

NATIONAL GENDER PROFILE OF AGRICULTURAL HOUSEHOLDS

Report based on the 2008
Cambodia Socio-Economic Survey

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Agriculture and Rural Development*

NATIONAL GENDER PROFILE OF AGRICULTURAL HOUSEHOLDS, 2010

Report based on the 2008 Cambodia Socio-Economic Survey

Food and Agriculture Organization of the United Nations
National Institute of Statistics/Ministry of Planning

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Acronyms and abbreviations

CMDG	Cambodia Millennium Development Goals
CSES	Cambodia Socio-Economic Survey
FAO	Food and Agriculture Organization of the United Nations
GPCC	General Population Census of Cambodia
MAFF	Ministry of Agriculture, Forestry and Fishery
MDGs	Millennium Development Goals
MoWA	Ministry of Women Affairs
NGOs	Non-government organizations
NIS	National Institute of Statistics
PSU	Primary Sampling Units
SDD	Sex Disaggregated Data

Summary sheet

1 | Demographic characteristics of agricultural households

Sex of household head (%)

Male headed households:	80
Female headed households:	20

Average household size

Male headed households:	4.9
Female headed households:	4.0

Active members (%)

Male headed households:	61
Female headed households:	66

Sex ratio (%)

Male headed households:	100
Female headed households:	60

Dependency ratio (%)

Male headed households:	60
Female headed households:	50

2 | Social characteristics of agricultural household heads

Literacy (%)

Male headed households:	80
Female headed households:	42

Median age (years)

Male heads:	44
Female heads:	54

3 | Agricultural labourers

Skilled agricultural and fishery workers (%)

Male headed households:	61
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4 | Agricultural land

With own plots (%)

Male headed households:	82
Female headed households:	18

Average area per owned plot (ha)

Male headed households:	0.73
Female headed households:	0.60

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Average irrigated plot area (ha)

Male headed households:	0.73
Female headed households:	0.58

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Female headed households:	18

Preface

It is widely recognized that women's contribution to agricultural production is of great importance. However, their contribution is often inaccurately reported and underestimated. On the whole, agricultural statistics under-represent data items that are crucial for understanding women's role in the agricultural sector. The lack of relevant data on women in agriculture constraints planners' understanding of the real situation in rural economies and hence the integration of women in agricultural planning.

In response to the increasing demand placed upon national statistical systems for high quality, reliable statistical data, disaggregated by sex and age for the food and agriculture sector, FAO, with financial support of SIDA, aims to strengthen national capacities for socially and sex-disaggregated data in agriculture and rural development in the Asia-Pacific region. This support included the development and pilot testing of a Gender and Agricultural Statistics Framework, mainstreaming gender concerns in agricultural censuses and surveys, and re-tabulation of existing census and survey data. This National Gender Profile is the outcome of that support.

It is with great pleasure that we present the first National Gender Profile of Agricultural Households. This National Gender Profile is based on data from the Cambodia Socio-Economic Surveys and concentrates on agricultural households. The Profile presents sex-disaggregated data on demographic and social characteristics of agricultural households, their gender based access to productive resources, their livelihood activities, and important livelihood outcomes.

The National Gender Profile is a joint product of the National Institute of Statistics (NIS), the Ministry of Agriculture, Forestry and Fishery (MAFF), and the Ministry of Women Affairs (MoWA), with technical expertise from FAO. Under the FAO-Sida "Strengthening national capacities for socially and sex-disaggregated data in agriculture and rural development project", NIS produced a wide range of sex-disaggregated data for the agricultural sector based on the CSES 2004, 2007 and 2008. MAFF developed and pre-tested a gender-sensitive questionnaire for the Cost of Rice production surveys and assisted in the production of this Profile. MoWA collaborated with NIS and MAFF in gender mainstreaming and producing this Profile.

On behalf of NIS, MAFF and MoWA, we gratefully acknowledge the financial and technical support provided by FAO and Sida. Finally, my appreciation goes to all those who contributed to the success of this Profile. In particular I would like to mention Mrs. Hang Lina from NIS, overall responsible for the Profile, and Mr Pich Pothy and Mr Phon Chinda from NIS, both responsible for the re-tabulation. I would also like to extend my appreciation to Mrs. Meas Sotheavy from MAFF and Mrs. Nhean Sochetra from MoWA. We express our sincere thanks to them.

Mr. San Sy Than
Director General, NIS



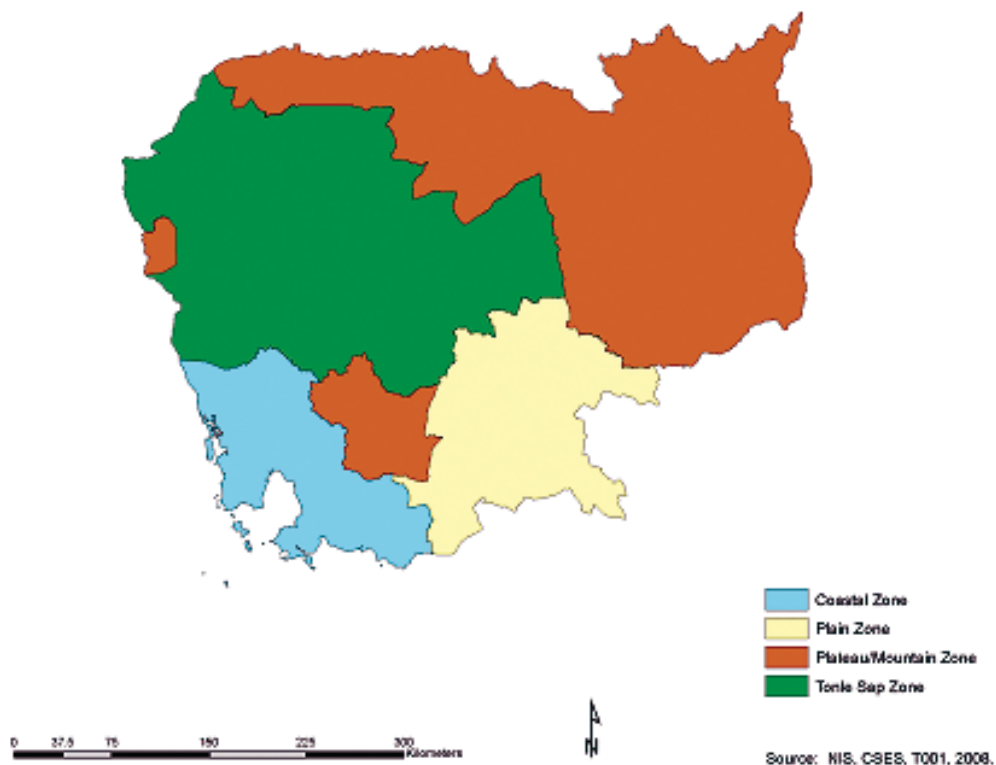
Mr. Ajay Markanday
FAO Representative



Phnom Penh
April, 2010

Map of Cambodia

Cambodia: Zones



Source: NIS, CSES, T001, 2008.



CHAPTER 1

Introduction

1.1 INTRODUCTION

Cambodia has a land area of 181 035 square kilometers and a population of almost 14 million people (2008). In 2008, about 82 percent of the households lived in rural areas. A large majority of these households engage in rice-based agriculture, collection of forest products and livestock production. The agricultural sector generates about 32 percent of the Gross Domestic Product and provides employment to about 80 percent of the country's labour force. The sector is dominated by small farm households who are mainly engaged in subsistence production. Further, most of those employed in the agricultural sector are self-employed or unpaid family members working on the household farm.

This National Gender Profile focuses on female and male headed agricultural households and their characteristics pertaining to their demographic and social profile, access to productive resources, livelihood activities and livelihood outcomes. The Gender Profile is based on data derived from the latest Cambodian Socio-Economic Survey in 2008 (CSES 2008). Due to small sample households used in the said survey, the indicators are presented at the zone level (i.e. Plain, Tonlé Sap, Coastal, and Plateau/ Mountain

1.2 AGRICULTURAL DATA SOURCES

The CSES was designed to provide information on social and economic conditions of households to support policy studies on poverty, household production and consumption and to update the consumer price index of goods and services. It also served as a medium for training and improving survey methods and analysis within the National Institutes of Statistics (NIS) of Cambodia.

The CSES 2008 is the latest in a series of multi-objective national surveys that have been conducted, processed and produced by the NIS. It is the largest multi-objective household survey ever undertaken in Cambodia, including a total of 3 600 households interviewed in 360 Primary Sampling Units (PSU) during a 12-month period from January 2008 through December 2008. The CSES 2008 is the first multi-objective household survey that covers the entire country. In addition to data on household consumption and a wide range of social indicators, the CSES 2008 collected data on sources of household income, village data on land use and access to community and social services (for example roads, electricity, water, markets, schools and health facilities), and data on prices from local markets for 93 food and non-food items. The survey sample was selected to be representative of the country and representative monthly samples of 300 households based on the twelve months data (January to December 2008) were collected from 3 600 households with a total of about 16 900 individuals.

1.3 RATIONALE FOR A NATIONAL GENDER PROFILE

In the Kingdom of Cambodia, women are major contributors to the economy but their efforts remain invisible due to lack of sex-disaggregated data (SDD). While women's contribution is crucial for subsistence economies and food security, their activities are often excluded from economic accounts. Although a number of National Surveys has been conducted in Cambodia such as CSES 2004, 2007, 2008 and 2009, the Cambodia Demographic and Health Survey 2005, and the General Population Census of Cambodia 2008, gender statistics related to agriculture are not enough analyzed, tabulated and disseminated. The lack of adequate data on gender disparities limits planners' understanding of the real situation in rural economies and constrains their potential to act. There is thus a strong need for incorporating a gender perspective in statistics. For this reason, NIS produced a range of gender statistics through re-tabulation of existing data sources.

Topic	Data items
Demographic and social characteristics of the agricultural households	Female headship Household size Age Sex ratio and dependency ratio of agricultural population Household labour force Marital status Ethnicity Education completed Literacy
Access to productive resources	Gender-based access to: Farm labour Land access: land size; land tenure; land use Improved technologies: irrigation and farm equipment; information and communication Credit
Agricultural activities	Gender-based differences in: Crop production Livestock production Fishery Forestry
Status of the agricultural households with regards to non-income indicators	Poverty proxy indicators: Housing conditions Drinking water (source) Sources of energy Toilet facilities Durable goods

1.4 GENDER ANALYSIS FRAMEWORK OF THE CAMBODIA AGRICULTURAL SECTOR

The above table indicates the key gender areas under investigation in this report. It highlights the key points analyzed from a gender perspective.

1.5 KEY DEFINITIONS FROM CSES

A household is a group of people making common arrangements for food, shelter and other acts of daily living. A household usually consists of related persons such as a husband, wife, children and parents but sometimes it also includes unrelated persons such as farm workers.

Sex refers to the biological differences between men and women.

Gender refers to the social differences between women and men, i.e. the different responsibilities of women and men in a given culture or location. These roles of women and men are learned and they change over time.

Gender roles are influenced by perceptions and expectations arising from social and cultural, political, environmental, economical, institutional factors, as well as class, age, ethnicity.

Gender analysis is the study of the different roles of women and men to understand what they do, what resources they have and what their needs and priorities are.

Gender-disaggregated data are analytical indicators derived from sex-disaggregated data on socio-economic attributes.

1.6 OUTLINE OF THE REPORT

This report is divided into six chapters. Chapter 1 describes the geographical features and gives brief agricultural information of Cambodia and introduction to CSES 2008; provides the rationale for a gender profile of the agricultural household, as well as an overview of the gender issues in the country and provides an overview of gender issues analysed in the report, introduction to the CSES, gender analysis framework of the country's agricultural sector and key definitions used in the report. Chapter 2 presents data related to the demographic and social profile of the agricultural household and population such as age, household size, household labour force, marital status, ethnicity, literacy and education completed. Chapter 3 includes gender-based access to productive resources like agricultural labour, land, improved technologies, credit, and access to/ownership of selected durable goods. Chapter 4 focuses on livelihood activities such as crop production, livestock production, fishery, forestry, and non-agricultural business. Chapter 5 includes sex-disaggregated data on some selected livelihood outcomes. Last but not least, chapter 6 presents final conclusions.

CHAPTER 2

Demographic and social profile of agricultural households

2.1 AGRICULTURAL POPULATION AND HOUSEHOLD CHARACTERISTICS

The 1962, 1998 and 2008 GPCC provides the population and demographic data in the country. The 2008 GPCC estimated the population to be at 13.5 million. From these, the total agricultural population includes about 9.5 million persons or 71 percent of the total population. These populations are living in the four zones (such as) Plain (45 percent), Tonle Sap (34 percent), Coastal (7 percent) and Plateau/Mountain (14 percent), that are depending on agriculture, fisheries or forestry activities for their livelihoods. Of the agricultural population, 48% are male and 52% are female. In all zones, the female agricultural population is higher than the male agricultural population with an estimated average difference of 3 percentage points (Table 2.1).

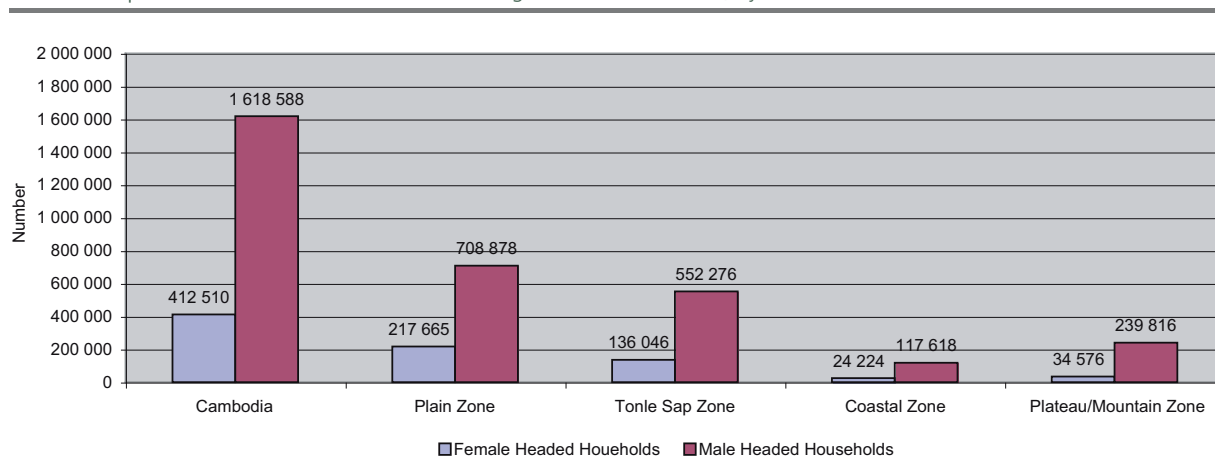
The total number of agricultural households is 2.3 million or about 85 percent of the total households in the country. Of these, 80 percent of the agricultural households are male headed and 20 percent are female headed. The number of male and female headed agricultural households varies per zone (Chart 2.1 and Maps 2.1 and 2.2).

TABLE 2.1 | Agricultural population in Cambodia, by sex, by zone: 2008

Zone/age group	Both sexes		Female		Male	
	Number	%	Number	%	Number	%
Cambodia	9 509 818	100.0	4 898 553	51.5	4 611 265	48.5
Plain zone	4 326 825	100.0	2 251 752	21.0	2 075 072	48.0
Tonle Sap zone	3 236 009	100.0	1 656 052	51.2	1 579 958	48.8
Coastal zone	619 254	100.0	318 420	51.4	300 834	48.6
Plateau/Mountain zone	1 327 739	100.0	672 329	50.6	655 401	49.4

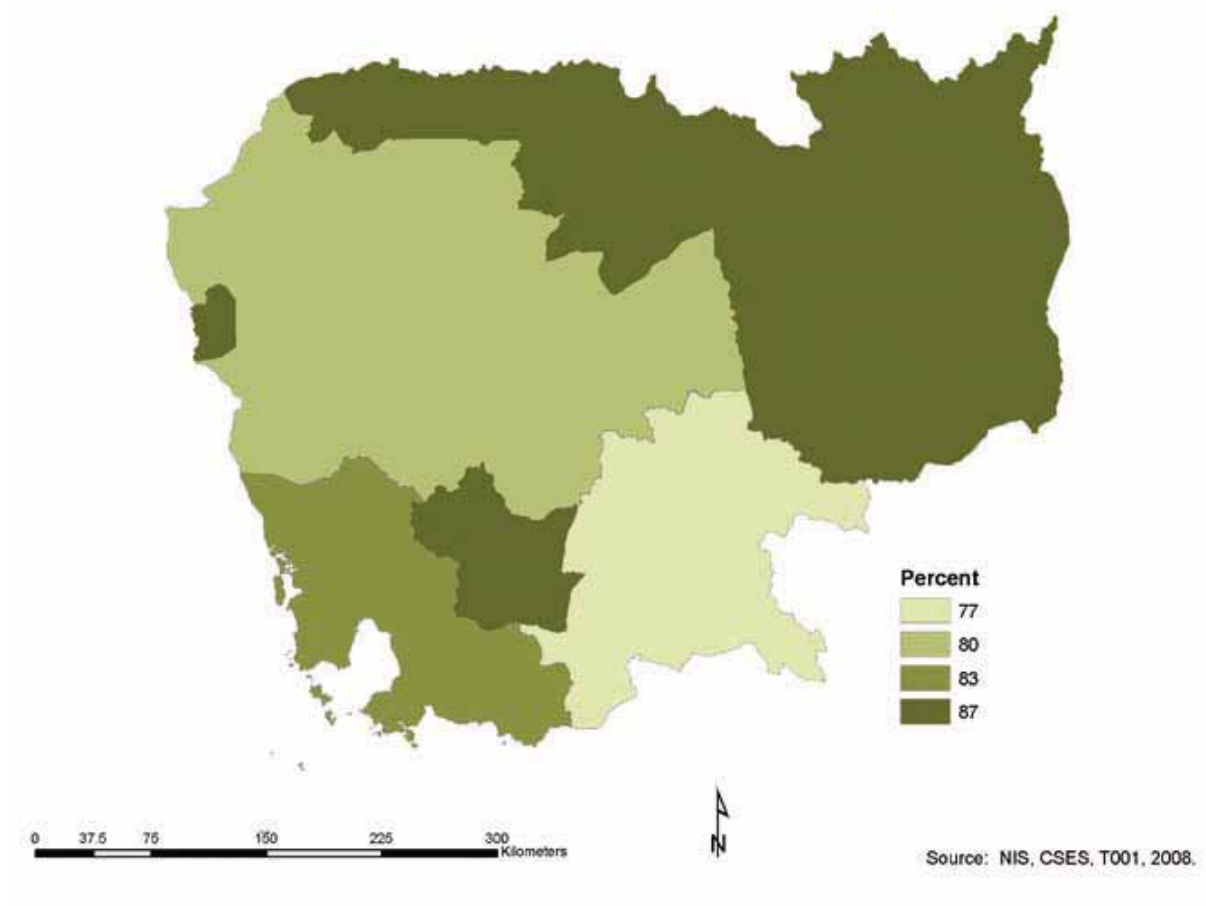
Source: NIS, CSES, 2008

CHART 2.1 | Number of male and female headed agricultural households, by zone: 2008



Source: NIS, CSES 2008

MAP 2.1 | Percent male headed agricultural households



The Plain Zone which includes Phnom Penh has the highest number of female headed households (about 218 thousand); followed by Tonle Sap Zone with 136 thousand female headed households. The lowest proportion of female headed households is in the Coastal Zone (6%).

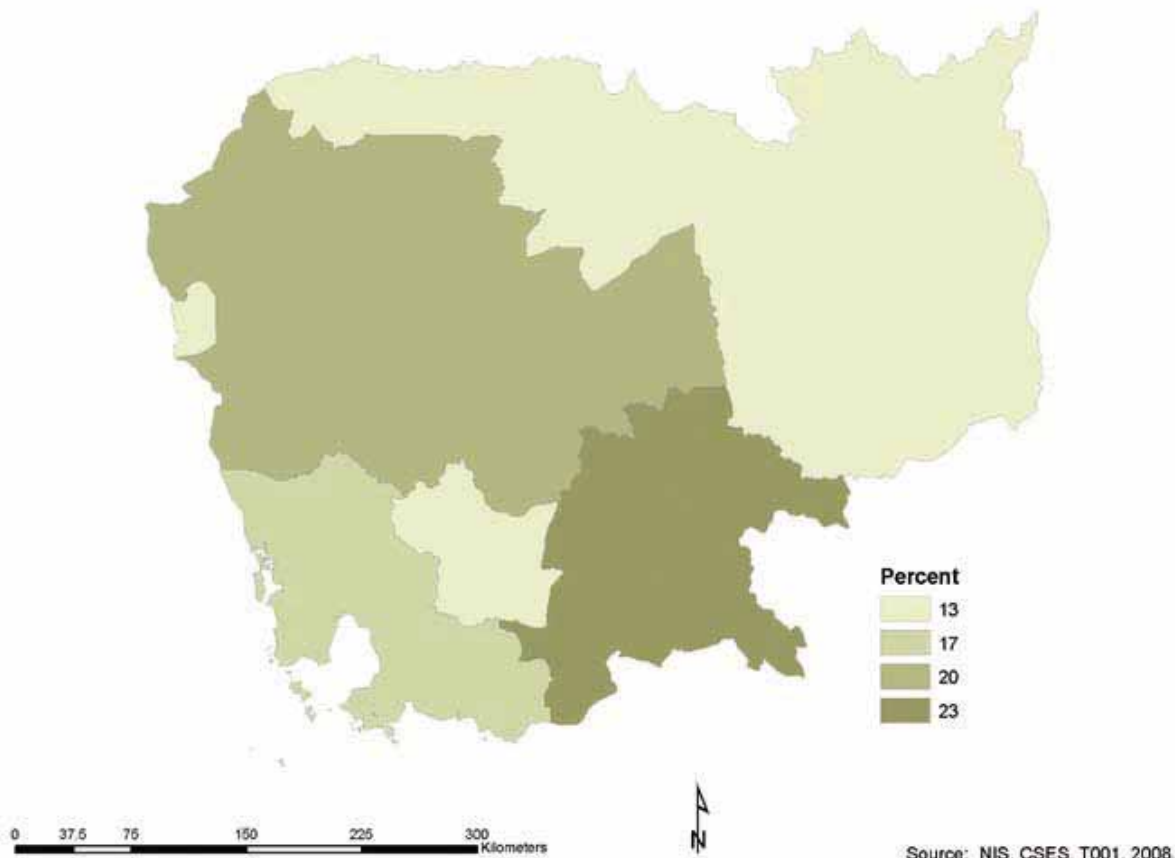
2.1.1 Age

Chart 2.2 depicts a crude age pyramid of the agricultural population, using 10-year age categories. The pyramid shows a rather typical 'young' population, where the majority of the individuals in the population can be found in the younger age categories. The age pyramid shows that those aged 0-9 years old are slightly greater in number than those in the age group 10-19 years old; approximately by 1.3 percentage points in average. This is due to the continuing decline of the population growth rate as reported by the GPCC 1998 to 2008.

As the age group increases, the percentage of male and female agricultural population decreases, specifically, starting in the age group of 30-39 years old, in which there is a sudden decrease of the percentage of men and women in the agricultural households. This can be attributed to past wars that took place in the country and possibly due to more recent rural-urban migration in response to employment opportunities in factories, construction, etc.

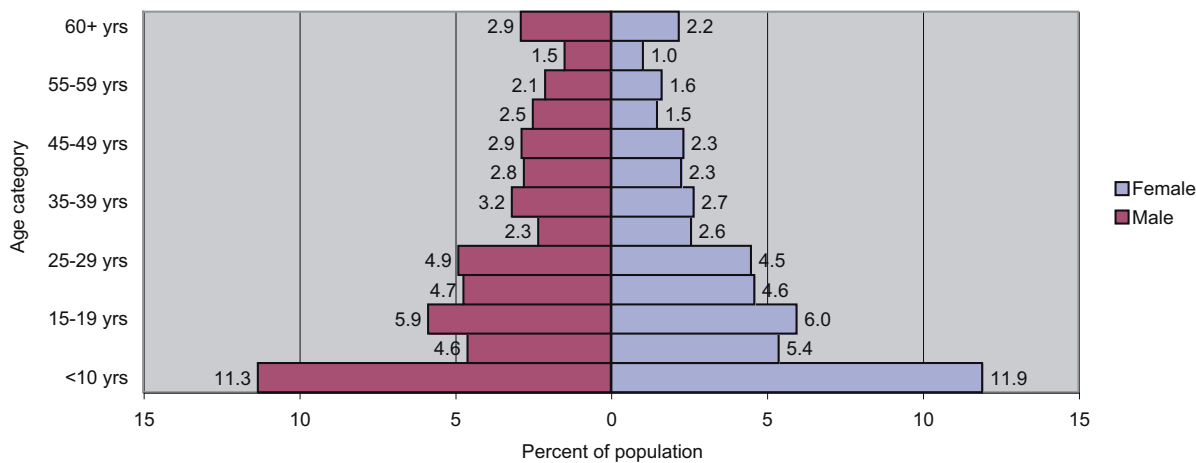
The median age of the agricultural household heads in Cambodia is 46 years (old). Male heads have a lower median age than female heads. In all zones, half of the female heads are older than their male counterparts by an average difference of 8 years.

MAP 2.2 | Percent female headed agricultural households



Source: NIS, CSES, T001, 2008.

CHART 2.2 | Agricultural population age pyramid, 2008



Source: NIS, CSES 2008

TABLE 2.2 | Median age of the male and female agricultural household heads, by zone: 2008

Zone/Age group	All households	Female-headed	Male-headed
Cambodia	46	54	44
Plain zone	47	50	45
Tonle Sap zone	45	53	43
Coastal zone	45	49	43
Plateau/Mountain zone	45	54	43

Source: NIS, CSES, 2008

2.1.2 Household size

The national average household size for agricultural households in Cambodia is 4.7 members, with male headed agricultural households having 4.9 members and female headed households 4.0 members. At the zone level, agricultural household size ranges between 4.4 (Coastal) and 5.0 (Plain) members for male headed agricultural households and between 3.8 (Plain) and 4.9 (Plateau/Mountain) members for female headed agricultural households. The difference in household size between male and female headed agricultural households is 0.9 at national level. In Plain, Tonle Sap and Coastal Zones, the female headed agricultural households have 0.4 to 1.2 fewer member than male headed agricultural households. But in the Plateau/Mountain Zone, the female headed agricultural households are slightly bigger than the male headed agricultural households (Map 2.3). The difference in household size between the male and female headed agricultural households is mostly due to the absence of male heads in the female headed agricultural households.

MAP 2.3 | Difference in mean household(s) size between male-female headed agricultural households

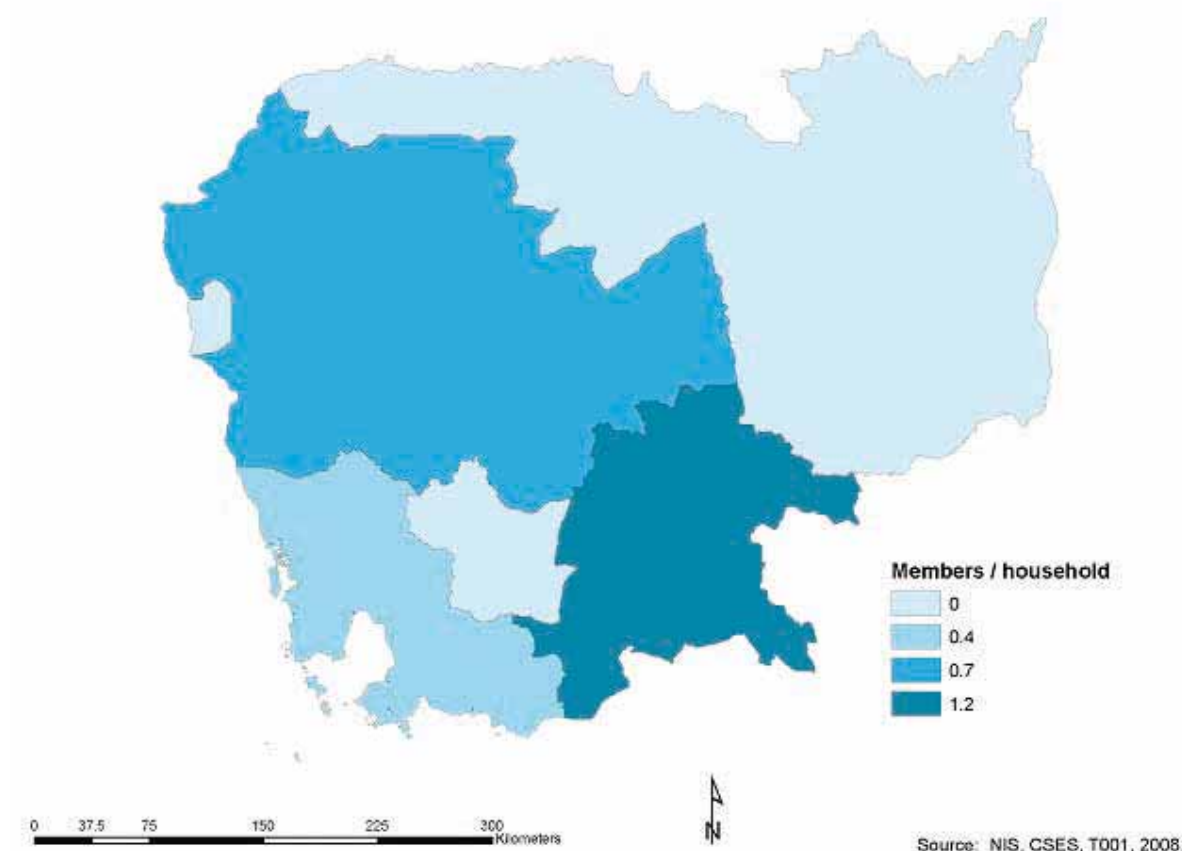


TABLE 2.3 | Average agricultural household size, by sex of household heads, by zone: 2008

Zone/age group	All households	Female-headed	Male-headed	Difference in size
Cambodia	4.7	4.0	4.9	0.9
Plain zone	4.7	3.8	5.0	1.2
Tonle Sap zone	4.7	4.1	4.8	0.7
Coastal zone	4.4	4.1	4.4	0.4
Plateau/Mountain zone	4.8	4.9	4.8	(0.0)

Source: NIS, CSES, 2008

2.1.3 Household labour force (active agricultural population)

The economically active agricultural population in Cambodia refers to the population in agricultural households that are within the age group 15 to 64 years old. Cambodia has an active agricultural population of 5 869 633 or 62 percent of the overall agricultural population. Of the active agricultural population, 47 percent are males and 53 percent are females. All zones have higher percent of females in the active agricultural population; wherein the Coastal Zone recorded the highest percentage of active female population of 55 percent (Table 2.4).

The economically active members in the agricultural households in the country are more than the inactive members; thus, recording a dependency ratio of 0.6. The dependency ratio of the male headed agricultural households is slightly higher (by 0.1) than that of the female headed agricultural households. The Plateau/Mountain reported the biggest differences (0.4 percentage point) in dependency ratio between the two types of households; followed by Tonle Sap (0.2). The Plain and Coastal Zone have equal dependency ratio (Table 2.5 and Map 2.4).

At the national level, 61 percent and 66 percent of household members in the male headed and female headed agricultural households, respectively, are of working age (Table 2.5). The Coastal Zone has a lower percentage of active household members (54 percent) for female headed agricultural households and Tonle Sap (60 percent) for male headed agricultural households. On the other hand, the Plateau/Mountain Zone has reported the highest proportion of 81 percent of active household members in the female headed agricultural households and the Plain Zone has recorded 62 percent for the male headed agricultural households.

The active members vary between male and female headed agricultural households. There are likely equal active male and female members in the male headed agricultural households (sex ratio of 1) while in the female headed agricultural households, there are less economically active male members than the female ones (Table 2.5). The male to female ratio of active members in agricultural households at national level is 0.9. Among all zones, the male to female ratio of active members is much lower in the female headed agricultural households, particularly, in the Coastal and Plain Zone that have low active male to female ratios: 0.48 and 0.50, respectively.

At the national level, a male headed household has an average of 3.0 economically active members compared to 2.6 active members per female headed household. Among the zones, the Plateau/Mountain reported the highest average number of economically active population for the female headed agricultural households, surpassing the national average by 1.3 percentage points. The Plain Zone slightly exceeds the national average for the male headed agricultural households in its recorded average of 3.1 active members.

TABLE 2.4 | Active agricultural population, by sex, by zone: 2008

Zone/Age group	Both sexes	Female	Male
Cambodia	5 869 633	3 110 378	2 759 255
Plain zone	2 682 374	1 438 224	1 244 149
Tonle Sap zone	1 961 100	1 023 845	937 255
Coastal zone	379 159	208 798	170 361
Plateau/Mountain zone	847 001	439 511	407 490

Source: NIS, CSES, 2008

MAP 2.4 | Percentage point difference in dependency ratio between members of male-female headed agricultural households

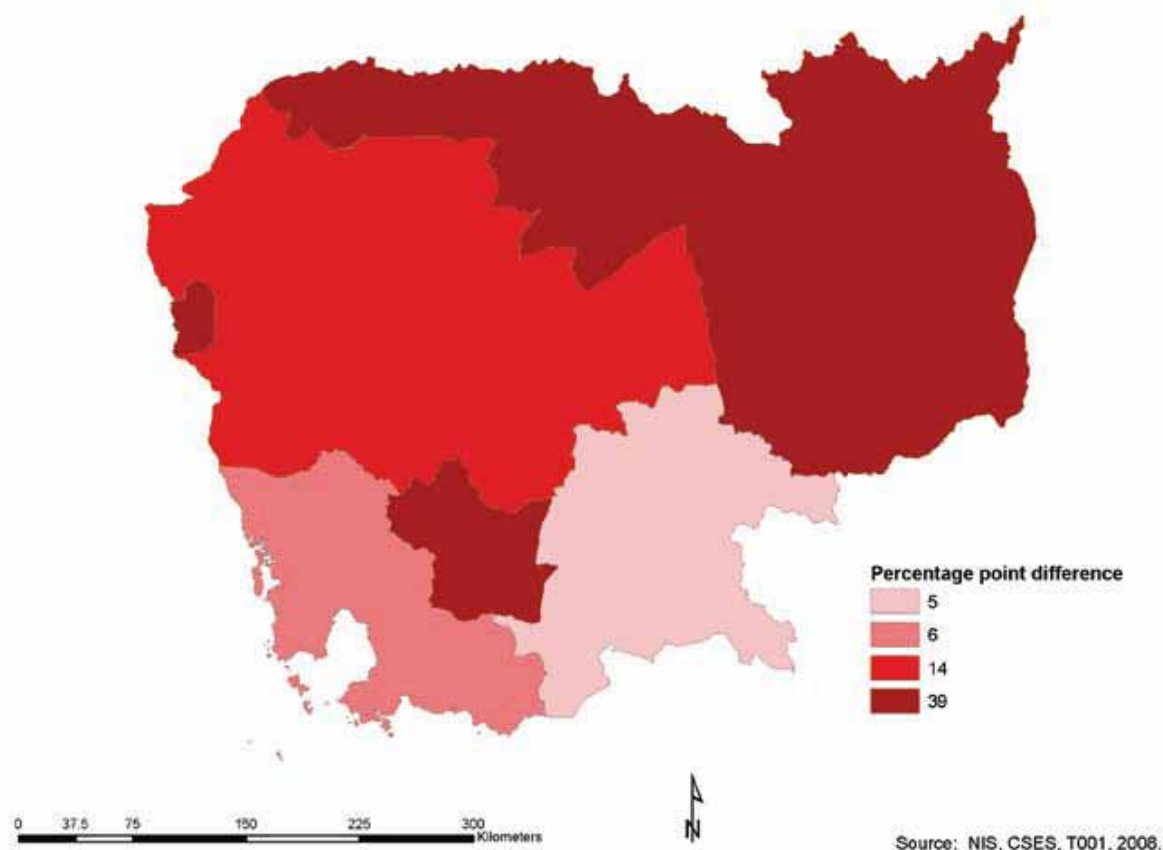


TABLE 2.5 | Proportion and sex ratio of active agricultural household members and dependency ratio, by sex of household heads, by zone: 2008

Zone	All households			Female-headed			Male-headed		
	Proportion	Dependency ratio	Sex ratio	Proportion	Dependency ratio	Sex ratio	Proportion	Dependency ratio	Sex ratio
Cambodia	61.7	0.6	0.89	65.9	0.5	0.53	60.9	0.6	0.99
Plain zone	62.0	0.6	0.87	637.0	0.6	0.50	61.6	0.6	0.98
Tonle Sap zone	60.6	0.7	0.92	65.1	0.5	0.56	59.7	0.7	1.02
Coastal zone	61.2	0.6	0.82	63.1	0.6	0.48	60.9	0.6	0.90
Plateau/ Mountain zone	63.8	0.6	0.93	80.6	0.2	0.62	61.4	0.6	1.00

Source: NIS, CSES, 2008

2.2 ETHNICITY

Almost all members in the agricultural households in Cambodia belong to the Khmer ethnic group. The other ethnic groups are Cham and other non-local groups such as Chinese, Vietnamese, Thai and Lao (Chart 2.3). In the female headed agricultural households there are only two ethnicity groups: Khmer (99%) and Cham (1%). Besides the Khmer (98%) and Cham (1%), the male headed household members belong to other ethnic groups (1%).

MAP 2.5 | Percentage point difference in proportion of active members of male-female headed agricultural households

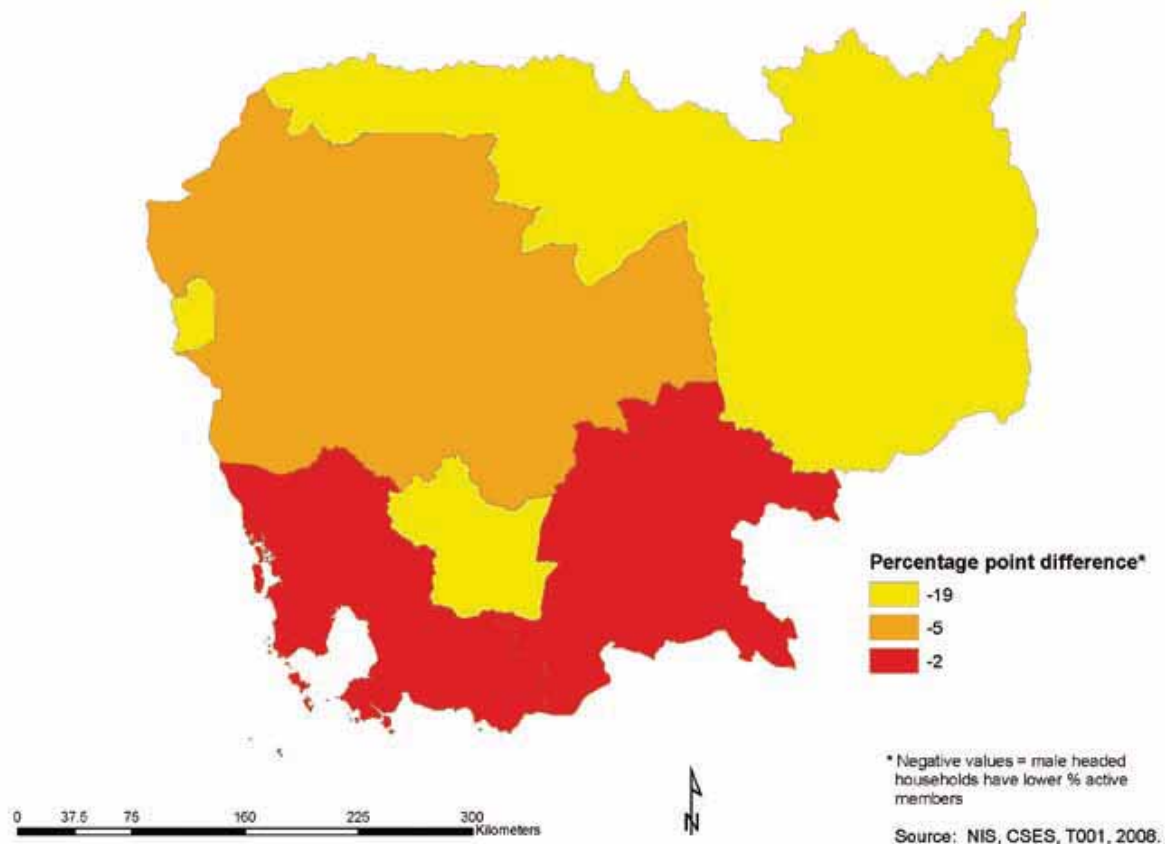
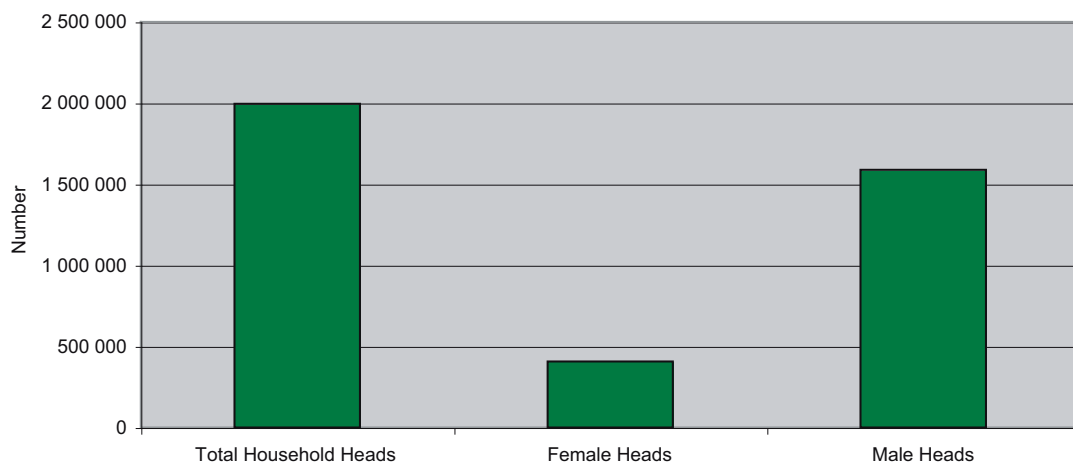


CHART 2.3 | Number of agricultural population belonging to Khmer ethnicity: 2008



Source: NIS, CSES 2008

MAP 2.6 | Percent of de facto / de jure female headed agricultural households

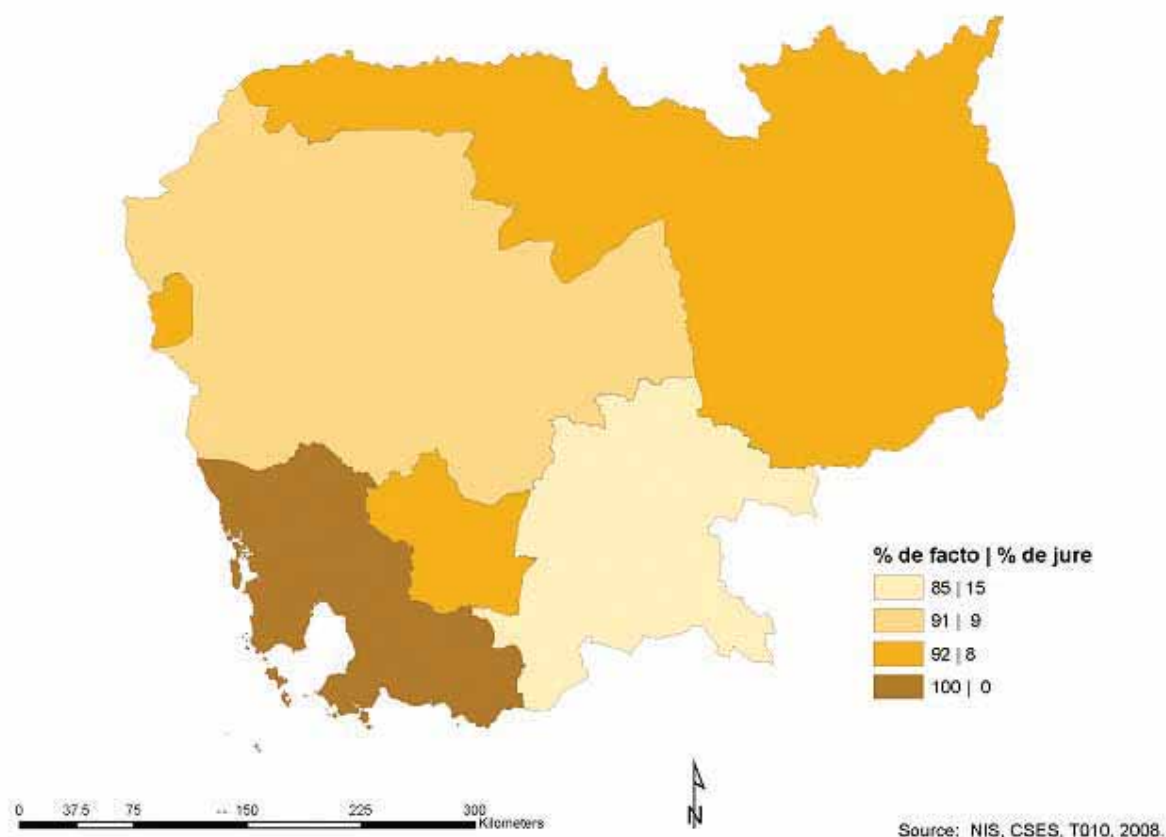


TABLE 2.6 | Proportion of female agricultural household heads to the total heads, by zone: 2008

Zone/Marital status of household head	Female-headed
Cambodia	
Proportion of de facto female household heads to total heads	18.0
Proportion of de jure female household heads to total heads	2.3
Plain zone	
Proportion of de facto female household heads to total heads	20.0
Proportion of de jure female household heads to total heads	3.5
Tonle sap zone	
Proportion of de facto female household heads to total heads	18.1
Proportion of de jure female household heads to total heads	1.7
Coastal zone	
Proportion of de facto female household heads to total heads	17.1
Proportion of de jure female household heads to total heads	
Plateau/mountain zone	
Proportion of de facto female household heads to total heads	11.6
Proportion of de jure female household heads to total heads	1.0

Source: NIS, CSES, 2008

2.3 MARITAL STATUS

As shown in Table 2.6, nine out of ten female agricultural household heads are “de facto” or actual household heads in lieu of the permanent absence of their spouses/husbands or adult male members. The other remaining 11 percent are the “de jure” female heads that are forced to take the responsibility of caring for household members in the temporary absence of their husbands/spouses.

If related to the total agricultural household heads, more or less one in every five agricultural household heads is a female who is mostly widows or sometimes never married or separated/divorced. These are the de facto female heads of households. About 2.3 percent of the female household heads are married. These women take over the headship of the household in the absence of their husbands, who are, either working in other places in the country or abroad or temporarily ill or other valid reasons.

The Coastal Zone’s female agricultural household heads are all de facto heads, accounting for 17 percent of its total household heads. The highest proportion (3.5 percent) of the de jure female heads is reported in Plain Zone and the lowest (1 percent) in the Plateau/Mountain Zone (Map 2.6).

2.4 EDUCATION AND LITERACY

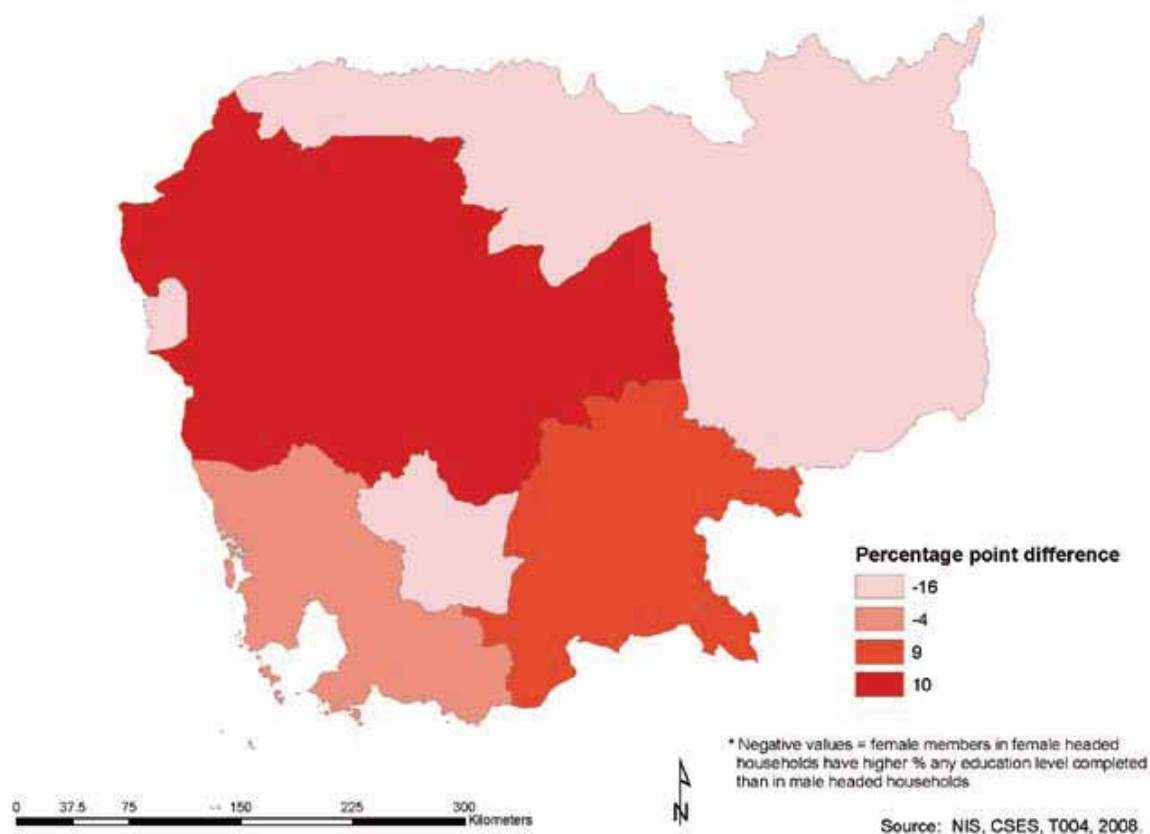
Of the 9.5 million agricultural household members, 6.8 million members have attended and successfully completed any of the available educational levels in the country. About 2 percent have never completed any educational level (Table 2.7). Around 2 percent of the agricultural household members did not attend or have never attended any

TABLE 2.7 | Proportion of agricultural household members by sex of the household heads, by sex and educational level of the members successfully completed, by zone: 2008

Zone/highest level	All households			Female-headed			Male-headed		
	Both sexes	Female	Male	Both sexes	Female	Male	Both sexes	Female	Male
Cambodia									
Completed any educational level	70.9	66.1	76.0	66.7	61.6	75.4	71.8	67.3	76.1
No class completed	1.7	1.7	1.7	1.2	1.1	1.4	1.8	1.8	1.7
Don't know	0.1	0.1	0.2	0.1	0.0	0.4	0.1	0.1	0.1
Plain zone									
Completed any educational level	72.7	68.1	77.8	65.9	60.8	74.8	74.3	70.2	78.3
No class completed	1.3	1.6	1.1	1.2	1.0	1.6	1.4	1.7	1.0
Don't know	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Tonle Sap zone									
Completed any educational level	69.1	63.9	74.5	63.0	56.2	74.1	70.4	66.0	74.6
No class completed	1.5	1.6	1.5	1.5	1.8	0.9	1.6	1.5	1.6
Don't know	0.3	0.2	0.4	0.2	0.0	0.5	0.3	0.2	0.3
Coastal zone									
Completed any educational level	73.8	68.4	79.6	71.8	71.7	71.9	74.2	67.6	80.5
No class completed	0.7	0.1	1.3	1.6	0.1	4.7	0.5	0.1	0.8
Don't know	0.2	0.0	0.5	1.4	0.0	4.2	0.0	0.0	0.0
Plateau/Mountain zone									
Completed any educational level	68.2	63.9	72.5	79.9	77.4	83.6	66.5	61.5	71.2
No class completed	3.6	3.0	4.1	0.2	0.0	0.5	4.0	3.5	4.6
Don't know	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Source: NIS, CSES, 2008

MAP 2.7 | Percentage point difference in proportion of female members completing any education level between male-female headed agricultural households



school. The proportion of such members in the male headed agricultural households is higher than the female headed agricultural households. The three topmost reasons of the female and male members for not attending school are as follows: (1) must contribute to household income; (2) must help in the household chores; and, (3) did not want to go to school (self-withdrawal).

Of the educated members in the agricultural households, the proportion of male members is higher by 10 percentage points; which means that female members have less access to education. The proportion of the members that successfully completed any educational level in the female headed agricultural households is lower (by 5 percentage points) compared to those living in the male headed agricultural households. The educated female members in the female and male headed agricultural households have lower percentage (62 percent and 67 percent, respectively) against their male siblings. Similarly, in all zones, the proportion of educated female members is lower than their male counterparts (Maps 2.6 and 2.7).

Most of the female and male members in the female and male headed agricultural households have reached and finished any class from one to twelve. However, only few female members in the female headed household have attended and completed college/university undergraduate level. On the other hand, about 0.2 percent of the female members in the male headed agricultural households have reached and attained bachelor's degree, which is only 0.1 percentage point less when compared to the male members. Virtually none of these female members have post graduate degrees, while about 0.1 percent of the male members have obtained masters and doctorate degrees.

MAP 2.8 | Percentage point difference in proportion of male members completing any education level between male-female headed agricultural households

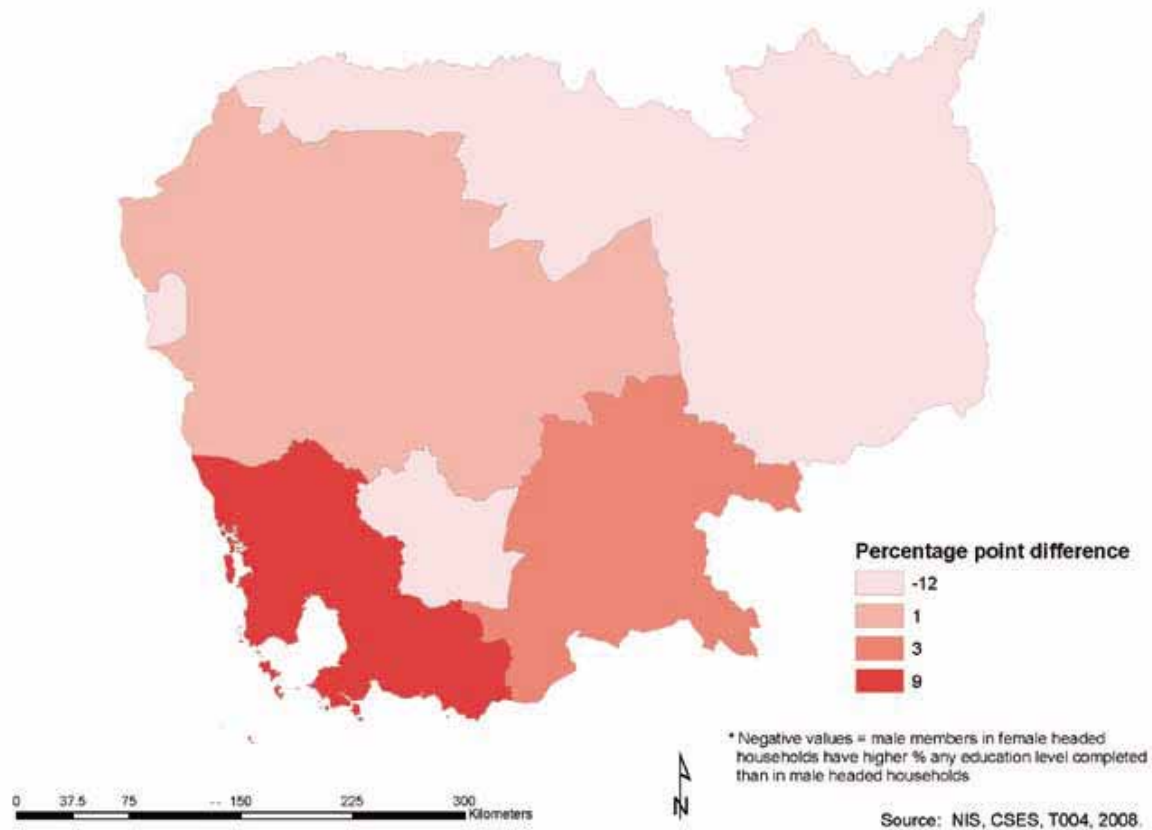
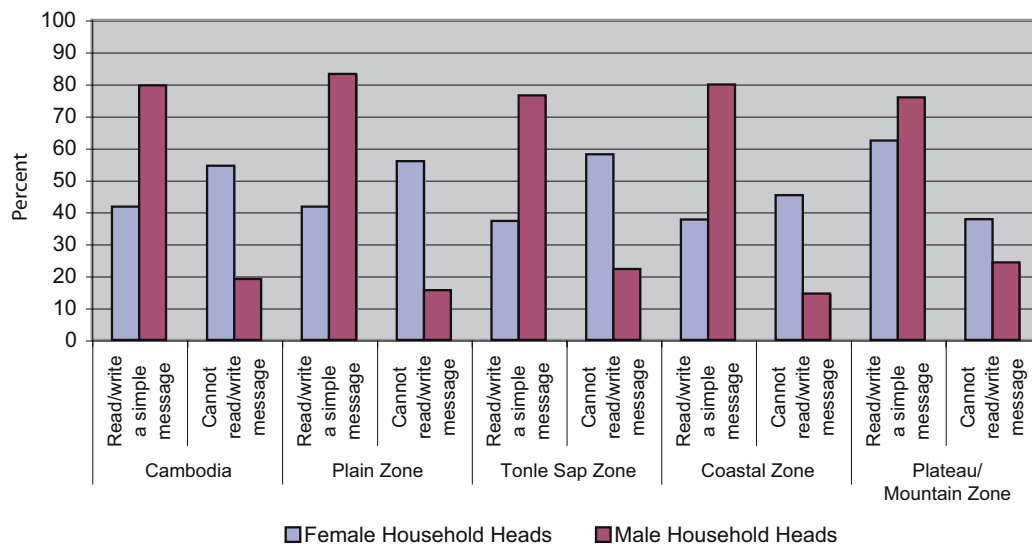


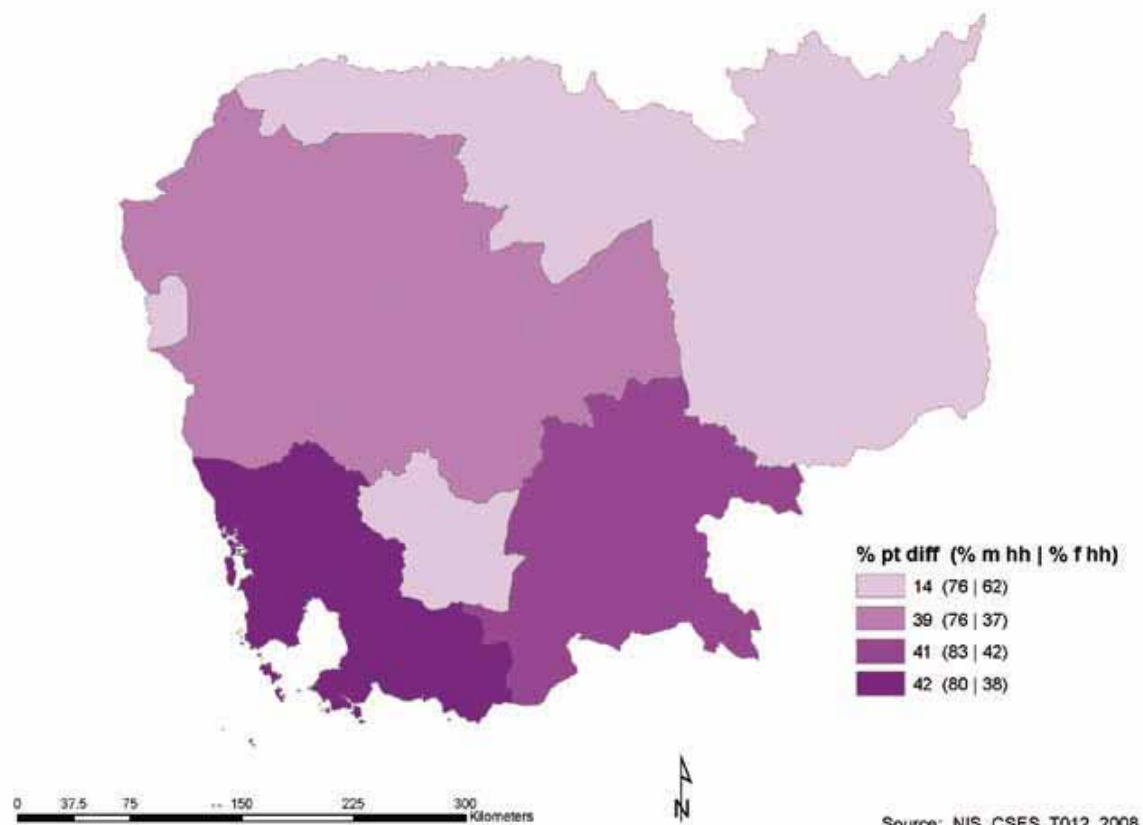
CHART 2.4 | Literacy rate of the agricultural household heads, by sex, by zone: 2008



Source: NIS, CSES 2008

In Cambodia, 72 percent of the total agricultural household heads can read and write a simple message. The proportion of literate male heads is higher than among female heads (Map 2.8 above). There are more female heads that cannot read and write even a simple message, than those considered to be literate female heads. Highest literacy rate of female heads are reported in Plateau/Mountain Zone and the lowest are recorded in the Tonle Sap (Map 2.9).

MAP 2.9 | Percentage point difference in proportion of male-female headed agricultural households who are literate



CHAPTER 3

Gender-based access to productive resources

3.1 HOUSEHOLD AGRICULTURAL LABOUR FORCE

Labour force in Cambodian agricultural households means members belonging to the age group 15 years old and over. However, for agricultural activities, this also includes 10-14 years old, that are helping in the household's own farm/agricultural activities. The total number of agricultural and fishery workers in Cambodia is 3 715 696, of which 1 755 581 (47.3%) are females and 1 960 115 (52.8%) are males (Table 3.1). The number of female skilled agricultural and fishery workers ranges from as low as 122 thousand in Coastal Zone to as high as 807 thousand in the Plain Zone. Male skilled agricultural labourers range from 160 thousand in Coastal Zone to 907 thousand in the Plain Zone.

The proportion of male members contributing to the agricultural labour force in female headed agricultural households is less than that of the female members by 59 percentage points. On the other hand, the proportion of male members with skills in agricultural labour is 24 percentage points higher than their female counterparts in male headed agricultural households.

TABLE 3.1 | Number and percentage of skilled agricultural and fishery workers in the agricultural households, by sex of the households head and by sex and primary occupation of the members, by zone: 2008

Zone/primary occupation of the household members	All agricultural households		Female-headed agricultural households		Male-headed agricultural households	
	Number	Percent (%)	Number	Percent (%)	Number	Percent (%)
Cambodia						
All members	3 715 696	50.9	591 602	43.9	3 124 095	52.5
Female members	1 755 581	45.9	363 114	41.2	1 392 469	47.4
Male members	1 960 115	56.4	228 488	49.1	1 731 626	57.5
Plain zone						
All members	1 713 901	51.1	299 013	44.9	1 414 888	52.6
Female members	807 161	45.3	183 570	41.6	623 592	46.6
Male members	906 740	57.6	115 443	51.5	791 296	58.6
Tonle Sap zone						
All members	1 183 183	48.6	192 556	42.6	990 628	49.9
Female members	561 018	44.6	120 810	42.0	440 209	45.4
Male members	622 165	52.8	71 746	43.7	550 419	54.2
Coastal zone						
All members	281 901	57.9	44 196	56.5	237 705	58.1
Female members	121 977	46.9	26 552	45.9	95 425	47.2
Male members	159 924	70.4	17 644	86.5	142 280	68.8
Plateau/Mountain zone						
All members	536 711	52.5	55 837	36.9	480 874	55.2
Female members	265 425	50.6	32 182	34.0	233 243	54.3
Male members	271 286	54.5	23 655	41.6	247 631	56.1

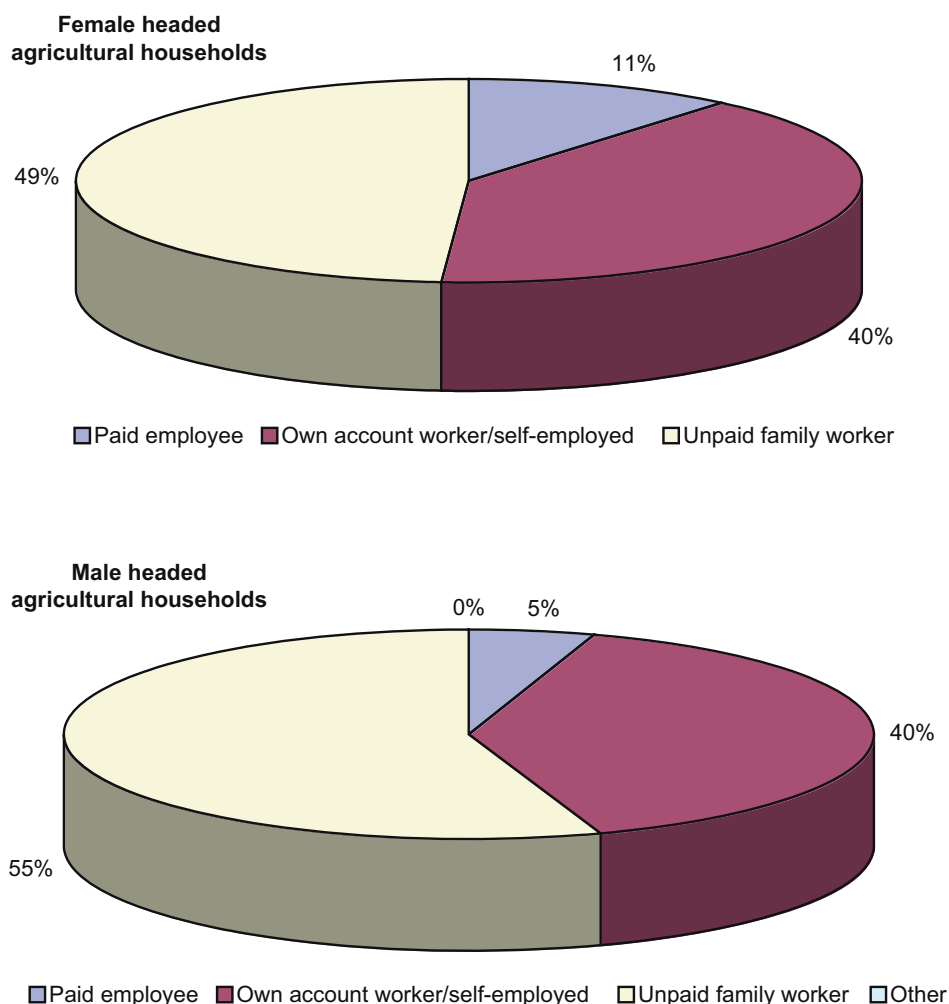
Source: NIS, CSES, 2008

Higher proportion of female and male members that work as skilled agricultural and fishery worker is noted in the male headed agricultural households than in the female headed agricultural households. The proportion differs by around 10 percentage points for the female agricultural workers while 8 percent for the male ones. Across zones, almost the same situation can be observed except for the Coastal Zone, where there is a higher proportion of male members in the female headed agricultural households that work primarily as skilled workers in agriculture and fishery.

About 16 percent of the agricultural household members have secondary occupation in agricultural production. Out of this, 16 percent are members of female headed agricultural households and 84 percent of male headed ones.

The agricultural household members 10 years old and over, that are engaged in agriculture, forestry and fisheries, are composed of paid employees (4 percent) working in either other agricultural households or in the government/private sectors engaged in such sector; own account/self-employed workers (23 percent) that manage/operate their own agricultural activities; unpaid family workers (31 helping in the household's farm/agricultural activity; and other workers (0.02) not classified in the first three categories (Chart 3.1). Combining the own account and unpaid workers together, about 47 percent of the household members in female headed agricultural households are engaged in own farm/agricultural activity. This proportion is lower by 9 percentage points from the proportion of members in male headed agricultural households with own operated agricultural/forestry/fishery activity.

CHART 3.1 | Percentage of agricultural household members engaged in the household's own agricultural/forestry/fishery activities, by sex of agricultural household heads and employment status of the members, by zone: 2008



3.2 AGRICULTURAL LAND

3.2.1 Access to agricultural lands

At national level, around 96 percent of the total agricultural households have access to agricultural lands. The proportion of male headed agricultural households with access to agricultural lands is higher than the female headed agricultural households by 3 percentage points (Table 3.2). These two households differ in the number of plots of lands used in their agricultural activities. The proportion of female headed agricultural households having only one plot is higher than their male counterparts. On the other hand, the percentage of male headed agricultural households operating more than one plot exceeds that of female headed ones by 10 percentage points.

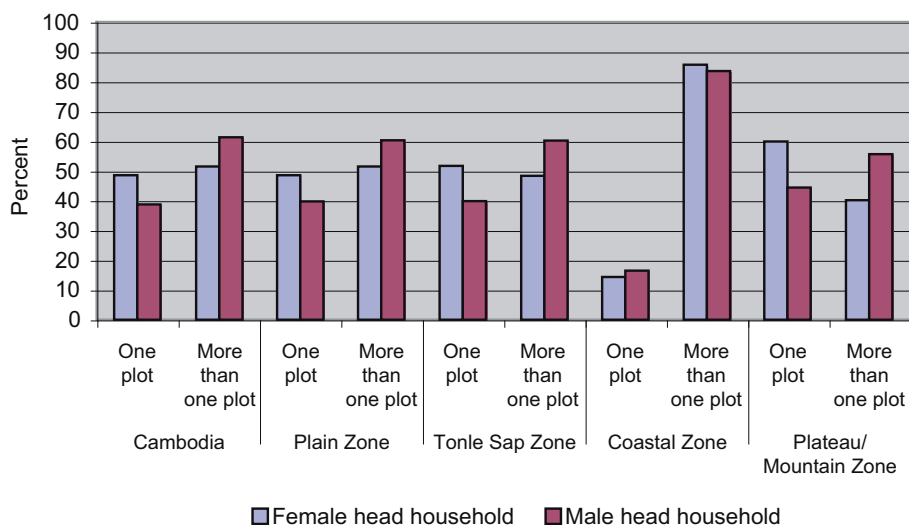
A similar situation can be seen in the three zones (Plain, Tonle Sap and Plateau/Mountain), in which there are high proportions of female headed agricultural households that utilize only one plot for their agricultural activities, compared to the male headed agricultural households that use more than one plot. However, the situation in Coastal Zone is different. Of the total female agricultural households in this zone, nine out of ten are operating more than one plot compared to eight out of ten of their male counterparts. At the national level and within the three zones (Plain, Tonle Sap and Plateau/Mountain) the average number of plots per household, regardless of the sex of the heads, is 2 (Chart 3.2). In the Coastal Region, each male or female headed agricultural household has one more plot than their counterparts in the three other zones.

TABLE 3.2 | Number of agricultural households reporting access to lands, by sex of agricultural household heads and number of used plots, by zone: 2008

Zone/available plots in the agricultural lands	All agricultural households		Female-headed agricultural households		Male-headed agricultural households	
	Households reporting	Percent (%)	Households reporting	Percent (%)	Households reporting	Percent (%)
Cambodia						
Total	1 957 208		387 635		1 569 573	
One plot	796 404	40.7	188 286	48.6	608 118	38.7
More than one plot	1 160 804	59.3	199 349	51.4	961 455	61.3
Plain zone						
Total	882 154		204 048		678 106	
One plot	368 366	41.8	99 064	48.5	269 302	39.7
More than one plot	513 768	58.2	104 984	51.5	408 804	60.3
Tonle Sap zone						
Total	661 783		126 426		535 357	
One plot	278 793	42.1	65 342	51.7	213 451	39.9
More than one plot	382 990	57.9	61 084	48.3	321 906	60.1
Coastal zone						
Total	140 076		22 755		117 321	
One plot	22 555	16.1	3 274	14.4	19 281	16.4
More than one plot	114 521	83.9	19 481	85.6	98 040	83.6
Plateau/Mountain zone						
Total	273 195		34 406		238 789	
One plot	126 690	46.4	20 606	59.9	106 084	44.4
More than one plot	146 505	53.6	13 800	40.1	132 705	55.6

Source: NIS, CSES, 2008

CHART 3.2 | Percentages of agricultural households, by sex of agricultural household heads and accessed plots, by zone: 2008

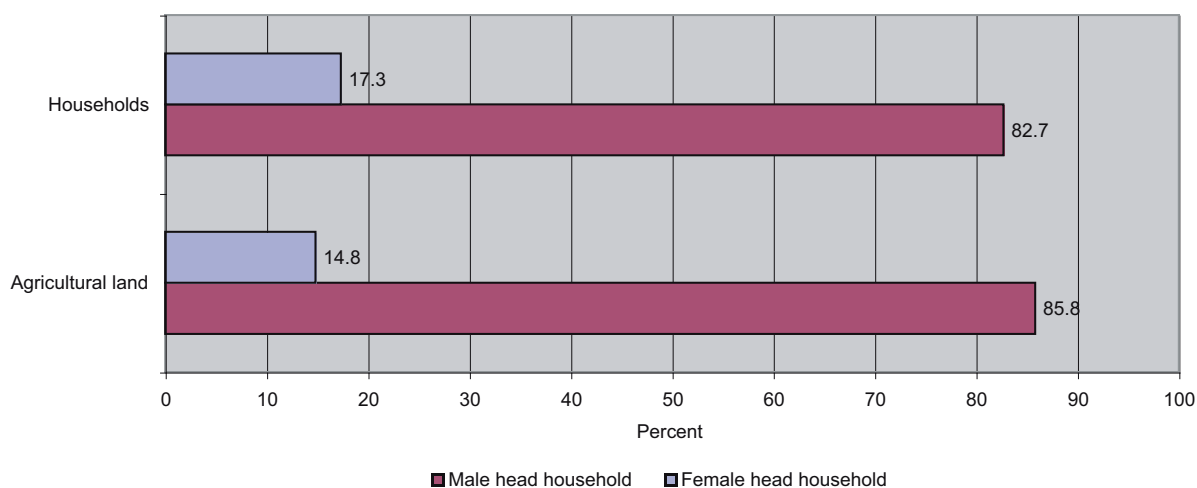


Source: NIS, CSES 2008

Use or potential use of agricultural lands for vegetable gardening, agricultural or farming activities by agricultural households is shown in Chart 3.3. At national level, there is approximately a three percentage point difference between the proportion of total agricultural land used by female and male headed households their respective share of the total agricultural households in the country.

Table 3.3 shows the average agricultural land area per agricultural household by the sex of the household both nationally and by zone. At national level, the average area of agricultural land available per agricultural household is 1.4 hectare. Female headed agricultural households have an average of 1.1 hectare compared to 1.5 hectare for male headed agricultural households, which is about 30 percentage points less land per household.

CHART 3.3 | Agricultural land area per agricultural household, by sex of household head, by zone: 2008



Source: NIS, CSES 2008

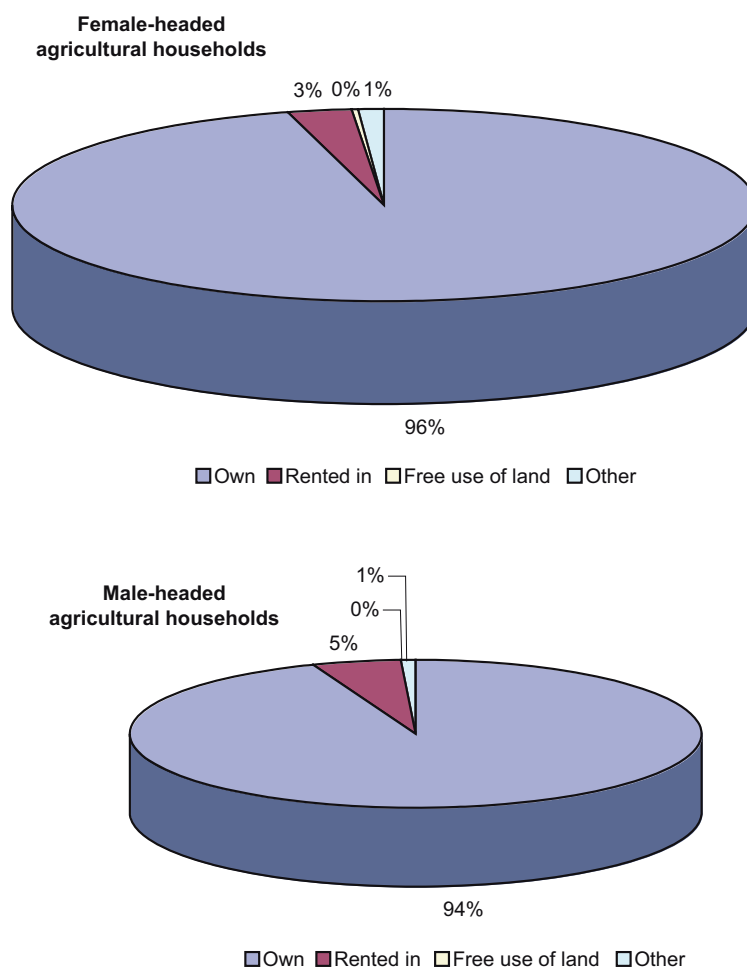
TABLE 3.3 | Average land per agricultural household area, by sex of household head, by zone: 2008

Zone	All agricultural households	Female-headed agricultural households	Male-headed agricultural households	Percentage difference
Cambodia	1.44	1.08	1.53	29
Plain zone	1.22	0.85	1.34	37
Tonle Sap zone	1.83	1.49	4.91	22
Coastal zone	1.06	1.09	1.06	2
Plateau/Mountain zone	1.37	0.90	1.44	38

Source: NIS, CSES, 2008

Particularly in Plain, Tonle Sap and Plateau/Mountain Zones, female headed agricultural households have less agricultural land available than male headed agricultural households. Among the Plateau/Mountain this is 37 percentage points less land per household, followed by the Plain with 37 percentage points less and in Tonle Sap, female headed agricultural households have 22 percentage points less agricultural land. On the other hand, in the Coastal Zone, both households have almost the same percentage in terms of average land area where female headed agricultural households have only 2 percentage points less agricultural land compared to male headed agricultural households.

CHART 3.4 | Land area of male and female headed agricultural households, by type of land tenure: 2008



Source: NIS, CSES 2008

TABLE 3.4 | Percentage of bought plots, by sex of the agricultural household heads, by zone: 2008

Zone	All agricultural households		Female-headed agricultural households		Male-headed agricultural households	
	Number of plots	Percent (%)	Number of plots	Percent (%)	Number of plots	Percent (%)
Cambodia	672 148	16.8	78 047	11.3	594 101	18.0
Plain zone	274 266	15.8	37 590	10.7	236 676	17.1
Tonle Sap zone	260 290	20.8	30 547	14.6	229 743	22.0
Coastal zone	71 668	15.2	8 567	12.8	63 101	15.6
Plateau/Mountain zone	65 924	12.4	1 343	2.1	64 581	13.8

Source: NIS, CSES, 2008

3.2.2 Land tenure

Land tenure as defined in WCA 2010 refers to the arrangements or rights under which the household operates agricultural plots. The CSES 2008 collected data on land tenure that distinguishes 4 types: owned, rented in, free use of land and other types. Of these types, around 40 percent of the agricultural households owned plots or agricultural lands. At national level the difference between the proportion of male and female headed agricultural households that owned lands during the reference period, is about 5 percentage points. At the zone level, differences in the proportion of male and female headed agricultural households with own lands range between 2.0 (Coastal Zone) to 10 (Plateau/Mountain Zone) percentage points. In these two zones, higher proportion of male headed agricultural households owning agricultural plots over female headed agricultural households is observed compared to the other two zones where the situation is reversed. Specifically, in the Coastal Zone, only 3 percent of female headed agricultural households owned lands during the reference period.

Of the total plots reported at the national level, 95 percent are owned and acquired through different means: provision from the state or local authority, inherited or given by relatives, bought from other persons/households, cleared or occupied for free and donated by friends. Less (3.4) percentage of the total lands is rented in. The female headed agricultural households acquire about 56 percent of their plots through the state or local authority and around one-fourth of their plots are inherited or given by their relatives. On the other hand, more or less four out of ten plots of the male headed agricultural households are acquired through the state/local authority and another one-third through inheritance.

A significant number of owned plots, of both male and female headed agricultural households, is bought (Table 3.4). About 18 percent (for male headed agricultural households) and 11 percent (female headed agricultural households) of the total number of plots used, are bought lands. The proportion of the total area of these bought lands among female headed agricultural households is lower by 8 percent compared to male headed agricultural households. Across the zones, notable differences in the proportion of bought lands between male and female headed agricultural households are in Coastal and Plateau/Mountain Zones.

The CSES 2008 also collected data on the proof of ownership or rental agreement. Around 60 percent of the plots operated by male and female headed agricultural households have documents that certify their ownership or rental agreement.

3.3 IMPROVED TECHNOLOGIES

This section provides information on the kind of technologies used by female and male headed agricultural households to improve their agricultural production.

TABLE 3.5 | Percentage of irrigated plot area, by sex of agricultural household head and by season, by zone: 2008

Zone/season	All agricultural households	Female-headed agricultural households	Male-headed agricultural households
Cambodia			
Dry season only	8.8	6.6	9.2
Wet season only	26.0	27.6	25.7
Both dry and wet seasons	6.8	6.3	6.9
Not irrigated in any season	58.4	59.4	58.2
Plain zone			
Dry season only	15.1	8.4	16.8
Wet season only	27.0	27.7	26.8
Both dry and wet seasons	7.4	8.0	7.2
Not irrigated in any season	50.5	55.8	49.2
Tonle Sap zone			
Dry season only	5.9	6.0	5.8
Wet season only	29.6	32.3	29.0
Both dry and wet seasons	6.9	4.1	7.5
Not irrigated in any season	57.6	57.5	57.6
Coastal zone			
Dry season only	0.8		0.9
Wet season only	15.2	23.7	13.8
Both dry and wet seasons	8.2	10.1	7.9
Not irrigated in any season	75.8	66.2	77.4
Plateau/Mountain zone			
Dry season only	1.9	5.6	1.4
Wet season only	23.9	15.9	25.1
Both dry and wet seasons	3.5	0.3	3.9
Not irrigated in any season	70.6	78.2	69.6

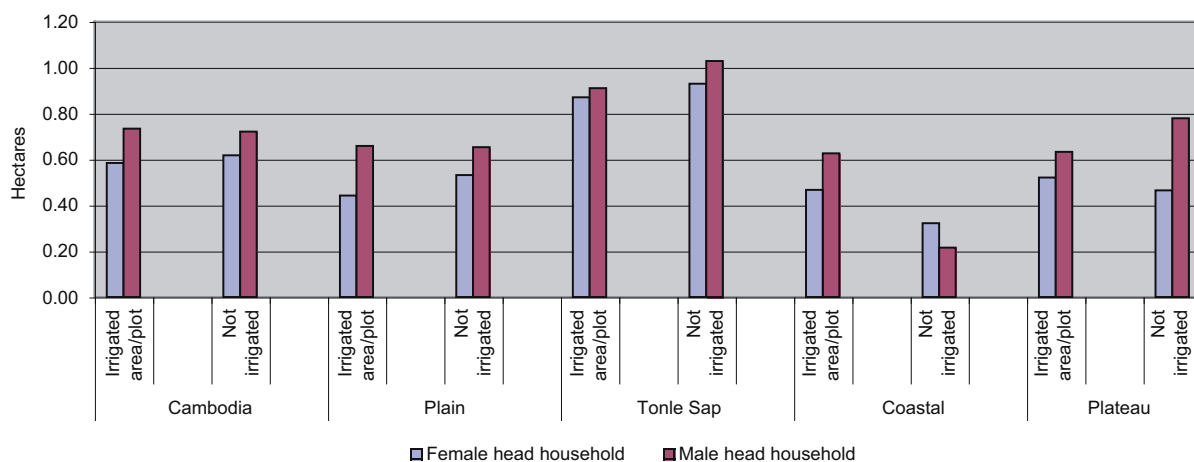
Source: NIS, CSES, 2008

3.3.1 Irrigation

The CSES 2008 collected basic data related to irrigation of the plots used in the dry season and wet season. The percentage of irrigated and non-irrigated plot areas is reported by sex of households head and zone in Table 3.5. As shown in Chart 3.5, male headed households irrigate on average 0.15 hectares more than female headed households. At national level, the proportion of male headed agricultural households that irrigated their agricultural land during dry and wet seasons is slightly higher compared to female headed agricultural households. However, during the dry season, a difference of 3 percentage points, between the proportion of the male and female headed agricultural households, that irrigated their plots, is noted. On the other hand, female headed agricultural households are also reported to have higher proportion of irrigated plot areas during wet season; showing a difference of 2 percentage points over the irrigated area of their male counterparts.

Higher proportion of plot areas for female and male headed agricultural households has not been irrigated in any season. The proportion of areas not irrigated, for both male and female headed agricultural households, is around 58 percent of the total area of plots used in agricultural activities.

CHART 3.5 | Average area irrigated per plot (in hectares) for male and female headed agricultural households, by zone: 2008



Source: NIS, CSES 2008

The trend of irrigated plots is slightly different in the zones. There are higher proportions of irrigated areas under female headed agricultural households in Plateau/Mountain (differ by 4 percentage points) during dry season; in Coastal Zone (differ by 10 percentage points) and Tonle Sap (differ by 3 percentage points) during the wet season. In the case of irrigating the agricultural plots in both seasons, the proportion of female headed agricultural households is higher in the Plain and Coastal Zones, while the proportion of male headed agricultural households is higher in Tonle Sap and Plateau/Mountain areas.

3.3.2 Farm equipment

The CSES 2008 collected data on the number of agricultural households with access to farm equipment such as tractor, water pump, threshing machine, rice mill and other small implements such as plough, harrow, rake, hoe, spade, axe, etc. At the national level, access to tractors is only reported for male headed agricultural households. For access to water pumps and hand tractors, the reported proportion of female headed agricultural households is lower than the male headed. All female headed agricultural households in the Coastal and Plateau/Mountain Zones have no access to any kind of tractor while 12 percent of female headed agricultural households in the Plain and Coastal Zone have used water pumps.

There are higher proportions of male and female headed agricultural households that use ploughs and small implements such as harrow/rake/hoe/spade/axe. In using ploughs, the proportion of male headed agricultural households is still higher than that of female headed agricultural households by 17 percent. The proportion of these two households using small tools/implements slightly differs, as can be seen in the Table 3.6. This table shows that almost all agricultural households across the country are using harrow/rake/hoe/spade/axes in operating their agricultural plots.

Other equipment/machineries used by the agricultural households in Cambodia are threshing machines and rice mills, which are used for agro-processing purposes (Table 3.7). Only very few agricultural households have access to such agro-processing machineries. A nil proportion of female headed agricultural households have used threshing machines (0.2 percent) and rice mills (1 percent). On the other hand, a slightly higher proportion of male headed agricultural households have access to rice mills (3.7 percent) and threshing machines (1.3 percent). Among the zones, female headed agricultural households in Plateau/Mountain have not used any of these agro-processing machineries; male headed households in the Plain Zone have not used threshing machines and those in the Coastal Zone have no access to rice mills.

TABLE 3.6 | Proportion of agricultural households with access to selected tools and machineries, by sex of the agricultural household head, by zone: 2008

Zone/farm equipment/tools	All agricultural households	Female headed agricultural households	Male headed agricultural households
Cambodia			
Tractor	0.5		0.7
Hand tractor	6.4	1.1	7.8
Water pump	16.5	7.9	18.7
Plough	44.6	31.4	47.9
Harrow/Rake/Hoe/Spade/Axe	97.2	95.9	97.5
Plain			
Tractor	0.5		0.7
Hand tractor	3.6	0.8	4.4
Water pump	25.9	12.3	30
Plough	41	30.8	44.2
Harrow/Rake/Hoe/Spade/Axe	96.1	96	96.2
Tonle Sap			
Tractor	0.9		1.2
Hand tractor	10.9	2.2	13.1
Water pump	9.3	1.5	11.2
Plough	35.9	25.5	38.4
Harrow/Rake/Hoe/Spade/Axe	97.7	95.1	98.4
Coastal			
Tractor			
Hand tractor	2		2.4
Water pump	9.8	11.5	9.5
Plough	69.2	49.5	73.3
Harrow/Rake/Hoe/Spade/Axe	97.8	93.6	98.7
Plateau/Mountain			
Tractor			
Hand tractor	7		8
Water pump	6.3	2.9	6.8
Plough	65.7	45.6	68.6
Harrow/Rake/Hoe/Spade/Axe	99.1	100	99

Source: NIS, CSES, 2008

3.4 INFORMATION AND COMMUNICATION

3.4.1 Communication technologies

The survey collected data on the number and percentage of agricultural households with ownership of one or more of the following communication devices: radio, television, video/vcd/dvd/recorder, telephone, mobile phone, satellite disk and computer (Table 3.8). At national and zone level, the most common owned communication device for both male and female headed agricultural households is television and radio. About 59 percent of male headed

TABLE 3.7 | Proportion of agricultural households with access to agro-processing machines, by sex of the agricultural household head, by zone: 2008

Zone/Agro-processing machines	All agricultural households	Female-headed agricultural households	Male-headed agricultural households
Cambodia			
Threshing machine	1.1	0.2	1.3
Rice mill	3.2	1	3.7
Plain			
Threshing machine	1		1.3
Rice mill	3.1	0.9	3.7
Tonle Sap			
Threshing machine	1.4	0.6	1.6
Rice mill	2.6	1.5	2.9
Coastal			
Threshing machine	0.2	0.3	0.2
Rice mill	2.7		3.2
Plateau/Mountain			
Threshing machine	0.8		0.9
Rice mill	5.2		5.9

Source: NIS, CSES, 2008

agricultural households own a television compared to 44 percent of female headed agricultural households. Next to owning television is having radios. Almost 2 in every 5 female headed agricultural households have a radio. One out of two male headed agricultural households uses radios to hear news regarding agriculture and other subject matters. The percentage point difference in television ownership between the male and female headed agricultural households is largest in Tonle Sap (19%), Plain (18%), and Plateau/Mountain (13%).

About a quarter of all agricultural households owns video/vcd/dvd player/recorder (23 percent) and mobile/cell phone (25 percent). Female headed agricultural households have lesser access (difference of 12 percentage points) to these two communication devices than male headed agricultural households. The access and use of agricultural households in telephone, satellite disk and computer are low because of high costs, inaccessibility of communication lines and electric power in some places in the country. A nil percentage of female headed agricultural households have only used computer, while a low percentage of male headed agricultural households have owned and used telephone, satellite disk and computer. Almost the same scenario can be seen across all zones with regards to male and female headed agricultural households owning and accessing communication devices other than television and radio.

3.5 CREDIT

The CSES 2008 collected data on loans such as the number of months of the debts, source and primary purpose of obtaining loans. As shown in Chart 3.6, at national level, around 37 percent of all agricultural households took a loan for agricultural production or business or other purposes. The ratio of male headed agricultural households to female headed agricultural households with regards to accessing loans is 5:1, which means that for every five male headed agricultural households getting loans, only one female headed agricultural household can obtain loan.

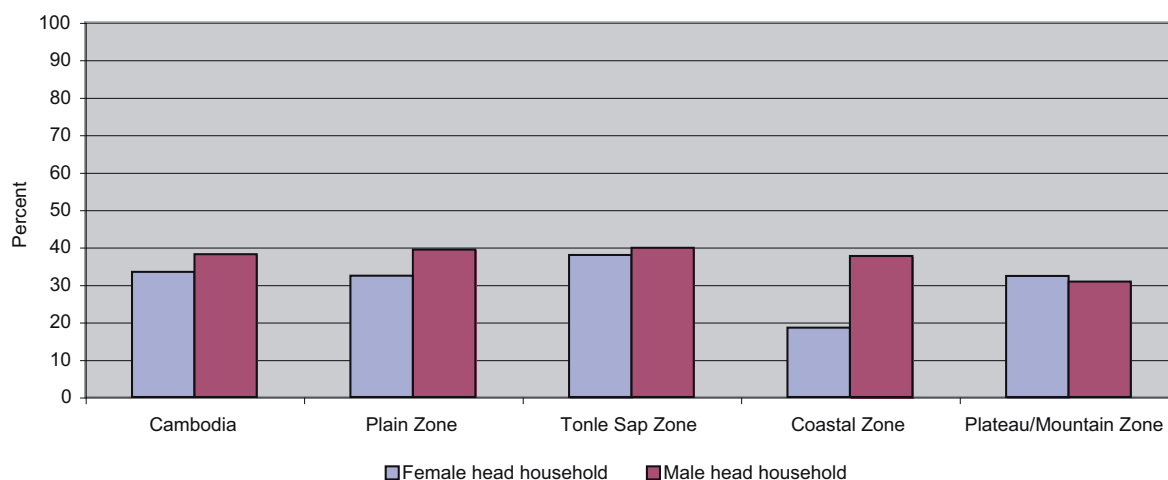
The proportion of female headed agricultural households with access to loans differs per zone, it ranges between 18 percent in Coastal to 38 percent in Tonle Sap. Likewise, the difference between male and female headed agricultural households varies among the zones, with only 2 percentage point difference in Tonle Sap and Plateau/Mountain Zones, while 19 percentage points in the Coastal Zone.

TABLE 3.8 | Proportion of agricultural households with access to communication devices, by sex of the agricultural household head, by zone: 2008

Zone/Communication devices	All agricultural households		Female-headed agricultural households		Male-headed agricultural households	
	Number	Percent (%)	Number	Percent (%)	Number	Percent (%)
Cambodia						
Radio	926 390	45.6	145 039	35.2	781 251	48.3
Television	1 135 169	55.9	181 476	44.0	953 693	58.9
Video/CD/DVD/player/recorder	459 520	22.6	54 781	13.3	404 739	25.0
Telephone	1 814	0.1			1 814	0.1
Cell phone	503 498	24.8	63 043	15.3	440 455	27.2
Satellite dish	2 513	0.1			2 513	0.2
Computer (laptop or desktop)	13 021	0.6	701	0.2	12 320	0.8
Plain						
Radio	411 033	44.4	82 399	37.9	328 634	46.4
Television	604 903	65.3	112 712	51.8	492 191	69.4
Video/CD/DVD/player/recorder	239 105	25.8	32 713	15.0	206 392	29.1
Telephone	1 464	0.2			1 464	0.2
Cell phone	269 410	29.1	35 690	16.4	233 730	33.0
Satellite dish						
Computer (laptop or desktop)	10 398	1.1	701	0.3	9 697	1.4
Tonle Sap						
Radio	314 650	45.7	42 362	31.1	272 288	49.3
Television	343 397	49.9	47 035	34.6	296 362	53.7
Video/CD/DVD/player/recorder	153 477	22.3	12 672	9.3	140 805	25.5
Telephone						
Cell phone	163 448	23.7	22 504	16.5	140 944	25.5
Satellite dish	2 306	0.3			2 306	0.4
Computer (laptop or desktop)	1 331	0.2			1 331	0.2
Coastal						
Radio	76 181	53.7	7 394	30.5	68 787	58.5
Television	71 200	50.2	11 163	46.1	60 037	51.0
Video/CD/DVD/player/recorder	25 043	17.7	4 235	17.5	20 808	17.7
Telephone	350	0.2			350	0.3
Cell phone	27 820	19.6	2 779	11.5	25 041	21.3
Satellite dish						
Computer (laptop or desktop)	1 292	0.9			1 292	1.1
Plateau/Mountain						
Radio	124 426	45.3	12 884	37.3	111 542	46.5
Television	115 669	42.2	10 566	30.6	105 103	43.8
Video/CD/DVD/player/recorder	41 985	15.3	5 161	14.9	36 734	15.3
Telephone						
Cell phone	42 820	15.0	2 080	6.0	40 740	17.0
Satellite dish	207	0.1			207	0.1
Computer (laptop or desktop)						

Source: NIS, CSES, 2008

CHART 3.6 | Percentage of male and female headed agricultural households with access to loans, by zone: 2008



Source: NIS, CSES 2008

As shown in Table 3.9, the three most common sources of loans among agricultural households are the banks, moneylenders and non-government organizations (NGOs), especially in the Plain and Tonle Sap Regions. Nine percent of female headed agricultural households have obtained their loans from moneylenders; whereas 9 percent of male headed agricultural households have taken their loans from the bank or from NGOs.

Table 3.10 reports reasons for obtaining loans. At national level, the five topmost reasons for obtaining loans are: (1) agricultural production and operation; (2) household consumption needs; (3) non-agricultural activities; (4) illness and injury; and (5) purchase or improvement of dwelling. These are the common reasons prevailing in both female and male headed agricultural households. Though when these reasons are ranked, the priority of obtaining

TABLE 3.9 | Percentage of male and female-headed households obtaining loans, by source and by zone: 2008

Zone/Source of loan	All agricultural households	Female-headed agricultural households	Male-headed agricultural households
Cambodia			
Total agricultural households with access to loans	37.2	33.4	38.1
Relatives in Cambodia	7.4	6.9	7.5
Relatives who live abroad	0.2	0.4	0.1
Friends/neighbours	2.9	4.0	2.7
Moneylender	8.0	8.9	7.7
Trader	1.6	1.4	1.7
Employer	0.1		0.1
Bank	8.3	5.3	9.1
NGO	8.2	6.2	8.7
Other	0.4	0.3	0.4
Plain			
Total agricultural households with access to loans	37.7	32.4	39.4
Relatives in Cambodia	8.4	7.0	8.8
Relatives who live abroad	0.3	0.4	0.3

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TABLE 3.9 | Percentage of male and female-headed households obtaining loans, by source and by zone: 2008

Zone/Source of loan	All agricultural households	Female-headed agricultural households	Male-headed agricultural households
Friends/neighbours	1.7	1.2	1.8
Moneylender	8.1	10.3	7.5
Trader	1.8	0.9	2.1
Employer	0.1	--	0.1
Bank	8.0	6.4	8.5
NGO	8.8	5.8	9.8
Other	0.5	0.4	0.6
Tonle Sap			
Total agricultural households with access to loans	39.4	37.9	39.8
Relatives in Cambodia	6.4	8.6	5.8
Relatives who live abroad	0.1	0.5	
Friends/neighbours	4.5	8.3	3.5
Moneylender	9.9	9.3	10.1
Trader	2.1	2.8	1.9
Employer			
Bank	7.8	1.9	9.3
NGO	8.2	6.4	8.6
Other	0.3	0.2	0.4
Coastal			
Total agricultural households with access to loans	34.4	18.5	37.7
Relatives in Cambodia	14.7	6.3	16.4
Relatives who live abroad			
Friends/neighbours	1.1	5.6	0.2
Moneylender	2.1		2.6
Trader			
Employer			
Bank	9.3	6.5	9.9
NGO	7.2	0.2	8.6
Other			
Plateau/Mountain			
Total agricultural households with access to loans	31.0	32.3	30.8
Relatives in Cambodia	2.9		3.3
Relatives who live abroad			
Friends/neighbours	4.2	3.1	4.4
Moneylender	5.6	5.3	5.7
Trader	0.8		0.9
Employer	0.3		0.4
Bank	10.2	10.8	10.1
NGO	6.6	13.1	5.7
Other	0.4		0.5

Source: NIS, CSES, 2008

loans for female headed agricultural households deviates from that of male headed agricultural households. Female heads would use the loans for their household consumption while the male heads would use these for agricultural purposes.

Across zones, the ranking of reasons for obtaining loans in both female and male headed agricultural households in the Plain Zone, is the same, as that of the national level. But in the Tonle Sap, Coastal and Plateau Zones, both households have taken loans primarily for their household consumption needs. In the Plateau/Mountain Zone, another primary purpose of female headed agricultural households (that entered the ranking) is the purchase of household durables.

TABLE 3.10 | Rank of topmost primary purposes for obtaining loans, by sex of agricultural household head and primary purpose, by zone: 2008

Zone/source of loan	All agricultural households		Female-headed agricultural households		Male-headed agricultural households	
	Percent (%)	Rank	Percent (%)	Rank	Percent (%)	Rank
Cambodia						
Agricultural production, operation and implementation	12.5	1	0.7	2	13.4	1
Non-agricultural activities	5.9	3	6.4	3	5.8	3
Household consumption needs	11.8	2	10.7	1	12	2
Illness, injury	2.8	4	2.1	5	2.9	4
Purchases/improvement of dwelling	2.4	5	3.2	4	2.2	5
Plain						
Agricultural production, operation and implementation	13.3	1	9.1	2	14.6	1
Non-agricultural activities	5.2	3	4.9	3	5.3	3
Household consumption needs	10.3	2	10	1	10.4	2
Illness, injury	2.8	4	1.4	5	3.2	4
Purchases/improvement of dwelling	2.6	5	4.8	4	1.9	5
Tonle Sap						
Agricultural production, operation and implementation	11.7	2	10.4	2	12	2
Non-agricultural activities	7.9	3	9.5	3	7.5	3
Household consumption needs	12.4	1	11	1	12.7	1
Illness, injury	2.8	4	2.9	4	2.8	4
Purchases/improvement of dwelling	2.5	5	2.1	5	2.6	5
Coastal						
Agricultural production, operation and implementation	4.1	4			4.9	4
Non-agricultural activities	6.7	2			8.1	2
Household consumption needs	13.2	1	18.2	1	12.1	1
Illness, injury	5.1	3	0.2	2	6.1	3
Purchases/improvement of dwelling	4	5			4.8	5
Plateau/Mountain						
Agricultural production, operation and implementation	8.6	2	2.9	5	9.4	2
Non-agricultural activities	2.6	3	7.9	2	1.9	3
Household consumption needs	14.3	1	8.6	1	15.1	1
Illness, injury	1.4	4	5	3	0.9	4
Purchases/improvement of dwelling	0.8	5			0.9	4
Purchases/consumer durables	0.4		3.0	4		

Source: NIS, CSES, 2008

CHAPTER 4

Livelihood activities

4.1 INCOME SOURCES

Like in any other countries, agricultural households in Cambodia have several sources of economic activities employment and income (Table 4.1). An important economic activity is agriculture. Seven out of ten members in agricultural households in the country are engaged primarily in agriculture, forestry and fisheries. Of these members, 40 percent work as own-account/self-employed, operating their own economic activities in agriculture, forestry and fisheries, while around 54 percent work without pay in their farm/agricultural activities.

Other important primary economic activities of agricultural households are manufacturing, wholesale and retail trade, and construction, in which 4-13 percent of the members in female headed agricultural households are engaged, compared to 2-10 percent of male headed household members. Higher proportion of members in female headed households are male members engaged mainly in manufacturing and construction while female members are more likely to work in manufacturing and wholesale/retail trade.

At the zone level, a higher percentage of members in both male and female headed households in the Plain, Tonle Sap and Plateau/Mountain Zones are working in manufacturing while those in the Coastal Zone are more into wholesale and retail trade.

TABLE 4.1 | Number and percentage of members 15 years old and over in agricultural households reported employed in selected industry/economic activities (pertaining to their primary occupation), by sex of the household head, by zone: 2008

Zone/kind of industry (pertaining to primary occupation)	All agricultural households		Female-headed agricultural households		Male-headed agricultural households	
	Number	Percent (%)	Number	Percent (%)	Number	Percent (%)
Cambodia						
Agriculture, forestry and fisheries	4 213 710	72.0	707 129	67.2	3 506 577	73.0
Manufacturing	608 804	10.4	140 190	13.3	468 613	9.8
Construction	158 189	2.7	40 951	3.9	117 238	2.4
Wholesale and retail	435 710	7.4	94 595	9.0	341 114	7.1
Transportation and communication	124 729	2.1	24 009	2.3	100 718	2.1
Public administration and defense	96 403	1.6	8 740	0.8	87 662	1.8
Education	68 395	1.2	5 277	0.5	63 119	1.3
Health and social work	12 822	0.2	4 831	0.5	7 991	0.2
Plain						
Agriculture, forestry and fisheries	1 883 751	69.6	341 655	66.1	1 542 096	70.4
Manufacturing	356 841	13.2	85 069	16.5	271 771	12.4
Construction	70 176	2.6	18 807	3.6	51 370	2.3
Wholesale and retail	193 934	7.2	40 827	7.9	153 107	7.0
Transportation and communication	48 821	1.8	9 131	1.8	39 690	1.8
Public administration and defense	44 729	1.7	4 470	0.9	40 258	1.8
Education	31 484	1.2	4 297	0.8	27 187	1.2
Health and social work	7 019	0.3			7 019	0.3

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TABLE 4.1 | Number and percentage of members 15 years old and over in agricultural households reported employed in selected industry/economic activities (pertaining to their primary occupation), by sex of the household head, by zone: 2008

Zone/kind of industry (pertaining to primary occupation)	All agricultural households		Female-headed agricultural households		Male-headed agricultural households	
	Number	Percent (%)	Number	Percent (%)	Number	Percent (%)
Tonle Sap						
Agriculture, forestry and fisheries	1 403 784	72.7	243 232	70.2	1 160 551	73.2
Manufacturing	164 787	8.5	30 079	8.7	134 708	8.5
Construction	71 116	3.7	21 179	6.1	49 937	3.1
Wholesale and retail	149 903	7.8	25 573	7.4	124 329	7.8
Transportation and communication	43 158	2.2	9 824	2.8	33 334	2.1
Public administration and defense	22 050	1.1	3 398	1.0	18 652	1.2
Education	21 934	1.1	980	0.3	20 955	1.3
Health and social work	1 868	0.1	896	0.3	972	0.1
Coastal						
Agriculture, forestry and fisheries	295 827	79.1	47 500	79.2	248 325	79.1
Manufacturing	10 376	2.8	1 890	3.2	8 486	2.7
Construction	4 214	1.1			4 214	1.3
Wholesale and retail	45 152	12.1	9 126	15.2	36 026	11.5
Transportation and communication	3 162	0.8			3 162	1.0
Public administration and defense	3 395	0.9			3 395	1.1
Education	5 542	1.5			5 542	1.8
Health and social work						
Plateau/Mountain						
Agriculture, forestry and fisheries	630 348	74.8	74 742	58.1	555 605	77.8
Manufacturing	76 800	9.1	23 152	18.0	53 648	7.5
Construction	12 683	1.5	965	0.8	11 717	1.6
Wholesale and retail	46 721	5.5	19 069	14.8	27 652	3.9
Transportation and communication	29 588	3.5	5 054	3.9	24 532	3.4
Public administration and defense	26 229	3.1	872	0.7	25 357	3.6
Education	9 435	1.1			9 435	1.3
Health and social work	3 935	0.5	3 935	3.1		

Source: NIS, CSES, 2008

The employment status of agricultural household members is presented in Table 4.2. Among agricultural households with agriculture, forestry and fisheries as the main source of income, 1.7 million or 40 percent of its members are working primarily as self-employed/operating their own agricultural activities. These are more or less the full-time farm holders or agricultural operators in the country. Of these, 83 percent are residing in headed households. Further, the proportion of self-employed female members in female headed agricultural households is higher than their female counterparts in male headed agricultural households.

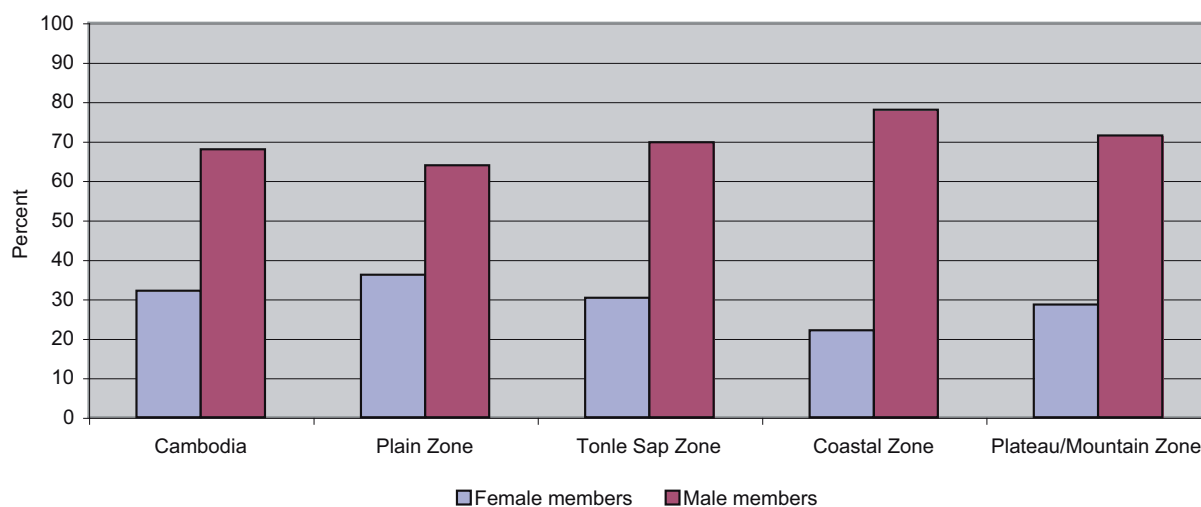
There are also 666 thousand own-account working members (or 53 percent) with secondary occupation in agriculture, forestry and fisheries but with main occupation in non-agricultural activities. Hence, the total own-account workers or self-employed in agriculture, forestry and fisheries totaled to 2.3 million. These are the probable estimates of the agricultural holders/ operators existing in the country. Of the total own account workers/self-employed in agriculture, forestry and fisheries, 30 percent are women and 70 percent are men (see Chart 4.1).

TABLE 4.2 | Number and percentage of members engaged in agriculture, forestry and fisheries, by sex of the household heads and sex and employment status of the members: 2008

Sex of head/ employment status of members	All agricultural households		Female headed agricultural households		Male headed agricultural households	
	Number	Percent (%)	Number	Percent (%)	Number	Percent (%)
Cambodia						
All Agricultural Hh Members	4 213 706	100	707 129	16.8	3 506 577	83.2
Paid Employee	256 565	6.1	79 299	1.9	177 266	4.2
Own account/self-employed	1 672 218	39.7	282 645	6.7	1 389 573	33
Unpaid family worker	2 283 803	54.2	345 185	8.2	1 938 618	46
Other status	1 120	0			1 120	0
Female Members	1 986 507	47.1	432 496		1 554 011	
Paid Employee	128 636	3.1	52 094	12	76 542	4.9
Own account/self-employed	536 924	12.7	232 958	53.9	303 966	19.6
Unpaid family worker	1 320 947	31.3	147 444	34.1	1 173 503	75.5
Male Members	2 227 199	52.9	274 633	6.5	1 952 566	46.3
Paid Employee	127 929	3	27 205	0.6	100 724	2.4
Own account/self-employed	1 135 294	27	49 687	1.2	1 085 607	25.8
Unpaid family worker	962 856	22.9	197 741	4.7	765 115	18.1
Other status	1 120	0			1 120	0

Source: NIS, CSES, 2008

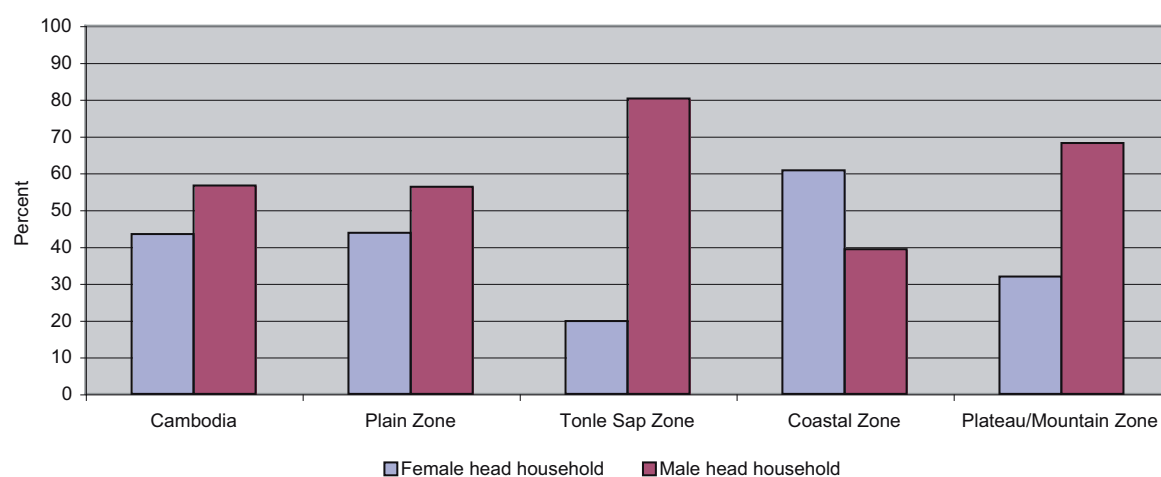
CHART 4.1 | Percentage of own account workers/members, by sex of household members, by zone: 2008



Source: NIS, CSES 2008

Of the female own account farm workers/operators/holders, 44 percent belong to female headed agricultural households and 56 percent to male headed agricultural households (Chart 4.2). This is true among for all zones except in the Coastal area where about 60 percent of their female own-account workers are members of female headed agricultural households.

CHART 4.2 | Percentage of female own account workers/members, by sex of household heads, by zone: 2008



Source: NIS, CSES 2008

The own account workers are being helped by around 2.3 million unpaid household members or 54 percent of the household members engaged primarily in agriculture, forestry and fisheries (Table 4.3). In addition to these, about 42 percent of those with secondary occupation in agriculture, forestry and fisheries, are also helping in their household's own farm/holding as unpaid working members. Thus, the total unpaid working members in agriculture, forestry and fisheries are about 2.8 million.

TABLE 4.3 | Percentage of unpaid family workers, by sex of household head and sex of members, by zone: 2008

Zone/sex of household members	All agricultural households		Female-headed agricultural households		Male-headed agricultural households	
	Total	Percent (%)	Total	Percent (%)	Total	Percent (%)
Cambodia						
All members	2 816 570		446 285		2 370 282	
Female members	1 597 724	56.7	194 055	43.5	1 403 667	59.2
Male members	1 218 846	43.3	252 230	56.5	966 615	40.8
Plain						
All members	1 238 790		195 122		1 043 667	
Female members	671 596	54.2	80 542	41.3	591 054	56.6
Male members	567 194	45.8	114 580	58.7	452 613	43.4
Tonle Sap						
All members	936 510		156 050		780 460	
Female members	546 363	58.3	73 807	47.3	472 556	60.5
Male members	390 147	41.7	82 243	52.7	307 904	39.5
Coastal						
All members	200 675		33 978		166 696	
Female members	115 660	57.6	14 536	42.8	101 123	60.7
Male members	85 015	42.4	19 442	57.2	65 573	39.3
Plateau/Mountain						
All members	440 595		61 135		379 459	
Female members	264 105	59.9	25 170	41.2	238 934	63.0
Male members	179 490	40.1	35 965	58.8	140 525	37.0

Source: NIS, CSES, 2008

TABLE 4.4 | Number and percentage of members 15 years old and over in agricultural households reported employed in primary occupation, by sex of the household head and sex and occupation of members: 2008

Primary occupation of the household member	All agricultural households		Female-headed agricultural households		Male-headed agricultural households	
	Number	Percent (%)	Number	Percent (%)	Number	Percent (%)
Cambodia						
All members 15 years and over	6 351 243		1 201 799		5 149 464	
Armed Forces (including soldiers, policemen & P.M.)	10 764	0.2	969	0.1	9 795	0.2
Legislators, Senior Officials and Managers	38 867	0.6	3 694	0.3	35 172	0.7
Professionals	87 127	1.4	10 905	0.9	76 222	1.5
Technical and associate Professionals	66 165	1.0	4 231	0.4	61 933	12.0
Clerks	44 964	0.7	8 197	0.7	36 767	0.7
Service and shop and market sale workers	291 346	4.6	85 372	7.1	205 974	4.0
Skilled agricultural and fishery workers	3 715 696	58.5	591 602	49.2	3 124 095	60.7
Craft and related trade workers	431 479	6.8	97 243	8.1	334 235	6.5
Plant and machine operators and assemblers	419 289	6.6	90 769	7.6	328 520	6.4
Elementary occupations	648 927	10.2	149 835	12.5	499 095	9.7
Other occupations, not classified elsewhere	1 419	0.0			1 419	0.0
Female Members	3 384 921		816 201		2 568 720	
Armed Forces (including soldiers, policemen & P.M.)						
Legislators, Senior Officials and Managers	6 262	0.2	2 851	0.3	3 411	0.1
Professionals	29 042	0.9	6 085	0.7	22 957	0.9
Technical and associate Professionals	10 342	0.3	2 790	0.3	7 552	0.3
Clerks	16 834	0.5	5 341	0.7	11 493	0.4
Service and shop and market sale workers	225 941	6.7	72 714	8.9	153 226	6.0
Skilled agricultural and fishery workers	1 755 581	51.9	363 114	44.5	1 392 469	54.2
Craft and related trade workers	183 515	5.4	43 054	5.3	140 460	5.5
Plant and machine operators and assemblers	226 312	6.7	67 913	8.3	158 399	0.2
Elementary occupations	334 724	9.9	92 137	11.3	242 590	9.4
Other occupations, not classified elsewhere	1 419	0.0			1 419	1.1
Male Members	2 966 323		385 579		2 580 744	
Armed Forces (including soldiers, policemen & P.M.)	10 764	0.4	969	0.3	9 795	0.4
Legislators, Senior Officials and Managers	32 605	1.1	843	0.2	31 761	1.2
Professionals	58 085	2.0	4 820	1.3	53 265	2.1
Technical and associate Professionals	55 823	1.9	1 441	0.4	54 381	2.1
Clerks	28 130	0.9	2 856	0.7	25 274	1.0
Service and shop and market sale workers	65 405	2.2	12 658	3.3	52 748	2.0
Skilled agricultural and fishery workers	1 960 115	66.1	228 488	59.3	1 731 626	67.1
Craft and related trade workers	247 964	8.4	54 189	14.1	193 775	7.5
Plant and machine operators and assemblers	192 977	6.5	22 856	5.9	170 121	6.6
Elementary occupations	314 203	10.6	57 698	15.0	256 505	
Other occupations, not classified elsewhere						

Source: NIS, CSES, 2008

A higher proportion of female unpaid family workers is present in male headed agricultural households compared to their counterparts in female headed agricultural households (Table 4.3). The difference in the proportion of female unpaid family workers throughout all the zones between the female and male headed agricultural households is 17 percentage points.

In the agricultural households, the most common primary jobs reported during the CSES 2008 reference period by household members are skilled agricultural and fishery workers (59%) (Table 4.4). A higher proportion of female and male members in male headed agricultural households is engaged mainly as skilled agricultural and fishery workers; recording an average difference of 9 percentage points with their counterparts in female headed agricultural households.

Other occupations engaged in just one more than 200 thousand agricultural household members are the elementary occupations such as domestic helpers, drivers, etc; craft and related workers; plant and machine operators and assemblers; and, service and shop and market service workers. The proportions of members in female headed agricultural households are higher than that of male headed ones in service and shop and market sale workers and elementary occupation (each with difference of 3 percentage points), craft and related trade workers (differ by 2 percentage points) and plant and machine operators and assemblers (differ by 1 percentage point). Further a higher proportion of female members living in female headed agricultural households is engaged in elementary occupations or working as sales workers or as plant and machine operators and assemblers. Male members of female headed agricultural households are more engaged in elementary occupations, craft and related workers, and service and shop and market sales workers.

4.2 CROP PRODUCTION

The CSES 2008 includes ten classifications of crops, in which five are broad annual crop categories, two pertain to flower and fodder crops, whether temporary or permanent, and the other three are for permanent crops. Temporary or annual crops are those being grown in a cycle of one or less than one year. Permanent crops are those sown with more than one year growing cycle. The two seasons mentioned in the survey are the wet or rainy season and the dry or hot season.

The number of plots and average areas for female and male headed households are reported in Table 4.5 and Chart 4.3.

About 2.7 million plots are used in planting cereals during the wet season such as rice (main staple food in Cambodia), corn, etc. These plots have a total area of 1.8 million hectares, giving an average of 0.68 hectare per plot. The area cultivated with cereals is about 1.9 million hectares or 0.72 hectare per plot, which means that around 6 percent of the total plot area is planted with cereals twice a year. Around 98 percent of the total area cultivated with cereals is harvested during the reference period.

During the dry season, the number of plots used in growing cereals or grains becomes 405 thousand plots, which is only 15 percent of the plots used in the wet season. These plots measure about 254 thousand hectares or an average of 0.63 hectare per plot. However, though the average physical area per plot decreases by 0.05 hectare, the average cultivated area per plot increases from 0.72 hectare to 0.74 hectare and average harvested area per plot from 0.71 hectare to 0.73 hectare. This implies an increase in the percentage of plot areas in which the cultivation of cereals is done more than once a year.

The average area cultivated to rice or grains of female headed agricultural households is lower than the average cultivated rice or grain area of male headed agricultural households by 0.10 hectare. At the same time, the difference in the average harvested area between these two types of agricultural households is also 0.10 hectare. However, the difference in the average area cultivated and average area harvested between these agricultural households decreased in the dry season to 0.05 and 0.06 hectare due to the decrease in the number of plots used during such season.

Other temporary crops reported by agricultural household with decrease in the average cultivated area per plot from the wet season to the dry season, are tubers and root crops and crops with industrial purposes.

TABLE 4.5 | Number of plots and average physical area, average area cultivated and/or harvested to crops, by sex of household heads, by season and categories of crops: 2008

Season/Categories of crops	Female-headed agricultural households				Male-headed agricultural households			
	No. of plots	Average physical area	Average cultivated area	Average harvested area	No. of plots	Average physical area	Average cultivated area	Average harvested area
Wet Season								
Cereals or grains	472 606	0.59	0.64	0.62	2 194 404	0.7	0.74	0.72
Tubers/Root crops	4 598	1.35	1.28	1.26	54 546	1.14	1.25	1.19
Leguminous plants	3 828	0.33	0.15	0.15	13 329	0.87	0.57	0.56
Industrial annual crops	4 699	1.25	0.45	0.45	22 912	0.89	0.73	0.73
Vegetables	10 195	0.33	0.14	0.14	84 008	0.5	0.14	0.14
Fruits and nut trees	36 533	0.47	0.24	0.24	122 797	0.96	0.41	0.4
Ind'l permanent crops	11 095	0.34	0.02	0.02	35 751	0.63	0.37	0.37
Dry Season								
Cereals or grains	48 681	0.61	0.69	0.68	355 844	0.63	0.74	0.74
Tubers/Root crops	1 662	0.32	1.06	1.06	9 538	0.92	1.01	1.01
Leguminous plants	851	0.08	0.15	0.15	18 231	0.83	2.18	2.18
Industrial annual crops	6 118	0.86	0.46	0.44	39 563	0.38	0.36	0.34
Vegetables	9 152	0.41	0.16	0.16	58 801	0.78	0.14	0.14
Fruits and nut trees	27 637	0.74	0.38	0.38	113 501	1.11	0.35	0.35
Ind'l permanent crops	3 777	0.84	0.55	0.55	16 309	0.4	0.23	0.23

Source: NIS, CSES, 2008

Across zones during the wet season, the greatest difference in the average area cultivated and average area harvested to rice between female and male headed agricultural households, can be observed in the Plateau/Mountain Zone while the lowest difference is in the Plain and Coastal Zones. Whereas, during dry season, those agricultural households headed by women in the Plateau/Mountain Zone have reported higher average cultivated rice area per plot but lower average harvested rice area per plot than male headed agricultural households. On the other hand, whatever area has been planted to rice in the Plain and Tonle Sap Zones by female and male headed agricultural households has been completely harvested. Female headed agricultural households in the Coastal Zone did not report any plot cultivated to rice during the dry season.

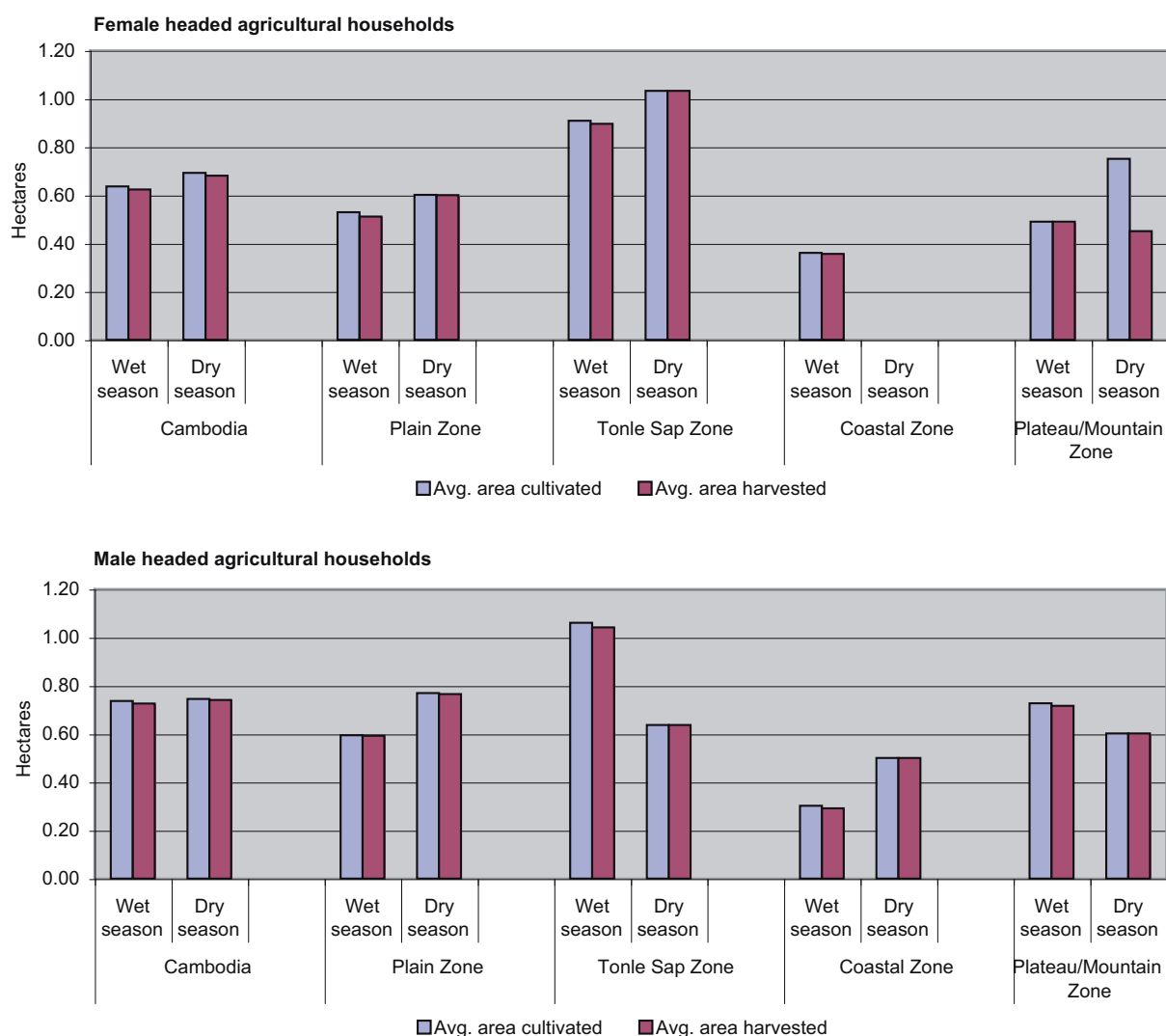
4.2.1 Crop loss

The CSES 2008 included data items on crop loss during the post harvest period. Crop loss after the harvest in the wet and dry seasons is common in the cereals harvested for grains such as rice, corn, etc., leguminous plants mainly for grain excluding soybeans and groundnuts, annual crops for industrial purposes, vegetables, fruit and nut trees and permanent crops mainly for industrial purposes. Crop loss may be due to robbery, eaten by mice and other pests, floods, drought or other calamities, etc.

Table 4.6 reports on crop losses by female and male headed households. Female headed agricultural households suffered loss of 19 million kg (or 3 percent of the produce) of cereal crops, 790 thousand kg (or 7 percent) of vegetables, 251 thousand kg (or 1 percent) of tubers, roots and bulk crops and 152 thousand kg (or 1 percent) of fruits and nuts during the post harvest in the wet season. Though these households produce only 101 thousand kg of leguminous plants, about 10 percent of this crop is also lost due to pests, robbery, etc.

Female headed agricultural households also experienced loss of million or thousand kilograms of crops after the harvest during the dry season. Crop loss is mostly on the following: fruits and nuts (4.5 million kg or 6 percent of the total produce), cereal crops (1.7 million kg or 2 percent), crops mainly for industrial purposes (266 thousand kg or 11 percent) and vegetables (122 thousand kg or 3 percent).

CHART 4.3 | Average cultivated and harvested area to rice, by sex of household heads, by zone: 2008



Source: NIS, CSES 2008

Male headed agricultural households are not exempted in having crop loss during the post harvest. Among the crops produced during the wet season, these households lost 113 million kg (or 3 percent of the crops produced) of cereals, 1.5 million kg (0.4 percent) of tubers, roots and bulk crops, 231 thousand kg (3 percent) of legumes, 675 thousand kg (or 2.4 percent) of crops mainly for industrial purposes, 884 thousand kg (1 percent) of vegetables, 766 thousand kg (1 percent) of fruits and nuts and 173 thousand kg (or 1 percent) of industrial permanent crops. These households also experience loss of almost the same kind of crops including horticultural crops after the harvest of these crops during the dry season.

Across zones, more million kilograms of crops are lost during the wet season than in the dry season. In the Plain Zone, male headed agricultural households incurred loss of cereal crops and tuber/root crops in the wet season 6-7 times the loss of the same crops of the female headed agricultural households as well as 18 times the cereal crop loss of the female headed agricultural households during the dry season. On another hand, the female headed ones lost fruits and nuts in the dry season almost 44 times than the loss incurred by the male headed agricultural households.

TABLE 4.6 | Crops produced and loss, by sex of household heads, by season and categories of crops: 2008

Season/Categories of crops	Female-headed agricultural households			Male-headed agricultural households		
	Quantity (in kg.) of harvest or produce	Quantity loss (in kg.) in post harvest	Percent (%)	Quantity (in kg.) of harvest or produce	Quantity loss (in kg.) in post harvest	Percent (%)
Wet Season						
Cereals	588 861 908	19 327 062	3.3	3 677 031 885	113 115 087	3.1
Tubers, root and bulk crops	41 397 082	250 599	0.6	376 883 576	1 510 669	0.4
Leguminous plants	101 371	9 784	9.7	7 451 713	230 564	3.1
Crops mainly for industrial purposes	12 548 762	21 727	0.2	28 678 657	674 668	2.4
Vegetables, mainly for human consumption	12 121 728	789 616	6.5	159 044 636	884 217	0.6
Fruits and nut trees	23 546 891	151 502	0.6	56 845 342	765 528	1.3
Permanent crops mainly for industrial purposes	1 891 062	54 067	2.9	14 746 219	172 671	1.2
Dry Season						
Cereals	91 175 359	1 664 447	1.8	992 135 708	25 210 861	2.5
Tubers, root and bulk crops	17 681 972	96 670	0.5	162 033 258	672 267	0.4
Leguminous plants	85 103			8 935 956	391 594	4.4
Crops mainly for industrial purposes	2 492 348	265 969	10.7	67 801 843	214 012	0.3
Vegetables, mainly for human consumption	4 904 570	122 105	2.5	52 864 620	949 233	1.8
Fruits and nut trees	81 904 379	4 490 290	5.5	46 038 670	519 263	1.1
Permanent crops mainly for industrial purposes	718 319	5 009	0.7	8 525 912	572 171	6.7

Source: NIS, CSES, 2008

The loss of cereal crops of the male headed agricultural households in other zones during the wet season is from 5 to 9 times of the loss of the same crops incurred by the female headed agricultural households.

4.2.2 Value and cost of crop production

Table 4.7 presents data on the estimated value of crop production for agricultural households. The estimated total value of crops harvested/produced in all seasons is 2.2 billion dollars, 45 percent and 46 percent of which are estimated value of cereals and fruits and nuts, respectively. This estimated value of crop production is mostly contributed by male headed agricultural households (92 percent). The produced crops of female headed agricultural households are valued at 8 percent of the estimated total value of crop production.

The estimated value of all crops produced from female headed agricultural households is higher during the wet season than in the dry season. But male headed agricultural households have higher estimated value of crop production during the dry season than in the wet season. This national situation is also reflected in Tonle Sap Zone. However, in the other zones, higher estimated value of produced crops in wet season is reached by both types of households compared to those produced in the dry season.

The total cost of crop cultivation incurred for all seasons is reported in Table 4.8 and is estimated to 1.6 billion dollars. Seventy percent of these costs are incurred during the wet season and 30 percent in the dry season. The top five items of expenditures in cultivating crops are the following: chemical fertilizers (28 percent of the total cost), payment to hired draft power (23 percent), planting materials such as seeds, etc. (17 percent), other hired labor charges (8 percent) and animal and plant manure (5 percent).

TABLE 4.7 | Estimated value (in Riels) of crop production, by sex of household head, zone: 2008

Zone/season	All agricultural households	Female-headed agricultural households	Male-headed agricultural households
Cambodia			
All seasons	2 216 470 643	172 014 640	2 044 456 002
Wet season	883 782 809	124 389 172	759 393 637
Dry season	1 332 687 834	47 625 648	1 285 062 365
Plain zone			
All seasons	707 969 140	101 145 524	606 823 615
Wet season	389 523 758	58 596 169	330 927 590
Dry season	318 445 381	42 549 356	275 896 026
Tonle Sap zone			
All seasons	1 324 529 005	54 060 127	1 270 468 878
Wet season	320 670 463	50 309 557	270 360 906
Dry season	1 003 858 542	3 750 570	1 000 107 972
Coastal zone			
All seasons	60 357 443	7 490 836	52 866 608
Wet season	57 875 799	6 770 988	51 104 811
Dry season	2 481 644	719 848	1 761 797
Plateau/Mountain zone			
All seasons	123 615 055	9 318 154	114 296 901
Wet season	115 712 789	8 712 459	107 000 330
Dry season	79 002 266	605 695	7 296 571

Source: NIS, CSES, 2008

The cost of cultivating crops incurred for both seasons by male headed agricultural households is seven times the cost spent by female headed agricultural households. The latter has incurred expenses in the wet season four times the expenses in the dry season. On the other hand, the cost incurred by the male headed agricultural households in cultivating the crops during the wet season is twice the cost in the dry season. Like female headed agricultural households, male headed ones have spent more on chemical fertilizers, planting materials, hired draft power, irrigation charges and oil, gas or diesel.

4.3 AGRICULTURAL PRACTICES

The CSES 2008 included questions on the type of investment made on each agricultural plot cultivated during the reference period. These questions pertain more or less to the agricultural practices being done by the agricultural households during the reference period. The types of investment enumerated in the survey are: digging well; digging ditch; terracing; drainage construction; soil reclamation; establishing fruit and nut trees and other types not included in the mentioned categories.

Percentages of plots with investments are shown in Chart 4.4. In nine out of ten cultivated plots of female headed agricultural households, no investments was made to improve these plots. These plots occupied about 417 thousand hectares or an average 0.6 hectare per plot. Likewise, male headed agricultural households have not done any improvement or investment on most of their plots. These plots measure around 2.4 million hectares or 0.7 hectare per plot.

Few female headed agricultural households have dug ditches or made dikes in some (about 5%) of its plots where water can flow for the crops and have dug wells in other plots as source of water for irrigation. Also few male

TABLE 4.8 | Estimated cost (in \$) of cultivating crop, by sex of household head and type of cost, by zone: 2008

Zone/type of cost	Female-headed agricultural households			Male-headed agricultural households		
	All seasons	Wet season	Dry season	All seasons	Wet season	Dry season
Cambodia						
Total	194 959 345	155 354 539	39 604 776	1 373 092 743	939 653 913	433 438 830
Planting materials	35 130 618	27 479 397	7 651 222	236 166 676	148 889 543	87 277 134
Chemical fertilisers	57 699 269	46 961 502	10 373 767	387 981 562	259 775 489	128 206 073
Animal and plant manure	12 196 435	11 246 921	949 514	70 115 434	55 989 644	14 125 790
Electricity for farming	31 869	21 921	9 948	203 686	203 676	
Oil, gas or diesel oil for farming	6 611 021	3 556 225	3 054 795	59 706 367	27 464 302	32 242 065
Storage items	5 027 967	4 041 955	986 012	38 547 344	27 027 239	11 520 106
Payment to hired draft power	44 262 891	37 707 420	6 555 471	311 365 627	254 592 456	56 773 171
Other hired labour charges	15 155 768	11 907 332	3 248 436	112 008 843	84 267 324	27 741 518
Irrigation charges	7 254 036	2 101 405	5 152 631	60 037 944	8 806 573	51 231 371
Services/technical support	47 257	47 257		287 306	101 922	185 383
Transportation of input materials and products	6 280 690	5 161 927	1 118 762	47 116 083	34 208 960	12 907 123
Repair and maintenance of farm house	1 326 486	1 231 374	95 112	14 194 249	12 865 577	1 328 672
Rent paid to owner for farm land, farm house	3 935 009	3 889 903	45 106	35 361 632	25 461 208	9 900 423

Source: NIS, CSES 2008

headed households have made investments; about 4 percent of their total plots have ditches and another 3 percent have wells. Digging ditches and wells is commonly present in the plots of some female and male headed agricultural households in the Plain and Tonle Sap Zones.

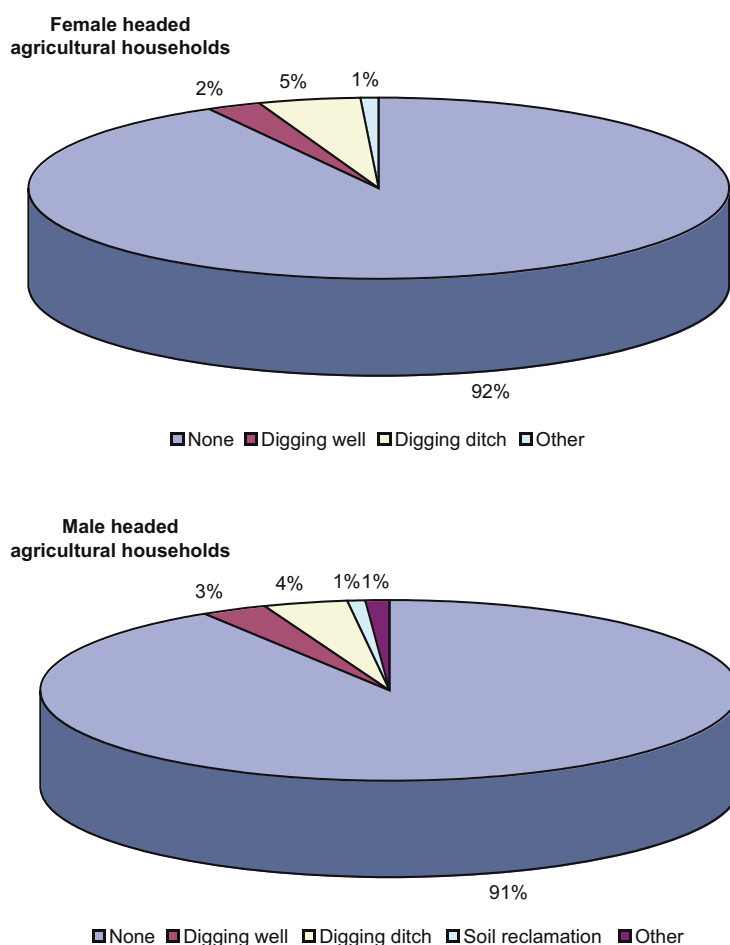
4.4 LIVESTOCK

All agricultural households have engaged in raising livestock during the survey reference period. Chart 4.5 shows the average number of livestock and poultry raised by female and male headed households. Chart 4.6 shows the percent female and male headed households reporting cattle by zone. More or less 5 in every ten female headed agricultural households and 6 out of ten male headed agricultural households have raised a total of 3.7 million cattle, recording an average of 3 cattle per household. Further, 23 percent of all female headed agricultural households and 30 percent of all male headed agricultural households have tended 1.5 million pigs, giving an average of 2 pigs per female headed household and 3 pigs per male headed household. In terms of poultry, the majority of female (70 percent) and male (74 percent) heads have their households engaged in chicken farming. The total headcount of chicken raised by both households is about 18 million. Male headed agricultural households have a higher average number of chickens than their female counterparts.

Total sale value of all livestock and poultry raised by female headed agricultural households amounted to 175 billion riels or 43 million dollars, averaging to 424 thousand riels per household. At the same time, male headed agricultural households sold livestock and poultry for the total amount of 1.3 trillion riels or 313 million dollars, recording an average of 794 thousand riels per household.

Table 4.9 reports the average kind of livestock sold. The average value sold of any livestock and poultry per male headed agricultural household at the national level is always higher than the average value sold per female headed

CHART 4.4 | Percentages of plots with investments made, by sex of household heads, by zone: 2008



Source: NIS, CSES 2008

agricultural household. This situation is also true in the Plain and Mountain Zones. But in Tonle Sap Zone, the average value of sold buffaloes and chicken per female headed agricultural households is higher than that of the male headed ones; likewise, in the Coastal Zone, the sold cattle and pigs per female headed household have higher average value.

The average value of sold livestock or poultry products per female headed agricultural household is about 9 thousand riels, which is 2 thousand riels lower than that of male headed agricultural households. Highest recorded average value sold of livestock/poultry products from the female headed agricultural households is in Tonle Sap Zone while from the male headed ones is in the Coastal Zone.

4.5 FISHING

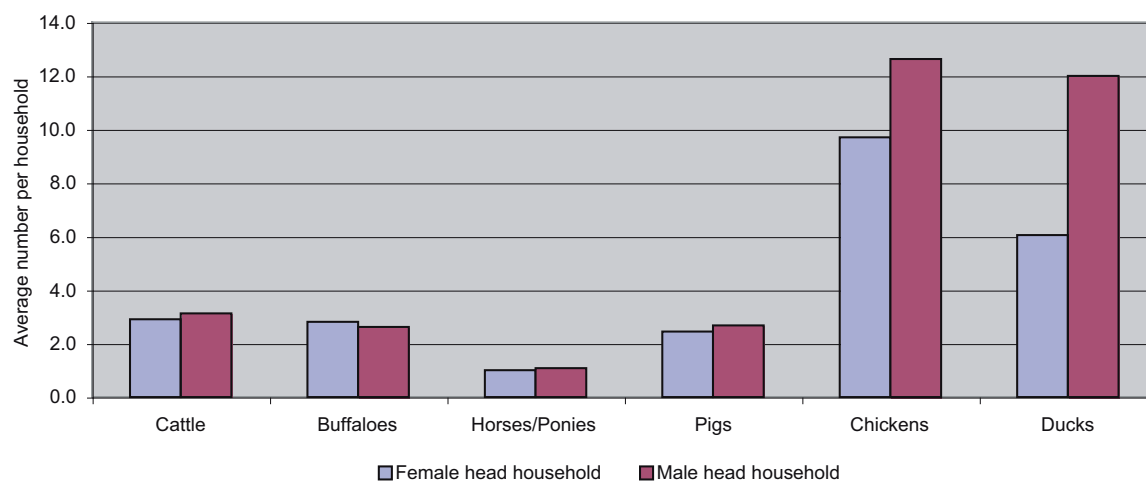
One of the sub-sections of the economic activities section in the CSES 2008 is about the fishing activity of the households. There are two kinds of fishing activity included in the survey, one is on raising fish/shrimp/crabs/oysters and the other one is on catching fish and other aquatic species. Raising fish/shrimp/crabs/other aquatic species deals more in aquaculture, which is undertaken in a controlled environment, while catching fish and other aquatic species is an activity done in fresh or marine waters or deep seas.

TABLE 4.9 | Number of households reporting livestock and average value sold, by sex of household head and kind of livestock and poultry, by zone: 2008

Zone/Kind of livestock	All agricultural households		Female-headed agricultural households		Male-headed agricultural households	
	Number reporting	Average value sold (in Riels)	Number reporting	Average value sold (in Riels)	Number reporting	Average value sold (in Riels)
Cambodia						
Cattle	1 191 251	558 920	202 067	403 526	989 184	590 663
Buffaloes	193 571	707 719	24 096	695 814	169 475	709 411
Horses/ponies	20 422	147 817	2 126		18 296	164 994
Pigs	579 587	898 464	93 359	622 920	486 228	951 370
Goats	3 396	28 776			3 396	28 776
Chickens	1 486 887	70 282	287 719	60 380	1 199 168	72 657
Ducks	457 422	62 656	68 335	18 303	389 087	70 445
Plain zone						
Cattle	519 638	576 491	100 713	497 856	418 925	595 395
Buffaloes	95 640	1 000 725	16 485	848 643	79 155	1 032 397
Horses/ponies	7 380	409 041	788		6 592	457 937
Pigs	275 853	748 752	48 311	276 285	227 542	849 065
Goats						
Chickens	661 697	64 132	148 481	42 875	513 216	70 282
Ducks	224 186	73 528	42 581	11 355	181 605	88 106
Tonle Sap zone						
Cattle	379 394	549 774	66 062	243 014	313 332	614 450
Buffaloes	56 617	308 276	7 611	364 794	49 006	299 498
Horses/ponies	5 576		1 338		4 238	
Pigs	149 732	1 329 523	22 828	827 281	126 904	1 419 868
Goats	1 517				1 517	
Chickens	501 086	85 156	94 009	99 025	407 077	81 953
Ducks	128 293	44 820	17 177	44 664	111 116	44 845
Coastal zone						
Cattle	106 414	665 166	15 181	760 338	91 233	649 329
Buffaloes	2 335	528 947			2 335	528 947
Horses/ponies	7 466				7 466	
Pigs	67 072	905 014	11 159	2 238 476	55 913	638 885
Goats	1 879	52 008			1 879	52 008
Chickens	114 851	86 212	18 449	51 073	96 402	92 937
Ducks	44 002	118 492	7 196		36 806	141 659
Plateau/Mountain zone						
Cattle	185 805	467 606	20 111	189 054	165 694	501 415
Buffaloes	38 979	579 690			38 979	579 690
Horses/ponies						
Pigs	86 930	626 014	11 061	85 284	75 869	704 847
Goats						
Chickens	209 253	45 366	26 780	28 193	182 473	47 886
Ducks	60 941	19 888	1 381		59 560	20 350

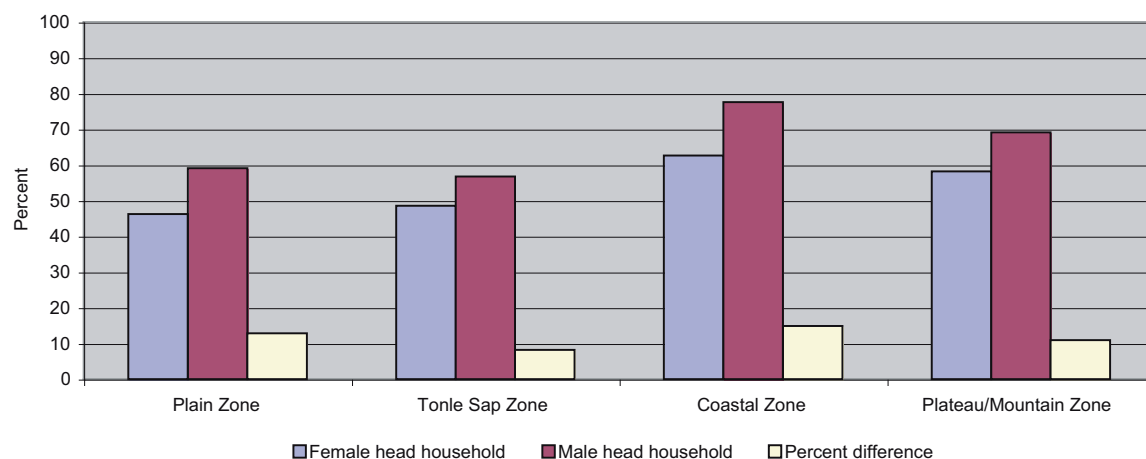
Source: NIS, CSES, 2008

CHART 4.5 | Average number of livestock and poultry raised, by sex of household heads: 2008



Source: NIS, CSES 2008

CHART 4.6 | Percentage differences of households reporting cattle by sex of household heads: 2008



Source: NIS, CSES 2008

Of the total agricultural households in Cambodia, 3 percent have engaged in raising fish and 64 percent in catching fish, shrimp, crabs or oysters (Table 4.10) and among female headed agricultural households, 5 796 households (1 percent) raised fish/shrimps/crabs/ oysters. However, not all these households owned or operated a pond for fish; more or less 85 percent of these fish raisers have established their own fish/shrimp culture ponds. Around half (51 percent) of all female headed agricultural households have also ventured into catching fish, shrimp, crabs and other aquatic species.

With regards to male headed agricultural households, 4 percent are engaged in raising fish, of which around 44 thousand or 71 percent have their own operated fishponds. About 67 percent or 1.1 million male headed agricultural households are catching fish and other aquatic species in the Cambodian waters.

Only female headed households in the Plain Zone have engaged in both types of fishing activities. In the other three zones, female headed households are only involved in catching fish and other aquatic species. Their male headed counterparts (in all zones) have engaged in raising and operating fishponds as well as in catching fish and other aquatic species. The highest proportion of male headed households operating fishponds is in the Plain Zone while the highest proportion of male headed households catching fish is in the Plateau/Mountain Zone.

TABLE 4 10 | Number and percentage of agricultural households engaged in fishing, by sex of the household heads and type of cost, by zone: 2008

Zone/Fisheries indicators	All agricultural households		Female-headed agricultural hhlds		Male-headed agricultural hhlds	
	Number	Percentage (%)	Number	Percentage (%)	Number	Percentage (%)
Cambodia						71.1
Raising fish and operating own fishpond	48 833	2.4	4 947	1.2	43 885	2.7
Catching fish, shrimp, crabs, oysters	1 303 748	64.2	217 580	52.7	1 086 167	67.1
Plain zone						
Raising fish and operating own fishpond	35 353	3.8	4 947	2.3	30 405	4.3
Catching fish, shrimp, crabs, oysters	534 581	57.7	104 050	47.8	430 531	60.7
Tonle Sap zone						
Raising fish and operating own fishpond	6 521	0.9			6 521	1.2
Catching fish, shrimp, crabs, oysters	453 958	66.0	76 794	56.4	377 163	68.3
Coastal zone						
Raising fish and operating own fishpond	1 836	1.3			1 836	1.6
Catching fish, shrimp, crabs, oysters	91 928	64.8	9 357	38.6	82 571	70.2
Plateau/Mountain zone						
Raising fish and operating own fishpond	5 123	1.9			5 123	2.1
Catching fish, shrimp, crabs, oysters	223 281	81.4	27 379	79.2	195 902	81.7

Source: NIS, CSES, 2008

The 5 thousand female headed agricultural households that engaged in fish/shrimp culture have spent 2.4 billion riels or 584 thousand dollars in operating such activity. On the average, each spent 484 thousand riels. The bulk of this amount was spent on breeding stock and feeds. Their male counterparts spent 10.7 billion riels (2.6 million dollars) or an average of 243 thousand riels per household.

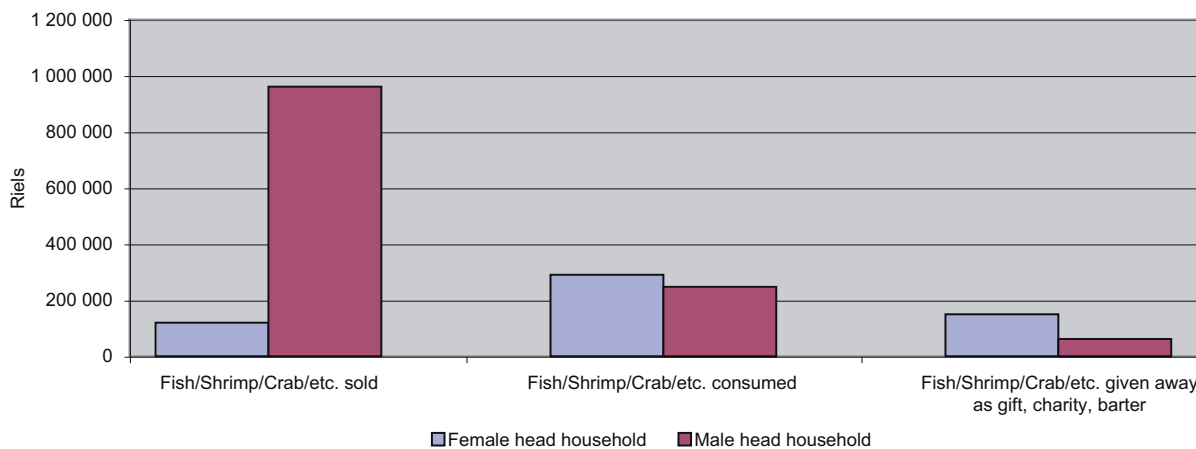
Since female headed agricultural households are not engaged in fish/shrimp culture in Tonle Sap, Coastal and Plateau Zones, only those in the Plain Zone have reported the amount spent in operating fish/shrimp culture. Male headed agricultural households in the Plain Zone have the highest average amount spent in culturing fish/shrimp/ other aquatic species while the lowest average is reported in the Coastal Zone, where there are only two types of expenses reported: feeds for fish and repair and maintenance of nets/traps.

The total value received from the fish/shrimp/other aquatic species cultured during the reference period by female headed agricultural households, specifically in the Plain Zone, has amounted to 1.4 billion riels (345 thousand dollars) or an average of 286 thousand riels per household. This amount is computed from the following: proceeds from the sale of cultured fish, shrimps, crabs, etc., value consumed by the households, value given away as gifts, charity, barter, etc., value of those used for drying, making fish sauce, animal feeds and other disposals made.

Male headed agricultural households involved in fish/shrimp culture received a total of 36.9 billion riels (9 million dollars) or an average of 840 thousand riels per household. Those in the Plain Zone received the highest average amount from the disposed cultured fish/shrimp/crabs/other aquatic species.

The average amount received from fish/shrimp culture is shown in Chart 4.7. The average amount per female headed agricultural household is only one-third of the average amount received per male headed agricultural household. Specifically male headed households received more proceeds from the sale of fish, shrimp, crabs and other aquatic species. On the other hand, female headed households consumed 81 percent of the cultured fish/shrimps/crabs/other aquatic species.

CHART 4.7 | Average amount received from fish/shrimp culture, by sex of household heads, by zone: 2008



Source: NIS, CSES 2008

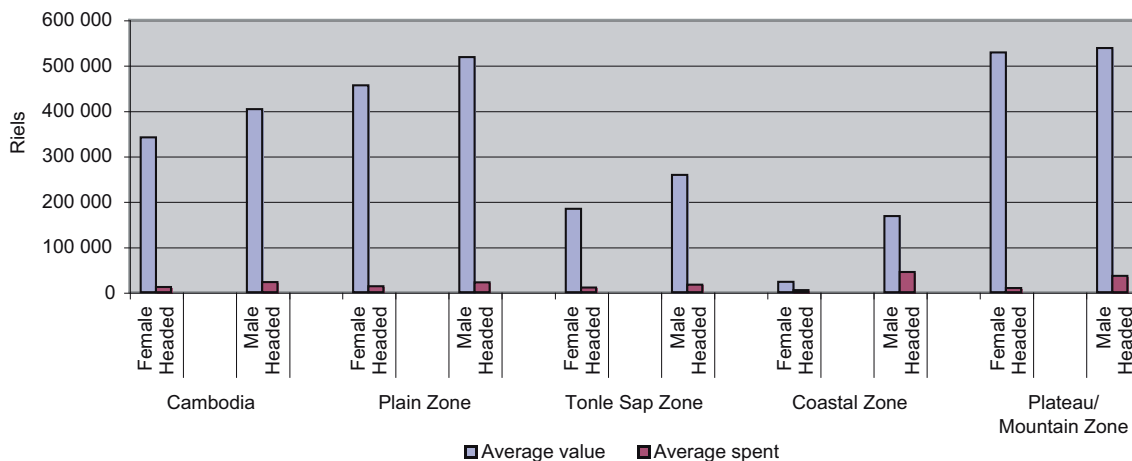
4.6 FORESTRY

The total amount received and spent in forestry activities is shown in Chart 4.8. In every 5 agricultural households, two households (whether female headed or male headed) are engaged in forestry activities such as gathering firewood, logging, collecting palm juice or root crops, etc.

The total amount received by female headed agricultural households from forestry activities is 60.4 billion riels (14.7 million dollars) or an average of 340 thousand riels per household. Male headed agricultural households have received the amount of 277.6 billion riels (67.7 million dollars) or an average of 403 thousand riels per household. This average amount received by male headed households is 0.18 percentage points higher than female headed households.

Female headed agricultural households engaged in forestry activities have spent 2 billion riels (494 thousand dollars) or an average of 11 432 riels per households. Male headed households spent a total amount of 15.3 billion riels (3.7 million dollars) or an average of 22 239 riels per household. More than 80 percent of the total expenses of both households are used for tools and equipment including maintenance, hired labor charges and fuel.

CHART 4.8 | Total amount received and spent in the forestry activities, by sex of household heads, by zone: 2008



Source: NIS, CSES 2008



CHAPTER 5

Livelihood outcomes

This chapter concentrates on the outcomes of livelihood strategies agricultural households in rural areas pursue (Chapter 4) on the basis of their assets (Chapters 2 and 3). People often pursue a range of livelihood outcomes such as improved food and nutrition security, income security, good health, high status, reduced vulnerability, and so forth. This chapter presents sex-disaggregated data on a number of livelihood outcomes included in CSES 2008. These are: housing conditions, access to safe drinking water and sanitation, access to electricity and sources of fuel for cooking.

5.1 HOUSING CONDITIONS

There are eight construction materials specified in the CSES 2008 that are used for the walls of the dwelling units of the agricultural households. Four of these materials are hard or permanent and the other four are temporary or unstable materials for the walls of dwelling units. The use of these materials in house construction by agricultural households is reported in Table 5.1.

About 62 percent of the agricultural households choose to use strong wall materials, of which the most commonly used ones are woods or logs (53 percent). About 6 percent have concrete, brick or stone walls. About a third (36 percent) of agricultural households use bamboos/thatches/leaves/grasses though these are unsafe construction materials especially during calamities.

Two in every five female headed agricultural household use strong materials for the walls of their dwelling while half of these households use walls made of bamboos/thatches/leaves/grass. On the contrary, half of all male headed agricultural households use woods and logs as their wall materials while another 40 percent use the less stable ones.

5.2 ACCESS TO SAFE DRINKING WATER

The CSES 2008 included two questions on the main source of drinking water: one for the wet season and another for the dry season. During the wet season, 36 percent of all female headed agricultural households depend on rainwater and another one-third on tubed/piped well or borehole as their main sources of drinking water. Likewise, almost the same percentages of male headed agricultural households drink rainwater during the wet season.

Rainwater is reported in Table 5.2 to be the main source of drinking water for a notable number/proportion of both male and female headed agricultural households in the Coastal (between 60 to 70 percent) and Plateau/Mountain Zones (between 35-39 percent) during the wet season.

In the dry season, a higher proportion of female headed agricultural households than male headed ones derive their drinking water through tubed/piped well or borehole. However, about one-fourth of agricultural households headed by females use the pond, river or stream to get water for drinking. Higher percentages of both male and female headed households that collect drinking water from the pond, river or lake are residing in Tonle Sap, Coastal and Plateau/Mountain Zones. The percentage differences between female and male headed households in access to safe drinking water in the dry season is shown by zone in Map 5.1.

Table 5.1 | Number of agricultural households, by sex of the household head and primary construction material of the outer wall of the housing/dwelling unit, by zone: 2008

New zone/construction materials of the outer wall	All households	Female headed	Male headed
Cambodia			
Wood or logs	50.5	41.2	52.8
Concrete, brick, stone	4.9	2.3	5.5
Galvanized iron or aluminium or other metal sheets	3.6	4.0	3.5
Bamboo, Thatch/leaves, Grass	39.1	50.7	36.2
Plywood	0.7	0.4	0.8
Makeshift, mixed materials	0.8	0.9	0.7
Clay/dung with straw	0.4	0.3	0.4
Plain Zone			
Wood or logs	41.6	35.1	43.6
Concrete, brick, stone	5.9	2.3	7.0
Galvanized iron or aluminium or other metal sheets	5.4	5.8	5.2
Bamboo, Thatch/leaves, Grass	45.0	55.1	41.9
Plywood	1.2	0.7	1.3
Makeshift, mixed materials	0.4	0.4	0.3
Clay/dung with straw	0.5	0.6	0.5
Tonle Sap Zone			
Wood or logs	53.5	45.5	55.5
Concrete, brick, stone	4.2	2.1	4.8
Galvanized iron or aluminium or other metal sheets	2.1	2.9	1.9
Bamboo, Thatch/leaves, Grass	37.6	47.0	35.3
Plywood	0.4		0.5
Makeshift, mixed materials	1.8	2.1	1.7
Clay/dung with straw	0.3		0.4
Coastal Zone			
Wood or logs	57.2	63.7	55.9
Concrete, brick, stone	5.8	6.2	5.7
Galvanized iron or aluminium or other metal sheets	5.2	0.3	6.2
Bamboo, Thatch/leaves, Grass	31.7	29.6	32.1
Clay/dung with straw	0.1	0.2	0.0
Plateau/Mountain Zone			
Wood or logs	69.2	47.4	72.4
Concrete, brick, stone	2.4		2.7
Galvanized iron or aluminium or other metal sheets	1.0		1.1
Bamboo, Thatch/leaves, Grass	26.9	52.0	23.3
Plywood	0.4		0.4
Makeshift, mixed materials	0.1	0.6	

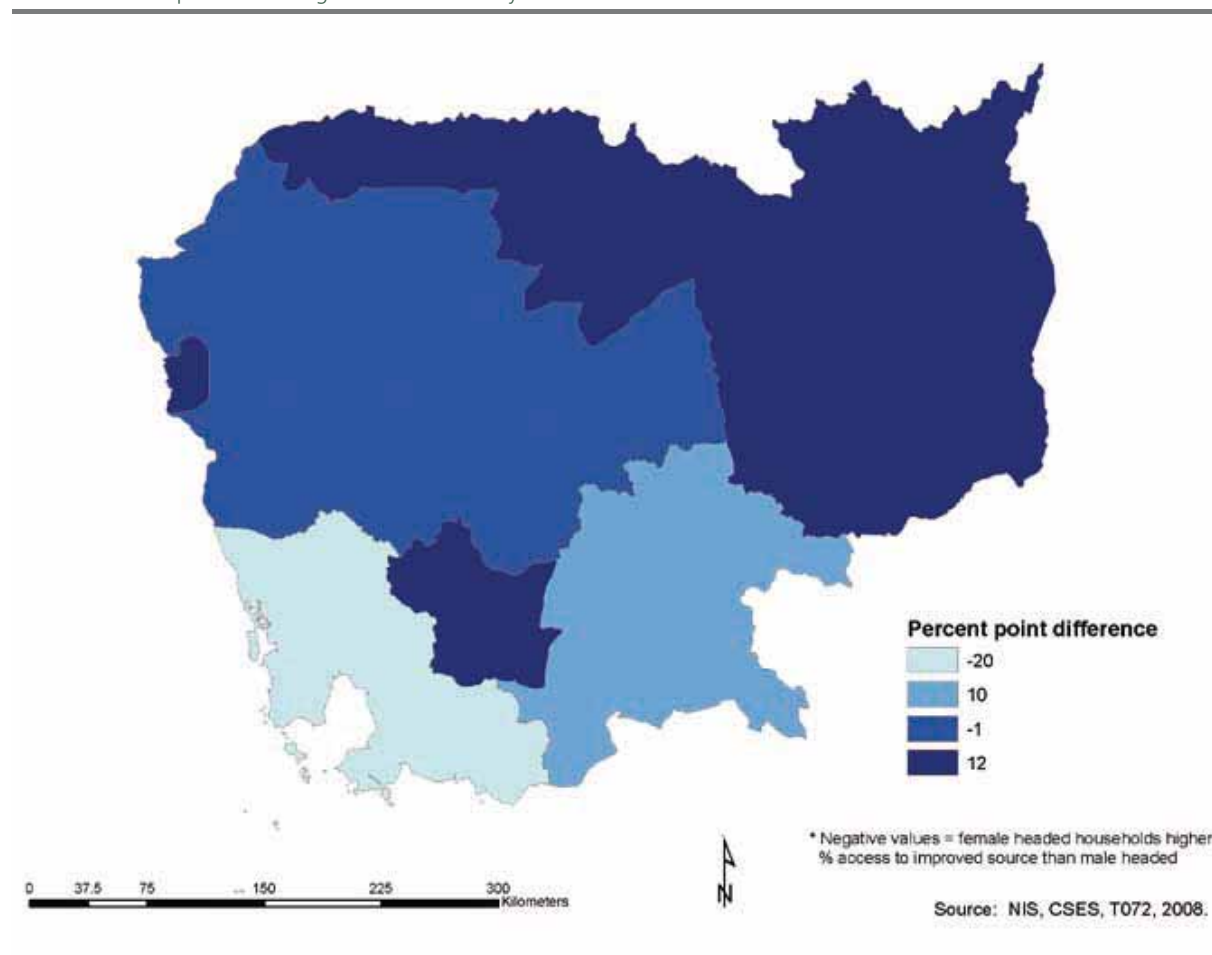
Source: NIS, CSES, 2008

TABLE 5.2 | Percentage of female and male headed agricultural households reporting main source of drinking water in wet and dry season, by zone: 2008

Main source of drinking water	Female headed		Male headed	
	Wet season	Dry season	Wet season	Dry season
Cambodia				
Total	100.0	100.0	100.0	100.0
Piped in dwelling or on premises	1.6	2.0	3.9	4.1
Public tap	0.3		0.1	0.1
Tubed/piped well or borehole	33.4	39.3	23.2	29.0
Protected dug well	11.7	17.9	15.2	19.6
Unprotected dug well	5.1	8.4	4.7	6.7
Pond, river or stream	10.1	23.6	15.9	29.5
Rainwater	35.6	2.6	33.2	2.2
Tanker truck, vendor or otherwise bought, home	2.1	5.0	3.5	7.8
Tanker truck, vendor or otherwise bought, any	0.2	1.2	0.1	0.7
Other			0.1	0.4

Source: NIS, CSES, 2008

MAP 5.1 | Percentage point difference in proportion of male-female headed agricultural households with access to improved drinking water source in dry season



5.3 SOURCES OF ENERGY

5.3.1 Used for cooking

One of the Millennium Development Goals (MDG) adopted by the Royal Government of Cambodia is to integrate the principles of sustainable development into the country policies and programs and reverse the loss of environmental resources. One of its sub-targets concerns the energy used for cooking.

As depicted in Chart 5.1, almost all female headed agricultural households utilize firewood for cooking food while only few use charcoal and liquefied petroleum gas. Similarly in their male counterparts, about 95 percent have reported the use of firewood in cooking. However, nil percentage of these households is using publicly-provided electricity/city power. The use of firewood has also been reported by approximately more than 90 percent of the agricultural households (whether female or male headed) in all zones.

5.3.2 Used for lighting

As reported in Table 5.3, one in every ten agricultural households in Cambodia uses publicly-provided electricity/city power. More male headed agricultural households are using this compared to their female counterparts, recording a difference of 5 percentage points.

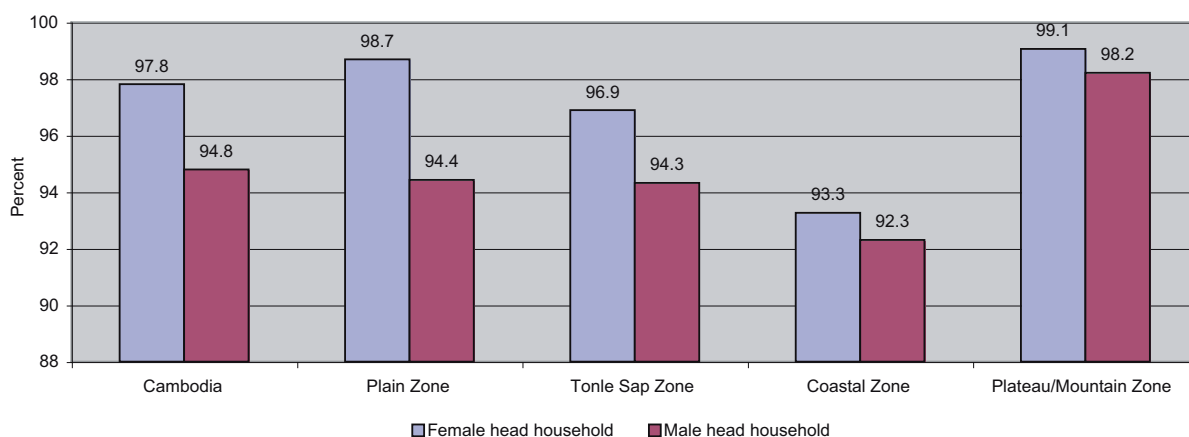
Of the available energy sources for the illumination of the dwelling units in the country, 53 percent of female headed agricultural households use kerosene lamps to light up their houses. Another 40 percent of these households access lights through the use of battery. In the case of male headed agricultural households, half of them use battery for lights while around 37 percent depend on kerosene lamps.

Across zones, more female headed agricultural households use kerosene lamps while more male headed ones use battery.

5.4 SANITATION

The type of toilet facilities used is a measure of the sanitary conditions of the agricultural households. “Improved sanitation facility” includes three types of toilets: “pour flush/flush toilet connected to sewerage”, “pour flush/flush toilet connected to septic tank”, and “pit latrine with slab”. Chart 5.2 shows percent access of female and male headed agricultural households to toilet facilities by zone.

CHART 5.1 | Percentage of female and male headed agricultural households using firewood, by zone: 2008



About 26 percent of all agricultural households in Cambodia have access to toilet facilities; however, 22 percent use improved ones and about 4 percent are still using the traditional type of toilets. The percentage of female headed agricultural households with improved sanitation is lower than male headed agricultural households by 6 percentage points.

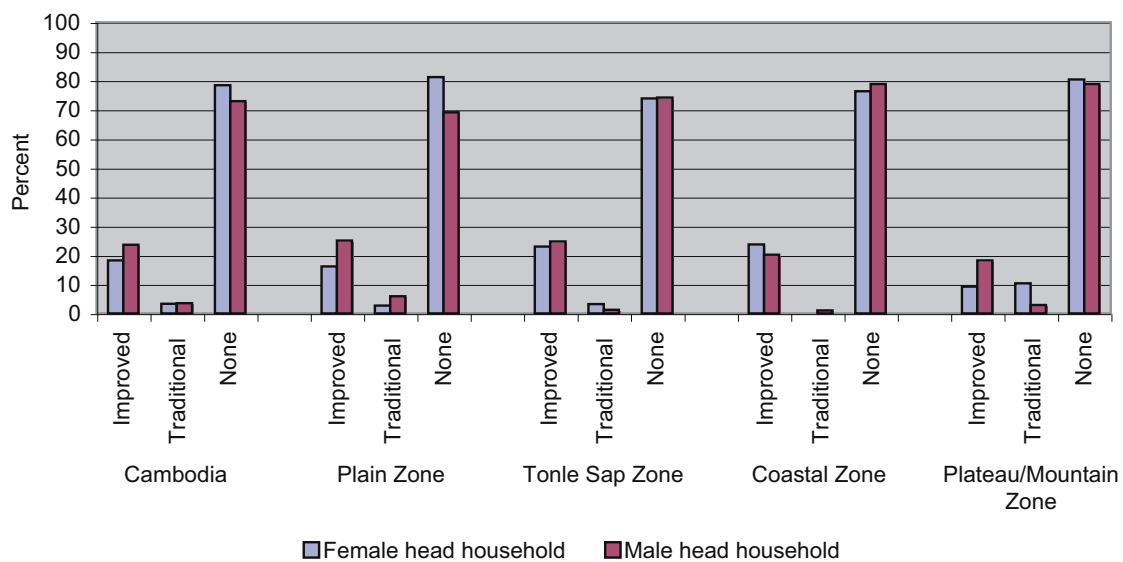
A very high proportion of agricultural households have no toilet facility in their dwelling units. Most of these households use the open lands. This is may be due to lack of public toilets available in all zones. Higher proportion of agricultural households headed by women face such situation.

TABLE 5.3 | Number and percentage of female and male headed agricultural households reporting energy source for lighting, by zone: 2008

Zone/main source of lighting	Female headed		Male headed	
	Number	Percent	Number	Percent
Cambodia				
Publicly-provided electricity/City power	23 671	5.7	175 125.0	10.8
Generator	4 921	1.2	10 498.0	0.6
Battery	162 586	39.4	805 912.0	49.8
Kerosene lamp	220 313	53.4	593 001.0	36.6
Plain Zone				
Publicly-provided electricity/City power	14 153	6.5	72 687.0	10.3
Generator	0	0.0	3 900.0	0.6
Battery	108 137	49.7	451 385.0	63.7
Kerosene lamp	95 282	43.8	173 675.0	24.5
Tonle Sap Zone				
Publicly-provided electricity/City power	5 430	4.0	69 008.0	12.5
Generator	4 921	3.6	5 398.0	1.0
Battery	32 764	24.1	202 362.0	36.6
Kerosene lamp	92 004	67.6	263 293.0	47.7
Coastal Zone				
Publicly-provided electricity/City power	1 742	7.2	14 240.0	12.1
Generator			45.0	0.0
Battery	11 967	49.4	65 737.0	55.9
Kerosene lamp	10 515	43.4	35 831.0	30.5
Plateau/Mountain Zone				
Publicly-provided electricity/City power	2 346	6.785053	19 190.0	8.0
Generator			1 155.0	0.5
Battery	9 718	28.1062	86 428.0	36.0
Kerosene lamp	22 512	65.10875	120 202.0	50.1

Source: NIS, CSES, 2008

CHART 5.2 | Percentage of female and male headed agricultural households re-sanitation, by zone: 2008





CHAPTER 6

Conclusions

6.1 GENDER INEQUALITY

This National Gender Profile presented a range of sex-disaggregated data in order to analyse differences between male and female headed households in all zones. About a fifth of all households in Cambodia are headed by women. Female headship is very low among the Khmer households in the Plateau/Mountain Zones. The **most significant source of gender inequality** between male and female headed households in the agricultural sector, that could be identified on basis of the CSES 2008, is **agricultural land**. This includes inequalities in land ownership, land size, and cultivated land. National level data show that female headed households in Cambodia own about 18 percent of the total plots used for agricultural activities, which is five times less than the percentage of plots owned by male headed agricultural households. The average size of land that female headed households have access to is about 21 percent smaller than land of male headed households. In the Mountain/Plateau Zone the average land size of female headed households is even 54 percent smaller. Consequently, female headed households cultivate smaller areas compared to male headed households. For rice cultivation, the area cultivated by female headed households is almost five times smaller compared to male headed households during the wet season and becomes even smaller during dry season (8 times).

6.2 THE WAY FORWARD

With this National Gender Profile a first important step towards gender statistics for the agricultural sector has been taken. Through re-tabulating and analysing existing data, important differences between male and female headed households have been identified. But still important gender statistics are lacking due to unreliable and inconsistent data from the survey. Gender and rural livelihoods cover a wider range of topics that cannot be captured alone through CSES. Though such survey provides an important part of the agricultural situation in Cambodia, important data items are missing for understanding gender inequalities related to the livelihoods of all households in all zones. Notable data items, that are not provided accurately or not included at present in the CSES 2008, are those related to income and income sources, expenditures, livelihood security, social capital, and food security. Other important aspects of gender inequality not adequately captured by the survey include the terms of access to assets and intra-household allocation of, and control over, the different assets.

Some of these data gaps might be adjusted by adopting the concept of sub-holder in the upcoming census. At present, comparison is made between male and female headed households and little is known about the role and contribution of rural women within male headed households or the decision-making processes and the different levels of management that exist within a household. A sub-holding refers to a single agricultural activity or a group of activities (e.g. plot, field, kitchen garden, or a livestock operation) that on behalf of the agricultural holder is managed by a particular person or group of persons in the holder's household – the sub-holder. The introduction of the sub-holder allows for analysis of intra-household labour division and decision-making, and the specific roles and contributions of male and female household members to the holding's overall production (FAO, 2007). For example sub-holder data gives information on the number of women responsible for specific agricultural activities and their characteristics, time spent on holding, division of managerial responsibility, women's role in decision-making, and so forth.

