RÉPUBLIQUE DU CAMEROUN
Paix – Travail – Patrie

MINISTERE DE L'AGRICULTURE
ET DU DEVELOPPEMENT RURAL

SECRETARIAT GENERAL

DIRECTION DES ENQUETES ET
DES STATISTIQUES AGRICOLES

REPUBLIC OF CAMEROON
Peace – Work – Fatherland

MINISTRY OF AGRICULTURE
AND RURAL DEVELOPPEMENT

GENERAL SECRETARIAT

DEPARTMENT OF AGRICULTURAL
SURVEYS AND STATISTICS

RESULTS

REPORT

Assessment of the 2019/2020 crop year and food availability in the Adamawa, East, Far North, North and West regions

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Produced by the

Department of Agricultural Surveys and Statistics

December 2020

FOREWORD

An assessment of the crop year and food availability is a duty of the Ministry of Agriculture and Rural Development (MINADER) carried out by the Department of Agricultural Surveys and Statistics (DESA). This duty is usually carried out through a nationwide survey at the end of each crop year.

This report presents the results of the assessment of the 2019/2020 crop year and food availability in the following regions: Adamawa, East, Far-North, North and West regions. It is part of the DESA activity recovery plan validated in September 2020. This report comes after the last one that was produced four years ago in 2016 and whose data was already obsolete. It therefore aims at providing stakeholders in the agricultural sub-sector with reliable and updated data in order to improve agricultural productivity and fight against food insecurity in our country.

This assessment of the 2019/2020 crop year and food availability was carried out from July 1 to 31, 2020 with the support of the Food and Agriculture Organization of the United Nations (FAO) in twenty-seven (27) divisions of the Adamawa, East, Far North, North and West regions. The data collected covered the period from April 2019 to March 2020. Information gathered in each region concerned: agricultural production and yields; use of production factors; agricultural product prices; rainfall data; availability of agricultural products; and the main catastrophes and disasters recorded during the year.

Special thanks to the staff who made it possible to collect the data. These include DESA staff, the Regional Heads of Service for Agricultural Surveys and Statistics (CSRESA) and the staff of the National Program for Monitoring and Strengthening Food Security (PNVRSA). Special Thanks also go to the staff of MINADER's decentralized services, notably the Regional Delegates for Agriculture and Rural Development (DRADER), the Divisional Delegates for Agriculture and Rural Development (DDADER) and the Divisional Section Heads for Agricultural Surveys and Statistics (CSDESA), who gave a warm welcome to the teams and were deeply involved this survey.

The Minister of Agriculture

And Rural Development

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ACRONYMS AND ABBREVIATIONS

BUCREP	: Central Bureau of the Census and Population Studies
CE	: Team Head
CEMAC	: Economic and Monetary Community of Central Africa
CIAR	: Information and Early Warning Unit
MTEF	: Medium-Term Expenditure Framework
CSDESA	: Divisional Section Head for Agricultural Surveys and Statistics
CSRESA	: Regional Service Head for Agricultural Surveys and Statistics
CSSRA	: Statistical Overview and Agricultural Income Unit
DDADER	: Divisional Delegates of Agriculture and Rural Development
DESA	: Department of Agricultural Surveys and Statistics
DRADER	: Regional Delegate of Agriculture and Rural Development
PRSPs	: Poverty Reduction Strategy Papers
GESP	: Growth and Employment Strategy Paper
ECAM	: Cameroon Household Survey
FAO	: Food and Agriculture Organization of the United Nations
IMF	: International Monetary Fund
HDI	: Human Development Index
NIS	: National Institute of Statistics
MICS	: Multiple Indicator Cluster Survey
MINADER	: Ministry of Agriculture and Rural Development
MINEPIA	: Ministry of Livestock, Fisheries and Animal Industries
MDGs	: Millennium Development Goals
NGO	: Non-Governmental Organization
POs	: Producer's Organizations
WFP	: World Food Programme
GDP	: Gross Domestic Product
AGDP	: Agricultural Gross Domestic Product
SMEs	: Small and Medium Industries/Enterprises
PNVRSA	: National Program for Monitoring and Strengthening Food Security
SDEES	: Sub-Department of Surveys and Statistical Studies
XAF	: CFA Franc

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EXECUTIVE SUMMARY

Agriculture is a key sector of the Cameroonian economy, ensuring food self-sufficiency and employing more than 60% of the active population. Due to its geographic location, Cameroon is subdivided into five agro-ecological zones, allowing for the production of a wide variety of agricultural products. Production is essentially subsistence, characterized by a fragmentation of plots, rudimentary tools and low input use.

In order to update the information available in these agro-ecological zones, it is essential to carry out regular missions to assess the crop year and food availability. This is the purpose of the survey conducted from July 1 to 31, 2020 in 27 divisions of the Adamawa, East, Far North, North and West regions.

The assessment of the 2019/2020 crop year and food availability in the Adamawa, East, Far North, North and West regions was carried out based on the four following aspects: the evolution of agricultural production for the 2018/2019 and 2019/2020 crop year, the analysis of factors that affected agricultural production, trend in agricultural product prices and the availability of agricultural product stocks.

- ❖ Agricultural production trends for the 2018/2019 and 2019/2020 crop years

In the Adamawa Region, a decline of nearly 1.5 percent in corn production was observed between 2018 and 2019.

In the East Region, plantain production (892,658 tons) observed in 2019 remained almost stable (-0.2% change). With an increase of 37.5%, (from 18,489 tons in 2019, compared to 13,448 tons in 2018), the groundnut production has sharply increased.

In the Far-North, maize production fell by 15% over the period. This decline (-12%) was evident in the Mayo-Tsanaga division, which remains the region's leading maize production area, followed by the Logone and Chari division (-32.6%).

This decline was also evident in the North Region where millet and sorghum production fell by 2%. On the other hand, rice production rose sharply (38.8%) over the period. Rice production areas also increased in the same proportions. The Benue division, which is the largest rice production area in the region, recorded a significant increase of almost 33%.

In the West region, plantain production fell by 2.7%, despite a 1% increase in production area. This is not the case for irish potato production, which increased by 9.8%, for an increase in production area of 14.9%.

- ❖ Factors affecting agricultural production in the 2018/2019 and 2019/2020 crop years

Low use of phytosanitary products in the regions surveyed. The main reasons cited are the scarcity and high cost of these products. The use of unregistered phytosanitary products was mentioned in almost all the divisions of the regions surveyed, but at different levels.

Producers use pesticides and herbicides with little knowledge of their quality or composition. The use of these products was justified by: the attractiveness of selling prices; the absence of approved structures for marketing agricultural products; the proximity of certain divisions to neighbouring countries such as Nigeria and Chad, which supply them at low prices; and producers' ignorance of the harmful effects of these products on the soil, crops and human health.

- ❖ Trend of agricultural product prices

The end of the 2019/2020 crop year was marked by the closure of borders following the COVID-19 pandemic that occurred in our country in March 2020. This situation led to a drop in the price of certain agricultural products, such as tomatoes, whose price fell from 12,500 to 1,800 CFA francs per basket (15 kg) in the main selling markets. The security crisis linked to the atrocities of the terrorist sect Boko Haram, coupled with flooding, has disrupted many economic activities and led to a general decline in agricultural production in the Far North Region.

- ❖ Availability of agricultural products

With human consumption at 550 grams of grain per person per day, the Far North region has a surplus of 69,548 tons of grain, representing 6% of its production. On the other hand, of the five regions surveyed, the North region is the number one producer of grain with a surplus of 458,213 tons, representing 39% of its total agricultural production.

1 INTRODUCTION

1.1 MACROECONOMIC SITUATION

Cameroon's overall macroeconomic situation is assessed through the evolution of economic growth, the budget balance, the trade balance and inflation, highlighting certain economic factors related to the agricultural sector.

Cameroon is a middle-income country with an estimated population of over 24 million.[1]. According to estimates by the Central Bureau of Census and Population Studies (BUCREP), 51 percent of the population lives in rural areas. Cameroon's economy accounts for more than 40% of the Gross Domestic Product (GDP) of the Economic and Monetary Community of Central Africa (CEMAC) in terms of production (agricultural, industrial, and services) and the country contributes about 70% of intra-community agricultural trade.[2]. It is the most diversified in the sub region but remains dependent on unprocessed products: hydrocarbons, agricultural products (cocoa, coffee, cotton, palm oil, etc.), wood, etc.

The recent economic situation is gloomy with a GDP growth rate that dropped from 5.7% in 2015 to 3.5% in 2017. The decline in oil prices on the world market and the contraction in global demand for raw materials, which has affected Cameroon's export sector, partly explain this slow economic growth. However, it should be noted that the Cameroonian economy was resilient in 2018 despite the global economic slowdown. The country recorded a growth rate of 4.1% as compared to 3.5% in 2017. This increase was due to the contributions of the primary and secondary sectors, particularly the "agriculture" and "mining" industries. The primary sector contributed 0.7 points to real GDP growth in 2018.

Cameroon was faced with a budget deficit, averaging -3.9% of GDP over the period from 2010 to 2017, mainly because of the overall decline in government revenues coupled with increased public spending, particularly those related to the completion of numerous structuring projects. The elimination of taxes on certain basic products and necessities from 2008 until 2016, such as fish, wheat, rice, powdered or condensed milk, sugar and wheat flour, had a direct impact on state budget that materialises as a considerable loss of revenue. It was about 443 billion CFA francs between 2008 and 2015 (NIS, 2018). The entry into force of the Economic Partnership Agreement (EPAs) between Cameroon and the European Union (EU), since August 2016, has also contributed to the decline in state revenues.

As far as foreign trade is concerned, Cameroon's trade balance deficit widened further in 2019 to CFAF 1,464.2 billion, recording a worsening of CFAF 171.3 billion (13.3%) compared to 2018. This gap is partly inherent to the import of food products for mass consumption, particularly rice and fish, whose import value amounted to about CFAF 1,000 billion over the period from 2015 to 2017[3].

Although below the CEMAC standard of 3%, the inflation rate in Cameroon reached 2.5% in 2019 and became the highest rate after 2015, when it stood at 2.7%.[4]. According to the National Institute of Statistics (NIS), this increase in the general price level was largely due to the rise in food prices in general and certain consumer products in particular such as rice, frozen mackerel and beef. The insecurity prevailing in some food-producing areas in the Northwest and Southwest regions, as well as flooding and attacks by the Boko Haram terrorist sect in the Far North, have negatively affected the supply of food products while increasing demand for these products in urban areas, due to populations moving to the cities (Maroua, Garoua, Bafoussam, Bamenda, Buea).This trend remained unchanged in the first half of 2020[5] and was reinforced by the series of restrictive measures taken by the government as part of the response to COVID-19 in March 2020.

1.2 CHARACTERISTICS OF THE AGRICULTURAL SECTOR

Agriculture is a key sector of the Cameroonian economy, ensuring food self-sufficiency and employing more than 60% of the active population. Due to its geographic location, Cameroon is subdivided into five agro-ecological zones, allowing for the production of a wide variety of agricultural products.

[1] BUCREP, 2010 projection

[2] 2 Agricultural Risk Assessment, Final Report April 2017

[3] Investir au Cameroun, March 2019/No.83

[4] Note on inflation trends, 2019

[5] NIS, Note on inflation trends in the first half of 2020

Production is essentially subsistence, characterized by a fragmentation of plots, rudimentary tools and low input use.

The assessment of the 2019/2020 agricultural season and food availability covers four agro-ecological zones. These are the Sudano-Sahelian Zone for the Far North and North regions; the High Guinea Savannah Zone, which includes the Adamawa region; the High Plateau Zone, which concerns the West region; and the Bimodal Forest Zone, which houses the East region.

The sudano - sahelian zone is characterized by a hot, dry tropical climate with little rainfall (400 to 1,200 mm/year, average temperature of 28 to 35 degrees Celsius) that is favourable to agriculture and livestock (large and small livestock). Fishing is also carried out there. The main crops cultivated are: cereals (millet-sorghum, corn, rice), roots and tubers (potato, Irish potato, cassava), legumes (peanuts, soybeans, voandzou, cowpeas, sesame), fruits and vegetables (onion, tomato, Guinea sorrel), and cotton.

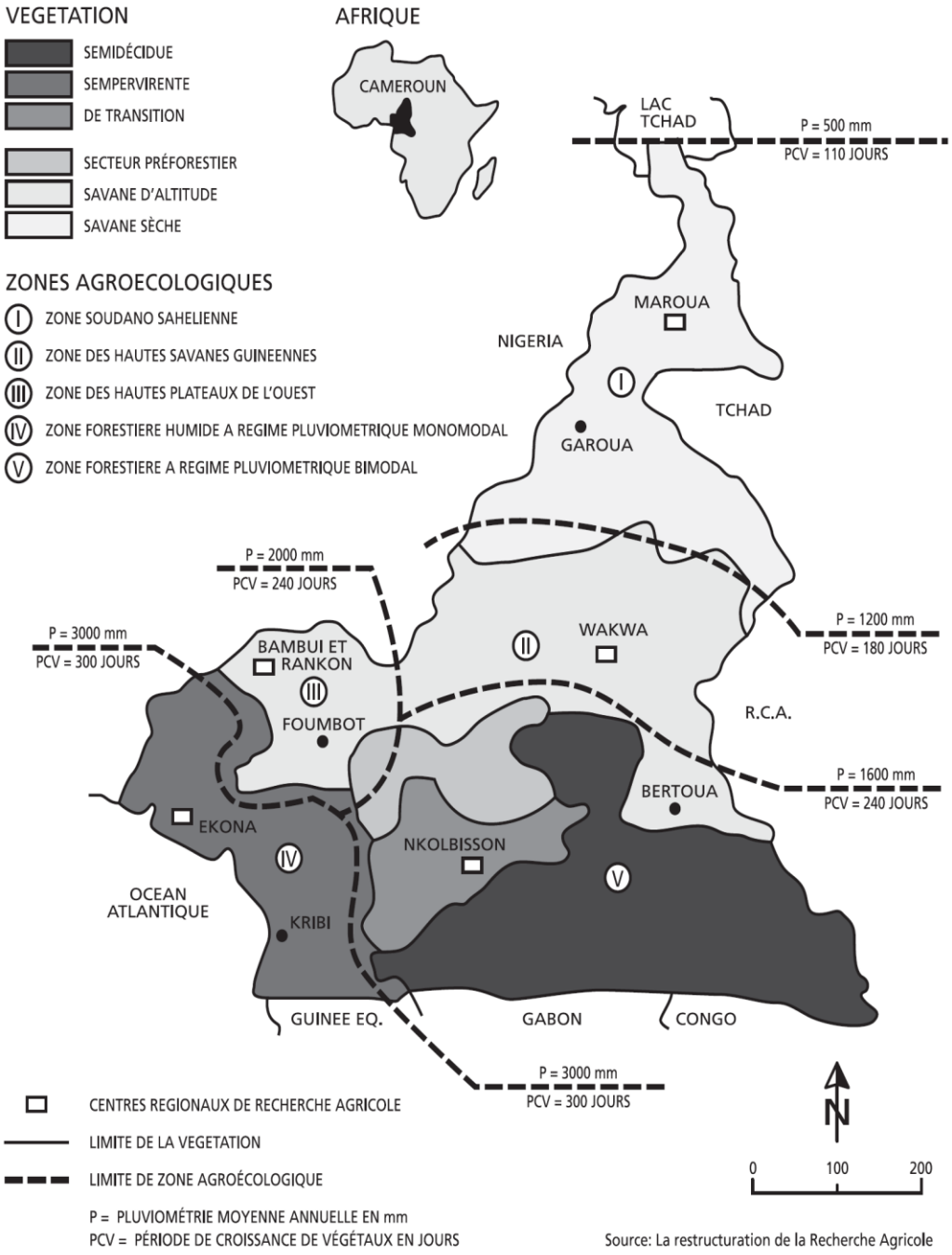
The high guinea savannah zone covers mainly the Adamawa region as well as the northern part of the Mbam and Kim (Centre region) and Lom and Djérem divisions (East region). The average annual rainfall is about 1,500 mm, with about 150 rainy days. The temperature is moderate with a monthly average of 20 to 26° C. The soils are permeable with a medium water retention capacity. Agriculture and livestock production have a complex complementary and competitive relationship. The main crops cultivated are roots and tubers (cassava, potatoes, and yams), cereals (corn), legumes (groundnuts, cowpeas), fruits and vegetables (ginger, tomatoes, and peppers). Livestock farming is the main economic activity of the region.

The high plateau zone covers the West and North-West regions. Rainfall varies between 1500 and 2000 mm/year with 180 rainy days. The average altitude is over 1100 m. The high plateau forms a zone rich in volcanic soils favourable to the cultivation of coffee, cocoa, corn, beans, potatoes, and market gardening. The main animal species raised are poultry, pigs and ruminants.

The bimodal forest zone covers mostly the Centre, East and South regions. Dense vegetation, a vast hydrographic network and a hot and humid climate with abundant rainfall (1500 - 2000 mm/year) characterize this ecological zone. It is suitable for the cultivation of cocoa, coffee, oil palm, cassava, corn and banana. It is also favourable for the breeding of large livestock, small livestock, poultry and pigs.

In order to update the information available in these agroecological zones -, it is essential to carry out regular crop and nutritional assessment missions. This document describes the methodology while presenting the main results obtained during the assessment of the 2019 crop year and food availability.

Figure 1: Cameroon's agro-ecological zones



Source: IRAD, Cameroun

1.3 SURVEY METHODOLOGY

1.3.1 SURVEY OBJECTIVES

The main objective of this survey is to assess the 2019/2020 crop year and food availability in the Adamawa, East, Far North, North and West regions.

The specific objectives are to:

- Take stock of the 2019/2020 crop year in the Adamawa, East, Far North, North and West regions through an analysis of: the socio-economic situation; the agricultural situation; the market situation; the climatic situation and food availability in the zone.
- Identify the food prospects at the end of the 2019/2020 crop year while taking into account cereal production.
- Assess public, commercial and community cereal stocks during the 2018/2019 period.
- Identify potential food supply deficit and surplus areas during the 2019/2020 period;
- Analyse trends in prices of agricultural products in the surveyed areas and identify short-and medium-term prospects;
- Identify the main catastrophes and disasters that occurred during the crop year

1.3.2 GEOGRAPHIC SCOPE OF THE SURVEY

This survey was carried out from July 1 to 31, 2020 in 27 divisions of the Adamawa, East, Far North, North and West regions. The data collected covered the period from April 2019 to March 2020.

1.3.3 DATA COLLECTION METHOD

Data was collected through an administrative survey of the decentralized services of the sectoral administrations, namely:

- The Ministry of Agriculture and Rural Development (MINADER).
- The Ministry of Livestock, Fisheries and Animal Industries (MINEPIA).
- The Ministry of Public Health (MINSANTE).

However, additional information was collected from: (i) agribusiness companies; (ii) Non-Governmental Organizations (NGOs); (iii) Producer Organizations (POs); and (iv) large traders.

1.3.4 DATA COLLECTION TEAM

The data collection team was made up of senior staff and staff of: (i) the Department of Agricultural Surveys and Statistics (DESA); (ii) the Regional Delegations of MINADER; (iii) the Divisional Delegations of MINADER, (iv) certain projects/programs, notably the PNVRSA.

1.3.5 DATA COLLECTION TOOLS

Within the framework of this survey, a questionnaire was administered to resource persons and in the structures identified for data collection. It was divided into the following sections: (i) socio-economic situation; (ii) agricultural situation; (iii) market situation; (iv) climatic situation; (v) food availability.

1.3.6 DATA PROCESSING AND ANALYSIS

A multidisciplinary team at DESA processed the various information collected in the field, combined with that from the review of secondary data. For all of these data, indicators were calculated. These include production indicators, the cultivated area, and the yield of the main crops. Food availability was also analysed, including overall supply, overall demand and food deficit/surplus. At the end of data processing, the first draft of the report on the assessment of the 2019/2020 crop year and food availability was produced and formed the basis for discussions during several analysis and validation work sessions.

1.4 CONSTRAINTS

Some limitations were noted in this assessment of the 2019/2020 crop year and food availability. However, these did not compromise the quality of the data collected.

These are:

- Financial constraints, notably the decrease in funds allocated to the chosen activities financed through MINADER's operating budget, as well as the administrative delays inherent in the disbursement procedures did not allow DESA to conduct this survey at the end of the 2019/2020 crop year and to cover all the ten regions of the country.
- The COVID-19 pandemic that occurred at the end of the crop year, resulting in lockdowns and compliance with barrier measures.
- The poor state of roads at the time of the survey due to the rains, which slowed down the data collection process.

2 ASSESSMENT OF THE 2019/2020 CROP YEAR

2.1 AGRICULTURAL PRODUCTION FOR THE 2018/2019 AND 2019/2020 CROP YEARS

This section presents trends in production, area, and yields for the 2019/2020 and 2018/2019 crop years for the main food crops grown in the regions under survey.

2.1.1 ADAMAWA REGION

Tubers remain the main food produced in the Adamawa region. Corn and groundnut are the most widely grown cereal and legume, respectively, in the region.

Corn production fell by 1.5% between 2018 and 2019 partly due to the decline in area for cultivation (down by 2.9%). This decline was evident in the Vina (minus 14.2%) and in the Faro and Deo (minus 46.4%) divisions. Cultivation areas also decreased in the same proportions in these two divisions. This decline is caused by irregular rainfall, including a period without rain at planting season. A number of producers did not have the means to re-seed.

Groundnut production increased by 31.1%, while the harvested area increased by 15.6%. This production is almost entirely led by the Vina Division.

Cassava increased by 46.7%, with production increasing in the same proportion. The Vina (50%) and Djérem (97%) divisions experienced the most significant changes.

A 4,8% increase in **cocoyam** was recorded between 2018 and 2019, for a growth in harvested area of 14.4% over the same period. This shows that despite the increase in production, crops were impacted in various ways.

The good performance of root and tuber productions is consequent to an increase in harvested areas.

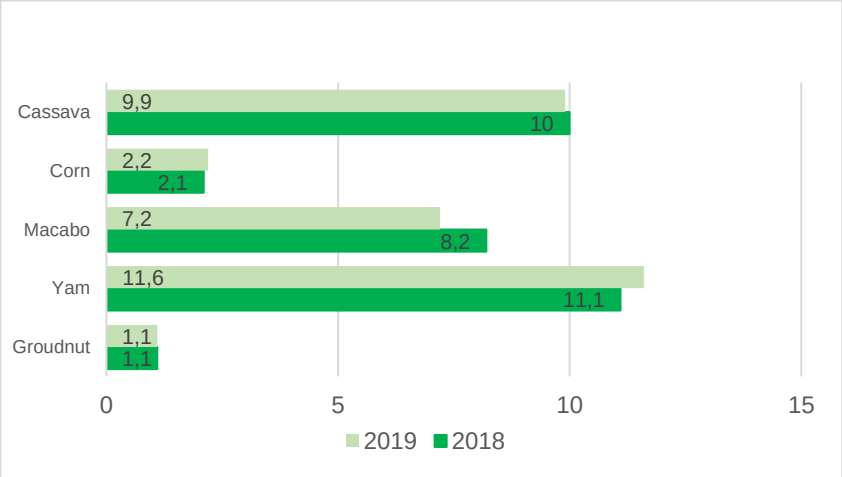
Table 1: Productions and cultivation areas of major food crops in the Adamawa region in 2018 and 2019

Speculation	Production (in tons)		2018/2019 changes (%)	Harvested areas (in hectares)		2018/2019 changes (%)
	2018	2019		2018	2019	
Cassava	371,025	547,363	47.5	37,599	55,148	46.7
Cocoyam	8,446	11,072	31.1	8,043	9,299	15.6
Yam	29,956	37,834	26.3	3,001	3,494	16.4
Groundnut	34,818	41,715	19.8	3,054	3,097	1.4
Potato	15,866	16,624	4.8	1,897	2,170	14.4
Corn	175,144	172,486	-1.5	89,215	86,644	-2.9

Source: MINADER/DESA (2020)

Figure 2 presents **the evolution of yields** in the Adamawa region between 2018 and 2019. It shows that yam yields increased slightly, while cocoyam yields decreased. Yields of other key crops in the region remained almost stable.

Figure 2: Yields of major food crops in the Adamawa region (t/ha).



The decline in yields of cocoyam is the result of the near absence of fertilizer and plant protection products on this crop, leading to numerous attacks.

The varieties produced are generally traditional.

Source: MINADER/DESA (2020)

2.1.2 EAST REGION

Tubers and legumes dominate agriculture in the East Region. Maize, which is the only cereal produced in the region, is only in fourth place after cassava, cocoyam and plantain.

Despite a 3.6% change in cultivation area over the period 2018/2019, **plantain** production, which stood at 892,657.7 tons in 2019, remained almost stable.

Groundnut production greatly increased in the region. In fact, it recorded a production of 18,489.5 tons in 2019, against 13,448 tons in 2018, an increase of 37.5% over the period. Changes in cultivation area followed the same trend.

Cassava production declined by 6 percent between 2018 and 2019. Harvested areas have almost decreased in the same proportions (-7.6%). It should be noted that the constant decline, observed since 2018 is due to the demotivation of producers, following the non-realisation of the project to create the cassava processing plant and the irregularity of rains.

Cocoyam production in the East Region declined by 1.7% between 2018 and 2019. This decline was more significant in cultivation area (-6.8%).

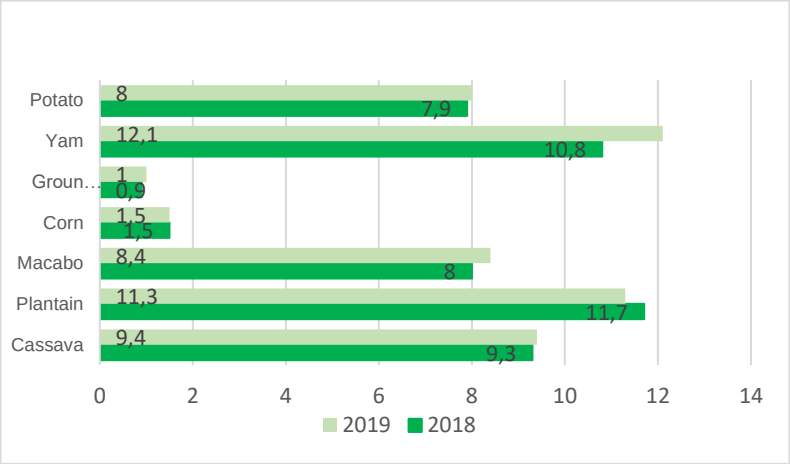
It is worth noting that the growing interest of young people in small-scale mining is having a significant impact on the steady decline in harvested areas. This has an impact on almost all crops in the region.

Table 2: Productions and cultivation areas of major food crops in the East region between 2018 and 2019

Speculation	Production (in tons)		2018/2019 changes (%)	Harvested areas (in hectares)		2018/2019 changes (%)
Yam	2,538	4,840	90.7	235	400	70.2
Groundnut	13,448	18,490	37.5	15,765	19,165	21.6
Corn	27,023	30,232	11.9	18,544	20,249	9.2
Potato	838	840	0.2	106	105	-0.7
Plantain	894,203	892,658	-0.2	76,430	79,176	3.6
Cocoyam	466,832	459,044	-1.7	58,056	54,343	-6.4
Cassava	894,785	841,324	-6.0	96,455	89,106	-7.6

Source: MINADER/DESA (2020)

Figure 3: Yields of major food crops in the East region (t/ha).



Yam yields increased slightly, while those of cocoyam decreased. Yields of other key crops in the region remained almost stable.

Source: MINADER/DESA (2020)

2.1.3 FAR-NORTH REGION

Agriculture in the Far-North is mainly cereals, legumes, vegetables and fruits.

Table 3: Productions and cultivation areas of major food crops in the Far-North region in 2018 and 2019

Speculation	Production (in tons)		2018/2019 changes (%)	Harvested areas (in hectares)		2018/2019 changes (%)
	2018	2019		2018	2019	
Soybean	20,208	30,393	50.4	16,063	21,518	34
Onion	362,185	469,865	29.7	16,185	20,449	26.3
Rice	125,147	138,270	10.5	42,325	46,301	9.4
Millet	24,602	26,816	9	24,346	26,920	10.6
Sorghum SS	261,593	269,926	3.2	178,961	182,201	1.8
Groundnut	115,259	115,997	0.6	97,794	97,258	-0.5
Cowpea	103,555	102,881	-0.7	114,883	109,769	-4.5
Sorghum SP	515,248	500,221	-2.9	365,978	346,580	-5.3
Corn	299,488	254,081	-15.2	138,176	127,521	-7.7
Okro	52,129	39,934	-23.4	8,095	3,643	-55
Irish potato	86,688	50,588	-41.6	4,417	3,998	-9.5
Bambara groundnut	26,775	9,303	-65.3	25,432	14,647	-42.4

Source: MINADER/DESA (2020)

Corn production fell by 15% over the period. The same trend was recorded in the harvested areas. This decline (-12 %) was evident in the Mayo-Tsanaga division, which remains the region's leading corn production area, followed by the Logone and Chari division (-32.6 %).

Millet/sorghum production (- 0,6 %) remained stable between the two years. However, sorghum production in the rainy season fell by 2.9% over the period.

Rice production declined sharply (-18.7%) over the period, with a 13.3% reduction in harvested areas. Mayo-Danay, which is one of the largest rice producing areas in the Region, recorded the largest decline (-40%).

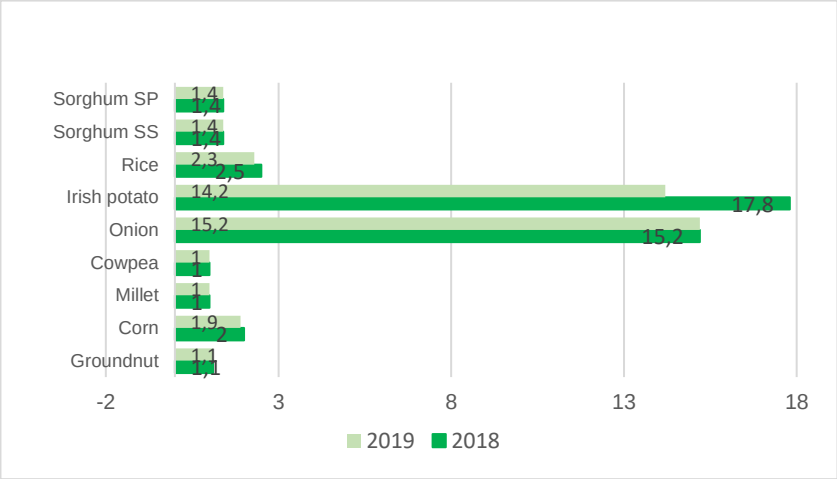
Soybean harvested area increased by almost 34 percent, with a 50.4 percent increase in production.

Irish potato production in the Far North region fell sharply (by 41.6 percent). This crop is mainly produced in the Mayo-Tsanaga division, the lone potato production site in the region.

The general decline in the region is mainly explained by the massive displacement of populations in the Mayo-Tsanaga (one of the main potato production areas), Mayo-Sava and Logone-and-Chari divisions due to the resurgence of incursions by the terrorist sect Boko Haram.

In addition, the late planting observed in the region, particularly of cereals and legumes, due to the delay in rains, has led to the phenomenon of seedling melt and caterpillar attacks recorded during the usual period of pockets of drought (June).

Figure 4: Yields of major food crops in the Far-North region (t/ha)



Regarding the evolution of yields in the Far North region between 2018 and 2019, it appears that the potato production experienced a sharp decline over the period while those of other key crops remained almost stable.

Source: MINADER/DESA (2020)

2.1.4 NORTH REGION

Agriculture in the North Region is mainly centred around cereals, legumes, and vegetables and leaves.

Corn, the region's leading crop produced, remained stable over the period at around 601,000 tons for a harvested area of 232,777 ha. This production is mainly carried out in the Benue and Mayo-Rey divisions.

Millet and sorghum production declined by 2.0 percent over the two years. Despite an increase in millet production, sorghum production during the dry and rainy seasons decreased by 3.3 percent and 11.2 percent, respectively. The decline in sorghum production (-10.1 percent) during the rainy season was mainly observed in the Benue division, which is the region's largest production basin. MINADER divisional delegates recorded a lower use of fertilizers in 2019 compared to 2018, which certainly led to this relative decline, despite the good rainfall;

Rice production increased sharply (38.8%) over the period, with cultivation areas having increased in the same proportions. The Benue division, which is the largest rice production basin in the region, recorded a significant increase of almost 33 %. This increase in cultivation areas is the result of the enthusiasm created by the relaunch of the PADFA project, which will support producers in the sector.

Onion harvested area increased by 5.3% for a 4.2% increase in production.

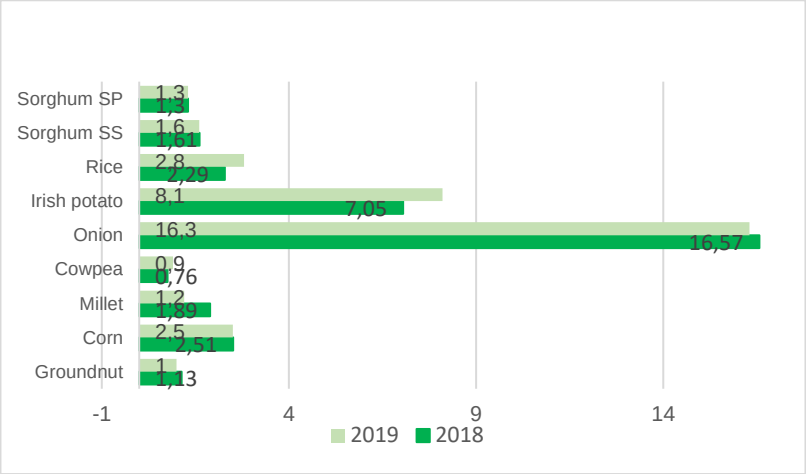
The North region is the main producer of **soybean**. Soybean production decreased by 11.2% from 112,553 tons in 2018 to 99,930 tons in 2019. The cultivated area decreased in the same proportion. It should be noted that nearly 50% of the region's production is concentrated in the Touboro sub-division, Mayo-Rey Division. This sharp increase is due to the involvement since 2017 of SODECOTON in the development of the soybean sector. In addition, the installation of a soybean production agropolis in Mayo-Rey is the main reason for this increase.

Table 4: Productions and cultivation areas of major food crops in the North region between 2018 and 2019

Speculation	Production (in tons)		2018/2019 changes (%)	Harvested areas (in hectares)		2018/2019 changes (%)
	2018	2019		2018	2019	
Rice	151,066	209,699	38.8	43,563	55,749	28
Cowpea	56,618	75,312	33	58,933	65,433	11
Groundnut	295,832	326,354	10.3	195,473	219,334	12.2
Onion	85,507	89,083	4.2	4,789	5,044	5.3
Corn	606,547	601,014	-0.9	233,692	232,777	-0.4
Sorghum SS	270,084	261,148	-3.3	94,912	88,409	-6.9
Millet	59,872	53,585	-10.5	31,512	44,654	41.7
Sorghum SP	112,554	99,930	-11.2	170,277	162,807	-4.4
Soybean	112,554	99,930	-11.2	74,113	68,609	-7.4
Bambara groundnut	5,892	4,534	-23.1	6,157	3,568	-42
Okro	18,137	4,958	-72.7	4,527	782	-82.7

Source: MINADER/DESA (2020)

Figure 5: Yields of major food crops in the North region (t/ha)



Regarding the evolution of yields in the Far North region between 2018 and 2019, it appears that the Irish potato production experienced a sharp decline over the period while those of other key crops remained almost stable.

Source: MINADER/DESA (2020)

2.1.5 WEST REGION

The West region has a very diverse agriculture. In general, food crops performed well in the 2019/2020 season compared to the previous season.

Corn production increased by 9 percent between 2018 and 2019. The cultivated area increased in the same proportion. In addition to the increase in cultivation areas, it was noted that there is a growing interest among producers for the very high-yielding hybrid variety Pannar.

Cassava production increased by 4.7%, with a corresponding 1.9% increase in cultivation areas.

Plantain production increased by 2.7 percent, despite a 1 percent decrease in cultivation areas. In contrast, banana production fell by 19.5% due to a reduction in cultivation areas.

Irish potato production increased by 9,8 %, with a 14.9% increase in cultivation areas.

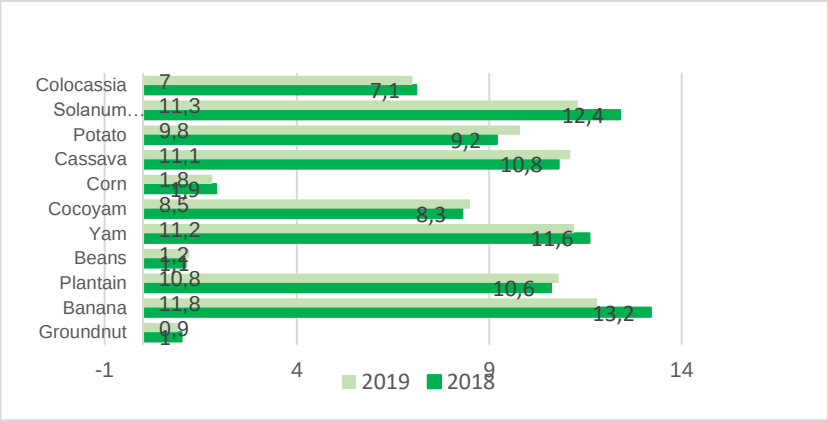
The heavy rains in the region had a negative impact on lowland crops, which were flooded, as well as on banana trees, which are very sensitive to bad weather. However, the heavy rainfall had positive effects on crops such as roots and tubers, and cereals.

Table 5: Productions and cultivation areas of major food crops in the West region in 2018 and 2019

Speculation	Production (in tons)		2018/2019 changes (%)	Harvested areas (in hectares)		2018/2019 changes (%)
	2018	2019		2018	2019	
Groundnut	19,317	13,576	42.3	19,800	12,888	53.6
Banana	168,408	140,935	19.5	13,467	11,977	12.4
Irish potato	114,027	103,860	9.8	12,196	10,615	14.9
Corn	321,612	295,173	9.0	168,429	157,107	7.2
Yam	42,124	39,432	6.8	4,096	3,919	4.5
Cocoyam	116,269	110,125	5.6	14,048	13,509	4.0
Beans	162,851	155,131	5.0	139,197	132,264	5.2
Cassava	308,301	294,361	4.7	32,604	31,981	1.9
Cocoyam	30,490	29,580	3.1	4,574	4,495	1.8
Plantain	274,184	281,877	-2.7	27,063	26,783	1.0
Potato	140,181	154,604	-9.3	14,725	16,351	-9.9
Tomato	106,658	145,619	-26.8	5,937	9,033	-34.3

Source: MINADER/DESA (2020)

Figure 6: Yields of major food crops in the West region (t/ha)



Yield trends in the West Region between 2018 and 2019: banana, yam, and potato yields declined while those of cassava and sweet potato increased.

Yields of other key crops in the region remained almost stable.

Source: MINADER/DESA (2020)

2.2 MEAT PRODUCTION

2.2.1 ADAMAWA REGION

Table 6 presents the evolution of meat production for the main animal species raised in the Adamawa region. Beef production fell by 24.5 %. (12,803 tons in 2018 against 9,661 tons in 2019). The trend is similar for poultry, which recorded a decline of 50.2%.

Table 6: Change in meat production in the Adamawa region by species, from 2017 to 2019

Species	Meat production (in tons)			2018/2019 changes (%)
	2017	2018	2019	
Cattle	10,501	12,803	9,661	-24.5
Goat	1,216	1,268	1,596	25.9
Sheep	1,089	1,457	2,977	104.3
Pig	339	371	573	54.5
Poultry	3,308	908	452	-50.2

Source: MINEPIA (2020)

2.2.2 EAST REGION

Table 7 shows that over the 2017-2019 period, poultry meat production fell in the East Region by 75.4% (from 2531 tons in 2017 to 623 tons in 2019). However, there is a sharp increase in sheep meat (59.31%) and pork (33.33%) production between 2018 and 2019.

Table 7: Change in meat production in the East region by species, from 2017 to 2019

Species	Meat production (in tons)			2018/2019 changes (%)
	2017	2018	2019	
Cattle	2,792	7,311	6,747	-7.7
Goat	231	369	492	33.3
Sheep	118	757	1,206	59.3
Pig	242	744	623	-16.3
Poultry	2531	-	623	-

Source: MINEPIA (2020)

2.2.3 FAR-NORTH REGION

Pork production increased by 118.2% (from 1044 tons in 2018 to 2278 tons in 2019) in the Far North region. Beef and goat meat production fell significantly (25.6% for beef and 8.8% for goat) in the region.

Table 8: Change in meat production in the Far-North region by species, from 2017 to 2019

Species	Meat production (in tons)			2018/2019 changes (%)
	2017	2018	2019	
Cattle	15,137	16,832	12,517	-25.6
Goat	14,411	14,141	12,894	-8.8
Sheep	6,841	7,016	6,756	-3.7
Pig	-	1,044	2,278	118.2
Poultry	3,774	5195	3,706	-28.6

Source: MINEPIA (2020)

2.2.4 NORTH REGION

Apart from poultry meat production which has been decreasing significantly since 2017 in the North Region, Table 9 shows that beef, goat and pig meat production increased in the region during the year 2018-2019.

Table 9: Change in meat production in the North region by species, from 2017 to 2019

Species	Meat production (in tons)			2018/2019 changes (%)
	2017	2018	2019	
Cattle	7,537	2,071	10,384	401.4
Goat	2,694	883	4,963	462
Sheep	1,324	721	2,317	221.3
Pig	1,176	476	2,512	427.7
Poultry	26,926	226	693	206.6

Source: MINEPIA (2020)

2.2.5 WEST REGION

Poultry meat production (6177 tons) decreased by more than half in the West Region compared to 2018 production (16,070 tons). On the other hand, pork and goat meat.production witnessed an increase.

Table 10: Change in meat production in the West region by species, from 2017 to 2019

Species	Meat production (in tons)			2018/2019 changes (%)
	2017	2018	2019	
Cattle	7,900	8,354	6,129	-26.6
Goat	680	752	1,066	41.8
Sheep	477	690	675	-2.2
Pig	3,274	3,800	4,472	17.7
Poultry	6,229	16,070	6,177	-61.6

Source: MINEPIA (2020)

2.2.6 FISH PRODUCTION

Fish production includes inland fishing, industrial fishing, aquaculture and artisanal maritime fishing. The figure below shows a 35.6% decrease in production in the study areas. This decrease is evident in the East region where production fell from 37,423 t in 2018 to 3,421 t in 2019. This change is mainly explained by the closure in 2019 of the Lom-Pangar water retention dam, the main fish production site in the region.

However, fish production in the North region performed well, with an increase of 315.6%. The strong potential of the Lagdo dam and the numerous actions undertaken by MINEPIA to support this production are to be credited for this performance. It should be noted, however, that production in the five regions represents on average only 9% of national fish production.

2.3 PRICES OF AGRICULTURAL PRODUCTS

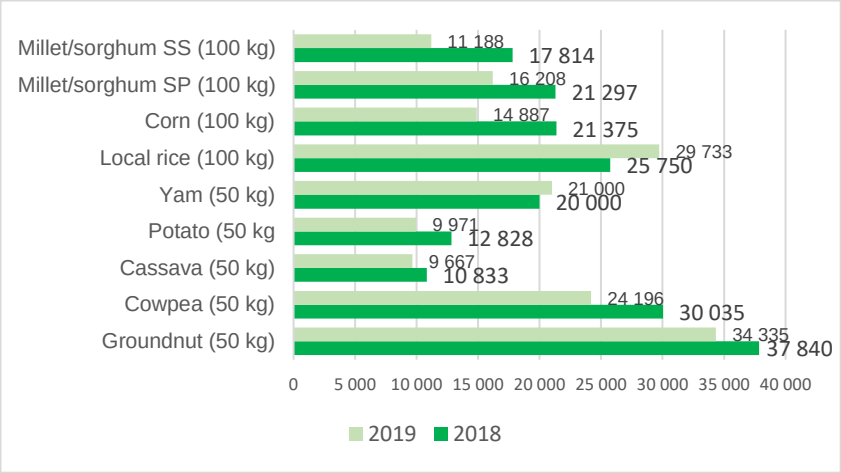
The end of the 2020 crop year was marked by the closure of borders following the COVID-19 pandemic that occurred in the country in March 2020. This situation led to a drop in the price of certain agricultural products, such as tomatoes, whose price fell from 12,500 to 1,800 CFA francs per basket (15 kg) in the main selling markets.

2.3.1 FAR-NORTH REGION

The security crisis linked to the atrocities of the terrorist sect Boko Haram, coupled with flooding, led to a general decline in agricultural production in the region. The figure below shows the evolution of average prices on different markets for the region's main crops over the last two crop years (2018-2019/ 2019-2020).

The Far North region recorded an overall decline in the prices of the main agricultural products of around 15% on average, while production of the majority of products also declined. This double decline can be explained by the difficulties encountered by the displaced population due to insecurity and flooding, resulting in destocking at low prices.

Figure 7: Price trends for selected agricultural commodities in the Far North region in 2018 and 2019

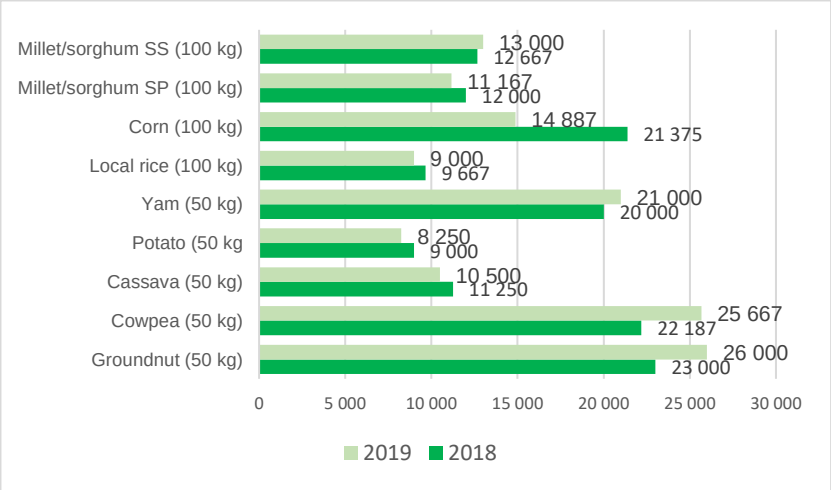


Unlike local rice and yam, for which there was a price increase in 2019 compared to the 2018 season (15.47% and 5% respectively), the prices of other products fell. These are: millet/sorghum 31%, corn 30%, potato 22%, cassava 19% and groundnut 9%. It should be noted that the low prices of products at harvest time imply that the sale of the largest quantity of agricultural products was done to satisfy the displaced persons.

Source: MINADER/DESA (2020)

2.3.2 NORTH REGION

Figure 8: Price trends for agricultural speculations in the North region in 2018 and 2019



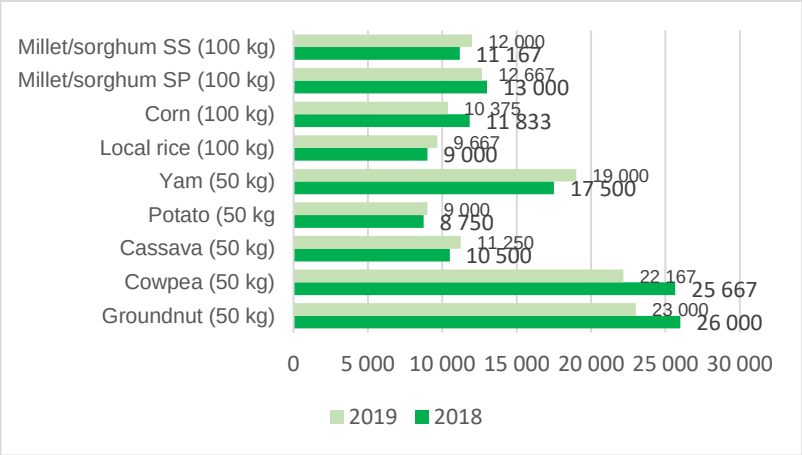
Prices are almost stable (down 1%) between the two seasons. Apart from corn, cowpea and groundnuts, which record a more significant drop in price.

Source: MINADER/DESA (2020)

2.3.3 ADAMAWA REGION

The Adamawa region recorded a slight increase in prices of around 3% during the 2019/2020 season.

Figure 9: Price trends for agricultural speculations in the Adamawa region in 2018 and 2019



Specifically, there has been a sharp increase of about 41% in the price of yams compared to the two previous years

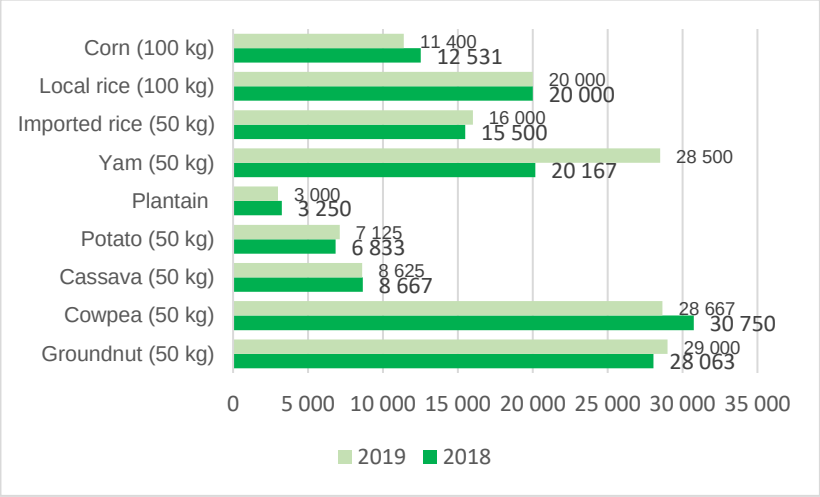
It should be noted that most of the yam produced in the Adamawa region comes from Nigeria and the closure of the borders in 2019 led to a decline in the import of yams from that country (source: Jeune Afrique economy of october 2019).

Source: MINADER/DESA (2020)

2.3.4 EAST REGION

The prices of agricultural products in the East Region have remained fairly stable over the past two years.

Figure 10: Price trends for agricultural speculations in the East region in 2018 and 2019



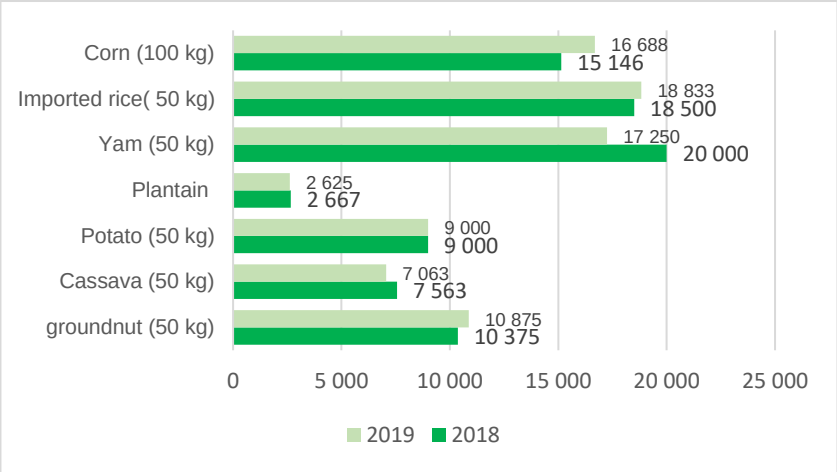
However, there has been a slight increase in the price of yam of around 14%.

Source: MINADER/DESA (2020)

2.3.5 WEST REGION

The West region recorded an overall decline in agricultural product prices of about 5% on average.

Figure 11: Price trends for agricultural speculations in the West region in 2018 and 2019



Specifically, the region recorded a significant increase in groundnut and local rice production of 29% and 13% respectively.

Source: MINADER/DESA (2020)

2.4 HIGHLIGHTS

The 2020/2019 crop year was marked by a few major events, including:

- The mass displacement of populations in the Mayo-Tsanaga, Mayo-Sava and Logone-and-Chari divisions due to security problems caused by the resurgence of incursions by the terrorist sect Boko Haram.
- Damage to crops in the localities of Kai Kai and Maga in the Mayo-Danay division and Zina in Logone-and-Chari division due to heavy rains and flooding of rivers.
- The burning of nearly 115 ha of cocoa and 90 ha of coffee in the Haut-Nyong division due to bush fires.
- The destruction of 1,605 ha of crops, including 700 ha of cassava in the Lom and Djérem Division due to caterpillar attacks.
- The landslides that occurred in the Mifi Division, more precisely in "Gouaché", where human lives were lost, and in the Bamboutos, Menoua and Noun Divisions, resulting in the destruction of crops in the farms.
- The support in terms of inputs (seeds, fertilizers, pesticides) and agricultural equipment provided to producers in preparation for the 2019/2020 crop year by the Government through the sectoral ministries, development companies, projects and programs, elites and development partners (FAO, WFP, etc.).
- The health situation marked by the COVID-19 outbreak at the end of the 2019/2020 crop year and the related barrier measures taken by the Government and communicated on March 17, 2020 by the Prime Minister, Head of Government, led to restrictions on the markets.

3 MAIN FACTORS THAT AFFECTED THE 2019/2020 CROP YEAR

This chapter presents the impact of various factors on crop production during the 2019/2020 crop year. These include (i) factors of production (agricultural inputs and materials, human capital); (ii) natural/climatic factors; and (iii) human factors.

3.1 FACTORS OF PRODUCTION

3.1.1 AGRICULTURAL INPUTS AND MATERIALS

This sub-section discusses the use of plant protection products, fertilizers, agricultural materials, animal seeds and veterinary products.

The use of **Phytosanitary products** is low in the divisions studied. The main reasons cited are the scarcity and high cost of these products. In the East Region, only producers in the Haut-Nyong and Lom and Djérem divisions have access to phytosanitary products because of their proximity to urban centers (Yaoundé, Douala, Bertoua), which have approved structures for marketing this type of product.

Unregistered phytosanitary products are used in almost all the divisions of the regions surveyed, but at different levels. This situation is evident in the Far North (Mayo-Kani, Mayo-Sava, Mayo-Tsanaga, Logone and Chari), Adamawa (Djérem, Faro and Déo, Vina), North (Mayo-Rey) and West (Noun) regions.

The reasons for the use of this type of product are:

- The attractiveness of selling prices.
- The absence of approved marketing structures for agricultural products; this is the case in Logone and Chari
- The proximity of some divisions to neighboring countries such as Nigeria and Chad, which supply them with these products at low prices
- Producers' ignorance of the harmful effects of these products on the soil, crops and human health.

It should be noted that the use of unregistered products destroys the quality of the soil, causing a loss of biodiversity and a decrease in agricultural production. In addition, these products threaten human health because they become embedded in the crops.

Apart from the Faro Division in the Nord, the use of **chemical fertilizers** and **organic manure** is low due to their scarcity (below normal in 14 of the 25 divisions).

The use of **Machines** in agricultural operations was low during the 2019/2020 crop year. This low use is due to the high price of purchasing and/or renting these agricultural machines as well as their reduced availability.

3.1.2 ANIMAL SEEDS, VETERINARY PRODUCTS AND ANIMAL FEED

Apart from the Vina division in the Adamawa region, where there was an average use of improved animal seed for livestock, there was low use of this input in the other divisions because of the high cost and the absence of specialized structures.

However, it should be noted that data collected showed that improved animal semen for livestock was not used in the Mayo-Sava, Mayo-Tsanaga and Logone and Chari divisions in the Far North region in 2019.

The use of veterinary products was normal in most divisions, while the use of livestock feed was generally insufficient.

3.2 NATURAL FACTORS

This section presents an analysis of rainfall in the five regions covered by the survey. It should be noted that rainfall was the only climate factor observed.

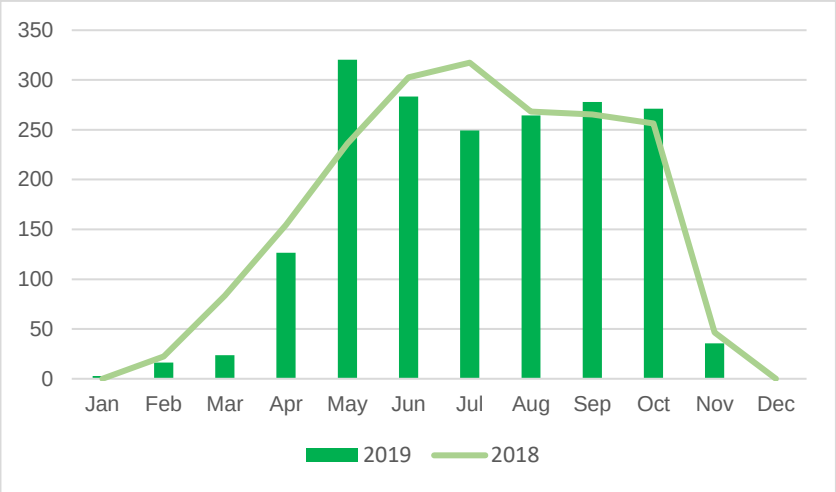
3.2.1 ADAMAWA REGION

The region’s climate was generally marked by early and less abundant rainfall compared to the previous year. In fact, an average rainfall of 155.99 mm was recorded in 2019 compared to an average of 162.75 mm in 2018. The peak of rainfall was in May 2019 while that for 2018 was July.

In 2019, the first rains fell in January in the Mayo-Banyo, in February in Mbéré and Vina, in the first 10 days and last 10 days of March in Faro and Déo and Djérem respectively. The rains did not stay, creating a pocket of drought before starting again in April. However, some farmers who had planted crops early,

thinking that the rainy season had really begun, were forced to reseed. This reseeding resulted in the loss of resources due to the purchase of additional seeds and the repeated use of labour for cultivation.

Figure 12: Rainfall data for the Adamawa region in 2018 and 2019



While the rains started early, they ended late.

It hindered the harvesting of crops such as corn and beans, which are usually harvested after being dried on the ground.

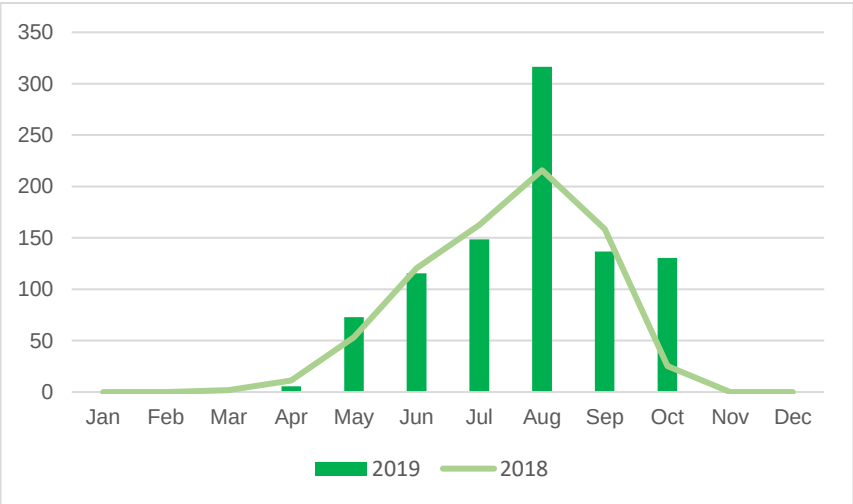
Source: MINADER/DESA (2020)

3.2.2 FAR-NORTH REGION

The figure below shows that 2019 was a rainier than 2018. August remained the rainiest month.

During the 2019/2020 crop year, the rainy season began in the first 10 days of April and gradually ended over the entire region during the first 10 days of May. As usual, the first months (May and June) experienced pockets of drought whose severity varied from one division to another, ranging from 3 to 6 weeks. Cereals, legumes and cotton were planted late throughout the region. The phenomenon of seedling melts and caterpillar attacks was observed and recorded during the usual period of drought pockets (June).

Figure 13: Rainfall data for the Far-North region in 2018 and 2019



The average level of rainfall recorded in the region, which is usually around 700 to 800 mm over 45 days of rainfall spread over 4 months, was largely exceeded at the end of August.

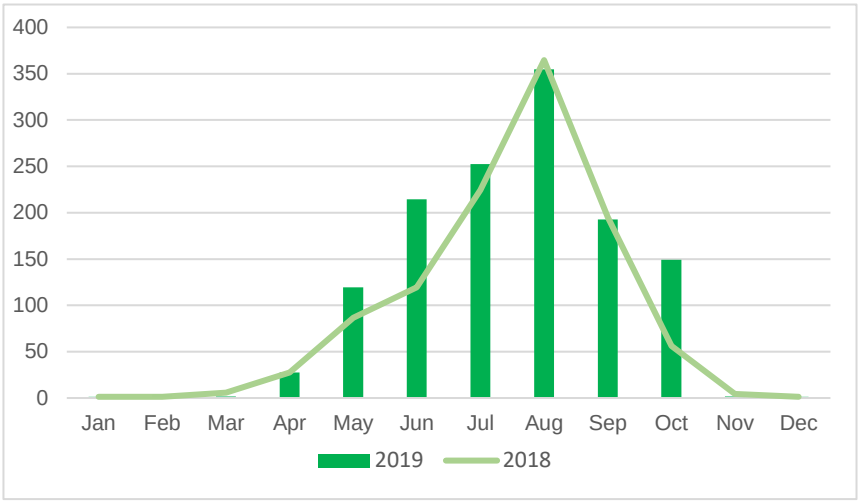
This resulted in the first floods recorded in Mayo-Danay (Gobo, Guere Tchatibalé...) and Diamaré (Ndoukoula, Bogo, Maroua 1, 2 and 3...) and Mayo-Kani (Porhi...).

Source: MINADER/DESA (2020)

3.2.3 NORTH REGION

Although the rains in 2019 were almost similarly to those of 2018, it should be noted that the rains were more abundant in 2019, over the periods of April to July and September to November. The month of August was the rainiest with a rainfall of 354.708 mm. However, variations were observed in the various divisions.

Figure 14: Rainfall data for the North region in 2018 and 2019



In Mayo-Louti, the rains began two weeks earlier than usual in March.

The late ending of rains caused the rotting of cereal and groundnut seeds in the farms, thus favouring tungi development.

This scenario was the same in the Mayo-Rey Division.

In the Benue division, the rains started three weeks later than in other regions. This had a strong negative impact on the growth of groundnuts and sorghum sp.

Source: MINADER/DESA (2020)

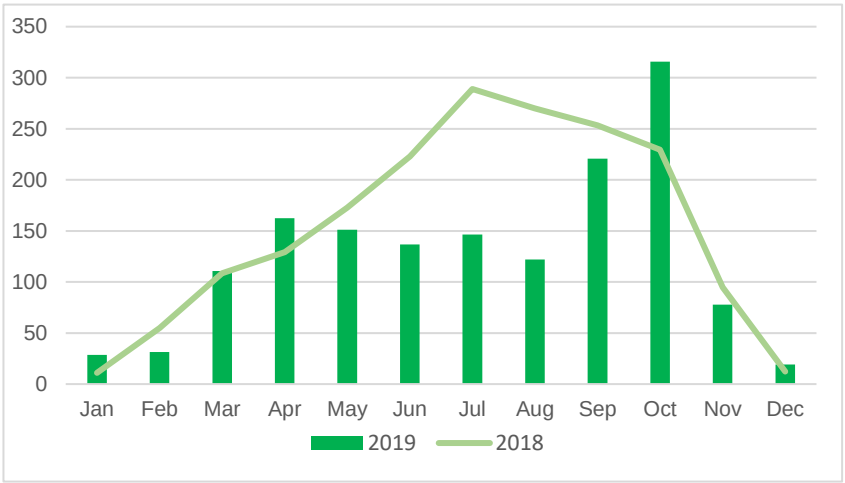
3.2.4 EAST REGION

The figure below shows that in 2019, rainfall was less abundant and more irregular than in 2018. In fact, an average rainfall of 130.87 mm was recorded in 2019 while that for 2018 was 158.03 mm, a clear decrease of 27.13 mm. The rainiest month in 2019 was October, while in 2018 it was July.

Apart from the Haut-Nyong division, where the rains started late, they started early in all the other divisions with interruptions that could last up to three (03) weeks.

In the Boumba and Ngoko division, the rains began in the last ten days of January and stopped abruptly to resume in March. This situation resulted in early planting. Unfortunately, the crops did not survive the long period of interruption that followed. The scenario was the same in the Kadey Division.

Figure 15: Rainfall data for the East region in 2018 and 2019



However, in the Kadey division, when the rains resumed in March, they were almost uninterrupted until the second crop cycle; thus, extending the planting season.

The scenario was the same in the in the Lom and Djérem division.

However, it should be noted that three sub-divisions of Kadey (Bombe, Ketté and Ndem-nam) recorded almost no rainfall, thus leading to a decline in agricultural production.

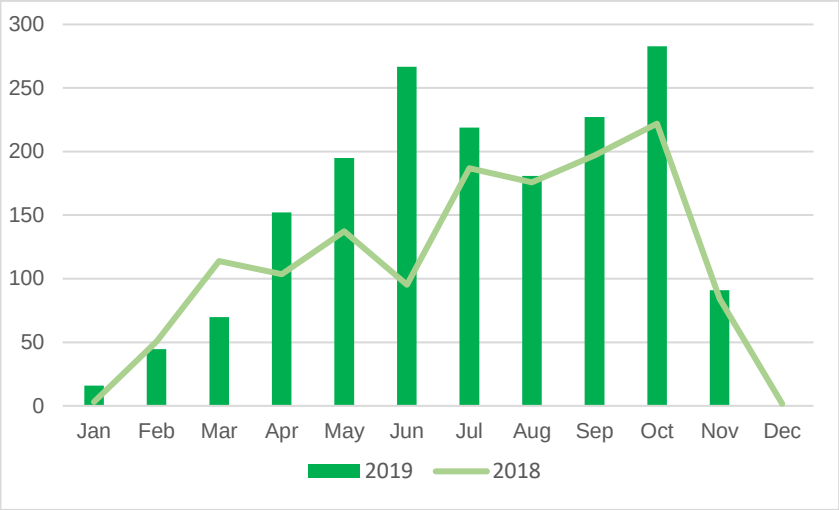
Source: MINADER/DESA (2020)

3.2.5 WEST REGION

The figure below shows that rainfall was abundant in 2019 than in 2018 Two peaks were observed, in July and October, respectively.

Generally, the rains started early with gaps ranging from one to more than three weeks depending on the division.

Figure 16: Rainfall data for the West region in 2018 and 2019



Rains were abundant causing flooding in some areas, especially in the remote areas. The ambient humidity favoured the development of fungal diseases on several crops such as Irish potatoes. It should be noted that the Ndé Division experienced the fall of hailstones that destroyed crops.

Source: MINADER/DESA (2020)

3.3 DISASTERS

The main disasters recorded during the 2019/2020 crop year were flooding, hail, landslides, and bush fires.

3.3.1 FLOODING/HAILSTORMS

The heavy rains recorded in almost all the divisions surveyed resulted in flooding.

In the Far-North region, flooding in four divisions (Mayo-Danay, Logone and Chari, Mayo-Sava and Diamaré) resulted in the destruction of approximately 25,219.37 ha of crops.

In the West Region, more precisely in the Bamboutos Division, heavy rains and hail caused the destruction of 13,000 ha of crops in October 2019. Fifty percent of the sub-divisions in this region were affected by flooding. The floods were extreme in the remote areas where vegetables and off-season crops are generally grown. They also led to the destruction of the Bamendjing dam and farm roads in this region.

The Mayo-Banyo division in the Adamaoua region and Benue division in the North region were also affected by flooding.

3.3.2 LANDSLIDES

The landslides that occurred in the West Division, more precisely in "Gouaché", where human lives were lost, and in the Bamboutos, Menoua and Noun Divisions, led to the destruction of crops in the farms.

3.3.3 BUSH FIRES

In the East region, the main disaster recorded was bush fires. They led to the destruction of crops in the Haut-Nyong and Kadey, affecting nearly 115 ha of cocoa and 90 ha of coffee. The scenario was the same in the Mayo-Banyo division (Adamawa) and in the Bamboutos division (West).

3.3.4 CROP ATTACKS AND DISEASES

In general, the uneven distribution of rainfall observed in almost all of the divisions surveyed favoured the development of cryptogamic diseases, defoliator caterpillars and insects, particularly in corn, potato, cocoyam, yam, cassava and bean farms. In the Lom and Djérem division (East), caterpillar attacks were particularly severe, with over 1,605 ha of crops affected, including 700 ha of cassava lost.

Destruction of farms by pachyderms was recorded in the northern regions of the country. However, it should be noted that these crop attacks did not have a major impact on agricultural production.

3.4 HUMAN FACTORS

3.4.1 POPULATION DISPLACEMENT

Population displacement is mainly due to insecurity in some areas of the country, flooding, and mining boom.

Migration is mainly due to the socio-political situation in the English-speaking regions of the country, namely the North-West and South-West. Approximately 10,000 people have been displaced from these areas to the West and Adamawa regions. This displacement has had an impact on the availability of agricultural labour. In fact, for these host regions, this massive influx of people has led to an increase in the agricultural labour force. It should be noted that these movements were not only inter-regional but also intra-and inter-divisional.

In the Far North region, attacks by the terrorist sect Boko Haram on civilian populations in villages bordering Nigeria led to the displacement of people from the Logone and Chari (40%), Mayo-Sava (12%) and Mayo-Tsanaga (14%) divisions. This resulted in the abandonment of farms. However, it should be noted that in order to ensure food security, some displaced persons returned to their areas of origin during the day to cultivate at the risk of losing their lives. One of the measures taken by the government to secure the affected areas is a ban on the cultivation of crops with a stem height of 1.5 meters or more in farms located 100 meters from roads and along the border. This reduced cereal farms by more than 2,000 ha in favour of the cultivation of legumes and roots and tubers. In the Adamawa region, specifically in the Faro and Déo division, the recurrent kidnappings led to a reduction of nearly 46% of cultivated land due to the massive departure of producers to areas considered more secure.

As far as mining is concerned, the abandonment of agriculture for mining, which is said to provide greater and more rapid income than agriculture and livestock, was noted. The scenario was the same in the Mayo-Banyo and Faro and Déo (Adamawa), Kadey, Lom and Djérem (East) and Mayo-Rey (North) divisions. It should be noted that this phenomenon is mainly observed among young people.

Conflicts between farmers and herders were recorded in almost all of the divisions surveyed. However, the damage was more significant in the Koung-Khi (West) and Mayo-Banyo (Adamawa) divisions. In order to manage these conflicts, the farmers and herders resorted to the administrations under the supervision of MINADER and MINEPIA as well as to the territorial administration. It should be noted that despite the development of the agrarian system, herders and farmers do not respect the zones that are allocated to them.

3.4.2 HUMANITARIAN AID

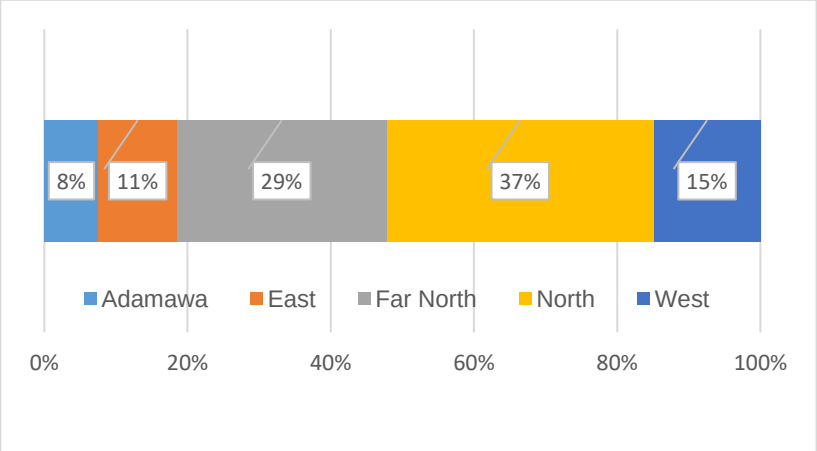
Faced with the displacement of populations due to Boko Haram attacks and flooding, the government and certain humanitarian organisations have provided various types of support to victims in the Far-North region. This aid, consisting of foodstuffs, basic equipment, agricultural inputs and cash, has enabled the affected populations to settle in the villages created and in host families. The Bamboutos Division (West) benefited from the support of some NGOs and elites.

4 AVAILABILITY OF STOCKS OF AGRICULTURAL PRODUCTS

4.1 FOOD CROP PRODUCTION IN THE FIVE REGIONS

Figure 18 shows that[6] in the five regions, an equivalent of **5 310 907 tons** of cereal were produced in 2019.

Figure 17: Contribution of the regions to food availability



The North and Far-North regions contributed 37% and 29% respectively.

Despite the low contribution of the East region, it has one of the best per capita availabilities.

Source: MINADER/DESA (2020)

4.1.1 ADAMAWA REGION

The Adamawa region recorded the highest supplies, particularly in Vina division (Table 11). The Faro and Déo, Mayo Banyo and Mbéré divisions recorded low food supplies during this crop year.

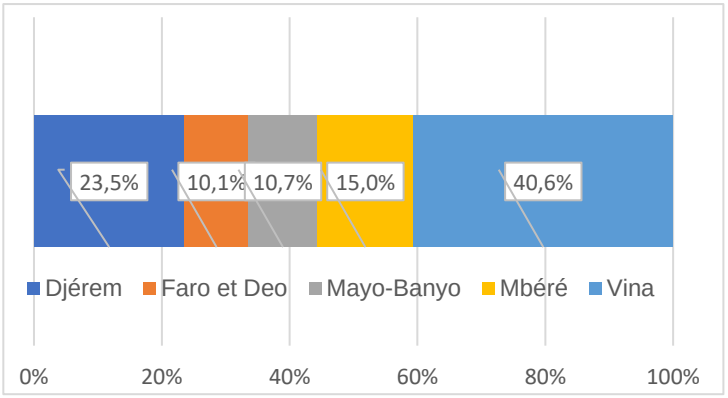
Table 11: Food production supplies (in tons of cereal equivalent) in the Adamawa region

Divisions	Bananas	Cereals	Vegetables and leaves	Legumes and oilseed	Roots and Tubers	Total production
Djerem	483	21,505	248	7,668	64,839	94,743
Faro and Deo	0	36,444	0	1,668	2,380	40,492
Mayo-Banyo	1,433	35,136	17	1,721	4,879	43,186
Mbere	0	13,100	20	914	46,528	60,561
Vina	377	72,151	266	14,131	76,600	163,524
Total	**2,293**	**178,336**	**551**	**26,101**	**195,226**	**402,506**

Source: MINADER/DESA (2020)

[6] CILSS 2004

Figure 18: Contribution of the various divisions to total production in the Adamawa region



Roots and tubers as well as cereals contribute significantly to this supply. The Vina division alone contributes 40.6 percent of the region's total supply.

Source: MINADER/DESA (2020)

4.1.2 EAST REGION

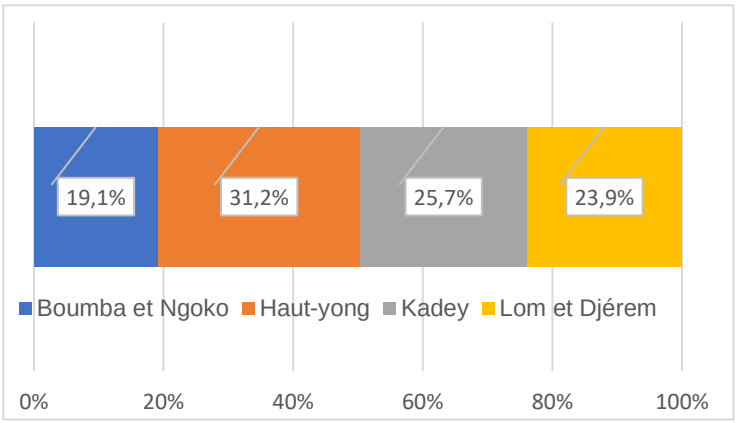
In this region, roots/tubers and bananas contributed the most to food availability. The Haut-Nyong (31,2 %) and Kadey (25,7 %) divisions make up the main supply basins.

Table 12: Food production supplies (in tons of cereal equivalent) in the East region

Divisions	Bananas	Cereals	Vegetables and leaves	Legumes and oilseed	Roots and Tubers	Total production
Mboumba et Ngoko	30,222	1,082	10	8,596	71,126	111,035
Haut-Nyong	37,687	9,000		15,424	119,171	181,281
Kadey	37,094	7,329		1,806	102,969	149,197
Lom and Djérem	45,590	12,821		3,623	76,814	138,848
Total	**150,592**	**30,232**	**10**	**29,449**	**370,079**	**580,362**

Source: MINADER/DESA (2020)

Figure 20: Contribution of the various divisions to total production in the East region



The Bomba et Ngoko division has the lowest percentage (19.1%) of food availability, followed by the Lom and Djerem division (23.9%).

Source: MINADER/DESA (2020)

4.1.3 FAR-NORTH REGION

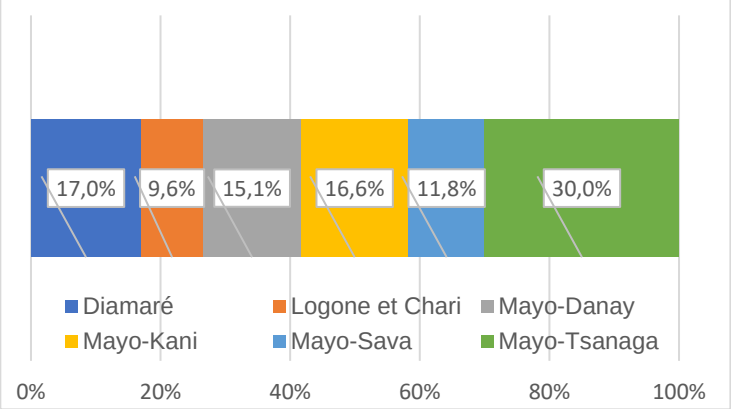
Cereals, followed by legumes/oilseeds, make up the majority of food supplies in all divisions. Thanks to its roots and tubers, the Mayo-Tsanagale division is the main production basin of this region.

Table 13: Food production supplies (in tons of cereal equivalent) in the Far-North region

Divisions	Cereals	Vegetables and leaves	Legumes and oilseed	Roots and Tubers	Total production
Diamare	228,066	6,073	25,147	5,035	264,321
Logone and Chari	115,431	12,417	10,801	10,817	149,466
Mayo Danay	194,500	407	30,091	9,721	234,718
Mayo-Kani	224,533	2,477	29,951	1,120	258,082
Mayo-Sava	123,254	18,996	40,733	828	183,812
Mayo-Tsanaga	244,683	4,992	188,241	28,344	466,259
Total	**1,130,466**	**45,363**	**324,964**	**55,864**	**1,556,657**

Source: MINADER/DESA (2020)

Figure 21: Contribution of the various divisions to total production in the Far-North region



In the Far North region, the Logone and Chari and Mayo-Sava divisions recorded the lowest proportions of food availability, 9.6 percent and 11.88 percent respectively.

This low percentage could be as a result of the the presence of refugee camps and internal displacements following the exactions of the terrorist sect Boko Haram.

Source: MINADER/DESA (2020)

4.1.4 NORTH REGION

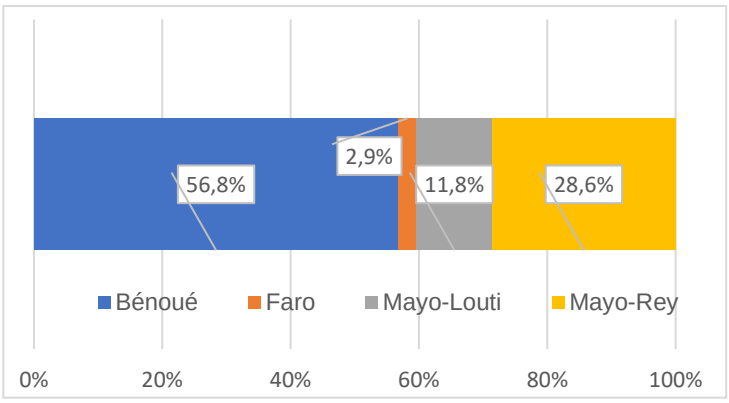
Cereals constitute 60% of the food available in this region, followed by legumes/oilseeds (35%).

Table 14: Food production supplies (in tons of cereal equivalent) in the North region

Divisions	Bananas	Cereals	Vegetables and leaves	Legumes and oilseed	Roots and Tubers	Total production
Benue	0	693,717	4,750	410,181	15,313	1,123,961
Faro	0	55,960	9	0	1,080	57,049
Mayo-Louti	0	155,242	1,153	75,691	804	232,890
Mayo-Rey	29	274,598	1,547	216,165	74,051	566,390
Total	**29**	**1,179,517**	**7,459**	**702,037**	**91,248**	**1,980,290**

Source: MINADER/DESA (2020)

Figure 22: Contribution of the various divisions to total production in the North region



The Benue division is the main production basin of the North region, accounting for more than 50% of the region's food availability, compared to only 2.9% in the Faro division.

Source: MINADER/DESA (2020)

4.1.5 WEST REGION

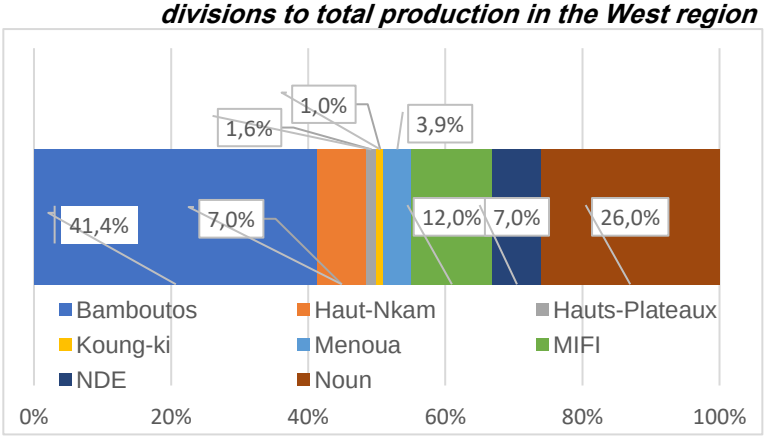
In the West region, cereals and roots and tubers contribute the most to food availability.

Table 15: Food production supplies (in tons of cereal equivalent) in the West region

Divisions	Bananas	Cereals	Vegetables and leaves	Legumes and oilseed	Roots and Tubers	Total production
Bamboutos	29,100	141,300	3,328	85,276	68,409	327,413
Haut-Nkam	6,377	8,421	209	1,951	38,761	55,719
Haut-Plateaux	2,360	4,300	105	2,774	2,794	12,332
Koung-ki	927	2,994	1	2,401	1,957	8,280
Menoua	2,620	7,192	287	5,535	15,486	31,120
MIFI	11,652	47,720	704	14,911	19,837	94,824
NDE	8,132	33,694	1,156	1,638	10,705	55,325
Noun	13,426	78,485	11	72,619	41,538	206,078
Total	**74,594**	**324,106**	**5,801**	**187,105**	**199,486**	**791,092**

Source: MINADER/DESA (2020)

Figure 23: Contribution of the various divisions to total production in the West region



The Bamboutos division (41 percent) and Noun division (26 percent). contributed most to food availability in the West region.

The Menoua, Koung-khi, and Hauts-Plateaux divisions together contribute 6.5 percent of the region's food availability.

Source: MINADER/DESA (2020)

4.2 COVERAGE OF CEREAL NEEDS IN THE NORTH AND FAR-NORTH REGIONS

Considering food habits[7], the analysis of this balance sheet is only relevant in the North and Far-North regions.

Tables 16 and 17 present this food balance in the two regions.

With human consumption at 550 grams of cereal per person per day, the Far-North region recorded a narrow surplus. This surplus is reduced by the deficit in the Logone and Chari divisions. This deficit and the minimal surplus in the Mayo-Sava and Mayo-Tsanaga divisions are due to the insecurity situation, particularly in the villages bordering Nigeria, which have been emptied of most of their population.

Of the five regions, the North region is highest cereal producer, with a surplus representing 58% of its production, mainly contributed by the Benue and Mayo-Rey divisions. However, the Mayo-Louti division remains a pocket of food insecurity risk in this region.

Table 16: Cereal coverage rate in the Far North region (in tons)

Division	Cereal production	Losses	Availability	Human consumption	Animal consumption	Coverage rate
Diamare	228,066	34,210	193,856	181,375	_	12,481
Logone and Chari	115,431	17,315	98,116	137,535	_	-39,419
Mayo Danay	194,500	29,175	165,325	149,415	_	15,910
Mayo Kani	224,533	33,680	190,853	114,278	_	76,575
Mayo-Sava	123,254	18,488	104,766	98,532	_	6,234
Mayo-Tsanaga	244,683	36,702	207,981	197,682	_	10,298
Total	**1,130,466**	**169,570**	**960,896**	**878,817**	**12,532**	**69,548**

Source: MINADER/DESA (2020)

Table 17: Cereal coverage rate in the North region (in tons)

Division	Cereal production	Losses	Availability	Human consumption	Animal consumption	Coverage rate
Benue	693,717	104,058	589,659	273,552	_	316,108
Faro	55,960	8,394	47,566	22,308	_	25,258
Mayo-Louti	155,242	23,286	131,956	125,650	_	6,306
Mayo-Rey	274,598	41,190	233,408	120,472	_	112,936
North	**1,179,517**	**176,928**	**1,002,589**	**541,982**	**2,395**	**458,213**

Source: MINADER/DESA (2020)

[7] Food Balance Sheets, manual, FAO 2003.

Table 18: Food coverage rate in the North and Far-North regions (in tons Eqc)

Division	Total production	Losses	Availability	Human consumption	Animal consumption	Coverage rate
Diamare	264,321	39,648	224,673	181,375	_	43,298
Logone and Chari	149,466	22,420	127,046	137,535	_	-10,489
Mayo Danay	234,718	35,208	199,510	149,415	_	50,095
Mayo Kani	258,082	38,712	219,369	114,278	_	105,091
Mayo-Sava	183,812	27,572	156,240	98,532	_	57,708
Mayo Tsanaga	466,259	69,939	396,320	197,682	_	198,638
Far-North	**1,556,657**	**233,499**	**1,323,158**	**878,817**	**12,532**	**431,810**
Benue	1,123,961	168,594	955,366	273,552	_	681,815
Faro	57,049	8,557	48,491	22,308	_	26,183
Mayo-Louti	232,890	34,934	197,957	125,650	_	72,307
Mayo-Rey	566,390	84,959	481,432	120,472	_	360,960
North	**1,980,290**	**297,043**	**1,683,246**	**541,982**	**2,395**	**1,138,869**

Source: MINADER/DESA (2020)

Generally, the cereal balance sheet for the North and Far-North region shows a surplus in cereal availability during the 2019/2020 crop year.

4.3 FOOD COVERAGE RATE

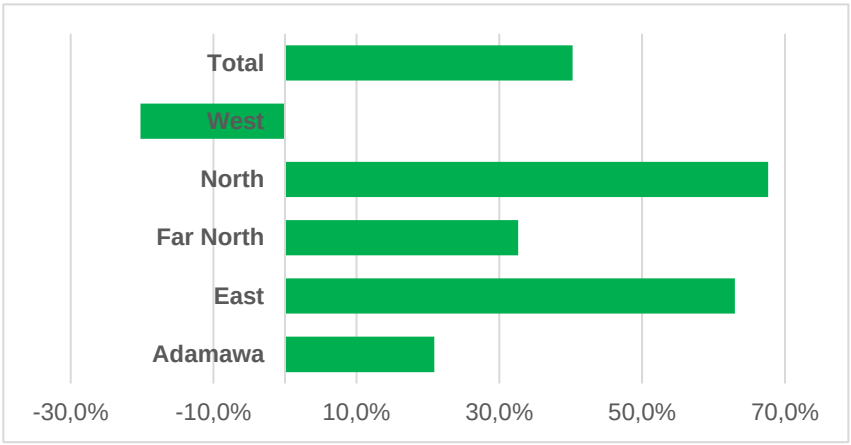
In all the five regions, there was a surplus of food crops, enough to feed urban populations and their animals. Despite this surplus, the West region recorded a deficit. This can be explained on the one hand by the intensive "poultry" farming practiced there and on the other hand by its high population density.

Table 19: Food coverage rate in the Adamawa, East, Far North, North and West regions

Divisions	Food availability (in tons)	Human consumption (in tons)	Animal consumption (in tons)	Coverage rate (in tons)
Adamawa	342,130	268,620	2,018	71,492
East	493,307	176,252	6,432	310,624
Far-North	1,323,158	878,817	12,532	431,810
North	1,683,246	541,982	2,395	1,138,869
West	672,428	495,621	312,820	-136,013
Total	**4,514,270**	**2,361,291**	**336,197**	**1,816,783**

Source: MINADER/DESA (2020)

Figure 19: Food coverage rate in the Adamawa, East, Far-North, North and West regions



These surpluses in the North and Far-North regions may mask deficits in some divisions, particularly in the West Region, which recorded a 20% deficit.

Source: MINADER/DESA (2020)

4.3.1 ADAMAWA REGION

Despite the region's surplus, the Mayo-Banyo and Mbéré divisions recorded a deficit. The deficit in the Mayo-Banyo division could be due to the extensive breeding of large ruminants, which remains the main activity, followed by gold mining. For the Mbéré division, this deficit could be linked to the displacement of populations due to the persistence of kidnapping.

4.3.2 FAR-NORTH REGION

The deficit in recorded in the Logone and Chari division could be attributable to a sharp decline in agricultural activities due to the internal displacement of the population, which is mainly rural. These displacements are caused by incursions by the terrorist group Boko Haram and frequent flooding.

4.3.3 WEST REGION

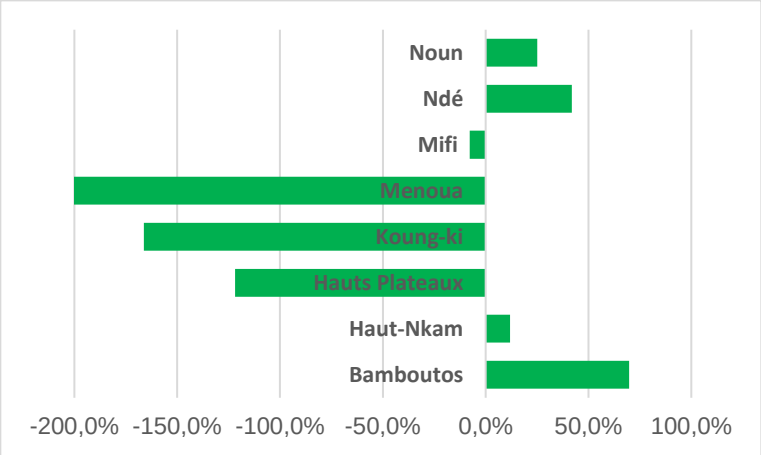
In this region, deficits were recorded in the Menoua, Koung-Khi, Hauts Plateaux, and Mifi divisions. These areas are characterized by high population density, reflecting the scarcity of available farmland.

Table 20: Food balance sheet in the West Region

Divisions	Food availability (in tons)	Human consumption (in tons)	Coverage rate (in tons)
Bamboutos	278,301	84,256	194,045
Haut-Nkam	47,362	41,719	5,642
Haut-Plateaux	10,483	23,247	-12,764
Koung-ki	7,038	18,735	-11,698
Menoua	26,452	82,341	-55,889
Mifi	80,601	86,863	-6,262
Nde	47,026	27,330	19,696
Noun	175,166	131,129	44,037

Source: MINADER/DESA (2020)

Figure 20: Food balance sheet in the West Region



Source: MINADER/DESA (2020)

However, a deficit was not recorded in the Bamboutous division despite its high population density; this could be attributed to the high agricultural productivity of its volcanic soils.

5 CONCLUSION AND RECOMMENDATIONS

5.1 CONCLUSION

The assessment of the 2019/2020 crop year and food availability highlighted the main factors that affected agricultural production during this crop year and their impact on food availability. These include flooding due to the heavy rains in almost all the divisions surveyed; the low use of phytosanitary products; the use of unregistered phytosanitary products; and the low use of tractors in agricultural operations during the 2019 crop year. This situation is due to the unavailability of approved sales points in some divisions and the high prices of these inputs. For the low use of tractors, the high price of purchasing and/or renting these agricultural machines as well as their reduced availability were mentioned.

The end of the 2019/2020 crop year was marked by the closure of borders following the COVID-19 pandemic that occurred in our country in March 2020. The closure of borders led to a drop in the price of certain agricultural products, such as tomatoes, whose price fell from 12,500 to 1,800 CFA francs per basket (15kg) in the main selling markets. In the Far-North region, the security crisis due to the exactions of the terrorist sect Boko Haram and the socio-political situation in the North-West and South-West regions have led to a significant movement of people, resulting in a reduction in the agricultural labour force, a decrease in the cultivation areas and a general decline in agricultural production. Bush fires had a significant impact in the East region. Their recurrence and extent need special attention.

The positive food balance observed in almost all the regions surveyed conceals some disparities in the divisions, particularly in the Mbéré, Mayo-Banyo divisions in the Adamawa region, the Menoua, Koung-khi, and Haut Plateaux divisions in the West region, the Mayo-Louti division in the North region, and the Logone and Chari and Mayo-Danay divisions in the Far-North region.

5.2 SUGGESTIONS AND RECOMMENDATIONS

N0.	Remarks	Suggestions/Recommendations	Persons concerned
1	The failure/lack of approved structures for the marketing of agricultural products in certain divisions encourages the use of unregistered phytosanitary products and the low use of fertilizers	Encourage the creation of approved structures for the sale of agricultural inputs and equipment in the production basins to allow producers to access them and thus increase the productivity of their farms.	MINADER
2	Unregistered phytosanitary products are used in almost all the divisions of the regions surveyed, but at different levels. The reasons for the use of this type of product are: - The attractiveness of selling prices. - The proximity of some divisions to neighbouring countries such as Nigeria and Chad, which supply them with these products at low prices. - Producers' ignorance of the harmful effects of these products on the soil, crops and human health.	To limit the use of unregistered phytosanitary products in the divisions that are close to Nigeria and Chad and whose effects are harmful to the soil and human health, two main actions could be taken: - Raise producers' awareness of the dangers of using unregistered phytosanitary products and make available to them the list of registered products. - Strengthen anti-smuggling measures at the borders with Nigeria and Chad to limit the fraudulent entry of unregistered products into Cameroon.	MINADER MINFI (CUSTOMS)
3	Bush fires are more and recurrent in some regions of the country. In the East region, they led to the destruction of crops in the Haut-Nyong and Kadey, affecting nearly 115 ha of cocoa and 90 ha of coffee.	Put in place, in collaboration with MINEPIA, a bushfire control system capable of containing large-scale fires and promote good agro pastoral practices for bushfire control in the most affected divisions.	MINADER MINEPIA
4	Conflicts between farmers and herders were recorded in almost all of the divisions surveyed.	Accelerate zoning procedures for a better delimitation of agricultural and pastoral zones as well as the management of agropastoral conflicts.	MINADER MINEPIA MINAT
5	The West, Far-North, Adamawa and North regions experienced flooding. Flooding was most severe in the remote areas. Landslides were recorded in the West region, specifically in "Gouaché" in the Mifi division.	Continue the development of remote areas and the regular maintenance of farm roads to limit the destruction of crops by flooding and facilitate the transportation of agricultural products.	MINADER MINTP

N0.	Remarks	Suggestions/Recommendations	Persons concerned
6	Generally, low tractor use was noted in the practice of agriculture during the 2019/2020 crop year. This low use is due to the high price of purchasing and/or renting these agricultural machines as well as their reduced availability	- Put in place mechanisms to facilitate access to tractors in order to promote agricultural mechanisation and the increase in the size of farms. - Make use of the services of CENEEMA	MINADER
7	The positive food balance observed in almost all the regions surveyed conceals some disparities in the divisions, particularly in the Mbéré, Mayo-Banyo divisions in the Adamawa region, the Menoua, Koung-khi, and Haut Plateaux divisions in the West region, the Mayo-Louti division in the North, and the Logone and Chari and Mayo-Danay divisions in the Far-North region.	Provide food assistance to the populations of the divisions experiencing food shortages.	MINADER Humanitarian organisations

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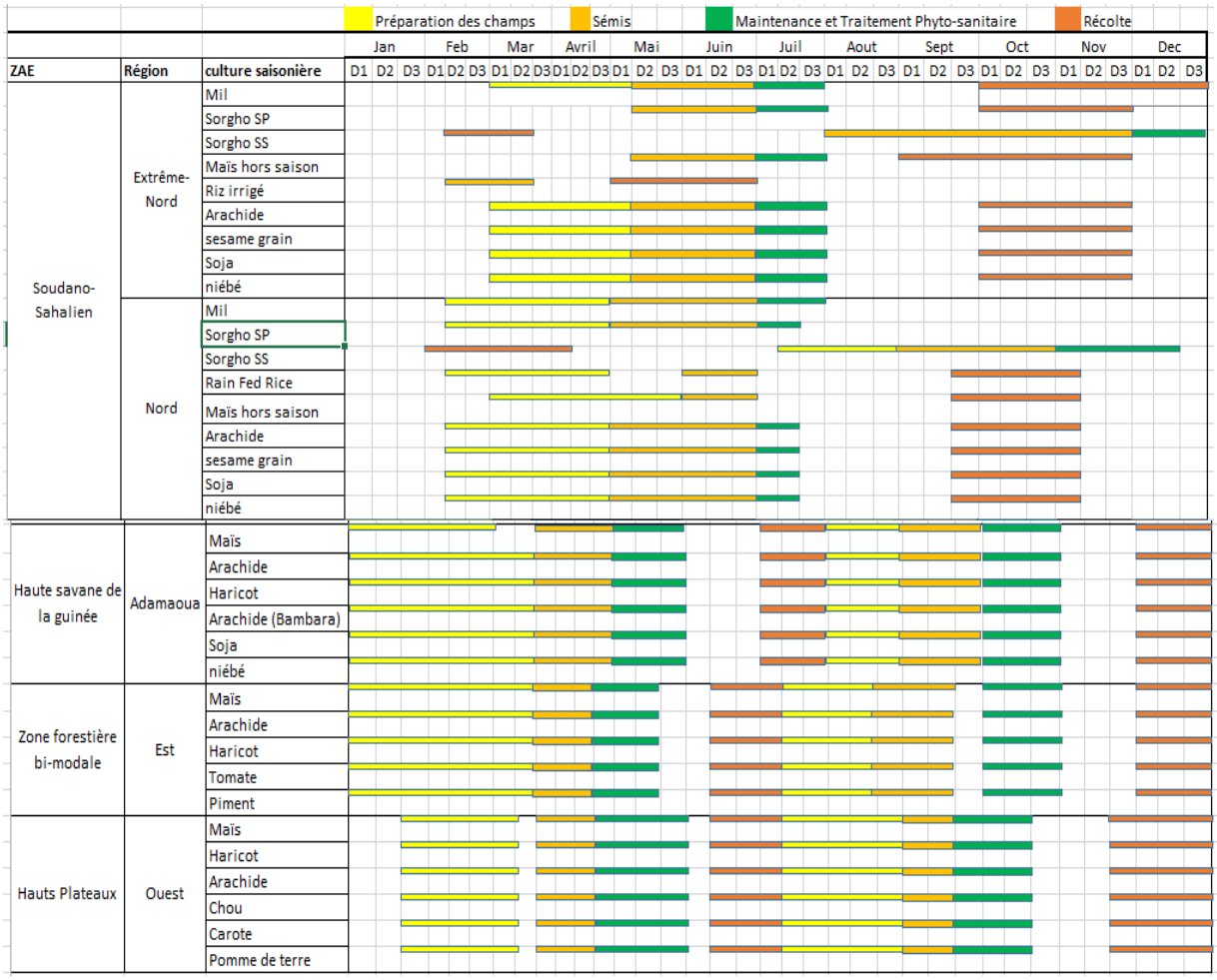
7 APPENDIX 1: AGRICULTURAL CALENDAR



8 APPENDIX 2: FOOD BALANCE SHEET BY DIVISION

Region/Division	Food availability	Human consumption	Animal consumption	Coverage rate (in tons)	Coverage rate (%) relative to production
Adamawa	342130.3	268619.8	2018.3	71492.2	18
Djerem	80531.7	37955.4		42576.3	45
Faro et Deo	34417.9	25126.9		9291.0	23
Mayo-Banyo	36708.1	56824.9		-20116.8	-47
Mbere	51477.0	52148.1		-671.0	-1
Vina	138995.6	96564.6		42431.0	26
East	493307.3	176251.6	6431.5	310624.1	54
Mboumba et Ngoko	94379.5	26344.3		68035.2	61
Haut-Nyong	154089.2	44880.6		109208.6	60
Kadey	126817.8	42043.9		84773.9	57
Lom and Djérem	118020.7	62982.9		55037.8	40
Far-North	1323158.4	878816.6	12532.1	431809.7	28
Diamare	224672.9	181374.5		43298.4	16
Logone and Chari	127045.9	137535.2		-10489.3	-7
Mayo Danay	199510.1	149414.7		50095.3	21
Mayo Kani	219369.4	114278.1		105091.3	41
Mayo-Sava	156239.8	98531.8		57708.0	31
Mayo-Tsanaga	396320.4	197682.3		198638.1	43
North	1683246.2	541981.8	2395.0	1138869.4	58
Benue	955366.4	273551.7		681814.7	61
Faro	48491.3	22308.2		26183.1	46
Mayo-Louti	197956.7	125649.7		72307.0	31
Mayo-Rey	481431.8	120472.2		360959.6	64
West	672428.3	495620.9	312820.2	-136012.9	-17
Bamboutos	278300.7	84256.1		194044.6	59

Haut-Nkam	47361.5	41719.2		5642.3	10
Haut-Plateaux	10482.5	23246.9		-12764.4	-104
Koung-ki	7037.9	18735.4		-11697.5	-141
Menoua	26452.3	82341.1		-55888.9	-180
MIFI	80600.7	86862.7		-6262.0	-7
NDE	47026.3	27330.2		19696.2	36
Noun	175166.3	131129.4		44037.0	21
Overall total	4514270.4	2361290.7	336197.1	1816782.6	34

9 APPENDIX 3: SURVEY TEAM

No.	Name and Surname	Administration
General supervision		
1.	Mr. MBAIROBE Gabriel	Ministry of Agriculture and Rural Development
2.	Mrs. ANANGA MESSINA Clémentine	Minister Delegate to MINADER in charge of Rural Development
Technical supervision		
1.	Prof. MBONG GRACE ANNIH	General Secretary of MINADER
2.	Mr. MBAIRANODJI André	Director of Agricultural Surveys and Statistics
Technical coordination		
1.	Mr.FOUNADOUDOU	Head of Information and Early Warning Unit
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3.	Mr .DIFFO Joé Clauvis	Head of Statistical Synthesis Unit and Agricultural Income

Editorial team

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4.	NTOUDA BETSOGO Julien	DESA/SDEES
5.	MBEMYA SAHA Marcel	DESA/SDEES
6.	WAFFO Jean Christophe	DESA/SDEES
7.	ATOKA BELIBI Jean Marie	DESA/CSSRA
8.	TANG TANG Grégoire	DESA/SDEES
9.	Fréderic James MVINI	DEPC
10.	DOMTCHOM DONKAM Dimitri	DESA/CIAR
11.	ANGOE ABOUTOU Alain	DESA/CIAR

Field Team

No.	Region	Names and Surnames	Structure	Roles
1.	Adamawa	TOUNA NGONO Louis Marie (CE)8	DESA/CIAR	Surveyor
2.		MAGUIP A KEDI Nadine Annita	DESA/SDEES	Surveyor
3.		MAIHAOUSSA NGAFWE Félicité	DESA/SDEES	Surveyor
4.		TANG TANG Grégoire	DESA/SDEES	Surveyor
5.		FANMENI JOSEPH	CSREA/DRADER	Surveyor
6.	East	MBAIRANODJI André	DESA	Supervisor
7.		MBEMYA SAHA Marcel (CE)	DESA/SDEES	Surveyor
8.		Fréderic James MVINI	DEPC	Surveyor
9.		ANGOE ABOUTOU Alain	DESA/CIAR	Surveyor
10.		KAMFOUO Emilie	DESA/SDEES	Surveyor
11.		YENE YENE Alexandre DOMINGO	DESA	Driver
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15.		ATANGANA Sébastien	DESA/SDEES	Surveyor
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17.		TAZO TZAFONG Christian	DESA/SDEES	Surveyor
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21.		ATOKA BELIBI	DESA/CSSRA	Surveyor
22.		ABDOURAMAN Bichair	DESA/CIAR	Driver
23.		NAIMA ARON	CSRESA/DRADER	Surveyor

8 CE : Team Head

24.	West	YADJI DARMAN Benjamin	IGDR/IS2	Supervisor
25.		KOUAMO Stéphane (CE)	DESA/CSSRA	Surveyor
26.		SCHOUAME Jean Pierre	DESA/SDEES	Surveyor
27.		MVONDO Judith	DESA/SDEES	Surveyor
28.		DOMTCHOM DONKAM Dimitri	DESA/CIAR	Surveyor
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