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Cambodia Agriculture Survey 2024
Complete Report

National Institute of Statistics, Ministry of Planning in collaboration with Ministry of Agriculture, Forestry and Fisheries.

With technical support from the Food and Agriculture Organization of the United Nations.

Financial support from the 50x2030 initiative.

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Foreword

The report on agriculture survey 2024 provides data source for the assessment of agricultural productivity in Cambodia and presents statistical data on crops, livestock, aquaculture, fisheries and other relevant activities that are useful for reflecting on the situation of agriculture, environment, economy, society and food security of Cambodian agricultural families. Furthermore, this report serves as an input into performance measurement and reflection of the strategic planning of the agriculture sector development, poverty reduction, calculation of national economic growth and other related development programs.

The Cambodia Agriculture Survey 2024 will help advance the agriculture sector's objectives and well-being of the Cambodian people with a focus on the Cambodia Sustainable Development Goals Framework 2016-2030, aiming to achieve three main goals:

- Goal 1. No poverty: End poverty in all its forms every where
- Goal 2. Zero hunger: End hunger, achieve food security and improved nutrition and promote sustainable agriculture.
- Goal 5. Gender equality: Achieve gender equality and empower all women and girls.

The Cambodia Agriculture Survey 2024 will be provided to all ministries, national institutions, development partners, national organizations, international organizations, research institutions, the private sector and the general public who can use these findings for their own needs. The data will serve as a basis for monitoring and evaluating social, economic and environmental development policies to achieve Cambodia's vision for 2050, which considers agricultural development of the "Pentagonal Strategy (Phase-I)."

Finally, I wish to express my thank to the Royal Government of Cambodia (RGC), the Ministry of Economy and Finance, the Ministry of Agriculture, Forestry and Fisheries, the Food and Agriculture Organization of the United Nations (FAO) and the 50x2030 Initiative for both financial and technical support. I would also like to thank all the relevant leadership, the management, and technical teams, enumerators, supervisors who made strong efforts to accomplish their work and citizens who took valuable time to respond to the questionnaires. Ultimately, these contributions lead to the great success of CAS2024.

Phnom Penh, 20 November 2025

Bin Troachhey
Minister
Ministry of Planning

Preface

The National Institute of Statistics, Ministry of Planning, is pleased to present the latest analysis of the Cambodia Agricultural Survey 2024 obtained from a sample of approximately 15 622 agricultural households in 25 provinces across Cambodia. The Cambodia Agricultural Survey 2024 (CAS2024) is the sixth annual survey in a series of surveys (from 2019, 2020, 2021, 2022, 2023, and 2024). The report analyses the results of the survey conducted by the National Institute of Statistics, Ministry of Planning and cooperation between the Ministry of Agriculture, Forestry and Fisheries, and the Food and Agriculture Organization of the United Nations. The Cambodia Agriculture Survey 2024 has received financial and technical support from the Royal Government of Cambodia, FAO Development Partners and the 50 x 2030 Initiative.

The Cambodia Agricultural Survey 2024 was implemented in accordance with the agreement between the Ministry of Planning, Food and Agriculture Organization of the United Nations (FAO) in Cambodia on September 18, 2018. The Cambodia Agricultural Survey 2024 was conducted with computer-assisted personal interviews (CAPIs) using the World Bank's Survey Solution program for recording interviews and data management. Data collected from agricultural households were included in the final analysis report of this survey: Crop production, livestock production, aquaculture production and fisheries to update the annual agricultural statistics data to meet the needs of policymakers, Agricultural Development Goals, Environment and Sustainable Development Goals Indicators 2030 Of the Royal Government of Cambodia or the United Nations, researchers and other stakeholders.

The Cambodia Agricultural Survey Report 2024 is an important input in developing a more effective agricultural policy development program and supporting target indicators towards the first phase of the Royal Government's "Pentagon Strategy" to achieve the expected goals in "Cambodia Vision 2050."

The above agricultural survey report is open for discussion as well as receiving any comments or recommendations to improve the report or provide a better analysis of the results of future Cambodian agricultural survey data.

I would like to express my sincere gratitude to Excellencies, Lok Chumteavs, Ladies and Gentlemen, Representatives of Ministries, Institutions, Technical Committee of Cambodia Agricultural Survey, Cambodia Agricultural Survey Technical Working Group, Food and Agriculture Organization of the United Nations, and Excellencies, Ladies and Gentlemen, Participate in the implementation of the Cambodia Agricultural Survey 2024 to achieve success with quality and efficiency.

Try Ritthea
Director of National Institute of Statistics
Ministry of Planning

Acronyms and Abbreviations

CAS	Cambodia Agriculture Survey
CAC	Census of Agriculture Cambodia
CIAS	Cambodia Inter-Censal Agriculture Survey
CSES	Cambodia Socio-Economic Survey
FAO	Food and Agriculture Organization
GDP	Gross Domestic Product
Ha	Hectare
Kg	Kilograms
MAFF	Ministry of Agriculture, Forestry and Fisheries
MOP	Ministry of Planning
NIS	National Institute of Statistics
PSU	Probability Sampling Unit
PPS	Probability Proportional to Size
RGC	Royal Government of Cambodia
TC	Technical Committee
USD	United States Dollar

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Cambodia Agriculture Survey 2024
Report 1:
Methodological Reference Document

National Institute of Statistics, Ministry of Planning in collaboration with Ministry of Agriculture, Forestry and Fisheries.

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Note on Report Structure

The Cambodia Agriculture Survey 2024 analysis and reporting is split into 5 published written reports and additional statistical materials covering different aspects of the results as follows:

1. Report 1: Methodological Reference Document

This report covers the background information of the survey. It includes the foreword and preface notes; the technical committee involved in the survey; acronyms and abbreviations used in the reports; an executive summary of the analysis from all reports; the scope, coverage and sample design of the data collection.

2. Report 2: Crop Production

This report covers crop production in Cambodia by household holdings and includes information related to the number of holdings involved in both temporary and permanent crop production; land under agricultural usage; the area of planted and harvested crops; the yield of crops; use of fertilizers, chemicals and irrigation; types of seeds/plant varieties grown; and the value of crop sales.

3. Report 3: Livestock and Poultry Raising

This report covers household holdings involved in the raising of livestock and poultry. Included within the report are the number of holdings engaged in raising livestock and poultry; the total number of animals in Cambodia; the average number of animals per holding; the purpose of raising animals; the value of sales from animals and the related input costs.

4. Report 4: Aquaculture and Capture Fishing

This report covers household holdings involved in aquaculture and capture fishing activities. Included within the report is the number of holdings engaged in different types of aquacultures; the total area devoted to aquaculture; species raised by aquaculture and the volume of them produced; households engaged in fishing activities by water type; species fished; and total catch volume.

5. Report 5: Machinery, Economy and Shocks

This report covers household holdings types of equipment and machinery owned and used by gender, access and usage of agricultural machinery repair facilities, and buildings or structures used for thee storage of crops and the housing of livestock or poultry, access to finance and loans, expenditures of the holdings, labour used on the holding or for other holdings, main designation of agricultural production, and participation in formal or informal farmers associations and exposure to shocks.

All 5 reports are available for download from the NIS website (available at: http://www.nis.gov.kh/index.php/km). These reports aim to provide an overview of the data included within the CAS 2024. They, however, are not fully comprehensive and some questions

are not analysed within the scope of these documents. The information is analysed and presented, in most cases, at the national or regional level. Data users are encouraged to explore and conduct their own analysis using the full data tabulations disseminated on the NIS website (available at: http://www.nis.gov.kh/index.php/km/), the CAMSAT data tables (available at: https://camstat.nis.gov.kh/) and the full anonymized microdata (available at: https://microdata.nis.gov.kh/).

Executive Summary

Brief Overview of Survey Methodology

The Cambodia Agriculture Survey (CAS) of the Kingdom of Cambodia, conducted in 2024 was a comprehensive statistical undertaking for the collection and compilation of information on crop cultivation, raising livestock and poultry, and aquaculture and capture fishing operations. The data collected and generated from this survey will be useful in the formulation of plans, policies and programs for the development and improvement of the agriculture and fisheries sectors in the Royal Government of Cambodia (RGC).

The National Institute of Statistics (NIS) of the Ministry of Planning (MOP), and the Ministry of Agriculture, Forestry and Fisheries (MAFF), were the responsible government ministries authorized to undertake the CAS 2024. While NIS had the census and survey mandate, the MAFF will be the primary user of the data produced from the survey.

The main objective of the annual agricultural survey is to provide data on the temporal agricultural situation in the Kingdom of Cambodia to be utilized by planners and policymakers. After the CIAS 2019 and 2020 shared a sampling frame, CAS 2021, CAS 2022 and CAS 2023 shared a sampling frame, CAS 2024 uses a sampling frame taken from the Census of Agriculture Cambodia 2023 (CAC 2023). The CAS 2024 used statistical methods to select a representative sample of villages throughout Cambodia from the CAC 2023 Sampling Frame.

Data collection for this survey was conducted via Computer Assisted Personal Interview (CAPI) techniques. The survey questionnaires were created in the World Bank's Survey Solutions application. The use of CAPI for data collection offered many benefits, including a reduction in printing costs, elimination of the need for key entry of data, and allowed for rapid and improved quality control and data analysis.

Sampled households were located throughout the country, except in eleven districts within Phnom Penh which were known to be core urban areas from the previous enumeration of the census the year before. The total sample for CAS 2024 consisted of 15,622 households. In addition to the household survey, a separate data collection exercise targeted large agricultural enterprises operated by corporations, cooperatives, and government or private institutions—referred to as juridical holdings—in the non-household sector. This collection was conducted as a census of all known and accessible non-household holdings. In total 520 juridical holdings were included in the CAS 2024 data collection.

Additional details on the sampling procedure, survey methodology, and field operations for the CAS 2024 can be found in Chapter 1 – Scope, Coverage and Sample Design. Household agricultural interviews took place in November 2024. The reference period for the survey was the 12-month period from 1 July 2023 through 30 June 2024. A total of 337 enumerator staff were involved in the data collection effort, hired from existing staff from province and district level staff of both NIS and MAFF. There were 46 Data Supervisors responsible for conducting data quality control checks, while 46 Field Supervisors were responsible for assisting with

enumerator issues in the field, encouraging good relationships with village contacts and promoting cooperation from agricultural household respondents. As much as possible fieldwork enumerators and supervisors remained the same as in previous years to build upon the experiences and knowledge acquired.

The CAS utilized the definition of an "agricultural holding" as defined by the World Programme for the Census of Agriculture 2020 (WCA 2020) and the Global Strategy to Improve Agricultural and Rural Statistics (GSARS). An agricultural holding is defined as an economic unit of agricultural production under single management comprising all livestock kept and all land used wholly or partly for agricultural production purposes, without regard to title, legal form or size. Single management may be exercised by an individual or household, jointly by two or more individuals or households, by a clan or tribe, or by a juridical person such as a corporation, cooperative, or government agency. The holding's land may consist of one or more parcels, located in one or more separate areas or one or more territorial or administrative divisions, providing the parcels share the same production means, such as labour, farm buildings, machinery or draught animals. The scope of agricultural activity includes the growing of perennial or non-perennial crops, plant propagation, animal production, or mixed farming. Other non-farm economic activities, such as fishery, forestry and aquaculture are considered diversification activities of the holding. Unlike previous years of the CAS, CAS 2024 utilised a minimum threshold for agricultural activities to make the results in line with the CAC 2023, in which households were eligible for the survey if they grew crops on at least 0.03 hectares and/or had a minimum of 2 large livestock and/or 3 small livestock and/or 25 poultry.

In CAS 2024, as with all sample surveys, there are limitations to the data produced and its interpretability or comparability to alternate data sources. Readers can reference the full CAS Limitation section in Chapter 1. In general, readers should be aware of the limitations of self-reported survey data, limited coverage of the juridical holdings in Cambodia, and the limitations of survey questionnaires and interview procedures.

Summary Indicators

The CAS 2024 utilized one main agricultural household questionnaire. This form consisted of 16 main sections:

1. Respondent's identification and informed consent
1a. Household Members
2. Holding characteristics
3. Land tenure and Agricultural Practices
4. Crop Production
5. Seeds, Agricultural Practices and Inputs
6. Non-Residential Buildings or Structures used for Crops
7. Livestock Production
8. Poultry Production
9. Non-Residential Buildings (Livestock & Poultry)
10. Aquaculture and/or Capture Fishing
11. Economy

12. Machinery and equipment
13. Climate or Environmental Shocks and Adaptation Strategies
14. Household Referenced Food Insecurity Experience Scale
15. End of the survey

Some of the key estimates obtained from the CAS 2024 are presented below for the country as a whole as well as the Plain Zone, Tonle Sap Lake Zone, Coastal Zone, and the Plateau and Mountainous Zone.

Table 1.1: Summary indicators, household agricultural holdings

Household Agricultural Holdings					
	Cambodia	Plain Zone	Tonle Sap Lake Zone	Coastal Zone	Plateau and Mountainous Zone
Number of household agricultural holdings (in thousands)	1,868	732	722	123	291
Percentage of household agricultural holdings producing agricultural products for:					
Mainly for home consumption	52%	55%	45%	74%	51%
Mainly for sale	48%	45%	55%	26%	49%
Percentage of holdings with a homelot only	9%	8%	11%	10%	4%

Source: CAS 2024, Report 2 Crop Production

Table 1.2: Summary indicators, crop production activity

Crop Production Activity					
	Cambodia	Plain Zone	Tonle Sap Lake Zone	Coastal Zone	Plateau and Mountainous Zone
Number of household holdings growing crops (in thousands)	1,767	695	675	113	283
Percent of household holdings growing crops	95%	95%	93%	92%	97%
Five most popular crops grown, by number of holdings reporting	1. Non-aromatic paddy	1. Non-aromatic paddy	1. Non-aromatic paddy	1. Non-aromatic paddy	1. Non-aromatic paddy
	2. Mango	2. Banana	2. Mango	2. Coconut	2. Cashew
	3. Coconut	3. Coconut	3. Banana	3. Mango	3. Cassava
	4. Banana	4. Mango	4. Coconut	4. Banana	4. Mango
	5. Aromatic paddy	5. Aromatic paddy	5. Aromatic paddy	5. Aromatic paddy	5. Coconut

Source: CAS 2024, Report 2 Crop Production

Table 1.3: Summary indicators, livestock and poultry activity

Livestock and Poultry Activity					
	Cambodia	Plain Zone	Tonle Sap Lake Zone	Coastal Zone	Plateau and Mountainous Zone
Number of agricultural households keeping or raising livestock, poultry and/or insects at any time during the reference year (in thousands)	1,343	513	525	106	198
Percentage of agricultural households keeping or raising livestock, poultry or insects at any time during the reference year	72%	70%	73%	86%	68%
Number of agricultural households with cattle presence during previous 12 months (in thousands)	679	291	236	54	99
Average number of cattle per farm	4.5	4.0	4.9	3.0	6.1
Number of agricultural households with chicken presence during previous 12 months (in thousands)	1,034	377	405	97	155
Average number of chickens per farm	24	24	24	33	22

Source: CAS 2024, Report 3 Livestock and Poultry Raising

Table 1.4: Summary indicators, aquaculture and capture fishing activity

Aquaculture and Capture Fishing Activity					
	Cambodia	Plain Zone	Tonle Sap Lake Zone	Coastal Zone	Plateau and Mountainous Zone
Number of households engaged in aquaculture (in thousands)	681	55	18	5	2
Percentage of households engaged in aquaculture	4%	7%	3%	4%	1%
Number of households engaged in capture fishing (in thousands)	387	106	174	27	80
Percentage of households engaged in capture fishing	21%	14%	24%	22%	28%

Source: CAS 2024: Report 4 Aquaculture and Capture Raising

Table 1.5: Summary indicators, economy

Economy					
	Cambodia	Plain Zone	Tonle Sap Lake Zone	Coastal Zone	Plateau and Mountainous Zone
Percent of household agricultural holdings, household income accounted for completely by agricultural income	5.2%	4.1%	5.3%	4.2%	8.2%
Contribution of agricultural income to household's total income, compared to previous year:					
Percent of holdings reporting lower share of income from agricultural activities	25%	23%	27%	22%	23%
Percent of holdings reporting similar share of income from agricultural activities	67%	70%	63%	73%	70%
Percent of holdings reporting higher share of income from agricultural activities	8%	7%	10%	6%	7%

Source: CAS 2024

The Inter-Censal Population Survey of the Kingdom of Cambodia 2024, estimated that there were 3,735,659 households in Cambodia in 2024[1]; the CAS 2024 reports an estimated 1,868,160 households engaged in agriculture. Therefore, an estimated 50% of all households in Cambodia were involved in agricultural production. An estimated 9% of household agricultural holdings report agricultural activity on their homelot only. The average number of parcels per holding is estimated at 1.7 parcels per holding according to the CAS 2024.

Crop activity was reported in 95% of all household agricultural holdings in Cambodia. The major crops grown in the country, based on the number of holdings reporting growing them, were (1) non-aromatic paddy, (2) mango, (3) coconut, (4) banana, and (5) aromatic paddy. 72% of all household agricultural holdings reported raising livestock, poultry, or insects. Cattle was the main livestock raised with 679,000 household agricultural holdings reporting the animal's

[1] Number of households based on the 2024 Inter-Censal Population Survey of Cambodia. Available at: https://www.nis.gov.kh/nis/CIPS/Cambodia%20Inter-censal%20Population%20Survey%202024.pdf

presence in the last 12 months. Chicken was the main poultry animal raised with approximately 1.034 million household agricultural holdings reporting the animal in the past 12 months. The CAS 2024 estimates that 4% of households were engaged in aquaculture activities and 21% were engaged in capture fishing activities.

The CAS asked many economic questions to the survey respondents. Household agricultural holders were asked to estimate the share of their total household income that was accounted for by their agricultural income. An estimated 5.2% of all household agricultural holdings reported that all of their total household income was accounted for by agricultural income.

Additionally, respondents were asked to compare their agricultural income during the reference period to their agricultural income during the previous year. The CAS 2024 estimates that 25% of household agricultural holdings reported an agricultural income lower than the previous year, 67% reported an agricultural income similar to the previous year, and 8% reported an agricultural income greater than the previous year.

Scope, coverage and sample design

The Cambodia Agriculture Survey (CAS) 2024 of the Kingdom of Cambodia, conducted in 2024 was a comprehensive statistical undertaking for the collection and compilation of information on crop cultivation, raising livestock and poultry, and aquaculture and capture fishing operations. The data collected and generated from this survey will be useful in the formulation of plans, policies and programs for the development and improvement of the agriculture and fisheries sectors in the Royal Government of Cambodia (RGC). The CAS 2024 was the sixth annual survey conducted since the 2013 Cambodia Agriculture Census (2019, 2020, 2021, 2022 2023 and 2024).

The National Institute of Statistics (NIS) of the Ministry of Planning (MOP), and the Ministry of Agriculture, Forestry and Fisheries (MAFF), were the responsible government ministries authorized to undertake the CAS 2024. While NIS had the census and survey mandate, the MAFF will be the primary user of the data produced from the survey.

Objective

The main objective of the CAS is to provide data on the temporal agricultural situation in the Kingdom of Cambodia to be utilized by planners and policymakers. Specifically, the survey data will be useful in:

1. Providing an updated sampling frame in the conduct of agricultural surveys.
2. Providing data at the country and regional level, with some items available at the province level.
3. Providing data on the current structure of the country's agricultural holdings, including cropping, raising livestock and poultry, and aquaculture and capture fishing activities.

The full coverage of the survey can be examined in the detail of the questionnaire available online at (https://www.nis.gov.kh). These data create the potential for a wide range of analyses to be conducted that are well beyond the scope of this report. Note, that the set of published reports in English and Khmer include data at the national and regional levels, with data at the province level available in table form on the NIS website or for any person's analysis via the public use microdata file available at (https://microdata.nis.gov.kh/index.php).

Approach

CIAS 2019 and CAS 2020 used the same sample using a panel approach. Similarly, CAS 2021, CAS 2022 and CAS 2023 used a panel approach. CAS 2024 did not have an individual screening activity, but instead involved the selection of a representative sample of Village Areas (VA) throughout Cambodia from the Census of Agriculture 2023 (CAC 2023) Sampling Frame. Households within these VAs were screened for any agricultural activity. Using this basic information, the agricultural households were stratified and sampled for additional data collection.

Enumerators along with field and data supervisors were mobilized in all provinces and trained for this undertaking. All enumerators and supervisors were existing staff of NIS or MAFF. The collaborative effort between these two ministries was consistent throughout the CAS project, with staff from both organizations contributing to the design of the survey through data collection and analysis.

Data collection for this survey was conducted via the Computer Assisted Personal Interview (CAPI) mode. The questionnaire used was created in the World Bank's Survey Solutions application. The use of CAPI for data collection offered many benefits, including a reduction in printing costs, elimination of the need for key entry of data, and allowed for rapid and improved quality control and data analysis.

Survey scope

The questionnaire collected data on several aspects of the agricultural holding, including demographic information about the holder, any co-holders and all household members, crop production activity, raising livestock, raising poultry, aquaculture activity and capture fishing activity. The CAS 2024 included the final module of the 50x2030 initiative methodology, the 'Machinery, Equipment and Assets (MEA)' module. This is after the Income, Labour and Productivity (ILP) module in CAS 2021 and the Production Methods and Environment (PME) module in 2022 (CAS 2023, being in a census year, included only the core module and did not include any rotational module).

Geographical coverage

Sampled households were located throughout the country, except in eleven districts within Phnom Penh which were known to be core urban areas from the previous enumeration of the census the year before. The sample for the CAS 2024 consisted of 15,622 collected agricultural households.

In addition to the household survey, a separate data collection exercise targeted large agricultural enterprises operated by corporations, cooperatives, and government or private institutions—referred to as juridical holdings—in the non-household sector. This collection was conducted as a census of all known and accessible non-household holdings. However, it is acknowledged that not all such holdings in the country could be enumerated due to operational challenges. The list of juridical agricultural holdings was compiled from those identified in previous CAS and CAC 2023 exercises, along with new holdings reported by MAFF. In total, data were collected from 520 juridical holdings—significantly more than in previous rounds, which covered approximately 300–400 holdings.

CAS 2024 questionnaire

The CAS 2024 was conducted via Computer Assisted Personal Interviews, the questionnaire shared on the NIS website (http://www.nis.gov.kh/index.php/km/) in English and Khmer is an export from this software. The system used was the World Bank's Survey Solutions software.

Survey timing and reference period

The CAS 2024 was undertaken in November 2024.

The 12-month period prior to 1 July 2024 (i.e., from 1 July 2023 to 30 June 2024) was used as the reference period for the data collection effort. However, the reference period for some of the items was different from the time period specified and is thus indicated separately for data items as needed. For example, for some livestock items, the number of animals on a holding is collected with the day of 1 July 2024 as the reference date.

Sampling Frame

For the CAS 2024, the Census of Agriculture Cambodia 2023 (CAC 2023) Sampling Frame was utilized. This frame consisted of around 14,500 villages. For each village, the following information was available: province, district, commune, type (rural/urban) and number of households. The target population comprised the households that were engaged in agriculture, fishery and/or aquaculture. Given their low number of rural villages, the following districts were excluded from the frame as they were in the CAC 2023 before:

- Province Phnom Penh, District Chamkar Mon
- Province Phnom Penh, District Doun Penh
- Province Phnom Penh, District Prampir Meakkakra
- Province Phnom Penh, District Tuol Kouk
- Province Phnom Penh, District Mean Chey
- Province Phnom Penh, District Saensokh
- Province Phnom Penh, District Ruessei Kaev
- Province Phnom Penh, District Pur Senchei
- Province Phnom Penh, District Chhbar Ampov
- Province Phnom Penh, District Sangkat Chrouy Changva
- Province Phnom Penh, District Boeng Keng Kang

Unlike previous years, for CAS 2024, in order to align with the CAC 2023 a minimum threshold was set to determine a household's engagement in agricultural activities. In which households were eligible for the survey if they grew crops on at least 0.03 hectares and/or had a minimum of 2 large livestock and/or 3 small livestock and/or 25 poultry. In previous years there was no minimum land area, or a minimum livestock or poultry inventory allowed for smaller household agricultural holdings to be selected for the survey. Based on the sampling procedure detailed below, household agricultural holdings with larger land areas or more livestock or poultry were identified and associated with different sampling strata to ensure the selection of some of them.

Sampling Procedure

The CAS 2024 used a two-stage stratified sampling procedure, with villages as the primary units and households engaged in agriculture as secondary units. In the CAS 2024, 1,355 villages and 12 agricultural households for each village were selected, for a total planned sample size of

16,260 (18,958 households including additional respondents selected in case of high attrition from the sample of the census). In total, at the end of the survey period a total of 15,622 agricultural holdings were successfully interviewed and included within the final sample. The 1,355 villages were allocated to the provinces (statistical domains) proportionally to the number of rural households. Table 1 below shows sample allocations for the CAS 2024 and the final number completed. To select the villages within each province, the villages were ordered by district, commune, and then by type of village (Rural-Urban). Systematic sampling was then performed, with probability proportional to size (number of households).

Table 1.6: Sample allocations

Province	Total # Agricultural Households from 2023 Agriculture Census	Number of villages sampled (PSUs) for CAS 2024	Number of Agricultural Households with completed interviews for CAS 2024
Plain Zone	732,314	550	6,391
Phnom Penh	6,238	45	540
Prey Veng	177,941	131	1,509
Svay Rieng	110,991	59	675
Takeo	153,162	89	1,046
Tboung Khmum	94,390	72	848
Kandal	69,401	78	864
Kampong Cham	120,191	76	909
Tonle Sap Lake Zone	707,240	450	5,113
Pailin	10,181	26	310
Banteay Meanchey	127,613	60	692
Battambang	121,629	95	984
Otdar Meanchey	33,921	22	242
Siemreap	129,546	74	871
Kampong Chhnang	92,938	56	647
Kampong Thom	96,884	72	850
Pursat	94,528	45	517
Coastal Zone	124,150	141	1,647
Kampot	99,266	84	986
Kep	5,035	13	154
Koh Kong	13,883	26	291
Preah Sihanouk	5,966	18	216
Plateau and Mountainous Zone	286,100	214	2,471
Kampong Speu	118,170	76	885
Kratie	53,137	39	457

Mondul Kiri	14,672	19	211
Preah Vihear	39,485	32	372
Ratanak Kiri	36,363	29	338
Stung Treng	24,273	19	208
TOTAL	1,849,804	1,355	15,622

Source: CAS 2024

Weighting and Estimation procedure

The sample design and stratification procedures detailed above resulted in agricultural households having different probabilities of selection. With this under consideration, a sampling weight was calculated for each agricultural household in the sample and applied to that record's reported data. The CAS 2024 weights were then corrected for non-response and attrition and calibrated using the number of agricultural households by province obtained through the Census of Agriculture Cambodia 2023 (CAC 2023). Finally, this reported data was summed at the provincial, regional and national levels.

Survey procedure

All data in the CAS 2024 were collected via Computer Assisted Personal Interviews by a group of trained enumerators and supervisors directly interviewing knowledgeable respondents on agricultural holdings. The respondents could be any adult household member knowledgeable of the agricultural holding's activities. The most qualified respondent was the agriculture holder. However, in his or her absence, the spouse or another knowledgeable household member could also act as the respondent. It was instructed that no neighbour or other household was interviewed or asked for information on the holding being surveyed.

Data in the survey were collected using a questionnaire guided by the *CAS Village Manual*, which provided detailed concepts, definitions and procedures to be followed for collection of each item. The draft questionnaires and instructions manual were prepared based on MAFF data needs and the 50x2030 Initiative to Close the Agricultural Data Gap methodology. The CAS questionnaire and enumeration manuals were revised and finalized based on the results and experiences gained during two rounds of field-testing exercises. The *CAS Enumerator Manual* was supplemented by a set of checks on the consistency of data carried out remotely by the Data Supervisors and in the subsequent data validation processes.

All collected data was stored on an Amazon Web Services cloud-based server. This data could be downloaded in various formats by the server administrator at any time during data collection, and until May 2024 when the server was shut down.

Advocacy plan

Before fieldwork commenced, letters of support from MOP and MAFF leadership were obtained to share with local officials and respondents as needed, to gain the support and cooperation of all households and non-households engaged in agricultural activities in the country.

Field operations

All data in the CAS were collected by trained enumerators who were selected among existing National and Provincial staff of NIS and MAFF based on qualifying tests. Field operations included training of all supervisors and enumerators, data collection and supervision. Central and field staff from the NIS and MAFF were trained before they undertook the data collection and supervision process. Since the CAS consisted of both household data collection and juridical holding data collection efforts, training activities were conducted to cover each of these components. There were two levels of training, conducted separately including (a) training of trainers, with NIS and MAFF central office staff serving as data supervisors, field supervisors, and enumerators for the juridical holdings' data collection; and (b) training of household data collection enumerators. All field officials including supervisors at all levels were trained extensively in concepts, definitions and procedures for data collection.

Data Supervisors were responsible for conducting data quality control checks. There were 46 data supervisors for the project, all were staff members from NIS. Field Supervisors were responsible for assisting with enumerator issues in the field, encouraging good relationships with village contacts and promoting cooperation from agricultural household respondents. There were 46 field supervisors for the project, with 24 hired from MAFF and 22 hired from NIS. Enumerator staff included 337 staff, among these were 197 from NIS and 140 from MAFF from province and district level staff. Including field and data supervisors, a total of 429 staff were involved in the data collection effort, although additional staff were trained and maintained as reserve staff for the project not included in these totals. Additionally, 11 NIS staff in Phnom Penh were trained in the Headquarters Tools of Survey Solutions, carrying out the final approval process for the submitted interviews.

The accuracy of the final output of the CAS depended on the quality of the data collection from the households and juridical holdings enumerated. Despite proper conduct of training and the efficient development of data processing, the absence of effective quality controls during the data collection process would still result in poor quality of the final data. There were several levels of supervision and channels of communication in the CAS, as detailed in the *CAS Village Manual*. This hierarchy of supervision and communication, along with comprehensive guidelines – highlighting different activities and quality control procedures – was prepared to properly monitor the progress of the enumeration of the CAS, and for early detection of any problem of data collection. The innovative use of CAPI for data collection allowed for timely monitoring of the data flow and data quality.

Data processing

Once the enumerators collected the survey data for an agricultural household, they submitted the completed questionnaires via Survey Solutions to their Data Supervisors who, in turn, carried out scrutiny checks. If there were errors or suspicious data detected, Data Supervisors would return the record to the enumerator to address the issues with the respondent if needed, and the corrected record would be re-submitted to the Data Supervisor. Once the records were validated by Data Supervisors, they would approve them for final review by headquarters staff.

At the survey headquarters, the completed questionnaires were received after being approved by Data Supervisors. If any issues or suspicious data were discovered during the headquarters review, the records could be returned to the enumerator for verification or correction if needed. Documentation on how to review questionnaire data for suspicious items or outliers was provided to Data Supervisors and Headquarters staff.

The data review and calculation of the survey estimates was undertaken using the RStudio software tool. Validation of the data began even when the questionnaires were being designed in the CAPI tool, as Survey Solutions allows for consistency checks to be built into the data collection tool. As soon as completed records were returned during the data collection stage additional consistency checks were completed, in comparing reports to previous census data, evaluating ranges of reasonableness for certain items, and verifying any outlier records with the enumerator and/or respondent. Moreover, when the data was cleaned, another step was conducted to impute the missing values coming from item non-response.

Publication standards

In the development of this publication, standards were established for the development of the data tables provided in Excel online on the NIS website (http://www.nis.gov.kh/index.php/km/). These standards include the following:

- All data values relating to the number of households were rounded to the nearest thousand households.
- Computed percentages are always based on the original data, however, due to rounding, some tables with percentages may not sum up to exactly 100%.
- An empty cell is provided where few observations were obtained, the number of households did not round to a minimum of 1,000 households, or there was a large Coefficient of Variation (CV) (a CV value of 35 or higher). Also, some fields may be empty as a secondary disclosure. In these cases, the data does not fail the primary disclosure rules (minimum number of households or high CV) but when combined with other data would permit the identification of a primary disclosure field.

The above standards limit the release of lower-quality data due to a small number of observations in a particular province or zone and follow NIS reporting standards.

CAS Limitations

In the CAS, as with all sample surveys, there are limitations to the data produced and its interpretability or comparability to alternate data sources. As readers utilize the data provided in this report, it is important to keep in mind the following limitations:

- Self-reported data: Qualified respondents were sought out to provide information about the agricultural holdings. This information could be impacted by the respondent's memory of the reference period, which for many items on the questionnaire was a 12-month period.

- Recall period: Self-reported data could additionally be impacted by the length of time between the reference period itself and the data collection period. Due to timeline constraints, the data collection fell several months after the reference period.
- Questionnaires and interview procedures: In the CAS, every effort was made to train enumerators and supervisors to collect data with a consistent and systematic process. Question phrasing and interview interactions were to be conducted uniformly, however, any personal modifications to these standards could impact a survey response and influence the final results.

As can be seen in all of the data points within this report, the published CAS 2024 results focus on national and zone/regional level data only, to shorten the preparation time and length of these reports. Province-level data is provided in a data tabulation file available on the NIS website or through the public use microdata file also available online.

KINGDOM OF CAMBODIA

Nation Religion King

Cambodia Agriculture Survey 2024
Report 2:
Crop Production

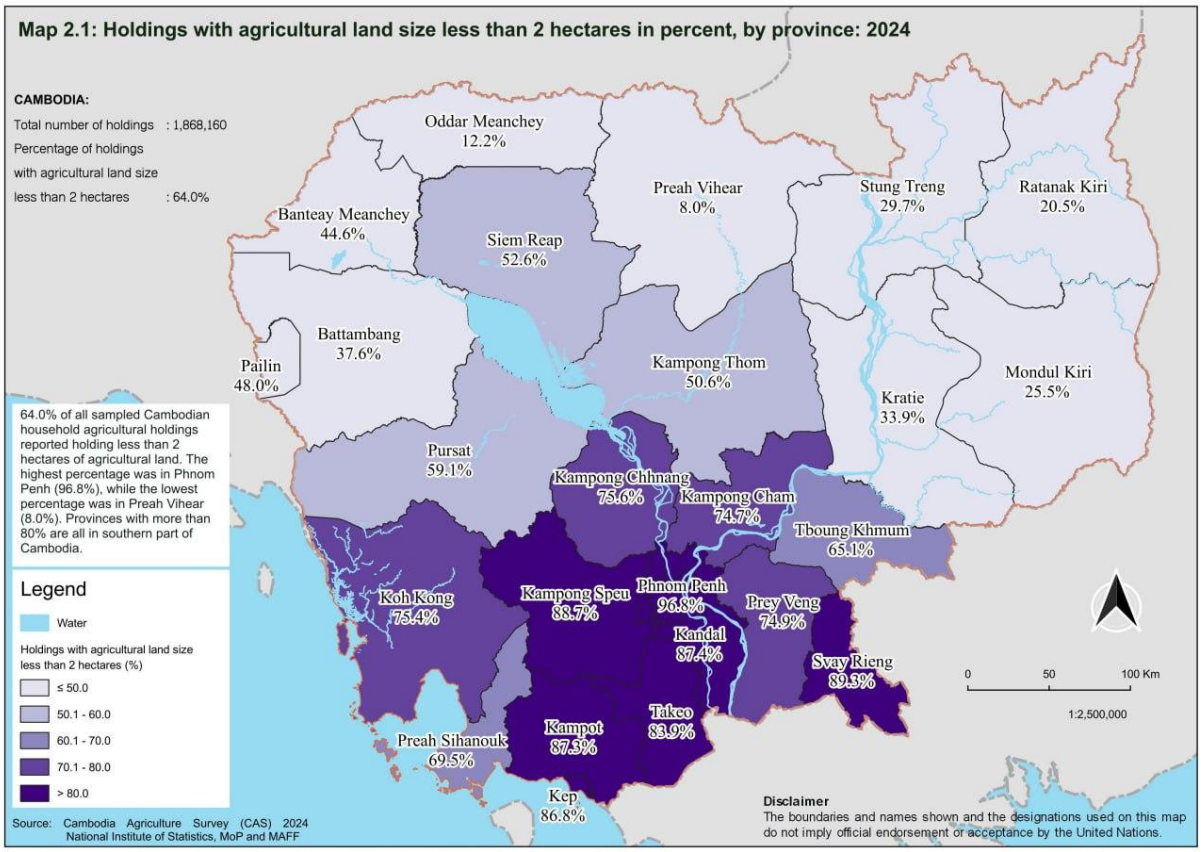
National Institute of Statistics, Ministry of Planning in collaboration with Ministry of Agriculture, Forestry and Fisheries.

With technical support from the Food and Agriculture Organization of the United Nations.

Financial support from the 50x2030 initiative.

Agricultural area

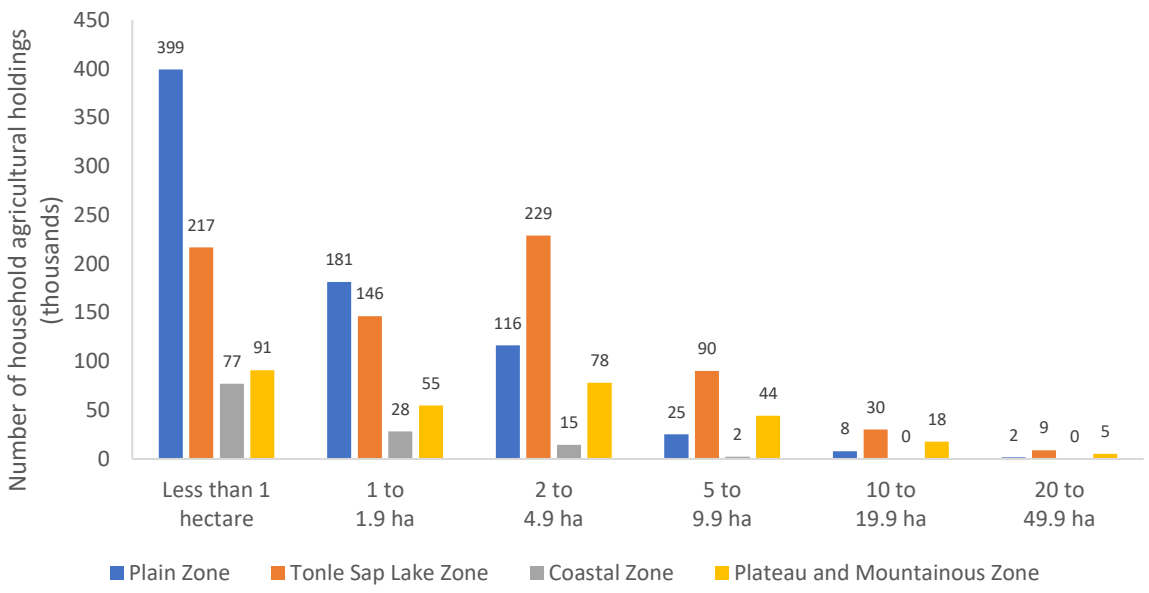
Cambodia has a total household-owned agricultural area of approximately 4,434,000 hectares. The largest zone in terms of agricultural size is the Tonle Sap Lake zone, with 2,200,000 hectares of agricultural land. This is followed by the Plain zone (1,080,000 hectares), Plateau and Mountainous zone (1,012,000 hectares), and the Coastal zone with a much smaller area at 141,000 hectares of agricultural land.



Source: CAS 2024

Most household agricultural holdings are small. Approximately 42% of the household holdings have less than 1 hectare and the average size across all of Cambodia is 2.4 hectares. The Coastal zone has the smallest holding size on average at only 1.2 hectares. On the other hand, the holdings in the Tonle Sap Lake zone and Plateau and Mountainous zone are much larger on average at 3.1 hectares and 3.5 hectares respectively.

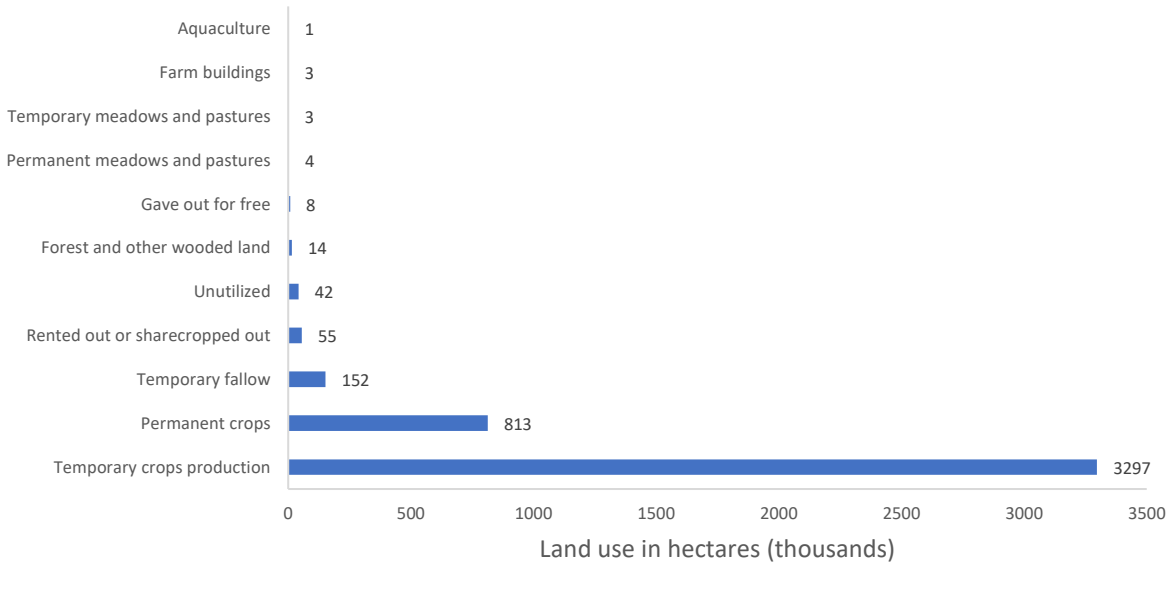
Figure 2.1: Size of household agricultural holdings, in hectares, by zone, 2024



Source: CAS 2024

Although agricultural land may be used for a plethora of activities, temporary crop production is predominantly the main land use in Cambodia. Roughly 3.3 million hectares of agricultural land is used for temporary crop production. In comparison, permanent crop production, the second largest land use, uses approximately one-quarter as much land with 813,000 hectares being used. Temporary fallow is the third biggest land use, using only 152,000 hectares in comparison.

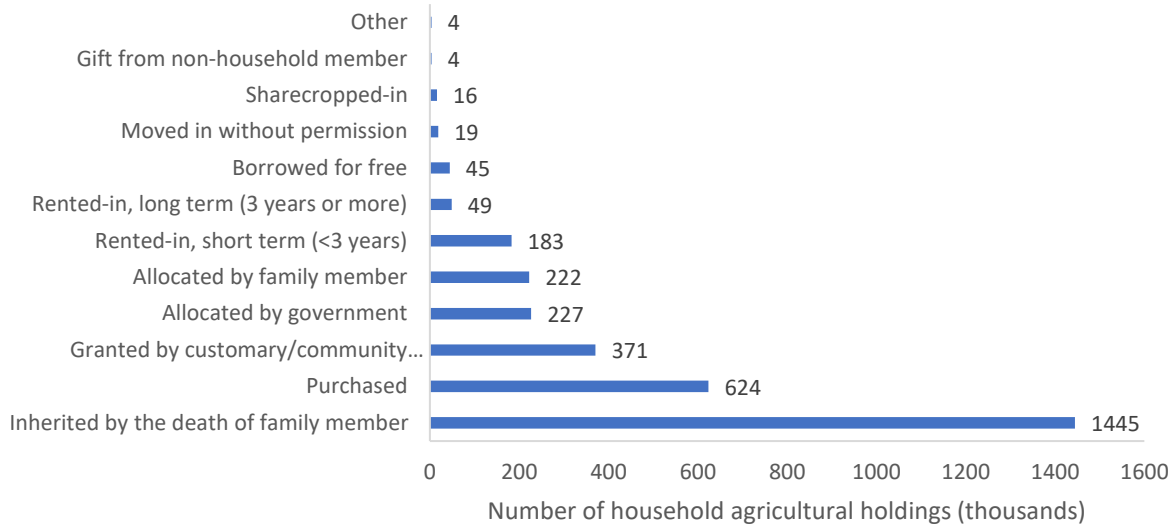
Figure 2.2: Agricultural land use, in hectares, Cambodia, 2024



Source: CAS 2024

Agricultural land parcels are most frequently acquired by inheritance (in 1.4 million parcels). The purchase of a land parcel was accounted for in 624,000 of the parcels. Positively, only 19,000 parcels were reportedly 'moved in without permission,' although respondent bias may result in this being underreported.

Figure 2.3: Method of parcel acquisition by household agricultural holdings, Cambodia, 2024



Source: CAS 2024

Crop production

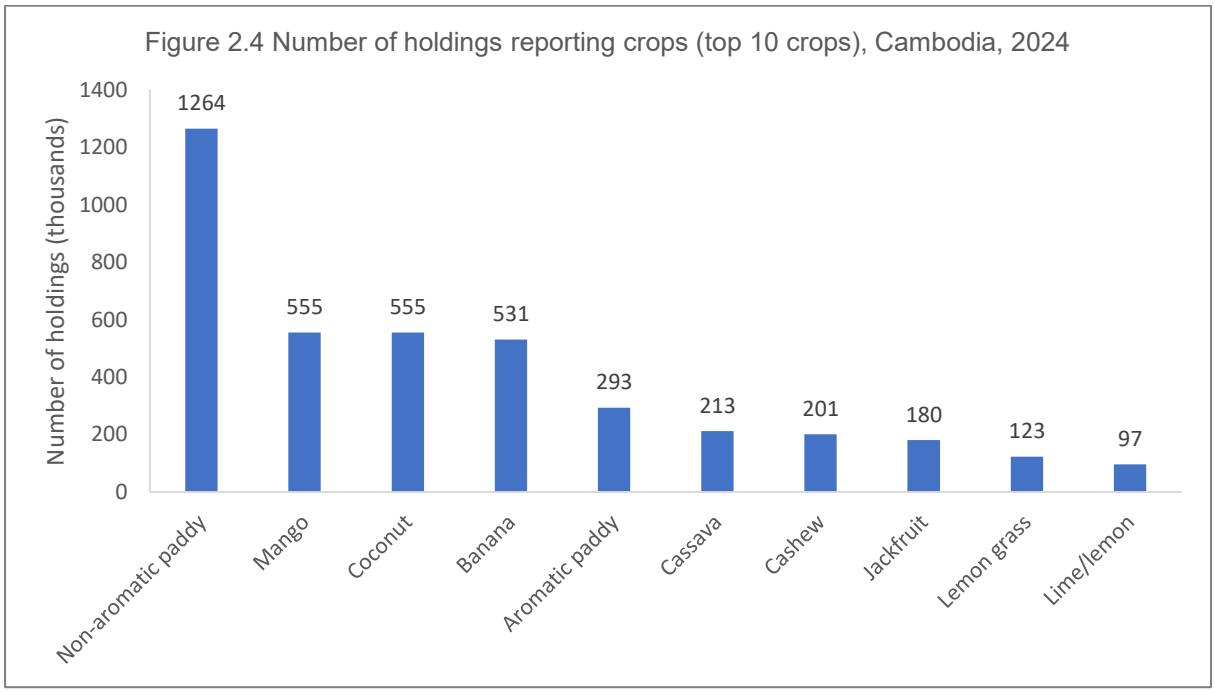
The primary activities undertaken by household agricultural holdings in Cambodia were the growing and harvesting of temporary and permanent crops. Of the total 1.87 million household agricultural holdings, 1.77 million household agricultural holdings reported growing crops.

Temporary crops are those with a growing cycle of less than one year, and after harvest, they are either re-sown or replanted for another production cycle. Temporary crops presented in the CAS were those grown seasonally during the reference period. Permanent crops are those with more than one-year growing cycles, found to be standing and productive within agricultural holdings.

Due to the numerous types of crops grown in Cambodia and an effort to reduce respondent burden and interview length, detailed data were collected on the top 32 crops in Cambodia, as defined by MAFF. For these top 32 crops, respondents provided information in terms of area planted, area harvested, quantity harvested, fertiliser use, pesticide use, irrigation use, and the share of production both sold or kept for the holding's own use. To ease the respondent burden, data for permanent crops were collected in either hectares or the number of trees, based on the preference of the respondent. As such, the data reported in the number of trees was standardised to hectares based on the conversion factors provided by the Ministry of Agriculture, Forestry and Fisheries (Annexe 1).

Data users need to note that the procedures used in the CAS 2024 differ from procedures used in other agriculture assessment efforts in Cambodia. CAS 2024 is a probability-based sample survey which procedurally relied on self-reported data at the holding level in terms of a specific reference period from 1 July 2023 through 30 June 2024 and had limited coverage of the non-household agricultural sector. As a result, overall areas, production totals and calculated yields for crops may differ from other data sources.

Figure 2.4 shows the top ten most planted crops: non-aromatic paddy, mango, coconut, banana, aromatic paddy, cassava, cashew, jackfruit, lemon grass and lime/lemon. In total, 1.26 million household agricultural holdings planted non-aromatic paddy, the crops grown in the second largest number of holdings were mango and coconut both with 555,000 holdings.



Source: CAS 2024

Temporary Crops

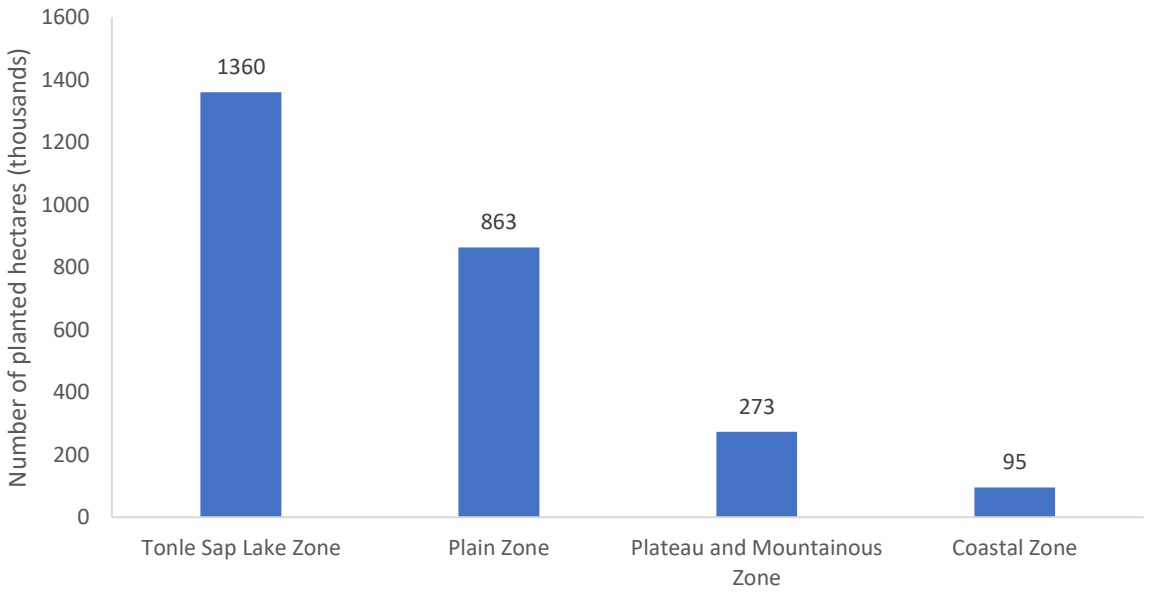
Cereal and Grain Crops

The two major crops grown in this category were rice and maize. The types of rice grown included non-aromatic, aromatic, and glutinous (sticky) rice. Maize was considered the white/yellow/violet corn variety.

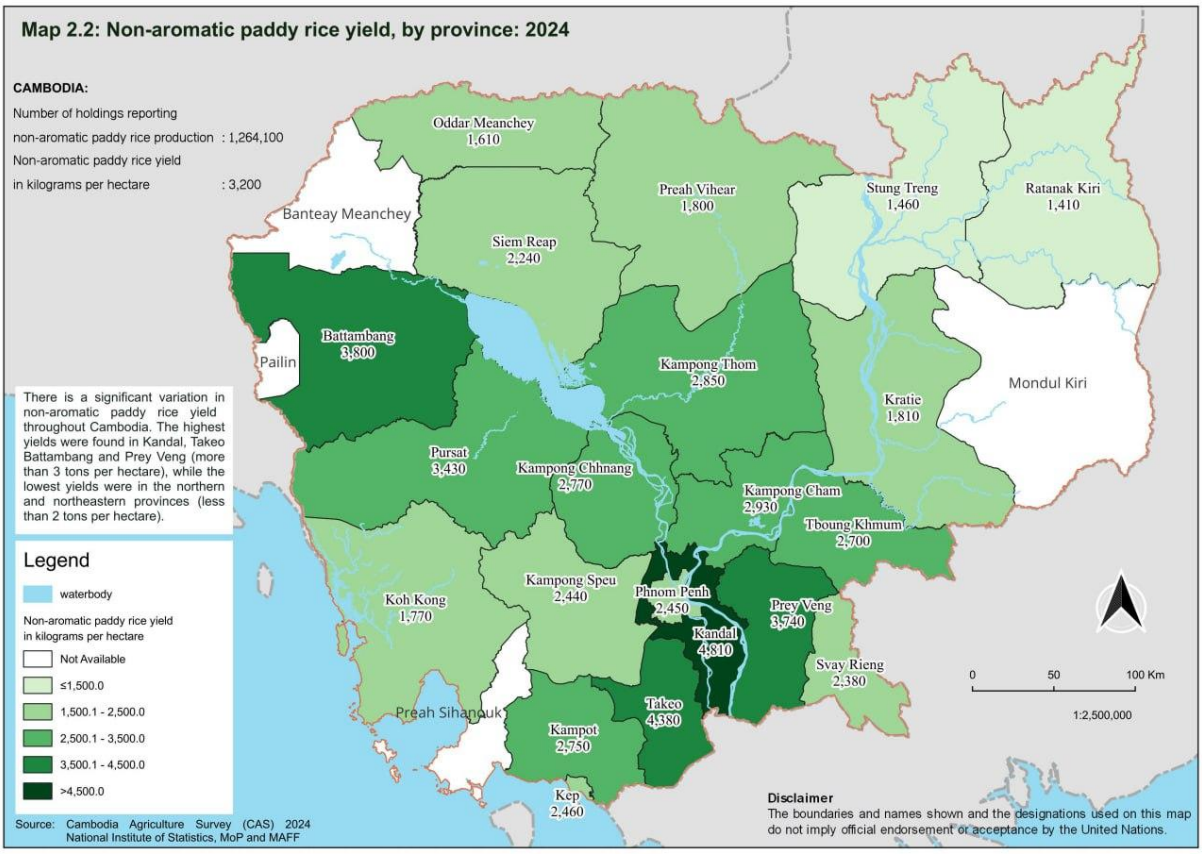
Of the three types of rice, non-aromatic varieties were the most common by far, with planted area estimated at 2.59 million hectares and harvested area estimated at 2.56 million hectares. The average production per harvested hectare of non-aromatic rice varieties was estimated at 3,200 kilograms, with a total of 8.18 million tonnes of non-aromatic rice harvested. The Tonle

Sap Lake Zone grew the most non-aromatic rice, with 1.36 million hectares planted, followed by the Plain Zone with 863,000 hectares, the Plateau and Mountainous zone with 273,000 hectares and the Coastal zone with 95,000 hectares planted.

Figure 2.5 Non-aromatic rice planted, in hectares, by zone, 2024



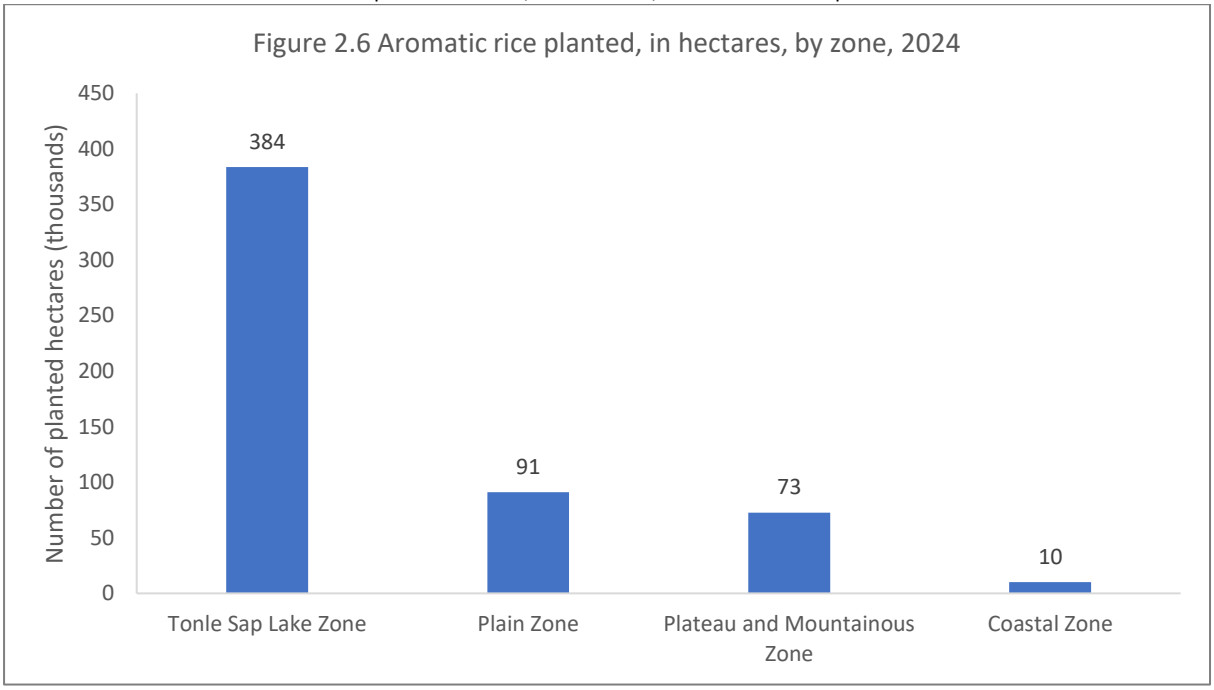
Source: CAS 2024



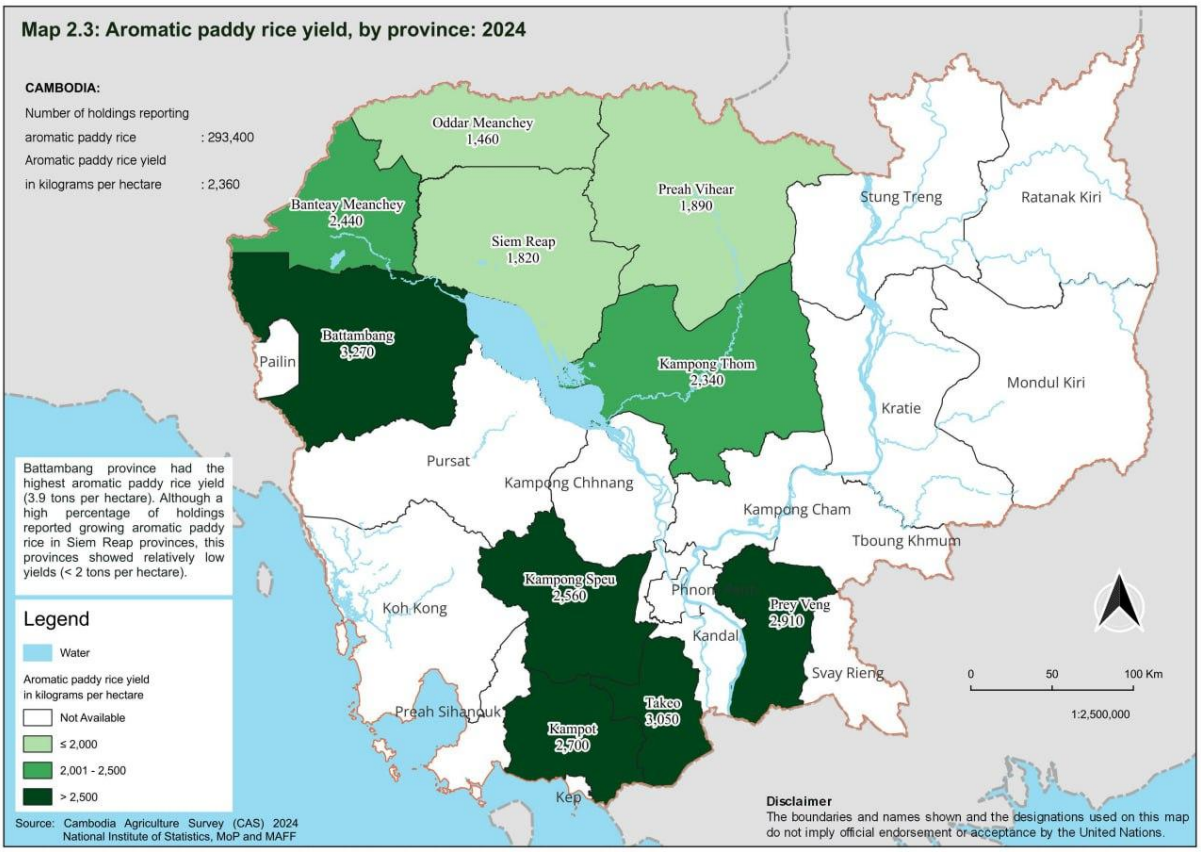
Source: CAS 2024

Aromatic varieties were planted on roughly 558,000 hectares in Cambodia, with 551,000 hectares harvested. The average production per harvested hectare of aromatic rice varieties was estimated at 2,360 kilograms, with the total quantity harvested in Cambodia estimated at 1.30 million tonnes. Unlike non-aromatic varieties, most production of aromatic rice is concentrated in the Tonle Sap Lake zone, with 384,000 hectares planted there.

Figure 2.6 Aromatic rice planted, in hectares, by zone, 2024



Source: CAS 2024



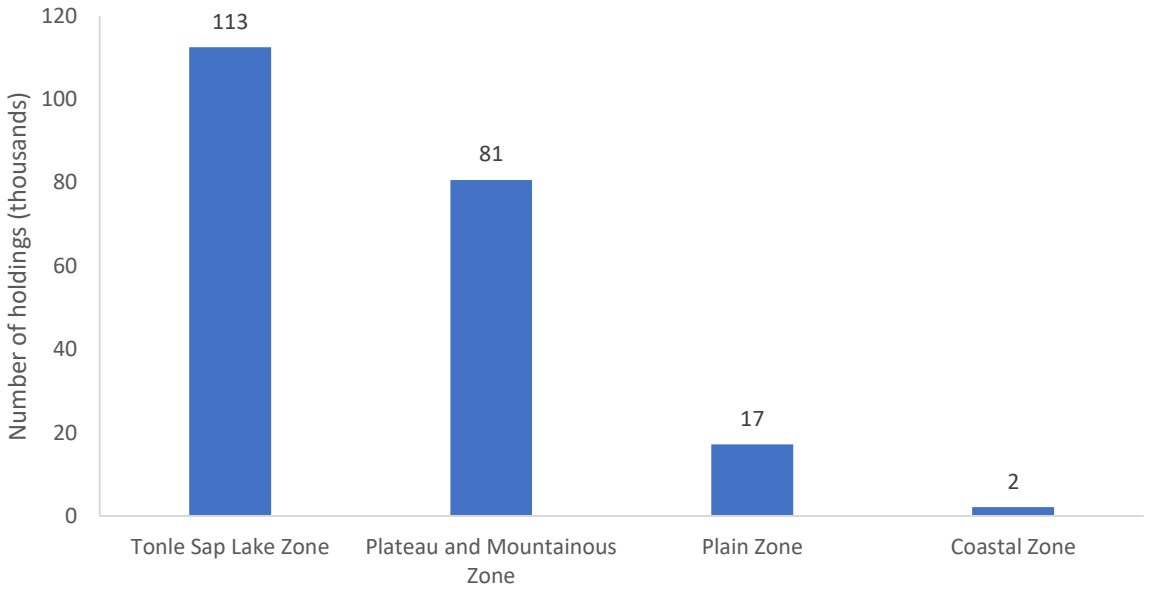
Source: CAS 2024

Maize was planted on 99,000 hectares throughout Cambodia. The Tonle Sap Lake Zone had an estimated 89,000 hectares of maize planted, making it the leading zone in terms of area planted. The average production per harvested hectare of maize was estimated at 5,720 kilograms, with the total quantity harvested in Cambodia estimated at 548,000 tonnes.

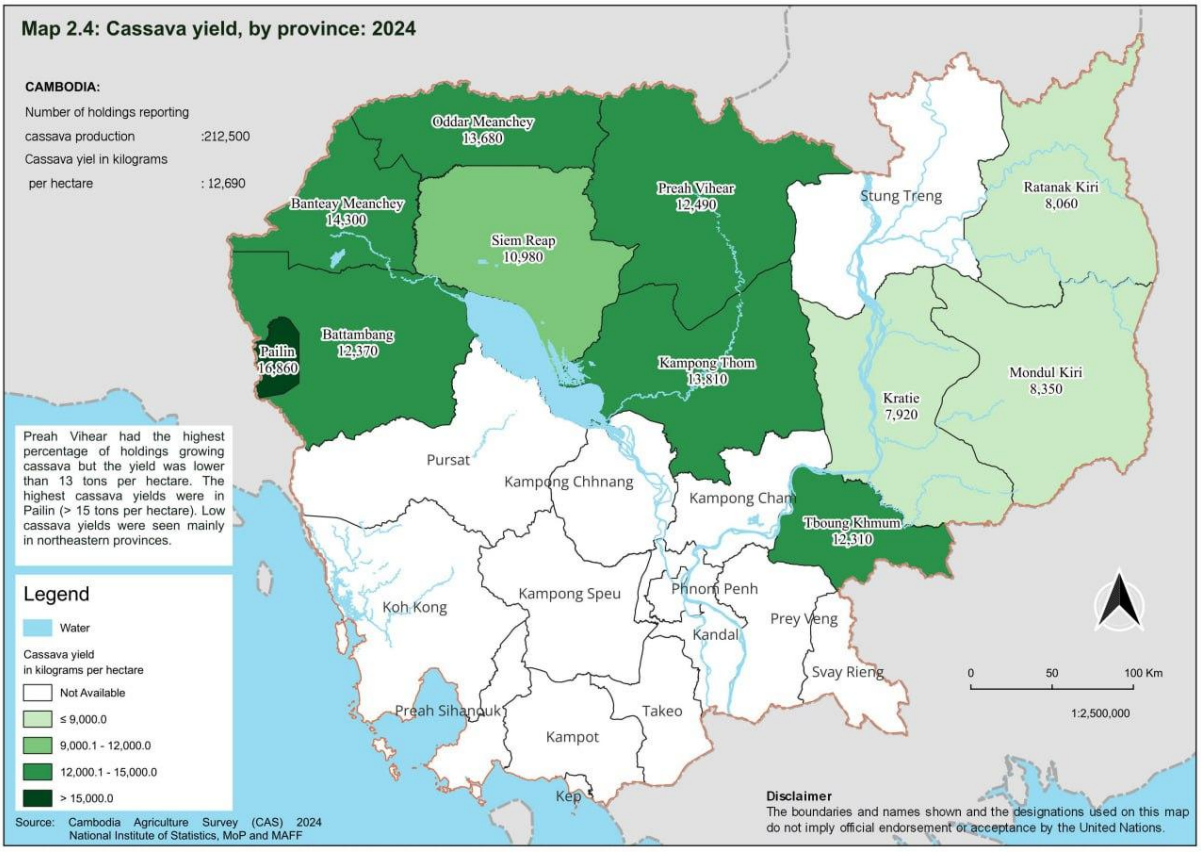
Root and Tuberous Crops

Root and tuberous crops include cassava, sweet potato and taro. Cassava accounted for the largest share of such crops, with 492,000 hectares planted and 483,000 hectares harvested. The average production per harvested hectare of cassava was estimated at 12,690 kilograms, with the total quantity harvested in Cambodia estimated at 6.12 million tonnes.

Figure 2.7: Cassava, household holdings reporting, by zone, 2024



Source: CAS 2024



Source: CAS 2024

Spices, Condiments, Aromatic and Medicinal Plants

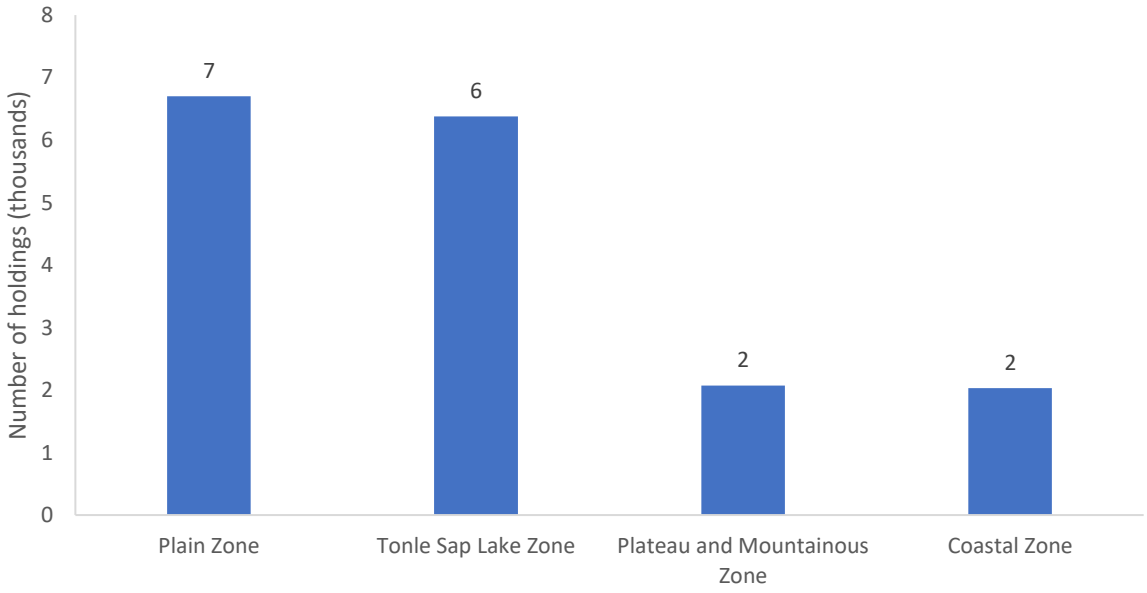
Information collected on spices, condiments, and aromatic and medicinal plants in the CAS included lemon grass, mint and betel leaf. The number of households reporting the growing of

lemon grass was estimated at 123,000, with 39,000 growing mint, 13,000 growing turmeric and 3, 000 growing betel leaf.

Industrial Crops

Sugarcane was one of the industrial crops covered by the CAS. 17,000 household agricultural holdings planted sugarcane in Cambodia, with 13,000 of them being in the Plain zone and the Tonle Sap Lake Zone. Overall, in Cambodia, the yield of sugarcane was 14,000 kilograms per hectare.

Figure 2.8 Sugarcane, household holdings reporting, by zone, 2024



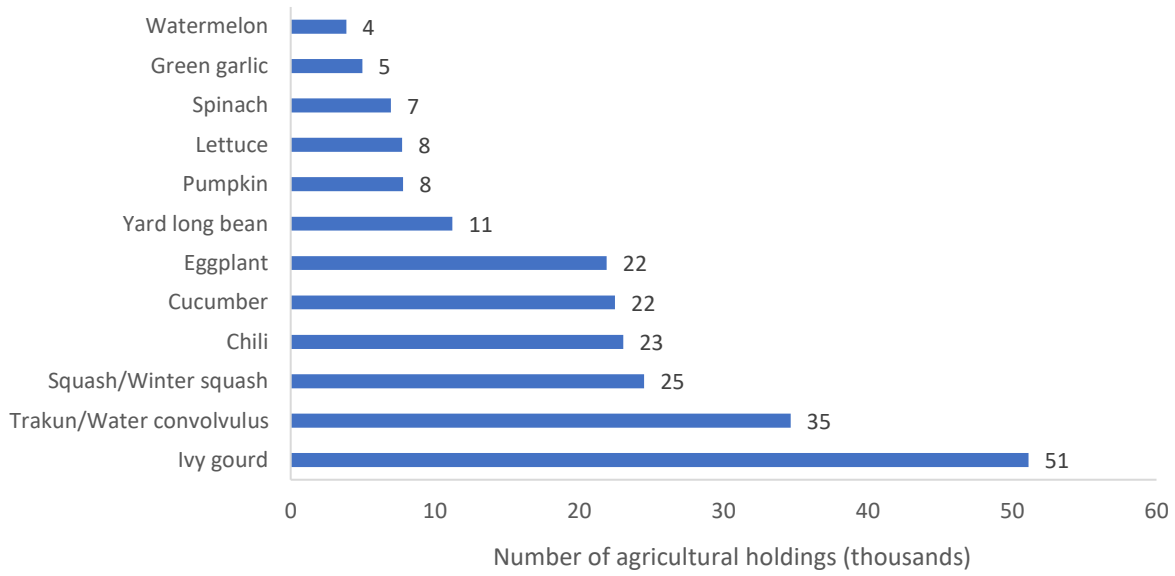
Source: CAS 2024

Vegetables

A wide variety of vegetables were cultivated across the country, including leafy or stem vegetables; fruit-bearing vegetables; root, bulb and tuberous vegetables; leguminous green vegetables, etc. Leafy or stem vegetables included green garlic, spinach, Chinese kale, lettuce and trakun/water convolvulus. Fruit-bearing vegetables covered by the CAS included chilli, cucumber, eggplant, ivy gourd, pumpkin, and squash/winter squash. Leguminous green vegetables included yardlong beans. Other vegetables include cauliflower.

Ivy gourd was the vegetable reported in most household holdings, with 51,000 household holdings growing it. Cucumbers were grown by 22,000 households in Cambodia with an area planted and harvested of around 3,600 hectares. The total production for cucumbers was 38,000 tonnes. Eggplant was grown by approximately 22,000 households in Cambodia and had an average yield of 9,320 kilograms per hectare. Pumpkin was grown by 8,000 households in Cambodia, and Watermelon was grown by an estimated 4,000 households in Cambodia.

Figure 2.9 Vegetables, household holdings reporting, Cambodia 2024



Source: CAS 2024

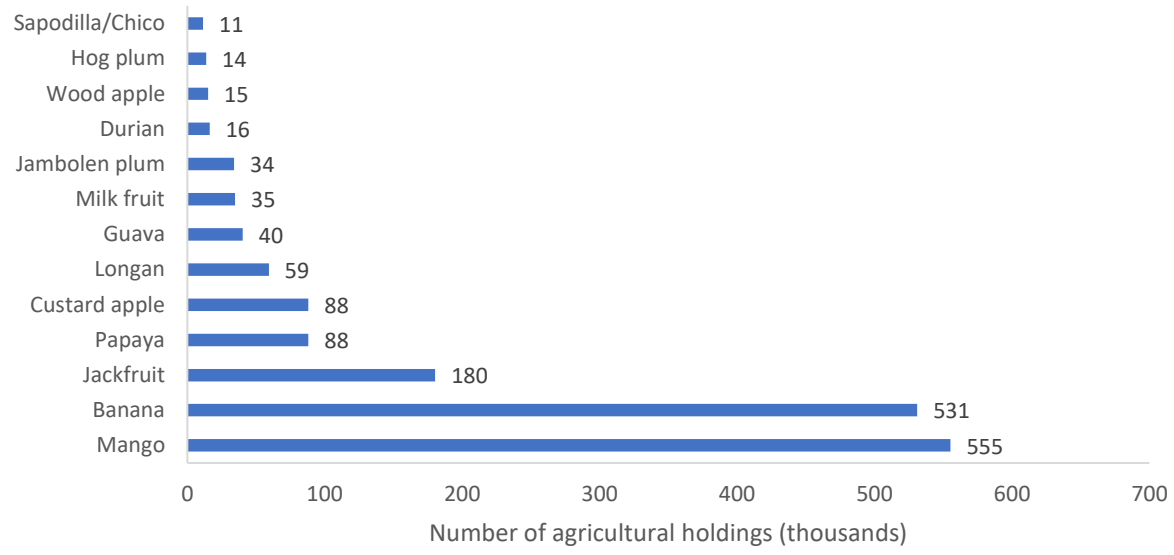
Permanent Crops

Fruits

Citrus fruits were found in abundance in Cambodia, and the crops covered by the CAS included grapefruit and pomelo, lime/lemon, and oranges. Oranges were grown on approximately 34,000 household agricultural holdings in Cambodia, and the area planted of oranges was estimated at 3,000 hectares, with a yield of 3,930 kilograms per hectare.

The category of cultivated fruit contains many of Cambodia's most-grown produce including banana, mango, jackfruit, papaya, guava, custard apple, milk fruit, durian, longan, and others.

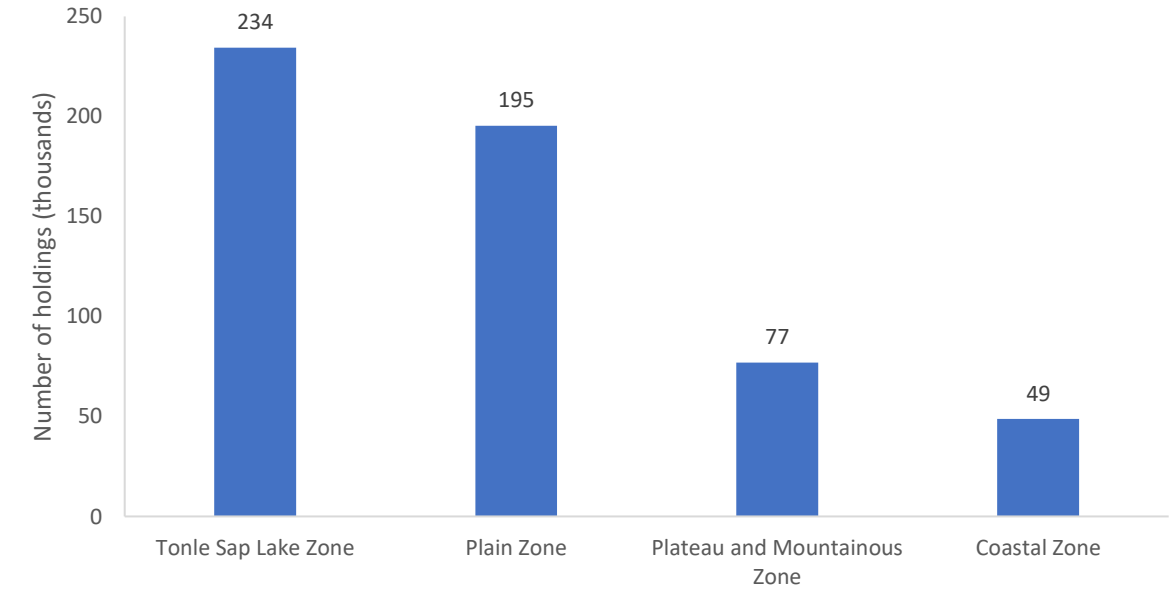
Figure 2.10 Cultivated fruits, household holdings reporting, Cambodia 2024



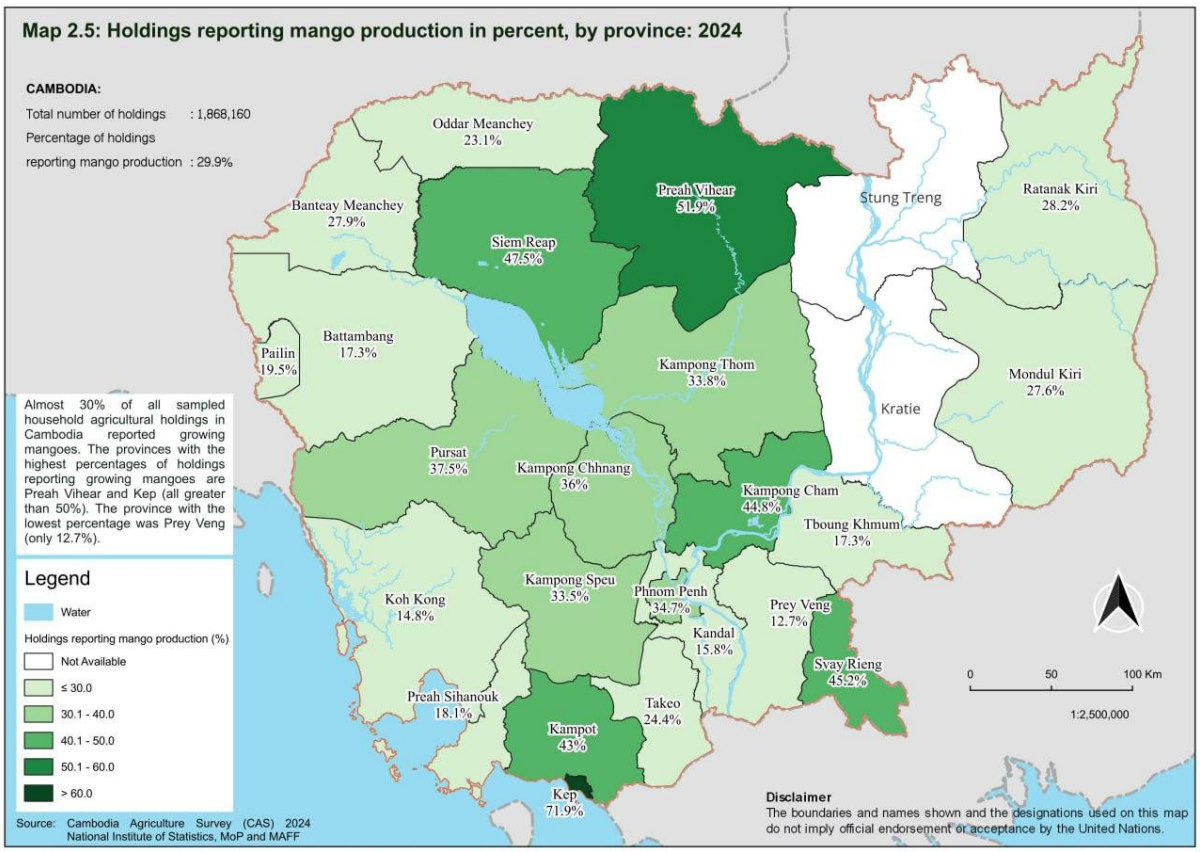
Source: CAS 2024

Mango was grown on approximately 555,000 household agricultural holdings in Cambodia. The area planted was estimated at 54,000 hectares, with 42,000 hectares harvested, the largest of any of Cambodia's fruits. Mango was harvested with an estimated yield of 6,560 kilograms per hectare. By region, approximately 234,000 agricultural households planted mangoes in the Tonle Sap Lake zone, followed by the Plains zone with approximately 195,000 agricultural households planting mangos. The zone with the fewest holdings growing mango was the Coastal zone with approximately 49,000.

Figure 2.11 Mango, household holdings reporting, by zone, 2024

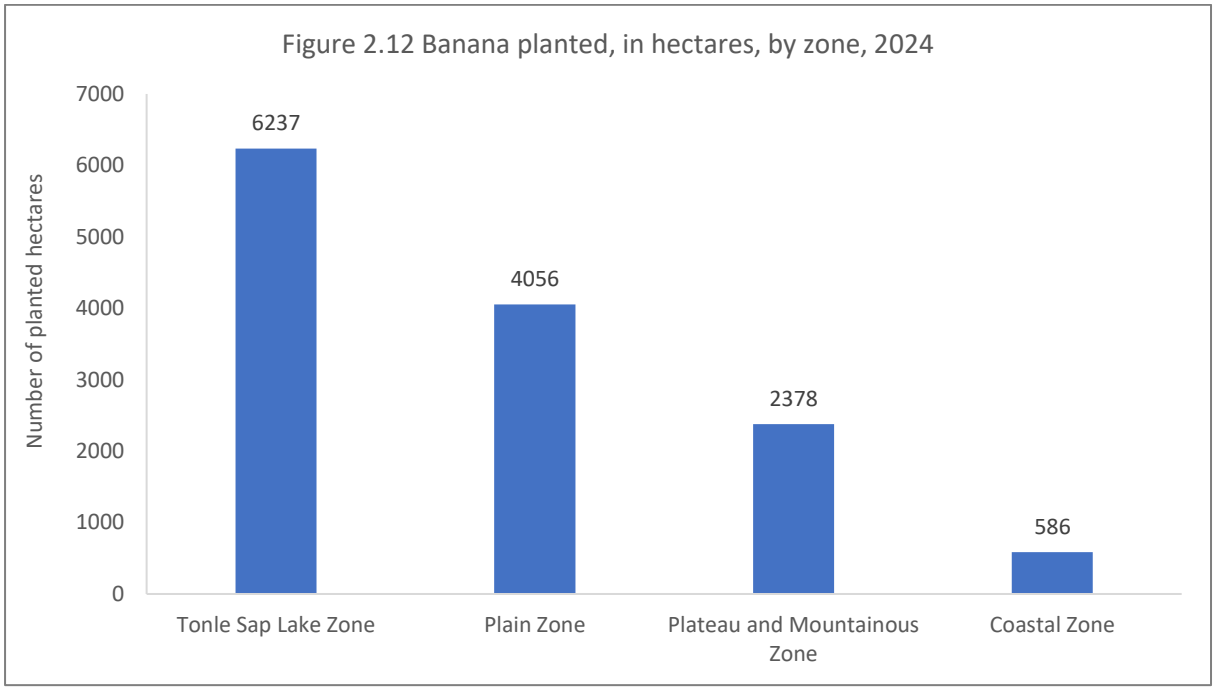


Source: CAS 2024



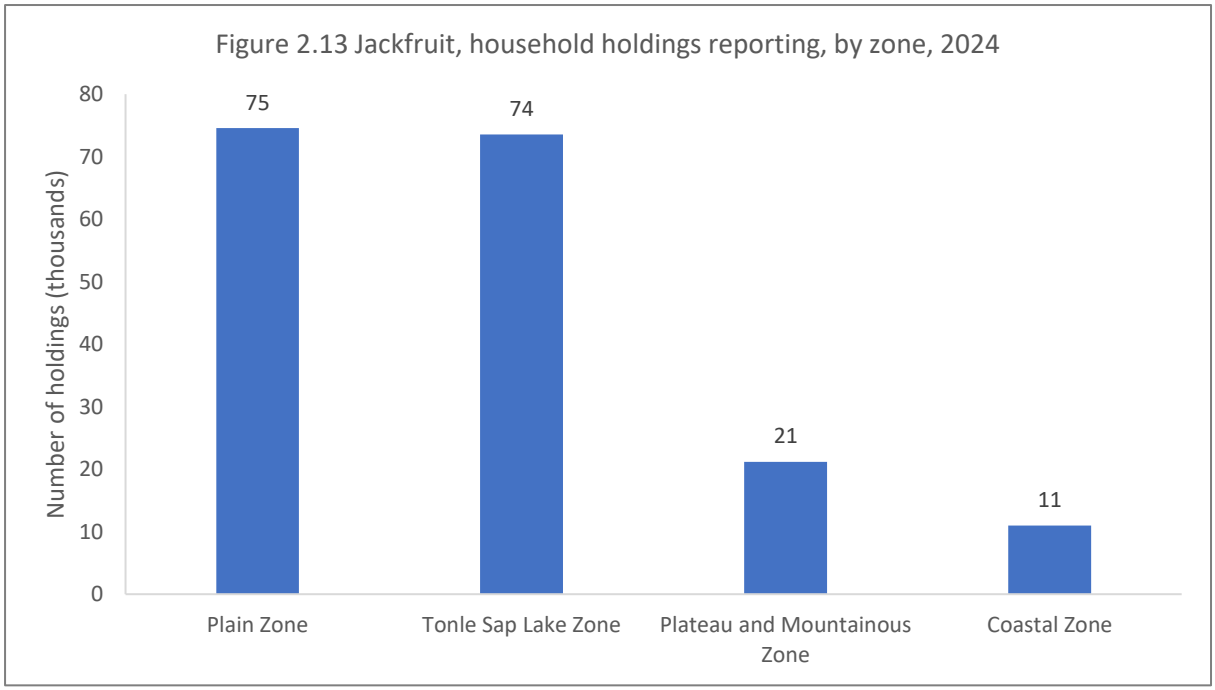
Source: CAS 2024

Bananas were grown on approximately 531,000 agricultural household holdings and were planted across 14,000 hectares in Cambodia, with 7,700 hectares harvested. The quantity produced from the harvested hectares was estimated at 53,000 tonnes with an average yield of 6,880 kilograms per hectare. The Tonle Sap Lake zone reported the largest area of bananas, with more than 6,000 hectares planted.



Source: CAS 2024

Jackfruit was grown on approximately 180,000 holdings in Cambodia. The area planted was estimated at 2,200 hectares, with 1,100 hectares harvested. The average yield was estimated at 5,650 kilograms per hectare. Jackfruit was grown most frequently in the Plain zone, with 75,000 households reporting its production.

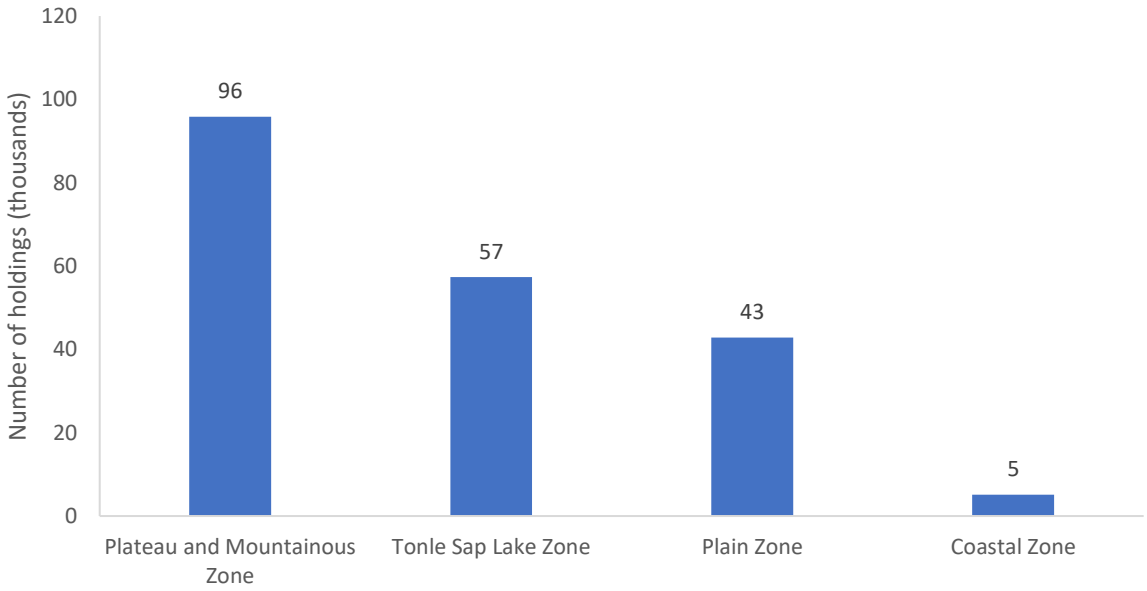


Source: CAS 2024

Cashew

In the edible nuts category, the CAS collected data on betel nuts and cashews, with cashews being the more popular of the two. Cashews were grown on approximately 201,000 agricultural household holdings in Cambodia. The area planted of cashews was estimated at 507,000 hectares in Cambodia, with 455,000 hectares harvested and the quantity harvested estimated at 370,400 tonnes. The average yield per hectare was 810 kilograms. The Plateau and Mountainous zone reported the largest area of cashews grown, with 289,000 hectares of cashews planted.

Figure 2.14 Cashew, household holdings reporting, by zone, 2024

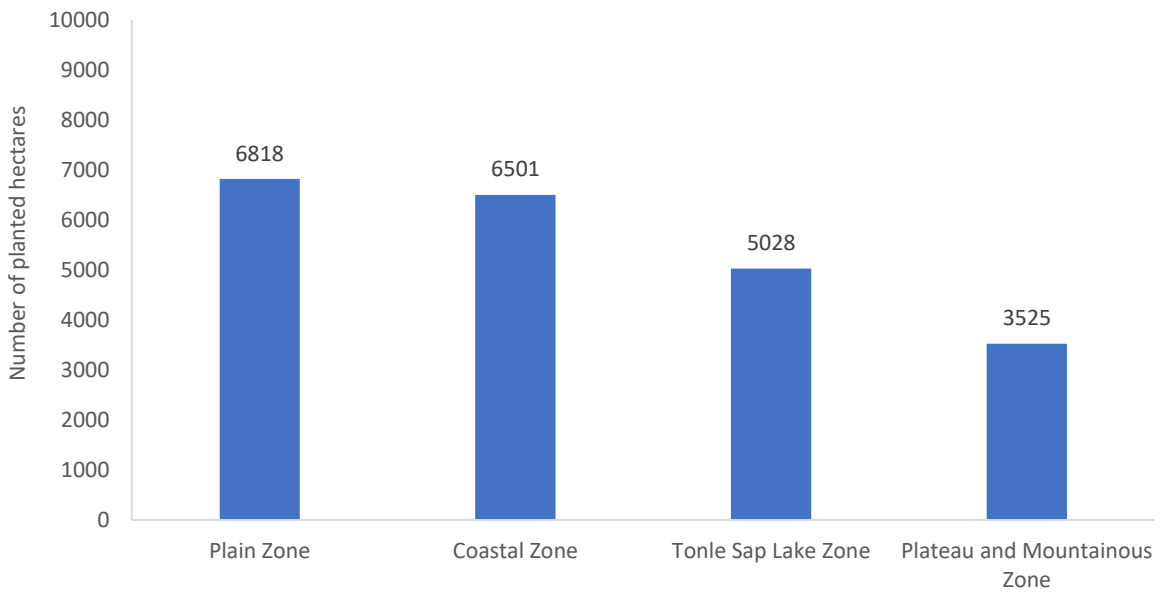


Source: CAS 2024

Oil Crops

Oil crops covered by the CAS included coconut and palm. Coconut was the more popular crop of the two, with 555,000 household agricultural holdings reportedly growing coconut. The planted area of Coconut was estimated at 27,000 hectares, with an area harvested of 8,500 hectares. The quantity harvested was estimated at 80,000 tonnes with an average yield of 9,470 kilograms per hectare. The Plain Zone grew the largest area of coconuts with approximately 6,800 hectares planted.

Figure 2.15 Coconut planted hectares, by zone, 2024



Source: CAS 2024

Permanent Spice and Aromatic Crops

Black pepper was grown by approximately 11,400 agricultural household holdings in Cambodia. Planted hectares were estimated at 7,400, with harvested hectares estimated at 7,000. The Plain Zone reported most of the planted black pepper, with 8,000 hectares planted coming from this zone.

Rubber

Rubber was grown on approximately 53,000 agricultural household holdings in Cambodia. The total rubber area planted was estimated at 146,000 hectares, with harvested hectares estimated at 97,000 in Cambodia. The quantity harvested was estimated at 291,000 tonnes with an average yield of 3,010 kilograms per hectare. It is worth noting again that the data for this report uses only the household agricultural holdings, whilst most rubber production in Cambodia is completed by private sector establishments, not included within this report.

Non-Food Crops

Non-food crops contain flowers, plants and trees. Bamboo, used for many purposes including house building, furniture and cooking, was the leading non-food crop with approximately 5,400 agricultural households reportedly growing bamboo. The Tonle Sap Lake zone was the region that reported the largest number of holdings growing bamboo, at 3,000 holdings.

Increase in agricultural area and rice production

The Cambodia Agriculture Survey (CAS) 2024 recorded a substantial expansion in agricultural land and rice cultivation. Total agricultural land rose from 3.85 million hectares in CAS 2023 to 4.43 million hectares in CAS 2024, driven largely by a sharp increase in non-aromatic rice area, which grew from 1.996 million hectares to 2.591 million hectares.

International rice prices surged in 2023, creating powerful incentives for Cambodian farmers. The FAO's All Rice Price Index reported that rice export quotations in December 2023 were 21% higher than a year earlier[2], primarily due to concerns that the El Niño weather pattern would damage rice harvests and the export restrictions imposed by India. India's measures, introduced in July–August 2023, included a ban on non-basmati white rice exports and tariffs on other rice types, sharply reducing global supply. By July 2023, global prices had risen 12–14% and continued climbing, reaching their highest levels since 2008[3].

The International Food Policy Research Institute (IFPRI) observed that six months after India's export ban, benchmark Thai 5% broken rice prices were approximately 22% higher, as Indian exports of non-basmati, parboiled, and broken rice declined sharply and other exporters like Viet Nam and Thailand suffered El Niño-related production losses[4].

These global dynamics translated into higher export revenues for Cambodian rice. FAO's Global Information and Early Warning System (GIEWS) reported that Cambodian wholesale rice prices reached record or near-record highs between July 2023 and February 2024. By May 2024, prices remained 35–45% above year-earlier levels, providing strong market incentives for farmers to expand production[5].

India typically accounts for more than 40% of global rice exports. When its restrictions took effect, Indian exports fell by 46% between August and November 2023, creating supply gaps in global markets. Other exporters such as Viet Nam and Thailand also faced reduced harvests due to El Niño, further tightening supply.

This environment created new opportunities for Cambodian rice. The USDA's Grain and Feed Annual for Cambodia noted that Vietnamese traders actively purchased Cambodian rice, offering attractive farm gate prices and being less selective about quality. They particularly

[2] FAO All Rice Price Index: https://www.fao.org/markets-and-trade/commodities/rice/fao-rice-price-update/en/
[3]Radio Free Asia "El Niño, India rice export ban cause food security fears in SE Asia" https://www.rfa.org/english/news/vietnam/rice-exports-09282023153533.html#:~:text=But%20the%20staple%20food%20is,Ni%C3%B1o%20climate%20phenomenon%20reducing%20harvests
[4]IFPRI "India's export restrictions on rice continue to disrupt global markets, supplies, and prices" https://www.ifpri.org/blog/indias-export-restrictions-rice-continue-disrupt-global-markets-supplies-and-prices/
[5] FAO "GIEWS Country Brief The Kingdom of Cambodia 15 July 2024" https://www.fao.org/giews/countrybrief/country/KHM/pdf_archive/KHM_Archive.pdf

sought non-aromatic varieties such as the OM variety, a short-duration, high-yielding variety. According to Ministry of Agriculture spokesman Khim Finan, the price of fragrant Sen Kra Ob rice rose from 1,072 riel per kg in December 2022 to about 1,400 riel per kg by late 2023, while Vietnamese OM rice varieties fetched 800–1,000 riel per kg[6]. With constrained Indian supply and strong regional demand, Cambodian farmers were confident that their crops would find a ready market.

In summary, the CAS 2024 reference period (1 July 2023 – 30 June 2024) coincided with a period of sharp international price increases caused by El Niño-related production losses and India's export restrictions. These global shocks raised rice prices by 12–22% and kept Cambodian wholesale prices 35–45% above prior-year levels. Import demand from Viet Nam and other markets, combined with high farm gate prices and government support for inputs and price stabilisation, spurred farmers to expand production. As such, it is suspected that this expansion was largely market-driven and can explain the increase of roughly 595,000 hectares in non-aromatic rice area and the overall 581,000-hectare expansion in agricultural land between CAS 2023 and CAS 2024.

Report 2 Annexes

Annex 1: Tree or plant crops, conversion factors from number of trees to hectares

Tree/plant type	Conversion factor in trees (or plants) per hectare
Oranges	400
Tangerines	400
pomelo	400
Lime/lemon	400
Kafir lime	400
Other citrus fruits	400
Banana	1667
Custard apple	400
Soursop	400
Guava	400
Longan	278
Mango	270
Papaya	1600
Pineapple	14000
Wood apple	400
Jackfruit	270
Jampadak Breadfruit	270
Pomegranate	600
Sapodilla/Chico	278
Rambutan	156

[6] Phnom Penh Post "Farmers urged to prioritise local rice varieties as prices surge" https://www.phnompenhpost.com/business/farmers-urged-to-prioritise-local-rice-varieties-as-prices-surge

Mangosteen	100
Rambeh	270
Manila tamarind	70
Durian	270
Milk fruit	270
Lotus fruit	25000
Rose apple	278
Marian plum	270
Hog plum	278
Jambolen plum	270
Jujube	278
Lychee or Litchi	156
Star fruit	300
Dragon Fruit	2500
Bilimbi Fruit	300
Passion Fruit	156
Sour apple/Cotton fruit/ Sandorica	100
Small bell	400
Malabar Orange	200
Date	300
Noni/Morinda	280
Avocado	280
Cashew	278
Betel nuts	2500
Lotus nuts	25000
Other beverage crops	1000
Coconut	278
Oil Palm	278
Palm	1000
Black pepper	2500
Krasang	250
Tamarind	70
Other spices and aromatic crops	1000
Rubber	555
Other rubber and tanning crops	500
Jasmine	5000
Tuberose	3000
Frangipani	200
Anthurium	20000
Other flowers	1500
Heliconia	15000
Ginger plant	10000
Lucky bamboo plant	15000
Bamboo	10000
Eucalyptus trees	7000
Sandalwood	1600

Source: CAS 2024

KINGDOM OF CAMBODIA

Nation Religion King

Cambodia Agriculture Survey 2024
Report 3:
Raising of Livestock and Poultry

National Institute of Statistics, Ministry of Planning in collaboration with Ministry of Agriculture, Forestry and Fisheries.

With technical support from the Food and Agriculture Organization of the United Nations.

Financial support from the 50x2030 initiative.

Raising of Livestock and Poultry

Raising livestock and poultry in Cambodia is an important agricultural activity undertaken by agricultural households and plays a key role in supporting livelihoods and providing income in rural households. Of the total number of household agricultural holdings in Cambodia, 1,342,750 households were involved in all types of raising livestock/poultry/insects. In the CAS 2024, large livestock are cattle and buffalo whereas small livestock referred to pigs and goats.

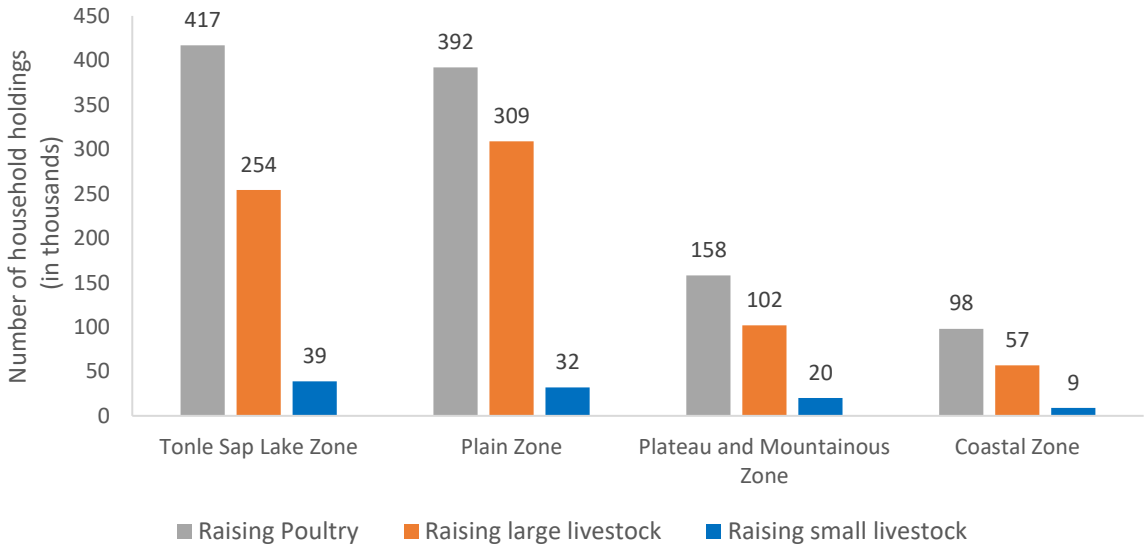
Table 3.1. Number of household agricultural holdings having a livestock or poultry production activity (in thousands)

Cambodia (Number of household holdings in thousands)			
Total holdings with livestock/poultry/ insects production	Raising large livestock (cow, buffalo, horse)	Raising small livestock (pigs, goats)	Poultry (chicken, duck, swallow, etc.)
1,343	722	101	1,066

Source: CAS 2024

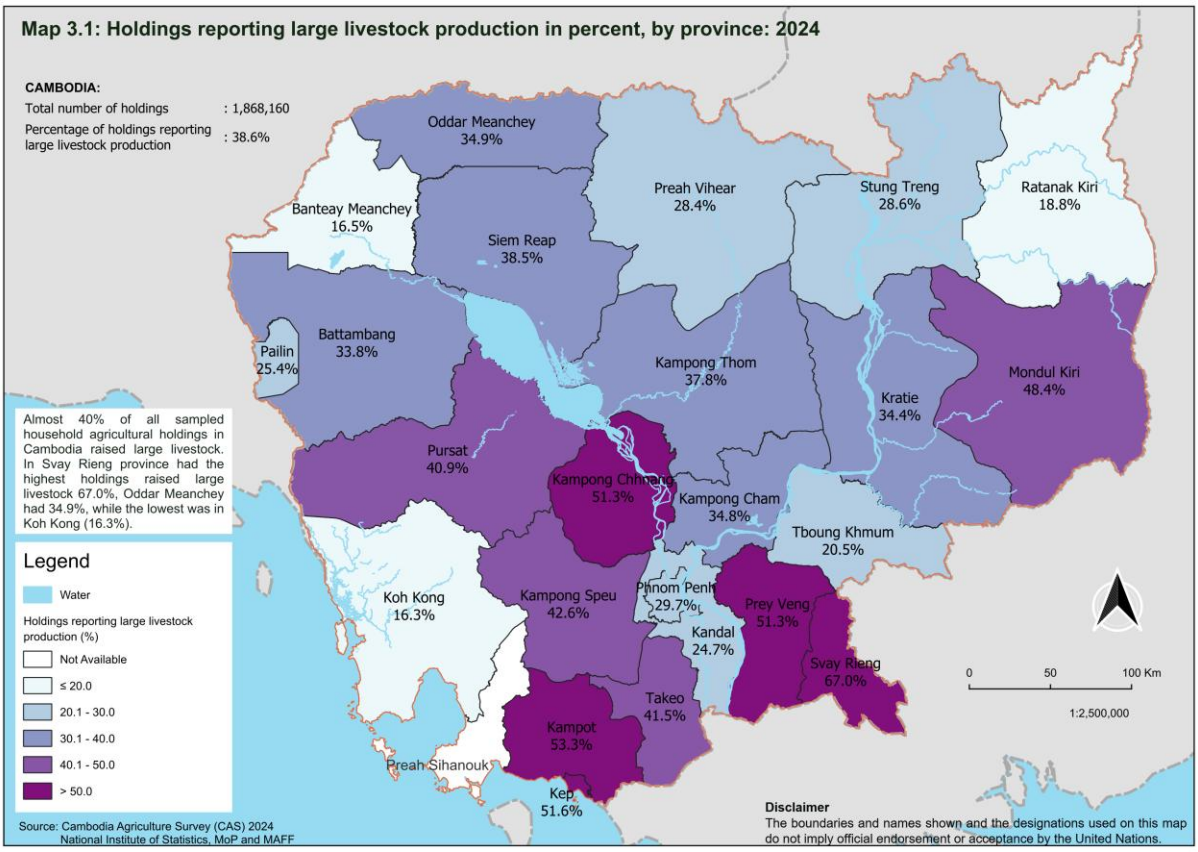
The largest number of households raising poultry and small livestock was recorded in the Tonle Sap Lake Zone followed by the Plain Zone. Large livestock, however, were raised in more household holdings in the Plain Zone, than that of the Tonle Sap Lake Zone.
The Plateau and Mountainous Zone had much smaller animal-raising activities comparing to those 2 zones, while the lowest activities were from the Coastal Zone.

Figure 3.1: Number of household holdings reporting livestock and poultry activity, by zone, 2024



Source: CAS 2024

Large Livestock

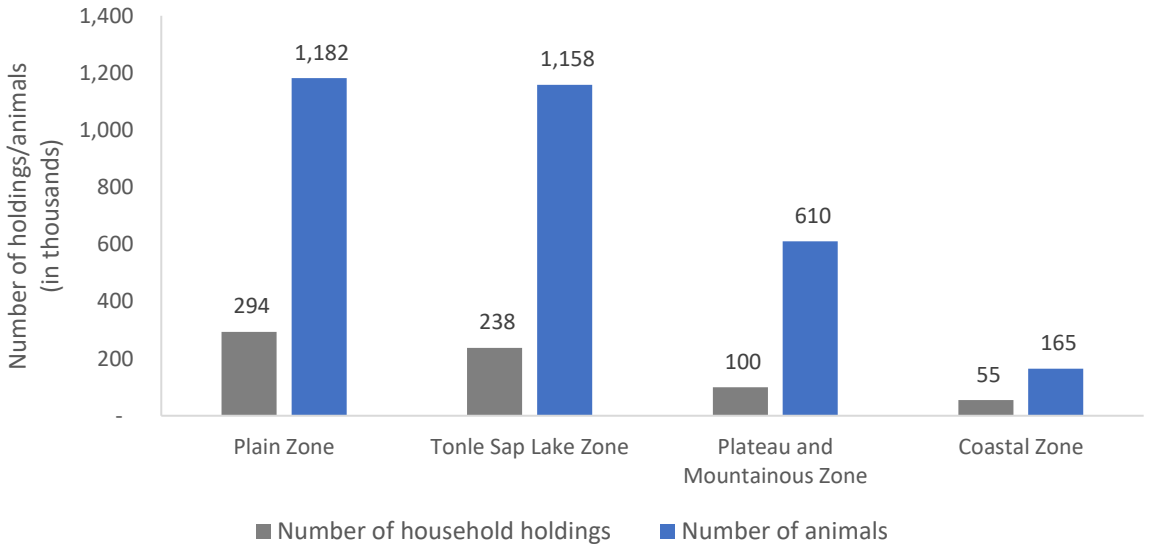


Source: CAS 2024

Cattle

The most common large livestock raised in agricultural households were cattle. It is estimated that about 3,115,000 cattle were being raised in Cambodia. The Plain Zone has the highest number of cattle (1,182,000) followed by the Tonle Sap Lake Zone (1,158,000), the Plateau and Mountainous Zone (610,000), and the Coastal Zone (165,000) has the lowest number of cattle.

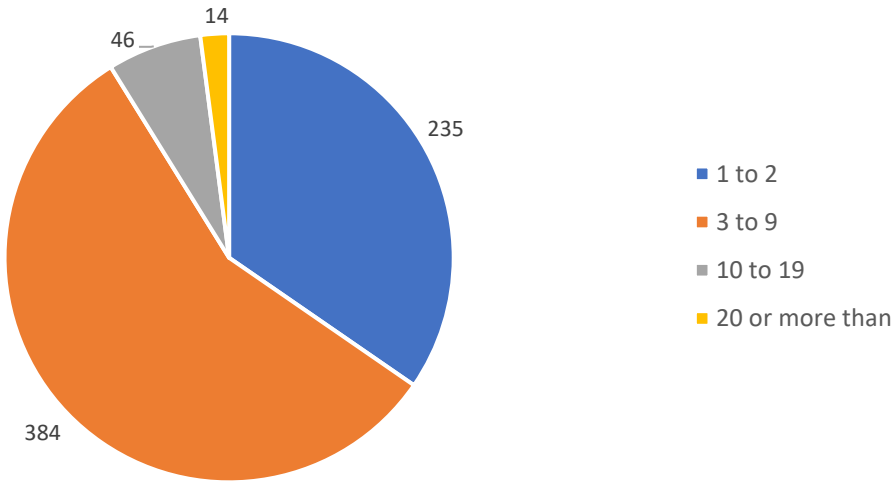
Figure 3.2: Number of household holdings reporting raising cattle and the number of cattle, by zone, 2024



Source: CAS 2024

Across all of Cambodia, the average number of cattle per holding was 4.5. Most of the household agricultural holdings (384,000 agricultural holdings) have herds with a size of 3 to 9 cattle. 235,000 of the holdings reported having a herd size of 1 to 2 cattle, 46,000 of the holdings having a herd size of 10 to 19 cattle and only 14,000 holdings reported having a herd size greater than 20 cattle.

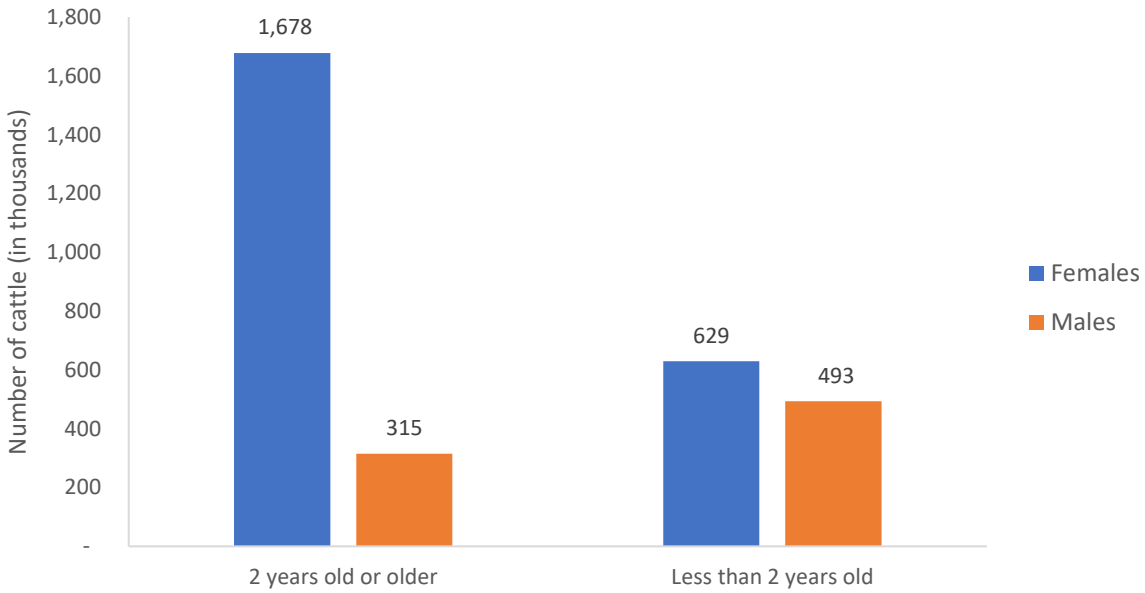
Figure 3.3: Number of household holdings by cattle herd size, Cambodia, 2024 (in thousands)



Source: CAS 2024

Herds of cattle in household holdings were mostly comprised of females with 1.7 million (approximately 53.9%) of all cattle being females of more than 2 years of age. Males of 2 years old or older are the least frequent age and gender kept in agricultural holdings.

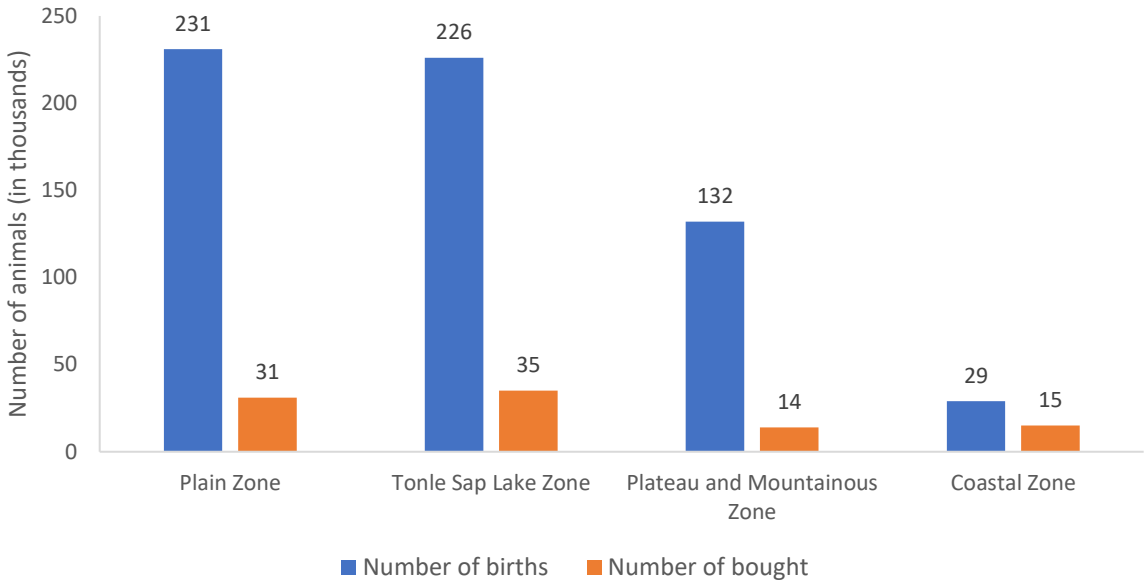
Figure 3.4: Number of cattle by sex and age, Cambodia, 2024



Source: CAS 2024

Cattle inventory added to a holding is most frequently birthed rather than purchased by agricultural holdings. The Plain Zone is the most frequently birthed (231,000) in Cambodia followed by Tonle Sap Lake Zone (226,000), Plateau and Mountainous Zone (132,000) and Coastal Zone (29,000).

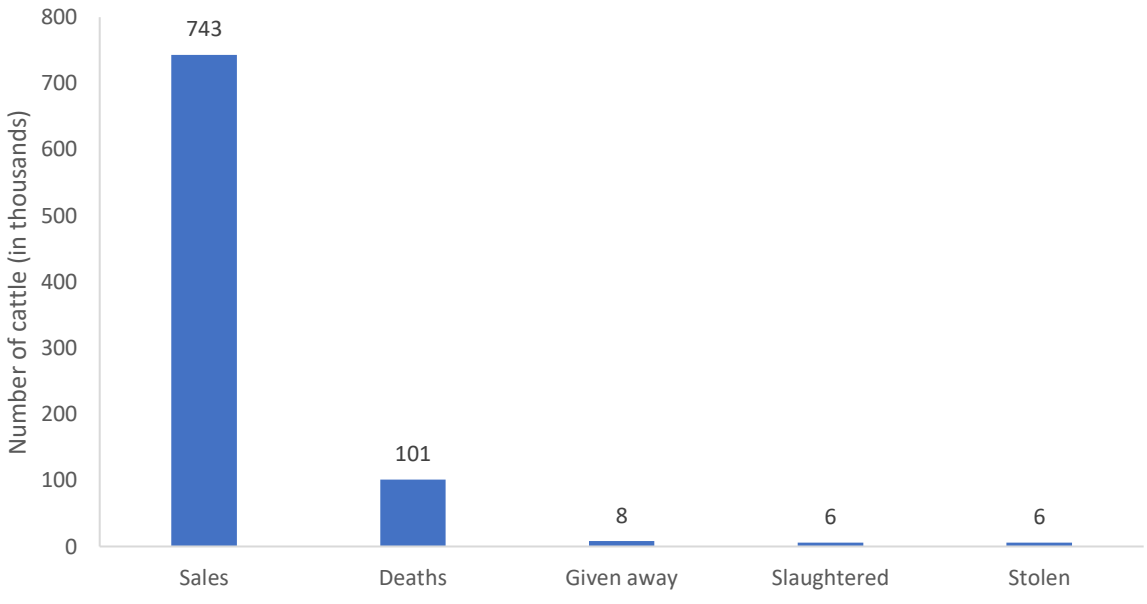
Figure 3.5: Number of cattle births and purchases, by zone, 2024



Source: CAS 2024

Of the outgoing cattle from a household holding, most are sold alive (743,000). Cattle deaths occurred to 101,000 animals nationwide, given away 8,000 animals, whilst slaughtered and stolen occurred to a reported 6,000 animals.

Figure 3.6: Number of outgoing cattle, Cambodia, 2024



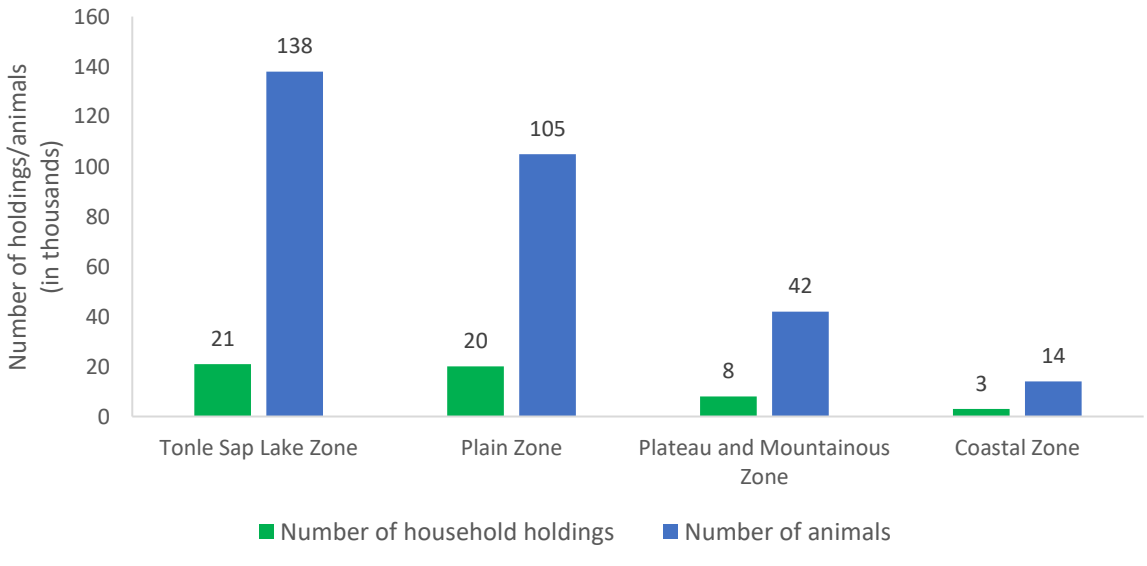
Source: CAS 2024

Cattle are being fed at a household agricultural holding. Source: NIS photograph, 2024.

Buffalo

Approximately 299,000 total buffalo were reported by agricultural holdings throughout Cambodia. The Tonle Sap Lake Zone had the highest number of buffalo (138,000), followed by the Plain Zone (105,000) and the Plateau and Mountainous Zone (43,000), and the Coastal zone (14,000).

Figure 3.7: Number of household holdings reporting raising buffalo and the number of buffalo reported on those holdings, by zone, 2024

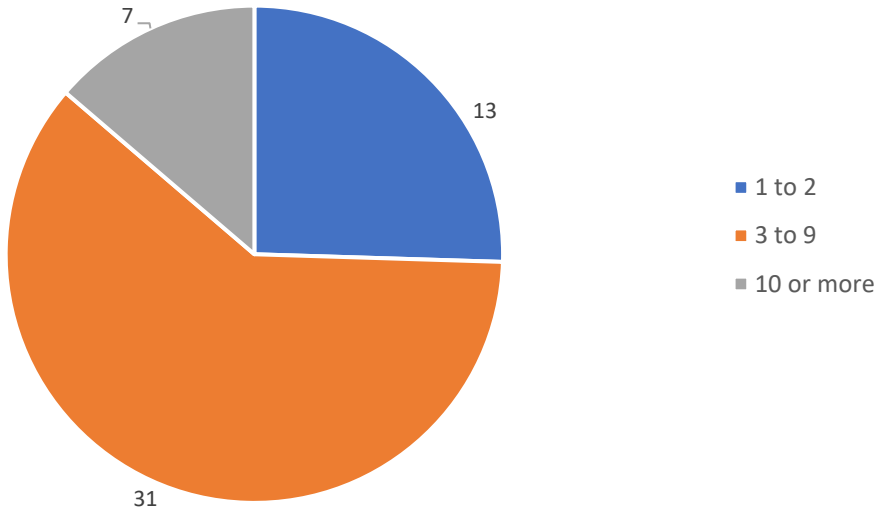


Source: CAS 2024

Across all of Cambodia, the average number of buffalo per holding was 5.8. Most of the household agricultural holdings (31,000 agricultural holdings) have herds with a size of 3 to 9

buffalo. 13,000 of the holdings reported having a herd size of 1 to 2 buffalo and only 7,000 holdings reported having a herd size greater than 10 buffalo.

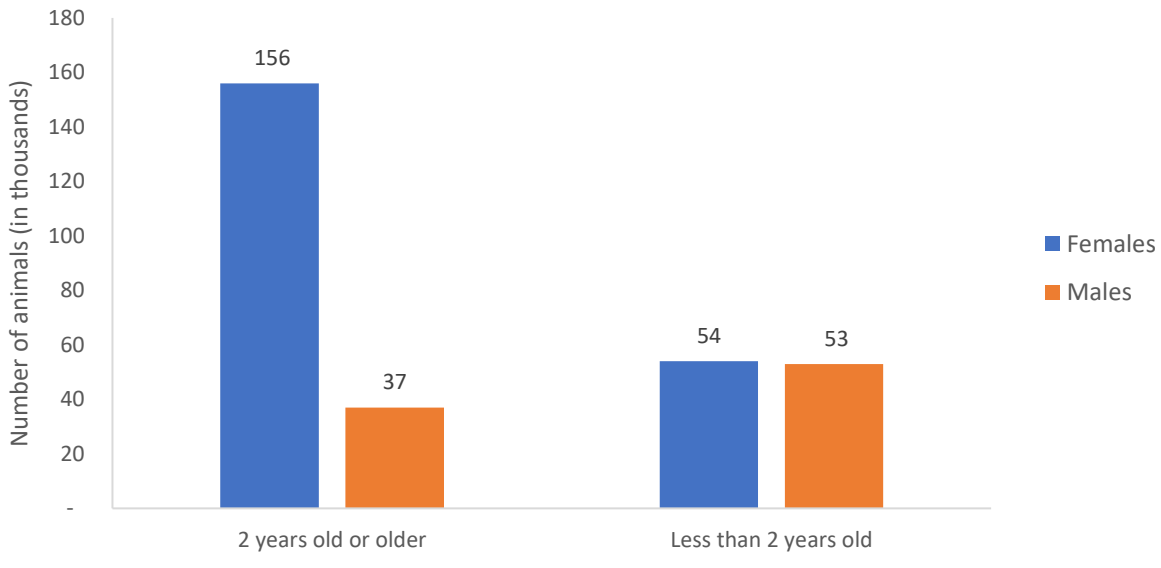
Figure 3.8: Number of household holdings by buffalo herd size, Cambodia, 2024 (in thousands)



Source: CAS 2024

Household holding's buffalo herds were mostly comprised of females with approximately 52% of all buffalo being females of more than 2 years of age. Males of 2 years old or older are the least frequent age and gender kept in agricultural holdings.

Figure 3.9: Number of buffalo, by sex and age, Cambodia, 2024



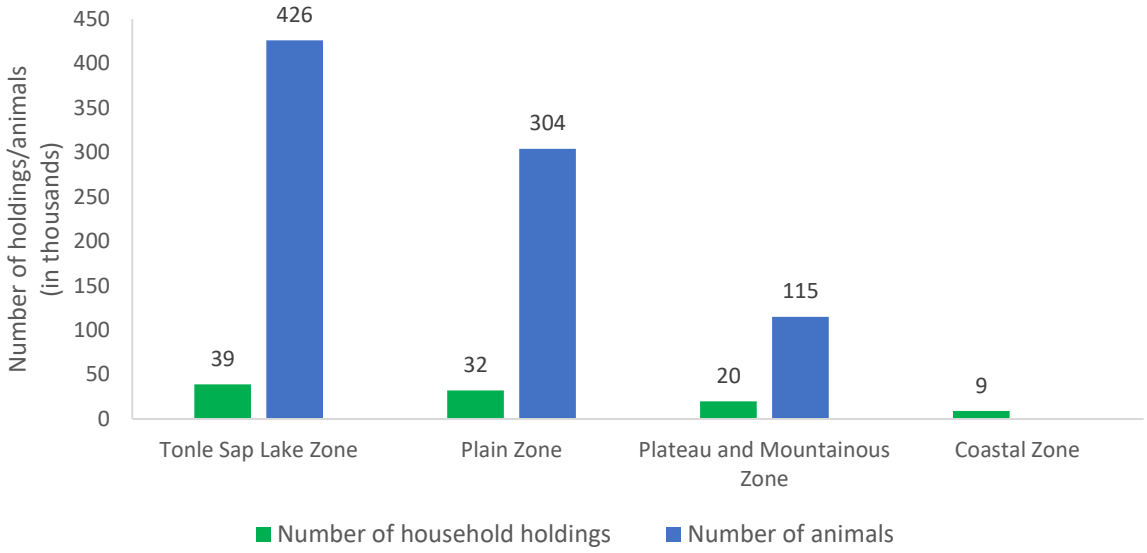
Source: CAS 2024

Small Livestock

Pigs

About 101,000 household agricultural holdings raise pigs throughout Cambodia. The Tonle Sap Lake Zone had the highest number of household agricultural holdings raising pigs (39,000) followed by the Plain Zone (32,000), the Plateau and Mountainous Zone (20,000) and the Coastal Zone (9,000) had the lowest number of agricultural holdings raising pigs.

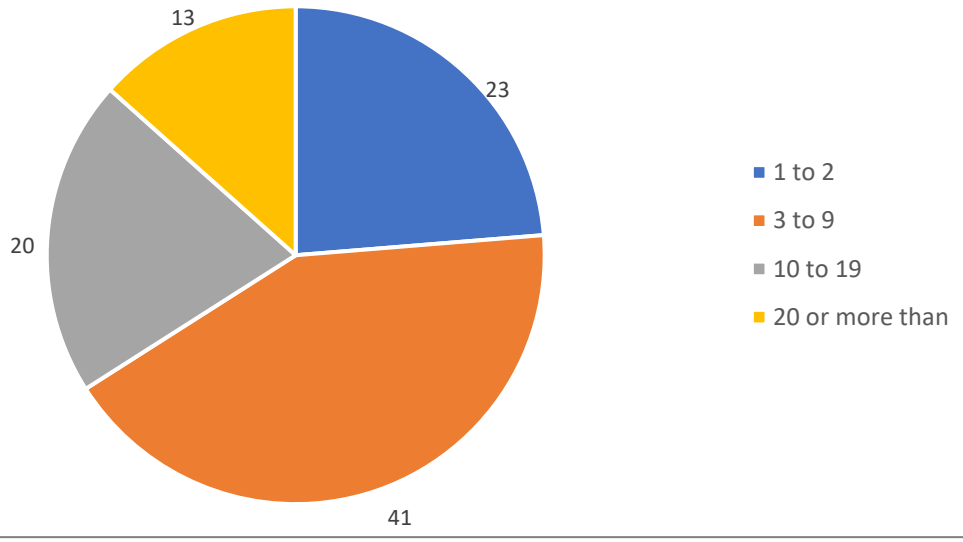
Figure 3.10: Number of household holding reporting raising pigs and the number of pigs, by zone, 2024



Source: CAS 2024

At the national level, the average number of pigs per holding was 9.5. The number of pigs per holding varied between the holdings. 23,000 holdings had 1 to 2 pigs, 41,000 holdings had 3 to 9 pigs, 20,000 holdings had 10 to 19 pigs and 13,000 holdings had more than 20 pigs.

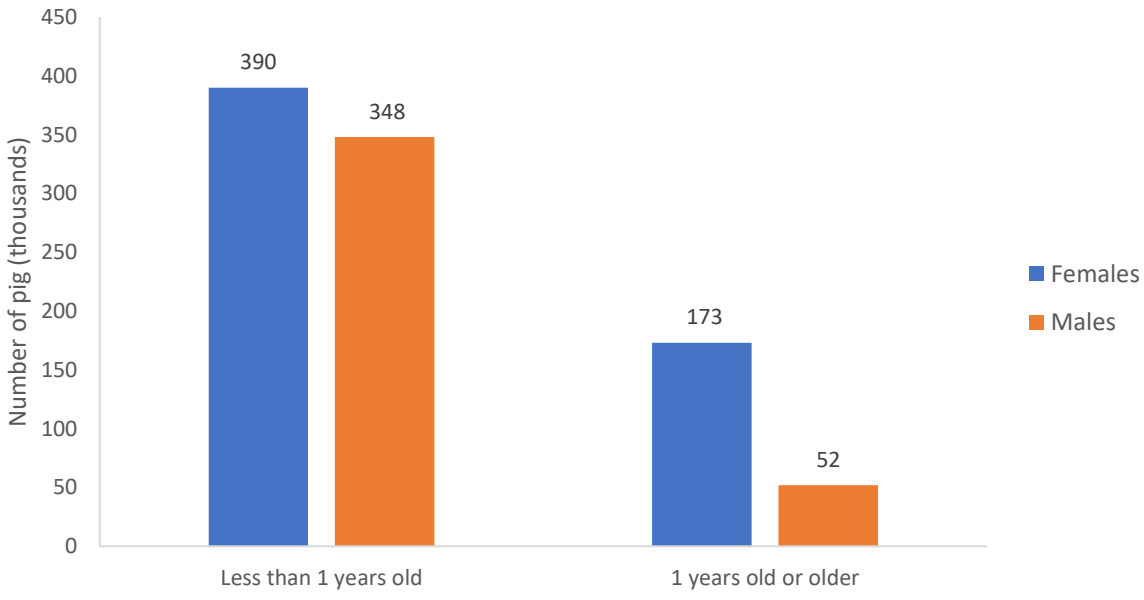
Figure 3.11: Number of household holdings by pig herd size, Cambodia, 2024 (in thousands)



Source: CAS 2024

Pig herds in household holdings were mostly comprised of animals of less than 1 year of age (approximately 738,000 pigs or 77% of all pigs). Furthermore, around 58% of total pigs were female.

Figure 3.12: Number of pigs by sex and age, Cambodia, 2024

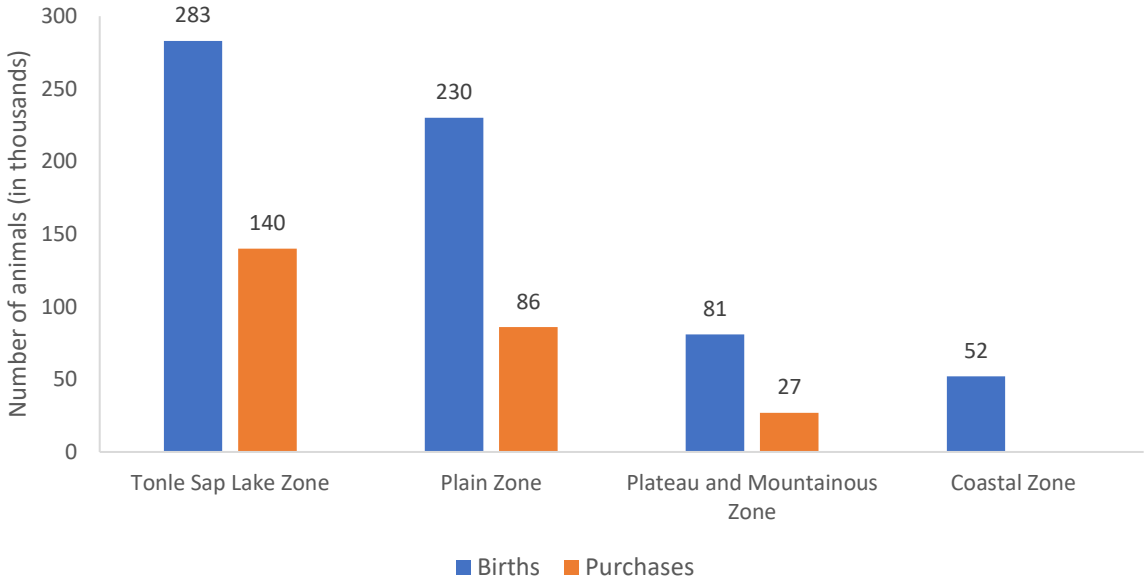


Source: CAS 2024

Pig inventory added to a household holding was most frequently birthed rather than purchased. The Tonle Sap Lake Zone is the most frequently birthed (283,000) in Cambodia

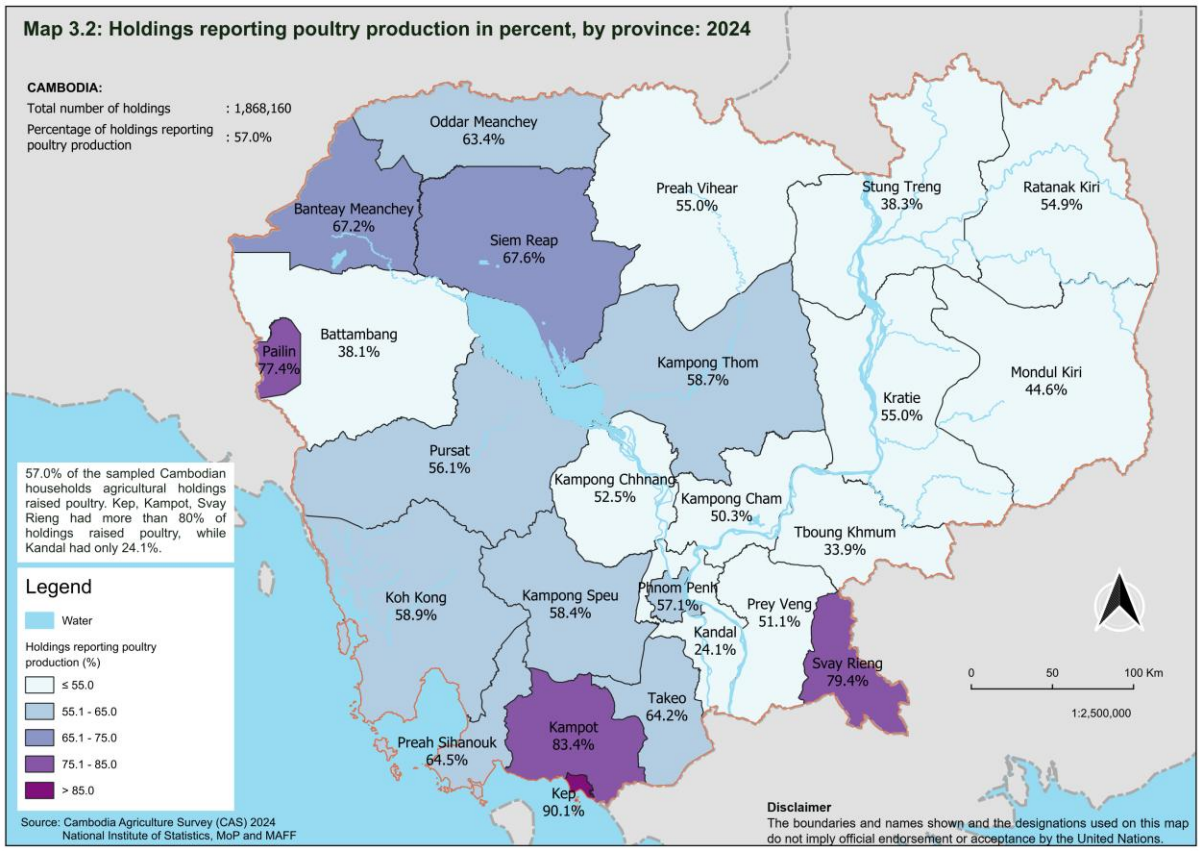
followed by Plain Zone (230,000), Plateau and Mountainous Zone (81,000) and Coastal Zone (52,000)

Figure 3.13: Number of pig births and purchases, by zone, 2024



Source: CAS 2024

Poultry



Source: CAS 2024

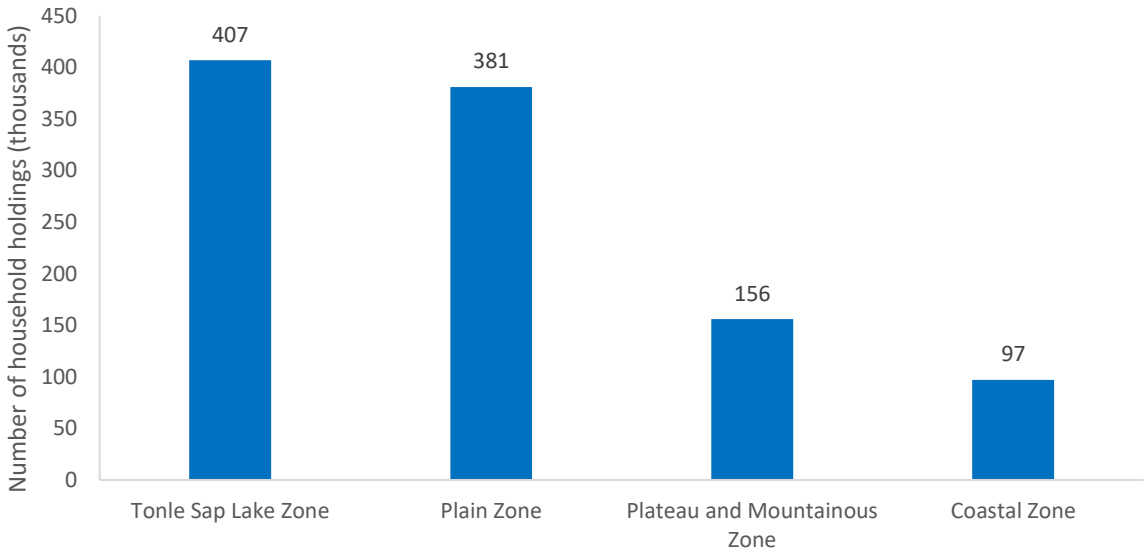
Survey data was collected on many types of poultry. Within the data tabulations results are disseminated for chickens, ducks and geese, however, this report focuses only on the most prevalent poultry types, chickens and ducks.

Caged chicken housing. Source: NIS-MOP photograph, 2024.

Chickens

Chickens were the most common poultry raised by household agricultural holdings, with an estimated 25 million chickens being raised across 1,042,000 household holdings. Chickens were more frequently raised in the Tonle Sap Lake zone (407,000 holdings) and Plain zone (381,000 holdings) compared to the Plateau and Mountainous zones (156,000 holdings) or Coastal zone (97,000 holdings). The average number of chickens raised per holding was 24.

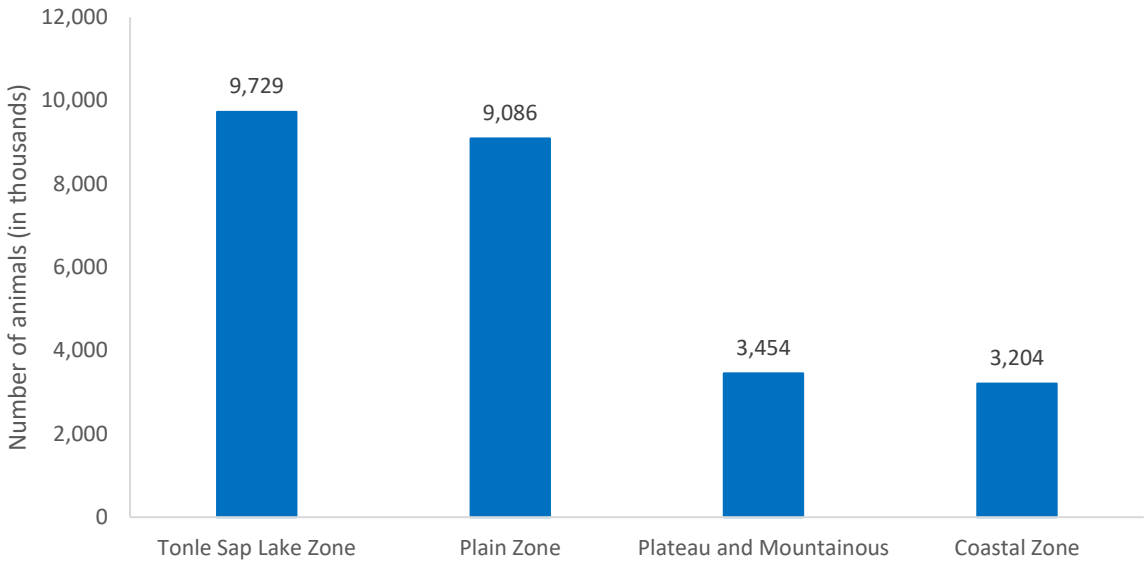
Figure 3.14: Number of household holding reporting raising chicken, by zone, 2024



Source: CAS 2024

There were approximately 10 million chickens reported in the Tonle Sap Lake zone, 9.1 million in the Plain zone, 3.5 million in the Plateau and Mountainous zones and a reported 3.2 million in the Coastal zone.

Figure 3.15: Number of chickens reported, by zone, 2024

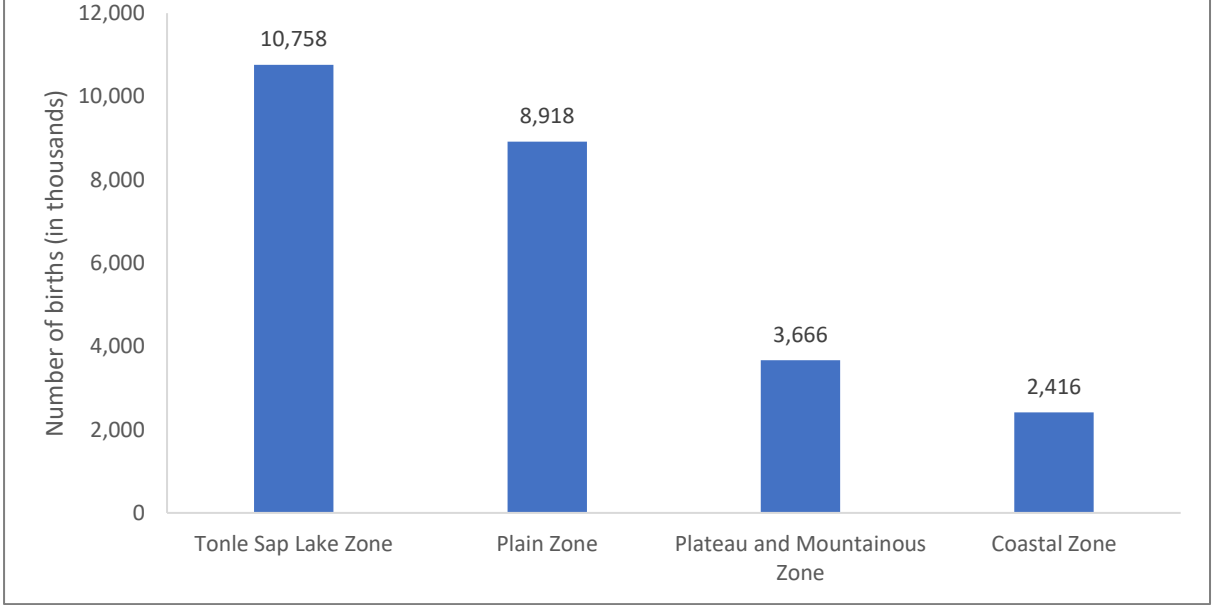


Source: CAS 2024

Chickens were most frequently birthed rather than bought by household agricultural holdings. The Tonle Sap Lake zone was the zone with the highest number of births with 10.8 million

chicken births. The Plain zone was second with 8.9 million births follow by the Plateau and Mountainous zone (3.7 million) and the Coastal zone (2.4 million).

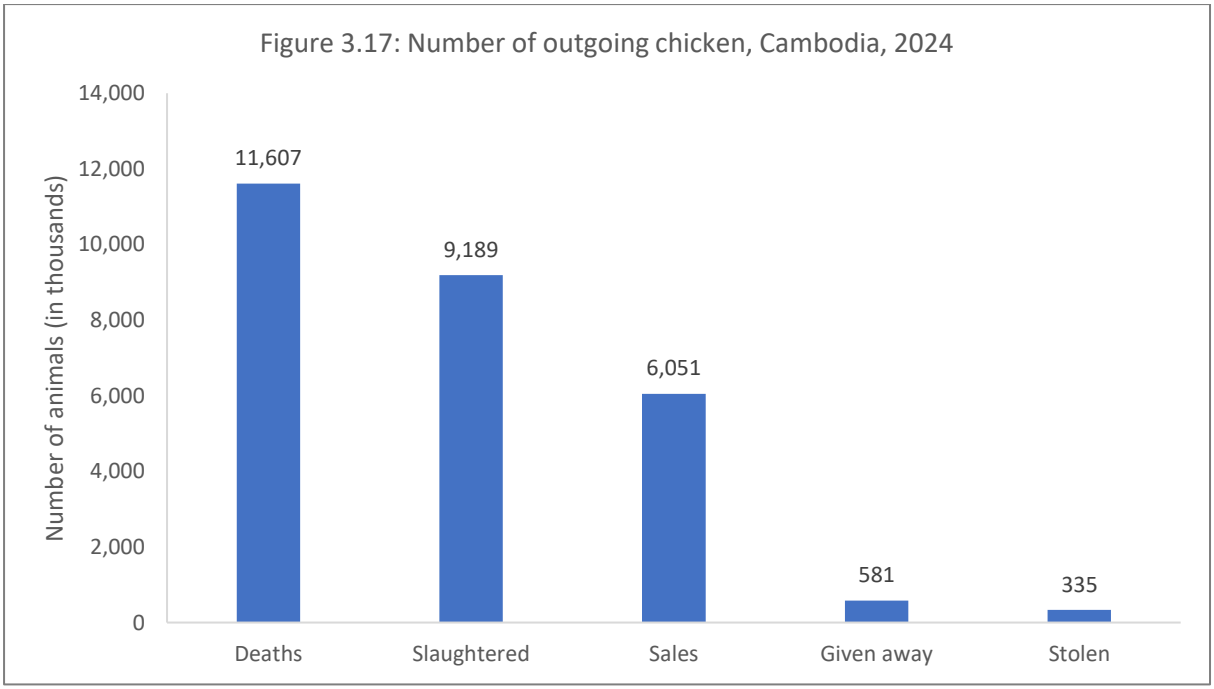
Figure 3.16: Number of chicken births, by zone, 2024



Source: CAS 2024

In total, approximately 11.6 million of chicken died from natural causes including disease or illness within the 2024 reference period, 9.2 million were slaughtered for sale or food and 6.1 million chickens were sold alive.

Figure 3.17: Number of outgoing chicken, Cambodia, 2024



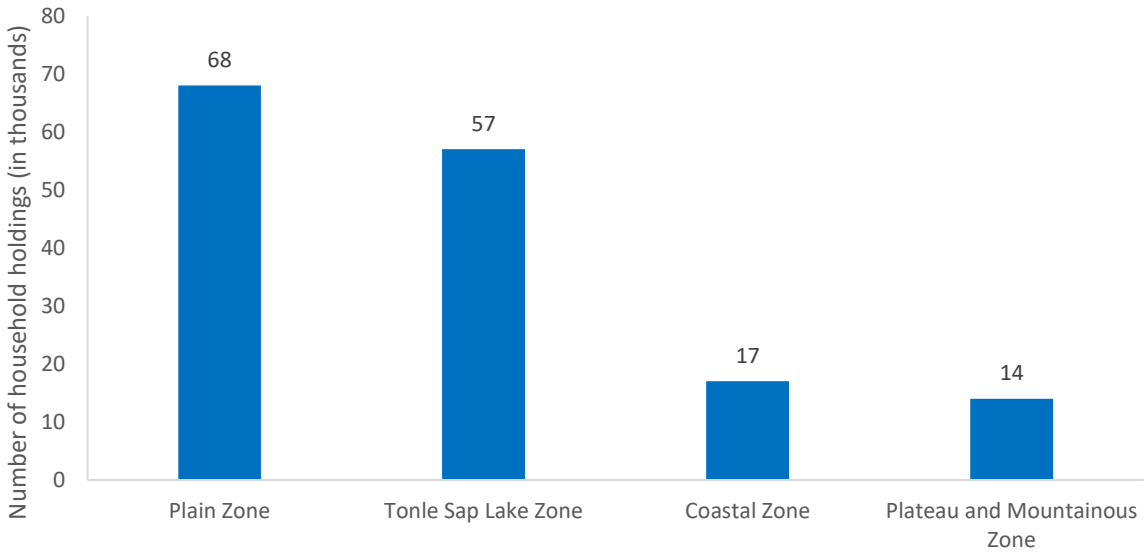
Source: CAS 2024

Poultry being fed. Source: NIS-MOP photograph, 2024.

Ducks

Ducks were the second most common poultry raised by household agricultural holdings, with an estimated 10.5 million ducks being raised across 155,000 household holdings. Ducks were more frequently raised in the Plain zone (68,000 holdings) and Tonle Sap Lake zone (57,000 holdings) compared to Coastal zone (17,000 holdings) or the Plateau and Mountainous zones (14,000 holdings). The average number of ducks raised per holding was 67.

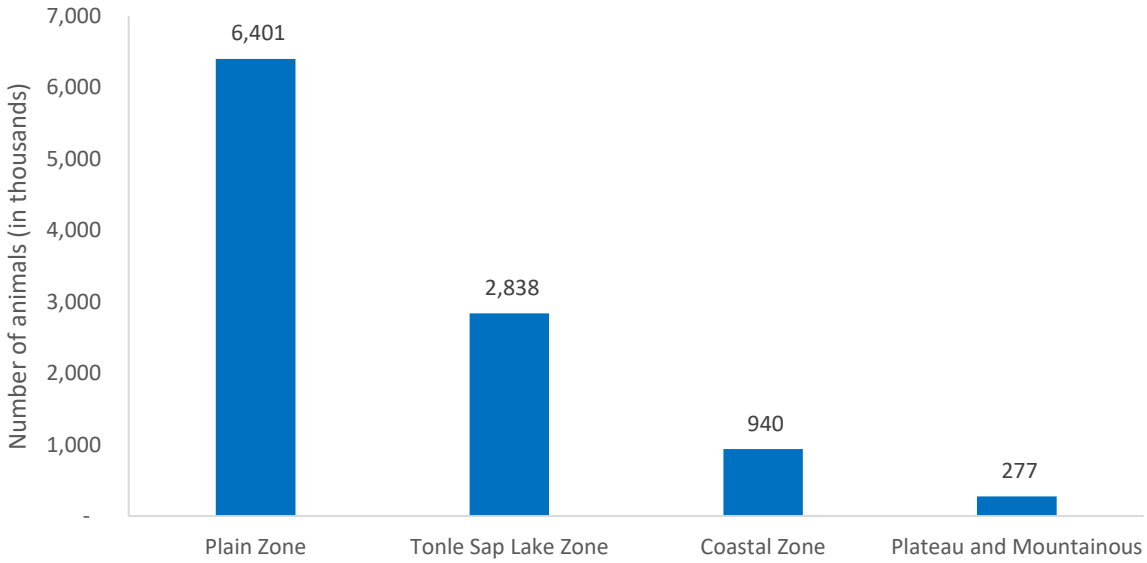
Figure 3.18: Number of household holding reporting raising ducks, by zone, 2024



Source: CAS 2024

There were approximately 6.4 million ducks reported in the Plain zone, 2.8 million in the Tonle Sap Lake zone and a reported of 940,000 in the Coastal zone and 277,000 in the Plateau and Mountainous zone.

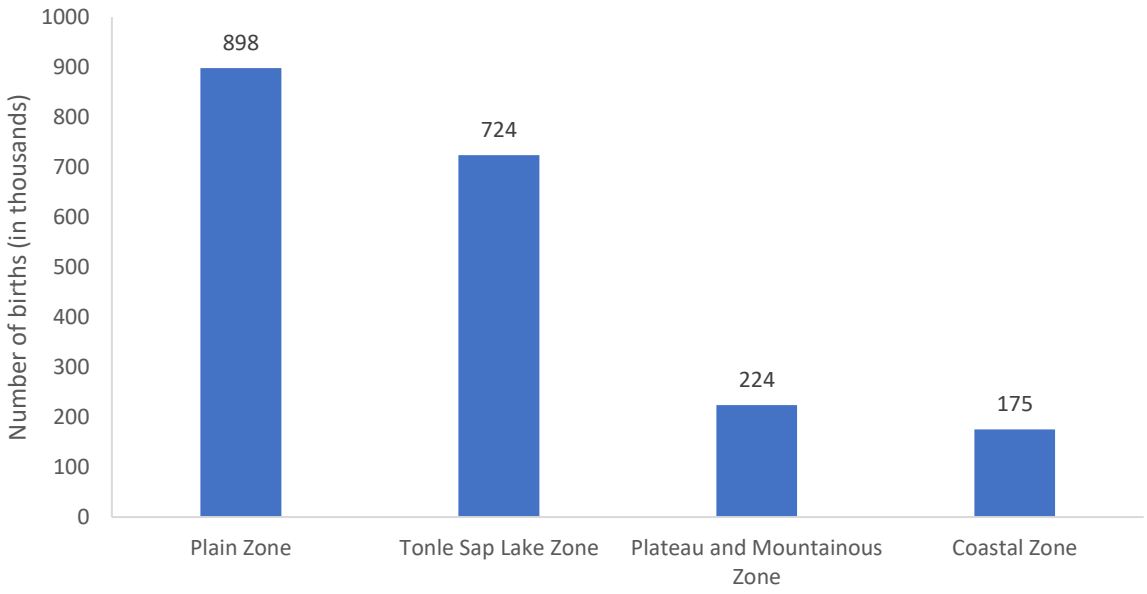
Figure 3.19: Number of ducks reported, by zone, 2024



Source: CAS 2024

Ducks were more often birthed rather than bought by household agricultural holdings. The Plain zone was the zone with the highest number of births with 898,000 duck births. The Tonle Sap Lake zone was second with 724,000 births. The Plateau and Mountainous zone had approximately 224,000 duck births and the Coastal zone around 175,000.

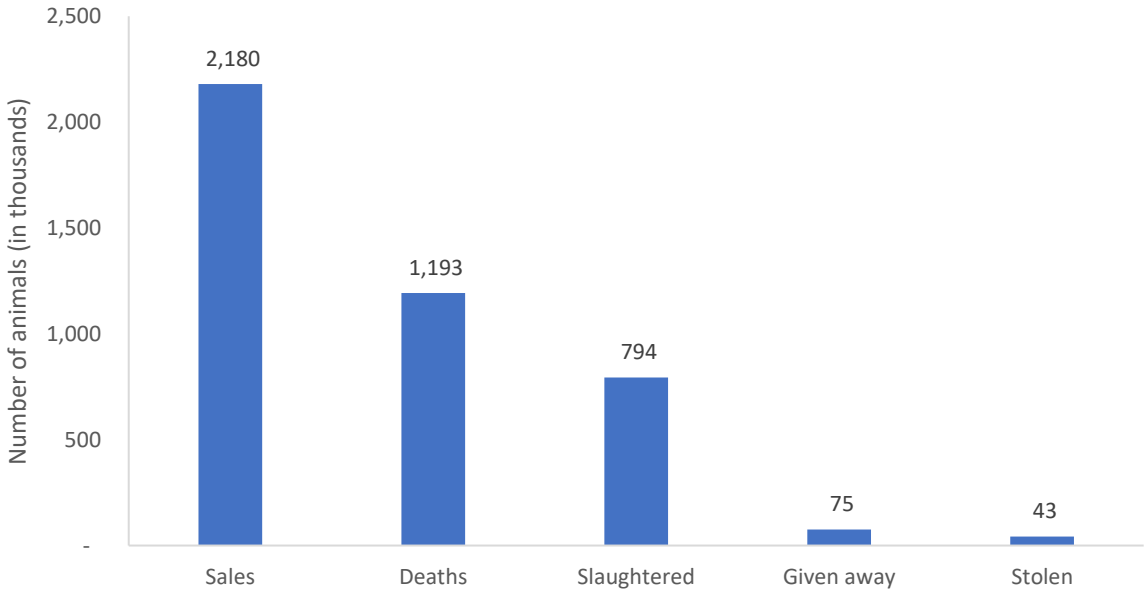
Figure 3.20: Number of duck births, by zone, 2024



Source: CAS 2024

In total, approximately 2.2 million ducks were sold alive within the 2024 reference period, 1.2 million died from natural causes including disease or illness and 794,000 were slaughtered for sale or food.

Figure 3.21: Number of outgoing ducks, Cambodia, 2024

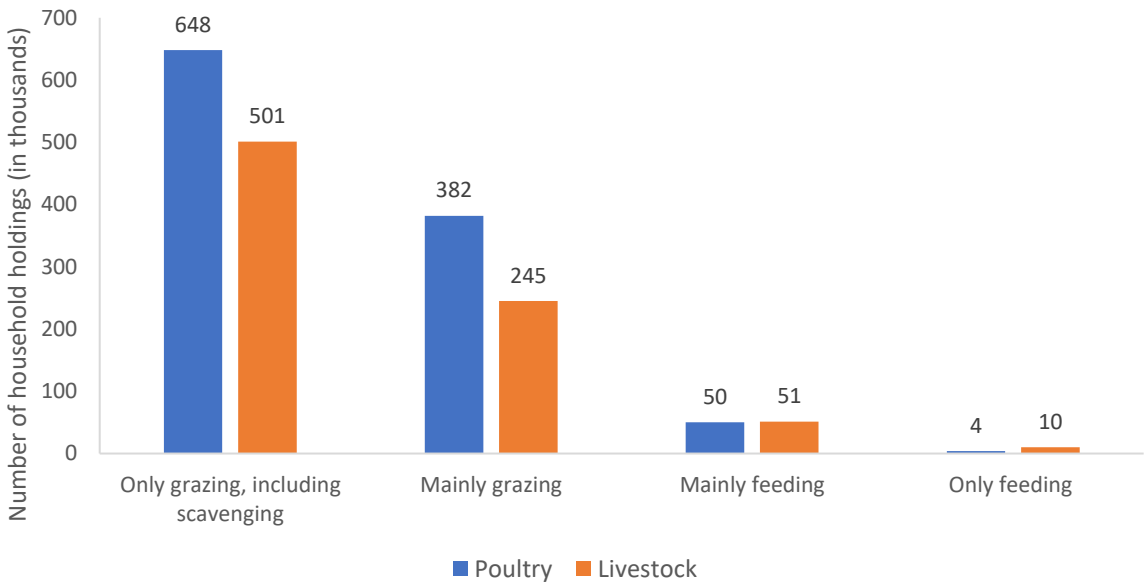


Source: CAS 2024

Animal feed

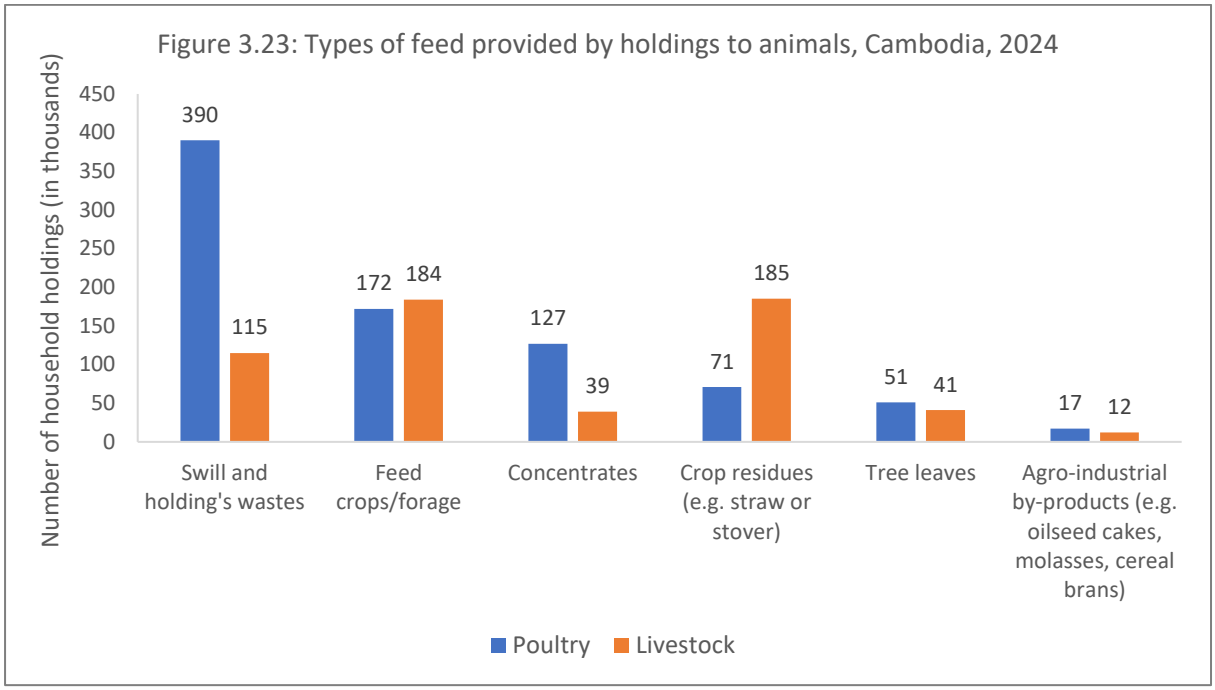
Grazing including scavenging was the most frequent feeding practice provided by household holdings in both livestock and poultry while using only animal feed was the least practice used for animal feeding.

Figure 3.22: Feeding practice provided by holdings to animals, Cambodia, 2024



Source: CAS 2024

Swill and holding's wastes were the most frequent used as animal feed by household holdings for poultry followed by feed crops/forage and concentrates while crop residues were the most frequent used as animal feed for livestock followed by feed crops/forage and Swill and holding's wastes. Meanwhile, agro-industrial-by-product like oilseed cakes, molasses or cereal brans was the least used for animal feed for both types of animals.



Source: CAS 2024

KINGDOM OF CAMBODIA

Nation Religion King

Cambodia Agriculture Survey 2024
Report 4:
Aquaculture & Capture Fishing

National Institute of Statistics, Ministry of Planning in collaboration with Ministry of Agriculture, Forestry and Fisheries.

With technical support from the Food and Agriculture Organization of the United Nations.

Financial support from the 50x2030 initiative.

Aquaculture and Capture Fishing

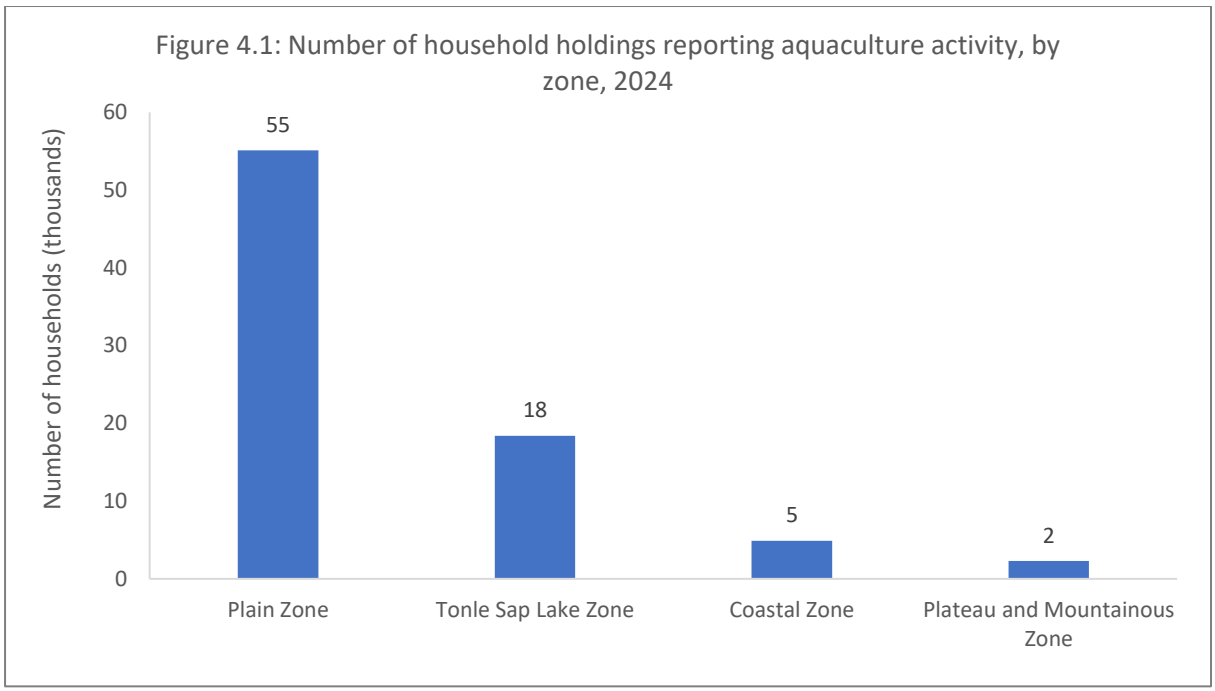
Aquaculture and capture fishing activity constitute an alternate or additional economic activity for household agricultural holdings in Cambodia. From the CAS 2024, it is estimated that 80,600 agricultural household holdings are involved in aquaculture activity while 387,300 agricultural household holdings are involved in capture fishing activity, and 26,100 agricultural household holdings were involved in both aquaculture and capture fishing activity. The zone with the largest number of households involved in aquaculture was the Plain Zone, with 55,100 household agricultural holdings reporting aquaculture activity. The zone with the largest number of households involved in capture fishing activity was the Tonle Sap Lake Zone, with 174,200 holdings reporting capture fishing activity.

Aquaculture

The fishpond of a household holding in Kandal province. Source: MAFF photograph, 2024.

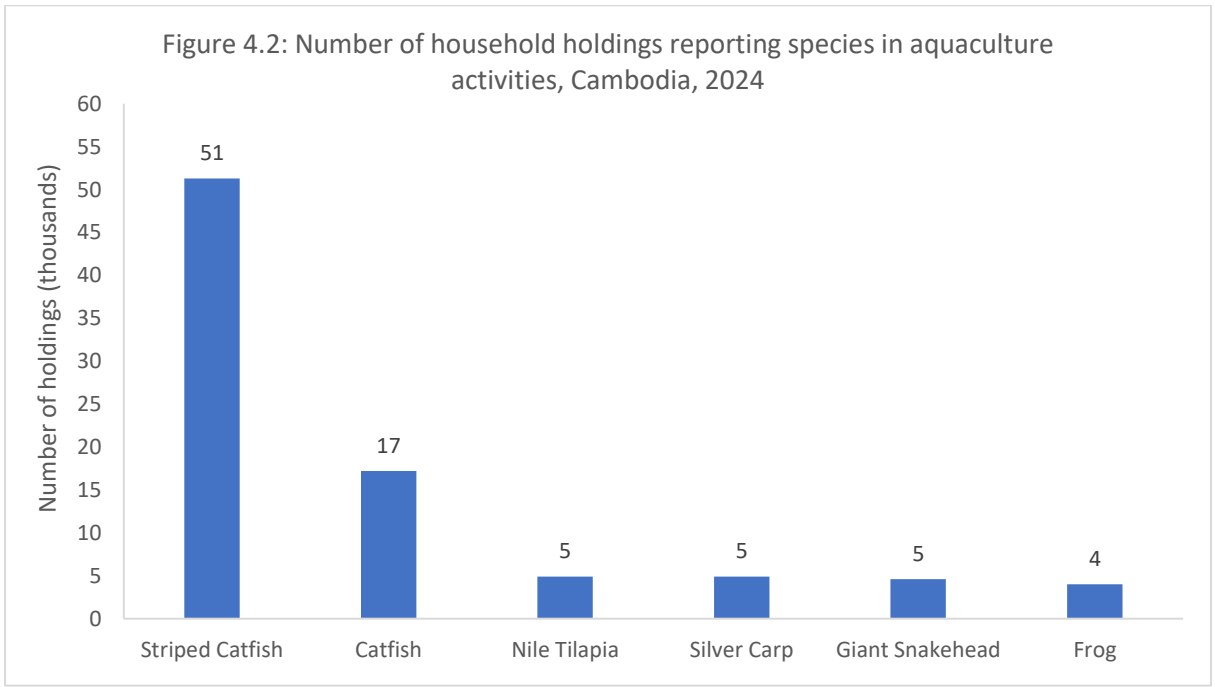
Aquaculture refers to the cultivation, under controlled conditions, of aquatic products in seas, lakes, rivers, swamps, ponds, paddy fields or other bodies of water. Of the different categories of aquaculture activity covered in the CAS, including pond, pen, cage, paddy field, culvert/tank/drum/aquariums, hatchery/nursery, or other aquaculture activity, the most prevalent activity was pond aquaculture with 64,300 agricultural holdings reporting it. An estimated 7,900 holdings. were involved in aquaculture involving culvert/tank/drum/ aquarium and approximately 7,000 agricultural holdings used a cage for their aquaculture activity. The total area devoted to aquaculture in household agricultural holdings was

estimated to be 1,708 hectares. The Plain Zone reported the largest area devoted to aquaculture activities, with 1,044 hectares devoted to it.



Source: CAS 2024

Agricultural households raise a variety of species in their aquaculture, the most common species are Striped Catfish (raised by an estimated 51,300 households and Catfish (raised by an estimated 17,200 households. Striped Snakehead Giant Snakehead Frogs are other species commonly raised by household holdings.



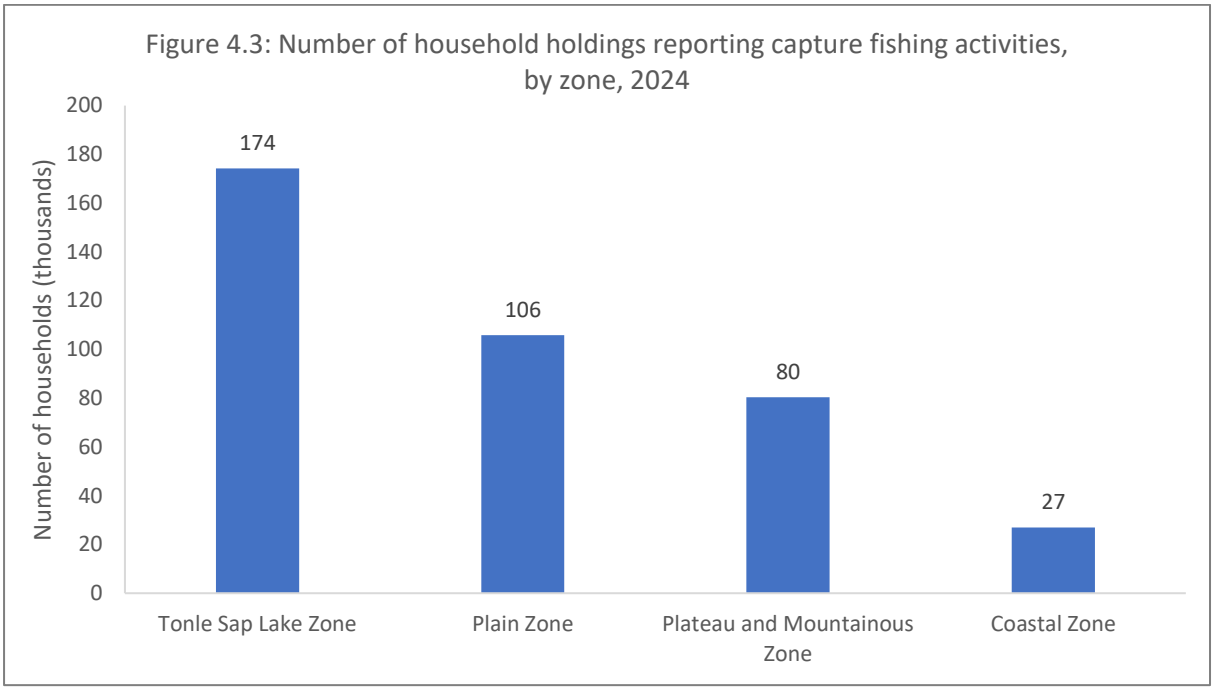
Source: CAS 2024

Capture Fishing

A fisherman cast net catch in Kandal province. Source: MAFF photograph, 2024.

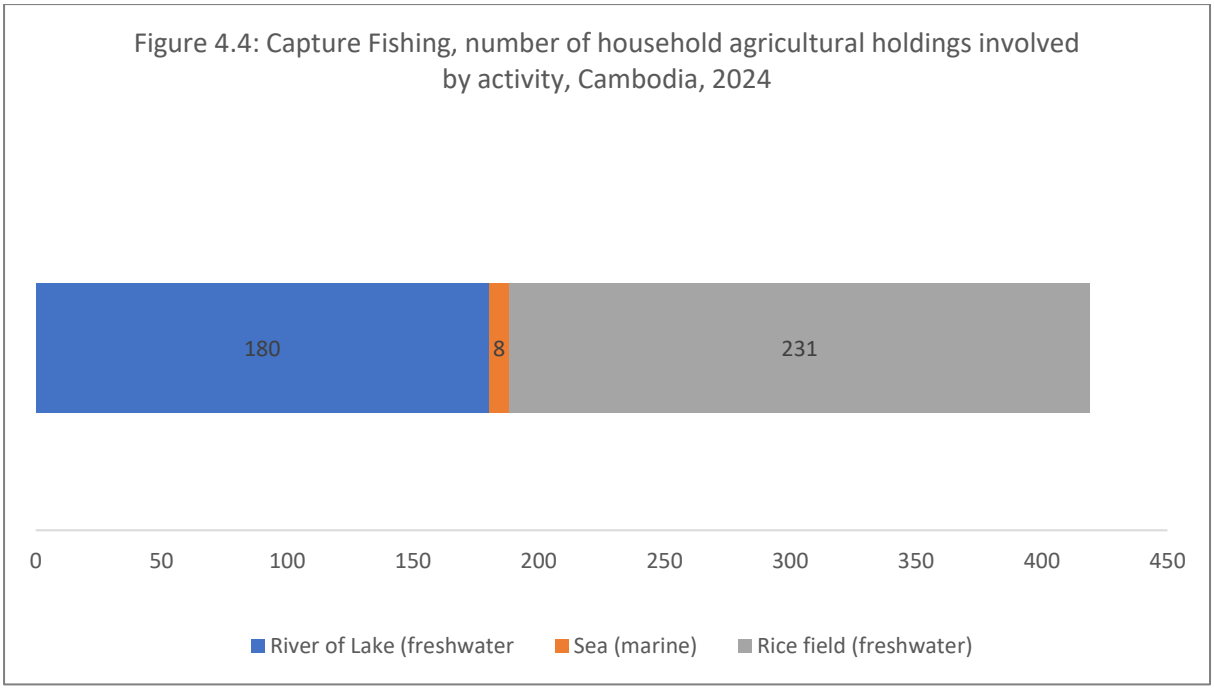
For the CAS, capture fishing activity was categorized as river or lake (freshwater), rice field (freshwater), sea (marine water) or estuary (brackish water). Capture fishing included catching fish and other sea or river species with or without the use of boats or specialized equipment.

In the 2024 reference period (from 1 July 2023 to 30 June 2024), the Tonle Sap Lake zone had the highest number of household agricultural holdings reporting capture fishing activities with an estimated 174,000 households involved in the activity. The Plain zone had an estimated 106,000 household holdings reporting capture fishing and the Plateau and Mountains region and Coastal zones had an estimated 80,000 and 27,000 household holdings involved respectively.



Source: CAS 2024

Capture fishing activities were reported by household holdings to occur mostly within rivers or lakes (180,000 household holdings) and in rice fields (231,000 household holdings). Comparatively few household holdings report capture fishing within marine water (8,000 household holdings).

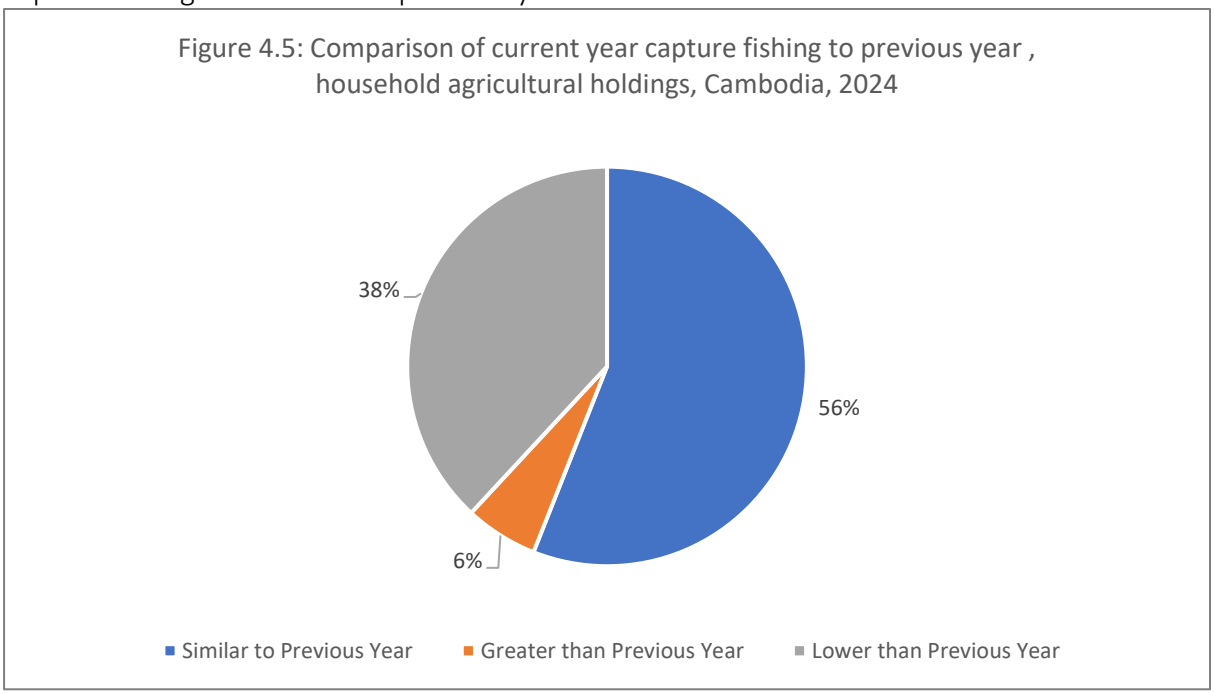


Source: CAS 2024

The total Capture Fishing was reported to be 416 million kilograms in Cambodia in 2024. More than half of the respondents (56%) reported a similar capture fishing to the previous year.

However, only (6%) reported capture fishing than the previous year whilst (38%) reported a capture fishing lower than the previous year.

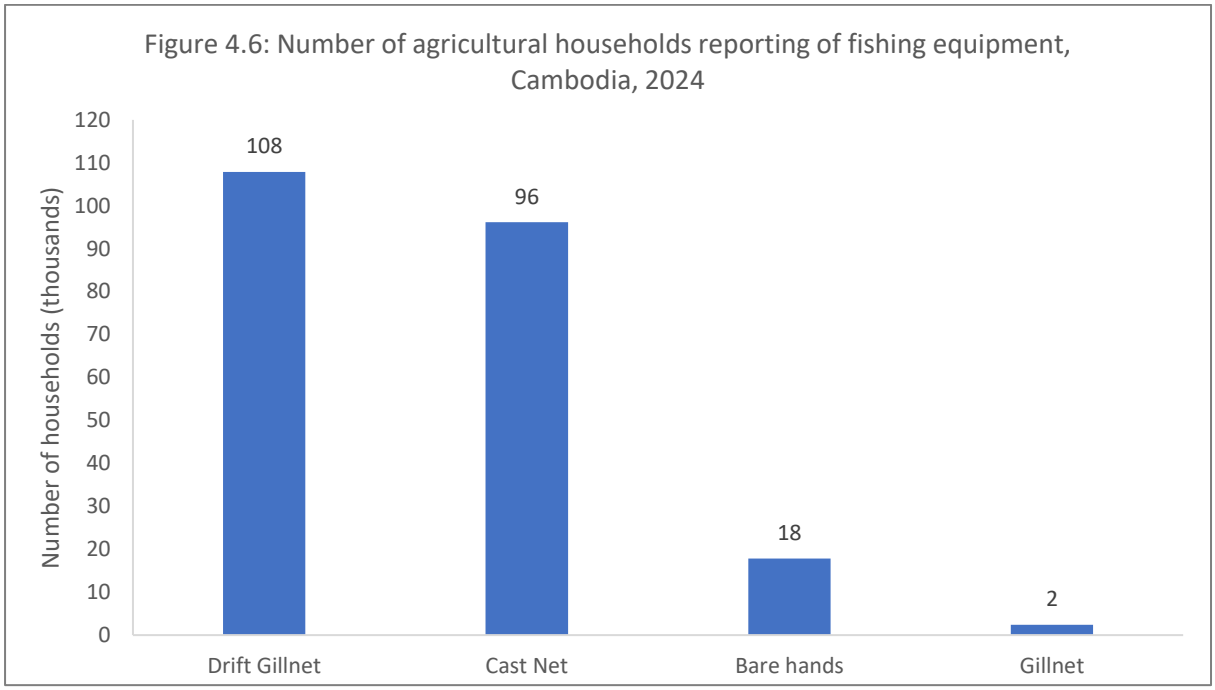
Figure 4.5: Comparison of current year capture fishing to previous year , household agricultural holdings, Cambodia, 2024



Source: CAS 2024

The CAS collected data on multiple species caught including fish, crabs, snails and eel. 81% of the holdings who reported capture fishing activity (349,500 household holdings), 11% captured crabs (49,100 household holdings), 6% captured snails (24,600 household holdings) and 1% captured eels (3,600 household holdings).

Various types of fishing equipment are used in Cambodia. The CAS estimates how many households use each type of equipment in their fishing activities. The equipment used most by holdings was a drift gillnet reported to be used by an estimated 107,900 household holdings. Cast nets (96,200 holdings), bare hands (17,800 holdings) Gillnet (2,400 holdings) and were other used equipment.



Source: CAS 2024

KINGDOM OF CAMBODIA

Nation Religion King

Cambodia Agriculture Survey 2024

Report 5: Economy

National Institute of Statistics, Ministry of Planning in collaboration with Ministry of Agriculture, Forestry and Fisheries.

With technical support from the Food and Agriculture Organization of the United Nations.

Financial support from the 50x2030 initiative.

Machinery, Equipment and Assets

The Machinery, Equipment and Assets (MEA) Module was included to generate policy-relevant data on the means of production used by agricultural holdings as a rotating module as part of the CAS 2024. In Cambodia, where the agricultural sector remains dominated by smallholders and where labour shortages and land constraints are growing concerns, understanding the patterns of access to and use of mechanisation is essential for improving agricultural productivity and rural livelihoods.

The rationale for integrating the MEA Module into the CAS 2024 stems from increasing evidence demonstrating that broader access to agricultural machinery, irrigation systems, transport vehicles, and post-harvest technologies significantly contributes to modernising agriculture. Such access not only reduces labour demands and inefficiencies but also enhances productivity, farmer income, and overall rural livelihoods. At the same time, disparities in asset ownership and usage—across gender, geography, and farm size—can contribute to persistent inequality and underutilization of agricultural potential.

The objectives of the MEA Module are twofold:

- First, to systematically collect nationally representative data on the ownership, access to, and use of agricultural machinery and equipment among agricultural holdings in Cambodia. This includes identifying the types of assets held, their condition and usage patterns, as well as the mechanisms through which farmers access shared or hired equipment.
- Second, to provide an evidence base to inform policy and investment decisions related to agricultural mechanisation, rural infrastructure development, asset inequality, and technology access. The module is intended to support national strategies aimed at increasing the availability of affordable, appropriate, and inclusive agricultural technologies for all farmers, particularly smallholders and women.

By capturing this information within the broader survey framework, the MEA Module helps link mechanisation with key agricultural indicators, enabling policymakers to design targeted interventions that enhance productivity and equity within Cambodia's rural economy.

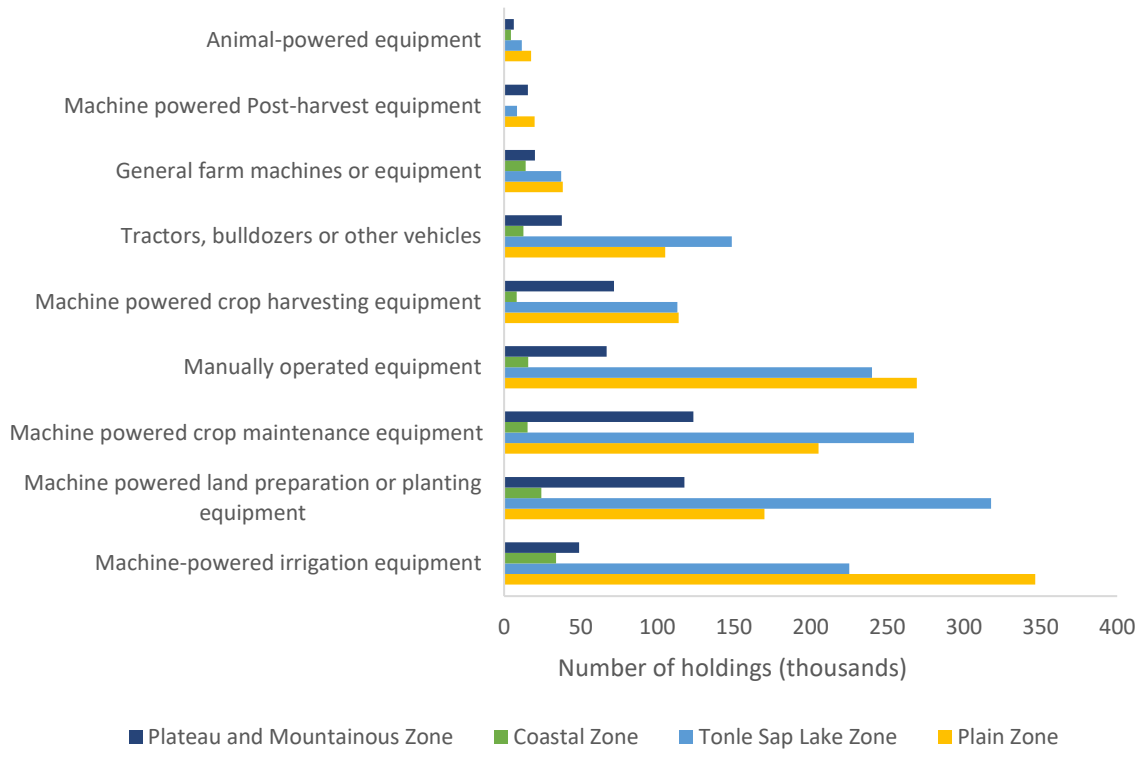
Use of equipment and machinery

CAS 2024 provides a comprehensive overview of the machinery and equipment used across the country, highlighting significant variations between agro-ecological zones. The machinery and equipment included within the survey are divided into 10 different categories:

- Manually operated equipment types
- Animal-powered equipment types
- Machine-powered irrigation equipment types
- General farm machine and equipment types
- Tractors, bulldozers and other vehicle types
- Machine-powered land preparation and planting equipment types
- Machine-powered crop maintenance equipment types
- Machine-powered crop harvesting equipment types
- Machine-powered Post-harvest equipment types
- Machine-powered livestock production equipment types

Nationally, machine-powered irrigation equipment is the most prevalent, reported by 654,700 holdings, followed closely by machine-powered land preparation (629,420) and machine-powered crop maintenance equipment (611,460). These figures underscore the growing mechanisation of key stages of agricultural production, particularly in irrigation and land preparation.

Figure 5.1 Holdings reporting use of equipment/machinery, by category of equipment/machinery, by zone, 2024



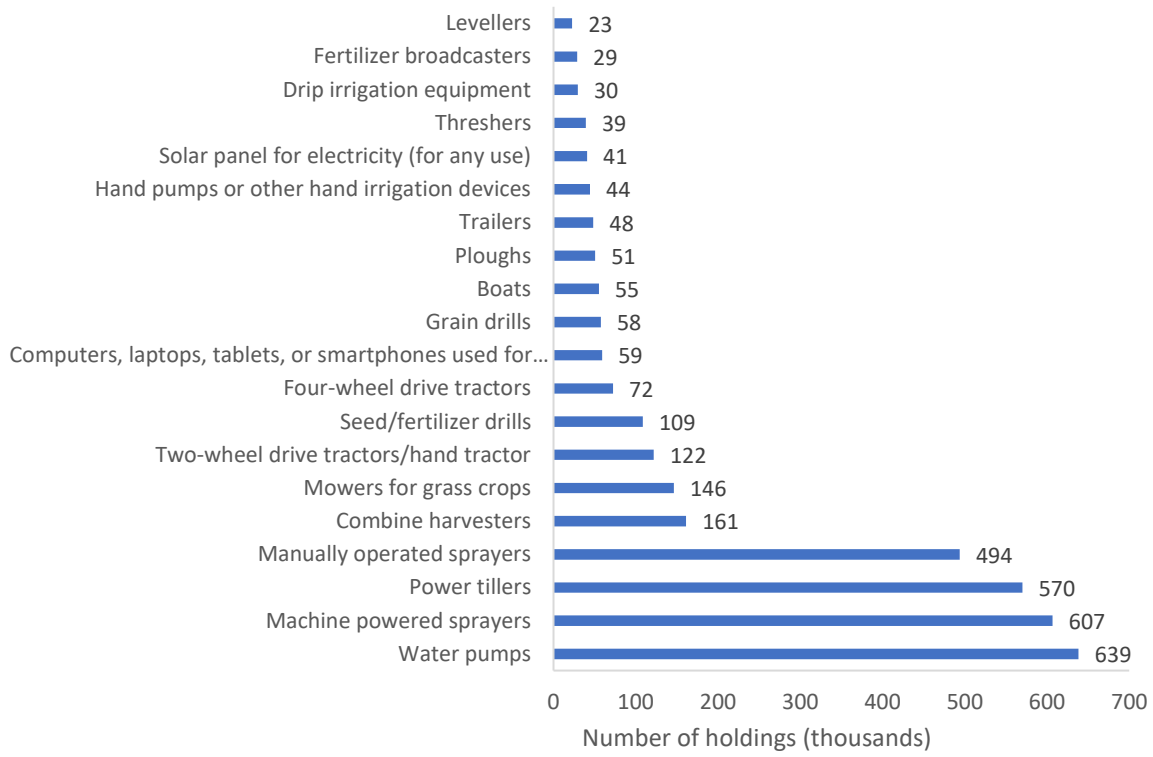
Source: CAS 2024

Manual labour remains important, with 591,900 holdings using manually operated equipment, reflecting the continued reliance on traditional tools in many farming systems. In contrast, machine-powered crop harvesting equipment (306,960) and tractors, bulldozers, or other vehicles (304,020) are used by fewer holdings, indicating that full mechanisation of harvesting and transport processes is less widespread.

There are also notable differences across zones. The Plain zone—Cambodia's primary agricultural area—dominates machinery usage, accounting for more than half of the national total in several categories, including machine-powered irrigation (346,600) and manual equipment (269,300). In contrast, the Coastal zone reports the lowest prevalence across nearly all machinery types, with only 33,900 holdings using irrigation equipment and very limited use of crop maintenance or harvesting machines.

The Tonle Sap Lake zone shows significant investment in land preparation machinery (317,740) and tractors or vehicles (148,660), reflecting its importance for large-scale crop production. Meanwhile, the Plateau and Mountainous zone, though less mechanised overall, records notable usage of machine-powered crop maintenance (123,500) and harvesting equipment (71,690), suggesting selective adoption of mechanisation for specific tasks suited to its terrain. Post-harvest mechanisation remains limited nationally, with only 44,280 holdings using machine-powered post-harvest equipment, while animal-powered equipment is reported by 39,900 holdings, primarily in less mechanised zones such as the Plateau and Mountainous zone and Coastal zone. These patterns indicate that while Cambodia is experiencing steady mechanisation, significant regional disparities persist, and traditional practices remain an important part of the agricultural landscape.

Figure 5.2 Holdings reporting use of equipment/machinery, top 20 most reported equipment/machinery, Cambodia, 2024



Source: CAS 2024

Water pumps are the most widely reported item, with 638,500 holdings using them, of which 98% also own the equipment, reflecting their critical role in irrigation and the high prevalence of ownership among users. Similarly, sprayers are also widely used, with 606,940 holdings (93% ownership) using machine-powered sprayers and 493,900 holdings (98% ownership) using manually operated sprayers, indicating near-universal ownership among those who use them.

Mechanisation is evident in the use of power tillers (570,160 holdings; 87% ownership) and two-wheel drive tractors or hand tractors (121,900 holdings; 58% ownership). However, four-wheel drive tractors are less common (72,400 holdings), with ownership reported by only 31% of users, suggesting limited access due to higher costs or reliance on hiring services.

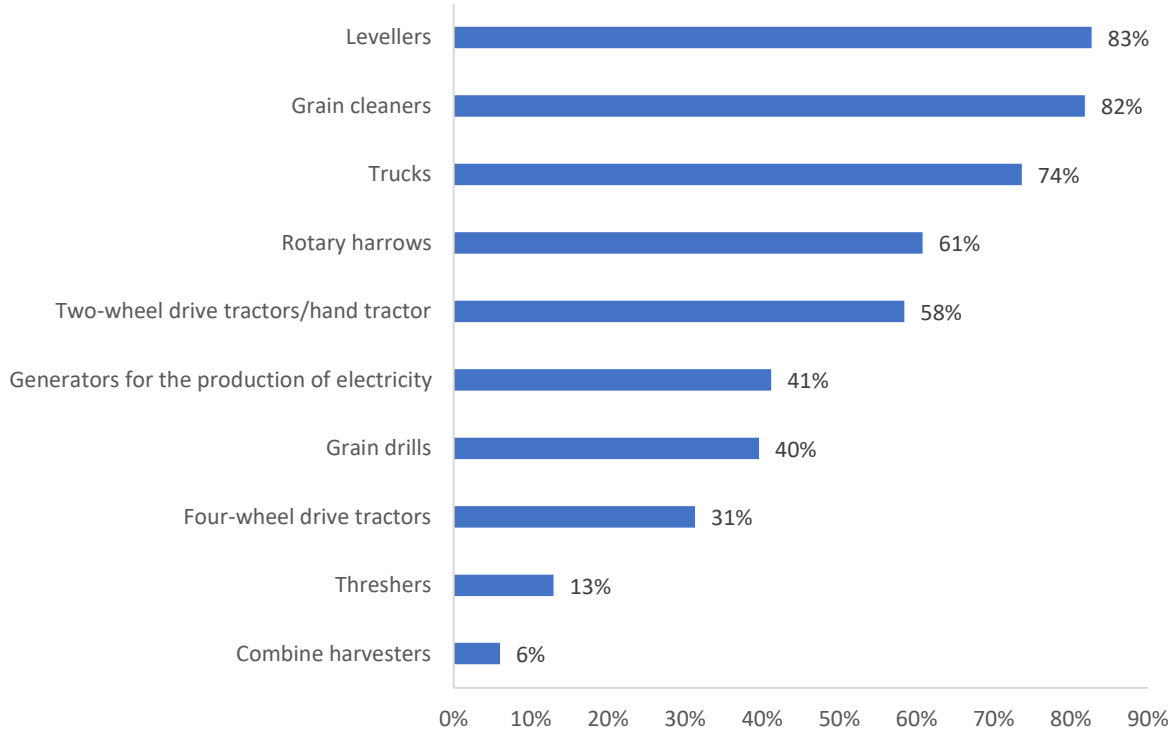
Adoption of combine harvesters is also limited, reported by 161,290 holdings, but with only 6% ownership, indicating that hiring remains the predominant means of access for harvesting machinery. Similarly, threshers are used by 39,230 holdings, but ownership is reported by just 13%, further reinforcing the role of service provision in mechanised harvesting.

Smaller-scale equipment such as hand pumps for irrigation (44,400 holdings; 98% ownership), ploughs (50,590 holdings; 86% ownership), and animal carts (11,500 holdings; 99% ownership) remain prevalent, reflecting continued reliance on traditional tools in many areas.

Technology use in farm management is growing, with 59,250 holdings reporting the use of computers, tablets, or smartphones for farm management, all of which are owned outright by the users (100%). Similarly, solar panels for electricity (40,810 holdings; 99% ownership) and drip irrigation equipment (29,500 holdings; 100% ownership) demonstrate expanding adoption of modern, sustainable technologies.

In contrast, specialized equipment such as fertilizer broadcasters (28,670 holdings; 94% ownership), grain drills (57,520 holdings; 40% ownership), and rotary harrows (20,810 holdings; 61% ownership) remain less widely distributed, while niche equipment including hay balers (1,940 holdings) and sprinkler irrigation systems (1,900 holdings; 100% ownership) are present only in limited numbers.

Figure 5.3 Percentage of holdings that report ownership of equipment / machinery compared to those that use it, top 10 equipment with lowest percentage of holdings owning, Cambodia, 2024



Source: CAS 2024

Types of equipment used by holder sex

In total, of the 1,868,160 projected household agricultural holdings in Cambodia, it is estimated that 1,311,210 are male holders (70%) and 556,960 are female holders (30%). Yet, in most cases, the use of agricultural equipment and machinery is disproportionately among male-held holdings compared to female holdings. The exceptions to this are primarily in the manually operated equipment, which is also the cheaper, more accessible and more traditional of methods, in which female holdings are mostly either at parity in terms of proportion of male

and female holders, or outweigh male holders in proportion to the number of female-held holdings. For instance, hand pumps or other hand irrigation devices are used in 44,400 holdings, of which 39% are female-held held and seed/fertiliser drills are used in 108,700 holdings, of which 31% are female-held.

The most commonly used type of machinery or equipment is machine-powered irrigation equipment, used by 654,700 households, representing about 35% of all agricultural households. Of the holdings using this type of machinery, 503,600 were male holders, whilst only 151,100 (23%) were female. Among them, water pumps were the most widely used, with 638,500 households using them, of which 145,200 holdings using them were in female-held holdings (23%).

The second most used type of machinery or equipment is machine-powered land preparation and planting equipment, with 629,400 households using it, of which 149,200 were female-held (24%), followed by machine-powered crop maintenance equipment, used by 611,500 households, of which 136,500 were female (22%).

Animal-powered machinery or equipment, such as steel ploughs and animal carts, was used by 39,900 households, of which 9,800 were female-held (25%). Interestingly, one of the types of equipment with the largest gender disparity in usage was solar panel electricity, in which 34,600 (85%) of the 40,800 holdings using it were male-held. This represents an opportunity for solar power providers to further target female users for renewable energy.

Table 5.1: Types of equipment used by holder sex, Cambodia, 2024

Types of equipment used	Holdings reporting use of specified machinery or equipment type	Male Holder	Female Holder
		Number of Holdings	
Manual-operated equipment	**591,900**	**445,000**	**146,900**
Sprayers	493,900	379,700	114,200
Seed/fertiliser drills	108,700	75,100	33,600
Handpumps or other hand irrigation devices	44,400	26,900	17,400
Winnowers	4,200	3,800	
Threshers	2,600	1,800	
Animal-powered equipment	**39,900**	**30,100**	**9,800**
Steel ploughs	17,500	13,200	4,300
Animal carts	11,500	9,000	2,500
Seed/fertiliser drills	8,300	6,000	
Wooden ploughs	5,500	4,300	
Levellers	3,600	2,900	
Machine-powered irrigation equipment	**654,700**	**503,600**	**151,100**
Water pumps	638,500	493,300	145,200
Drip irrigation equipment	29,500	21,100	8,400
Sprinkler irrigation equipment	1,900		

General farm machines and equipment	**109,800**	**82,900**	**26,900**
Computers, laptops, tablets or smartphones used for farm management	59,200	40,500	18,700
Solar panel electricity (for any use)	40,800	34,600	6,200
Generators for the production of electricity	5,200	3,600	
Tractors, bulldozers, and other vehicles	**304,000**	**234,600**	**69,500**
Two-wheel drive tractors/hand tractors	121,900	92,300	29,600
Four-wheel drive tractors	72,400	55,500	16,900
Boats	55,100	43,700	11,400
Trailers	48,400	38,900	9,400
Trucks	17,600	13,700	3,900
Machine-powered land preparation and planting equipment	**629,400**	**480,200**	**149,200**
Power tillers	570,200	436,100	134,100
Grain drills	57,500	42,600	14,900
Ploughs	50,600	39,200	11,400
Levellers	22,600	17,000	
Rotary harrows	20,800	15,300	5,500
Seed/fertiliser drills	8,500	6,800	
Broadcast seeders	7,900	7,300	
Machine-powered crop maintenance equipment	**611,500**	**474,900**	**136,500**
Sprayers	606,900	472,400	134,600
Fertilizer broadcasters	28,700	19,300	9,400
Machine-powered crop harvesting equipment	**307,000**	**233,300**	**73,600**
Combine harvesters	161,300	113,600	47,700
Mowers for grass crops	146,300	120,400	25,800
Hay balers	1,900	1,400	
Forage blowers	1,400		
Machine-powered post-harvest equipment	**44,300**	**32,200**	**12,100**
Threshers	39,200	27,700	11,500
Grain cleaners	5,200	4,700	
Machine-powered equipment for livestock production	**1,700**	**1,300**	
Incubators	1,700	1,300	

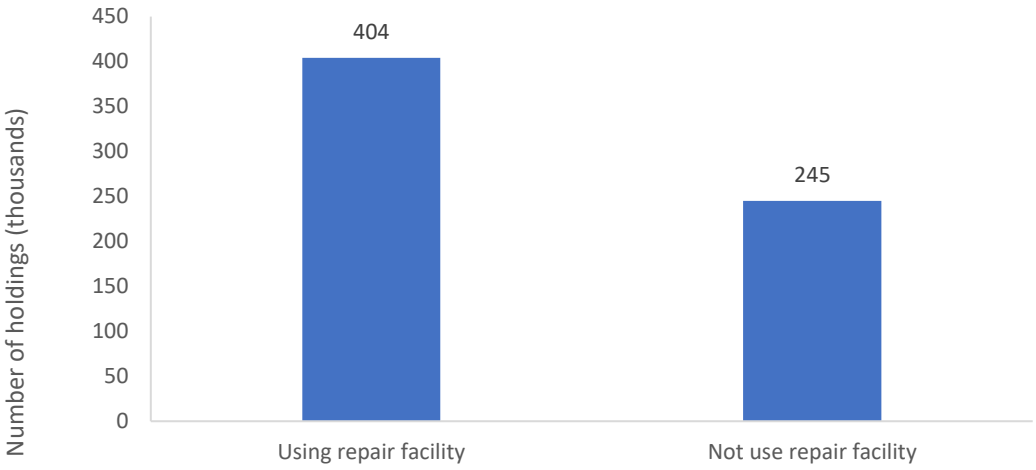
Source: CAS 2024

Agricultural Machinery Repair Facilities

In total, 649,000 holdings reported access to machinery repair facilities within their neighbourhood. Of these, 404,000 household holdings (approximately 62**%** of those who reported having access to agricultural machinery repair facilities) used the repair facilities, while 245,000 households stated that they did not use these facilities. There are various reasons why they did not use the repair facilities, primarily because the holding had no machinery (160,000 holdings), had no machinery in need of repair (56,000 holdings) an because the relevant knowledge existed on the holding (26,000 holdings). Positively, only a

minority, 4,000 holdings, reported that they did not use the repair facility because it was too expensive for them.

Figure 5.4 Number of household holdings reporting use of machinery repair facilities, availability and use, Cambodia, 2024

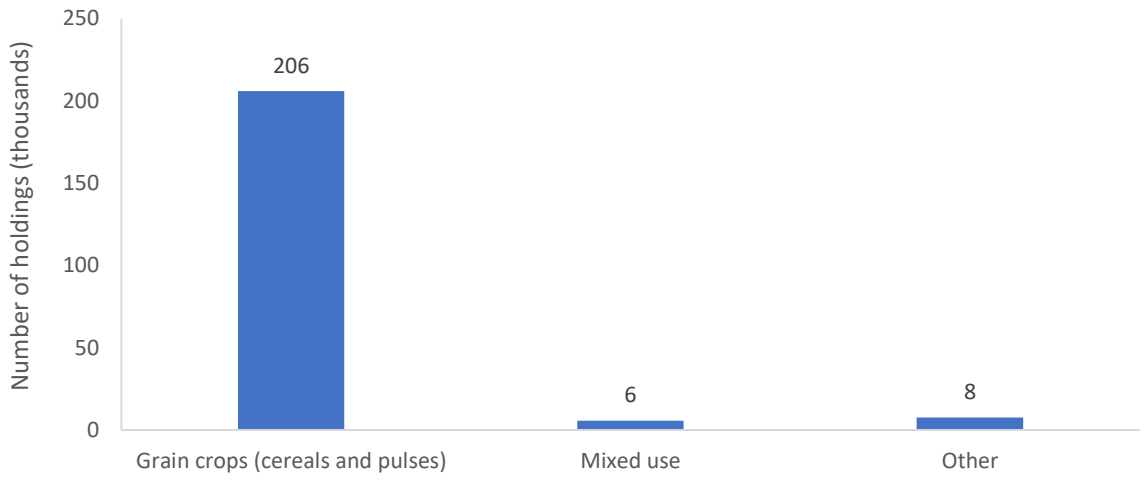


Source: CAS 2024

Storage facilities

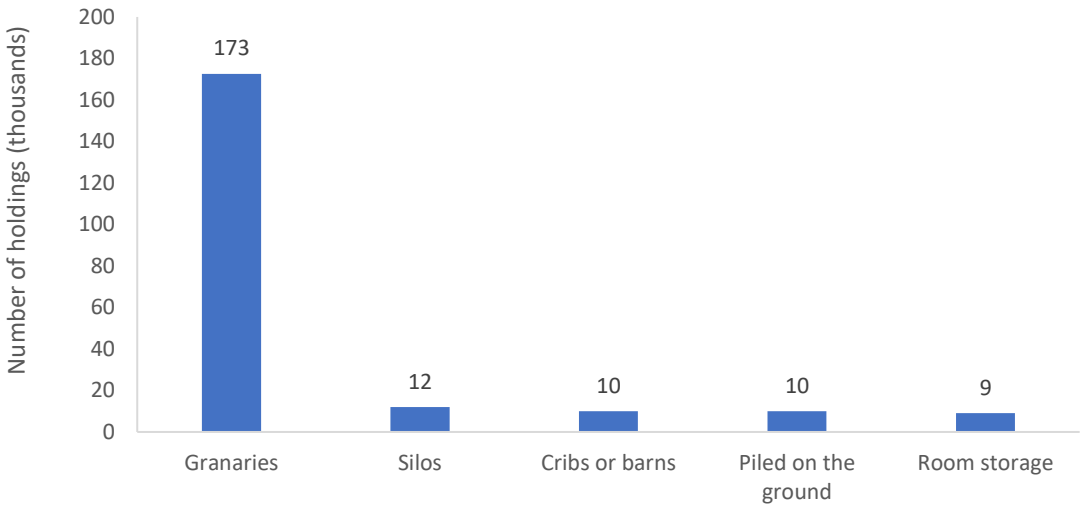
Two hundred and twenty one thousand agricultural households reported using buildings or non-residential structures for storing crops**.** Most households (206,000 or approximately 93%) used their buildings for grain crops (cereals and pulses). Around 6,000 households used the structures for mixed purposes, while 8,000 households used them for other purposes. Of those that used the structures for grain crops, 173,000 were in the form of granaries, whilst 12,000 were silos and 10,000 were in cribs or barns, 10,000 were piled on the ground and 9,000 were in room storage.

Figure 5.5 Number of household holdings reporting each type of crop in storage facilities, Cambodia, 2024



Source: CAS 2024

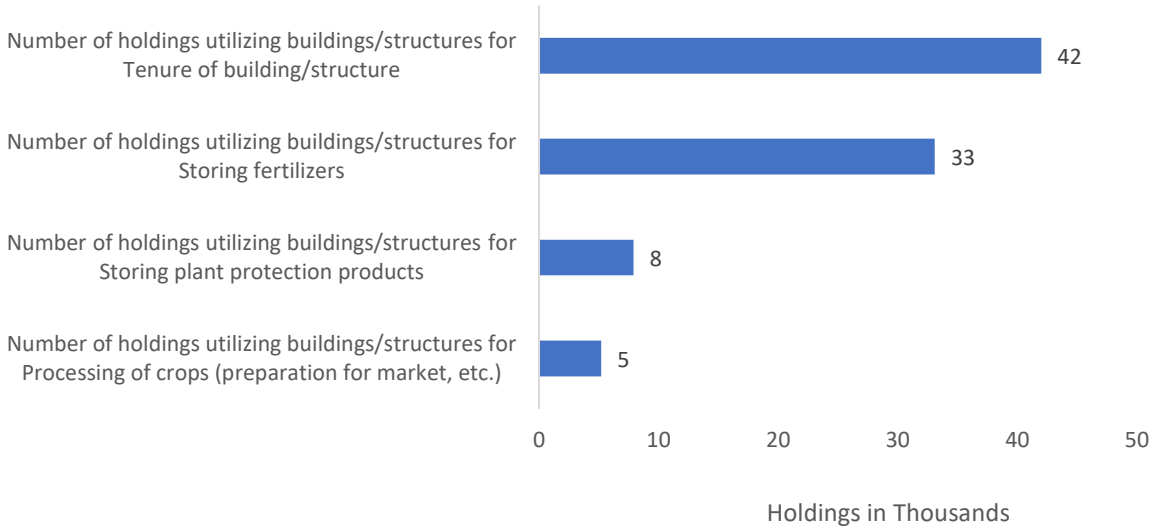
Figure 5.6 Types of storage used for Cereals and Pulse crops, number of holdings reporting use, Cambodia, 2024



Source: CAS 2024

The structures used for crop processing activities were used in a variety of ways. Forty-two thousand holdings utilised buildings/structures for storing crop-related machinery and equipment, 33,000 used them for storing fertilisers, 8,000 for storing plant protection products, and 5,000 for processing of crops.

Figure 5.7 Number of household holdings utilizing buildings/structures at national level, Cambodia 2024

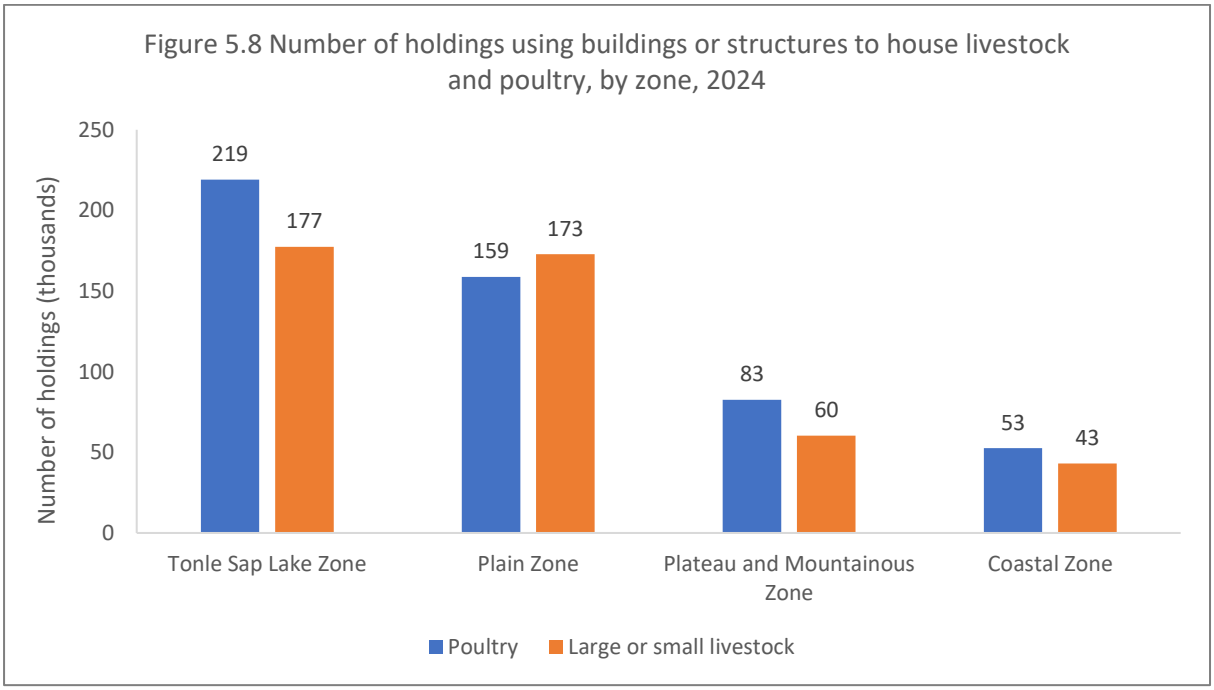


Source: CAS 2024

Buildings or structures used for livestock or poultry

In total, 454,000 holdings had a building or structure to house large or small livestock. Of these, 177,000 were located in the Tonle Sap Lake zone, 173,000 were located in the Plains zone, 60,000 in the Plateau and Mountainous zone and 43,00 in the Coastal zone. Of these structures used to house large or small livestock, a minority (40,000 – 9% of all holdings housing large or small livestock) also used the same building/structures to house humans. This varied across regions with 15% of holdings (9,000 holdings) in the Plateau and Mountainous zone, 9% (4,000 holdings) in the Coastal zone, 8% (14,000 holdings) in the Tonle Sap Lake zone and 7% (13,000 holdings) in the Plains zone.

In total, 513,000 holdings had a building or structure to house poultry. Of these, 219,000 were located in the Tonle Sap Lake zone, 159,000 were located in the Plains zone, 83,000 in the Plateau and Mountainous zone and 53,00 in the Coastal zone. Of these structures used to house large or small livestock, a minority (47,000 – 9% of all holdings housing poultry) also used the same building/structures to house humans. This varied across regions, with 16% of holdings (13,000 holdings) in the Plateau and Mountainous zone, 12% (6,000 holdings) in the Coastal zone, 9% (14,000 holdings) in the Plains zone and 7% (14,000 holdings) in the Tonle Sap Lake zone.



Source: CAS 2024

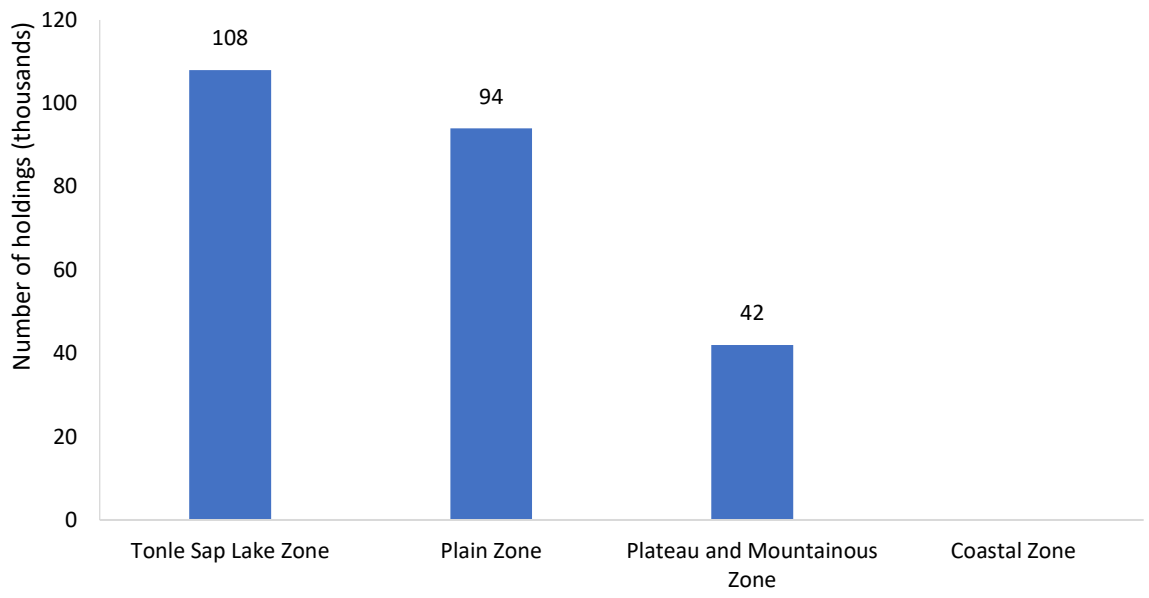
The average number of buildings or structures used for livestock and or poultry remained consistent across the country, with an average of 1.2 structures nationwide and only the Plains zone with a different average of 1.3.

In total, 74,000 non-residential buildings or structures for crop storage were owned and not used nationally. These were largely in the Plains zone, where 32,000 structures remained unused, followed by the Tonle Sap Lake zone with 22,000 unused structures, the Plateau and Mountainous zone with 13,000 and the Coastal zone with 8,000 unused structures.

Economy

Figure 5.1 shows the number of holdings working for other holdings by different zones. The data shows that the Tonle Sap Lake Zone has the highest number of holdings workings for other holding with 108,000, followed by the Plain Zone (94,000) and Plateau and Mountainous Zone (42,000). However, there is no data available to present in the Coastal Zone due to the responses not reaching the minimum statistical disclosure control.

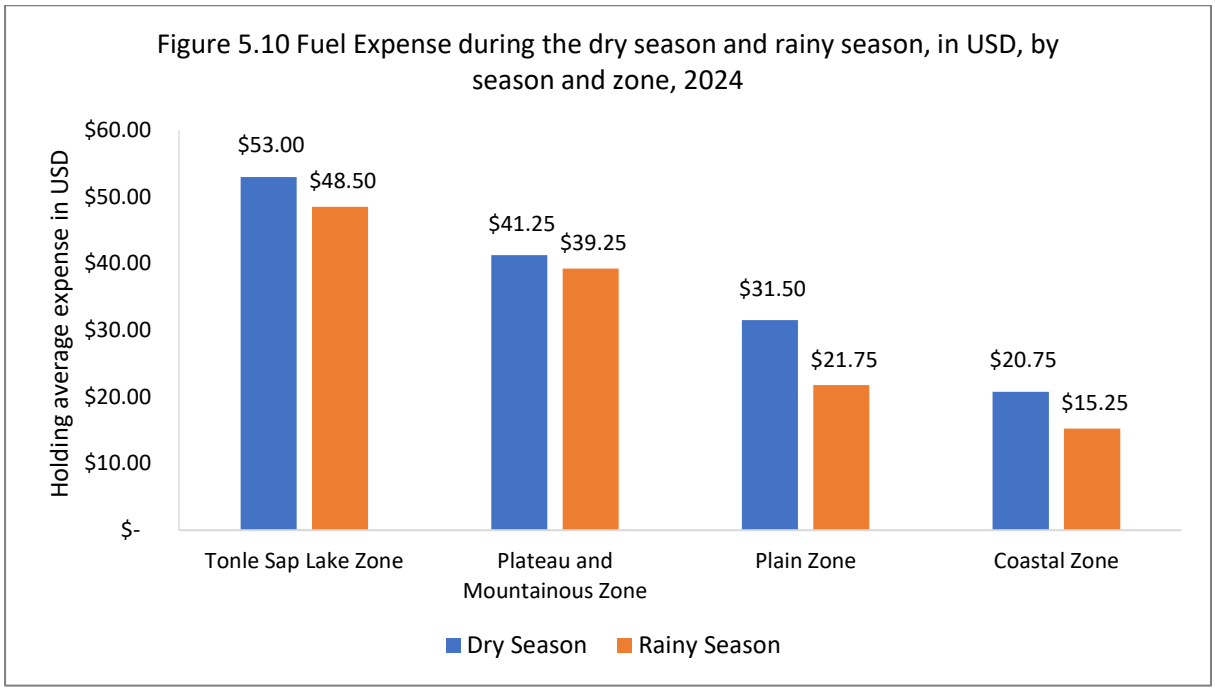
Figure 5.9 Number of holdings working for other holdings, by zone, 2024



Source: CAS 2024

Small-scale planting around homelot. Source: NIS photograph 2024

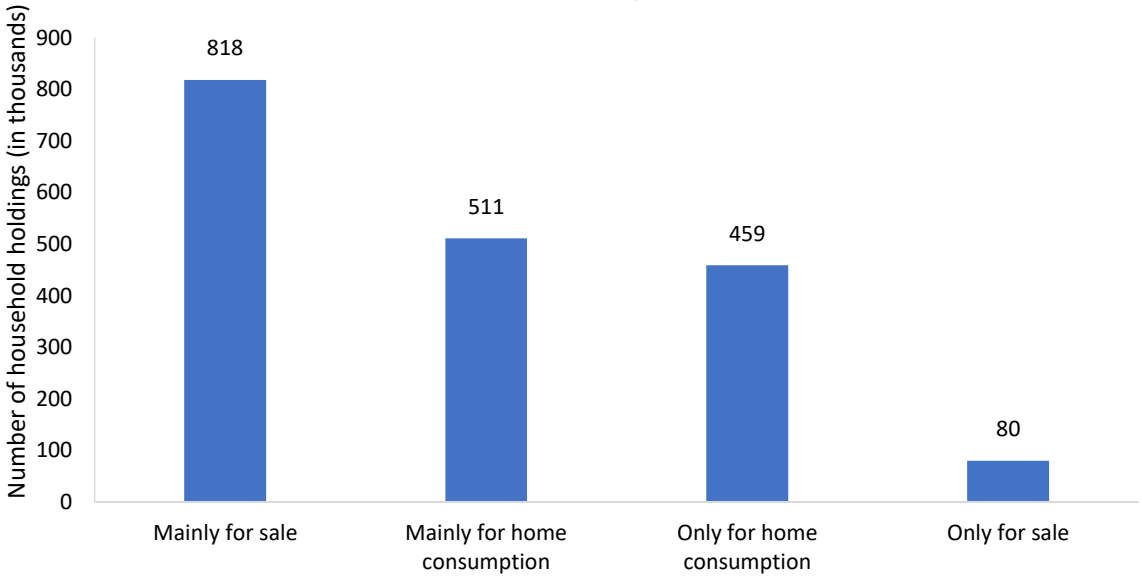
Figure 5.2 shows fuel expense during the dry season and rainy season for the whole year of agricultural activities operations. The highest expenses for fuel were in the Tonle Sap LakeZone with around $53.00 spent during dry season and $48.50 spent during Rainy Season. Following the Plateau and Mountainous Zone around $41.25 during dry season and during rainy season around $39.25, Plain Zone expense during dry season $31.50 and during rainy season around$21.75 and Coastal Zone during dry season $20.75 spent and $15.25 during rainy season.



Source: CAS 2024

Figure 5.3 shows that 818,000 agricultural household holdings produce agricultural output mainly for sale, 511,000 holdings produce mainly for home consumption, 459,000 holdings produce only for home consumption, and only 80,000 holdings produce only for sale.

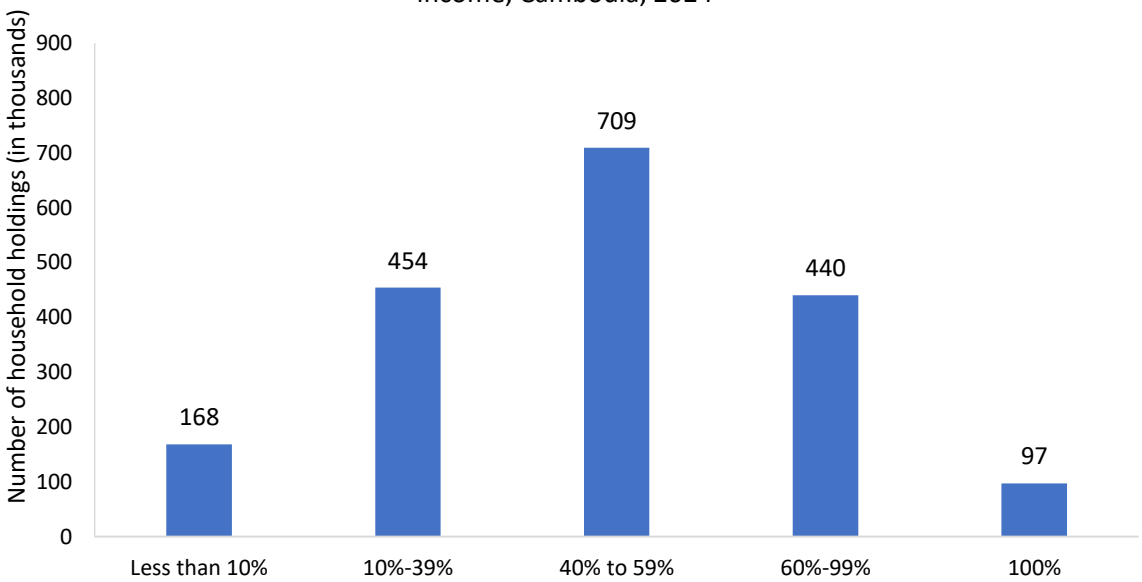
Figure 5.11 Holdings by main intended destination of agricultural production, Cambodia, 2024



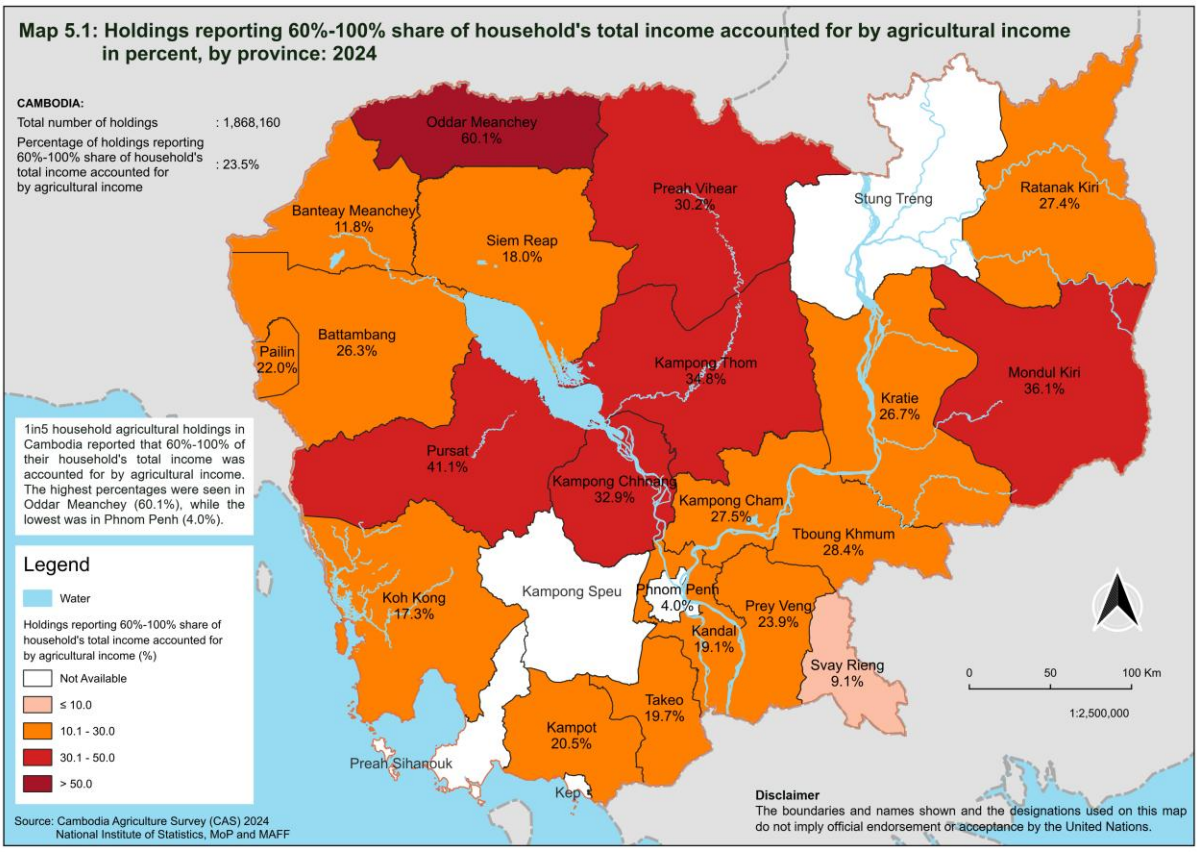
Source: CAS 2024

709,000 household agricultural holdings reported around half (40-59%) of their household's income coming from agricultural activities. Only 97,000 holdings reported that their households' total income depended entirely on agricultural outputs. One hundred and sixty eight thousand holdings reported that less than 10% of their household income came from agricultural activities.

Figure 5.12 Percentage of agricultural income contribution to household's total income, Cambodia, 2024

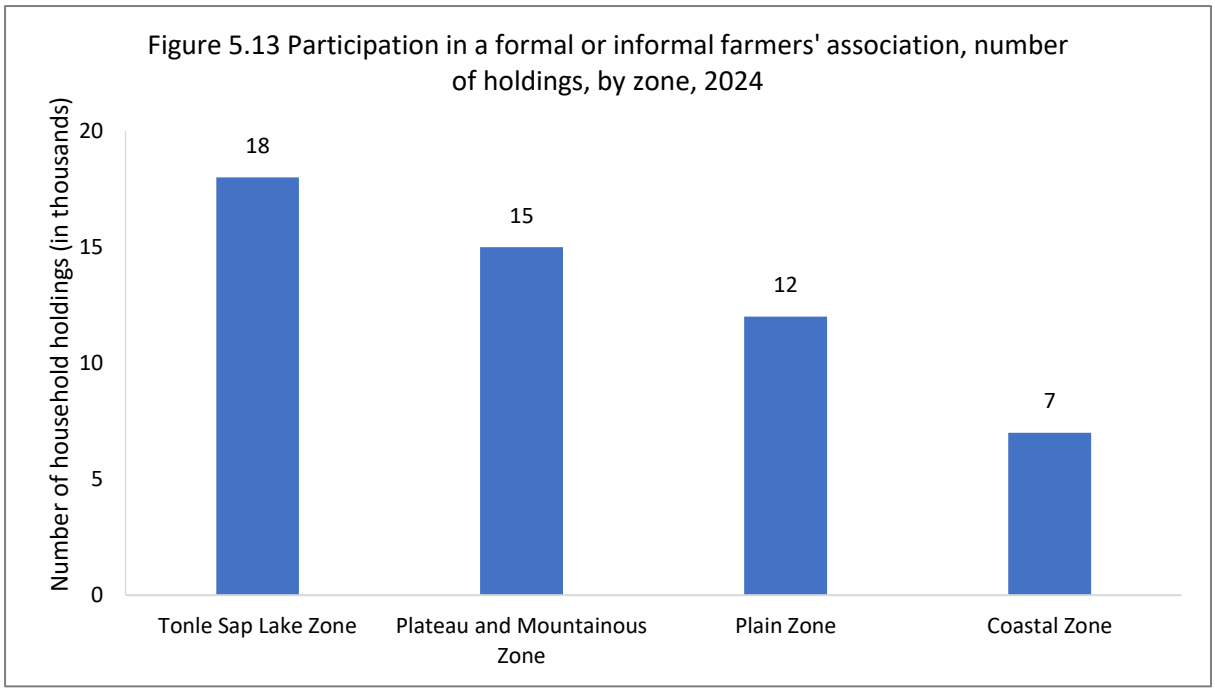


Source: CAS 2024



Source: CAS 2024

Figure 5.5 show the participation of holdings in informal and formal (registered with the government) farmers' associations. Both formal and informal farmers' associations are most common in the Tonle Sap Lake zone.

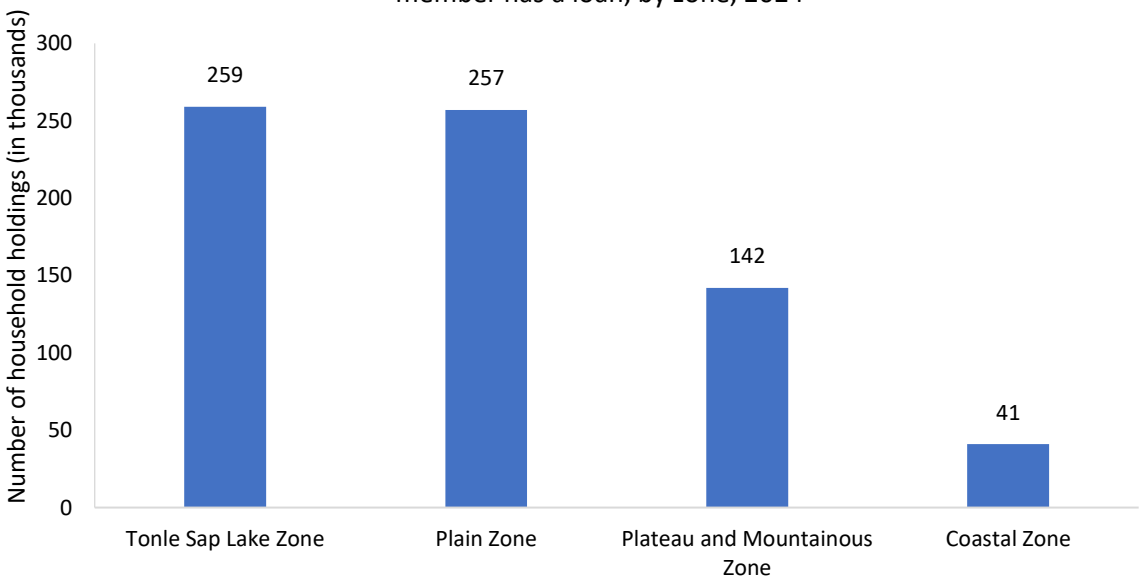


Source: CAS 2024

Access to finance is crucial for smallholder agricultural holdings in developing countries for several reasons including productivity improvements, risk management, market access, disaster preparation and socio-economic development.

In the Tonle Sap Lake zone 259,000 holdings reported having at least one loan, this was followed by the Plain zone (257,000), Plateau and Mountainous zone (142,000), and Coastal zone (41,000).

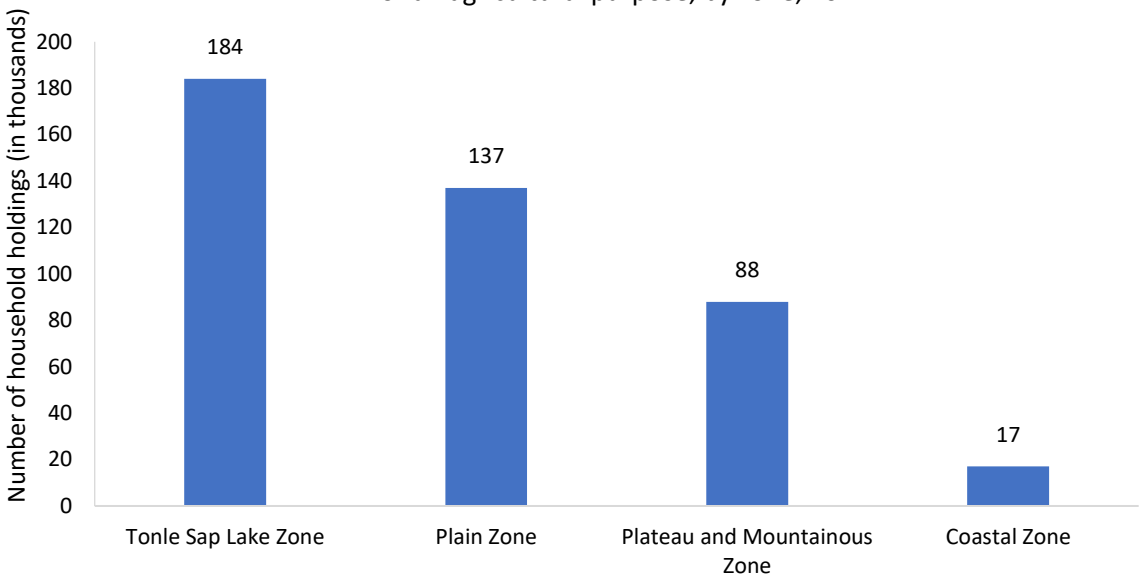
Figure 5.14 Number of household holdings reporting at least one household member has a loan, by zone, 2024



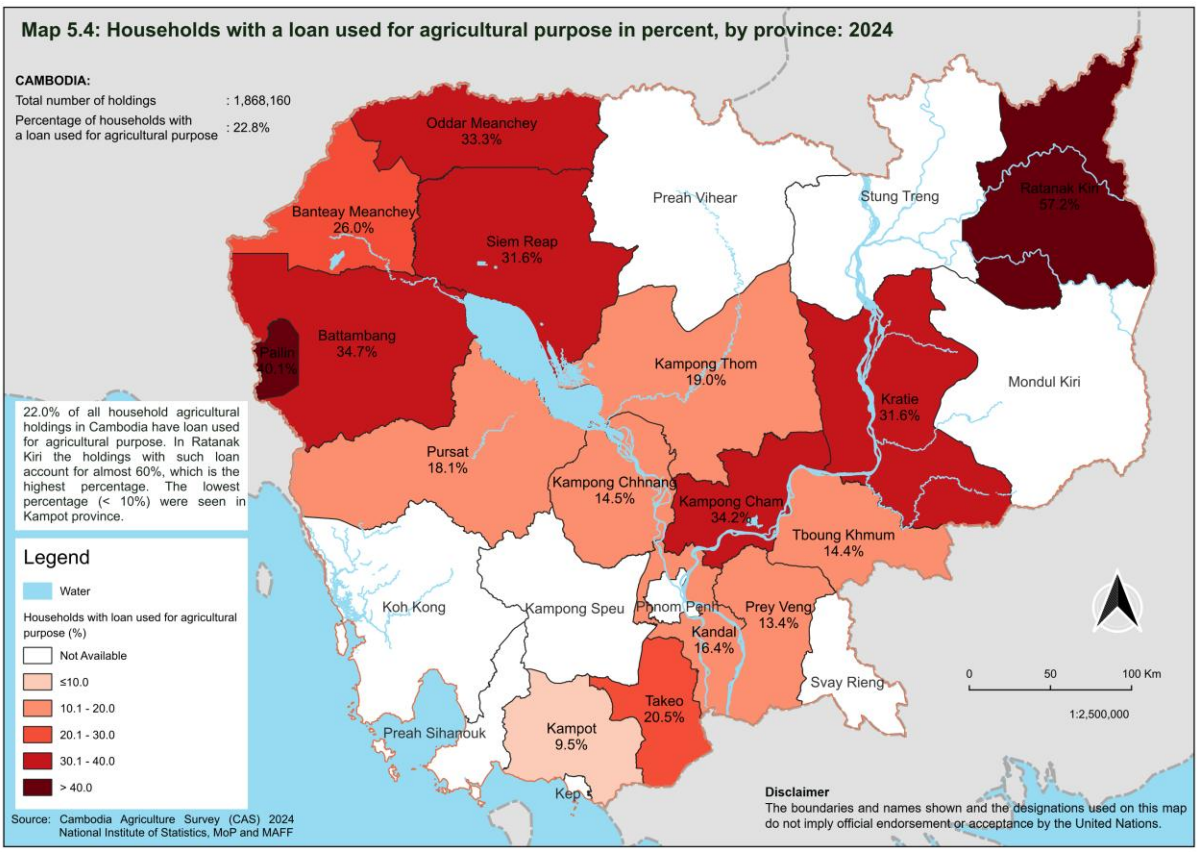
Source: CAS 2024

Approximately 61% of holdings with loans used at least some part of their loans for agricultural purposes. In the Tonle Sap Lake zone 184,000 holdings reported using at least part of their loans for agricultural purposes, this was followed by the Plain zone (137,000), Plateau and Mountainous zone (88,000) and Coastal zone (17,000).

Figure 5.15 Number of holdings reporting at least part of their loans being used for an agricultural purpose, by zone, 2024



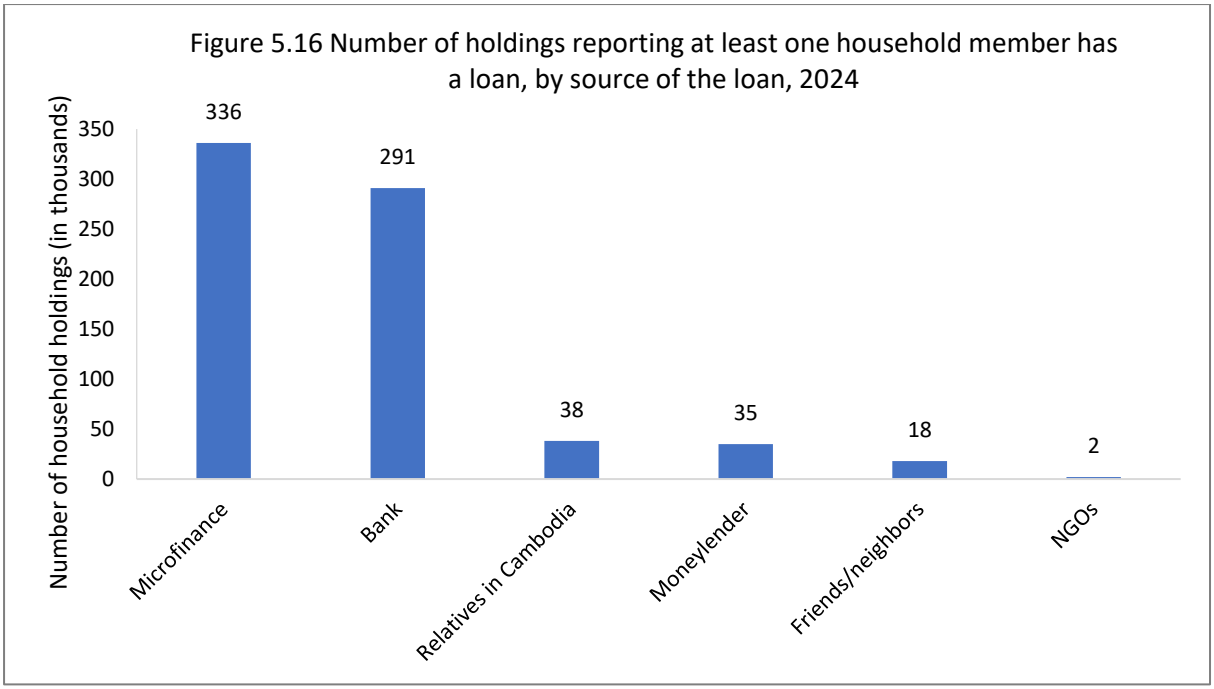
Source: CAS 2024



Source: CAS 2024

Loans were most frequently taken out via microfinance institutions. In total, 336,000 holdings reported using microfinance institutions for at least one of their loans, a number much higher

than the second most used source, banks (291,000). Outside of microfinance and banks, informal sources of money lending; relatives, moneylenders, friends/neighbours; were reported much less frequently.



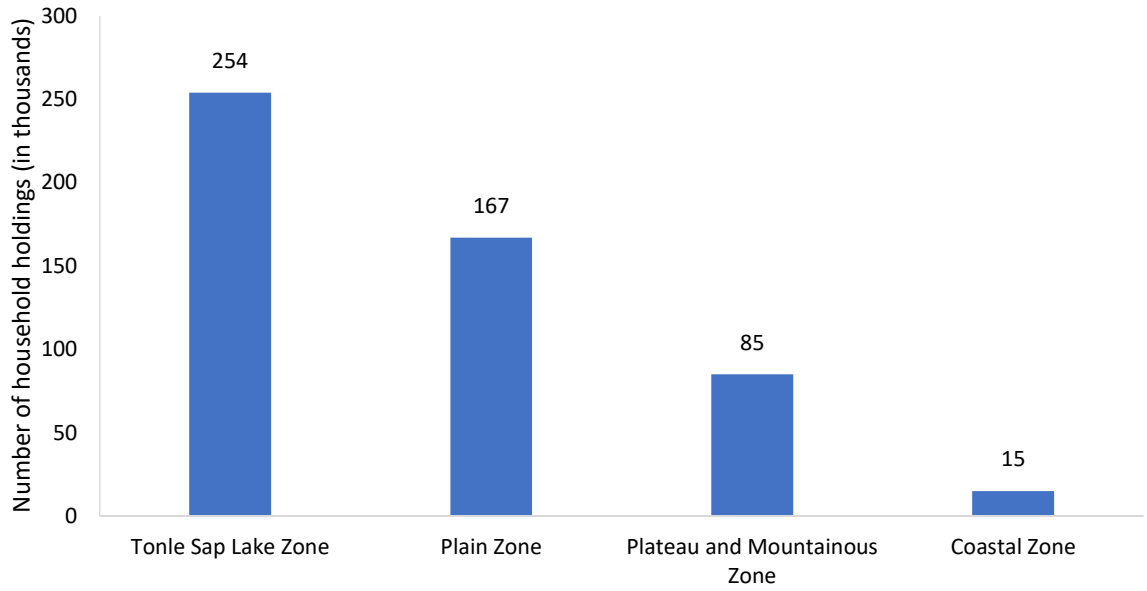
Source: CAS 2024

Shocks

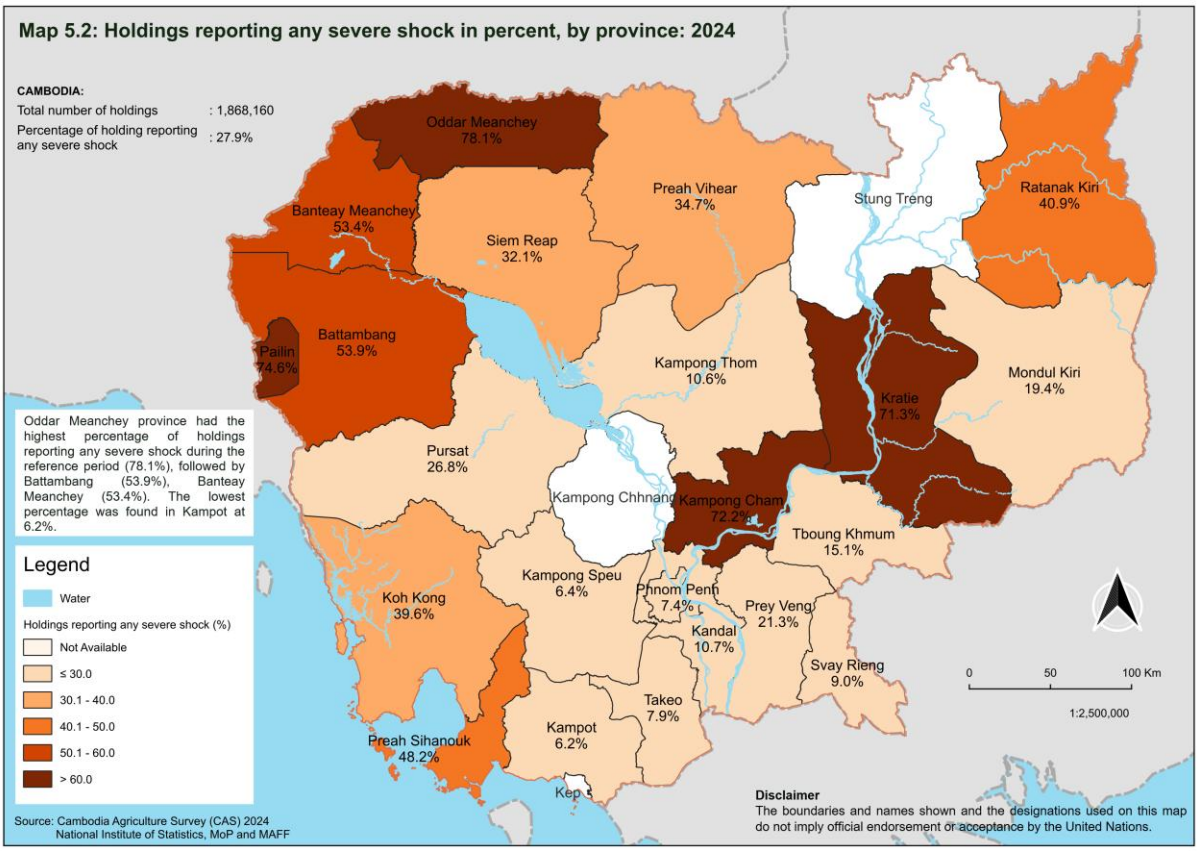
Shock in agriculture refers to unexpected events that significantly impact agricultural production or markets. These can be due to natural factors such as droughts, floods, pests, or diseases that can lead to crop failure, but they can also be man-made such as changes in government policy, trade restrictions, or conflicts that disrupt supply chains. These shocks can have a profound impact on the agricultural sector and the broader economy. They can lead to increased food prices, reduced income for farmers, and increased poverty and food insecurity among vulnerable populations.

Within the CAS 2024, the Tonle Sap Lake zone had the most holdings reporting a severe shock throughout the year (254,000). The Coastal zone had the lowest number of holdings reporting a severe shock (15,000).

Figure 5.17 Number of holdings reporting any severe shock, by zone, 2024



Source: CAS 2024

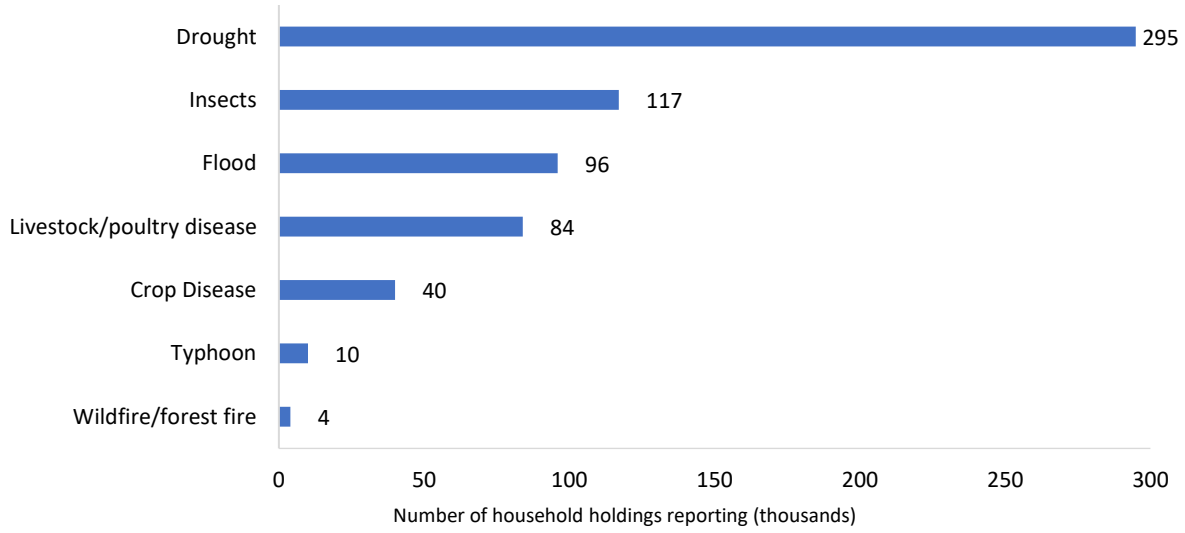


Source: CAS 2024

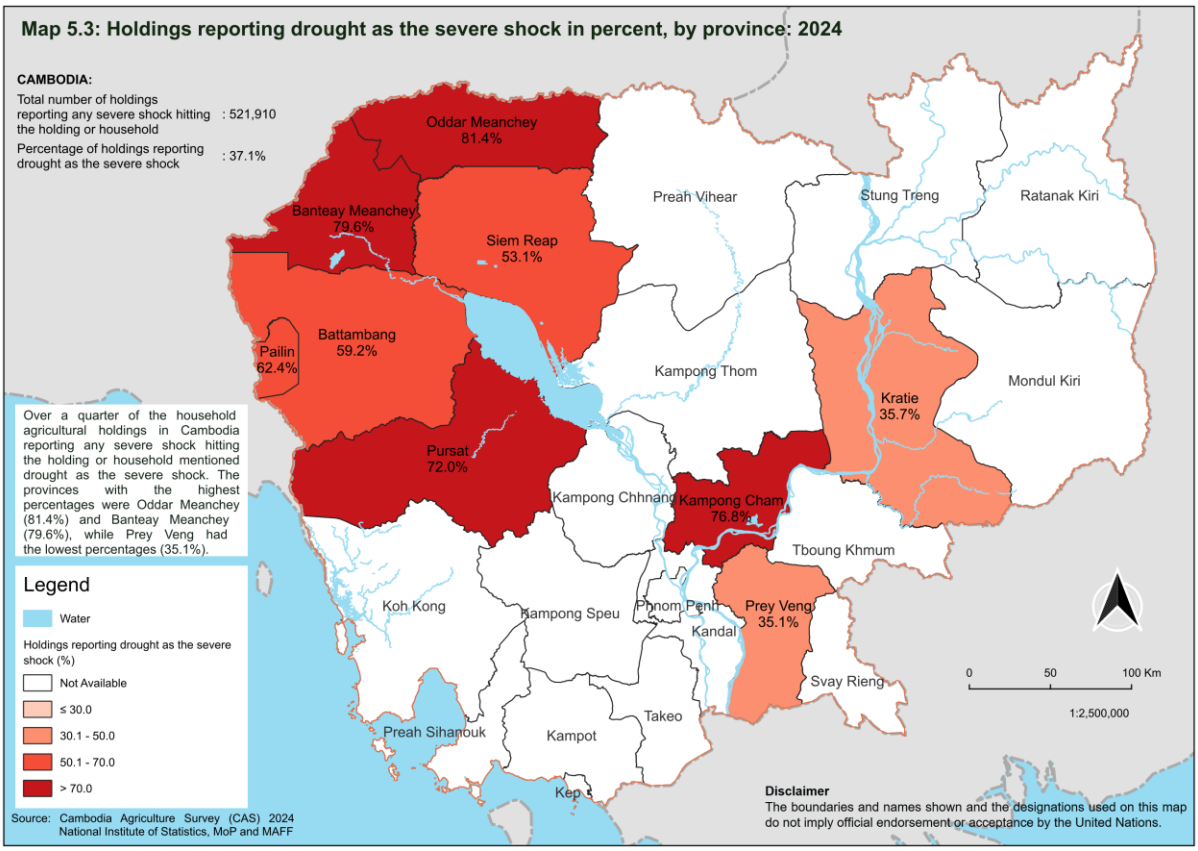
The severe shock which was referenced by most holdings was drought, affecting 295,000 household holdings in 2024. Insects was the second most cited shock with 117,000 holdings

reporting it having a severe effect on the holding within the reference period. Thirdly, Flooding was mentioned as having the most severe shock on a total of 96,000 holdings.

Figure 5.18 Number of holdings reporting a severe shock, by type of shock, Cambodia, 2024



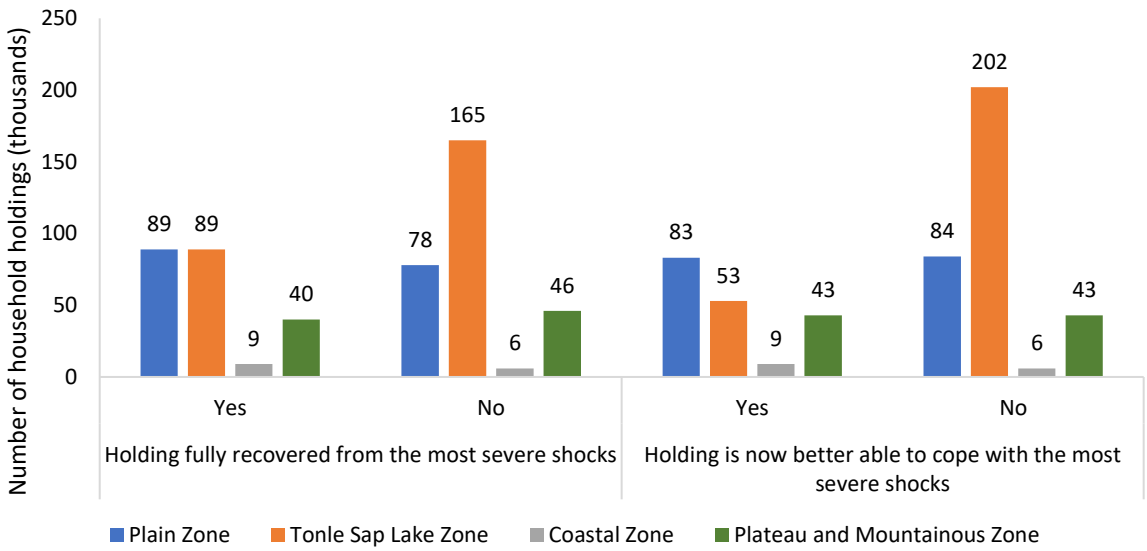
Source: CAS 2024



Source: CAS 2024

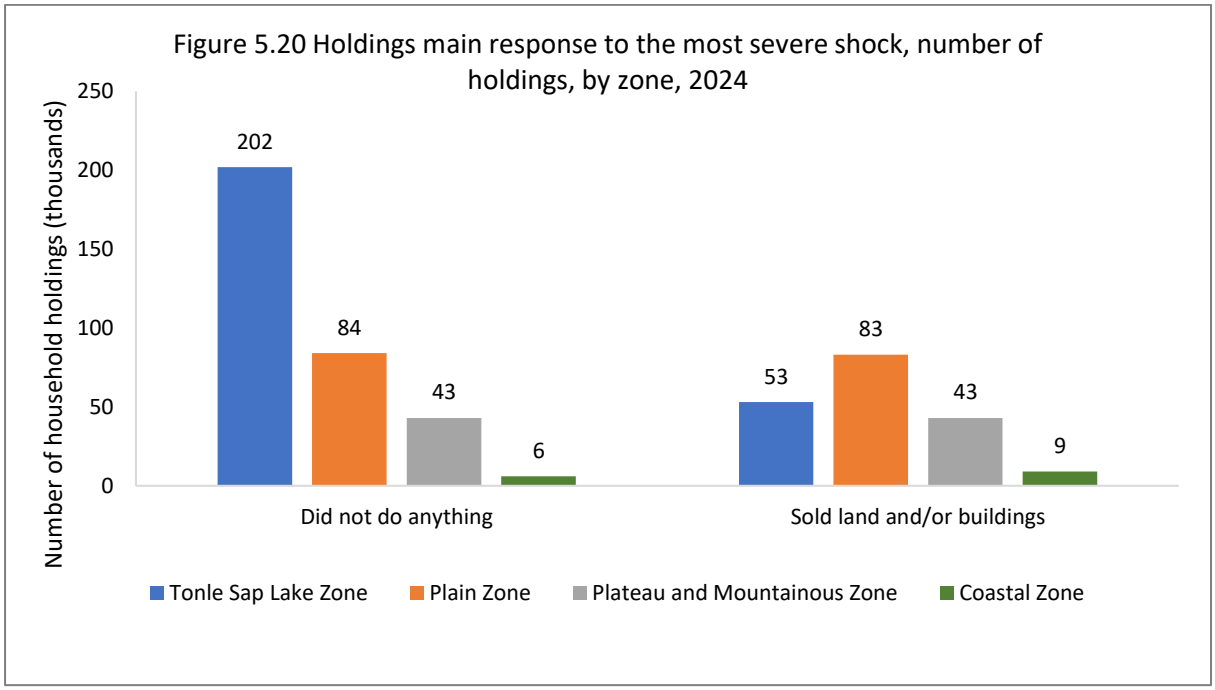
In 2024, household resilience to severe shocks varied significantly across zones. The Tonle Sap Lake Zone exhibited the highest vulnerability, with 165,000 households not fully recovered and 202,000 not better able to cope. In contrast, the Plain Zone showed more balanced outcomes, while the Coastal Zone, despite its smaller population, reported relatively strong recovery and coping indicators. The Plateau and Mountainous Zone displayed moderate resilience, with nearly equal proportions of households reporting recovery and improved coping capacity.

Figure 5.19 Holding recovery from severe shocks, number of holdings reporting, by zone, 2024



Source: CAS 2024

Holdings' response to the most severe shock varied significantly across zones. The Tonle Sap Lake Zone recorded the highest number of passive responses, with 202,000 holdings opting not to take any action, compared to just 53,000 that chose to sell land and/or buildings. In the Plain Zone, the numbers were almost evenly split: 84,000 holdings did not respond actively, while 83,000 sold assets. The Plateau and Mountainous Zone showed a perfect balance, with 43,000 holdings each choosing either to sell assets or did not do anything. The Coastal Zone had the lowest overall figures, with 6,000 holdings doing nothing and 9,000 selling land and/or buildings.



Source: CAS 2024