/inputs and approval. Preliminary tables presenting information gathered during Visit 1 were produced by the end of November 1995. The information was made official in July 1996, after some of the data had been corrected and rectified. The final tables reflecting production figures collected during Visit 2 were released in November 1996.

The census produced a limited number of basic tables with sex-disaggregated data relating to the head of the household/holding. Technically speaking, it would have been possible to correlate these variables with other variables such as the holding size, inputs used (e.g. equipment, fertilizers, seeds), livestock raised and access to service (e.g. extension services). The census, for example, showed a positive correlation between the holding size and the age of the holder. This comparison could have been taken one step further by assessing the possible correlation between the holding size and the sex of the holder. Few attempts, however, were made to analyse the collected data from a gender perspective. Consequently, gender-specific agricultural information can still be obtained from the 1994/95 NAC through re-tabulations of the existing data sets.

### 5.1.11 Dissemination of information

The Central Statistics Office of the National Planning Commission published the main findings of the 1994/95 NAC in four census reports<sup>37</sup> and six statistical abstracts. The statistical abstracts focused on topics such as: land and climate, population and vital statistics, health, public order, education, employment and labour, tourism, agriculture, transport and communication, mining and quarrying, and electricity and water. They were published with the objective of providing a single source of statistical information on various social and economic conditions in the country. The abstracts were issued in collaboration with other government ministries, agencies and organizations.

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<sup>37</sup> namely: (i) National Agricultural Census - Basic analysis of communal agriculture; (ii) National Agricultural Census - Basic tables of communal agriculture; (iii) National Agricultural Census - Basic tables of commercial agriculture; and (iv) National Agricultural Census - Technical report

## 5.2 Challenges in integrating gender concerns

As mentioned before, the 1994/95 NAC collected few data related to gender issues prevailing in the agricultural sector of Namibia. Even so, the census has contributed to a greater awareness on the need for gender-disaggregated data. In addition, the process has provided important insights into challenges that need to be overcome in order to obtain an enhanced production of gender-disaggregated agricultural statistics in Namibia. Challenges faced are the:

- **Low level of coordination between users and producers of gender-specific agricultural data.** One of the major lessons learnt from the 1994/95 NAC has been the fact that there needs to be a greater cooperation and coordination between the users and producers of gender-disaggregated data. Both parties need to collaborate more to determine what gender-disaggregated data and indicators are required for policy formulation, monitoring and evaluation purposes. Permanent and effective cooperation are required between both parties in order to mainstream gender into all stages of the data collection process. Such cooperation did not exist at the time that the 1994/95 Census was implemented.
- **Low level of awareness relating to the importance of gender-disaggregated data.** The collection of gender-specific agricultural data was not a priority for the 1994/95 NAC due to the low level of awareness among data users and producers concerning the importance of gender-disaggregated data. Much has improved in this field since the implementation of this census as a result of awareness raising workshops and training programmes undertaken in the field of gender and development in Namibia.
- **Lack of skills among data users and producers on how to address gender issues.** The integration of gender concerns into the 1994/95 NAC was also hampered by the lack of knowledge and skills among data-users and producers on how to take gender issues into account. Planners, policy-makers, development officers, research institutions and other statistics users need to be trained in the use of gender-disaggregated agricultural data for planning, design, monitoring and evaluation purposes. Similarly, there is a need to strengthen the capacities of data-producers (e.g. personnel from CBS, MAWRD, other line-ministries and research institutions) with regard to the collection, production, analysis and presentation of gender-disaggregated agricultural data. Much has improved in this field too as a result of gender-related awareness and skills raising workshops and training activities. However, there is still a

need to further enhance the skills of data-users and producers to address gender issues.

- **Absence of a co-ordination committee to promote and oversee the production and use of gender statistics.** The absence of such a committee hampered the integration of gender concerns into the census because nobody advocated for the production of gender-specific agricultural data. A gender statistics co-ordination committee, established for example within the Ministry of Women's Affairs and Children's Welfare, could play an important supervising role with regard to the execution of a plan for the use and production of gender-specific data.

The 1994/95 NAC also revealed other well-known constraints in statistics collection of a more general nature that hampered the collection of gender-specific data, such as:

- **High turnover of statistics personnel.** A challenge faced by the CBS and the Statistic Unit within DOP-MAWRD has been the high turnover of qualified statistical personnel within the department and unit. Consequently, both institutions have not been able to fully benefit from the outcomes of training programmes (including gender training) and have had to constantly re-train its personnel due to the large numbers of newly employed staff members. Strategies need to be developed to keep qualified and experienced personnel within the unit and department and/or to ensure that gender aspects are mainstreamed into the general training programmes of statistical personnel.
- **High costs related to the collection of sub-national level data.** Lower levels of analyses and data presentation show in-country intra-regional differences more clearly. The same applies to gender differences and their implications, which become more visible when data are compiled, processed, analysed and presented at a sub-national level. The lower the level of analyses, the higher the costs involved because of the greater sample sizes required. The 1994/95 NAC produced good quality national data, whereas the regional data were of a lower quality due to smaller sample sizes. The solution proposed to this challenge is make sure that enough funding is secured for the next NAC (planned for in 2005/6) and subsequent surveys so that the sample sizes can be increased in order to produce a greater amount of accurate sub-national data.
- **Weak data-dissemination methods.** The main findings of the 1994/95 NAC were disseminated by means of census reports and statistical abstracts. These reports and abstracts were not easily accessible to many data users. Moreover, different data users required different kinds of statistical

information. Therefore, methods need to be developed to disseminate census and survey data in an accessible and more user-friendly manner (e.g. through easy-to-use databases that can provide selected tabulations).

### 5.3 Impact of the last agricultural census on the availability of gender-specific agricultural information in the country

The 1994/95 Agricultural Census, being the first of its kind in Namibia, produced only a small amount of gender-specific agricultural data. This was related to the fact that the collection of such data was not considered a priority by the census organizers. Moreover, the fact that no requests were received for the production of such data from data users further contributed to the minimal quantity of gender-specific data collected.

Nevertheless, the spin-off effects of the 1994/95 NAC have been considerable from a gender point of view, as the census:

- provided information that illustrated the participation of men and women as productive forces in agricultural production;
- created greater awareness among data users and producers for the need to collect gender-disaggregated data;
- provided a baseline that allowed for the identification of gender data gaps.<sup>38</sup> Some of these gaps have been filled through additional data analysis and re-tabulation exercises, whereas others have been addressed in subsequent agricultural surveys;
- changed the approaches of MAWRD and other organizations with regard to gender issues and concerns in their programmes and projects. The 1994/95 NAC played a role in increasing MAWRDs' recognition of the importance of integrating gender concerns in agricultural and rural development and contributed to: (i) a process of conceptual, analytical, policy and programme change in order to mainstream gender in agriculture; (ii) the recognition of the need to build an internal capacity to effect the changes; and (iii) the preparation of a training programme to promote a common understanding of participatory gender sensitive methods within MAWRD; and
- modified the survey methods and instruments used in the annual agricultural surveys,<sup>39</sup> as a

<sup>38</sup> The 1994/95 NAC, for example, provided general and basic information on the production of staple food crops. It did not provide any insight into whether the crops were cultivated by male or female farmers.

<sup>39</sup> These surveys collect data on an annual basis on plot characteristics (e.g. crop planted, agronomic practices, type of seed planted, pests, farmer's

result of some of the lessons learned following the (partial) introduction of gender concerns in the 1994/95 NAC.

The 1994/95 NAC questionnaires have been used as baseline questionnaires by other studies and surveys, such as the annual agricultural surveys.

### 5.4 Use of gender-specific agricultural information for rural development policy and programmes design and implementation

Gender-specific agricultural data for Namibia have been obtained from sources such as the:

- 1994/95 NAC;
- annual agricultural surveys (1996-2003);
- 2002 Report on gender-disaggregated work in rural northern Namibia;
- farm household economic surveys (1995-2000);
- 2000 Namibia Labour Force Survey; and
- Report on review of the different agricultural statistical systems 2003.

These sources have highlighted some interesting facts and findings, a few of which are highlighted below.

- Gender inequality exists at all levels of Namibian society and significantly affects women's social and economic position.
- There are significant regional differences in the male to female ratio in the agricultural population. For example, the Omusati Region recorded a strong over-representation of women (66 percent female versus 34 percent male), whereas women farmers were under-represented in the Caprivi Region (40 percent female versus 60 percent male) (refer to Annex 4: Table 4.1a and 4.1b). These differences could be linked to differences in regional migration patterns of men and women.
- Clear differences are also seen in the division of labour between men and women in the agricultural sector. Women and girls tend to dominate in crop cultivation (with the exception of land preparation activities), whereas men and boys tend to dominate more in activities related to animal production (refer to Annex 4: Table 4.2).
- The annual production of pearl millet, sorghum and maize by female *heads of agricultural holdings* (HoAH) has increased in all six regions where mixed farming is practiced. It has increased at the national level from 27 percent in 1996/97 to 38 percent in 2002/03 (with a peak in 2001/02 of respectively 41 percent produced by female HoAH against 59

estimates of production and area measured), area measurements and crop cuttings.

percent produced by male HoAH) (refer to Annex 4: Tables 4.3a to 4.3d).

- Differences also exist between men's and women's access to, control over and ownership of productive resources. Male-headed households are able to plough larger fields and plant more ha than female-headed households as they have greater access to inputs, labour and labour-saving technologies. Male-headed household's owned on average more cattle, more oxen and more ploughs than female-headed households (refer to Annex 4: Tables 4.4a and 4.4b).
- A greater decline was observed in the numbers of ploughs and oxen owned by female HoAH than male HoAH (refer to Annex 4: Tables 4.4a and 4.4b). This could have been as a result of the 1992 drought and could indicate that female heads of households have fewer alternative resources to turn to in case of emergencies.
- Men have greater access to technologies that lessen their workload in subsistence farming. For instance, male-headed households often used draught power (oxen, donkeys or horses), ploughs, planting tools, hired labour and/or tractors for land preparation activities, while female-headed households generally depended on the use of hand hoes for such activities.

Gender-specific agricultural data have been used for many different purposes, such as:

- the publication of a booklet on: "Women and Men in Namibia" (1995) by the Central Statistics Office of the National Planning Commission;<sup>40</sup>
- the incorporation of gender considerations into the National Agricultural Policy (1995);<sup>41</sup>
- the formulation of the National Gender Policy (1997) by the Department of Women's Affairs;
- the formulation of a National Gender Plan of Action (1998-2003) by the Office of the President;
- the development of gender-related training programmes and workshops; and
- the preparation and implementation of development programmes, such as: (i) the Northern Regions Livestock Development Programme (NOLIDEP) and (ii) the Community Water Supply Management Support Programme (CWSMSP).

<sup>40</sup> This document presents sex-disaggregated data on issues such as: population, work, education, health, law and order, resources and decision-making.

<sup>41</sup> An important aspect of the policy is its recognition of the important role played by women in agricultural production. Moreover, the document implies that the government and other actors in the sector must adopt a more gender-responsive approach to working with communal farmers.

A training programme was initiated within MAWRD to take gender mainstreaming further and to establish a common understanding of participatory gender sensitive methods. As a result, two separate but related training projects were introduced and implemented in Namibia between 1995 and 1997, namely:

- "Improving information on women's contribution to agricultural production for gender-sensitive Planning" (GCP/NAM/005/NOR). This project aimed to strengthen MAWRDs' institutional capacity to collect information on the needs of rural women and to mainstream gender into development policies, programmes and projects; and
- "Training for integration of women in agriculture and rural development" (TCP/NAM/4451). This project focused on the training of extension staff in order to enhance their skills to deal with gender sensitive subsistence farming systems.

MAWRD proposed the establishment of a gender management, monitoring and evaluation system, where gender statistics related to the agricultural sector could be stored, updated and managed. This led to the preparation and implementation of a protocol on "Gender statistical data compilation" by MAWRD. The protocol was one of the components of the "Integrated support to sustainable development and food security programme" (IP) financially supported by the Government of Norway and Finland through FAO. Its aims were to:

- review existing data and data collection instruments and suggest realistic improvements for gender responsive data collection;
- establish a basic capacity within the agricultural sector for the design and development of a statistical programme for gender-specific data compilation activities; and
- develop a methodology for an effective implementation of a gender management, monitoring and evaluation system.

## 5.5 Suggestions to improve the methods used

A gradual approach is proposed to mainstream gender concerns into future agricultural censuses and surveys in Namibia. In view of improving the methods used so far, it is suggested that the following issues are taken into account:

- Ensure greater collaboration between data producers and users to enhance the production and use of gender-specific agricultural statistical data. Hereto:

- Data users need to be sensitized on the importance of gender-specific data for the design, implementation, monitoring and evaluation of agricultural programmes and policies. They also require knowledge of gender concepts, data collection methods and analytical tools to allow them to specify their gender-related data needs; and
- Census personnel need to be trained in the use of gender analysis tools for data collection, processing, tabulation, analysis and dissemination. Moreover, data producers should be able to assist data users to translate meaningful gender-specific development indicators into data requirements.
- Reduce known gender biases in agricultural census and surveys through:
  - a review of all concepts and definitions to eliminate implicit gender biases;
  - the introduction of a module on gender considerations in the next NAC (planned for in 2005/6) in support of the process of mainstreaming gender issues into agricultural statistics;
  - the elaboration of a tabulation plan that clearly reflects the needs and demands for gender-disaggregated agricultural statistical data;
  - the inclusion of urban and home-garden farming activities; and
  - a more efficient information dissemination mechanism to increase the access of data users to gender-disaggregated agricultural data.
- Set aside sufficient funds for future censuses and surveys for the collection of high quality national and sub-national data. It should be investigated whether the budget allocated to CBS for the agricultural census had an impact on its sample size and therefore the quality of the census results.
- Ensure that agricultural census are complemented with special surveys on intra-household decision-making processes and power relationships, as censuses are an important but not the only tool for gender-specific data collection and gaining insight into men's and women's contributions to agricultural production.
- Fundamentally alter the relationship between social science, data producers and users to expand perspectives of gender issues in research and surveys and to draw in gender analysis expertise.

## 5.6 Conclusions and recommendations

### Conclusions

The 1994/95 NAC, being the first of its kind, has produced a great deal of valuable baseline

information and data with regard to the commercial and communal agricultural sectors in Namibia. Agriculture related surveys and researches have often referred to the census and have drawn lessons based on its experiences.

The census was not designed with a gender focus in mind and produced only a small amount of sex-disaggregated agricultural data. It did, however, provoke further actions to enhance the availability of gender-specific agricultural information in the country. The census has supported the integration of gender concerns into agricultural data collection systems by highlighting existing data gaps. Moreover, policy-makers have become more aware of the importance of integrating gender issues into the production of official statistics over the past decade and have become more committed to address this issue.

Considering gender as an analytical variable in agricultural censuses necessitates statistics producers to acquire a new set of conceptual and analytical perspectives and skills, which will allow agricultural development planners and other data users to deal explicitly, effectively and efficiently with gender-related issues in the agricultural sector.

Overall, the 1994/95 NAC has set in motion the establishment of an efficient and operational information system in support of gender-sensitive planning, programming and decision-making in Namibia.

### Recommendations

The following actions have been formulated, for the attention of the Government and FAO, in order to enhance the integration of gender concerns into agricultural censuses and surveys in Namibia.

#### *Action by the Government:*

- The Ministry of Women's Affairs and Children Welfare - Division of Rural Development Planning should convene workshops, together with other relevant institutions, to develop a national plan for the promotion of a further integration of gender concerns into all statistics data collection in Namibia. The ministry should work towards the establishment of a national gender statistics co-ordination committee to promote and oversee the production of gender statistics. This committee could encourage the implementation of the overall plan for an increased use and production of gender-specific agricultural statistics. The committee should meet on an annual basis to review progress made in this field and discuss other issues related to gender statistics.

- Users and producers of statistical data, including gender statistics, should seek close and continuous co-operation. This will enhance the use of existing statistics and will contribute to the collection of new agricultural statistical data, which are required for the planning, implementation, monitoring and evaluation of sound agricultural development policies and programmes.
- Data users and producers should assess the present status of the national statistical system to determine current and future needs, as well as existing data gaps, with regard to agricultural statistics, especially in relation to the government's main concerns and policy goals. This is necessary because Namibia does not have a strong tradition of agricultural data collection to which it can refer.
- CBS and the Statistics Unit of DOP-MAWRD should endeavour to: (i) sensitize all staff dealing with agricultural statistics on the importance of collecting gender-disaggregated agricultural data, (ii) strengthen their capacities to use socio-economic and gender analysis tools for data production, and (iii) strengthen their capacities to produce gender-disaggregated data that can be used for planning, implementation and monitoring and evaluation purposes.
- CBS and the Statistics Unit of DOP-MAWRD need to develop strategies to reduce the high turnover rates (brain-drain) of qualified and experienced statisticians.
- CBS and MAWRD should develop a *gender agricultural information database* or *gender management, monitoring and evaluation system* for the production and storage of gender-specific statistical data in a user-friendly and accessible manner.

*Action by FAO:*

- The indicated divisions should continue to provide technical advice with regard to the use and production of gender-specific agricultural statistical data and the integration of new (gender) perspectives into agricultural censuses and surveys. The production of gender statistics is a dynamic and developing field for which new tools are being developed in response to emerging data needs and demands. It is important that data producers and users are able to adopt new gender-specific data collection tools to meet such needs when they arise.
- They should assist with the assessment of existing capacities among major agencies producing and compiling statistics in Namibia to develop gender-sensitive agricultural statistics.
- FAO should promote the establishment of a harmonized and integrated data collection system at the country level, taking relevant gender concerns into account.
- It should support the development of a Gender Research Section within the UN system to standardize methods and/or approaches relating to gender issues. This Section could also provide technical support to countries and institutions in need of assistance in this field. Furthermore, it could develop an attachment programme between institutions and government departments to promote exchange of experiences.

# **6 Senegal**

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**By: Harouna Soumaré**

**March 2002**

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## Acronyms

AFCAS	African Commission on Agricultural Statistics
CNCR	A local NGO (Conseil National de Concertation des Ruraux)
IRA	Regional Inspector of Agriculture
IMPS	Integrated Microcomputer Processing System
SPSS	Statistical Package for the Social Sciences

## Executive summary

The lack of accurate and up-to-date statistical data on the roles and responsibilities of men and women in agricultural production has been identified as an important factor contributing to the marginalization of especially women in Senegal. Women's contributions to agricultural production, food security, household incomes, the national economy and rural development have been largely undervalued and under-reported in the past. Moreover, incomplete and inadequate data sets have been used for the formulation of socio-economic development policies, programmes and projects, often leading to disappointing results.

Decision-makers, development agencies, researchers, planners and other development partners have become increasingly aware of the need to integrate gender concerns into all aspects of the agricultural sector's development. This case study focuses on Senegal's experiences in integrating gender concerns into its national agricultural census.

The need for the production of gender-specific agricultural data was clearly stated in the objectives of the 1998/1999 Agricultural Census of Senegal. The census aimed to provide more accurate statistical data on the roles and responsibilities of men and women in the agricultural sector in general and horticultural farming in particular. Special attention was given to the accurate recording of plot managers to avoid an under-reporting of female farmers and their activities. This resulted in the production of a wide range of sex-disaggregated data on agricultural and livestock production in Senegal. These data provided greater insight into questions such as who does what, to what extent and how, and reduced information gaps concerning socio-economic inequalities existing between male and female farmers with regard to resource allocation and access to inputs.

The availability of more accurate and up-to-date data on male and female agricultural producers created greater opportunities for finding solutions to major constraints faced by men and women and has helped improve the relevance of new policy orientations defined by the government in the agricultural sector. Researchers, students, local community officials and other development partners have also used the data for many different purposes, varying from the formulation of plans, projects and programmes to the distribution of groundnut seeds.

The census couldn't collect all of the gender-specific agricultural data requested during the user-producer workshop due to the complex and specific nature of some of the requests. As it was pointed out, only special surveys conducted in

addition to the census could produce gender-disaggregated data on topics such as intra-household decision-making, time-use, crop yields, the use of equipment and quantities of inputs used.

The integration of the gender approach into the production of agricultural statistics in Senegal did not create any technical problems, nor did it lead to additional human or financial costs. Moreover, contrary to the thinking of some statistical data producers and users, no special method was needed for the collection and analysis of sex-disaggregated data. All that was required was a change of mind and vision among statisticians on the "why" and "how" to include gender concerns into agricultural censuses.

Given the highly enriching outcome of the Senegalese gender mainstreaming experience, greater synergies need to be developed between the producers and users of statistical data to further improve the production of gender-specific agricultural data. The Government of Senegal and other stakeholders operating in the rural sector need to take up active roles in this regard, as well as FAO and other organizations responsible for the coordination of agricultural statistics in Africa.

## Introduction

The African Commission on Agricultural Statistics (AFCAS) emphasized the need for integrating gender concerns into agricultural surveys and censuses in order to address more effectively the actual needs of women in the development of the agricultural sector, as women are considered a driving force for economic expansion and social development in the African region.

The Republic of Senegal is located to the far west of Africa. The country is subdivided into ten administrative regions, each comprising three departments. All departments practice rainfed agriculture, with the exception of the Dakar and Pikine Departments located in the Dakar Region. Horticulture is practiced throughout the country.

Senegal's population was estimated at 9 million inhabitants in 1995, of which 52 percent were women. These women have received little support to improve the output of their work and/or strengthen their capacities, in spite of their numbers and their socio-economic contributions to the development of the country. Their social status and the existing legal environment hinder not only their activities and progress, but also contribute to their marginalization and impoverishment. Such constraints are amplified by interpretations of certain religious laws and customary practices unfavourable to women, although these laws and practices tend to vary strongly from one ethnic group to the other.

The marginalization of women in Senegal has been reinforced by a quantitative and qualitative underestimation of their work and the lack of reliable statistical data on women's activities. In fact, the bulk of their work is not considered to have any economic value and therefore does not show correctly in national macro-economic aggregates. This is in spite of the fact that Senegalese women are active in all economic sectors producing goods and services required for home consumption and income-generation (such as agriculture, livestock, fisheries, handicrafts, retail and industry). As a result, women's contributions to the household income, food security, the national economy and sustainable development have often been undervalued.

Decision-makers, development agencies, researchers, planners and other development partners have increasingly become aware of the need to integrate gender concerns into all aspects of agricultural sector development. This did not apply in the past, when incomplete and inadequate data sets were used for the formulation of socio-economic development policies, programmes and projects.

The 1998/1999 National Agricultural Census aimed among others to provide more accurate statistical data on the roles and responsibilities of men and women in agricultural production through the integration of gender concepts in its data collection, processing and analysis.

This chapter highlights Senegal's experiences with the integration of gender concerns into its 1998/1999 National Agricultural Census, focusing mainly on the methodologies used, as the gender-related findings are available in the census publications. The chapter consists of six paragraphs: Paragraph 1 describes the integration of gender concerns into the 1998/1999 National Agricultural Census of Senegal. Paragraph 2 elaborates on the challenges encountered in integrating gender concerns. Paragraph 3 describes the impact of the 1998/1999 Census on the availability of gender-specific agricultural information in the country, whereas paragraph 4 highlights the use of the gender-specific data for rural development policy and programme design and implementation. Paragraph 5 offers suggestions for improving the methods used, while paragraph 6 provides concluding remarks with specific recommendations for follow-up action for the Government of the Republic of Senegal, FAO and other organizations responsible for the coordination of agricultural statistics in Africa.

### 6.1 Integration of gender concerns into the 1998/99 agricultural census of Senegal

The 1998/99 National Agricultural Census of Senegal consisted of two components, namely: (i) **a rainfed agricultural census**, and (ii) **a peri-urban horticultural survey**. Responsibility for its implementation lay in the hands of the central and regional divisions of the Department of Agriculture.<sup>42</sup> The entire structure was operated centrally and steered by the census project Management Team.

#### 6.1.1 Objectives of the census

One of the major difficulties observed in the past, when assessing men's and women's contribution to agricultural and rural development was the non-availability of gender-disaggregated data on the roles and responsibilities of women and men in agricultural production.

The 1998/1999 National Agricultural Census of Senegal aimed to address this shortcoming through the mainstreaming of gender into the census. The need for the collection of gender-

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<sup>42</sup> The regional and departmental offices of the Department of Agriculture were furnished with the necessary material and human resources to enable them carry out their respective tasks related to the census.

disaggregated data was clearly highlighted in the census objectives, as it aimed to: "Enhance the analysis of the differences, similarities and distinctive characteristics of gender and produce statistical data disaggregated by sex on the role and place of both men and women in agriculture, fisheries, forestry and animal production". (Soumaré, 2002)

### 6.1.2 Identification of data requirements

A national consultative workshop was organized for statistics users and -producers to validate the census objectives and questionnaires. The workshop also focused on the integration of gender concerns into the census. The overall demand for gender-disaggregated agricultural statistics was high. Topics discussed in this field related to variables such as: land allocation, credit, time-use, income generation, decision-making and the use of harvested products.

The national workshop was the first of two workshops conducted to validate the census objectives and other technical documents. The second workshop was held in Thiès for Regional Agriculture Inspectors and Agriculture Sector Heads. It was revealed at this workshop that some of the many gender-specific data requests received could not be taken into account by the census because of the specific nature and complexity of some of the requests. Instead, such data would need to be collected through special surveys with the appropriate sample sizes.

### 6.1.3 Training of census personnel

Several hundreds of people were involved with the implementation of the 1998/99 National Agricultural Census of Senegal.<sup>43</sup> The agricultural census team consisted of 15 managers at the central level, 10 Inspectors of Agriculture at the regional level, 26 Agricultural Sector Heads at the departmental level, 27 office supervisors from the Department of Agriculture, 76 field supervisors,

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<sup>43</sup> The Central Team comprised of members of the Technical Unit of the Agricultural Statistics Division of the Ministry of Agriculture and the FAO Technical Support Team. The regional level Supervision Teams comprised of the Regional Inspector of Agriculture (IRA) and his/her technical staff. These teams were responsible for the smooth conduct of the Census exercise in the Region and acted as a liaison between the Central and Departmental Teams. The Departmental Level Supervision Teams consisted of the Agricultural Sector Head, an Office Supervisor and two Field Supervisors who were fairly mobile within the region. These teams were responsible for the monitoring and coordination of the data collection operations. Office Supervisors monitored the completion of the questionnaires, were held responsible for the archiving of the documents and relayed instructions from the Central Unit to the field. Field Supervisors oversaw the collection of data by Enumerators.

439 enumerators and 27 drivers. A team of 150 enumerators (5 enumerators per department), 10 managers at the central level, 30 departmental supervisors and 10 Regional Coordinators were involved with the collection of data for the peri-urban horticultural survey. Special attention was given to the recruitment of women as enumerators and supervisors.

The training programme for field staff aimed to clarify the concepts and definitions used, discuss the content of the questionnaires, highlight how gender aspects had been integrated into the questionnaires, provide instructions on how to complete the questionnaires, enable field staff to identify and adapt to situations that could arise when collecting data and to train them on how to avoid (incorrect) personal interpretations of certain definitions or concepts. Four training sessions were organized to train 180 supervisors (central office managers, inspectors, section heads and supervisors), whereas 11 training sessions were organized to train around 500 enumerators. Each training session consisted of two days of theory and one day of practical fieldwork. These three days of training proved to be inadequate to cover all topics highlighted in the modules.<sup>44</sup>

The rainfed agricultural census was field tested in the Diourbel Department while the peri-urban horticultural survey was tested in the Dakar Department.

### 6.1.4 Questionnaires and manuals

The agricultural census consisted of four questionnaires. Gender concerns were incorporated into each of them.

- The questionnaire on "Socio-Demographic aspects of the Agricultural Holding" focused on: (i) the identification and coding of administrative units (region, department, district, rural community, census district and village/hamlet) and the different strata; (ii) characteristics of the household members (age, sex, educational level and relationship to the head of the household), their economic activities and their present and previous place of residence; and (iii) demographic changes that had occurred within the household over the past year.
- The "Agricultural Labour Force" questionnaire focused on the characteristics of agricultural labour used on collective and individual plots of the holding. Data were collected on the status, age and sex of the labourers and the type of labour provided (e.g. paid versus non-paid labour, individual versus collective labour, etc).

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<sup>44</sup> Training programmes would need to be spread out over a larger number of days for future surveys and censuses if all topics highlighted in the manuals are to be addressed.

- The Livestock questionnaire highlighted the number of animals raised at each holding, the age of the animals and whether they were managed by men or by women.
- The Crops questionnaire collected data on variables such as: the sex of the plot manager, the size of the cultivated areas, the kind of crops cultivated, land development, mode of occupation or acquisition, past cropping patterns of the plot, crop typology, type of seeds and manure used and the penning of livestock.

Instruction manuals were developed for the enumerators, trainers and supervisors to ensure proper conduct and monitoring of the data collection operations. These manuals did not highlight gender issues prevailing in agricultural production or in data collection and the need to address them. Trainers, however, tried to rectify these shortcomings (i) by informing enumerators and supervisors during their training on the importance of recording information relating to both male and female farmers, (ii) by explaining how gender issues had been taken into account in the questionnaires, (iii) by drawing their attention to gender biases commonly observed in agricultural censuses, and (iv) by highlighting what can be done to reduce such biases during the data collection process.

The peri-urban horticultural survey consisted of three questionnaires: the first to identify the peri-urban horticultural areas and sites in the country, the second to prepare a comprehensive sampling frame of all horticulture holdings and the third to collect information on structural characteristics of these holdings, which included the collection of socio-demographic data on male and female horticultural producers and production factors used. The peri-urban horticultural component provided insight into variables such as: the location of peri-urban horticultural sites, their characteristics, land improvement activities, mode of plot occupation or acquisition, past cropping pattern, crop typology, relief, location of the plot, seeds used, financing of activities, penning of livestock, use of manure, sex and age of the plot manager, agricultural labour used and the distance from the plot to the homestead.

The methodological documents and questionnaires for the peri-urban horticultural survey were developed during a series of technical meetings held by the census project Management Team, in collaboration with representatives of the Department of Horticulture and a consultant on horticulture. Supporting manuals were developed for the use of each questionnaire. Again, gender issues were not discussed in these manuals but were highlighted during the training sessions.

### 6.1.5 Concepts and definitions used

Various concepts and definitions were used in the 1998/99 National Agricultural Census to describe the characteristics of agricultural producers and their work environments. A number of these concepts and definitions are discussed below.

#### Agricultural households and holdings

- A *household* is a group of persons forming one consumption unit, that is to say, a group of persons whose meals are organized by the same person. Members of a household usually live under the same roof.
- An *agricultural household*<sup>45</sup> engages (generally) in agricultural activities or is said to be an agricultural household if at least one of its members engages in agriculture without being solely an agricultural wage earner.
- An *agricultural holding*, refers to a family production unit but is usually defined in relation to the agricultural household. The agricultural holding comprises a group of persons (the agricultural household) and their assets. Usually the head of household is also considered the head of the agricultural holding and is referred to as the *head of holding*. An agricultural holding, as a territorial entity, refers to all cultivated and fallow farmlands managed by a given head of holding, irrelevant of whether the farmland forms a single block or is scattered over several areas.
- A *sub-holder* or *plot manager* refers to a person who cultivates a certain plot, gets its products, but is not necessarily the owner of that plot.

#### Agricultural labour

The Senegal case study distinguished several types of labour, which allowed for precise recording of agricultural labour by sex of the labourer and the employer:

- *Family help* refers to any member of the holding who does not own a plot and who participates in farm work on a part-time basis. S/he is different from the actual farm worker who is permanently involved in farm work.
- *Sourgha* refers to a person (not related to the household), who contributes to farm work throughout the rainy season in exchange for payments in kind (accommodation, food, allotted parcel, inputs). The sourgha is always an allottee of a plot.
- *Navétane* refers to a person (not related to the household) who offers his or her services from one household to another for a given farming season. S/he is paid either in cash or in kind

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<sup>45</sup> Agricultural activities consist of one or more of the following activities: rainfed farming or large-scale farming; flood-plain cultivation; marshland farming; irrigation farming; market gardening (vegetable gardening); fruit tree plantations; and livestock raising.

and is classified a part-time worker. The navétane sometimes spends the entire rainy season on the holding.

- *Mbindane* is a person (not related to the household) who is hired as a farmhand during the rainy season. The mbindane differs from the sourgha. Depending on the locality, s/he could be considered a permanent or a part-time worker.
- *Unpaid permanent workers* refers to family members of the holding who are at least 8 years of age and who participate in farm work on a full-time basis. This group is made up solely of the family members of the holding.
- *Permanent paid workers* are non-family members of the holding who participate in farm work on a full-time basis. Most of the sourghas and some mbindanes are considered permanent workers.
- *Temporary paid workers* are non-family members of the holding who participate in farm work on a temporary basis. This applies, for example, to some mbindanes and navetanes.
- *Santané* is a form of mutual aid (labour group) practised in rural areas, originally in a spontaneous manner, to help out friends or neighbours confronted with unexpected problems, such as a sudden loss of workers (e.g. due to the departure of a sourgha or the prolonged absence or death of a household member) or farm assets (e.g. loss of animal or machine drawn equipment). A santané is formed at the request of the holder who wishes to avoid delays or is overwhelmed by farming operations. It normally lasts for just one day and can incur considerable expenses, as the holder is expected to provide a meal for all participants.

#### 6.1.6 Publicity campaigns

Publicity campaigns were carried out before and during the census, based on a communication plan. Awareness campaigns were conducted at national, regional, departmental and district levels to inform the target population about the census activities. Moreover, the census was also discussed in educational rural radio programmes<sup>46</sup> and local newspapers. The publicity campaign covered all stages of the census but did not pay any particular attention to gender concerns in the agricultural sector or agricultural data collection.

#### 6.1.7 Census coverage and sample design

The rainfed agriculture census covered all of Senegal's farming areas, with the exception of the Ziguinchor Region and Diattacounda District, located in the Kolda Region.<sup>47</sup> A complete

enumeration of villages, rural farmlands and rural households was undertaken in order to establish a sampling frame for the agricultural sector. The census was then structured on the basis of a two-stage probability sampling method. Villages were selected as the primary sampling unit, whereas agricultural holdings/households were selected as the secondary sampling unit. The final sample of the agricultural census comprised of 1 450 holdings, out of a total sample frame of 7 250 agricultural holdings.

The coverage of the peri-urban horticultural survey was limited to holdings in urban, peri-urban and rural areas that belonged to urban dwelling farm operators. A full enumeration of horticultural areas, sites and holdings was first undertaken with the aim of identifying and listing the geographical entities (areas and sites) where peri-urban horticulture is practised. This was followed by a two-stage probability sampling method to structure the complete enumeration of horticultural areas and sites for the sample survey. Horticultural production sites constituted the primary sampling units while peri-urban horticultural holdings were the secondary units. The peri-urban horticultural survey comprised of a final sample size of 490 horticultural sites and 1 450 peri-urban horticultural holdings.

#### 6.1.8 Data collection

Data collection activities covered the 1998/1999 farming season and took seven months (from July 1998 to January 1999), taking into account the late onset of the rainy season in 1998.

The census produced a considerable amount of data, including sex-disaggregated data. Much of these data were collected as a result of requests expressed by data users during user-producer workshops organized in the design phase of the census. The data collection methods used during the census consisted of interviews with male and female farmers, actual farm measurements and area frame surveys. Area frame surveys, which are used for the collection of data on land cover and land use, were applied for the first time during the 1998/1999 National Agricultural Census.

The peri-urban horticultural survey focused on issues such as: the distribution of the horticultural sites and areas, types of horticulture practised and socio-demographic characteristics such as the sex of the horticultural holders, inputs used (sources of water supply, drainage facilities, types of irrigation, transportation and storage capacity, production and marketing problems, etc.), equipment used and financing of horticultural activities.

Members of the central project unit, based in Dakar, and members of the regional and departmental supervision teams were held

<sup>46</sup> These programmes were recorded and broadcasted in the Wolof, Pular, Serer and Mandingo languages.

<sup>47</sup> These regions were inaccessible because of civil strife.

responsible for the monitoring, supervision and coordination of data collection operations carried out for both the rainfed agricultural census and the peri-urban horticultural survey.

### 6.1.9 Data processing

Data processing operations were carried out from April 1999 to August 2000 and consisted of the following phases:

- Reception, verification and coding of data files;
- Data entry and control;
- Reconciliation and correction of data files;
- Tabulation and production of results; and
- Archiving and securing of data.

The Integrated Microcomputer Processing System (IMPS) was used to enter, edit and harmonize the data, whereas the Statistical Package for the Social Sciences (SPSS) was used for the production of statistical tables and computations. Microsoft ACCESS and DBASE were used to check some of the data and to archive and organize the files. Availability and user-friendliness played a role to the selection of these software programmes.

### 6.1.10 Tabulation and data analysis

The focus on gender concerns was strong in the tabulation and data analysis phases of the census, as data were tabulated, whenever possible, according to sex and analysed from a gender perspective.

The data analysts made special efforts to present sex-disaggregated data in a series of tables in order to highlight existing gender differences and inequalities in the agricultural sector. Special attention was paid to the tabulation of sex-disaggregated data relating to the heads of households, plot managers, agricultural labour, inputs used and livestock production.

Data analysis was carried out between January and August 2000 with the help of national project officials (statisticians and data processing experts) and an international consultant. Variables analysed in relation to rainfed agricultural sector were, for example, the structure of the agricultural sector, the agricultural population, the utilization of inputs, livestock belonging to the holding and trends in certain characteristics of the agricultural sector. Variables analysed in relation to the peri-urban horticultural sector were, for example, the distribution of horticultural production sites and areas, types of horticulture practiced, socio-demographic characteristics of heads of horticultural holdings, mode of land occupation, horticultural equipment used and the financing of horticultural activities.

Selected gender-specific outcomes of the census are:

- Observations related to the structure of the agricultural population allowed for greater insight into variations in the distribution of male and female farmers among different age groups. National data revealed that more men than women were represented among the agricultural population in the age groups up to 25 years and above the age of 64 years. Women dominated in age groups between 25 and 64 years (refer to Annex 5: Table 5.1). This trend could be due to the migration of young girls from rural to (semi) urban areas to earn monies for their dowries. They return to their hometowns when they have generated enough money for their marriage. Male dominated rural out-migration, on the other hand, occurs especially in the age categories 25 – 54 years old, when men seek additional incomes for the family through remunerated work in urban settlements. Similar patterns were observed at sub-national levels, for the Kolda, Koalack, Thiès and Diourbel Regions.
- Observations related to the sex of the head of household/holding allowed for the elaboration of a sample frame of male- and female-headed rural and agricultural households of relevance for possible future selected sample surveys. Moreover, it allowed for gender relevant data analysis with regard to socio-demographic characteristics of household members, economic activities and access to productive resources in male or female-headed holdings. National data clearly show that female heads of agricultural holdings generally have access to smaller areas of land as compared to male heads of agricultural holdings and that this applies to all nine major crops<sup>48</sup> grown in Senegal (refer to Annex 5: Table 5.2 - 5.3). It is remarkable, however, that in spite of the smaller average sizes of the plots managed by female heads of the holdings, they manage 56 percent of the total area under rice cultivation, 49 percent of the area under *bissap* cultivation, 27 percent of the area under beans cultivation and 17 percent of the area under groundnut cultivation.
- The plot manager/sub-holder concept was introduced in the census to avoid an under-reporting of agricultural activities performed by female farmers. The use of this concept has permitted extensive cross tabulations of production factors (e.g. plot/field sizes, cultures, past cropping patterns of the plot, inputs used, penning of livestock, etc) and socio-demographic factors (e.g. sex and age of the sub-holder), thus providing the basis for an in-depth analysis of gender based intra-household differences in agricultural production. For example, the census revealed considerable

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<sup>48</sup> These crops are: maize, millet, beans, sorghum, rice, groundnuts, watermelon, cassava and *bissap*.

gender disparities in access to agricultural extension services. Overall, 3.4 percent of the plot managers had access to agricultural extension services, varying from 5.6 percent in the Koalack Region to 1.2 percent in the Thiès Region (refer to Annex 5: Table 5.4). A differentiation by sex revealed that male plot managers received 3 times more support from agricultural extension services than female plot managers. These differences were even greater in the Koalack Region. The Census data also pointed out gender inequalities in the access of plot managers to inputs such as seeds and fertilizers (refer to Annex 5: Table 5.5).

- Data collected on agricultural labour made it possible to better determine gender differences in access to labour. Collected data were analysed according to the type of labour provided and the sex of the labourers.
- Data collected with regard to livestock production highlighted the roles and responsibilities of men and women in livestock rearing. Data on livestock production were analysed according to the type of livestock raised, the ages of the animals and the sex of the managers.

Contrary to the thinking of some statistical data producers and users, no special method was required for the collection and analysis of sex-disaggregated data. Conventional statistical methods were used.

#### **6.1.11 Dissemination of the census findings**

The main findings of the 1998/99 National Agricultural Census were published in the following documents:

- Volume 1 – General Report of the 1998/99 Agricultural Census of Senegal;
- Volume 2 – Inventory of Villages according to the Agricultural Census;
- Volume 3 – Inventory of Census Districts according to the Agricultural Census;
- Volume 4 – General Report of the Rain-fed Agricultural Census;
- Volume 5 – Inventory of Horticultural Production Areas and Sites; and
- Volume 6 – General Report of the Peri-Urban Horticultural Survey.

Modern dissemination techniques were also used to disseminate the data, such as CD-ROMs, electronic files and the posting of all census publications on a website. The census organizers had planned to translate summaries of the census reports into five national languages but could not pursue this due to financial constraints.

## **6.2 Challenges in integrating gender concerns**

The integration of gender concerns into the census did not create any technical problems nor did it lead to additional human or financial costs. The statisticians, however, needed to be convinced that these activities would not necessarily lead to an increased workload or costs. Instead, the author observed that a change of mind and visions was required on the “why” and “how” to include gender concerns into agricultural censuses.

The census was unable to address all gender issues related to crop and livestock production. For example, it did not produce gender-disaggregated data on issues such as the quantities of inputs used because these are generally purchased in bulk for the whole holding. Neither did the census produce data on the individual use of agricultural equipment belonging to the family. Moreover, it did not collect gender-specific data on variables such as crop yields, time spent in relation to agricultural activities, intra-household time-use, intra-household decision-making, land ownership and use, incomes and involvement in training programmes. Multiple visits would have been required to collect data on most of these variables and could therefore not be carried out in the framework of a census. Instead, it was recommended to conduct special surveys on the aforementioned topics. These surveys could be part of a permanent agricultural statistical data collection system, elaborated by the 1998-99 agricultural census programme, entitled the “National Programme for the Development of Agricultural and Food Statistics”.

## **6.3 Impact of the last agricultural census on the availability of gender-specific agricultural information in the country**

There were no agricultural statistics on rural women’s contribution to agricultural production prior to the 1998/99 National Agricultural Census, in spite of the existence of various government policies and programmes in the field of women and development. Thus, the outcomes of the 1998/99 National Agricultural Census of Senegal provided important baseline data relating to the roles and responsibilities of male and female farmers in agricultural production.

The census also brought about significant improvements to the sampling frame and techniques used for the collection and analysis of gender-sensitive data, allowing for gender-specific sample surveys if required. Moreover, it strengthened the overall data collection system through improved organization of recruitment and training of enumerators, the procurement of data collection equipment, the organization of electronic data processing and the conduct of annual sample surveys of the agricultural sector.

The peri-urban horticultural survey provided greater insight into the roles and responsibilities of men and women in horticultural farming, an important and growing agricultural sector in Senegal. The survey underlined the importance of the horticultural sector in terms of enhancing the incomes of producers, poverty alleviation and food security. Many of the survey findings were presented in a sex-disaggregated manner and analysed from a gender perspective. The outcomes, which were greatly appreciated and in very high demand, have been used by many development agents operating in the agricultural sector, in general, and the horticultural sector in particular.

#### **6.4 Use of gender-specific agricultural information for rural development policy and programmes design and implementation**

The availability of more accurate, up-to-date and systematically collected statistical data on male and female agricultural producers has proven to be valuable in the light of the new policy thrusts of the government, such as: regionalization, decentralization and poverty alleviation. Moreover, these data have helped improve the relevance of new policy orientations defined by the government with regard to the agricultural sector and have enhanced the possibility of finding solutions to major constraints faced by especially women in terms of access to credit, land and other production inputs.

More specifically, the data have been used for:

- day-to-day activities of planners, policy-makers, researchers, students, local community officials and other development partners;
- the formulation of plans, project and programmes for crop production (including horticultural farming) and livestock production;
- the preparation of the national Poverty Reduction Strategy document;
- the distribution of groundnut seeds to male and female heads of agricultural households as part of the national Groundnut Seed Distribution Programme;
- the preparation of the 10<sup>th</sup> National Development Plan of Senegal; and

- the design of the “Rural Community Identity Card,” sponsored by the Conseil National de Concertation des Ruraux (CNCR) of Senegal, a local NGO.

Plans also existed to use the gender-specific agricultural data to highlight the importance of their participation in agricultural production as part of a Plan of Action for Senegalese women.

#### **6.5 Suggestions to improve the methods used**

Notwithstanding Senegal’s positive efforts in integrating gender concerns into its National Agricultural Census, there are still openings to improve the methods used, to make them more efficient and effective while minimizing errors, disparities and inconsistencies.

In this regard it is suggested to:

- further clarify the meaning of selected concepts and definitions in order to avoid any ambiguities that tend to exclude women;
- draw up specific criteria for the collection of data in order to avoid arbitrary interpretations by enumerators and subjective judgment by respondents;
- formulate questions relating to women’s work as clearly as possible in order to avoid that they are enumerated as housewives because this can distort the information on women’s agricultural activities;
- emphasize socio-economic and cultural differences that exist between women and men in their work and lives in the instruction manuals, in order to provide well balanced examples and illustrations for their overall responsibilities and economic activities;
- train the enumerators in the use of gender-neutral language and its importance for collecting gender-disaggregated data;
- facilitate users’ access to gender-disaggregated data through the publishing of statistical tables with the help of modern dissemination techniques;
- design tables in such a way that they permit specific in-depth analysis of the socio-economic and gender disparities, depending on the degree of selected users;
- organize special sample surveys on men’s and women’s contribution to production, consumption and income generation in agriculture, in order to compensate that a census addresses certain variables at holding or household level instead of at the level of individual farmers.
- include gender and development experts in the design of questionnaires, data collection manuals, the communication plan, the training programme for enumerators, the tabulation plan and the analysis of the data obtained;

- draw the attention of enumerators, during training sessions, to the complexity of collecting data on landless female heads of household and their incomes; and
- avoid an overloading of census or annual agricultural survey questionnaires by only collecting data on variables that will be analysed.

## 6.6 Conclusions and recommendations

### Conclusions

Many difficulties faced by women arise from cultural attitudes and values, which assign an inferior social status to them and relegate their work and needs to the background. Solutions to such problems often depend on radical socio-economic policy changes that aim to remove disparities observed with regard to men's and women's participation in the development process. The creation of a favourable environment for the collection of gender-disaggregated data are equally important, as such information makes it possible to accurately measure the economic contributions of men and women to agricultural production, to enhance the visibility of the work accomplished by farm women, to promote increased access to basic inputs and to identify the needs, potentials and constraints of female agricultural producers.

Experience has shown that the integration of gender concerns into the 1998/99 National Agricultural Census did not create any technical problems nor did it lead to additional human or financial costs.

### Recommendations

The case study makes a general recommendation that the collection of gender-specific data be systematized by the Government, FAO and other organizations in future agricultural censuses and surveys.

Furthermore specific actions have been formulated to enhance the integration of gender concerns into agricultural censuses and surveys in Senegal.

*For the attention of the Government of Senegal and other stakeholders operating in the rural sector*

To help fill data gaps on the roles and responsibilities of men and women in agricultural production and food security in Senegal, it is recommended to:

- further strengthen the capacities of institutions responsible for the production of statistical information to highlight gender disparities;

- systematically institutionalize the gender-disaggregation of data in future agricultural census and survey exercises;
- organize specific sample surveys to collect gender-disaggregated data on topics such as time use, income, consumption, expenses, decision-making, nutritional status and food security;
- develop appropriate data processing methods to facilitate the analysis of men's and women's socio-economic participation in agricultural production, in order to identify their constraints in view of the development of more relevant programmes for both groups;
- set up a constant dialogue between statisticians, planners, decision-makers and gender experts in order to identify the sources of gender disparities, to determine the indicators revealing such disparities and the kind of data to be collected to reflect those indicators; and
- strengthen the decentralized planning process in order to enhance the collection and use of (sub-national) gender-disaggregated data and include the outcomes of socio-economic gender analyses into the formulation of balanced policies, strategies and agricultural programmes.

*For the attention of FAO and other organizations responsible for the coordination of agricultural statistics in Africa*

It is recommended that the FAO Statistics Division, in liaison with the Gender and Development Service, as well as all other organizations responsible for the coordination of agricultural statistics in the African region, promote the development of mechanisms for the harmonization and coordination of methods used for gender-specific statistical data collection.<sup>49</sup>

This can be done, for example, by:

- providing support to national institutions for the design of survey methods that allow for gender-disaggregated data collection and the development of supporting materials hereto;
- emphasizing, as much as possible, the need for a coordination of the collection of gender-disaggregated data during agricultural censuses and surveys;
- building the capacities of national institutions to produce gender-specific agricultural data through training and the organization of gender and statistics workshops;
- promoting an exchange of experiences and documentation between countries that have successfully developed methodologies for the

<sup>49</sup> Considering FAO's experience in the coordination of agricultural statistics, it would be desirable if the Statistics Division were to assume the role of group leader in such an endeavour.

integration of gender concerns into their censuses or surveys with those who are still in the preparatory stages of doing so;

- organizing sub-regional seminars on survey methods for agricultural censuses or surveys that are yet to be designed or that are being designed;
- promoting study trips within the Region and to developed countries; and
- assisting countries to establish systems that enable a large number of users to gain easy access to available data on gender issues.

# **ANNEXES**

## ANNEX 1: TABLES RELATING TO CHAPTERS 1, 2 AND 3

**Table 1.1: Heads of agricultural households providing agricultural work by sex and by district – Lesotho**

Districts	Male head of agricultural household			Female head of agricultural household		
	N	providing agric. work	%	N	providing agric. work	%
Butha – Buthe	12 759	10 850	85.0	5 525	4 334	78.4
Leribe	32 921	31 500	95.7	13 979	11 900	85.1
Berea	26 800	24 900	92.9	11 300	10 500	92.9
Maseru	33 300	30 400	91.3	13 700	12 000	87.6
Mafeteng	25 700	23 400	91.1	10 700	9 300	86.9
Mohale's Hoek	21 600	20 500	94.9	11 100	10 100	91.0
Quthing	13 600	11 400	83.8	6 100	4 500	73.8
Qacha's Nek	7 600	6 900	90.8	4 900	4 100	83.4
Mokhotlong (mountain)	10 400	8 900	85.6	5 800	5 000	86.2
Thaba-Tsek (mountain)	17 700	16 450	92.7	5 500	5 200	94.5
<b>Total Rural</b>	<b>202 380</b>	<b>185 150</b>	<b>91.5</b>	<b>88 604</b>	<b>76 934</b>	<b>86.8</b>

Source: 1999-2000 Agriculture Sampled Census, Lesotho

**Table 1.2: Number of permanent and occasional farm workers by district and sex – Lesotho**

Districts	Permanent farm workers			Occasional farm workers		
	Male	Female	% Female	Male	Female	% Female
Butha – Buthe	700	-	-	100	-	-
Leribe	1 901	200	9.5	1 501	800	34.8
Berea	1 300	100	7.1	900	-	-
Maseru	1 200	-	-	200	-	-
Mafeteng	300	-	-	700	-	-
Mohale's Hoek	700	300	30.0	300	300	50.0
Quthing	-	-	-	100	-	-
Qacha's Nek	100	100	50.0	-	100	100.0
Mokhotlong (mountain)	300	700	70.0	-	1 000	100.0
Thaba-Tsek (mountain)	200	6 000	96.8	2 200	4 000	64.5
<b>Total Rural</b>	<b>6 701</b>	<b>7 400</b>	<b>52.5</b>	<b>6 001</b>	<b>6 200</b>	<b>50.8</b>

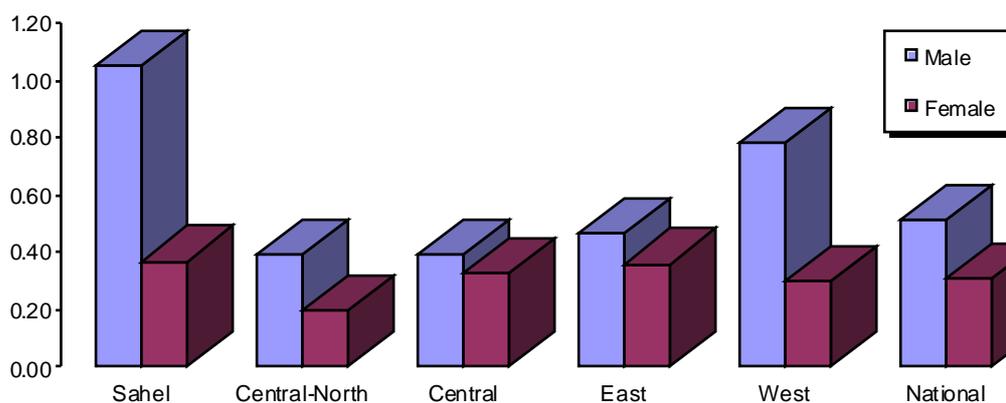
Source: 1999-2000 Agriculture Sampled Census, Lesotho

**Table 1.3: Distribution of rural agricultural holdings by number of agriculturally active persons and sex of the head of the holding – Guinea**

Number of agr. active persons	Male head of holding			Female head of holding			Total (N)
	N	%	% / Total per category	N	%	% / Total per category	
1	6 337	0.9	32.5	13 179	33.5	67.5	19 516
2	151 058	21.1	92.9	11 626	29.5	7.1	162 684
3-4	307 113	42.9	96.5	11 248	28.6	3.5	318 361
5-9	228 296	31.8	98.7	3 029	7.7	1.3	231 325
10-14	20 345	2.8	98.6	285	0.7	1.4	20 630
≥ 15	3 668	0.5	100	-	-	-	3 668
<b>National</b>	<b>716 817</b>	<b>100</b>	<b>94.8</b>	<b>39 367</b>	<b>100</b>	<b>5.2</b>	<b>756 184</b>

Source: 2000/2001 National Agricultural Census, Guinea.

**Figure 1.1 : Average size (ha) of land cultivated on an individual basis by sex and agro-economic region - Burkina Faso (2001/2)**



Source: EPA 2001/02

**Table 1.4: Distribution of areas, differentiated by crop, cultivated by male and female heads households and plot managers – Burkina Faso**

Crop	Head of household/sex (collective plots) %		Plot manager/sex (individual plots) %		Both (all plots) %	
	Male	Female	Male	Female	Male	Female
Millet	97	3	45	55	87	13
Maize	99	1	90	10	89	11
Rice	98	2	65	35	85	15
Groundnuts	97	3	32	68	54	46
Vouandzuo	96	4	20	80	50	50
White sorghum	98	2	58	42	90	10
Red sorghum	97	3	55	45	91	9
<b>(Sub) Total</b>	<b>98</b>	<b>2</b>	<b>48</b>	<b>52</b>	<b>86</b>	<b>14</b>

Source: National Agricultural Census (ENSA), Burkina Faso, 1993

**Table 1.5: Distribution of agricultural population by sex, age group and agro-economic region – Burkina Faso**

Age group/ Region	Distribution of men (M) and women (F) within the agricultural population											
	National		Sahel		Central North		Central		East		West	
	M	F	M	F	M	F	M	F	M	F	M	F
< 5 years	50	50	45	55	48	52	51	49	50	50	50	50
5 – 14 years	51	49	51	49	53	47	52	48	50	50	50	50
15 – 24 years	48	52	53	47	47	53	46	54	48	52	50	50
25 – 34 years	43	57	45	55	46	54	37	63	42	58	47	53
35 – 44 years	42	58	46	54	40	60	41	59	42	58	43	57
45 – 54 years	44	56	52	48	42	58	42	58	43	57	44	56
55 – 64 years	52	48	57	43	50	50	49	51	59	41	52	48
≥ 65 years	54	46	60	40	53	47	51	49	48	52	62	38
Average	48	52	50	50	49	51	48	52	48	52	49	51

Source: Enquête Permanente Agricole 2002/03

**Table 1.6: Distribution of agricultural population by sex, age group and province – Cameroon**

Age group/ Province	Distribution of men (M) and women (F) within the agricultural population																					
	National		Extreme North		North		Adam-aoua		East		Central		South		Littoral		South-West		North-West		West	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
< 5 years	50	50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	50	50
5 – 14	51	49	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	47	53
15 – 24	44	56	48	52	43	57	50	50	44	56	41	59	50	58	46	54	43	57	43	57	38	62
25 – 34	37	63	37	63	33	67	31	69	45	55	42	58	42	58	41	59	48	52	32	68	29	71
35 – 44	41	59	46	54	51	49	31	69	39	61	34	66	42	58	33	67	45	55	44	56	32	68
45 – 54	43	57	46	54	55	45	48	52	44	56	39	61	41	59	46	54	62	38	37	63	34	66
55 – 64	54	46	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	45	55
≥ 65	54	46	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	45	55
<b>Average</b>	<b>47</b>	<b>53</b>	<b>48</b>	<b>52</b>	<b>48</b>	<b>52</b>	<b>49</b>	<b>51</b>	<b>50</b>	<b>50</b>	<b>47</b>	<b>53</b>	<b>48</b>	<b>52</b>	<b>49</b>	<b>51</b>	<b>50</b>	<b>50</b>	<b>46</b>	<b>54</b>	<b>42</b>	<b>58</b>

Source: Agricultural Census 1984 (Direction Nationale du Recensement Agricole)

## ANNEX 2: USE OF THE “HEAD OF HOUSEHOLD” AND “HOLDING” CONCEPTS

Almost one third (30 percent) of the agricultural households recorded during the 1999-2000 Agriculture Sampled Census in the rural areas of **Lesotho**, were female-headed households (refer to Table 2.1). This is high compared to other countries in Africa. Qacha's Nek recorded the highest percentage of female-headed households (namely 39 percent), whereas the mountainous areas of Thaba-Tseka recorded the lowest percentages (namely 24 percent).

**Table 2.1: Agricultural household heads by district and sex – Lesotho**

District	Total	Head of household		Ratio (in %)	
		Male	Female	Male	Female
Butha-Buthe	18 284	12 759	5 525	69.8	30.2
Leribe	46 900	32 921	13 979	70.2	29.8
Berea	38 100	26 800	11 300	70.3	29.7
Maseru	47 000	33 300	13 700	70.9	29.1
Mafeteng	36 400	25 700	10 700	70.6	29.4
Mohale's Hoek	32 700	21 600	11 100	66.1	33.9
Quthing	19 700	13 600	6 100	69.0	31.0
Qacha's Nek	12 500	7 600	4 900	60.8	39.2
Mokhotlong	16 200	10 400	5 800	64.2	35.8
Thaba-Tseka	23 200	17 700	5 500	76.3	23.7
<b>Total Rural</b>	<b>290 984</b>	<b>202 380</b>	<b>88 604</b>	<b>69.6</b>	<b>30.4</b>

Source: 1999-2000 Agriculture Sampled Census, Lesotho

Lesotho had, until recently, the distinction of having a higher proportion of its labour force temporarily employed outside its borders than any other country in Africa, as many men worked in the mines of neighbouring South Africa (Migration Policy Institute, 2004). Additionally, a high HIV prevalence has been recorded among men from Lesotho, especially among those who work(ed) in the mining sector. Both factors may have contributed to the relatively high percentage of female-headed households in the country and the relatively high ages of the female heads of the households. Three quarters (76 percent) of the female heads of households were 50 years or older (refer to Table 2.2).

**Table 2.2: Agricultural household heads by age and sex - Lesotho**

Age	Male		Female		Total		Ratio (%)	
	N	%	N	%	N	%	Male	Female
≤ 20 years	700	0.3	100	0.1	800	0.3	87.5	12.5
20 to 29 years	10 484	5.2	1 200	1.4	11 684	4.0	89.7	10.3
30 to 39 years	36 004	17.8	7 629	8.6	43 633	15.0	82.5	17.5
40 to 49 years	52 600	26.0	12 533	14.1	65 133	22.4	80.8	19.2
50 to 59 years	46 209	22.8	19 608	22.1	65 817	22.6	70.2	29.8
60 to 69 years	34 850	17.2	23 817	26.9	58 667	20.2	59.4	40.6
≥ 70 years	21 533	10.6	23 717	26.8	45 250	15.6	47.6	52.4
<b>Total rural</b>	<b>202 380</b>	<b>100.0</b>	<b>88 604</b>	<b>100.0</b>	<b>290 984</b>	<b>100.0</b>	<b>69.6</b>	<b>30.4</b>

Source: 1999-2000 Agriculture Sampled Census, Lesotho

The Sample Census also stressed the fact that female-headed households cultivated smaller sizes of land compared to male-headed households. Respectively 90 percent of the female-headed households and 77 percent of the male-headed households cultivated agricultural holdings of less than 1 ha (refer to Table 2.3). These differences could be related to differences in access to and control over productive resources (such as land, labour, agricultural inputs, information and credit) and/or time constraints faced, especially by women as a result of their heavy workload.

**Table 2.3: Agricultural households by area cultivated and sex of head of household - Lesotho**

Ha	Male head of household		Female head of household		Total	
	N	%	N	%	N	%
0.01 to 0.49	106 683	52.2	44 787	52.8	151 470	52.4
0.50 to 0.99	51 306	25.1	31 567	37.2	82 873	28.7
1.00 to 1.49	28 717	14.1	4 590	5.4	33 307	11.5
1.50 to 1.99	11 863	5.8	3 854	4.5	15 717	5.4
2.00 to 2.49	3 117	1.5	100	0.1	3 217	1.1
2.50 to 2.99	1 500	0.7	-	-	1 500	0.5
≥ 3.00	1 100	0.5	-	-	1 100	0.4
<b>Total Rural</b>	<b>204 286</b>	<b>99.9</b>	<b>84 898</b>	<b>100.0</b>	<b>289 184</b>	<b>100.0</b>

Source: 1999-2000 Agriculture sampled census, Lesotho

**Cameroon's** 1984 Agricultural Census and subsequent surveys showed an increase in the percentage of holdings headed by women from 14.6 percent in 1984 to 14.8 percent in 1985/86 and 20.6 percent in 1989/90 (refer to Table 2.4).

**Table 2.4: Heads of agricultural holdings by sex and province (in %) – Cameroon**

Province	Head of holding Agricultural Census 1984		Head of holding Agricultural Survey '85/'86 *		Head of holding Agricultural Survey '89-'90 *	
	Male	Female	Male	Female	Male	Female
Extreme – North	91,8	8.2	91,8	8.2	92,6	7.4
North	93,2	6.8	94,7	5.3	93,6	6.4
Adamaoua	91,0	9.0	91,5	8.5	88,1	11.9
East	91,6	8.4	90,8	9.2	85,6	14.4
Central	77,8	22.2	78,5	21.5	71,8	28.2
South	84,9	15.1	81,1	18.9	71,2	28.8
Littoral	79,1	20.9	79,9	20.1	63,2	36.8
South-West	83,9	16.1	83,1	16.9	84,6	15.4
North – West	85,4	14.6	89,1	10.9	75,4	24.6
West	75,8	24.2	73,6	26.4	66,0	34.0
<b>National</b>	<b>85.4</b>	<b>14.6</b>	<b>85.2</b>	<b>14.8</b>	<b>79.4</b>	<b>20.6</b>

\* Direction des Enquêtes Agro - Economiques et de la Planification Agricole

Source: Agricultural census 1984; Agricultural surveys, 1985 – 86 and 1989 – '90

The increase in female heads of agricultural holdings could be linked to an increase in the rural out-migration of male household members from rural areas in search of work elsewhere. The highest percentages of female heads of holdings were recorded during the 1989/90 Agricultural Survey in the Littoral Province (37 percent), followed by the West Province (34 percent), South Province (29 percent) and Central Province (28 percent) (refer to Table 2.4).

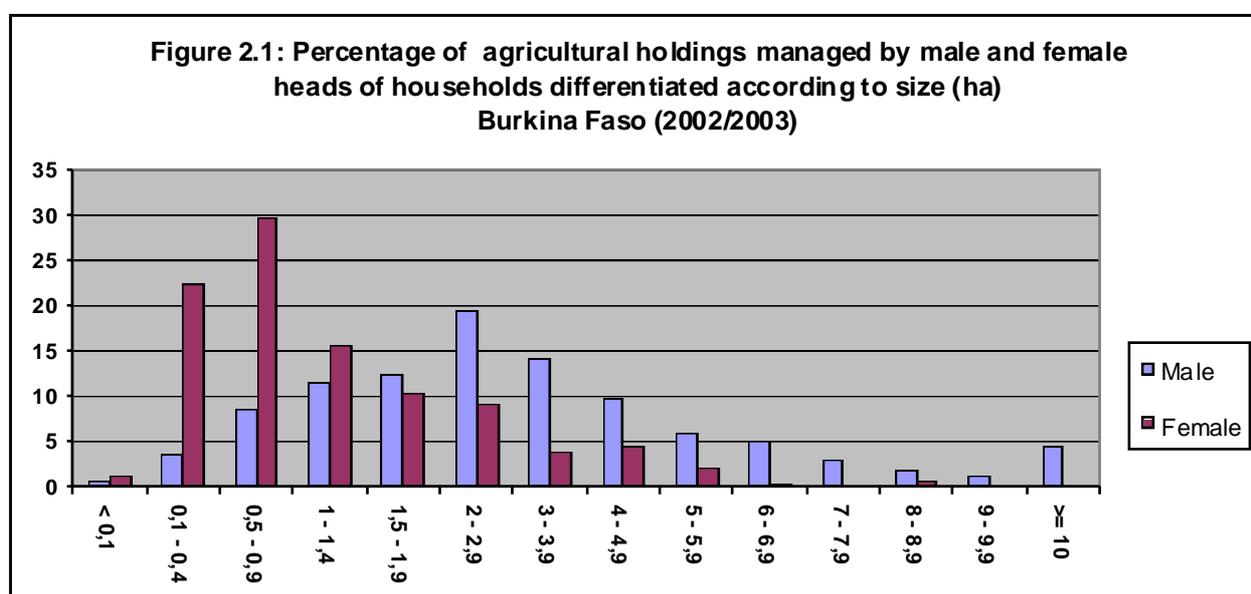
**Burkina Faso** recorded relatively low percentages of female heads of holdings during the 1993 Agricultural Census and subsequent annual surveys. The 1993 Census reported that 92 percent of the heads of holdings were men and 8 percent were women (refer to Table 2.5). The regional percentages varied between 3 percent in the Sahel Region to 12 percent in the Central Region. An increase in the percentage of agricultural holdings managed by women was observed in two agro-economic regions, whereas four regions showed a decline.

**Table 2.5: Heads of agricultural holdings by sex and agro-economic region (in %) – Burkina Faso**

Agro-economic region	Head of holding ENSA 1993		Head of holding EPA* 2001/2002		Head of holding EPA* 2002/2003	
	Male	Female	Male	Female	Male	Female
Sahel	97.0	3.0	97.1	2.9	99.2	0.8
Central-North	92.4	7.6	93.9	6.1	95.2	4.8
Central	88.3	11.7	85.3	14.7	84.9	15.1
East	93.2	6.8	93.0	7.0	92.3	7.7
West	94.0	6.0	95.7	4.3	96.1	3.9
<b>National</b>	<b>91.9</b>	<b>8.1</b>	<b>91.7</b>	<b>8.3</b>	<b>92.0</b>	<b>8.0</b>

Sources: ENSA 1993; EPA 2001/02; EPA 2002/03

The sizes of the holdings managed by women were generally smaller than those managed by men. The 2002/2003 Annual Agricultural Survey (EPA) reported that more than two thirds (69 percent) of the holdings managed by female heads of households were smaller than 1.5 ha compared to one quarter (24 percent) of the holdings managed by male heads of households (refer to Figure 2.1).



Source: Annual Agricultural Survey (EPA) 2002/03

## ANNEX 3: Statistical tables on the MOZAMBIQUE CASE STUDY (Chapter 4)

Gender-specific data obtained from the 2000 Census of Agriculture and Livestock

Table 3.2.1: Agricultural population by age group and by sex - Mozambique

Age group	Total	Male		Female		Male-Female Ratio (%)	
		N	%	N	%	Male	Female
0 – 9 years	5 408 596	2 720 435	33.8	2 688 161	32.5	50.3	49.7
10 – 19 years	3 791 138	1 974 888	24.5	1 816 250	22.0	52.1	47.9
20 – 29 years	2 385 546	1 016 438	12.6	1 369 108	16.6	42.6	57.4
30 – 39 years	1 794 783	824 607	10.2	970 175	11.7	45.9	54.1
40 – 49 years	1 324 826	637 767	7.9	687 059	8.3	48.1	51.9
50 – 59 years	846 551	453 930	5.6	392 622	4.8	53.6	46.4
60+ years	756 877	420 267	5.2	336 610	4.1	55.5	44.5
<b>Total</b>	<b>16 308 317</b>	<b>8 048 331</b>	<b>100.0</b>	<b>8 259 986</b>	<b>100.0</b>	<b>49.4</b>	<b>50.6</b>

Source: 2000 Census of Agriculture and Livestock

Table 3.2.2: Agricultural population by age group and by sex in the Zambézia Province\*

Age group	Total	Male		Female		Male-Female Ratio (%)	
		N	%	N	%	Male	Female
0 – 9 years	1 026 278	519 615	33.5	506 663	32.6	50.6	49.4
10 – 19 years	711 946	367 546	23.7	344 400	22.2	51.6	48.4
20 – 29 years	458 280	190 137	12.3	268 143	17.3	41.5	58.5
30 – 39 years	361 924	168 863	10.9	193 061	12.4	46.7	53.3
40 – 49 years	260 696	129 263	8.3	131 433	8.5	49.6	50.4
50 – 59 years	162 149	93 108	6.0	69 041	4.4	57.4	42.6
60+ years	121 789	80 304	5.2	41 485	2.7	65.9	34.1
<b>Total</b>	<b>3 103 062</b>	<b>1 548 836</b>	<b>100.0</b>	<b>1 554 226</b>	<b>100.0</b>	<b>49.9</b>	<b>50.1</b>

\* The Zambézia Province has a high potential for agricultural production

Source: 2000 Census of Agriculture and Livestock

**Table 3.2.3 - Agricultural population by age group and by sex in the Manica Province\***

Age group	Total	Male		Female		Male-Female Ratio (%)	
		N	%	N	%	Male	Female
0 – 9 years	431 169	214 731	32.5	216 438	31.9	49.8	50.2
10 – 19 years	364 226	194 296	29.4	169 930	25.0	53.3	46.7
20 – 29 years	188 206	84 345	12.8	103 862	15.3	44.8	55.2
30 – 39 years	136 510	54 109	8.2	82 401	12.1	39.6	60.4
40 – 49 years	100 154	49 109	7.4	51 044	7.5	49.0	51.0
50 – 59 years	61 086	33 776	5.1	27 309	4.0	55.3	44.7
≥ 60 years	59 201	31 000	4.7	28 201	4.2	52.4	47.6
<b>Total</b>	<b>1 340 551</b>	<b>661 367</b>	<b>100.0</b>	<b>679 184</b>	<b>100.0</b>	<b>49.3</b>	<b>50.7</b>

\* The Manica Province has a high potential for agricultural production

Source: 2000 Census of Agriculture and Livestock

**Table 3.2.4: Agricultural population by age group and by sex in the Gaza Province\***

Age group	Total	Male		Female		Male-Female Ratio (%)	
		N	%	N	%	Male	Female
0 – 9 years	391 099	199 844	30.7	191 256	25.8	51.1	48.9
10 – 19 years	343 368	172 876	26.5	170 492	23.0	50.3	49.7
20 – 29 years	232 370	101 663	15.6	130 708	17.7	43.8	56.2
30 – 39 years	138 115	62 045	9.5	76 071	10.3	44.9	55.1
40 – 49 years	110 282	40 169	6.2	70 113	9.5	36.4	63.6
50 – 59 years	79 161	35 368	5.4	43 793	5.9	44.7	55.3
≥ 60 years	97 785	39 982	6.1	57 802	7.8	40.9	59.1
<b>Total</b>	<b>1 392 180</b>	<b>651 947</b>	<b>100.0</b>	<b>740 233</b>	<b>100.0</b>	<b>46.8</b>	<b>53.2</b>

\* The Gaza Province has a low potential for agricultural production

Source: 2000 Census of Agriculture and Livestock

**Table 3.2.5: Agricultural population by age group and by sex in the Maputo Province\***

Age group	Total	Male		Female		Male-Female Ratio (%)	
		N	%	N	%	Male	Female
0 – 9 years	133 484	64 780	29.6	68 705	26.3	48.5	51.5
10 – 19 years	121 093	58 047	26.6	63 046	24.2	47.9	52.1
20 – 29 years	74 352	32 732	15.0	41 620	16.0	44.0	56.0
30 – 39 years	46 110	17 997	8.2	28 113	10.8	39.0	61.0
40 – 49 years	37 779	16 614	7.6	21 165	8.1	44.0	56.0
50 – 59 years	28 768	12 101	5.5	16 667	6.4	42.1	57.9
≥ 60 years	37 945	16 361	7.5	21 584	8.3	43.1	56.9
<b>Total</b>	<b>479 532</b>	<b>218 632</b>	<b>100.0</b>	<b>260 900</b>	<b>100.0</b>	<b>45.6</b>	<b>54.4</b>

\* The Maputo Province has a low potential for agricultural production

Source: 2000 Census of Agriculture and Livestock

**Table 3.2.6: Distribution of agricultural holdings by sex of head of the holding and area category at National level**

Ha	All holdings		Male headed		Female headed		Male-female ratio (in %)	
	N	%	N	%	N	%	Male	Female
< 0.1	38 358	1.3	22 647	1.0	15 711	2.2	59.0	41.0
0.1 - < 0.2	109 733	3.6	66 621	2.8	43 112	6.1	60.7	39.3
0,2 - < 0,5	553 420	18.1	379 883	16.1	173 537	24.5	68.6	31.4
0.5 - < 1.0	932 617	30.4	707 070	30.0	225 547	31.8	75.8	24.2
1.0 - < 2.0	922 508	30.1	747 831	31.7	174 677	24.7	81.1	18.9
2.0 - < 3.0	272 106	8.9	231 322	9.8	40 784	5.8	85.0	15.0
3.0 - < 4.0	108 504	3.5	93 308	4.0	15 196	2.1	86.0	14.0
4.0 - < 5.0	46 107	1.5	40 908	1.7	5 199	0.7	88.7	11.3
5.0 - < 10.0	49 916	1.6	42 429	1.8	7 487	1.1	85.0	15.0
10.0 - < 20.0	3 904	0.1	3 565	0.2	339	0.0	91.3	8.7
20.0 - < 50.0	420	0.0	407	0.0	13	0.0	96.9	3.1
50.0 - < 100.0	19	0.0	19	0.0	0	0.0	100.0	0.0
Not specified	26 672	0.9	19 901	0.8	6 771	1.0	74.6	25.4
<b>Total</b>	<b>3 064 284</b>	<b>100.0</b>	<b>2 355 911</b>	<b>100.0</b>	<b>708 373</b>	<b>100.0</b>	<b>76.9</b>	<b>23.1</b>

Source: 2000 Census of Agriculture and Livestock

**Table 3.2.7: Distribution of number of family plots by sex of the plot manager and area/surface at National level**

Ha	All holdings		Male plot manager		Female plot manager		Male-female ratio (in %)	
	Nb of plots	%	Nb of plots	%	Nb of plots	%	Male	Female
< 0.1	420 083	6.1	221 243	4.9	198 840	8.2	52.7	47.3
0.1 - < 0.2	1 210 202	17.5	739 163	16.4	471 039	19.5	61.1	38.9
0,2 - < 0,5	2 620 484	37.9	1 693 394	37.5	927 090	38.4	64.6	35.4
0.5 - < 1.0	1 781 596	25.7	1 226 326	27.2	555 270	23.0	68.8	31.2
1.0 - < 2.0	711 393	10.3	497 327	11.0	214 066	8.9	69.9	30.1
2.0 - < 3.0	124 453	1.8	93 531	2.1	30 922	1.3	75.2	24.8
3.0 - < 4.0	33 960	0.5	24 596	0.5	9 364	0.4	72.4	27.6
4.0 - < 5.0	11 064	0.2	7 807	0.2	3 257	0.1	70.6	29.4
5.0 - < 10.0	8 964	0.1	7 056	0.2	1 908	0.1	78.7	21.3
10.0 - < 20.0	763	0.0	656	0.0	107	0.0	86.0	14.0
20.0 - < 50.0	75	0.0	69	0.0	6	0.0	92.0	8.0
50.0 - < 100.0	0	0.0	0	0.0	0	0.0	-	-
<b>Total</b>	<b>6 923 037</b>	<b>100.0</b>	<b>4 511 168</b>	<b>100.0</b>	<b>2 411 869</b>	<b>100.0</b>	<b>65.2</b>	<b>34.8</b>

Source: 2000 Census of Agriculture and Livestock

**Table 3.2.8: Agricultural land by number and average size of holdings at national level**

All holdings		
Total area (ha)	Number	Average size (ha)
3 866 806	3 064 715	1.26

Source: 2000 Census of Agriculture and Livestock

**Table 3.2.9: Status of land ownership of family plots by sex of plot manager at National level**

Area categories ha	All holdings		Male plot manager		Female plot manager		Male-female ratio (in %)	
	N	%	N	%	N	%	Male	Female
Obtained through traditional auth*	621 734	9.2	487 414	9.2	134 320	9.4	78.4	21.6
Obtained through traditional auth*	244 165	3.6	173 990	3.3	70 175	4.9	71.3	28.7
Leased/rented	55 545	0.8	39 610	0.7	15 935	1.1	71.3	28.7
Borrowed	431 129	6.4	328 855	6.2	102 274	7.1	76.3	23.7
Occupied	2 900 962	43.0	2,377 071	44.7	523 891	36.5	81.9	18.1
Purchased with written title	12 504	0.2	8 912	0.2	3 592	0.3	71.3	28.7
Purchased with-out written title	232 964	3.5	189 334	3.6	43 630	3.0	81.3	18.7
Inherited	2 251 036	33.3	1 711 466	32.2	539 570	37.6	76.0	24.0
<b>Total</b>	<b>6 750 039</b>	<b>100.0</b>	<b>5 316 652</b>	<b>100.0</b>	<b>1 433 387</b>	<b>100.0</b>	<b>78.8</b>	<b>21.2</b>

Auth\* = Authorities

Source: 2000 Census of Agriculture and Livestock

**Table 3.2.10: Number of animals per agricultural holding by sex of head of agricultural holding at National Level**

Animals	All holdings owning animals			Male headed holdings			Female headed holdings		
	Number of holdings having animals	Number of selected Animals	Average number of animals per holding	Number of holdings having animals	Number of selected animals	Average number of animals per holding	Number of holdings having animals	Number of selected animals	Average number of animals per holding
Cattle	133 108	642 484	4.8	110 215	552 525	5.0	22 893	89 959	3.9
Ruminants	886 442	5 196 135	5.9	737 238	4 504 758	6.1	149 204	691 377	4.6
Poultry	2 139 040	22 786 577	10.7	1 706 930	19 365 749	11.3	432 110	3 420 828	7.9
<b>Total</b>	<b>3 158 590</b>	<b>XXXXXX</b>	<b>XXXXXX</b>	<b>2 554 383</b>	<b>XXXXXX</b>	<b>XXXXXX</b>	<b>604 207</b>	<b>XXXXXX</b>	<b>XXXXXX</b>

Source: 2000 Census of Agriculture and Livestock

**Table 3.2.11: Use of selected farm tools by sex of head of agricultural holding at national level**

Inputs	Head of agricultural holding (having access to selected tools)				
	Total (N)	Male		Female	
		Use (N)	Use (%)	Use (N)	Use (%)
Hoe	3 046 778	2 343 986	76.9	702 792	23.1
Cutlass / Machete	2 706 269	2 151 971	79.5	554 298	20.5
Plough	119 630	99 561	83.2	20069	16.8

Source: 2000 Census of Agriculture and Livestock

**Table 3.2.12: Use of selected farm inputs by sex of the collective plot manager at national level**

Inputs	Collective plot manager				
	Total (N)	Male		Female	
		Use (N)	Use (%)	Use (N)	Use (%)
Seeds – local	NA	NA	NA	NA	NA
Seeds – improved	NA	NA	NA	NA	NA
Fertilizer – org.(only)	50 749	38 606	76.1	12 143	23.9
Fertilizer–chem. (only)	81 755	72 950	89.2	8 805	10.8
Both (organic & chem...)	21 353	17 627	82.6	3 726	17.4
Phytosanitary Products	151 714	136 147	89.7	15 567	10.3

Source: 2000 Census of Agriculture and Livestock

**Table 3.2.13: Agricultural holdings per area cultivated under selected major crops by sex of the head of agricultural holding at National level**

Major Crop	Total area (ha)			Area under male head of holding			Area under female head of holding		
	Total area (ha)	Number of holdings	Average size	Total area (ha)	Number of holdings	Average size	Total area (ha)	Number of holdings	Average size
Maize	1 345 656	2 433 019	0.6	1 089 981	1 883 157	0.6	255 675	549 862	0.5
Rice	193 109	638 669	0.3	157 963	507 742	0.3	35 146	130 927	0.3
Cassava	646 479	1 956 265	0.3	530 759	1 527 843	0.3	115 720	428 422	0.3
Sorghum	236 043	828 001	0.3	200 401	665 713	0.3	35 642	162 288	0.2
Millet	40 125	142 912	0.3	33 264	113 043	0.3	6 861	29 869	0.2
Cowpeas	213 149	1 332 721	0.2	169 027	1 028 861	0.2	44 122	303 860	0.1
Groundnut	332 073	1 261 906	0.3	270 307	988 072	0.3	61 766	273 834	0.2
<b>Total</b>	<b>3 006 634</b>	<b>8 593 493</b>	<b>XXXXXX</b>	<b>2 451 702</b>	<b>6 714 431</b>	<b>XXXXXX</b>	<b>554 932</b>	<b>1 879 062</b>	<b>XXXXXX</b>

Source: 2000 Census of Agriculture and Livestock

**Table 3.2.14: Family plots per area cultivated under selected major crop by sex of the plot manager at national level**

Major Crop	Total area (ha)			Area under male plot manager			Area under female plot manager		
	Total area	Number of plots	Average size (ha)	Total area	Number of plots	Average size (ha)	Total area	Number of plots	Average size (ha)
Maize	235 035	408 091	0.6	171 832	287 783	0.6	63 203	120 308	0.5
Rice	136 959	517 238	0.3	87 048	295 623	0.3	49 911	221 615	0.2
Cassava	187 104	493 937	0.4	143 003	360 956	0.4	44 101	132 981	0.3
Sorghum	45 632	100 119	0.5	32 568	70 458	0.5	13 064	29 661	0.4
Millet	4 376	8 093	0.5	2 079	4 146	0.5	2 297	3 947	0.6
Cowpeas	6 281	21 365	0.3	4 484	15 966	0.3	1 797	5 399	0.3
Groundnut	46 073	134 584	0.3	34 952	98 983	0.4	11 121	35 601	0.3
<b>Total</b>	<b>661 460</b>	<b>1 683 427</b>	<b>XXXXXX</b>	<b>475 966</b>	<b>1 133 915</b>	<b>XXXXXX</b>	<b>185 494</b>	<b>549 512</b>	<b>XXXXXX</b>

Source: 2000 Census of Agriculture and Livestock

## ANNEX 4: Statistical table on the NAMIBIA CASE STUDY (Chapter 5)

**Table 4.1a: Agricultural population by age group and by sex in the Omusati Region**

Age group	Numbers		Ratio	
	Male	Female	Male	Female
< 5 years	-	-	-	-
5-9 years	92	59	60.9	39.1
10-14 years	268	336	44.4	55.6
15-19 years	182	328	35.7	64.3
20-24 years	117	226	34.1	65.9
25-29 years	30	153	16.4	83.6
30-34 years	31	97	24.2	75.8
35-39 years	35	116	23.2	76.8
40-44 years	17	53	24.3	75.7
45-49 years	11	104	9.6	90.4
50-54 years	38	64	37.3	62.7
55-59 years	9	52	14.8	85.2
60-64 years	16	60	21.1	78.9
65-69 years	40	48	45.5	54.5
> 70 years	28	102	21.5	78.5
<b>Total population</b>	<b>914</b>	<b>1,798</b>	<b>33.7</b>	<b>66.3</b>

Source: Fam Household Economic Survey: Omusati region (1998-1999), Six sampled villages.

**Table 4.1b: Agricultural population by age group and by sex in the Caprivi Region**

Age group	Numbers		Ratio	
	Male	Female	Male	Female
< 5 years	-	-	-	-
5-9 years	3	4	42.9	57.1
10-14 years	57	47	54.8	45.2
15-19 years	208	76	73.2	26.8
20-24 years	277	67	80.5	19.5
25-29 years	103	98	51.2	48.8
30-34 years	98	79	55.4	44.6
35-39 years	55	48	53.4	46.6
40-44 years	32	50	39.0	61.0
45-49 years	30	82	26.8	73.2
50-54 years	56	37	60.2	39.8
55-59 years	27	24	52.9	47.1
60-64 years	22	56	28.2	71.8
65-69 years	18	40	31.0	69.0
> 70 years	150	40	78.9	21.1
<b>Total population</b>	<b>1,136</b>	<b>748</b>	<b>60.3</b>	<b>39.7</b>

Source: Farm Household Economic Survey: Caprivi region (1996-1997), Six sampled villages

**Table 4.2: Main activity of all holders by sex and region**

Region	Main activity	Female			Male			Total	
		N	%	%*	N	%	%*	N	%
Kavango	Cropping	2 961	78	49	3 060	62	51	6 021	69
	Livestock	151	4	46	177	4	54	329	4
	Both crop & livestock	649	17	41	919	19	59	1 568	18
	Non-agricultural activity	41	1	5	810	16	95	851	10
Caprivi	Cropping	2 832	59	48	3 060	59	52	5 893	59
	Livestock/Animal	143	3	32	297	6	67	441	4
	Both crop & livestock	1 713	36	51	1 635	32	49	3 348	34
	Non-agricultural activity	82	2	35	151	3	65	233	2
Ohangwena	Cropping	11 234	69	56	8 833	53	44	20 067	61
	Livestock	0	0	0	518	3	100	518	2
	Both crop & livestock	5 006	31	43	6 722	41	57	11 728	36
	Non-agricultural activity	39	0	7	514	3	97	553	2
Omusati	Cropping	7 928	73	56	6 208	62	44	14 136	68
	Livestock	389	4	40	579	6	60	968	5
	Both crop & livestock	2 331	22	45	2 902	29	55	5 233	25
	Non-agricultural activity	183	2	35	335	3	65	518	2
Oshana	Cropping	6 202	64	58	4 553	51	42	10 755	58
	Livestock	44	0	6	707	8	94	751	4
	Both crop & livestock	3 459	36	50	3 521	40	50	6 981	38
	Non-agricultural activity	0	0	0	126	1	100	126	1
Oshikoto	Cropping	5 651	87	64	3 140	74	36	8 791	82
	Both crop & livestock	763	12	43	1 028	24	57	1 791	17
	Non-agricultural activity	45	1	30	104	2	70	149	1

\* Percentages per category per region: Female + Male per category = 100%

Source: Gender-Disaggregated Work in Rural Northern Namibia (2002)

**Table 4.3a: Area cultivated per major crops at the national level (1994/95)**

Major crop	Total area (ha) Holding
Pearl millet (mahangu)	194 990
Sorghum	30 526
Cowpeas	14 321
Maize	5 673

Source: 1994/95 Namibia Agricultural Census: Basic tables of communal agriculture.

**Table 4.3b: Cereal production (tonnes) by region, type of crop /staple food and sex of the head of the household**

Region/crop	1996/97		1997/98		1998/99		1999/2000		2000/01		2001/02		2002/03	
	F	M	F	M	F	M	F	M	F	M	F	M	F	M
<b>Caprivi</b>														
Pearl millet	550	2 086	559	1 068	532	883	NA	NA	1 652	3 749	1 030	999	966	967
Sorghum	1 032	1 803	161	512	351	548	NA	NA	1 001	1 084	702	1 669	1 878	2 303
Maize	2 128	3 524	611	1 278	715	1 178	NA	NA	1 944	1 850	2 140	1 888	1 829	723
<b>Total</b>	<b>3 710</b>	<b>7 413</b>	<b>1 331</b>	<b>2 858</b>	<b>1 598</b>	<b>2 609</b>	<b>NA</b>	<b>NA</b>	<b>4 597</b>	<b>6 683</b>	<b>3 872</b>	<b>4 556</b>	<b>4 673</b>	<b>3 993</b>
<b>Kavango</b>														
Pearl millet	762	2 296	427	1 544	1 281	4 306	NA	NA	1 174	2 688	726	1 958	2 775	5 173
Sorghum	91	287	39	142	196	122	NA	NA	203	691	52	148	369	486
Maize	245	595	157	470	325	681	NA	NA	763	903	127	197	46	94
<b>Total</b>	<b>1 098</b>	<b>3 178</b>	<b>623</b>	<b>2 156</b>	<b>1 802</b>	<b>5 109</b>	<b>NA</b>	<b>NA</b>	<b>2 140</b>	<b>4 282</b>	<b>905</b>	<b>2 303</b>	<b>3 190</b>	<b>5 753</b>
<b>Ohangwena</b>														
Pearl millet	4 523	7 503	2 901	8 614	5 036	12 964	2 409	10 810	3 347	11 650	3 728	6 775	2 465	7 118
Sorghum	709	3 654	615	1 683	1 377	2 825	225	1 196	570	1 729	-	-	184	863
Maize	43	17	1	70	9	78	10	146	65	275	-	-	210	506
<b>Total</b>	<b>5 275</b>	<b>11 174</b>	<b>3 517</b>	<b>10 367</b>	<b>6 422</b>	<b>15 867</b>	<b>2 644</b>	<b>12 152</b>	<b>3 982</b>	<b>13 654</b>	<b>3 728</b>	<b>6 775</b>	<b>2 859</b>	<b>8 487</b>
<b>Omusati</b>														
Pearl millet	12 491	30 674	4 715	9 742	4 473	14 620	3 190	6 922	8 808	18 753	7 561	8 371	5 706	7 022
Sorghum	1 025	5 539	977	1 605	317	2 262	808	1 112	2 085	3 791	135	705	269	930
Maize	51	134	123	7	12	54	54	336	242	1 452	1	66	7	24
<b>Total</b>	<b>13 567</b>	<b>36 347</b>	<b>5 815</b>	<b>11 354</b>	<b>4 802</b>	<b>16 936</b>	<b>4 052</b>	<b>8 370</b>	<b>11 135</b>	<b>23 996</b>	<b>7 697</b>	<b>9 142</b>	<b>5 982</b>	<b>7 976</b>
<b>Oshana</b>														
Pearl millet	3 675	11 433	2 579	5 042	3 486	6 341	5 153	6 852	5 673	8 319	1 900	3 992	2 616	4 435
Sorghum	559	2 581	284	892	529	1 236	799	987	1 116	2 070	172	448	233	346
Maize	15	204	2	137	-	21	13	51	223	542	1	12	19	16
<b>Total</b>	<b>4 249</b>	<b>14 218</b>	<b>2 865</b>	<b>6 071</b>	<b>4 015</b>	<b>7 598</b>	<b>5 965</b>	<b>7 890</b>	<b>7 012</b>	<b>10 931</b>	<b>2 073</b>	<b>4 452</b>	<b>2 868</b>	<b>4 797</b>
<b>Oshikoto</b>														
Pearl millet	4 394	12 916	3 613	6 988	6 109	16 884	6 678	7 054	4 611	9 401	3 873	4 676	3 593	6 808
Sorghum	713	2 798	328	962	6 901	6 012	649	2 887	518	1 207	9	80	210	439
Maize	14	100	1	15	90	78	342	745	723	514	1	1	1	5
<b>Total</b>	<b>5 121</b>	<b>15 814</b>	<b>3 942</b>	<b>7 965</b>	<b>13 100</b>	<b>22 974</b>	<b>7 669</b>	<b>10 686</b>	<b>5 852</b>	<b>11 122</b>	<b>3 883</b>	<b>4 757</b>	<b>3 804</b>	<b>7 252</b>

Source: Annual Agricultural Surveys (1996-2003)

**Table 4.3c: Ratio of total production of three principal crops (pearl millet, sorghum and maize) per region and sex of head of agricultural holding per cropping season**

Region	1996/97		1997/98		1998/99		1999/2000		2000/01		2001/02		2002/03	
	F	M	F	M	F	M	F	M	F	M	F	M	F	M
Caprivi	33*	67	32	68	38	62	-	-	41	59	46	54	54	46
Kavango	26	74	22	78	26	74	-	-	33	67	28	72	36	64
Ohangwena	32	68	23	77	29	71	18	82	23	77	35	65	25	75
Omusati	27	73	34	66	22	78	33	67	32	68	46	54	43	57
Oshana	23	77	32	68	35	65	43	57	39	61	32	68	37	63
Oshikoto	24	76	33	67	36	64	42	58	34	66	45	55	34	66

\*Total production in tons of millet, sorghum and maize per female or male head of holding as a percentage of the total (female + male) production for these 3 crops for the selected region and cropping season.

Source: Annual Agricultural Surveys (1996-2003)

**Table 4.3d: Trend in ratio of total production of three principal crops between female and male headed agricultural holdings, per region and per cropping season.**

Sex of HoHH	1996/97		1997/98		1998/99		1999/2000		2000/01		2001/02		2002/03	
	Tons	%	Tons	%	Tons	%	Tons	%	Tons	%	Tons	%	Tons	%
Female HoHH	**33 018	27	18 092	31	30 134	30	20 330	34	34 720	34	22 157	41	23 374	38
Male HoHH	88 142	73	40 770	69	71 095	70	39 097	66	70 668	66	31 985	59	38 258	62
Total	121 160	100	58 862	100	101 229	100	59 427	100	105 388	100	54 142	100	61 632	100

\*\* Total production (tons) of millet, sorghum and maize of female heads of holdings for all 6 regions for the selected cropping season

Source: Annual Agricultural Surveys (1996-2003)

**Table 4.4a: Total and average number of cattle owned by region, cropping season and sex of the head of household.**

Region	Cropping Season	Female head/household		Male head/household	
		Total	Average	Total	Average
Kavango	1996/1997	22 480	7	72 375	10
	1997/1998	12 431	5	71 760	12
	1998/1999	20 569	8	64 910	11
	1999/2000*	-	-	-	-
	Average	18 493	7	69 682	11
Caprivi	1996/1997	36 830	10	95 377	12
	1997/1998	26 896	7	55 216	7
	1998/1999	60 721	11	102 496	19
	1999/2000*	-	-	-	-
	Average	41 482	9	84 363	13
Ohangwena	1996/1997	57 516	5	141 404	8
	1997/1998	7 525	1	153 757	9
	1998/1999	32 991	3	197 874	14
	1999/2000	17 085	2	188 152	11
	Average	28 779	3	170 297	11
Omusati	1996/1997	18 388	2	95 431	7
	1997/1998	45 185	5	119 014	9
	1998/1999	25 876	3	199 734	14
	1999/2000	22 341	2	134 486	10
	Average	27 948	3	137 166	10
Oshana	1996/1997	7 083	1	44 176	5
	1997/1998	8 734	2	49 901	5
	1998/1999	12 897	2	79 392	8
	1999/2000	9 341	1	66 106	8
	Average	9 514	2	59 894	7
Oshikoto	1996/1997	19 976	4	96 211	10
	1997/1998	17 988	3	95 439	9
	1998/1999	16 099	2	107 860	11
	1999/2000	26 887	3	84 690	11
	Average	20 238	3	96 050	10

\* No data were collected for the Kavango and Caprivi regions in the 1999/2000 because of calamities, such as floods, which took place during the time of the surveys operations.

Source: Gender-Disaggregated Work in Rural Northern Namibia (2002)

**Table 4.4b: Percentage of households owning ploughs and oxen by region, cropping season and sex of the head of household**

Region	Cropping season	Plough (%)		Oxen (%)	
		Female HH	Male HH	Female HH	Male HH
<b>Kavango</b>	1996/1997	46	50	42	45
	1997/1998	31	62	25	54
	1998/1999	41	52	36	48
	1999/2000	-	-	-	-
	Average*	39	55	34	49
<b>Caprivi</b>	1996/1997	26	47	34	39
	1997/1998	39	42	38	40
	1998/1999	41	50	49	54
	1999/2000	-	-	-	-
	Average*	35	46	40	44
<b>Oshana</b>	1996/1997	27	59	15	39
	1997/1998	23	69	7	35
	1998/1999	32	64	13	48
	1999/2000	32	64	12	39
	Average*	29	64	12	40
<b>Omusati</b>	1996/1997	58	77	9	24
	1997/1998	60	86	6	20
	1998/1999	58	79	4	27
	1999/2000	52	69	3	18
	Average*	57	78	6	22
<b>Oshana</b>	1996/1997	16	29	8	9
	1997/1998	18	30	3	12
	1998/1999	26	31	10	10
	1999/2000	19	50	0	3
	Average*	20	35	5	9
<b>Oshikoto</b>	1996/1997	33	55	10	29
	1997/1998	40	57	11	29
	1998/1999	22	55	21	26
	1999/2000	23	62	0	33
	Average*	30	57	10	29

\* Average: refers to the 3-year average for Kavango and Caprivi and to the four-year average for the other four Northern Central regions

Source: Gender-Disaggregated Work in Rural Northern Namibia (2002)

## ANNEX 5: Statistical tables on the SENEGAL CASE STUDY (Chapter 6)

**Table 5.1: Agricultural population by age group and sex - national level**

Age group	Numbers		Ratio	
	Male	Female	Male	Female
< 5 years	398 482	383 860	50.9	49.1
5 – 9 years	466 462	434 389	51.8	48.2
10 -14 years	371 185	324 750	53.3	46.7
15 – 19 years	295 556	288 336	50.6	49.4
20 – 24 years	217 599	210 133	50.9	49.1
25 – 29 years	171 560	191 558	47.2	52.8
30 – 34 years	121 075	153 659	44.1	55.9
35 – 39 years	108 628	134 873	44.6	55.4
40 – 44 years	88 025	104 417	45.7	54.3
45 – 49 years	71 054	83 039	46.1	53.9
50 – 54 years	60 159	76 076	44.2	55.8
55 – 59 years	49 545	50 856	49.3	50.7
60 – 64 years	50 138	52 009	49.1	50.9
65 – 69 years	36 691	30 931	54.3	45.7
> 70 years	39 646	32 257	55.1	44.9
<b>Total</b>	<b>2 545 806</b>	<b>2 551 145</b>	<b>49.9</b>	<b>50.1</b>

Source: Recensement National de l'Agriculture 1998-99

**Table 5.2: Distribution of heads of agricultural holding by sex and area category (collective plots) – national Level**

Ha	Numbers		Percentage		Ratio	
	Male head	Female head	Male head	Female head	Male head	Female head
< 0.5 ha	35 213	11 367	8.9	28.7	75.6	24.4
0.5 -0.9 ha	37 557	7 397	9.4	18.7	83.5	16.5
1.0 - 1.9 ha	63 119	9 108	15.9	23.0	87.4	12.6
2.0 -2.9 ha	53 589	4 259	13.5	10.8	92.6	7.4
3.0 – 3.9 ha	45 254	2 159	11.4	5.5	95.4	4.6
4.0 – 4.9 ha	34 516	2 434	8.7	6.1	93.4	6.6
5.0 – 6.9 ha	49 780	1 273	12.5	3.2	97.5	2.5
7.0 – 9.9 ha	38 792	825	9.8	2.1	97.9	2.1
10 – 19.9 ha	33 624	703	8.5	1.8	97.9	2.0
> 20 ha	5 997	74	1.5	0.2	98.8	1.2
<b>Total</b>	<b>397 441</b>	<b>39 599</b>	<b>100</b>	<b>100</b>	<b>90.9</b>	<b>9.1</b>

Source: Recensement National de l'Agriculture 1998-99

**Table 5.3: Area cultivated per major crop by sex of the head of the holding (individual plots) – national level**

Cultivate crops	Total area (ha)	Male Head of holding				Female Head of Holding			
		Total area (ha)	Number of Heads	Average area (ha) cultivated	%	Total area (ha)	Number of Heads	Average area (ha) cultivated	%
Maize	54,101	48,527	133,700	0.363	89.7	5,574	24,629	0.226	10.3
Millet	805,288	745,837	692,636	1.077	92.6	59,451	94,653	0.628	7.4
Beans	125,944	91,828	186,096	0.493	72.9	34,116	94,063	0.363	27.1
Sorghum	204,901	189,573	240,645	0.788	92.5	15,328	33,766	0.454	7.5
Rice	47,681	20,976	43,327	0.484	44.0	26,705	148,219	0.180	56.0
Groundnuts	528,381	435,950	444,743	0.980	82.5	92,431	194,458	0.475	17.5
Watermelon	21,776	20,748	41,193	0.504	95.3	1,028	3,230	0.318	4.7
Cassava	18,803	17,647	26,465	0.667	93.9	1,156	1,918	0.603	6.1
Bissap	11,591	5,961	24,375	0.245	51.4	5,630	34,936	0.161	48.6
<b>Total</b>	<b>1,818,466</b>	<b>1,577,047</b>	<b>1,833,180</b>	<b>0.86</b>	<b>86.7</b>	<b>241,419</b>	<b>629,872</b>	<b>0.383</b>	<b>13.3</b>

Source: Recensement National de l'Agriculture 1998-99

**Table 5.4: Access to agricultural extension services by plot manager**

Region	Male Plot Managers		Female Plot Managers		Total	%
	N	%	N	%		
Region of Diourbel	16 197	4.62	4 722	1.35	20 919	3.9
Region of Thiès	7 826	1.37	5 895	1.03	13 721	1.2
Region of Koalack	39 889	6.55	9 075	1.47	48 964	5.6
Region of Kolda	18 364	4.05	4 612	1.02	22 976	3.4
<b>National</b>	<b>155 072</b>	<b>4.08</b>	<b>53 253</b>	<b>1.40</b>	<b>208 325</b>	<b>3.4</b>

Source: **Recensement National** de l'**Agriculture** 1998-99

**Table 5.5: Use of selected inputs by cultivated area and sex of the plot manager - national level**

Inputs	Plot Manager (Individual Plots)				Total Area (%)	
	Male		Female		Male	Female
	Total area (Ha)	% Using Input	Total area (Ha)	% Using Input		
Local Seeds	879 011	46.81	135 878	7.24	86.6	13.4
Improved Seeds	234 465	12.49	35 419	1.89	86.9	13.1
Other Seeds	512 892	27.32	80 018	4.26	86.5	13.5
Organic Fertilizers	330 920	17.62	32 383	1.72	91.1	8.9
Chemical Fertilizers	260 850	13.89	30 427	1.62	89.6	10.4
Org. + Chem. Fertilizers	59 532	3.17	6 273	0.33	90.5	9.5
Without Fertilizers	975 066	51.93	182 232	9.71	84.3	15.7

Source: **Recensement National** de l'**Agriculture** 1998-99

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