## **SRADDT-West**

## **AGRICULTURE IN THE WEST REGION**

**Diagnostic Report** 

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#### Introduction

The implementation of the national land use policy faces several challenges, the main ones being the absence of a national strategy (National land use plan, zoning plan, inventory of potentialities, etc.), main instruments that must accompany it, and their regional application. The lack of information on regional potential: the distribution of infrastructure, equipment, activities supporting economic sectors, etc., cannot allow the implementation of an integrated, coherent and sustainable regional development policy.

In order to provide solutions to these problems and to place the future of the economic development in the West Region in a path towards integrated development at the national level, the Ministry of Economy, Planning and Territorial Development (MINEPAT) has decided to draw up the regional plan for the sustainable development of the territory.

It is in this light that RAINBOW was selected by MINEPAT to conduct this study. To this end, it was to start with a regional diagnostic study of the different sectors. The Bureau's main task is to analyse the performance of the sectors in the region in order to identify their strengths, weaknesses, threats and opportunities, to assess the responses in terms of action taken to ensure the exploitation of resources and assess their integration into the national economy, particularly in terms of sustainable wealth creation and contribution to food security.

In 2012, the updated version of the Rural Sector Development Strategy (RSDS) brought about a new document for the Agricultural and Rural Development sector in which the main challenges were:

- The modernization of the rural world and the acceleration of growth;
- Poverty reduction in rural areas;
- Food security and self-sufficiency:
- Sustainable management of natural resources.

The promotion of a sustainable, modern and competitive agriculture based on recognised and secured family farms and on the development of medium and large farms, which, in this context, should promote production increase and limit food dependence, while creating formal employment dynamics.

The revised Rural Sector Development Strategy (RSDS) is based on four main pillars:

- strengthen the institutional framework and capacities of all state and private stakeholders;
- improve the productivity and competitiveness of the sectors;
- modernise rural and productive infrastructure;
- manage natural resources in a sustainable way.

In April 2014, Cameroon validated the National Agricultural Investment Plan (NAIP) in order to facilitate the implementation of the RSDS. NAIP is the planning framework for national and external funds for rural sector development. It takes into account the needs, achievements and gaps to know to invest in and run the sector by 2014 - 2020. It brings together all ongoing programmes and projects and must generate all new interventions.

RSDS and NAIP are part of the Comprehensive Africa Agriculture Development Programme (CAADP). On 17 July 2013, the CAADP Pact was signed by the Prime Minister and all ministers linked to the rural sector, representatives of NEPAD and ECCAS, representative organizations of producers, civil society and the private sector and by the German Embassy on behalf of the Technical and Financial Partners. It

reflects a common commitment to work to bring the performance of the agricultural sector up to the country's potential, with an agricultural growth of at least 10% by 2020.

The NAIP's strategic approach is based on second-generation agriculture, which has the overall objective of generating sustainable growth in the sector that respects environmental capital. It aims at ensuring the country's food sovereignty and food and nutritional security through a rational and balanced modernization of production systems.

Second-generation agriculture is based on both Family Farming and Medium and Large Farming, strengthening their complementarities and promoting their integration into value chains and market connections. To do this, the State must improve the institutional environment, promote training, research, advisory support and extension, invest in structural infrastructure (access roads, major developments, etc.) and facilitate access to land and financing.

#### 1. PRESENTATION OF THE WEST REGION

## 1.1 Location of the West Region

The West Region covers an area of 13,998 km2 representing about 2.8% of Cameroon's surface area. It extends between parallel north 4 and 6 on the one hand, and meridian west 9 and 11 on the other. Information characterising this territorial community can be seen in the table below.

Table 1: Location of the West Region

Country	CAMEROON			
REGION	WEST			
Headquarter	BAFOUSSAM			
GPS Coordinates for	X = 10,41982 Y= 5,471907 ; Z= 1425			
the Town Hall	X = 10,41302			
	1720047 inhabitants <sup>1</sup> in 2005 and estimated 2267881 in 2017 with an average			
Population	growth rate of 2.6%, from 2005 to 2010 and 2.5% until 2017: 1205859 women			
	and 1062022 men for a sex rate of 88.07%.			
Surface area	<sup>2</sup> 13 998 km <sup>2</sup>			
Population density	162 inhabitants/km <sup>2</sup>			
	In the North through the North-West and the Adamawa Region			
Border regions	In the South through the Littoral Region			
Dorder regions	To the East through the Centre Region			
	To the West through the South-West Region			
Number of Divisions	08 Divisions: BAMBOUTOS; HAUT-NKAM; HIGHLANDS; KOUNG-KHI;			
Nullipel of Divisions	MENOUA; MIFI; NDE; NOUN			
Distances between	MBOUDA (BAMBOUTOS Division): 29 km			
the region's	region's BAFANG (Haut-NKAM Division): 67 km			
headquarter	BAHAM (Highlands Division): 21 km			

<sup>&</sup>lt;sup>1</sup> Source: Presentation report on the final results for the 3rd Population and Housing Census of 2005, published in 2010

<sup>&</sup>lt;sup>2</sup> Source: Service Improvement Program (PRAS) of the Regional Delegation of MINADER West

(Bafoussam) and the	BANDJOUN (KOUNG-KHI Division): 15km
divisions'	DSCHANG (MENOUA Division): 52 km
headquarters and	BAFOUSSAM (MIFI Division): 0 km
other reference	BANGANGTE (NDE Division): 48 km
towns	FOUMBAN (NOUN Division): 70 km
	YAOUNDE (Political Capital of Cameroon) 294 km
	DOUALA (Economic Capital) 266 km

Map 1: Map of the West Region



## 1.2. Biophysical environment

#### 1.2.1. Climate

The West Region has an altitude influencing Cameroon's Climate characterized by a long rainy season from mid-March to mid-November and a short dry season from mid-November to mid-March. But the effects of climate change are making the disparities between the two seasons less obvious. The average annual rainfall is between 1500 and 1800 mm. This rainfall is an advantage for the region's agriculture in that it promotes the proper development of crops and allows the practice of off-season crops.

The average temperatures are around 22°C, the December minimums are between 15 and 18°C and the maximums are around 30°C.

## 1.2.2. Topography

The West Region is located on the Western Mountain Range. As such, its rugged relief is essentially made up of three main areas:

- The Plateaux (located between 800 and 1600m above sea level);
- The Altitude Zones (vary from 1500 to 2800 m of altitude);
- The plains, located between 500 m and 800 m above sea level, are mainly found in certain divisions of the region, namely: the MBÔ plain towards the south-western border of the Menoua Division; the Noun plain divided between the Noun and Mapé Divisions; the Mapé Basin in the Noun.

These plains have vast pieces of land suitable for agricultural mechanization. This mechanisation has already been successfully tested for potato cultivation, which is developing wonderfully at high altitudes and producing very attractive yields (more than 30 tonnes per hectare).

## 1.2.3. Hydrography

Five main rivers flow through the West Region:

- The Nkam, enlarged by the Menoua River, comes from the Bamboutos Mountains;
- The Mbam, at an altitude of 1500 m, originates from the mountains separating Nigeria from Cameroon
- Mifi gives its name to the Mifi Division;
- The Nde which crosses the Nde Division to which it gives its name;
- The Noun, which originates in the North-West Region, drains most of the region A dam has been built on this watercourse at BAMEDJIN in the Bamboutos Division. The collected water flows into the Mbam before flowing into the Sanaga.

All these rivers and their tributaries offer unsuspected opportunities for off-season cultivation, including market gardening and other food crops.

## 1.2.4. Forestry

The dominant vegetation is the savannah, which is strongly influenced by human activity. Generally speaking, the predominant landscape unit consists of residential areas that become polyculture areas on the outskirts characterized by food crops such as maize (Zéa mays), beans (Phaseolus vulgaris), plantains (Musa paradisiaca) etc.

#### 1.3. Human Environment

The population of the region is mainly made up of Bamilékés and Bamoun. According to the Presentation Report on the Final Results of the Third General Census of Population and Housing in Cameroon, published on 30 March 2010, its population was estimated at 172,047 inhabitants in 2005. According to the same report, Cameroon's population growth rate is 2.6% from 2005 to 2010 and 2.5% until 2017. This allows us to estimate the population of the West Region at 2,267,881 inhabitants at the end of 2017.

By ricochet, the rural population, which was 1,295,745 in 2005, is estimated at 1,708,439 inhabitants in 2017 and 1,474,122 active farmers (65% of the total population).

The population of the West Region is made up mainly of two major ethnic groups characterized by their morals and inhabitants: the Bamilékés and the Bamoun.

The Bamilékés: today they are estimated at 1,560,399 inhabitants and inhabit the seven divisions on the right bank of the Noun which together cover an area of 6 308 km2. The population density is 264 inhabitants per km2. It reaches 968.73 inhabitants per km2 in Mifi and even more elsewhere.

The Bamouns, located on the left bank of the Noun, are currently estimated at 707,482 inhabitants unevenly distributed over a territory of 7690 km2, or a density of 92 inhabitants per km2. These two major ethnic groups are mixed with Tikar minorities in the Magba (Noun) Subdivision, Mbo, Santchou in Menoua and Kékem (Haut-Nkam). We also note the presence of Bororo minorities in some divisions of the region (Bamboutos, Noun, etc.).

This population is very unevenly distributed as shown in the following table based on the results of the 2005 population census, updated and revised upwards at the standard growth rates of 2.6% and 2.5%

	Surface Women		men	Men		TOTAL	
Division	area (Km²)	2005	2017	2005	2017	2005	2017
BAMBOUTOS	1,173	160,508	211,630	131,902	173,913	292,410	385,542
HAUT-NKAM	1,065	76,056	100,280	68,730	90,620	144,786	190,900
HIGHLANDS	415	45,030	59,372	35,648	47,002	80,678	106,374
KOUNG-KHI	353	34,893	46,006	30,128	39,724	65,021	85,730
MENOUA	1,380	156,845	206,800	128,919	169,980	285,764	376,780
MIFI	402	156,968	206,962	144,488	190,507	301,456	397,470
NDE	1,520	48,761	64,291	46,088	60,767	94,849	125,058
NOUN	7,690	235,508	310,517	219,575	289,510	455,083	600,027
TOTAL	13,998	914,569	1,205,859	805,478	1,062,022	1,720,047	2,267,881

**Table 2**: Population of the West Region per Division

<u>Observation:</u> The Noun Division, with its 7,690 km2, represents more than half of the West Region in terms of surface area. It is the most populated division as compared to the others. In addition, the women are more in number than the men in all divisions of the West Region. Koung-Khi, with 85730 individuals in 2017, is the least populated.

#### 1.4. Main Infrastructures

#### 1.4.1. Road Infrastructure

The West Region has a road network estimated at 77,589 km of roads distributed as follows: 5,133 km of paved roads, 12,799 km of unpaved roads and 59,657 km of tracks and ways (source: www.mintp.cm). These roads connect the headquarter of the region (Bafoussam) to all the main towns of the divisions by paved sections that are more or less in good condition. Only the Bafoussam-Bafang section is deteriorating at some levels.

This network has been undergoing major changes since 2015, with the project to open up the major agricultural production basins in the West, based on the desire of the President of the Republic to provide areas with high agricultural potential with road infrastructure that can be used in all seasons. This road covers the Bamboutos, Menoua, Noun and Ndé Divisions respectively for a total of 217 km of paved road.

#### 1.4.2. Health Infrastructure

The West Region has 20 health districts, each with one district health hospital in each of the eight divisions of the region, as shown in the table below.

<b>Table 3:</b> Health	Infrastructure	used by	y the po	pulation
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Division	Health district	Inhabitants
Bamboutos	Batcham Galim Mbouda	385,542
Haut-Nkam	Bafang, Bandja, Kekem	190,900
Highlands	Baham, Bamendjou	106,374
Koung-khi	Bandjoun	85,730
Menoua	Dschang, Penka-Michel, Santchou	376,780
MIFI	MIFI	397,470
Ndé	Bangangté	125,058
NOUN	Bangourain, Foumban, Foumbot, Kouoptamo, Malatouen, Massangam	600,027

Private initiatives are increasingly established, be it hospitals linked to religious denominations, foundations, or simply built by individuals or associations. These private initiatives are much more concentrated in the urban perimeters of large towns, such as the divisions' headquarters or the region's headquarter.

The Bafoussam Regional Hospital, which is undergoing daily changes, remains the flagship of the health infrastructure in the West Region, pending the construction of the General Reference Hospital, the first stone of which has already been laid in KOUEKONG, a suburb of Bafoussam located 18 km away.

However, efforts still need to be made to create health infrastructure in rural areas with quality staff for the well-being of agro-pastoral producers, which constitute the backbone of the economy of the West Region.

#### 1.4.3. Education and School Infrastructure

The University of Dschang is the only public institution of higher education in the West and is one of the 08 state universities in Cameroon. One of its flagship faculties is the Faculty of Agronomy and Agricultural Sciences (FASA), which trains the Cameroonian intelligentsia in agricultural support. Most of its

infrastructure is located in Dschang Town, but it is present through its institutes in the NOUN in Foumban by the Foumban Institute of Fine Arts and in the KOUNG-KHI Division by the University Institute of Technology FOTSO Victor, where techniques for processing agricultural products can be developed.

## 1.5. SWOT Analysis for the Biophysical and Human Environment

Table 4: SWOT Analysis for the biophysical and human environment

Elements of Analysis	Strengths	Weaknesses	Opportunities	Threats
Climate	Sudano-Guinean climate tempered by altitude, allowing the development of a wide variety of crops	Heavy rains are accelerating the erosion of untarred roads, making it difficult to harvest agricultural products from the farms.	A long rainy season allowing several crop cycles per crop year.	The effects of climate change are reducing the glaring disparities between the rainy and dry seasons.
Topography	The altitude of the West Region moderates its climate, offering the opportunity to grow a wide range of crops.	More or less rugged topography reducing the possibilities of agricultural mechanization	Multiple high altitude lands offering potential for the development of intensive potato farming.	Risk of increased rainfall erosion in high altitude areas, especially with inappropriate agricultural practices.
Hydrography	A fairly extensive hydrography: with five (05) major rivers: the Nkam, Mbam, Noun, Ndé and Mifi.	Apart from Noun, the majority of the region's watercourses border it without really watering it: the Nkam, Mbam and Ndé.	Rivers and tributaries offering great opportunities for off-season cultivation.	The pressure of the market gardeners is quite high with their ever-increasing water needs.
Forestry	The sacred forests in the traditional chiefdoms constitute real gene banks for the forest of the West Region.	There is no botanical garden without a biodiversity conservation policy.	The forest constitutes a large deposit for the African pharmacopoeia.	Demographic pressure is leading to the disappearance of certain medicinal species.
Population	The dynamism of the populations distributed in the 08 divisions of the West Region is undeniable.	Ambient unemployment especially among youths with no real training who are satisfied with small	Existence of many government projects and programmes in	Strong demographic pressure significantly reducing the area cultivated.

Elements of Analysis	Strengths	Weaknesses	Opportunities	Threats
		informal	support of	
		occupations.	agriculture.	

#### 2. HISTORICAL ELEMENTS OF THE AGRARIAN SPACE STRUCTURING

Coffee farming was the dominant production method in the highlands of West Cameroon until the late 1980s. It began with the development of the large plantations owned by the settlers. These colonial plantations led to the development of village plantations, which gradually structured the agrarian territory of the area and gave a market value to land that did not have one.

The 1973 oil crisis and the subsequent fall in coffee prices led to the gradual dismantling of coffee plantations and the orientation of farmers towards food and market gardening. Indeed, the disappearance of the coffee tree has been accompanied by a spectacular expansion of small-scale farming, whose production is the basis of a new spatial dynamic, with new flows of people and goods. The increase in the population is leading to an evolution of the food front and market merchants towards the marshy lowlands, as well as the slopes and peaks of the hills formerly reserved for grazing and cattle rearing. The development of upland areas formerly reserved for livestock has led to conflicts with pastoralists whose pastures have been reduced as food fronts and urbanization have increased.

In some cases, these conflicts have led to fires in Mbororo livestock camps, mutilations and poisoning of animals despite the existence of Decree No. 78/263 of 3 September 1978 establishing the modalities for settling agro-pastoral disputes. Today, one can notice that the causes are increasing in number, and becoming diverse and complex, among which one can mention:

- Demographic pressure that encourages urban or rural populations to create new farms to meet their food needs;
- The expansion of housing in rural areas through the choice of preferential and spacious sites, sometimes in agro-pastoral areas;
- The installation of large state projects in grazing areas without compensatory measures;
- Xenophobia of hosts towards Mbororo pastoralists;
- The lack of cattle guarding by rearers and the absence of a night park;
- The obstruction of livestock tracks or transhumance corridors should normally include a 25m right-of-way on both sides;
- The practice of an extensive livestock system based on nomadism and transhumance and not involving any investment that could confirm the rearer's sovereignty over space.
- The community's exploitation of pastures, their poor maintenance and their free membership facilitating the penetration of farmers.

Actually, from a legal point of view, generally, the majority of users of rural areas have no ownership rights over the land they use. It has only a right of use. Indeed, the land tenure system, by its 1974 ordinances, hands over all unregistered land (national domain) to the State and consequently removes any prerogative from the communities. This reinforces the strong influence of traditional chiefdoms on the access and use of rural land.

The Highlands of West Cameroon offer one of the most spectacular examples of this ability of mountain populations to adapt to various types of constraints, in a context of often unequal relations. Based on coffee growing combined with intensive polyculture, the production system in the Highlands of West Cameroon was open to the world through the coffee market. The Foumbot area had thus become a centre for collecting and shipping coffee products, with significant economic benefits. However, the coffee decline of the 1980s profoundly disrupted this system by putting an end to the hegemony of coffee growing. The distress was short-lived because mountain societies have always shown great flexibility, due to rather favourable natural conditions; new production methods based on food crops, market gardening in particular, were quickly developed.

This implies a reconsideration of the old forms of spatial organization and therefore a new territorial construction: we now seem to be heading towards the triumph of the small family farm, which gives priority to the market food supply at the expense of coffee growing. Innovative and sometimes new agricultural practices are gradually being put in place, with a new territorial dynamic.

Laurien Uwizeyimana<sup>3</sup>, 2009

# 3. TYPOLOGY AND STRUCTURING OF AGRICULTURAL PRODUCTION SYSTEMS IN THE REGION

The updated Rural Sector Development Strategy Paper (MINEPAT, 2005) distinguishes three types of production units: the family farm or small farm on which Cameroonian agriculture is based, the medium and large farm that is growing in importance, and the agro-industrial farm.

The favourable climatic environment of the western highlands with fertile volcanic soils is conducive to various agricultural speculations. Due to the high population density (about 114 inhabitants/km2), there is a degree of development of more than 86% of the exploitable land, hence the importance of agricultural and sometimes intensive production for the region's economy. Production is carried out by individual farmers or producer organisations. In 2011, 9.6% of farmers belonged to a PO (INS, 2015).

The techniques for intensifying agricultural production in the region are very old, particularly in the Bamiléké plateau. They are the result of a long process of adaptation by farmers to the constraints and assets of the natural environment and the limitation of land capital due to rapid population growth.

The small size of the Bamiléké territory is significantly offset by the highly favourable conditions offered by the natural environment for agricultural intensification. Among these conditions, two play a decisive role, namely climate and soils. The climate allows farmers not only to cultivate a large variety of plants, but also to practice two crop seasons per year. The soils are of very high original fertility, at least in the northern half of the territory where the basement has a volcanic cover.

J.-L. DONGMO<sup>4</sup>

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A detailed analysis of the MINEPAT (2005) typology in the region reveals variants in smallholder farming. Admittedly, in general, the exploitation is managed by a male or female head of exploitation composed of

<sup>&</sup>lt;sup>4</sup> Article: The efforts of the West Cameroon Bamilekés to adapt their agriculture to demographic accumulation and to save their food balance against the "aggressions" of the market economy.

one or more members united by family ties or customs and using inefficient factors of production. The production method is based on an extensive traditional system centred on export or industrial crops and/or associated crop systems for food and market gardening.

## 3.1. Conventional Traditional System

Traditionally, two forms can characterize this practice in the region, namely:

- open and unoccupied fields, far from or close to the farmer's main concession, with the practice
  of fallowing, whose duration can vary from 4-5 years after 3-4 years of cultivation; this is an
  eccentric production system that may or may not focus on export crops such as coffee (no
  fallowing) or associated food production crops.
- the fields surrounding the farmer's main concession and often surrounded by hedges and constituting beyond the meshes (groves) true characteristics of the rural area in many areas. The traditional hedge in the Bamiléké plateau has long been an element of the agrarian landscape. It had crop protection or land ownership delimitation functions. The development of commercial food and market gardening has contributed to changing the agroforestry landscape of the region and consequently the groves.

## 3.2. Spatial Structuring and Production Form

Conventional family farming is practiced in all the divisions and on small plots around dwellings or in outlying areas. It is a very diversified agriculture that can be more or less intensive, because each family or agricultural asset must obtain everything it needs from it for the subsistence of the household and it is generally the surplus that is sold for maintenance or other family needs This is why the association is the way of cultivation in the region and one can find on the same plot at the same time perennial crops, food crops and market gardening.

Family farms, often converted into hedgerows, are generally less than 2 or 3 ha in size. Intensive two-cycle agriculture is often practiced. The plots contain coffee, banana and fruit trees. During the rainy season, beans, maize, groundnuts, achu, irish potatoes, cassava and yams are sown, on the ridges, as part of farmers' strategies to minimize the risk of attack by pests and optimize land use. The labour force is mainly family-based. But there is an evolution with the creation of common interest groups (CIGs) and cooperatives. In this case, the areas may be larger and the members of the GICs may benefit from mutual assistance for ploughing and soil maintenance.

Some areas have specialized in certain productions. This is the case, for example, with Foumbot for market gardening.

## 3.3. The Case of the Exploitation of Swampy Lowlands

Under the combined effect of demographic pressure and the introduction of off-season crops, intensive market gardening has developed in the West Region in traditionally undervalued areas: slopes, peaks and lowlands. The presence of fertile soil consisting of deposits from rainwater erosion, deposits trapped by the stems from raffia and the lack of cultivable space are the factors that have contributed to the colonization of previously uncultivated lowlands; because they are flooded in the rainy season and marshy in the dry season. Today, the lowlands are exploited, whether or not they are developed, for the production of two or three cycles of market gardening crops (tomato, cabbage, irish potato, chilli, pepper, leek, parsley, carrot, green bean, rice, etc.) per year. The region also offers climatic aptitudes favourable to

high-altitude market gardening, which requires intensive and widespread use of high-altitude water sources. Generally produced as a single crop, market gardening crops in the region benefit from more or less elaborate fertilization techniques using chemical fertilizers, and irrigation, most often by gravity and sometimes by canals. The production, which comes mainly from peasant farms, but also from a few industrial farms on the Bamoun plateau (PROLEG Foumbot), supplies the national and sub-regional market.

The West Region has glaring potential for irrigable land that is still underdeveloped. Approximately 2949 ha of irrigable plots have been identified in the region, with only 842 ha actually developed for irrigation and market gardening production; that is only 28% of the identified irrigable plots (see table below). The PROLEG agro-industry farms 60 ha in the Noun for the production of leeks, green beans and maize, using sprinkler irrigation throughout its area.

Table 5: Undeveloped West Region Inland Valley

Divisions	Municipalities	Main speculations	Number of farmers	Irrigation technique	Irrigated area (ha)
	Ngoundoup	Rice, tomatoes, maize	717	GRAVITY-FED	123
NOUN	Baigom	Rice, sweet potatoes	550	GRAVITY-FED	102
	Nchoutpah	Rice		GRAVITY-FED	77
MIFI	Famtchouet	Rice, beans, tomato, cabbage, sugarcane, plantain	3000		500
Menoua	Bafou (Tsinfou)	Tomato, black nightshade, pepper, green pepper, cabbage	1	GRAVITY-FED	3
Highlands	Bahouan (chiefdom)	Tomato, black nightshade, plantain, pepper, green pepper, cabbage, maize	1	GRAVITY-FED	3
Ndé	Balengou	Tomato, black nightshade, pepper, green pepper, cabbage, maize	1	GRAVITY-FED	4
	Bingou		1	Canal irrigation	27.2
Haut-Nkam	Bafang	Tomato, black nightshade, plantain, pepper, green pepper, cabbage, maize	1	GRAVITY-FED	3
	·	TOTAL	·	·	842.2

Source: Annual Activity Report of the Inland Valley Valuation Programme (PVBF) for the West Region (2016), Annual Activity Report DRADER/WEST (2016), Regional Service for Rural Engineering and Improvement of the Living Environment in Rural Areas

Table 6: Undeveloped West Region Inland Valley

Divisions	Municipalities	Main speculations	Number of farmers	Cultivated land (ha)
	Koutupit	Rice, maize	312	400
	Njisen	Rice, maize	54	121
NOUN	Malanden	Okro, tomatoes, vegetables, maize	123	213
	KIENTOUOKOUR	Black nightshade, tomato, pepper, greenbeans, basil, etc.	350	50
	Tsintchuet	Leeks, pepper, green pepper, tomato and parsley	20	20
	Bazimbap	Leeks, pepper, green pepper, tomato and parsley	30	40
Bamboutos	BALEGHANG		20	20
	KOMBOU	Leeks, pepper, green pepper, tomato and parsley	1	30
	Bamendjingha	Leeks, pepper, green pepper, tomato and parsley	1	10

Divisions	Municipalities	Main speculations	Number of farmers	Cultivated land (ha)
	TIAMEKI	Leeks, pepper, green pepper, tomato and parsley	/	5
	MECHUI	Leeks, pepper, green pepper, tomato and parsley	/	4
TO'O MEZO		Leeks, pepper, green pepper, tomato and parsley	1	2
	TEDJING	Pepper, green pepper, tomato and parsley	/	6
	BAMEFAP	Pepper, green pepper, tomato and parsley	/	2.5
	BAMENDJO	Pepper, green pepper, tomato and parsley	/	1050
	BAFOUNDA BATCHIOPI	Pepper, green pepper, tomato and parsley	1	30
	BAMENKOMBO (KING PLACE)	Pepper, green pepper, tomato and parsley	1	3
Highlands	Baham (Nwoum)	Tomato, pepper, parsley	10 to 50	10
riigilialius	Bangou chiefdom	Tomato, pepper, parsley and cabbage	10 to 50	30
	T		2046.5	

Source: Annual Activity Report of the Inland Valley Valuation Programme (PVBF) for the West Region (2016), Annual Activity Report DRADER/WEST (2016), Regional Service for Rural Engineering and Improvement of the Living Environment in Rural Areas

## 3.4. Agro-industrial Exploitation

These are farms that specialize in a specific production. These companies generally occupy large areas of good land granted by the State and well connected to large communications networks. They play an important role through their direct and indirect effects on the agricultural economy at both the regional and local levels. In addition, they employ hundreds or thousands of paid workers. Certainly the region does not have many of them and among the operational agro-industries are the vegetable production company (PROLEG) based in Bandjoun and the tea production company in Djutitsa. In the vicinity of some of these complexes, village plantations are developing, growing the same crops and selling their crops to the said complexes.

## 4. MAIN AGRICULTURAL SPECULATIONS IN THE REGION

The West Region is one of the main agricultural production basins of Cameroon, which is mainly produced on conventional family farms. Once a major production basin for Arabica coffee, this speculation has declined considerably in the region in favour of a diversification of food and market gardening crops. This decline was due, among other things, to the liberalization of agricultural sectors in the early 1990s.

According to the latest MINADER Yearbook of Agricultural Statistics published in 2015, the West Region topped the classification in terms of maize (19%), soya (28%), tomato (67%), chilli (44%), watermelon (57%), beans (37%) and irish potatoes (58%) production at the national level. In the West, the Noun stands out with tomatoes and certain spices.

The evolution of some key speculations in the region over the last 05 years is presented in the figures below.

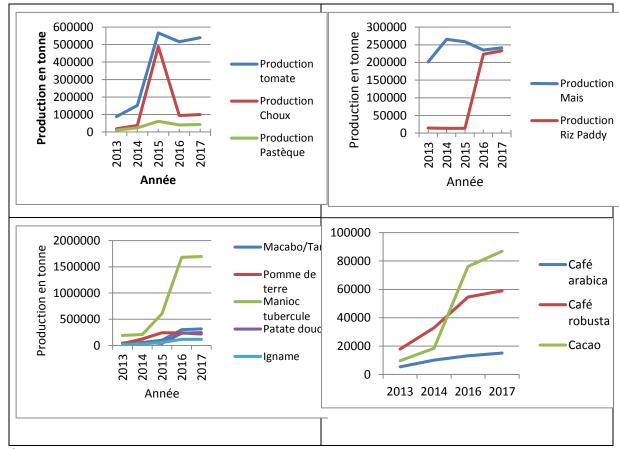


Figure 1: Evolution of some key agricultural speculations between 2013 and 2017

Source: DR/ADER/West statistical data

Fruit and vegetable production (tomatoes, cabbage, watermelon) grew strong between 2013 and 2015, and has been falling gradually since 2015. This drop appears to be more significant for cabbage production.

Cereal production in the West Region consists mainly of maize and paddy rice. In 2017, maize production accounted for more than 96% of total cereal production in the region.

For roots and tubers, there has been a very strong evolution (relative growth of 780%) in cassava production over the last four years, compared to cocoyams/taro, irish potato, sweet potato and yam production. It also appears that irish potato production tended to decrease between 2015 and 2017.

With regard to industrial production of agricultural origin, cocoa production is now reported to be more important in the region than coffee production.

## 5. AGRICULTURAL PRODUCTION BASINS

Agricultural production, whether food-production, market gardening or sustainable, is carried out in all the divisions of the region. It is essentially a family type of agriculture, but there is also an agriculture of medium and great importance.

According to DR/ADER 2017, the main speculations conducted in medium and large farms (MGEA)<sup>5</sup>

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<sup>&</sup>lt;sup>5</sup> The limited accessibility of land capital in the West Region leads to a reconsideration of the criteria for defining MGEAs. Thus,

include: maize, rice, cocoa, coffee, palm oil, cassava, irish potato, cabbage, chilli and watermelon. Table 1 presents the overall situation of MGEAs in the West Region.

The analysis of the cultivated areas provides an overview of the main production basins of these sectors (see Figure 2).

Overall, it appears that the Ndé Division is an important production basin for all these sectors. The Noun Division, which also has the lowest population density in the region, is the largest maize production basin. There are also large areas of maize in the Bamboutos (Galim), Ndé, Menoua and Highlands. Coffee is mainly produced in Haut-Nkam, Menoua and Noun; and cocoa in the Tonga, Kekem and Bangangté Subdivisions. Rice production is mainly concentrated in the Bamboutos (Galim), Ndé (Tonga) and Noun (Baîgom plain). Among the major potato production basins are Menoua, Bambutos and Highlands. For medium-sized potato basins, we have Koung Khi, Noun and Ndé, which are increasingly positioning themselves as poles of the future.

**Table 7:** State of MGEAs in the region

No.	FIELD	Number of	Number of	Cultivated land	Potential surface
NO. FIELD		TOBs	producers	(ha)	area (ha)
1	Maize	55	3,998	2,418.7	3,552.3
2	Rice	13	331	449	724.9
3	Cocoa	26	796	1,557.5	1,809
4	Coffee	29	928	2,398.5	2,935
5	Palm oil	6	53	936	1,422
6	Plantains	3	21	51.2	99
7	Cassava	2	24	43	86
8	Irish Potatoes	14	259	167.7	318.8
9	Cabbage	5	13	104	110.5
10	Pepper	8	20	81	72
11	Watermelon	4	31	17	102
TOTAL		165	6474	8223.6	11231.5

In order to open up these production basins, a major road infrastructure improvement project is under way in the region. This project involves 04 divisions that are part of the most important agricultural production basins in the region, namely: Noun (Foumbot, Kouoptamo), Ndé (Bangangté), Bamboutos (Batcham, Galim, Mbouda) and Menoua (Nkong-Ni, Penka Michel).

Overall, the West is characterized by a low availability of free arable land due to the high population density (128.8 inhabitants/km2 on average) and a high degree of development of this land (over 86%). Family farms, often groomed, are generally small in size and carry a wide range of crops. The development of lowland development for irrigated crops is increasing at the expense of biodiversity conservation.

the average agricultural holding is considered to be the area cultivated of about 3 to 5 ha for market gardening, 5 to 10 ha for food crops and perennial crops.

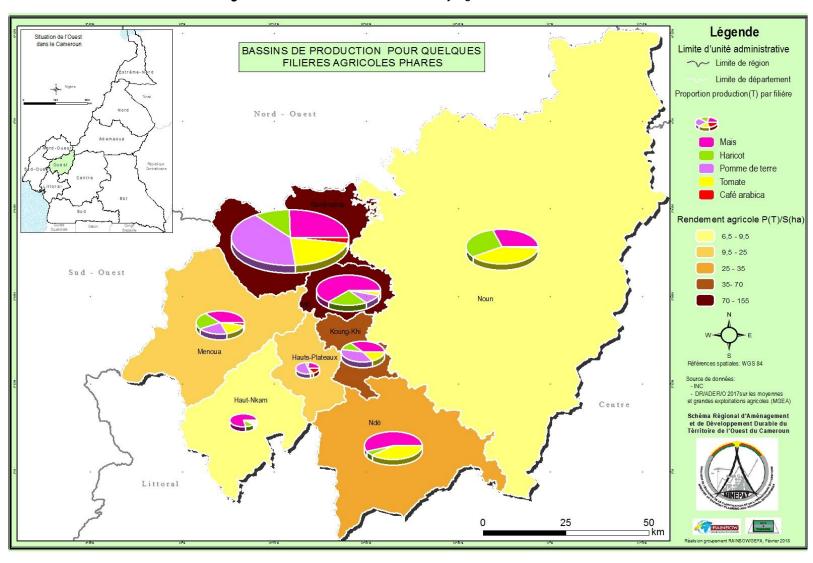


Figure 2: Production basin for some key agricultural sectors

#### 6. ANALYSIS OF PRODUCTION PER DIVISION

#### 6.1. Bamboutos Division

The relatively mild climate of the Bamboutos Division, the relief and the varied soils are favourable to a range of agricultural speculations, the most important of which are: irish potatoes, maize, beans, arabica coffee, plantain bananas.

The rainy season, which runs from mid-March to mid-November, is interrupted by small droughts between June and July. These months of small droughts are harvest months for some first cycle crops (irish potato, beans and maize). The dry season runs from mid-November to mid-March with very frequent annual variations due to climatic disturbances.

**Table 8**: Evolution of cultivated areas and production in the Bamboutos Division

Speculations	201	15	2017		
Speculations	P(T) S (Ha)		P(T)	S (Ha)	
Arabica Coffee	500	500			
Maize	88,965	59,310	85,280	59,310	
Beans	22,046	33,918	19,897	33,918	
Irish Potatoes	163,120	8,156	79,432	8,156	
Tomatoes	457,087	20,315	41,317	20,315	
Plantains	215,061	18,701	33,615	18,701	
Cassava	243,150	9,726	55,990	9,726	
Black nightshade	13,404	4,111			
Groundnut	12,500	10,000			
Achu	16,201	4,339	16,201	4,339	
Yam	18,317	2,155			
Cabbage	222,680	5,567	17,334	5,567	
Pepper	2,561	3,659	5,911	3,659	
Watermelon	48,990	1,633	11,319	1,633	
Cocoyams	41,227	5,497	6,750	5,497	

## SWOT Summary of the agricultural sector in the division:

- Weaknesses: High cost of agricultural inputs (fertilizers, pesticides), isolation of several basins, low mechanization, scarcity of good quality seeds, etc.
- Strengths: Presence of vast high-altitude lands (more than 1800 m) very suitable for potato cultivation.
- Opportunities: Renewed interest among youths in the agricultural sector, effective transition to second-generation agriculture as advocated by the President of the Republic
- Threats: Arable land is available but not used or underused because it is confiscated by some of the division's elites. One can also note the effects of climate change and the abandonment by youths of agricultural activities for bike-riding.

#### 6.2. Haut-Nkam Division

The Haut-Nkam Division covers an area of 1065km². Two particularly rugged relief areas characterize the Haut-Nkam Division:

- Low altitude areas: they extend along the Metchiè and Nkam rivers, particularly covering the Kekem Subdivision and part of the Baku Subdivision. Their altitude varies between 300m and 800m. These Zones are subdivided into plains and valleys (the Mbos plain, the Bapoutcha-Fongan plain, the Mètchiè, Ngoum and Moua valleys);
- Medium altitude areas: they generally cover the Bafang Subdivision and have an altitude ranging from 800m to 1300m on peaks, slopes and hills. The rather poor soils only the valleys are fertile.

The climate is of the humid tropical type with two unevenly distributed seasons: a rainy season from mid-March to mid-November and a dry season from mid-November to mid-March. This climate favours two cycles of food crops. The very fertile soils are mainly of ferralitic, hydromorphic types.

**Table 9**: Evolution of cultivated areas and production in the Haut-Nkam Division

Speculations	20	)15	2017		
Speculations	P(T)	S (ha)	P(T)	S (ha)	
Robusta Coffee	5,012	17,464	5,012	17,464	
Cocoa	5,250	10,403	9,721	24,523	
Palm oil	520,685	30,305	381,440	16,776	
Plantains	19,405	20,245	42,614	8,878	
Banana	47,392	34,639	53,376	11,820	
Maize	5,050	6,215	13,055	10,095	
Cassava	20,705	18,028	124,742	6,716	
Beans	1,107	823	2,332	2,606	

## SWOT Analysis of the Agricultural sector in the Division

- Weaknesses: Isolation of agricultural basins, high input costs, high cost of plant material.
- Strengths: Significant agro-ecological diversity, dynamic agricultural populations,
- Opportunities: Existence of ongoing programmes for agropastoral development (ACEFA, AFOP etc.)
- Threats: Parasitic pressure due to climate change, rural exodus.

#### 6.3. Highlands Division:

The Highlands Division covers an area of 520 km². Its relief is mainly mountainous with an average altitude of 1600m, culminating at Tindé in 1889m. Slopes, which are up to 20%, sometimes occur everywhere, forming talwegs consisting of fertile platforms or lowlands. There are some plains on the southwest (Metchouefondom) and southeast (Bangou crossroads) borders.

The climate suits the Cameroon's altitude, with a short dry season (mid-November - mid-March) and a long rainy season (mid-March to mid-November). Rainfall is around 1500 mm per year. The average temperature is about 20°c. The soils are mainly ferralitic with less fertile lateritic concretions. Hydromorphic soils are also found in depressed areas (lowlands) crowded with raffia. These soils are very fertile, favourable to food and market gardening crops when irrigation and drainage are well ensured. Eucalyptus trees are on the hilltops, while perennial crops (fruit trees, coffee) occupy the hillsides and the few uncultivated areas occupied by high altitude forests.

The main crops found in the Highlands are:

- Food crops: maize, beans, groundnuts, yams, cocoyams, sweet potatoes, etc.

- Market gardening: chilli, black nightshade, irish potato, cabbage, tomato, onion, leek, okro, etc.
- Perennial crops: coffee, sugar cane, palm oil, etc.

**Table 10:** Evolution of cultivated areas and production in the Highlands Division

Cnocylotions	20	15	2017		
Speculations	P(T)	S (ha)	P(T)	S (ha)	
Maize	202	135	250.75	135	
Beans	5330	8200	310.62	8200	
Irish potatoes	21120	1056	9739	1056	
Sweet potato	7252	1036			
Tomatoes	8325	370	6275	370	
Plantains	106582	9268	13035	9268	
Banana	15216	8215	15216	8215	
Cassava	46450	1858	5508	1858	
Black nightshade	2400	1371			
Groundnut	5000	4000			
Arabica Coffee	900	900	5000	900	
Robusta Coffee	93	715	6.9	715	
Yam	6943	818	6564	818	
Cabbage	24440	611	1000	611	
Pepper	409	585	900	585	
Onion	16500	300	6000	300	
Cocoyams	5962	795	300	795	

## SWOT Analysis of the Agricultural sector in the Division

- The assets: the dynamism of its population; the organization of producers (more than 400 POs); the growing interest of the elites in the agricultural world in the creation of large and medium-sized farms; the existence of several unoccupied lowlands, including the most fertile soils.
- Weaknesses: High input costs, insufficient quality plant material in markets.
- Opportunities: Transition to second generation agriculture as advocated by the President of the Republic.

## 6.4. Koung-khi Division

The Koung-Khi Division has a surface area of approximately 353 Km². It is bordered in its low-lying part by the Noun River, which constitutes a natural boundary with the Foumbot Subdivision. The Nghuem crosses part of Semto and flows into the Noun in the east. The Nlem serves in places as a border between Koung-Khi and Mifi and flows into the Mifi river. The Shie Kouemboue and Shie Mekom originate in the mountainous area and flow southwest and southeast.

The climate is tropical and humid with 02 seasons: a dry season from mid-November to mid-March and a rainy season from mid-March to mid-November. The average annual rainfall is 1600 mm over 110-130 days and the average annual temperature is 21° C.

The vegetation consists mainly of shrubby savannah. The soils are diversified, generally red ferralitic, characteristic of the Highlands. In the Noun plain, there are hydromorphic soils, clay soils and black soils.

In some parts at high altitudes, the soils are lateritic. These different types of soils are difficult to work with because of their relief and texture.

The economy is essentially based on agriculture and livestock. The main crops are: maize, beans, groundnuts, Arabica coffee, irish potatoes, sweet potatoes and cabbage.

Table 11: Evolution of cultivated areas and production in the Koung-Khi Division

Speculations	2015	j	2017		
Speculations	P(T)	S (ha)	P(T)	S (ha)	
Maize	10,884	7,256	14,513	7,256	
Beans	310	478	452	478	
Irish potatoes	12,100	605	12,090	605	
Tomatoes	6,367	283	5,660	283	
Plantains	1,357	118	1,769	118	
Cassava	1,675	67	1,340	67	
Groundnut	750	600	130	87	
Arabica Coffee	189	189	133	189	
Cocoyams	930	124	186	124	

## SWOT Analysis of the Agricultural sector in the Division

- Weaknesses: Isolation of agricultural basins, high input costs, high cost of plant material.
- Strengths: Significant agro-ecological diversity, dynamic agricultural populations,
- Opportunities: Existence of ongoing programmes for agropastoral development (ACEFA, AFOP etc.)
- Threats: climate change, rural exodus

#### 6.5. Menoua Division

The Menoua Division covers an area of 1380 km2. The altitude of the division varies from 600m in the Mbos plain (Santchou) to more than 2200m in the high plateaus of Nkong-Ni (Djuttitsa). This gives Menoua three Agro-ecological Zones (low, medium and high altitudes) with high agricultural potential.

Many rivers cross the Menoua River to flow into the Nkam. Their crossing, together with many streams that originate on the hillsides, make the division a well watered area. This makes agriculture possible in all seasons if a minimum of irrigation techniques is implemented.

The cold tropical climate that prevails in most of the division makes it an area par excellence for market gardening production, particularly potatoes. There is a rainy season from mid-March to mid-November and a dry season from mid-November to mid-March. The average annual rainfall is 1717.7 mm and temperatures range from 13.66°C (min) to 25.35°C (max).

## The main crops are:

- Perennial crops: coffee, palm oil, cocoa trees;
- Food crops: plantain, achu/cocoyams, irish potato, maize, groundnuts, beans, cassava, upland rice (Santchou) etc.
- Market gardening: tomatoes, onions, carrots, cabbage, leeks, watermelons, etc.

**Table 12:** Evolution of cultivated areas and production in the Ménoua Division

Speculations	20	15	2017		
Speculations	P(T)	S (ha)	P(T)	S (ha)	
Maize	23310	15540	27804.4	15540	
Beans	10721	16480	18997.4	16480	
Irish potatoes	45000	2250	20200	2250	
Tomatoes	9450	420	12162	420	
Plantains	14950	1300	34449	1300	
Cassava	196000	7840	27443	7840	
Palm oil	1340	325	1340	325	
Black nightshade	5468	1560	5468	1560	
Groundnut	117	130	326.1	130	
Arabica Coffee	940	940	1885	940	
Robusta Coffee	275	2115	5143	2115	
Cocoa	514	1470	1758	1470	
Achu	5292	3850	5292	3850	
Yam	21420	2520	5986	2520	
Cabbage	241000	6025	17936.5	6025	
Pepper	364	520	1047.6	520	
Onion	4125	75	1017.3	75	
Cocoyams	3487	465	2889	465	

## SWOT Summary of the agricultural sector in the division:

- Strengths and potential: the diversity and dynamism of the populations of the Menoua, its floodplains, its climate and its rainfall are favourable to the development of intensive agriculture. The gradual involvement of youths and educated women in agricultural activities offers good prospects for agriculture in the division. Due to the high demand for agricultural products, the involvement of elites and businessmen in the investment and financing of agriculture is an important strategic axis for the development of agriculture in Menoua. Thus, the development of industrial agriculture through the development of the potential of large production basins could eventually ensure food security and sovereignty in Cameroon.
- Opportunities: The university town of Dschang, with thousands of students, is an important consumer market for agricultural products. The asphalting of the Melon Dschang road has facilitated the transport of products to major cities such as Douala.
- Weaknesses: High cost of agricultural inputs; lack of quality seeds, isolation of agricultural basins, low mechanization.
- Threats: Insufficient processing structures for agricultural products (potatoes, tomatoes, etc.).

#### 6.6. Mifi Division

The Mifi Division covers an area of 434 km². The climate is tropical in altitude at 02 seasons: a dry season from mid-November to mid-March and a rainy season from mid-March to mid-November. The average annual temperature is 25°C varying from 15 to 30°C.

The main crops are:

- Perennial crops: coffee, cola, sugar cane, palm oil;
- Food crops: maize, beans, groundnuts, sweet potatoes, cocoyams, yams, potatoes;
- Market gardening: chilli, black nightshade, tomato, onion, okro, pepper, etc.

**Table 13:** Evolution of cultivated areas and production in the Ménoua Division

Speculations	20	15	2017		
Speculations	P(T)	S (ha)	P(T)	S (ha)	
Maize	8593.3	4216.6	37500	15000	
Beans	374.1	3583.6	15600	13000	
Potatoes	642.5	72.67	5250	350	
Tomatoes	1784.37	109.43	2000	100	
Plantains	4929.33	544.33	69000	2300	
Banana	3046.33	164.5	13200	660	
Cassava	7249.49	338.5	50000	2000	
Black nightshade	1188.83	84.33	9000	300	
Groundnut	55.43	77.33	305	305	
Arabica Coffee	145.83	67.67	700	700	
Yam	444	87.67	8000	400	
Cabbage	558.5	40.83	5200	200	
Sugar cane	2144	100.75	5000	200	
Pepper	53.07	28.93	900	450	
Cocoyams	845.5	92.48	8000	400	

## SWOT Summary of the agricultural sector in the division:

- Assets: the dynamism of its populations, its strategic position as the regional headquarter of the West; very strong local demand for agricultural products.
- Weaknesses: Isolation of agricultural basins, high input costs, high cost of plant material.
- Opportunities: Existence of ongoing programmes for agropastoral development (ACEFA, AFOP etc.)
- Threats: climate change, rural exodus, disappearance of certain food crops (Cocoyams / Achu)

## 6.7. Ndé Division

The Ndé Division covers an area of 1520 km². The relief consists essentially of metamorphic rocks and three basins:

- the Nkam basin, which occupies the entire West and the southern edge of the division, is rugged and covered with forest;

- the basin of the Ndé Division, which covers the south and centre of the division, is mountainous and wooded, the plateaus are located at an altitude of about 1,500m and finally;
- the Noun basin, having valleys and plains at an altitude of 300 to 700 m.

The rivers are torrential, the most important is the Noun, cut off from a multitude of rapids. Its main tributaries are: the Nkong, the Ngam, the Chou, the Maham and the Ndé, the hydromorphic zones are rare and very narrow. The climate is of the humid tropical type with two unevenly distributed seasons: a rainy season from mid-March to mid-November. A dry season from mid-November to mid-March. This climate favours two cycles of food crops.

Table 14: Evolution of cultivated areas and production in the Ndé Division

Speculations	201	15	2017		
Speculations	P(T)	P(T)	P(T)	P(T)	
Maize	10056	25395	20000	18650	
Beans	4262	4235	17000	3750	
Tomatoes	795	28108	700	15330	
Plantain	2400	60059	34100	25750	
Groundnut	292.27	299	2100	625	
Robusta Coffee	2930	2350	4230	1780	
Cocoa	4190.56	3780.56	5300	6107	
Riz paddy	550.5	1115	13500	1450	
Watermelon	307.5	12300	120	6010	
Yam	231	6943			
Palm oil	456	688	300	750	
Cocoyams	147	1900	340	3680	

## SWOT Summary of the agricultural sector in the division:

- Weaknesses: High cost of agricultural inputs (fertilizers, pesticides), insufficient quality plant material on the markets
- Strengths: The Ndé Division still has large areas of land available for agricultural mechanization. The presence of shea seedlings in the savannah can help to set up an extraction industry. In terms of manpower, the Bangangté Subdivision has a daily gathering place for workers where investors in rural areas can obtain supplies according to their needs
- Opportunities: Effective transition to 2nd generation agriculture
- Threats: Climate change and rural exodus

#### 6.8. Noun Division

The Noun Division covers an area of 7687 km², or more than half of the West Region. Three main areas characterize the topography:

- low areas (500 to 800 metres above sea level): the northern part of the Division has a collapse plain or Tikar plain, 10 km wide and varying in altitude from 500 m to 800 m, extending into Mayo-Banyo. It is a replica of the steep Foumban cliff. The fracture margins are marked by valleys that deeply cut into the plateaus. To the East, the Mbam plain covers part of the Malantouen Subdivision:

- plateau areas (800 to 1,500 metres above sea level): they are on the Noun cliff at Koutaba and Foumban; then continue through a series of steps to make way for a chain of hills to make way for Mbam's complaint;
- altitude zones (more than 1,500 metres above sea level): they are made up of 03 large massifs located to the west of the Noun Division and arranged from bottom to top as follows: Mbappit (1,970 m), Kogham (2,263 m) and Mbam (2,335 m)

The natural vegetation has not yet disappeared in the surroundings of Foumbot where, given the fertility of the soil, the action of man, which is still permanent, causes the forest to retreat. In the South, East and North, there are important galleries in which perennial crops (coffee and cocoa trees) are grown and where oil palm grows. Some areas not yet occupied by agriculture are pasture, forest and wildlife reserves.

The soils are of the young ferralitic type, derived either from sedimentary rocks or from various metamorphic rocks. There are also hydro-morphic soils consisting of swampy soils, especially in the Baïgom area submerged in water for several months during the year, and young soils found in the volcanic series of black soils on lapilli covering the Mbappit, the Noun valley and the southern flank of the Kogham.

Large bodies of water serve as dispersal areas for rivers. Thus Mount Banso and Mbam give birth to the Noun River, which flows southward, then eastward to its confluence with the Mbam. The Nchi and Mfù have their source at the foot of Mount Kogham. The Mvi et al Mappé, tributaries of the Mbam which originates between Banyo and Tibati.

The Noun Division enjoys a Sudano-Guinean climate. Its altitude and proximity to the ocean increase rainfall while lowering the temperature. The climate is influenced by the presence of the western mountains. Nevertheless, as we move towards Adamaoua, the climate becomes drier and drier. The average annual temperature is around 21°C. The average humidity is generally above 80%, with a minimum of 23% in January and February.

## The main crops are:

- Perenial crops: Robusta coffee, Arabica coffee, cocoa, palm oil....
- Food and vegetable crops: Maize, beans, groundnuts, tomatoes, okro, cassava, cowpeas, soyabeans, egusi, sweet potatoes, cocoyams, potatoes, achu, bananas, yams, pepper, lettuce, cabbage, green pepper.

**Table 15:** Evolution of cultivated areas and production in the Noun Division

Speculations	20	15	2017		
Speculations	P(T)	S (ha)	P(T)	S (ha)	
Maize	103000	51820	61855	20550	
Beans	46600	51827	54890	51830	
Tomatoes	68200	2750	70150	3000	
Plantains	15400	561	17380	781	
Cassava	75230	24885	71280	4265	
Palm oil	8720	2642			
Black nightshade	12631	2673			
Groundnut	6700	5000	7175	2849	
Arabica Coffee	1745	2760	1920	1428	

Speculations	20	15	2017		
Speculations	P(T)	S (ha)	P(T)	S (ha)	
Robusta Coffee	5355	5000	5462	5000	
Cocoa	205	200	225	200	
Achu	4710	3859			
Yam	2730	1281			
Soya beans	1035	1150			
Pepper	621	360	810	270	
Watermelon	5900	240	6300	240	
Cocoyams	7580	1250	4250	600	
Black nightshade			24400	2550	

## SWOT Summary of the agricultural sector in the division:

- Potential: fertile land, particularly in low-lying areas such as Massangam, Malantouen, Magba, Magba, Njimom-Nord; sand, pozzolan and stone jobs;
- Weaknesses: High cost of agricultural inputs (fertilizers, pesticides), isolation of several production areas that discourages producers or increases production and distribution costs, low level of processing of agricultural products (tomatoes, plantains, etc.)
- Strengths: Significant agro-ecological diversity, dynamism of the rural inhabitants of Noun, availability of a large area of land to be drained in the lowlands for off-season production.
- Opportunities: Effective implementation of 2nd generation agriculture
- Threats: Climate change and diversion of youths from agriculture to bike-riding.

## 6.9. Agricultural productivity of the different speculations in the region

**Table 16:** Production, surface area and productivity of some speculations per division in the West Region

			BAMBOUTOS	HAUT-NKAM	HIGHLANDS	KOUNG-KHI	MENOUA	MIFI	NDE	NOUN
	2015	Production (t)	2500			750	117	55.43	292.27	6700
		Surface area (ha)	10000			600	130	77.33	299	5000
dunt		Productivity (t/ha)	0.3		7	1.3	0.9	0.7	1.0	1.34
Groundnut	2017	Production (t)			5000	130	326.1	305	2100	7175
Ō		Surface area (ha)			4000	87	130	305	625	2849
		Productivity (t/ha)			1.3	1.5	2.5	1.0	3.4	2.5
	2015	Production (t)		47392	15216			3046.3		
		Surface area (ha)		34639	8215			164.5		
ana		Productivity (t/ha)		1.4	1.9			18.5		
Banana	2017	Production (t)		53376	15216			13200		
		Surface area (ha)		11820	8215			660		
		Productivity (t/ha)		4.5	1.9			20.0		
tain	2015	Production (t)	215061	19405	106582	1357	14950	4929.3	2400	15400
Plantain		Surface area (ha)	18701	20245	9268	118	1300	544.33	60059	561

			BAMBOUTOS	HAUT-NKAM	HIGHLANDS	KOUNG-KHI	MENOUA	MIFI	NDE	NOON
		Productivity (t/ha)	11.5	1.0	11.5	11.5	11.5	9.1	0.0	27.5
	2017	Production (t)	33615	42614	13035	1769	34449	69000	34100	17380
		Surface area (ha)	18701	8678	9268	118	1300	2300	25750	781
		Productivity (t/ha)	1.8	4.9	1.4	15.0	26.5	30.0	1.3	22.3
	2015	Production (t)	22680		24440		241000	558.5		
		Surface area (ha)	5567		611		6025	40.83		
Cabbage		Productivity (t/ha)	4.1		40.0		40.0	13.7		
Cabt	2017	Production (t)	17334		1000		17937	5200		
		Surface area (ha)	5567		611		6025	200		
		Productivity (t/ha)	3.1		1.6		3.0	26.0		
	2015	Production (t)		520685			1340			8720
		Surface area (ha)		30305			325			2642
lio r		Productivity (t/ha)		17.2			4.1			
Palm oil	2017	Production (t)		381440			1340			
		Surface area (ha)		16776			325			
		Productivity (t/ha)		22.7			4.1			
	2015	Production (t)	18317		6943		21420	444	231	2730
		Surface area (ha)	2155		818		2520	87.67	6943	1281
E		Productivity (t/ha)	8.5	7.0	8.5		8.5	5.1	0.0	2.1
Yam	2017	Production (t)			6564		5986	8000		
		Surface area (ha)	37		818		2520	400		
		Productivity (t/ha)			8.0		2.4	20.0		
	2015	Production (t)	88965	5050	202	10884	23310	8593.3	10056	103000
		Surface area (ha)	59310	6215	135	7256	15540	4216.6	25395	51820
Maize		Productivity (t/ha)	1.5	0.81	1.5	1.5	1.5	2	0.4	2
Ma	2017	Production (t)	85280	13055	250.75	14513	27804	37500	20000	61855
		Surface area (ha)	59310	10095	135	7256	15540	15000	18650	20550
		Productivity (t/ha)	1.4	1.3	1.9	2	1.8	2.5	1.1	3
	2015	Production (t)	163120		211120	12100	45000	642.5		
es		Surface area (ha)	8156		1056	605	2250	72.67		
otato		Productivity (t/ha)	20		199.9	20	20	8.8		
Irish potatoes	2017	Production (t)	79432		9739	12090	20200	5250		
iii		Surface area (ha)	8156		1056	605	2250	350		
		Productivity (t/ha)	9.7		9.2	20	9	15		
	2015	Production (t)							550.5	
addy		Surface area (ha)							1115	
Riz paddy		Productivity (t/ha)							0.5	
	2017	Production (t)							13500	

			BAMBOUTOS	HAUT-NKAM	HIGHLANDS	KOUNG-KHI	MENOUA	MIFI	NDE	NOON
		Surface area (ha)							1450	
		Productivity (t/ha)							9.3	
	2015	Production (t)	13404		2400		5468	1188.8		12631
ade		Surface area (ha)	4111		1371		1560	84.33		2673
htsh		Productivity (t/ha)								
k nig	2017	Production (t)					5468	9000		24400
Black nightshade		Surface area (ha)					1560	300		2550
		Productivity (t/ha)								
	2015	Production (t)	16201				5292			4710
		Surface area (ha)	4339				3850			3859
2		Productivity (t/ha)								
achu	2017	Production (t)	16201				5292			
		Surface area (ha)	4339				3850			
		Productivity (t/ha)								
	2015	Production (t)	41227		5962	930	3487	845.5	147	7580
		Surface area (ha)	5497		795	124	465	92.48	1900	1250
yams		Productivity (t/ha)								
Cocoyams	2017	Production (t)	6750		300	186	2889	8000	340	4250
		Surface area (ha)	5497		795	124	465	400	3680	600
		Productivity (t/ha)								
	2015	Production (t)	457087		8325	6367	9450	1784.4	795	68200
		Surface area (ha)	20315		370	283	420	109.43	28108	2750
natoes		Productivity (t/ha)	22.5		22.5	22.5	22.5	16.3	0.03	24.8
Tom	2017	Production (t)	41317		6275	5660	15162	2000	700	70150
·		Surface area (ha)	20315		370	283	420	100	15330	3000
		Productivity (t/ha)	2		17	20	36.1	20	0	23.4
	2015	Production (t)	243150	20705	46450	1675	196000	7249.5		75230
		Surface area (ha)	9726	18028	1858	67	7840	338.5		24885
Cassava		Productivity (t/ha)	25	1.1	25	25	25	21.4		3
Cas	2017	Production (t)	55990	124742	5508	1340	27443	50000		71280
		Surface area (ha)	9726	6716	1858	67	7840	2000		4265
		Productivity (t/ha)	5.8	18.6	3	20	3.5	25		16.7
	2015	Production (t)	2561		409		364	53.07		621
		Surface area (ha)	3659		585		520	28.93		360
Pepper		Productivity (t/ha)								
Рер	2017	Production (t)	5911		900		1047.6	900		810
		Surface area (ha)	3659		585		520	450		270
		Productivity (t/ha)								

			BAMBOUTOS	HAUT-NKAM	HIGHLANDS	KOUNG-KHI	MENOUA	MIFI	NDE	NOON
	2015	Production (t)		5250			514		4190.56	205
		Surface area (ha)		10403			1470		3780.56	200
oa		Productivity (t/ha)		0.5			0.3		1.1	1
Cocoa	2017	Production (t)		9721			1758		5300	225
		Surface area (ha)		24523			1470		6107	200
		Productivity (t/ha)		0.4			1.2		0.9	1.1
	2015	Production (t)	22046	1107	5330	310	10721	374.1	4262	46600
		Surface area (ha)	33918	823	8200	478	16480	3583.6	4235	51827
sus		Productivity (t/ha)	0.6	1.3	0.7	0.6	0.7	0.1	1	0.9
Beans	2017	Production (t)	19897	2332	310.62	452	18997	15600	17000	54890
		Surface area (ha)	33918	2606	8200	478	16480	13000	3750	51830
		Productivity (t/ha)	0.6	0.9	0.04	0.9	1.2	1.2	4.5	1.1
	2015	Production (t)	48990						307.5	5900
_		Surface area (ha)	1633						12300	240
Watermelon		Productivity (t/ha)	30						0.03	24.6
ateri	2017	Production (t)	11319						120	6300
8		Surface area (ha)	1633						6010	240
		Productivity (t/ha)	6.9						0	26.3
	2015	Production (t)	500		900	189	940	145.83		1745
99		Surface area (ha)	500		900	189	940	67.67		2760
Arabica Coffee		Productivity (t/ha)	1		1	1	1	2.2		0.63
bica	2017	Production (t)			5000	133	1885	700		1920
Ara		Surface area (ha)			900	189	940	700		1428
		Productivity (t/ha)			5.6	0.7	2	1		1.3
	2015	Production (t)		5012	93		275		2930	5355
ee		Surface area (ha)		17464	715		2115		2350	5000
Robusta Coffee		Productivity (t/ha)		0.29	0.13		0.13		1.25	1.07
usta	2017	Production (t)		5012	6.9		5143		4230	5462
Rob		Surface area (ha)		17464	715		2115		1780	5000
		Productivity (t/ha)		0.29	0.01		2.43		2.38	1.09

The statistics on agricultural production per division provide an overview of the main production basins of some agricultural speculations in the region. The Noun Division is the main maize production basin, although this crop is widespread in the region. Cocoa is mainly cultivated in the Ndé and Haut-Nkam Divisions; while palm oil is only found in Noun and Haut-Nkam.

The yield data in this table are very weak and need to be qualified due to certain parameters. Indeed, the estimation of cultivated areas and production is unreliable. Agricultural production in the region is largely carried out in a polyculture system (crop association). In addition, although the use of fertilizers and other

soil fertilization techniques is widespread in the West Region, production tends to decrease due to overexploitation of the same plots.

#### 7. MANAGEMENT AND PRODUCER ORGANISATIONS IN THE REGION

#### 7.1. Technical services

The Ministry of Agriculture is represented at the level of the West Region by a Delegate assisted by Divisional Delegates (08), Subdivisional Delegates (40) and Heads of Agricultural Posts (277). The Regional Delegate is assisted by 9 regional services, attached to the technical departments of the Ministry. The Ministry's forecasts make it possible to achieve close support from nearly 277 heads of agricultural posts.

The ratio of supervision/accompaniment (accompanying staff / Agricultural population) is 1 supervisor for 2700 agricultural workers. This ratio is not only low, but deteriorates from year to year. At the end of 2017, there were 213 vacant positions of responsibility across the West Region. The specific case of agricultural positions (APs) is presented in Table 5.

**Table 17:** Status of agricultural positions in the West Region

Divisions	Number of agricultural positions	Number of vacant APs	Number of APs occupied by pensioners
BAMBOUTOS	43	7	10
NDE	38	10	1
KOUNG-KHI	16	2	1
MIFI	16	1	0
HIGHLANDS	20	3	3
MENOUA	59	10	20
NOUN	47	15	5
HAUT-NKAM	38	15	3
TOTAL	277	63	43

Source: DR/ADER, 2017

It appears that 22.7% of agricultural positions in the West Region are vacant. This rate may increase to 38.2% if employees who have reached the retirement limit are actually retired.

Agriculture in the West is essentially family-based, characterized by a low level of professionalization of agricultural workers. Despite a high level of intensification of this agriculture compared to other regions of Cameroon, some techniques and cultural practices are archaic dwellings.

In the strategy to revive the agricultural sector to achieve emergence, the need for producer training is one of the priorities. However, with the decrease in resources allocated to the PNVRA, the interventions of Zone Extension Agents (AVZ) are proving insufficient. In addition, with the ratio of supervision of heads of agricultural posts, the dissemination of research results and appropriate agricultural production methods in the region is fundamentally hampered.

The training system for agricultural professionals set up in the West Region by MINADER consists of:

- 02 Rural Training Centres (CFR);

- 30 Centres for Education and Community Action (CEAC);
- 01 Ecole Technique d'Agriculture (ETA);
- 04 Farms for the spread of plant material.

The training of agricultural producers and workers is done on the job, in workshops or through:

- farm-schools established in the region that are religious, private or cooperative initiatives. These farm schools have training missions, supervision of agricultural assets on adapted crop methods, but also the dissemination of improved agricultural inputs;
- government projects and programmes aimed at capacity building and the professionalization of agricultural assets (PIDMA, AFOP, etc.).

Finally, it should be noted that Cameroon's largest Faculty of Agronomy and Agricultural Sciences (FASA) is located in the West Region, most especially at the University of Dschang.

## 7.2. MINADER's PIB, from 2015 to 2017, in the region

The number of MINADER's PIB projects financed in the region has doubled between 2015 and 2017 and the amounts allocated have increased from 587,500,000 in 2015 to 1,316,500,000 CFA francs in 2017. It should be noted that 45% of these projects consist of boreholes in all the divisions.

Table 18: MINADER's GDP projects in the region from 2015 to 2017

Divisions	Number	of finance	ed projects	Total cost of projects (FCFA)			
DIVISIONS	2015	2016	2017	2015	2016	2017	
MIFI	3	5	4	26,500,000	95,000,000	40,000,000	
MENOUA	17	21	43	111,000,000	229,000,000	443,000,000	
BAMBOUTOS	4	9	12	39,000,000	76,000,000	105,000,000	
NDE	14	16	11	149,000,000	158,000,000	99,000,000	
NOUN	3	5	6	46,000,000	49,000,000	54,000,000	
HIGHLANDS	6	12	30	85,000,000	125,000,000	279,000,000	
KOUNG-KHI	4	6	6	32,000,000	62,000,000	81,000,000	
HAUT-NKAM	8	11	10	99,000,000	131,000,000	173,000,000	
Departmental	59		122	58,750,000	925,000,000	1,274,000,000	
total							
Headquarter of	0	0	2	0	0	42,500,000	
DRADER							
West Region's	59	85	124	587,500,000	925,000,000	1,316,500,000	
Total							

Source: DR/ADER, 2017

Over the years, the distribution of these PIB funds varies considerably from one division to another (see Table 6).

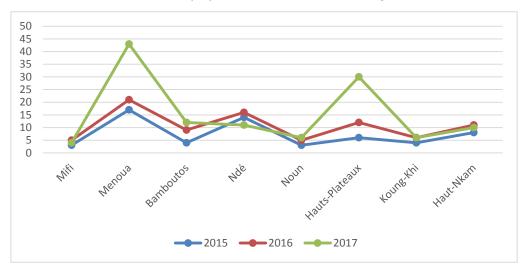


Figure 3: Evolution of MINADER's PIB projects in the divisions of the region between 2015 and 2017

This distribution of PIB projects per division reveals significant disparities. To illustrate, the Noun, Bamboutos and Ndé, which are among the most important agricultural production basins in the region, receive the least number of MINADER's PIB projects. It should also be noted that for the year 2017, the number and budget of these PIB projects have increased significantly in the Menoua and Highlands, while they are declining or almost stable in Ndé and Noun.

## 7.3. Cooperative System and Producer Organisations in the region

## 7.3.1. Element of the History of the Cooperative System

The forms of producer organisations in the West Region and throughout the country have evolved over the years and in response to changes in the legal and regulatory framework, the influence of the administration and the actors involved in the agricultural sector.

The history of the cooperative movement in the West Region Cameroon is linked to the history of Arabica coffee production. The development of this cooperative movement dates back to the colonial period, with, among the pioneering cooperatives, the CPBCA (Coopérative des Planteurs Bamoun du Café d'Arabie) created in 1932 in Foumban, and the CAPBCA (Coopérative Agricole des Planteurs Bamiléké du Café d'Arabie) created in 1933 in Dschang.

Shortly before Cameroon's independence in 1960 and the mid-1980s, the growth of the agro-export sector helped to boost agriculture in the West Highlands Region. State-supported coffee farmers' cooperatives were grouped together in 1959 to form the UCCAO (Union of Western Arabica Coffee Cooperatives), which in 1961 was granted a monopoly by the independent government on the collection and export of Arabica Coffee. With the rapid increase in production, it is becoming a major commercial enterprise that performs various functions that benefit the vast majority of farmers: in particular, the supply of inputs at reduced prices (used both for food crops and coffee). In addition, there is an increasing role in regional or local development: participation in an important lowland development project (rice and market gardening), contribution to the creation of rural roads and various infrastructures, etc. The structure then became the Central Union of Western Agricultural Cooperatives (UCCAO).

The collapse of coffee production in the late 1980s coincided with a general economic crisis, which led to the disengagement of the State in the agricultural sector. The end of input subsidies severely affects the majority of farmers in the West, for whom the massive use of chemical fertilizers was a vital necessity, due to the small size of the area under cultivation and the very intensive nature of farming systems.

It is in this context of crisis and social restructuring that we will see the rapid emergence of new forms of peasant organisation. These include cooperative companies and Common Initiatives Groups (GICs) promoted by Law No. 92/6 of 14 August 1992 and its implementing Decree No. 92/455/PM of 23 November 1992. These POs in the region have among other functions:

- Diversification of individual or family production, through the experimentation of new crops or speculations;
- Collective production for the market;
- Marketing of individual productions;
- Input supply, seed multiplication, etc.

Since 15 May 2013, following the adoption of the new OHADA law on the cooperative regime, the GICs must be transformed into cooperative companies.

## 7.3.2. Map of Cooperatives and GICs in the Region

Two main forms of producer organisations are predominant in the region, namely GICs (and their groupings into unions, federations and confederations) and cooperatives (COOP).

Tables 6 and 7 respectively present the maps of the GICs and COOPs of the region at the end of 2017 before and after the entry into force of the OHADA Uniform Acts.

**Table 19:** Cooperative map (COOP and GIC) of the West Region before the entry into force of the OHADA Uniform Acts

Division	GIC	Union of GICs	Federati on of GICs	СООР	Union COOP	GIC Confedera tion	COOP Savings and Credit (SC)	Union COOP SC	Total
NOUN	2483	84	7	30	1	0	16		2621
MENOUA	2477	104	11	25	0	0	17		2634
MIFI	1886	52	9	34	2	2	64	1	2050
BAMBOUTOS	1511	51	2	16	0	0	14		1594
HAUT-NKAM	1296	77	10	26	0	0	13		1422
NDE	994	57	3	11	0	1	8		1074
HIGHLANDS	909	45	2	6	0	0	5		967
KOUNG-KHI	720	19	2	6	0	0	7		754
TOTAL	12276	489	46	154	3	3	144		13116

Table 20: Cooperative map of the West Region after taking into account the OHADA Acts

Division	Simplified	COOP-	Union	СООР	Total
	SCOOP	BOD	COOP-BOD	Savings and Credit	
NOUN	3	21		0	24
MENOUA	3	6		0	9
MIFI	5	4	1	2	12
BAMBOUTOS	10	3		1	14

Division	Simplified	COOP-	Union	СООР	Total
	SCOOP	BOD	COOP-BOD	Savings and Credit	
HAUT-NKAM	1	4		0	5
NDE	2	5		0	7
HIGHLANDS	1	0		0	1
KOUNG-KHI	1	1		1	3
TOTAL	26	44	1	4	75

Legend: SCOOP (cooperative society) - BOD (board of directors)

It can be seen from this table that only 75 POs in the region out of the 13116 recorded at the end of 2017 comply with the OHADA Uniform Acts. This situation sufficiently demonstrates that more than 99% of the POs in the West Region do not comply with the new directions of the Act.

The distribution of POs by sector of activity in 2011 reveals that 73.2% were involved in the production sector; 7.1% in marketing; 53% in processing and 18% in other sectors of activity (Statistical Yearbook, 2015).

## 7.3.3. Specific Case of UCCAO

"In 1958, when coffee farmers in what is now known as the West Region decided to come together to share experiences, gather their yield and market with maximum income, they did not know that they had just made history as the inventors of the cooperative movement in our country. Indeed, fifty years later, UCCAO has been emulated. The government encourages farmers, nationwide, to form agricultural cooperatives, thereby making their production more competitive, both internally and externally. »

Guest book for UCCAO's 50th anniversary, 2008 - Minister of Commerce, Luc Magloire MBARGA ATANGANA.

The UCCAO (Central Union of Western Agricultural Cooperatives) was born on October 17, 1958. It is made up of 6 affiliated cooperative societies covering all eight (08) divisions of the West Region:

- CAPLAME: Coopérative des planteurs de la Menoua;
- CAPLAMI: Coopérative des planteurs de la Mifi, Koung-khi et Hauts-plateaux;
- CAPLABAM: Coopérative des planteurs des Bamboutos;
- CAPLANOUN: Coopérative des planteurs du Noun;
- CAPLAHN: Coopérative des planteurs du Haut-Nkam;
- CAPLANDE: Coopérative des planteurs du Ndé.

UCCAO initially dealt exclusively with the supervision, processing (hulling) and marketing of Arabica coffee.

It was thanks to a change in 1978, when the control of the marketing of two of Cameroon's main sources of foreign exchange, coffee and cocoa, became a reality that this peasant company established its reputation on the national and international level and became the Central Union of Western Agricultural Cooperatives. As of now, its increasing missions are:

- To supervise coffee and most food products;
- To market coffee, cocoa and all other agricultural products belonging to its members;
- Facilitate all production, processing and consumption operations;

- Ensure that all affiliated cooperatives take measures aimed at improving the quality of their services;
- Acquire and distribute agricultural inputs to its members at a lower cost;
- Provide affiliated cooperatives with the multifaceted assistance necessary for their development.

"Since 1978, mastering the marketing of two of Cameroon's main sources of foreign exchange, coffee and cocoa, has helped to establish the reputation of this farmers' company at a national and international level.

UCCAO is thus an essential partner of the State, which entrusts it with the management of important loans received from IFAD, the CCCE and then the World Bank for the benefit of the rural population, as part of the Projects for the Highlands in the West Region (PHPO), the SOJA Project and the West Region Rural Development Project (PDRPO).

As a partner of the State in various agricultural extension and research programmes with which protocols and conventions are signed, the UCCAO has two agricultural farms in Bafolé in the Noun, and Bangang Fondji in Koung-Khi.

Thanks to the reserves derived from their management, the UCCAO and its cooperatives carry out important work in the peasant environment to improve the standard of living of farmers: rural electrification, development and enhancement of lowlands, village hydraulics, construction of schools, health centres, bridges and culverts, opening and maintenance of roads and rural tracks, etc. »

M. MEFINJA FOKA Francois - Director General of UCCAO (http://uccao-cameroun.com)

# 8. PROJECTS AND PROGRAMMES IN THE AGRICULTURAL AND RURAL DEVELOPMENT SECTORS

Many projects and programmes, responsible for supporting decentralized technical services in the region, are carried out with the help of Cameroon's technical and financial partners. Although not all of them are involved everywhere, the main ones are presented in the following paragraphs.

## 8.1. General projects and programmes

## National Agricultural Extension and Research Programme (P.N.V.R.A.)

The PNVRA is an institutional support programme of MINADER and MINEPIA who seek to contribute to the fight against poverty in Cameroon. Its aim is to promote sustainable, dynamic and competitive agriculture.

The objective of the PNVRA is the sustainable improvement of farm productivity and producers' incomes.

The PNVRA carried out the following activities in 2017:

- The restructuring of the programme, which has been replaced by PROSAVA;
- Consolidation of programme data in different divisions;
- The follow-up of POs whose data are summarized below.

**Table 21:** Achievements of PNVRA in the region in 2017

	Btos	HN	HP	KK	Menoua	Mifi	Ndé	Noun	Total
Number of accompanied POs	489	494	315	210	764	230	332	905	2975
Follow-up of production projects	1053	494	917	691	1036	827	332	1907	6221
Complementary training	227	1825	4452	1753	8048	2256	1420	3719	15652
AVZ/SS Training	1	5	0	5	1	2	0	3	11
Number of producers	6531	3295	3215	2245	8361	3432	3295	21057	37610
Visit of the AVZ to the POs	227	3530	4168	2147	15004	3425	2767	12485	28749
Visit of the SS to the AVZ	48	460	534	312	2060	486	380	1098	3318
Accomplishment of the JPOs	20	327	114	34	685	167	151	262	1041

# <u>Amélioration de la Compétitivité des Exploitations Familiales Agropastorales (ACEFA)</u> <u>Programme</u>

The ACEFA programme includes all the divisions of the West Region and is part of the growth and employment strategy because it contributes directly to:

- Encourage initiative and change through advice and management to professional organisations;
- Generate income by improving productivity and production;
- Generate jobs in primary processing activities;
- Boost the economy and employment before and after production;
- Improve the framework for State-Profession collaboration and governance.

The direct beneficiaries of the Programme are agropastoral family farmers and their organizations (GICs, cooperatives, unions and federations). The activities for 2017 are structured around the following points:

- Effective support for 2647 GPs, 56 takeover bids and 406 EFAs from the observatory;
- Monitoring of producers on specific speculations by CTS/CGPs;
- Follow-up of funded projects

**Table 22:** Results of the ACEFA programme in 2017

Indicators	Menoua	Btos	Noun	Ndé	Haut- Nkam	Highlands	MIFI- KK	Total
Number of accompanied GP	529	348	441	360	314	222	433	2647
Number of GP members	6154	4286	6214	3374	3417	1788	4264	29,497
Number of CGP	44	33	44	27	27	20	39	234
Number of accompanied TOB	5	7	7	5	8	12	8	52
Number of TOB original members	1646	10020	2530	724	2657	2949	1718	22244

Indicators	Menoua	Btos	Noun	Ndé	Haut- Nkam	Highlands	MIFI- KK	Total
Number of CGOs	1	1	1	1	1	2	1	8
Number of CLG sessions	90	45	65	30	45	20	0	517
Number of CODAC sessions	0	0	0	0	0	0	0	0
Number of elaborated GP projects	6	0	1	4	0	0	0	11
Number of financed GP projects	0	0	0	0	0	0	0	0
Number of on-going GP projects	156	73	41	18	45	0	0	333
Number of GP projects in difficulty	34	25	8	13	21	0	0	101
Number of elaborated TOB projects	0	0	0	0	0	0	0	0
Number of financed TOB projects	0	0	0	0	0	0	0	0
Number of on-going projects	1	2	0	2	3	3	1	12
Number of projects in difficulty	0	0	2	1	1	2	3	9
Total number of employees on site	57	42	57	36	36	29	51	307

# <u>Programme d'Appui à la Formation Professionnelle (A.FO.P.)</u>

The Support Programme for the Renovation and Development of Vocational Training in the Agriculture, Livestock and Fisheries Sectors (AFOP), under C2D funding, has entered its second phase with two main challenges:

- The consolidation of the achievements of the first phase;
- The development of new missions, including the integration of trainees and support for the development of the training system.

Objectives of AFOP: aiming at improving the productivity of agro-pastoral farms and developing employment, the programme aims to improve the professional qualifications of agricultural and rural development actors and to improve the professional integration of youths trained in the agriculture, livestock and fisheries sectors. It is a matter of ensuring:

- 1. The Improvement of the training offer of public and private training centres in the agriculture, livestock and fisheries sectors, aimed primarily at youths in post-primary situations, active producers and fishermen and those responsible for producer groups;
- 2. The Improvement of the training offer of schools under the supervision of MINADER, MINEPIA and private schools preparing for agro-pastoral, fisheries and para agricultural occupations;
- 3. Trial support for youths and adults trained for professional integration in the agriculture, livestock and fisheries sectors;
- 4. Support from MINADER and MINEPIA structures in charge of agro-pastoral vocational training in the development of functions:
  - Pedagogical inspection of agro-pastoral and rural training;
  - Certification of diplomas awarded by MINADER and MINEPIA;
  - Development of decentralized and central services.
  - Development of partnerships, alternative mechanisms, financing and mobilisation of territories;
  - Monitoring of the agro-pastoral and rural training system.

#### The Beneficiaries of AFOP

- Youths in post-primary situations who plan on settling in the agriculture, livestock and/or fisheries sectors;
- Non-producing adults planning to engage in agropastoral and/or fisheries production;
- Producers and fishermen working;
- Young secondary school graduates wishing to move into the agriculture, livestock and fisheries sectors;
- Technical managers in charge of designing, leading and implementing agricultural and rural training;
- Agropastoral and rural development advisors;
- The heads of producer groups;
- Local partners.

The overall assessment for 2017 is as follows: 137 youths were financed with a total amount of more than XAF 218,383,000; among the 137 youths, there are 55 young women with a funding of XAF 80,675,210 and 92 young men for the rest of the financing. Also, in the category of agropastoral entrepreneurs (holders of a BTS in agronomy), 19 projects of young entrepreneurs were financed for a total amount of XAF 33,698,800. Among the 19 entrepreneurs, there are 6 young female entrepreneurs for a financing of XAF 11,461,100 and 13 young male entrepreneurs for the rest of the money. These youths have been closely monitored for the implementation of their project and the results are satisfactory

# Programme d'Appui à l'Installation des Jeunes Agriculteurs (P.A.I.J.A.)

Le Programme d'appui à l'Installation des Jeunes Agriculteurs (PAIJA) is one of the structuring programmes for the implementation of the objectives of the Rural Sector Development Strategy (RSDS) under the "Employment Development and Professional Agricultural Training" axis. Its overall objective is to rejuvenate and modernize farms, reduce youth unemployment and improve rural living conditions through innovative mechanisms for improving productivity, marketing, processing agricultural products and setting up rural businesses.

#### The PAIJA Project has two phases:

- Supporting young farmers settling on their own land;
- Supporting young farmers settling in sites serviced by the State.

#### Its main activities were:

- Monitoring the harvests of first cycle products and preparing for the second season 2017, including cleaning the palm oil farms.
- Monitoring the 2017 planting which was completed at the beginning of August for a total number of 4500 plants representing 30 hectares.

#### Agriculture Investment and Market Development Project (PIDMA)

PIDMA's objective is to move from subsistence and low productivity agriculture in the maize, cassava and sorghum sectors to commercial agriculture with competitive value chains in Cameroon's five agroecological zones.

#### The PIDMA has three components:

- Support for agricultural production, processing and marketing;
- Support for the seed production and distribution system, key public services and technology transfer:
- Project coordination and management.

Scheduled for a period of 05 years (2015-2019), the direct beneficiaries are the eligible agricultural cooperative societies in the Menoua, Noun, Ndé and Bamboutos Divisions.

In 2017, the project mothered its 03 cooperatives (Noun, Bamboutos and Ndé) through activities such as:

- Capacity building through:
  - ✓ Training on the development of a business plan;
  - ✓ Training on cooperative principles:
  - ✓ Training on governance and ethics, gender sensitivity and integrated plague management.
- Follow-up advice from cooperatives
  - ✓ Support in setting up monitoring and evaluation committees;
  - ✓ Status of implementation of sub-projects (114.5 ha/2478.10 ploughed);
  - ✓ Financing of business plans (out of XAF 832,899,310, PIDMA raised XAF 402,634,310);
  - ✓ Financing of 09 nutrition sub-projects of up to XAF 13,105,000.
- Monitoring of harvests and deliveries of 483.63 tonnes of second season maize to agribusiness for a production of 3885.63 tonnes;
- Monitoring the ploughing of 920ha of maize fields;
- The distribution of improved maize seeds in proportion to the areas ploughed;
- The recruitment of 15 trainees to support the production of cooperatives;
- Cooperatives' support in obtaining credit;
- Support for the search for opportunities;
- Support from cooperatives to obtain fertilizers.

#### Agricultural Sub-Sector Development Support Programme (PADFA)

The following activities were carried out during the year:

- Construction of three rice storage warehouses in Bangou, Bassamba and Koutaba;
- Support provided to the Bas fond management committee in the development of the action plan for the maintenance of the structures;
- Monitoring of seedlings in school fields.

#### Projet centre d'innovation verte pour le secteur agro-alimentaire (GIZ-ProCISA)

ProCISA is a project funded by the German Federal Ministry for Economic Cooperation and Development (BMZ) in partnership with MINADER and MINEPIA.

The objective of ProCISA is to boost the incomes of smallholder farmers as well as employment and regional food supply through the introduction of agricultural innovations.

The activities covered by this project in the West Region are as follows:

- Distribution to a seed company in the region of six (6) tonnes of certified seed of IRAD-CIPIRA's
  variety of potatoes and corresponding inputs for the establishment of approximately 2 Ha of offseason seed plots produced using the sprinkler irrigation system. The yield was 16 tonnes of
  certified seed.
- Support to 15 seed producers in the West Region, consisting of 21.55 tonnes of seeds (8 tonnes of class E and 13.55 tonnes of class A) imported from Germany and the corresponding inputs (190 bags of fertilisers and plant protection products). The result of this activity is summarized in the tables below.

**Table 23:** Seed production of Class E potatoes

Parameters	Variety						
1 didilictors	Krone	Bavapom	Sevim	Juwel	Marabel	Jelly	TOTAL
Surface area (m <sup>2</sup> )	1789	5891	5538	4197	6200	4500	28115
Production (tonnes)	3.35	13.3	11.925	6.56	10.911	10.086	56.132
Yield (T/Ha)	18.72	22.57	21.53	15.63	17.59	22.41	19.96

**Table 24:** Seed production of Class A potatoes

Parameters		TOTAL		
1 didilieters	SEVIM	JUVEL	JELLY	TOTAL
Surface area (m <sup>2</sup> )	11237	6236	14571	32044
Production (tonnes)	10.74	6.535	19.02	36.295
Yield (T/Ha)	9.55	10.47	13.05	11.32

#### Rural Microfinance Development Support Project (PADMIR)

The objectives of this project are:

- Improve the institutional environment of microfinance;
- Facilitate the rural populations' access to financial services and products adapted to their needs.

# <u>Economic land use planning programme for the promotion of medium and large size enterprises in the rural sector (Agropoles Programme)</u>

The Economic Land Use Planning Programme for the promotion of medium and large-scale enterprises in the rural sector in Cameroon, known as the Agropoles Programme, was created by Prime Minister's Decree No. 2012/2274/PM of 6 August 2012, under the authority of the Minister in charge of Land Use Planning and Development (MINEPAT). It covers the plant, animal, fisheries and forestry sectors.

Its objective is to support and monitor the implementation of national strategies for the development of second-generation agriculture through:

- Research and mobilization of the necessary internal and external resources;
- The identification and development of agricultural basins likely to support modern production, processing and marketing units;
- The preparation of specifications for partnership agreements with ministerial departments, public and private institutions, service providers, etc;

- The technical, financial and accounting evaluation of the activities of service providers and agropole projects receiving government support, monitoring and control of their activities.

The state finances all socio-community infrastructure and capacity building, 35% of production inputs, 30% of equipment required for projects submitted by formal entities, with proven experience in the field on projects that ensure good economic and financial profitability and a good level of added value to the infrastructure.

## 8.2. Regional Projects and Programmes

There are not many typically regional projects and programmes in the West Region. One can just mention:

# Mount MBAPIT Rural Development Project (MMRDP)

These are the activities carried out under this programme during 2017:

- The effective implementation of seed fields by 8 cooperatives;
- Monitoring of these parcels by all stakeholders.

## Programme de Valorisation des Bas-Fonds (PVBF)

The activities carried out in 2017 are:

- Control of existing hydraulic equipment or equipment allocated to beneficiaries in Menoua.
- Technical follow-up of the work to set up the irrigation equipment of the GIC POCHAME in Tsinfou municipality, which was selected to benefit from the equipment worth CFA F6,715,780. The level of execution of the project to support the development of the hydro-agricultural perimeter for the benefit of this GIC is 95% complete;
- The 6 Ha lowland under development in Balengou was 60% completed.

#### 8.2. Project and thematic programme

Some programmes are entirely devoted to certain speculations or sectors.

## **Cocoa and Coffee sectors**

Various programmes are involved in the revival of the cocoa and coffee sectors, particularly stimulated by attractive prices. The Interprofessional Council for Cocoa and Coffee (C.I.C.C.) is also developing certain recovery programmes such as the "New Generation" programme for youths underway.

Support Project for the Use of Fertilizers in the Cocoa and Coffee Sub-sectors (SPUF2C)

The Support Project for the Use of Fertilizers in the Cocoa and Coffee Sub-sectors (SPUF2C) is part of the action to relaunch the Cocoa/Coffee sectors by maintaining the existing farms through fertilization, the production of high-performance plant material, plant health protection, etc.

The overall objective of SPUF2C is to improve the living conditions of cocoa and coffee farmers by supporting the fertilization of their farms.

The specific objectives are:

- Supporting the supply of fertilizers to cocoa/coffee producers;
- Strengthening the capacity of cocoa/coffee producers in technical production and fertilizer use routes.

The target groups are the GIC Unions, federations and confederations, cooperatives etc.

The programme's activities in 2017 focused on

- Receiving support for the 2017 campaign in the various divisions:
- Selecting POs that will receive support for the 2017 season.
- Holding a selection committee for the beneficiaries of SPUF2C in Bamboutos;
- Distributing support to producers whose situation is summarized below:

**Table 25:** SPUF2C's support with fertilizer

No.	Division	Quantity of fertilizer (t)	PO Beneficiaries
1	Noun	70	45
2	Bamboutos	69	45
3	Menoua	70	46
4	Mifi	55	41
5	Ndé	40	33
6	Haut-Nkam	69	45
	Regional total	373	255

# - Projet d'appui à la lutte antifongique dans les filières cacao et café (PALAF2C)

The overall objective of PALAF2C, financed by the Cocoa and Coffee Sector Development Fund (FODECC), is to contribute to improving the living conditions of cocoa and coffee producers through the phytosanitary protection of their farms. More specifically, it is a matter of reducing the damage caused by cocoa and coffee diseases and organizing producers in such a way that they themselves take charge of and sustain the phytosanitary control operations on cocoa and coffee.

The following activities were carried out during 2017:

- Receiving applications and selecting beneficiaries;
- Distributing support (fungicides, herbicides, insecticides, maintenance kits, protection kits, sprayers, atomisers) to producer groups in the Bamboutos, Highlands, Haut-Nkam, Menoua, Ndé and Noun Divisions by a mission from Yaoundé:

Table 26: PALAF2C's input support

No.	Division	Insecticides	Fungicides	Herbicides	Spra	Maintenance	Protection
INO.	DIVISION	(I)	(sachets)	(I)	yer	kits	kits
1	Noun	6350	3000	350	52	14	735
2	Bamboutos	120	3000	200	2	8	19
3	Menoua	310	7500	470	1	6	37
4	Mifi	30	750	30	0	1	0
5	Ndé	190	4750	270	2	17	24
6	Haut-Nkam	340	10250	470	6	19	41
7	Highlands	430	9650	50	3	20	50
8	Koung-khi	40	2000	50	2	2	4
Re	egional total	7,810	40,900	1,890	69	87	907

- Establishing input management committees in some divisions;
- Training interns on phytosanitary surveillance and assessing the level of treatments administered in 2017;

# Programme semencier cacao/café (PSCC/PPDMVCC)

These are the activities carried out under this programme in 2017:

- Delivering 135 kg of Arabica coffee seeds to 10 POs (UCCAO, CAPLAMI, GIC KECHA, GIC VAGRE, GIC AGRELDO, GIC CESAO, GIC GPMK, GIC REAB, GIC AMEK-BA and GIC AEBAY) for the production of 405 000 Arabica coffee plants for the 2017-2018 agricultural season in the Mifi Division;
- Pre-accepting coffee plants through a national coordination mission;
- o Holding divisional committee meetings to select coffee plant beneficiaries in certain divisions;
- Organization awareness raising meetings of input management committees in the various divisions;
- o Monitoring nurseries in the various divisions (Bamboutos, Menoua, Haut Nkam, Ndé, HP);
- Pre-receiving coffee plants through a national coordination mission;
- Holding divisional committee meetings to select coffee plant beneficiaries in some divisions.

For Arabica coffee, demand is lower than supply, with more than 50% of plants waiting for potential demanders.

Table 27: Plants distributed by PSCC

No.	Division	Arabica Coffee	Cocoa	Robusta Coffee
1	Noun	326,000	0	150,000
2	Bamboutos	241,675	0	0
3	Menoua	318,632	60,200	21,600
4	Mifi	110,080	0	0
5	Ndé	60,000	200,000	50,000
6	Haut-Nkam	137,032	100,000	19,200
7	Highlands	30,500	0	0
8	Koung-khi	42,350	0	0
	Regional total	1,266,272	350,200	240,800

#### Maize sector

The objectives of the National Support Programme for the Maize sector (PNAFM) are:

Its objectives are:

- Increasing maize production to limit imports and create processing industries;
- Providing support for producer capacity building:
- Facilitating the use of quality seeds

The activities carried out, in 2017, within the framework this programme are:

Monitoring hybrid seed multipliers for maize, variety CHH 101;

- Establishing maps on the region's needs in corn seeds and inputs;
- Monitoring composite maize seed companies;
- Quantifying the volume of seeds produced in the region with the following volumes (303.6 tonnes distributed as follows: 279.4 tonnes of composite seeds, 12.2 tonnes of hybrid seeds and 12 tonnes of basic seeds):
- Divisional Delegations distributing the support received to the beneficiaries.

**Table 28:** Distribution of the maize shared to the producers in 2017 per division

No.	Beneficiary	Quantity of yield (Kg)
1	Bamboutos	1970
2	Haut-Nkam	1110
3	Highlands	1290
4	Koung-khi	910
5	Menoua	1630
6	Mifi	1540
7	Ndé	1300
8	Noun	2070
9	National coordination	5200
	TOTAL	17200

## Potato sector

The objectives of the Support Programme for the Revival of the Potato Sector (PRFPT) are:

- Contributing to the increase of production and national agricultural and food supply;
- Contributing to the sustainable improvement of incomes and living conditions of rural populations;
- Contributing to rural poverty reduction;
- Increasing potato production and income of beneficiaries.

The programme's approach is based on a participatory approach, consultation and partnership with the various stakeholders in the potato sector. It is all about:

- Supporting the production of certified seed through the selection of appropriate sites, the timely provision of basic seed and quality inputs; the training of multiplier groups; and the inspection, monitoring and supervision of seed fields;
- Supporting the production of ware potatoes through the formation of producer groups, support for certified seed and quality inputs, and advisory monitoring;
- Promoting mechanization through the use of soil preparation equipment supports;
- Promoting off-season cultivation by setting up irrigation systems on farms;
- Improving marketing through the establishment of adequate infrastructure (storage) and a market information system (radio and Internet);
- Ensuring the sustainability of what has been achieved through support for producer organisations.

The components of the programme are;

1. Production:

- 2. Capacity building;
- 3. Marketing support;
- 4. Support for the structuring and organisation of the sector.

The key achievements of the PRFPT in the West Region (2011-2016)

- 4 potato producers' cooperatives are fully operational in the main production basins and a tripartite Cooperative - EMF - PRFPT contract is being implemented;
- 20 sub-divisional cooperatives are in the process of being registered;
- 03 contract multipliers are active in KOUNG-KHI, MENOUA and BAMBOUTOS;
- 6150 potato producers and 43 seed companies were trained on the technical production route for potatoes and seeds;
- Acquisition of inputs (fertilizers, pesticides) by cooperatives at real cost on the market through MINADER subsidies kept in their accounts;
- Local supervision provided by decentralized staff;
- 484 tonnes of certified potato seed delivered to producers from 2011 to 2016;
- 204 tonnes of basic seed delivered to seed companies from 2011 to 2015;
- 11 motor pumps and a tractor made available to cooperatives;
- 7 warehouses for storing and marketing potatoes built and made available to cooperatives.

The main setbacks to potato production in the West Region

- Great lack of quality seeds;
- Lack of ploughing equipment (tractors, power tillers etc.);
- Weak organization of stakeholders;
- High intensity of diseases such as mildew and bacterial wilt;
- High post-harvest losses;
- Insufficient financial resources;
- Low level of potato production and processing.

#### Plantain sector

The National Programme for the Revival of the Plantain Sector (PRFP) has the following objectives:

- Contributing to the improvement of the productivity and competitiveness of the plantain sector;
- Setting up a network of plantain nurseries through private professionals or in mayors;
- Supporting farmers interested in creating a plantation of 0.5 to 1 ha and more of pure crops.

The following activities were carried out under the programme in 2017:

- Following up the loading of the cellars;
- Monitoring the reactivation of plants;
- 55,000 plants from the PIF were received and fully distributed to producers by an ad hoc
   Interregional Commission.
- Setting up close to 30 Ha of plantain trees.

#### 8.3. New structure of MINADER's projects

Decisions No. 00695 and No. 00696 of 17 June 2017 restructured the fabric of MINADER's projects and programmes by abolishing some, restructuring others and creating new ones. The process of

implementing these new projects and programmes is underway in the West Region and throughout the country. It mainly concerns the following projects:

- Projet d'Appui à la Production du Matériel Végétal de Qualité (PAPMAV Q);
- Projet National de Structuration et d'Accompagnement des Producteurs et de Vulgarisation Agricole (PRO-SAPVA);
- Projet National de Réduction des Pertes Post-Récoltes (PNRPPR);
- Projet National de Relance et de Développement des Filières Cacao et Cafés (PNRDFCC);
- Projet National d'Appui au Développement des Cultures Céréalières (PNADCC);
- Projet National d'Amélioration de la Production des Cultures Maraîchères (PNAPCM);
- Projet National de Développement des Légumineuses à Graines (PNDLG);
- Projet National de Développement des Cultures Fruitières (PNDCF);
- Projet National de Développement du Palmier à Huile et de l'Hévéa (PNDPHH);
- Projet d'Appui au Développement des Racines et Tubercules (PADRT);
- Projet National d'Appui au Développement du Tabac et des Plantes Stimulantes (PNADTPS).

The new set up of these Projects/Programmes includes three (03) major innovations:

- the first innovation is the creation of a PAPMAV-Q which is exclusively responsible for the production of agricultural seed, for all speculations. It aims at removing the two main constraints of the current national seed system, namely:
  - the approximate organisation of the current seed system, characterised by insufficient collaboration and coordination between the various actors (agricultural research, MINADER and private structures). As a result, there was an overlap in the roles of the different stakeholders in the seed sector;
  - the lack of rigour in the maintenance of species and varieties in the process of being marketed; an operation technically called maintenance breeding.
- The second innovation is the option taken to group and refocus the activities of the operational projects created around a main objective, which is developing and enhancing the agricultural sectors concerned. This is the purpose of eight (8) of the eleven new projects created.
- The third innovation lies precisely in the option of reactivating and strengthening the local supervision of agricultural producers by MINADER, throughout the national territory, in their respective activity sites. This approach was adopted and applied in the years 1990 to 2000, mainly through the programme national de vulgarisation de la recherche agricole (PNVRA), until the corresponding external funding was interrupted. Henceforth, this will be the main focus of prosapva.

See Annex for the synoptic presentation of these projects and programmes.

#### 9. SOCIO-ECONOMIC AND ENVIRONMENTAL IMPACTS OF AGRICULTURAL ACTIVITIES..

#### 9.1. Agricultural practices and erosion problems in the region

The agrarian landscape of the region is a combination of different land types, mainly: wet lowlands, lowlands, highlands and hilltops. These land types make up the domain of an intensive polyculture with almost continuous exploitation of the soil.

The extension of the agricultural front on hillsides and tops, deforestation and some poor farming practices represent more than ever a significant risk in terms of erosion. Indeed, the gradual disappearance of certain ancestral farming practices such as networks of hedges and hedges or fallow land, coupled with the low adoption of popularized anti-erosion techniques in the region, are encouraging erosion.

Modern anti-erosion techniques have never really been adopted by highland societies. Thus, ridging perpendicular to the slope, called saté in Bamiléké (with the buttocks turned) is not recommended for women because it can cause delivery problems. Only 6% of farms use it. Tests to build anti-erosion hedges every 20 m on slopes at 15-20°, retention ridges and ditches according to contour lines, or benches on the steepest slopes were not quite successful.

Serge Morin - Cahier d'outre-mer, 2017

# 9.2. Agricultural practices and water resource management in the region

Like the entire national territory, the West Region is undergoing a gradual change in the rainfall regime, on which the agricultural calendar is based.

These rainfall variations force agricultural workers to adopt new agricultural practices, particularly with regard to irrigation, but also the gradual colonization of swampy lowlands for market gardening and off-season crops.

The introduction of irrigation, especially with motor pumps, has facilitated off-season agriculture, putting pressure on water points and surface waters (springs, rivers, ponds). In addition, some cases of diversion or diversion of watercourses are also observed for both agricultural irrigation and fish farming.

The pressure on water resources in the West Region are enormous, especially during periods of negative rainfall variability. This pressure leads to considerable deficits on the reservoirs leading to their depletion. The inhabitants are more affected by these rainfall changes, as they sources of shortage problems in the distribution and accessibility of drinking water. Negative rainfall variability leads to conflicts between communities, while positive rainfall variability leads to disasters (destruction of infrastructure and crops in the countryside).

Nkue Nouwezem Daniel J.6

The management of water for agricultural purposes is problematic both in socio-economic and environmental terms in the region. The development of market gardening and off-season food crops has favoured not only the colonization of swampy lowlands, but also the edges of watercourses.

At the environmental level, there is a gradual disappearance of raffia and a deep degradation of the swampy lowlands. Similarly, irrigation practices lead to a reduction in the flow rate of rivers and sometimes to their drying up during periods of recession, as well as the drying up of certain water points. In addition, practicing intensive production with the use of fertilizers (chemical and organic) and pesticides pollutes surface waters.

At the socio-economic level, there is a recurrence of conflicts both between farmers as well as in between farmers and rearers. The occupation of riverbanks by off-season crops and market gardening limits cattle

<sup>&</sup>lt;sup>6</sup> An extract from the article : « Variabilité pluviométrique et gestion des ressources en eau à l'Ouest Cameroun »

herds' access to traditional water sources, and the evolution of this agricultural front towards the top of hills and mountains reduces grazing areas. The conquest of land and water for agricultural purposes, and the difficult coexistence between agriculture and extensive cattle rearing are therefore a source of both individual and community confrontations.

# 9.3. Soil fertility issues

The quasi-continuous exploitation of land for agricultural purposes in the region is justified by a range of fertilization approaches or techniques. These approaches include mainly the use of organic manure (the oldest and most widespread technique) and the use of chemical fertilizers.

Traditionally, rural producers, especially in the Bamiléké plateau, have developed a wide variety of soil fertility maintenance techniques, including:

- The practice of burning during plot preparation (fertilization of the soil by ashes coming from the burning of plants);
- The practice of improved fallows, through the sowing of legumes on plots before they are set aside. Fallowed land can last from 4 to 6 years;
- The use of green manure through the burial of weeds, bean leaves, groundnuts, corn stalks and stubble, ash and other household waste in mounds or ridges;
- Periodic rotation (after 3 to 5 years) inside pigsties or goat pens with cultivated areas;
- Spreading livestock manure on the plots or grazing sheep or goats on the plots after harvest.

The use of chemical fertilizers was mainly introduced for coffee growing and quickly flourished in the region due to state subsidies. The economic crisis in the 1980s caused a stop in the subsidies which limited access to chemical fertilizers, but their use has gradually spread to food and market gardening because of the profitability of these products in relation to coffee. The distribution chain for chemical fertilizers is now very developed in the region.

#### 10. SETBACKS TO THE DEVELOPMENT OF THE AGRICULTURAL SECTOR

The West Region benefits from relatively favourable agricultural conditions. Despite this, there are a series of setbacks, of which glaring are:

#### > At the agro-climatic level

The degradation of natural resources in some areas as a result of inappropriate, continuous and unimproved cropping systems, particularly on the soils of some of the steep hills, the vulnerability of some areas to climate change and the inability of farmers to store even when there is excess production to market it in times of shortage.

# > At the organisational level

- In most cases, farmers are still scattered and too individualized, which, given their level of production, does not allow them to have considerable masses to influence market prices. Even producers of cash crops such as cocoa and coffee, despite the presence of the Interprofessional Bureau for Cocoa and Coffee, are unable to ensure the sustainable development of the sector in the region.
- Even with the rise in some food prices, and abundant production in production basins, the lack
  of organization of food crop markets into a reliable value chain is greatly delaying the emergence

of food products as a basis for the development of a competitive agro-industry.

## > At the level of access to financing

Access to financing, here, means the institutional or formal financing, from legal and recognized financial institutions, to informal financing, that is njangis and other financing channels. Agriculture in the region is mainly financed informally, which makes it difficult or quite impossible to include it in regional and even national accounts.

## At the level of marketing and distribution

- For agricultural products to become economically viable, they must find a stable and sustained market.
- The agricultural products of the region are not aligned to a value chain with a well-known, structured and organized market. The market, here, means the sales area for one or more products. In a value chain, for example, the processing plant is the market for raw materials and the distribution and sale is the market for manufactured products.
- The region does not have well-structured agricultural product marketing channels to facilitate the growth of the many speculations in this sector.

## At the infrastructural and political level

- There are many areas with good production potential in the area but they are handicapped by their isolation, which makes it impossible to evacuate production or provide satisfactory access to inputs. This fundamentally reduces the possibility of improving agricultural incomes by increasing and diversifying production.
- The fluctuation in the prices of rents (cocoa and coffee) and the physical effort required for their production have made these speculations less attractive and have led to the abandonment of certain plots without any real substitute in many areas.

#### 11. SWOT ANALYSIS FOR THE AGRICULTURAL SECTOR

#### 11.1. General Favourable Physical Conditions

Generally, the annual rainfall in the region is relatively abundant and temperatures are very mild.

As a result of high equatorial rainfall, this Highlands Region has many rivers. But access to safe drinking water remains a major concern.

The mountainous terrain in many areas does not seem to be a problem for agriculture due to the volcanic origin of the soils.

### 11.2. High Population Density

According to BUCREP, from 1987 to 2005, Cameroon's population density increased from 22.6 inhabitants/km² to 37.5; that of the region increased from 96.4 to 123.8. This average hides huge disparities that are at the root of conflicts in land use.

#### 11.3. Weakness of Farmers' Organisations

A large number of farmers' organisations in the form of associations, G.I.C., Unions or cooperatives were

reported during field contacts in all divisions. Some of them seem to correspond to family-type organisations, set up as GICs in order to be able to benefit from subsidies or special advantages depending on the opportunities.

The cooperatives affiliated to the Central Union of Western Agricultural Cooperatives, mainly in the field of coffee growing, appear to be the strongest and correspond to effective economic entities.

The municipal or divisional "Peasant Representatives" show the weakness of the peasant movement, in that their appointment does not seem to be based on the involvement of a set of POs committed to a common objective, but on individual dynamics that have found a link to the projects that support them.

## 11.4. Stakeholders in the "sustainable development" of agriculture

They are mainly made up of village producers, who make up the social fabric of the region, and pursue development methods inherited from ancestors. The reduction in available space, and the resulting reduction in fallow times, their lack of equipment and very low use of selected inputs and seeds, which are not widely available in the region, result in relatively low productivity. Access to investment or development financing is practically non-existent.

With the posts of Subdivisional Delegates and Heads of Agricultural Posts vacant, very few means of travel and a large number of unbuilt posts, leading the incumbents to remain in the division's headquarter. Agriculture activities barely carried out in farms, therefore hampering its ability to provide support and follow-up to farmers.

These various weaknesses require specific well-targeted approaches to enable agriculture to take its rightful place in the Sustainable Development of the West Region of Cameroon.

#### 11.5. Weaknesses of the means of transformation - conservation

Apart from the coffee shelling units and its processing into ground coffee, and the tea processing plant, the region is very poorly equipped in terms of processing and conservation of agricultural products. The palm oil processing units are all artisanal.

Even if we consider that the units mentioned correspond only to a part of the existing ones, it is clear that the difficulties of evacuating the products cannot be compensated by processing and conservation capacities commensurate with the production potential.

**Table 29:** SWOT Analysis for the agricultural sector in the West Region

STRENGTHS	WEAKNESSES
- Abundant rainfall and favourable	- High cost of agricultural inputs (fertilizers, pesticides);
temperature;	- Insufficient quality plant material on the markets;
- Availability of arable land;	- The isolation of several production areas that
- Important agro-ecological diversity;	discourages producers or increases production and
- Potential for irrigable land;	distribution costs;
- Dynamism of rural populations;	- Insufficient professionalization of some producers and
- Strategic geographical position of the West	operators in the agro-pastoral sector, youths in
Region;	particular;
- Potential in fertile land;	<ul> <li>The process of mechanization of agricultural operations is experiencing difficulties in taking off: two pools of</li> </ul>

- Potential of the land to be drained in the lowlands;
- Potential of many wetland areas for offseason crops
- Possibility to make several cycles of different crops per year.

machinery have been created in the West; the one in Foumbot is already being built with MINEPAT funds, the officials appointed, the equipment made available by the Minister's note, but are slow to be transported to the site:

- Insufficient funding for the agricultural sector, given its particular requirements;
- Low level of processing and conservation of agricultural products (potatoes, plantains, etc.);
- Weakness of farmers' organisations and organisational capacities;
- Failure to control hazards related to climate change;
- Weak structuring of producers;
- Insufficient management staff in the field.

#### **OPPORTUNITIES**

- Strong demand for national and sub-regional markets;
- Renewed interest in the agricultural sector;
- Existence of ongoing programmes for agropastoral development (ACEFA, PIDMA, AFOP etc.);
- Transition to second-generation agriculture as advocated by the President of the Republic;
- Implementation of decentralization.

#### **THREATS**

- Rural exodus and therefore lack of manpower;
- Low level of land tenure security;
- Lack of professional investors:
- Inadequate agricultural processing structures
- Climate change;
- Parasitic pressure due to climate change;
- Disappearance of certain food crops (Cocoyam / Achu):
- Presence of adulterated plant protection products on local markets.
- Freezing of land by the elites;
- Diversion of youths from agriculture to bike-riding.

#### Conclusion

The agricultural problems in the West are different depending on whether it is about cash crops, food crops or market gardening. However, for all of us, the first concern is certainly the absence of a labour force available to cultivate, since youths, even when they are unemployed, are sometimes reluctant to cultivate the land.

The second major problem is access to land for agricultural extensions in specific areas, particularly in areas with high market gardening potential. The problem of access to land also arises in the sense that many more or less fortunate "outside" elites seek to take over large areas of land, officially to exploit them, but often without really having the means or technology, which amounts to "freezing" these lands and prohibiting their exploitation by those who could provide the means by themselves.

MINADER also does not have enough staff planned for, and assigned and send to in the region, which makes it impossible to envisage any real support for farmers. This is all the more worrisome as the main problem in the Western Highlands area is the progressive degradation of agro-sylvo-pastoral resources

due to the high population density; similarly, sometimes inappropriate production systems do not sufficiently exploit synergies between different forms of land use, particularly between agriculture and livestock. Among the consequences is the high frequency of conflicts between communities, pastoralists and farmers, for the occupation of the same ecosystems.

Finally, the question of the agricultural transition from subsistence to commercial production is at the heart of the problem for the entire West Region, with its flood of problems regarding agricultural training, skills, appropriate agricultural supervision, agricultural processing, maintained rural roads, access to markets, etc. But more generally, however, one can only note the weakness of most agricultural producers' organisations, from organisational, technical and financial points of view, among others.

Annex
Implementation of some projects and programmes in 2017 in the region

Programmes/ Projects	Lead ministry	Objectives	Some actions carried out in 2017 in the region
National Support Programme for the Maize sector (PNAFM)	MINADER	Increase maize production to limit imports and create processing industries; Provide support for producer capacity building; Facilitate the use of quality seeds	Monitoring of hybrid seed multipliers for maize, variety CHH 101; Establishing maps of the region's needs in corn seeds and inputs; Monitoring of composite maize seed companies; Quantifying the volume of seeds produced in the region with the following volumes (303.6 tonnes distributed as follows: 279.4 tonnes of composite seed, 12.2 tonnes of hybrid seed and 12 tonnes of basic seed); The distribution by the Divisional Delegations of the support received to the beneficiaries
Support Programme for the Revival of the Potato Sector (PRFPT)	MINADER	Support for potato production; Capacity building; Marketing support; Support for the structuring and organisation of the sector.	4 potato producers' cooperatives are fully operational in the main production basins and a tripartite Cooperative - EMF - PRFPT contract is being implemented; 20 subdivisional cooperatives are in the process of being registered; 03 contract multipliers are active in KOUNG-KHI, MENOUA and BAMBOUTOS; 6150 potato producers and 43 seed companies were trained on the technical production route for potatoes and seeds;

Programmes/ Projects	Lead ministry	Objectives	Some actions carried out in 2017 in the region
			Acquiring inputs (fertilizers, pesticides) by cooperatives at real cost on the market through MINADER subsidies kept in their accounts; Local supervision provided by decentralized staff; 484 tonnes of certified potato seed delivered to producers from 2011 to 2016; 204 tonnes of basic seed delivered to seed companies from 2011 to 2015 11 motor pumps and a tractor made available to cooperatives; 7 warehouses for storing and marketing potatoes built and
Mount MBAPIT Rural Development Project (MMRDP)	MINADER	Contribute to poverty reduction and the improvement of food security for the people of Noun by boosting food and market gardening agricultural production, while ensuring sustainable management of natural resources	Effectively setting up seed fields by 8 cooperatives; Monitoring these parcels by all stakeholders.
Programme de Valorisation des Bas-Fonds (PVBF)	MINADER	Develop the lowlands and equip them with irrigation equipment in order to develop market gardening and off-season food production	Controlling existing hydraulic equipment or equipment allocated to beneficiaries in MENOUA. technically monitoring the works to set up the pochamous GIC irrigation equipment in the Tsinfou municipality, which was selected to benefit from the equipment for an amount of 6,715,780 CFA francs. The execution of the project to support the

Programmes/ Projects	Lead ministry	Objectives	Some actions carried out in 2017 in the region
			development of the agricultural hydro perimeter for the benefit of this GIC is 95% complete; the 6 ha lowland under development in Balengou is 60% complete.
Programme semencier Cacao/Café (PSCC/PPDM VCC)	MINADER	Increase the supply of selected plant material through the rehabilitation and maintenance of existing plots and the relocation of new seed plots and woodlots; Improve the system for the dissemination of coffee and cocoa plant material by providing support for the installation of nurseries and the transport of seeds and plants; Strengthen the capacities of nurserymen, producers and basic supervisors through training	The delivery of 135 kg of Arabica coffee seeds to 10 POs (UCCAO, CAPLAMI, GIC KECHA, GIC VAGRE, GIC AGRELDO, GIC CESAO, GIC GPMK, GIC REAB, GIC AMEK-BA and GIC AEBAY) for the production of 405 000 Arabica coffee plants for the 2017-2018 agricultural season in the Mifi Division Pre-acceptancing coffee plants through a national coordination mission; Holding divisional committee meetings for the selection of coffee plant beneficiaries in some divisions. Organizing input management committee meetings to raise awareness in the various divisions; Monitoring nurseries in the various divisions (Bamboutos, Menoua, Haut Nkam, Ndé, HP); Pre-acceptancing coffee plants through a national coordination mission; Holding divisional committee meetings for the selection of coffee

Programmes/ Projects	Lead ministry	Objectives	Some actions carried out in 2017 in the region
			plant beneficiaries in some divisions.
Support Programme for the Revival of the Plantain Sector (PRFP)	MINADER	Contribute to the improvement of the productivity and competitiveness of the plantain sector; Set up a network of plantain nurseries through private professionals or in mayors; Support farmers interested in creating a plantation of 0.5 to 1 ha and more of pure culture.	Monitoring the loading of cellars; Monitoring the reactivation of plants; 55,000 plants from the PIF were received and fully distributed to producers by an ad hoc Interregional Commission. Setting up of close to 30 Ha of plantain banana trees.
National Agricultural Extension and Research Programme (P.N.V.R.A.)	MINADER, MINEPIA	The PNVRA is an institutional support programme of MINADER and MINEPIA in their contribution to the fight against poverty in Cameroon. Its aim is to promote sustainable, dynamic and competitive agriculture.  The objective of the PNVRA is the sustainable improvement of farm productivity and producer incomes	Restructuring the Programme replaced by PROSAVA; Consolidating the programme's data in different divisions; Following up POs whose data are summarized below.
Amélioration de la Compétitivité des Exploitations Familiales Agropastorale s (ACEFA) Programme	MINADER	The ACEFA programme covers all the divisions of the West Region and is part of the growth and employment strategy because it contributes directly to: Encourage initiative and change through advice and management to professional organizations; Generate income by improving productivity and production; Generate jobs in primary processing activities; Boost the economy and employment before and after production; Improve the framework for State- Profession collaboration and governance. The direct beneficiaries of the Programme are agropastoral	Effectively supporting 2647 GPs, 56 takeover bids and 406 EFAs from the observatory; Monitoring of producers on specific speculations by CTS/CGPs; Monitoring of funded projects

Programmes/ Projects	Lead ministry	Objectives	Some actions carried out in 2017 in the region
		family farmers and their organizations (GICs, cooperatives, unions and federations)	
Agriculture Investment and Market Development Project (PIDMA)	MINADER	Moving from subsistence and low productivity agriculture in the maize, cassava and sorghum sectors to commercial agriculture with competitive value chains in Cameroon's five agro-ecological zones.	Financing business plans (out of XAF 832,899,310 mobilized, PIDMA mobilized XAF 402,634,310); Financing 09 nutrition sub-projects up to XAF 13,105,000 Monitoring harvests and deliveries of 483.63 tonnes of second season maize to Agri-business for a production of 3885.63 tonnes; Monitoring the ploughing of 920ha of maize fields; Distributing improved maize seeds in proportion to the areas ploughed
Programme d'Appui à l'Installation des Jeunes Agriculteurs (P.A.I.J.A.)	MINADER, MINJEUN	Rejuvenating and modernizing farms, Reducing youth unemployment and improving their living conditions in rural areas through innovative mechanisms for improving productivity, marketing, processing agricultural products and setting up rural businesses.	Monitoring the harvests of first cycle products and preparing for the second season 2017, including cleaning the palm oil farms.  Following up the 2017 planting which was completed at the beginning of August for a total number of 4500 plants representing 30 hectares.
Support Project for the Use of Fertilizers in the Cocoa and Coffee Sub-	MINADER	Supporting the supply of fertilizers to cocoa/coffee producers; Strengthening the capacity of cocoa/coffee producers in technical production and fertilizer use routes.	Receiving support for the 2017 campaign in the various divisions: Selection POs to receive support for the 2017 season. Holding a selection committee meeting for the

Programmes/ Projects	Lead ministry	Objectives	Some actions carried out in 2017 in the region
sectors (SPUF2C)			beneficiaries of SPUF2C in Bamboutos; Distributing support to producers whose situation is summarized below
The Support Programme for the Renovation and Development of Vocational Training in the Agriculture, Livestock and Fisheries Sectors (AFOP)	MINADER, MINEPIA	Improving the productivity of agro-pastoral farms Improving the professional qualification of agricultural and rural development stakeholders and better professional integration of youths trained in the agriculture, livestock and fisheries sectors	137 youths were financed for a total amount of more than XAF 218,383,000; Among the 137 youths, there are 55 young women with a funding of XAF 80,675,210 and 92 young men for the rest of the funding. Also, in the category of agropastoral entrepreneurs (holders of a BTS in agronomy), 19 young entrepreneurs' projects were financed for a total amount of XAF 33,698,800. Among the 19 entrepreneurs, there are 6 young female entrepreneurs for a financing of 11,461,100 CFA francs and 13 young male entrepreneurs for the rest of the financing
Projet d'Appui à la Lutte Anti Fongique dans les filières Cacao et Café (PALAF2C)	MINADER	Contribute to the improvement of the living conditions of cocoa and coffee producers through the phytosanitary protection of their orchards.  Reduce damage due to cocoa and coffee diseases;  Organize producers so that they carry out phytosanitary control operations on cocoa and coffee and ensure their sustainability	Receiving applications and selecting beneficiaries; Distributing support (fungicides, herbicides, insecticides, maintenance kits, protection kits, sprayers, atomisers) to producer groups in the Bamboutos, Highlands, Haut-Nkam, Menoua, Ndé, Noun Divisions
Agricultural Sub-sector Development	MINADER	Reducing poverty in rural areas and improve food security through sustainable	Building three rice storage warehouses in Bangou, Bassamba and Koutaba

Programmes/ Projects	Lead ministry	Objectives	Some actions carried out in 2017 in the region
Support Programme (PADFA)		development and competitiveness of the rice (lowland, upland) and onion sectors. Increasing rice and onion production; Improving the conservation, processing and marketing of products.	Support provided to the Bas - fond management committee in the development of the action plan for the maintenance of the structures; Monitoring seedlings in school fields;
Agricultural Competitivene ss Improvement Project (PACA)	MINADER	To sustainably improve the competitiveness of eligible producer organisations working in targeted sectors, as well as the income of agricultural holdings that are members of these organisations. The targeted sectors in the West Region are Maize and Plantain	
Projet Centre d'Innovation verte pour le Secteur Agro- alimentaire (ProCISA)	MINADER, MINEPIA	Improve the incomes of smallholder farmers and regional employment and food supply through the introduction of agricultural innovations	A seed company in the region distributing six (6) tonnes of certified seed of IRAD CIPIRA variety of potatoes and corresponding inputs for the establishment of approximately 2 Ha of offseason seed plots produced using the sprinkler irrigation system. The production obtained was 16 tonnes of certified seed.  Supporting 15 seed producers in the West Region, made up of 21.55 tonnes of seeds (8 tonnes of class E and 13.55 tonnes of class A) imported from Germany and the corresponding inputs (190 bags of fertilisers and plant protection products). The result of this activity is

Programmes/ Projects	Lead ministry	Objectives	Some actions carried out in 2017 in the region
			summarized in the tables below.
Rural Microfinance Development Support Project (PADMIR)	MINADER	Improving the institutional environment of microfinance; Facilitating rural populations' access to financial services and products adapted to their needs.	
Economic Land Use Planning Program for the  Promotion of medium and highly important companies In the rural sector (AGROPOLES )	MINADER	Support and monitor the implementation of national strategies for the development of second-generation agriculture Research and mobilize the necessary internal and external resources; Identify and develop agricultural basins likely to support modern production, processing and marketing units; Elaborate specifications for partnership agreements with ministerial departments, public and private institutions, service providers; The technical, financial and accounting evaluation of the activities of service providers and agropole projects receiving government support, monitoring and control of their activities.	