REPUBLIC OF CAMEROON
Peace – Work – Fatherland

REPUBLIQUE DU CAMEROUN
Paix – Travail – Patrie

Volume 1

COMPENDIUM OF ENVIRONMENT STATISTICS

COMPONENT 2: ENVIRONMENTAL RESOURCES AND THEIR USE

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ACRONYMS AND ABBREVIATIONS

AEB	:	Wood Removal Permit
ANAFOR	:	National Forestry Development Agency
ARB	:	Wood Salvage Permit
ARSEL	:	Cameroon Electricity Sector Regulatory Agency
BF	:	Standpipe
BP	:	Private connection
CAMWATER	:	Cameroon Water Utilities Corporation
CBPP	:	Contagious Bovine Pleuropneumonia
CDE	:	Camerounaise des Eaux
CRH	:	Hydrological Research Centre
DCGR	:	Directorate of Conservation and Management of Natural Resources
DCSECC	:	Division of Mapping, Environment and Climate Change Statistics at the NIS
DEPCS	:	Division in Charge of Planning and Statistics Cooperation Studies
DESA	:	Department of Agricultural Surveys and Statistics
DHS	:	Demographic and Health Survey
DM	:	Directorate of Mines
DMN	:	Department of National Meteorology
DPDC	:	DIBAMBA POWER DEVELOPMENT COMPANY
ECAM	:	Cameroon Household Survey
EDC	:	Electricity Development Corporation
EESI	:	Survey on Employment and the Informal Sector
EIS	:	Energy Information System
ENEO-Cameroon	:	Energy of Cameroon
FAO	:	Food and Agriculture Organization of the United Nations
FDES	:	Framework for the Development of Environment Statistics
FDES	:	Framework for the Development of Environment Statistics
FESP	:	Forest & Environment Sector Programme
FMU	:	Forest Management Units
GHG	:	Greenhouse Gas
GWP	:	Global Water Partnership
IPU	:	Informal Production Unit
ISIC	:	International Standard Industrial Classification
IUCN	:	International Union for Conservation of Nature
IWM	:	Internal Wood Market
KPDC	:	KRIBI POWER DEVELOPMENT COMPANY
KWT	:	Kilowatt
LANAVET	:	National Veterinary Laboratory
LPG	:	Liquefied Petroleum Gas
MICS	:	Multiple Indicator Cluster Surveys
MINADER	:	Ministry of Agriculture and Rural Development
MINEE	:	Ministry of Water Resources and Energy
MINEF	:	Ministry of Environment and Wildlife
MINEPAT	:	Ministry of Economy, Planning and Regional Development
MINEPDED	:	Ministry of Environment, Nature Protection and Sustainable Development
MINEPIA	:	Ministry of Livestock, Fisheries and Animal Industries
MINFOF	:	Ministry of Forestry and Wildlife

MINMIDT	:	Ministry of Mines, Industry and Technological Development
MoU	:	Memorandum of Understanding
MT	:	Metric Tons
NIS	:	National Institute of Statistics
nPFE	:	Non-Permanent Forest Estate
PA	:	Protected Area
NAPDES	:	National Action Plan for the Development of Environmental Statistics
PANGIRE	:	Integrated Water Resources Management
PFE	:	Permanent Forest Estate
PPR	:	Sheep and Goat Plague
PRECASEM	:	Capacity Building Programme in the Mining Sector
PTU	:	Emergency Thermal Programme
RE	:	East Grid
RIN	:	North Interconnected Grid
RIS	:	South Interconnected Grid
SDG	:	Sustainable Development Goals
SGSOC	:	Sithe Global Sustainable Oils Limited
SIGIF	:	Computerised Forest Information Management System
SNADDT	:	National Spatial Planning and Sustainable Development Plan
SNEC	:	National Water Corporation of Cameroon
SNH	:	National Hydrocarbons Corporation
SNPPK	:	National Permanent Secretary of the Kimberly Process
UNSC	:	United Nations Statistical Commission
UNSD	:	United Nations Statistics Division
WRI	:	World Resources Institute
ZIC	:	Areas of Hunting Interest
ZICGC	:	Community-managed Areas of Hunting Interest

FOREWORD

This 2022 edition of the Compendium of Environment Statistics follows the 2016 Atlas. The statistics found therein are required for the implementation of Sustainable Development Goals (SDGs) 3, 6, 7, 11, 12, 13, 14, and 15, the African Union's Agenda 2063 first aspiration, as well as national strategies and programmes. They contribute to the evaluation of the implementation of policy instruments requiring strengthening and support for environmental protection; hence the need to develop a mechanism for the production of these statistics. In order to support national statistical systems in this task, the United Nations Statistics Division (UNSD) has developed a conceptual framework called «Framework for the Development of Environment Statistics (FDES), approved in 2013 by the United Nations Statistical Commission (UNSC) at its 44th Ordinary Session.

This Framework is recognized as a useful tool to adequately respond to the growing demand for environmental information for the follow-up of the Rio Conference on Sustainable Development (Rio+20) resolutions and the post-development agenda2015, also known as the sustainable development agenda. The implementation of the FDES necessarily requires the implementation of a national action plan. It is in this context that Cameroon validated its National Action Plan for the Development of Environmental Statistics (NAPDES) during a high-level meeting held in December 2019, under the patronage of the Prime Minister, Head of Government

The NAPDES covering the period 2020-2024, presents the strategic and policy framework for the environment, reviews and diagnoses the system for producing environmental statistics in Cameroon for all the thematic areas contained in the six components of the FDES. This plan also proposes a clear vision, strategic axes and operational objectives, an implementation mechanism, a monitoring and evaluation mechanism, the budgeting and financing of the multiannual action plan. It also includes the preparation of a compendium of environment statistics every 3 years

This Compendium includes six thematic components of environment statistics which are:

- component 1 "**Environmental conditions and quality**";
- component 2 "**Environmental resources and their use**";
- component 3 "**Residuals**";
- component 4 "**Extreme events and disasters**";
- component 5 "**Human Settlements and Environmental Health**";
- component 6 "**Environmental protection, management and engagement**".

The plan to publish the compendium includes a first edition published in 2022 on components 2, 4 and 5. The second edition, to be published by 2025, will update the components already produced in addition to components 1, 3 and 6.

Indicators and information contained in the various components of the first edition of the Compendium come from the databases available at the NIS and from the collection of secondary data from other public and private administrations and institutions.

These components are designed to inform the choice of public policies in the various fields concerned, to help in development planning and the prioritization of projects and programmes. In short, they are developed to be reference documents for monitoring and evaluating the SDGs related to the environment and climate change.

The statistics and indicators used in this component concern **Environmental Resources and their Use**.

The NIS thanks all public and private administrations and institutions that participated in the production of this first edition by providing information, preparing statistics and analysing them for publication.

All suggestions for improvement in future editions will be greatly appreciated.

Director General

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INTRODUCTION

Component 2 of the FDES deals with environmental resources and their use. These are the living and non-living constituents of the earth. They contain a wide range of natural resources that meet many human needs. They can be naturally renewable (fish, wood, water, wildlife) or non-renewable (minerals).

These resources are important inputs for production and consumption. They help provide shelter, food, health care, infrastructure, communications, transport, defence and virtually every other element of human activity. For this reason, policy-makers need statistics documenting their availability and quality over time to make informed decisions.

These statistics are also needed to avoid shortages or restrictions on use, to ensure availability for new and emerging applications, to determine dependence on imports and other risks, and generally to allow a continuous use over time.

In this component, statistics on environmental resources and their use focus on measuring stocks and changes in stocks of these resources and their use for production and consumption.

Component 2 includes six subcomponents corresponding to the main categories of environmental resources. These are:

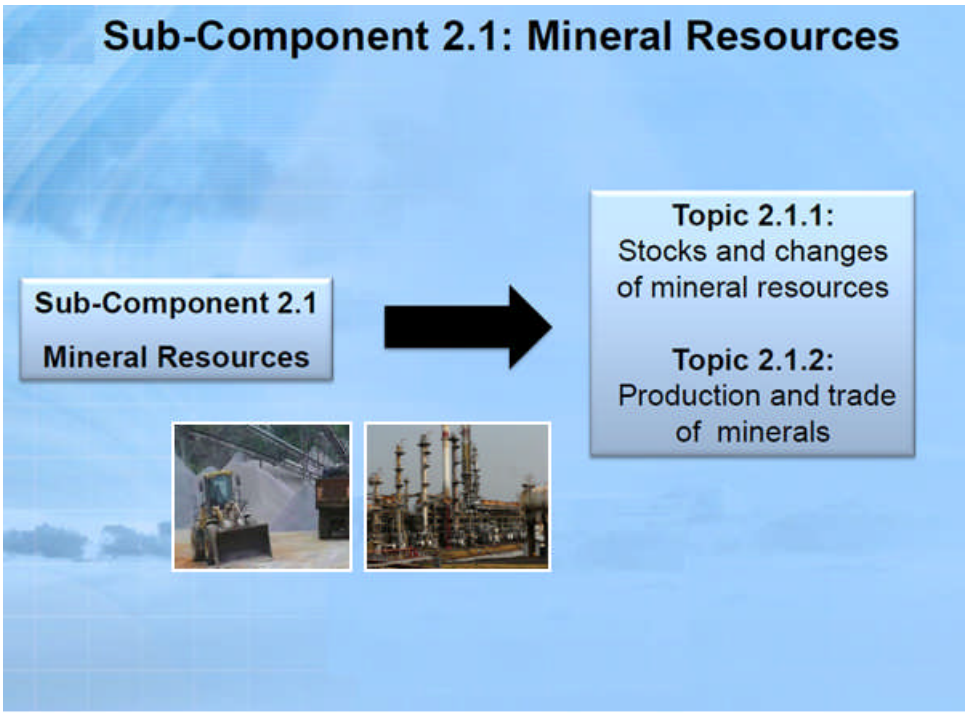
1. **Mineral resources;**
2. **Energy resources;**
3. **Land;**
4. **Soil resources;**
5. **Biological resources;**
6. **Water resources.**

Component 2: Overview

Component 2 Environmental Resources and Their Use	**Sub-Component 2.1 Mineral Resources**	**Topic 2.1.1:** Stocks and changes of mineral resources **Topic 2.1.2:** Production and trade of minerals
	Sub-Component 2.2 Energy Resources	**Topic 2.2.1:** Stocks and changes of energy resources **Topic 2.2.2:** Production, trade and consumption of energy
	Sub-Component 2.3 Land	**Topic 2.3.1:** Land use **Topic 2.3.2:** Use of forest land
	Sub-Component 2.4 Soil Resources	**Topic 2.4.1:** Soil Resources
	Sub-Component 2.5 Biological Resources	**Topic 2.5.1:** Timber resources **Topic 2.5.2:** Aquatic resources **Topic 2.5.3:** Crops **Topic 2.5.4:** Livestock **Topic 2.5.5:** Other non-cultivated biological resources
	Sub-Component 2.6: Water Resources	**Topic 2.6.1**: Water resources **Topic 2.6.2**: Abstraction, use and returns of water

Sub-component 2.1: Mineral resources

This subcomponent tackles two topics: stocks and changes in mineral resources, and mineral production and trade.



Some images for "mineral resources"




1) Gravel production plant (up and to the left; 2) Logbaba gas production plant in Douala (up and to the right); 3) SONARA oil refinery (down and to the left), 4) Lom pangar Dam (down and to the right).

Sources: 1) BTP Cameroun, August 2020, 2) Energie média, January 2019, 3) Actu Cameroun, June 2020, 4) Afrikinfo, September 2021

Topic 2.1.1 : Stocks and changes of mineral resources

Minerals are elements or compounds of a concentration of solid, liquid or gaseous materials naturally present in or on the earth's crust. Minerals include:

- metallic ores (including precious metals and rare earths);
- non-metallic minerals such as coal, oil, gas, stone, sand and clay;
- chemical minerals and fertilizers; salt;
- Other minerals such as precious stones, abrasive minerals, graphite, asphalt, natural solid bitumen, quartz and mica.

Mineral resources are non-renewable, so their depletion reduces their availability in the environment over time. The scale of their extraction can determine the amount of stress placed on the environment. Statistics on their stocks are therefore needed to support the sustainable management of these resources.

The mineral resources in this subcomponent are extracted from the environment generally through mining and quarrying. Extraction involves methods such as underground or open-pit mining.

The main sources of statistics on mineral resource stocks are geological surveys and inventories, as well as economic statistics on mining and quarrying.

At this stage, there are very few statistics on this topic. However, some information/statistics provide an idea about the mineral resources in Cameroon.

The necessary data to supply the statistics on this subject are collected from the central and devolved services of MINMIDT, namely from the 2017 statistical yearbook of the said ministry as well as in the annual activity reports of the various services and structures under the authority of this ministerial department.

Some images for "stocks and changes of mineral resources"



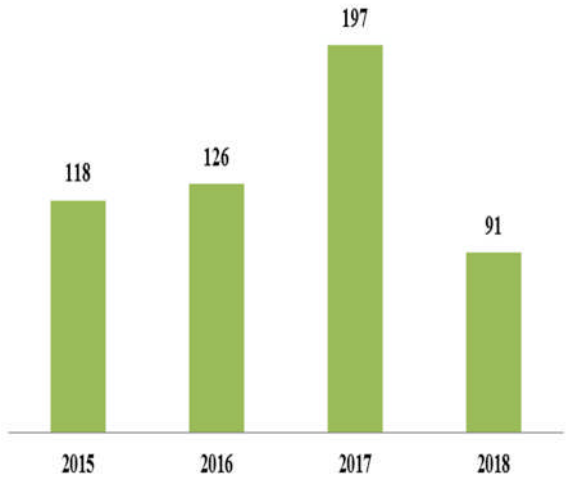

Sources : 1) *https://fr.wikipedia.org/wiki/Gravures_rupestres_de_Bidzar; 2) https://cm.loozap.com/ads/pouzzolane-en-gros-bonamoussadi/29681.html; 3)https://seconstruire.com/produit/sable-moungo-camion-20t-3/; 4)https://www.pinterest.com/pin/504614333230302639/*

Table 2.1-1 : *Trends in proven reserves (m^3) from 2013 to 2017*

Minerals	2013	2014	2015	2016	2017
Crude oil (10^6 barrels)	268.2	277.0	288.0	241.0	210.6
Natural gas (10^6 m^3)	141,584.3	153,760.5	172,902.7	171,713.4	171,322.6

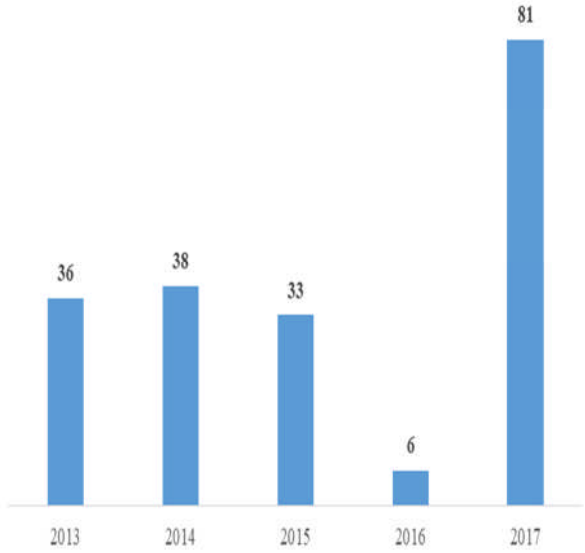
Source: *SNH*

Figure 2.1-1 : *Trends in the number of mining index available from 2015 to 2018*



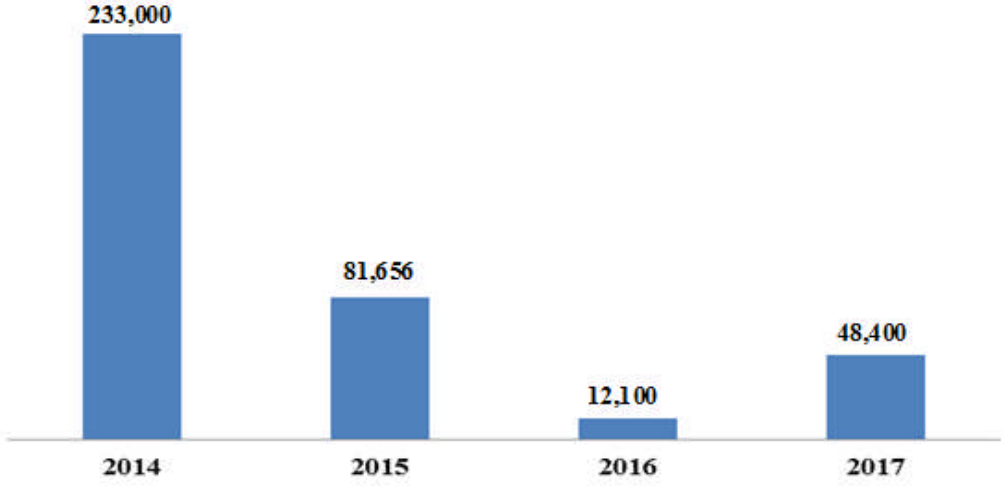
Source: Results chain, MINMIDT, 2015 to 2019

Figure 2.1-2 : *Trends in the number of mining companies from 2013 to 2017*



Source: MINMIDT/Department of Mines

Figure 2.1-3 : *Known areas covered with mineral substances (in km^2)*



Source: Capacity Building Programme in the Mining Sector (PRECASEM)/MINMIDT

Table 2.1-2 : *Trends in the number of gold mining sites per region from 2013 to 2017*

Region	2013	2014	2015	2016	2017
Far North	2	2	6	6	6
North	22	22	22	22	22
Adamawa	14	14	14	14	14
East	75	75	75	75	75
South	54	54	54	54	54
Centre	1	1	1	1	1
Total	**168**	**168**	**172**	**172**	**172**

Source: MINMIDT/Department of Mines

Table 2.1-3 : *Trends in the number of quarry sites by type of substance mined from 2013 to 2017*

Substance	2013	2014	2015	2016	2017
Rocks	31	37	46	50	32
Laterite	3	2	3	4	9
Clay	1	1	1	2	3
Sand	31	49	47	161	157
Pozzolan	11	15	20	26	21
Total	**77**	**104**	**117**	**243**	**222**

Source: MINMIDT/Department of Mines

Table 2.1-4 : *Trends in the number of mining sites per substance from 2013 to 2017*

Substance	2013	2014	2015	2016	2017
Gold	3,677	5,781	441	512	301
Diamond	17	29	24	13	22
Sapphire	29	31	31	31	31
Total	3,723	5,841	496	556	354

Source: MINMIDT/Department of Mines

Table 2.1-5 : *Trends in the number of mining sites by type of mining from 2013 to 2017*

Type of mining	2013	2014	2015	2016	2017
Artisanal	3,676	5,780	440	511	300
Industrial	1	1	1	1	1
Total	**3,677**	**5,781**	**441**	**512**	**301**

Source: MINMIDT/Department of Mines

Table 2.1-6 : *Trends in the number of exploration permits issued per mineral substance from 2013 to 2017*

Mineral substances concerned with permits	2013	2014	2015	2016	2017
Gold and related substances	0	41	40	6	60
Iron and related substances	3	22	9	0	6
Lead and related substances	0	0	1	0	0
Tin and related substances	0	1	0	0	0
Limestone and related substances	0	1	1	0	0
Rutile and related substances	0	1	0	0	4
Bauxite	0	0	0	1	1
Nickel-cobalt and related substances	0	1	0	0	4
Marble	0	0	2	0	0
Uranium	0	2	NA	0	1
Diamond and related substances	0	NA	1	0	0
Sapphire	0	1	3	0	0
Cassiterite	0	2	0	0	0
Any mineral	0	0	0	1	6
Total	**3**	**72**	**57**	**8**	**82**

Source: MINMIDT/Department of Mines

Table 2.1-7 : *Trends in the number of permits issued per type from 2013 to 2017*

Type of permit	2013	2014	2015	2016	2017
Exploration permit	5	72	59	10	82
Reconnaissance permit	21	27	22	26	29
Mineral waters operating permits	02	07	08	02	01
Quarrying permits	08	43	28	30	26
Total	**36**	**141**	**117**	**68**	**138**

Source: MINMIDT/Department of Mines

Topic 2.1.2 : Production and trade of minerals

Statistics on the volumes of minerals imported or exported are important to measure the pressure on these resources. They can be linked to economic statistics to understand their importance in the national economy.

Statistics on industrial products, sectoral statistics on mining and quarrying as well as trade statistics provide figures on mineral production and trade.

Indicators on this topic are collected from the central and devolved services of .

MINMIDT, notably in the 2017 statistical yearbook of the Ministry as well as in the annual activity reports of the various services and structures under the authority of this ministerial department. The operation of NIS' databases on foreign trade made it possible to produce indicators on exports and imports of oil and minerals. In addition, the exploitation of SNH activity reports made it possible to produce indicators on hydrocarbon production.

Some images for "production and trade of minerals"

1) Mining of the Mintom limestone deposit in the South of Cameroon (up and to the left; 2) Artisanal gold mining in the East region of Cameroon (up and to the right); 3) Crude oil production by SONARA in Limbe (down and to the left), 4) Natural gas production in Logbaba (down and to the right).

Sources : 1) https://www.investiraucameroun.com/mines/2402-8590-peril-sur-l-exploitation-du-gisement-de-calcaire-de-mintom-dans-le-sud-cameroun *; 2) https://www.camerounweb.com/CameroonHomePage/business/artikel.php?ID=428455; 3) https://cameroun24.net/blog/?pg=actu&ppg=&pp=&id=19883; 4) https://www.investiraucameroun.com/hydrocarbures/2609-9493-vog-lance-la-production-de-gaz-naturel-sur-le-puits-la-107-du-champ-logbaba*

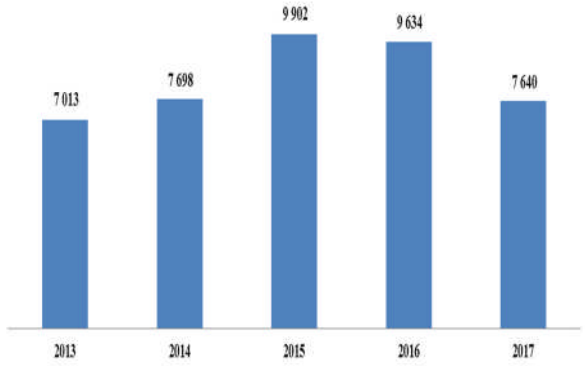
Table 2.1-8 : *Trends in the production of quarry substances in m^3 from 2013 to 2017*

Substance	2013	2014	2015	2016	2017
Rocks	420,774.3	1,139,854.2	173,965.9	114,565.2	1,078,859.2
Laterite	63,333.0	48,000.0	2,650.0	22,414.0	141,760
Clay	60,553.0	2,372.0	4,643.0	4,249.0	7,158
Sand	8,156.0	6,497.0	17,479.8	17,758.0	583,393.9
Pozzolan	0.0	0.0	0.0	0.0	310,337.3
Limestone	95,852.0	55,503.0	50,728.0	57,307.0	49,337.6
Marble	2,231.0	3,410.0	3,261.0	1,827.0	118,053.4
Total	**650,899.25**	**1,255,636.23**	**252,727.7**	**218,120.2**	**4,937,061.6**

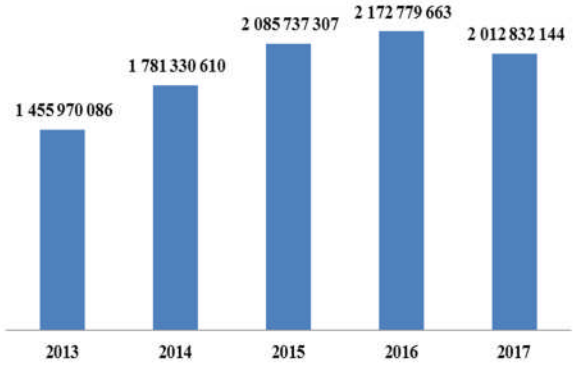
Source: MINMIDT/Department of Mines

Figure 2.1-4 : *Production of liquid hydrocarbons and related gases from 2013 to 2017*

Oil production (thousands of MT)



Natural gas (10^6 m^3)



Source: SNH

Table 2.1-9 : *Trends in the production of quarry substances in m^3 from 2013 to 2017*

Substance	2013	2014	2015	2016	2017
Rocks	420,774.3	1,139,854.2	173,965.9	114,565.2	1,078,859.2
Laterite	63,333.0	48,000.0	2,650.0	22,414.0	141,760
Clay	60,553.0	2,372.0	4,643.0	4,249.0	7,158
Sand	8,156.0	6,497.0	17,479.8	17,758.0	583,393.9
Pozzolan	0.0	0.0	0.0	0.0	310,337.3
Limestone	95,852.0	55,503.0	50,728.0	57,307.0	49,337.6
Marble	2,231.0	3,410.0	3,261.0	1,827.0	118,053.4
Total	**650,899.3**	**1,255,636.2**	**252,727.7**	**218,120.2**	**4,937,061.6**

Source: MINMIDT/Department of Mines

Table 2.1-10 : *Trends in gold production by type of exploitation in grammes from 2013 to 2017*

Type of exploitation	2013	2014	2015	2016	2017
Artisanal	43,085.5	14,086.0	20,385.5	36,560.6	17,476.9
Artisanal semi-mechanized	0.0	37,404.5	180,072.3	150,202.6	123,105.9
Total	**43,085.5**	**51,400.5**	**200,457.8**	**186,763.2**	**140,582.8**

Source: MINMIDT/Department of Mines

Table 2.1-11 : *Trends in the production of quarry substances in m^3 per region from 2013 to 2017*

Region	2013	2014	2015	2016	2017
Far North	NA	NA	340	NA	120,992
North	NA	NA	NA	NA	NA
Adamawa	NA	NA	96,302	153,232	28,276
East	NA	NA	6,358	21,693.9	30,570
South	NA	113,377	8,147	98.9	16,472.85
Centre	NA	547,517.1	1,072,933.012	1,046,282.3	205,803.6
Littoral	597,891	496,160.5	528,784	1,638,138.2	669,206
South-West	NA	124,454.2	315,640.9	NA	145,502.3
West	23,600	31,000	54,438.2	69,105	119,012.4
North-West	2,121	17,782.2	52,430	43,182	33,774

Source: MINMIDT/Department of Mines

Table2.1-12 : *Trends in national production of crude oil (in million barrels) and natural gas (in million standard cubic feet) from 2013 to 2018*

National production	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**
Domestic crude oil production (million barrels)	22.35	24.28	27.50	34.97	33.69	27.72	25.13
Domestic natural gas production (in millions of standard cubic feet)	151.99	5,376.44	10,859.55	13,048.20	12,612.52	13,886.87	61,454.28

Source: 2017, 2018 SNH Annual Report

Table 2.1-13 : *Quantity and value of imports of certain industrial food products from minerals from 2015 to 2018*

Year	Salt, sulphur, earth and cement		*With Salt packaged for retail sale*		Clinkers(*)		Ores, slag and ash	
	In tonnes	Value in millions of CFA francs	In tonnes	Value in millions of CFA francs	In tonnes	Value in millions of CFA francs	In tonnes	Value in millions of CFA francs
2015	2,436,013	117,060	159,235	7,400	1,341,000	62,907	5,046	366
2016	2,262,982	100,927	149,371	6,682	1,888,277	81,395	184	33
2017	2,284,031	101,029	177,289	7,251	1,870,861	80,854	888	154
2018	2,455,729	108,762	171,440	7,038	1,991,003	81,924	1,205	84

Source: 2016 to 2019 Briefs on foreign trade, NIS

(*)Clinkers: *A constituent of cement, which is the result of firing a mixture of approximately 80% limestone (which provides calcium) and 20% aluminosilicate (including clays which provide silicon, aluminium and iron).*

Table 2.1-14 : *Quantity and value of imports of oil, some of its derivatives and mineral products, from 2015 to 2018*

Year	Crude oil		Hydrocarbons		Petroleum crude oil		Portland cements other than white	
	In tonnes	Value in millions of CFA francs	In tonnes	Value in millions of CFA francs	In tonnes	Value in millions of CFA francs	In tonnes	Value in millions of CFA francs
2015	1,464,582	456,792	2,177,804	723,267	1,464,582	456,792	NA	NA
2016	1,507,943	314,202	2,076,613	497,858	1,507,943	314,202	NA	NA
2017	855,627	211,322	1,725,282	513,880	855,627	211,322	1,282	374
2018	540,854	172,837	1,817,727	736,605	540,854	172,837	46,032	7,832

Source: 2016 to 2019 Briefs on foreign trade, NIS

Table 2.1-15 : *Quantity of Butane, fuel and petcoke imports from 2015 to 2018*

Year	Liquefied butane		Fuels and lubricants		Petcoke and other petroleum residues	
	In tonnes	Value in millions of CFA francs	In tonnes	Valeur en millions de F CFA	In tonnes	Value in millions of CFA francs
2015	NA	NA	555,678	215,536	70,555	18,503
2016	NA	NA	368,663	128,667	115,304	25,383
2017	78,635	31,286	726,898	251,961	57,467	16,101
2018	101,935	44,633	1,025,968	473,393	136,590	38,115

Source: 2016 to 2019 Briefs on foreign trade, NIS

Table 2.1-16 : *Quantity and value of mineral imports from 2015 to 2018*

Year	Various chemicals		Insecticides, fungicides, herbicides, etc.		Organic chemicals		Inorganic chemicals	
	In tonnes	Value in millions of CFA francs	In tonnes	Value in millions of CFA francs	In tonnes	Value in millions of CFA francs	In tonnes	Value in millions of CFA francs
2015	46,879	75,363	16,439	46,774	12,799	13,489	316,948	73,875
2016	36,327	53,838	13,421	35,436	11,343	10,458	223,875	47,982
2017	41,550	65,590	19,635	45,548	12,366	14,832	229,594	56,681
2018	49,385	76,069	20,338	50,485	14,317	19,124	272,026	90,537

Source: 2016 to 2019 Briefs on foreign trade, NIS

Table 2.1-17 : *Export quantity and value of selected aluminium products, from 2015 to 2018*

Year	Raw aluminium		Aluminium sheets		Structures and parts of structures, of aluminium		Other structures of aluminium	
	In tonnes	Value in millions of CFA francs	In tonnes	Value in millions of CFA francs	In tonnes	Value in millions of CFA francs	In tonnes	Value in millions of CFA francs
2015	72,706	76,703	3,559	5,912	3,200	5,523	190	417
2016	65,306	65,205	2,524	4,412	1,448	2,027	127	293
2017	77,600	75,394	1,943	3,363	1,019	1,603	74	187
2018	62,581	67,712	2,221	3,720	1,016	1,526	88	184

Source: 2016 to 2019 Briefs on foreign trade, NIS

Table 2.1-18 : *Quantity and value of exports of oil, some of its derivatives and minerals, from 2015 to 2018*

Year	Petroleum crude oils		Fuels and lubricants	
	In tonnes	Value in millions of CFA francs	In tonnes	Value in millions of CFA francs
2015	4,402,899	962,140	388,541	103,179
2016	4,348,392	695,760	398,789	71,433
2017	3,488,042	744,485	244,013	64,088
2018	2,904,295	862,299	176,511	53,050

Source: 2016 to 2019 Briefs on foreign trade, NIS

Table 2.1-19 : *Trends in the number of offices that purchase mineral substances, jewellery shops, smelting units and gold export certificates from 2013 to 2017*

Libelled	2013	2014	2015	2016	2017
Buying offices	35	65	35	25	34
Jewellery shops	5	5	9	112	92
Smelting units	04	08	0	03	03
Gold export certificates issued	22	20	09	02	16

Source: MINMIDT/Department of Mines

Table 2.1-20 : *Trends in exported quantity of precious stones and metals*

Libelled	2013	2014	2015	2016	2017
Gold export (g)	12,2720	84,700	18,700	23,500	29,704.7
Diamond (carats)	2,420.9	3,242.2	2,700	1,807.4	1,294.6
Sapphire (g)	88,010	50,025	NA	NA	NA

Source: MINMIDT/Department of Mines

Table 2.1-21 : *Trends in quantity and value of diamonds mined from 2013 to 2017*

Libelled	2013	2014	2015	2016	2017
Volume of diamonds exploited (carats)	2,721.9	3,718.2	2,244.6	993.6	1,757.5
Volume of certified diamonds exported (carats)	2,420.9	3,621.2	1,617.3	1,807.4	1,294.6
Number of export licences issued	11	20	15	21	16
Number of exports	11	20	15	20	16
Revenue generated by certification (in CFA francs)	35,647,315	36,780,280	61,481,953	43,630,026	7,542,076
Value of diamonds exported	285,178,500	294,242,240	250,946,748	178,081,740	60,336,607
Number of seizures	NA	3	7	6	5
Number of artisanal miners identified in artisanal diamond mining	197	2,589	2,462	1,417	2,179
Number of companies involved in diamond mining	1	1	0	0	0

Source: National Permanent Secretary of the Kimberly Process (SNPPK)/Department of Mines/MINMIDT

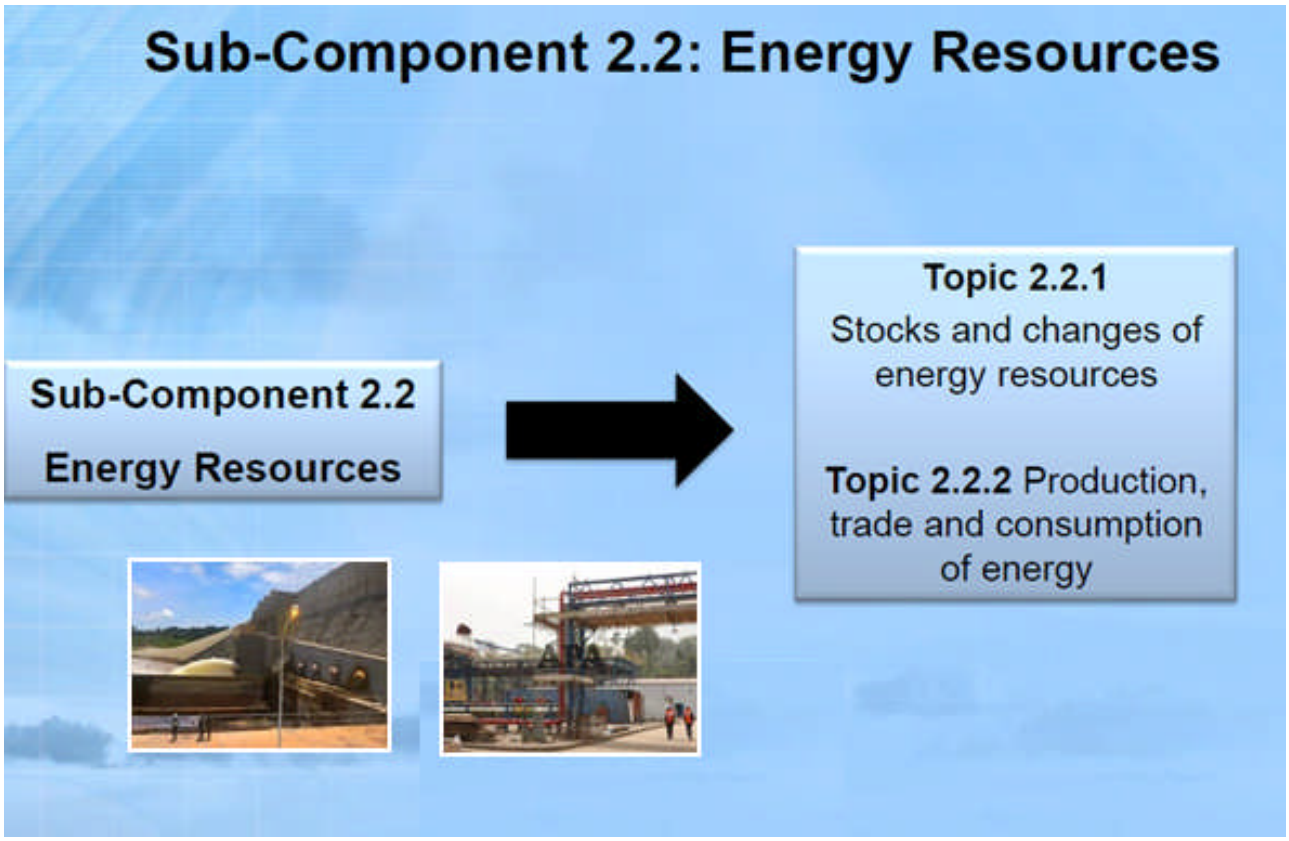
Table 2.1-22 : *Trends in fees in the mining sector (in CFA francs) from 2013 to 2017*

Libelled	2013	2014	2015	2016	2017
Flat fees	NA	211,896,000	87,140,307	193,654,140	881,690,746
Proportionate fees	NA	NA	NA	NA	181,750,000
Surface area fees	NA	194,487,790	926,540,402	1,351,170,179	1,005,176,718
Ad valorem taxes	NA	-	554,023,625	124,289,810	1,987,307,673.5
Ad valorem taxes (diamond)	22,814,474	23,539,271	50,734,737	27,923,216	4,826,929
Extraction taxes	NA	NA	608,942,748	734,327,003	NA

Source: SNPPK/MINMIDT/Department of Mines

Sub-component 2.2 : Energy resources

This is energy produced either from non-renewable energy sources (minerals) or from renewable energy sources. Excessive use of energy resources can jeopardize their availability for future generations. Statistics on the extent of their stocks over time are needed to support their sustainable management.



Some images for "energy resources"




1) Lom pangar Dam (up and to the left; 2) Lake Chad Basin (up and to the right); 3) Kribi thermal power station (down and to the left), 4) Yassa thermal power station in the Dibamba (down and to the right).

Sources: 1) Afrikinfo, September 2021; 2) Cameroun24; 3) apanews.net, May 2013

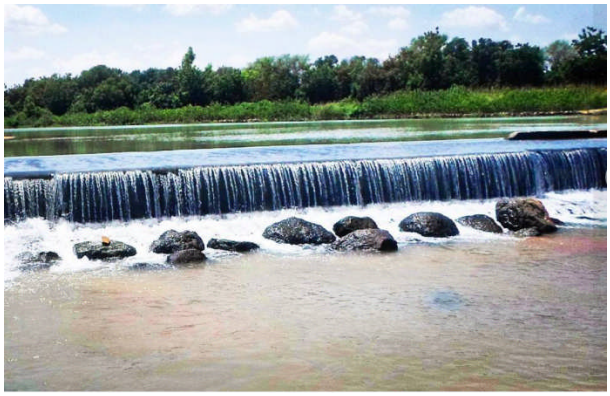
Topic 2.2.1 : Stocks and Changes of Energy Resources

Stocks of non-renewable energy resources are defined as the amount of known deposits of mineral energy resources. They include fossil fuels (e.g. natural gas, crude oil and natural gas liquids, oil shale, natural bitumen and extra-heavy oil, coal and lignite), peat, uranium and thorium ores. The categories of known mineral energy deposits include commercially recoverable deposits, potentially commercially recoverable deposits and non-commercial and other known deposits.

Extraction of non-renewable energy resources reflects the amount of resource physically removed from the deposit over a period of time (typically one year). The difference between the opening and closing stocks of energy resources in a given year is largely the result of extraction. New discoveries, revaluations and reclassifications of stocks, as well as catastrophic losses, can also influence the difference between opening and closing stocks.

Generally, statistics on stocks of non-renewable energy resources are derived from geological surveys and inventories. These studies should be carried out by MINEE. As for statistics on the extraction of non-renewable energy resources, they can be obtained from economic statistics on mining, as well as from energy statistics. Data for this topic are from ENEO-Cameroon and PANGIRE, as well as from the statistical yearbook of MINEE.

Some images for "stocks and changes of energy resources"



1) Mayo Tsanaga Watershed (left); 2) Sanaga Watershed (right).

Source: Wikipedia

Table 2.2-1 : *Energy from forestry operations – Wood potential*

Libelled	2010	2011	2012	2013	2014
Surface area of forest exploited (hectare)	NA	NA	467,617.0	459,518.0	523,396.0
Quantity of wood harvested (m^3)	2,348,151.0	2,356,188.0	2,428,516.0	2,686,303.0	2,885,238.0
Estimated quantity of wood waste in m^3 (material yield of 32%)	1,596,742.7	1,602,207.8	1,651,390.9	1,826,686.0	1,961,961.8

Source: MINFOF, MINEE calculations

Table 2.2-2 : *Balance of renewable water resources and estimated water demands in 2015*

	Basins					Total for Cameroon Sanaga	% of demands by sector to total demand Lake Chad
Libelled	*Lake Chad*	*Niger*	*Sanaga*	*Lake Chad*	*Niger*		
Domestic	62.3	65.3	115.0	16.8	100.5	359.9	1.5
Livestock	84.0	13.4	NA	NA	NA	97.4	0.4
Irrigation	328.9	377.1	NA	NA	91.8	797.8	3.3
Hydroelectric	NA	7800	15,305.6	NA	5	23,110.6	94.8
Industry	NA	0.3	8.2	0.1	6.6	15.2	0.06
Mines	NA	NA	NA	2.9	NA	2.9	0.0
Total demand (billion m^3)	475.3	8,256.1	15,428.7	19.8	203.9	24,383.8	100
Renewable resources per basin (billion m^3)	32,520.0	43,910.0	61,180.0	33,450.0	94,820.0	265,880.0	NA
Ratio of water demand per basinto available resources (%)	1.5	18.8	25.2	0.1	0.2	9.2	NA
Consumer demand ratio (%)	1.9	1.9	0.5	0.1	0.8	5.2	NA

Source: MINEE/GWP 2009a, edited by the study

Table 2.2-3 : *Water retention infrastructure*

Infrastructure	Commissioning year	Capacity	Region
Mbakaou Dam Reservoir	July 1969	2.6 billion m^3	Adamawa
Bamendjin Dam Reservoir	May 1974	1.8 billion m^3	West
Mapé Dam Reservoir	July 1987	3.2 billion m^3	West
Lom Pangar Dam Reservoir	26 September 2015	6 billion m^3	East

Source: ENEO-CAMEROON S.A, EDC.

***Table 2.2-4** : Volume of water contained in the different dams-reservoirs used for the production of electricity from 2005 to 2014 (in million m^3)*

Libelled		2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
MBAKAOU	Start Low Water periods	2,555	2,594	2,547	2,521	2,500	2,500	2,595	2,564	2,595	2,568
	End Low Water periods	283	285	147	297	197	198	176	128	136	107
BAMEND-JIN	Start Low Water periods	1,490	1,688	1,377	1,555	1,588	1,756	1,631	1,452	1,423	1,624
	End Low Water periods	701	280	344	597	327	342	241	204	441	406
MAPE	Start Low Water periods	2,335	3,234	2,420	3,060	2,970	2,600	3,045	2,200	2,513	2,073
	End Low Water periods	1,106	333	344	734	355	554	209	197	345	497

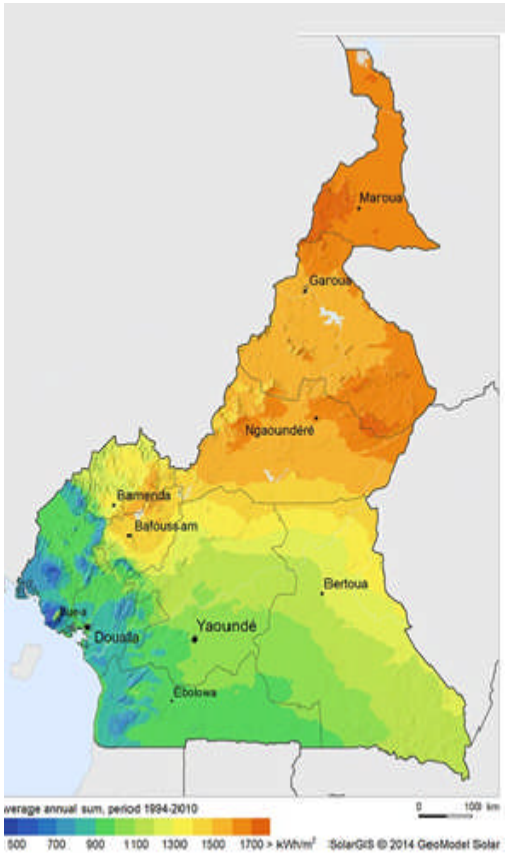
Source: ENEO-CAMEROON S.A.

***Table 2.2-5** Cameroon's Watersheds and their main rivers*

Basins	Main rivers
Lake Chad Basin, with part of it in Cameroon	The Logone and Chari and the Mayos, the Vina North and the Mbere
Benue Basin, a representation of the Niger Basin in Cameroon	Benue with its main tributaries which are: Mayo Kebi, Faro; Donga, Katsena-Ala and its main tributary the Menchum
Sanaga Basin, essentially Cameroonian	Sanaga and its tributaries, the most important of which is the Mbam; other tributaries: Lom Pangar, Djerem, Noun, Mape
Congo Basin, with its Cameroonian part corresponding to the western sector of the Sangha watershed	Sangha and its main tributary the Kadei; the Boumba-Dja-Ngoko system with two tributaries, the Dja and the Boumba
Coastal River Basin	The Cross River, the Akwa Yafe, the Ndian, the Moko and the Meme, the Sanje, the Ndongo and the Ombe River, the Mungo, the Dibamba, the Wouri, the Nyong, the Lokoundje, the Kienke, the Lobe and the Ntem

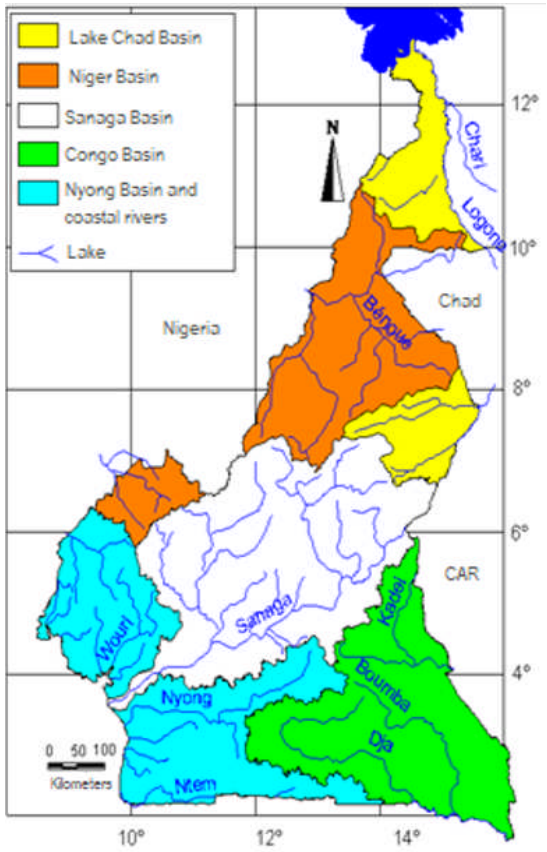
Source: PANGIRE temporary report, 2009

Map 2.2-1: *Cameroon's solar map*



Source: SOLARGIS

Map 2.2-2*: Cameroon's water basins*



Source: MINEE & GWP-Cmr,2009

Table 2.2-6 : *Distribution of surface water in Cameroon's watersheds*

Watershed	Usable renewable resources in average year	Part
	Km^3/an	%
Lake Chad Basin	32.5	12.2
Niger Basin	43.9	16.5
Sanaga River Basin	61.2	23.0
Congo Basin	33.5	12.6
Coastal River Basin	94.8	35.7
Total	**265.9**	**100.0**

Source: MINEE & GWP-Cmr, 2009a.

Table 2.2-7 : *Hydroelectric dams in Cameroon*

Basins	Name of the Dam	Administrative Unit	Main river	Capacity (million m³)
Niger	Lagdo	North	Benue	7,800
Costal Rivers	Mopfou	Centre	Mefou	5
	MemveEle	South	Ntem	ND
	Njock-Poume	Centre	Nyong River	10
Sanaga	Mbakaou	Adamawa	Djerem	2,600
	Bamendjin	West	Noun	1,879
	Song Loulou	Centre	Sanaga	10
	Littoral	Sanaga	Sanaga	6.573
	Mape	Adamawa	Mape	3,300
	Nachtigal	Littoral	Nachtigal	
	Lom Pangar	East	Lom & Pangar	7,500
	Bini Warak	Adamawa	Bini	NA
	Kadei	East	Kadei	NA
	Son Mbengue	Littoral	Sanaga	NA
	Song Ndong	Littoral	Sanaga	NA
	Kikot	West	Sanaga	NA
TOTAL				**23,110.6**

Source: Edited by MINEE & GWP-CMR (2009a).

Table 2.2-8 *: Thermal power plants connected to the electricity network*

Infrastructure	Commissioning year	Power (in MW)	Connecting Network
Oyomabang 1	2000	18	RIS
Oyomabang 2	2002	8	RIS
Limbe (heavy fuel)	2005	85	RIS
Bafoussam	1986	13	RIS
Logbaba 2	2009	12	RIS
Bassa 2	1980	9	RIS
Bassa 3	2001	9	RIS
Mbalmayo (PTU)	2012	10	RIS
Bamenda (PTU)	2012	20	RIS
Ebolowa (PTU)	2012	10	RIS
Ahala (PTU)	2012	60	RIS
Dibamba (heavy fuel)	2009	88	RIS
Kribi Gas Plant	2013	216	RIS
Djamboutou (Djamboutou 1 completely dismantled in 2015)	1971	17	RIN
Kousseri (connected to the RIN since 2013)	NA	4.7	RIN
Bertoua thermal power plant	1972	8.6	RE

Source: ENEO-CAMEROON S.A, EDC

Table 2.2-9 : *ENEO's isolated thermal power plants and their operational status*

No.	Isolated thermal power plants	Operating status	Regions
1	Bakebe	Dismantled	South-West
2	Ekondo titi	Dismantled	
3	Ekok	Dismantled	
4	Eyumojog	Dismantled	
5	Mundemba	Operational	
6	Mouanko	Operational	Littoral
7	Nkondjock	Operational	
8	Mape	Operational	West
9	Bamendjin	Operational	
10	Campo	Operational	South
11	Ambam	Operational	
12	Bengbis	Operational	
13	Djoum	Operational	
14	Olamze	Operational	
15	Meyomessala	Operational	Centre
16	Endom	Dismantled	
17	Yoko	Operational	
18	Bertoua	Operational	
19	Betareoya	Operational	East
20	Garoua Boulai	Operational	
21	Lomie	Operational	
22	Moloundou	Operational	
23	Yokadouma	Operational	
24	Poli	Operational	North
25	Touboro	Operational	
26	Banyo	Operational	
27	Tibati	Operational	
28	Tignere	Operational	Adamawa
29	Mbakaou	Operational	
30	Ngaoundal	Operational	

Source: ENEO-CAMEROON S.A, EDC

Topic 2.2.2 : Production, trade and consumption of energy

Energy production refers to the capture, extraction or manufacture of fuels or other energy products in forms ready for consumption.

The production, transformation, distribution and consumption of energy are processes characterised by different efficiency rates, which result in distinct environmental impacts (including land use change, air pollution, GHG emissions and waste). Therefore, the production of statistics to describe these activities is essential to inform environmental sustainability policy.

Total energy production comes from sources that can be classified as non-renewable or renewable. These are key environmental statistics that can help analyse the sustainability of the energy mix at national level.

Energy production includes primary and secondary energy production. Primary energy refers to energy sources as they occur in their natural state, as opposed to derived or secondary energy, which is the result of the transformation of primary sources.

Statistics on energy production, trade and consumption are obtained from energy statistics, external trade statistics and energy balances.

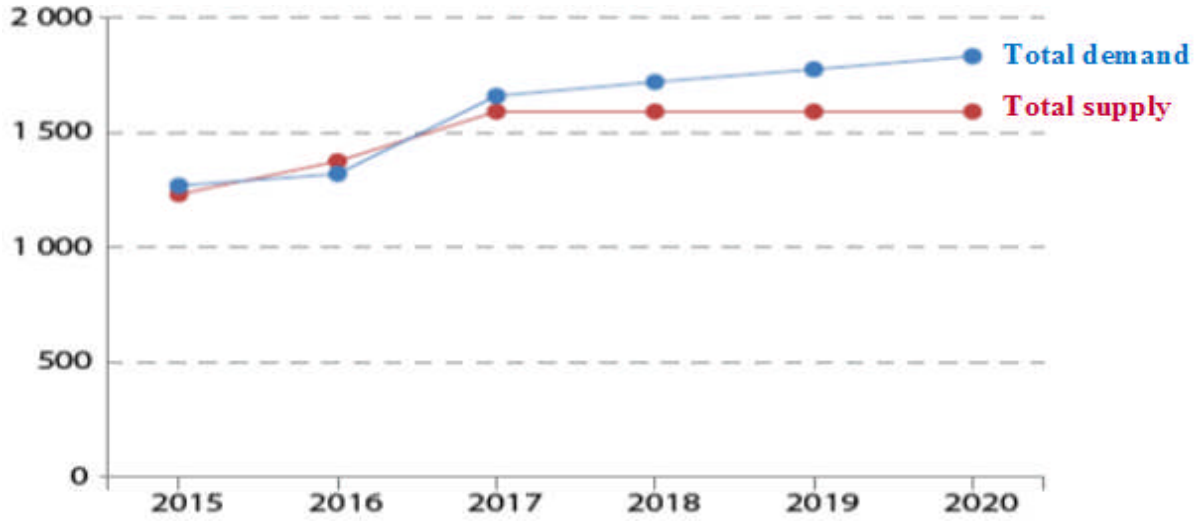
Thus, the use of reports and data from MINEE, ENEO-Cameroon and the NIS enabled to produce indicators for this topic.

Some images for "production, trade and consumption of energy"

1) Electricity distribution network in Cameroon (left); 2) Distribution of petroleum products (right).

Source: 1) énergies media; 2) Ecomatin

Figure 2.2-1 : *Outlook for the comparative development of electrical energy supply and demand (in megawatts)*



Source: MINEE & AES-SONEL

Table 2.2-10 : *Some key indicators of the energy sector*

Libelled	2007	2008	2009	2010	2011	2012	2013
Total production (in thousands of kwh)	**4,256.5**	**4,502.8**	**4,496.0**	**4,824.6**	**4,984.92**	**4,953.53**	**5,406.7**
Thermal	409.3	270.3	480.8	564.37	599.51	697.48	1,034.05
Water	3,847.2	4,232.5	4,016.4	4,260.2	4,385.4	4,256.1	4,372.7
Network emission	230,814	230,312	248,289	260,438	268,997	286,657	302,478
Gasoline (million litre)	27.0	22.5	32.4	28.9	32.0	43.5	49.3
HFO (Fuel oil) (million litre)	64.8	39.9	77.7	98.6	105.4	118.3	67.8

Source: MINEE-ARSEL/ENEO-Cameroon SA, KPDC, DPDC (Gwh)

Table 2.2-11 : *Trends in the number of subscribers per level of voltage, from 2006 to 2013*

Libelled	2006	2007	2008	2009	2010	2011	2012	2013
Low Voltage (LV)	536,974	570,787	613,785	659,687	710,965	755,930	814,587	887,302
Medium Voltage (MV)	1,280	1,312	1,347	1,368	1,412	1,424	1,479	1,539
High Voltage (HV)	3	3	3	3	3	3	3	3
Total	**538,257**	**572,102**	**615,135**	**661,058**	**712,380**	**757,357**	**816,069**	**888,844**

Source: ENEO-Cameroon SA

Table 2.2-12 : *Trends in the electrical energy sales per level of voltage, from 2007 to 2013 (GWh)*

Libelled	2007	2008	2009	2010	2011	2012	2013
Low Voltage (LV)	1,171.4	1,267.3	1,270.3	1,393.6	1,501.5	1,575.9	1,623.5
Medium Voltage (MV)	780.2	799.7	823.2	892.6	939.3	988.4	1,005.1
High Voltage (HV)	1,408.1	1,460.8	1,268.7	1,295.1	1,216.6	982.8	1,281.0
Total	**3,359.7**	**3,527.8**	**3,362.3**	**3,581.3**	**3,657.5**	**3,547.1**	**3,909.6**

Source: ENEO-Cameroon SA

Table 2.2-13 : *Use of petroleum products (MT)*

Libelled	2010	2011	2012	2013	2014
LPG	62,120	65,828	72,032	80,126	87,471
Diesel	621,295	699,718	771,305	856,611	864,577
Kerosene	110,500	119,957	125,058	113,574	108,396
Jet A1	94,893	105,854	86,695	100,153	123,526
Super	470,562	507,322	571,381	616,601	653,187
Fuel Oil	63,378	66,684	62,450	51,156	40,068

Source: SIE (MINEE)

Table 2.2-14 : *Number of distributors of petroleum products by region in 2015*

Region	TOTAL	OIL LIBYA	MRS	TRADEX	CAMGAZ	SCTM	AZA AFRICA	STAR GAZ	INFOTECH GAZ	SIMILARITIES	Total	Percentage
Adamawa	6	4	4	2	0	0	0	0	0	1	**17**	**1.2**
Far North	6	5	1	2	0	0	19	0	0	9	**42**	**3.0**
North	6	4	1	1	0	0	0	0	0	9	**21**	**1.5**
Centre	51	30	42	29	24	24	26	20	30	251	**527**	**38.0**
South	8	3	6	5	0	0	0	0	0	14	**36**	**2.6**
East	11	2	3	2	0	0	1	0	0	16	**35**	**2.5**
Littoral	44	23	44	19	19	0	0	0	20	319	**488**	**35.2**
South-West	10	3	14	3	0	0	1	0	0	70	**101**	**7.3**
North-West	13	4	11	3	0	0	3	0	0	12	**45**	**3.2**
West	24	10	12	3	0	0	3	0	0	22	**74**	**5.3**
Cameroon	179	88	138	69	43	24	52	20	50	723	**1,386**	**100.0**

Source: MINEE, 2015

Table 2.2-15 : *Solar photovoltaic capacity in kilowatt-peak installed by region for a total of 1,683.47 WC at the end of 2015*

Regions	Solar photovoltaic capacity in KWT
Adamawa	223.5
Centre excluding Yaounde	207.0
East	350.7
Far North	193.3
Littoral excluding Douala	125.4
North	212.2
North-West	76.6
West	36.3
South	237.7
South-West	21.0

Source: MINEE

Table 2.2-16 : *Some Wind Power Infrastructure in Cameroon*

Location	Installed Capacity (in kw)	Commissioning
West/Bamboutos	0.6	2005
North-West/Bui	1.0	2009
West/Menoua	1.8	2012
North-West/Bui	1.0	2010
North-West/Bui	5.0	2015
Total	**9.4**	

Source: MINEE

Table 2.2-17 : *Use of petroleum products (MT)*

PRODUCTS	2010	2011	2012	2013	2014
LPG	62,120	65,828	72,032	80,126	87,471
Diesel	621,295	699,718	771,305	856,611	864,577
Kerosene	110,500	119,957	125,058	113,574	108,396
Jet A1	94,893	105,854	86,695	100,153	123,526
Super	470,562	507,322	571,381	616,601	653,187
Fuel Oil	63,378	66,684	62,450	51,156	40,068

Source: SIE (MINEE)

Table 2.2-18 : *Installed capacity of renewable energy production units by region in 2013*

Region	Small hydro (kW)	Solar (kWp)	Wind (m/s)	Biogas (m^3)
Adamawa	0	170.0	0	0
Centre	0	152.3	0	10
East	0	330.4	0	0
Far North	0	171.7	0	0
Littoral	0	63.3	0	10
North	0	151.5	0	0
North-West	123	71.6	4.4	28
West	70	31.1	1.8	13
South	0	149.3	0	0
South-West	110	12.96	0	0

Source: MINEE Statistical Yearbook, 2014

Table 2.2-19 : *Average household electricity consumption expenditure (in CFA francs) in 2014*

	Average household consumption expenditure (in CFA francs) on electricity in the last 12 months:				Average household consumption expenditure (in CFA francs) on cooking gas in the last 12 months:		
	Electricity bill/consumption	Subscription to the electricity distribution network (ACTIS/AES SONEL)	Other domestic electricity expenditure	**Total**	Cooking gas	Other related expenses (hose, regulator, etc.)	**Total**
Residence							
Urban	55,846	1,221	751	**57,819**	26,939	108	**27,047**
Rural	11,855	276	224	**12,355**	3,482	11	**3,492**
Survey region							
Douala	62,220	1,234	1,389	**64,843**	29,628	154	**29,782**
Yaounde	64,146	2,158	400	**66,705**	35,286	114	**35,400**
Adamawa	16,212	686	108	**17,007**	9,928	-	**9,928**
Centre (excluding Yaounde)	29,694	1,240	505	**31,439**	8,708	35	**8,742**
East	15,731	486	291	**16,508**	5,610	103	**5,714**
Far North	8,907	-	70	**8,976**	882	7	**890**
Littoral (excluding Douala)	27,984	297	383	**28,665**	10,650	14	**10,664**
North	11,441	54	92	**11,588**	1,946	6	**1,951**
North-West	16,647	-	15	**16,663**	7,415	4	**7,419**
West	27,016	379	184	**27,580**	7,886	50	**7,936**
South	29,198	228	412	**29,838**	9,697	26	**9,723**
South-West	27,325	504	1,042	**28,871**	14,327	30	**14,357**
Cameroon	**31,413**	**696**	**458**	**32,568**	**13,911**	**54**	**13,965**

Source: NIS, ECAM 4, 2014

Table 2.2-20 : *Average household consumption expenditure (in CFA francs) on fuel in 2014*

Libellé	Average household consumption expenditure in the last 12 months:							
	Liquid fuel			Liquid fuel				
	Kerosene	Other liquid fuels	**Total liquid fuels**	Charcoal	Firewood	Sawdust/wood chips	Other fuels	**Total liquid fuels**
Residence								
Urban	8,780	7	**8,787**	7,915	22,081	1,880	58	**31,934**
Rural	11,669	633	**12,302**	1,741	64,029	203	326	**66,299**
Survey region								
Douala	5,185	9	**5,194**	12,465	8,579	1,270	71	**22,385**
Yaounde	13,783	-	**13,783**	3,270	14,307	3,046	61	**20,683**
Adamawa	13,687	21	**13,708**	3,092	40,073	366	22	**43,554**
Centre (excluding Yaounde)	20,882	-	**20,882**	1,417	88,368	295	294	**90,374**
East	24,869	7,299	**32,168**	1,114	88,213	745	112	**90,184**
Far North	1,251	105	**1,356**	6,337	56,042	70	33	**62,482**
Littoral (excluding Douala)	8,735	-	**8,735**	2,367	40,525	571	35	**43,498**
North	1,424	-	**1,424**	5,615	71,093	1	16	**76,725**
North-West	11,507	508	**12,015**	93	49,660	766	11	**50,529**
West	15,858	5	**15,864**	2,566	65,409	1,199	3	**69,177**
South	17,434	482	**17,915**	2,766	63,222	1,540	15	**67,544**
South-West	14,009	127	**14,136**	1,232	37,220	422	1,769	**40,643**
Cameroon	**10,384**	**355**	**10,739**	**4,486**	**45,380**	**948**	**207**	**51,021**

Source: NIS, ECAM 4, 2014

Table 2.2-21 : *Average household consumption expenditure (in CFA francs) on fuels and lubricants in 2014*

Libelled	Super	Adulterated petrol (zoazoa)	Engine oil	Other fuels and lubricants	Total
Residence					
Urban	42,514	2,957	3,056	404	3,008,038
Rural	10,611	7,066	1,549	116	1,455,717
Survey region					
Douala	47,342	350	3,185	772	3,361,045
Yaounde	59,202	506	3,431	268	3,350,239
Adamawa	19,430	7,552	2,209	7	1,826,614
Centre (excluding Yaounde)	14,438	54	1,128	57	2,147,767
East	21,267	1,314	521	109	2,041,590
Far North	3,789	12,274	1,853	149	1,233,001
Littoral (excluding Douala)	21,798	479	1,497	-	1,811,439
North	3,035	26,123	2,522	-	1,507,455
North-West	12,439	565	1,123	553	1,313,239
West	29,059	510	1,993	10	2,000,543
South	18,566	4,018	1,671	185	2,073,646
South-West	16,248	4,654	2,461	54	1,898,525
Cameroon	**24,794.2**	**5,239.6**	**2,218.9**	**244.1**	**2,145,850.0**

Source: NIS, ECAM 4, 2014

Table 2.2-22 *: Trends in household electricity expenditure (in CFA francs) by residence, from 2001 to 2014*

Lieu de résidence	Quintile of expenditure per consumption unit					Total expenditure
	Poorest	Very poor	Poor	Rich	Very rich	
	Total annual expenditure on electricity	Total annual expenditure on electricity	Total annual expenditure on electricity	Total annual expenditure on electricity	Total annual expenditure on electricity	
			2001			
Douala	114,311,857	533,419,989	1,389,035,007	3,238,723,271	14,640,976,563	19,916,466,687
Yaounde	149,881,073	482,435,963	1,064,659,769	2,202,145,393	9,041,922,722	12,941,044,921
Other urban	323,991,268	986,934,176	2,034,788,447	4,361,365,951	9,961,612,863	17,668,692,705
Total urban	588,184,198	2,002,790,128	4,488,483,223	9,802,234,616	33,644,512,148	50,526,204,313
Rural	1,084,172,665	2,134,994,548	3,345,916,229	4,238,810,915	5,713,870,398	16,517,764,755
Total	**1 672 356 864**	**4 137 784 675**	**7 834 399 452**	**14 041 045 531**	**39 358 382 546**	**67 043 969 068**
			2007			
Douala	40,940,200	492,510,741	1,847,426,944	5,028,873,917	18,009,733,919	25,419,485,721
Yaounde	31,295,619	372,012,853	1,103,271,610	4,068,696,494	13,994,705,904	19,569,982,479
Other urban	294,079,800	934,324,446	2,553,916,340	4,565,831,679	11,084,467,420	19,432,619,686
Total urban	366,315,620	1,798,848,039	5,504,614,894	13,663,402,090	43,088,907,243	64,422,087,886
Rural	563,464,588	2,623,190,584	3,529,266,525	4,436,974,386	5,693,380,966	16,846,277,048
Total	**929 780 208**	**4 422 038 623**	**9 033 881 419**	**18 100 376 476**	**48 782 288 209**	**81 268 364 934**
			2014			
Douala	9,605,084	550,241,512	2,421,108,136	8,724,729,445	34,393,420,619	46,099,104,796
Yaounde	84,610,320	1,202,996,628	4,431,798,564	11,490,274,373	25,096,395,768	42,306,075,653
Other urban	257,996,057	2,328,323,009	5,396,707,983	10,563,388,250	16,849,283,364	35,395,698,663
Total urban	352,211,461	4,081,561,148	12,249,614,683	30,778,392,068	76,339,099,751	123,800,879,111
Rural	1,731,164,558	4,278,561,694	7,251,400,943	9,826,133,382	9,962,275,163	33,049,535,740
Total	**2,083,376,019**	**8,360,122,842**	**19,501,015,625**	**40,604,525,450**	**86,301,374,913**	**156,850,414,849**

Source: NIS, ECAM 2 (2001), ECAM 3 (2007) & ECAM 4 (2014)

Table 2.2-23 : *Household electricity expenditure by survey region in 2014*

	Quintile of expenditure per consumption unit					
	Poorest	**Very poor**	**Poor**	**Rich**	**Very rich**	**Total expenditure**
	Total annual expenditure on electricity	Total annual expenditure on electricity	Total annual expenditure on electricity	Total annual expenditure on electricity	Total annual expenditure on electricity	
Douala	9,605,084	550,241,512	2,421,108,136	8,724,729,445	34,393,420,619	**46,099,104,796**
Yaounde	84,610,320	1,202,996,628	4,431,798,564	11,490,274,373	25,096,395,768	**42,306,075,653**
Adamawa	43,346,665	282,649,789	714,124,065	1,117,635,732	2,237,797,760	**4,395,554,011**
Centre (excluding Yaounde)	179,612,249	858,805,011	1,629,355,194	3,522,987,808	3,146,444,152	**9,337,204,414**
East	36,090,567	256,681,784	490,798,418	743,348,595	1,312,653,331	**2,839,572,695**
Far North	654,996,740	900,298,454	727,117,981	1,782,522,254	2,372,639,855	**6,437,575,284**
Littoral (excluding Douala)	38,210,711	398,645,197	1,221,482,899	1,310,478,386	1,404,490,835	**4,373,308,028**
North	234,044,531	638,970,259	605,304,716	1,095,923,742	2,092,927,522	**4,667,170,770**
North-West	358,907,746	1,103,473,958	1,911,235,039	2,362,068,060	2,004,611,164	**7,740,295,967**
West	108,414,359	1,180,758,004	2,925,645,970	3,255,634,817	4,341,540,277	**11,811,993,427**
South	260,514,203	541,389,149	811,128,235	1,080,985,980	1,891,196,070	**4,585,213,637**
South-West	75,022,844	445,213,097	1,611,916,407	4,117,936,257	6,007,257,562	**12,257,346,167**
Cameroon	**2,083,376,019**	**8,360,122,842**	**19,501,015,625**	**40,604,525,450**	**86,301,374,913**	**156,850,414,849**

Source: NIS ECAM 4, 2014

Table 2.2-24 : *Households gas expenditure (in CFA francs) by residence in 2001 and 2014*

	Quintile of expenditure per consumption unit					
	Poorest	**Very poor**	**Poor**	**Rich**	**Very rich**	**Total expenditure**
	Total annual expenditure on cooking gas	Total annual expenditure on cooking gas	Total annual expenditure on cooking gas	Total annual expenditure on cooking gas	Total annual expenditure on cooking gas	
			2001			
Douala	11,670,324	102,967,320	398,786,649	1,194,784,729	5,260,679,815	**6,968,888,836**
Yaounde	3,578,348	76,639,628	308,270,984	911,817,624	4,577,547,372	**5,877,853,956**
Other urban	2,146,290	104,855,915	235,547,976	1,310,719,808	4,590,459,811	**6,243,729,800**
Total urban	17,394,9(	284,462,864	942,605,609	3,417,322,161	14,428,686,997	**19,090,472,592**
Rural	44,311,975	77,219,281	251,329,859	728,471,084	2,120,722,647	**3,222,054,846**
Total	**61,706,936**	**361,682,145**	**1,193,935,469**	**4,145,793,245**	**16,549,409,644**	**22,312,527,439**
			2014			
Douala	.	174,067,982	733,124,594	4,167,291,819	16,098,545,612	**21,173,030,007**
Yaounde	8,993,579	355,350,438	2,071,347,525	6,350,194,488	13,665,897,009	**22,451,783,039**
Other urban	32,606,075	185,654,577	1,336,188,212	3,519,526,034	9,214,613,513	**14,288,588,411**
Total urban	41,599,654	715,072,997	4,140,660,331	14,037,012,342	38,979,056,134	**57,913,401,458**
Rural	.	140,345,558	1,474,989,578	2,327,178,345	5,399,491,278	**9,342,004,759**
Total	**41,599,654**	**855,418,555**	**5,615,649,909**	**16,364,190,687**	**44,378,547,413**	**67,255,406,218**

Source: NIS, ECAM 2 (2001) & ECAM 4 (2014)

Table 2.2-25 : *Natural gas expenditure (in CFA francs) by survey region in 2014*

Libelled	Quintile of expenditure per consumption unit					Total expenditure
	Poorest	Very poor	Poor	Rich	Very rich	
	Total annual expenditure on cooking gas	Total annual expenditure on cooking gas	Total annual expenditure on cooking gas	Total annual expenditure on cooking gas	Total annual expenditure on cooking gas	
Douala	.	174,067,982	733,124,594	4,167,291,819	16,098,545,612	**21,173,030,007**
Yaounde	8,993,579	355,350,438	2,071,347,525	6,350,194,488	13,665,897,009	**22,451,783,039**
Adamawa	5,445,033	.	121,610,349	428,148,033	2,010,851,989	**2,566,055,404**
Centre (excluding Yaounde)	.	20,339,485	332,156,038	668,959,284	1,574,904,555	**2,596,359,362**
East	.	4,031,097	31,228,385	278,258,046	669,290,427	**982,807,955**
Far North	.	.	37,656,236	159,543,036	440,791,126	**637,990,398**
Littoral (excluding Douala)	.	68,455,796	198,172,639	496,060,932	864,344,067	**1,627,033,434**
North	.	4,422,133	71,133,780	77,651,156	632,603,094	**785,810,163**
North-West	27,161,042	108,905,979	504,683,224	1,206,954,393	1,598,567,761	**3,446,272,399**
West	.	67,511,765	680,486,617	854,343,598	1,796,536,603	**3,398,878,583**
South	.	18,889,540	149,300,451	325,115,128	1,000,734,077	**1,494,039,196**
South-West	.	33,444,340	684,750,072	1,351,670,774	4,025,481,092	**6,095,346,278**
Cameroon	**41,599,654**	**855,418,555**	**5,615,649,909**	**16,364,190,687**	**44,378,547,413**	**67,255,406,218**

Source: NIS, ECAM 4, 2014

Table 2.2-26 : *Households kerosene expenditure (in CFA francs) by residence from 2001 to 2014*

Cities	Quintile of expenditure per consumption unit					Total expenditure
	Poorest	Very poor	Poor	Rich	Very rich	
	Total annual kerosene expenditure	Total annual kerosene expenditure	Total annual kerosene expenditure	Total annual kerosene expenditure	Total annual kerosene expenditure	
			2001			
Douala	51,401,332	279,299,182	560,775,105	920,852,783	1,526,521,505	3,338,849,908
Yaounde	104,460,521	360,029,722	729,101,194	1,210,787,461	2,163,938,091	4,568,316,988
Other urban	355,674,556	735,262,427	1,246,532,225	2,322,606,147	3,152,561,764	7,812,637,119
Total urban	511,536,409	1,374,591,330	2,536,408,524	4,454,246,391	6,843,021,360	15,719,804,015
Rural	5,578,232,058	6,757,612,196	7,195,819,648	7,639,015,574	7,567,950,329	34,738,629,805
Total	**6,089,768,467**	**8,132,203,527**	**9,732,228,172**	**12,093,261,964**	**14,410,971,690**	**50,458,433,820**
			2007			
Douala	2,587,156	124,607,214	466,811,052	1,344,284,580	2,520,744,288	4,459,034,289
Yaounde	32,795,040	330,632,765	730,031,872	1,625,882,910	3,015,865,353	5,735,207,939
Other urban	276,228,656	641,900,808	1,122,864,129	1,592,297,426	2,566,120,001	6,199,411,020
Total urban	311,610,851	1,097,140,787	2,319,707,053	4,562,464,915	8,102,729,642	16,393,653,248
Rural	6,262,183,443	8,812,363,611	8,892,264,032	8,915,207,094	7,130,184,429	40,012,202,610
Total	**6,573,794,294**	**9,909,504,399**	**11,211,971,085**	**13,477,672,010**	**15,232,914,070**	**56,405,855,858**
			2014			
Douala	.	242,296,660	541,690,126	899,550,703	2,002,839,659	3,686,377,148
Yaounde	47,746,748	363,121,257	1,566,723,197	2,768,133,060	3,995,962,331	8,741,686,593
Other urban	99,628,904	620,546,883	1,199,487,738	2,038,003,697	2,413,733,181	6,371,400,403
Total urban	147,375,653	1,225,964,800	3,307,901,061	5,705,687,461	8,412,535,171	18,799,464,146
Rural	3,333,771,633	6,732,966,850	7,455,702,929	7,603,110,537	6,087,521,467	31,213,073,416
Total	**3,481,147,286**	**7,958,931,650**	**10,763,603,990**	**13,308,797,999**	**14,500,056,638**	**50,012,537,563**

Source: NIS, ECAM 2 (2001), ECAM 3 (2007) & ECAM 4 (2014)

Table 2.2-27 : *Households kerosene expenditure (in CFA francs) by survey region in 2014*

	Quintile of expenditure per consumption unit					
	Poorest	**Very poor**	**Poor**	**Rich**	**Very rich**	**Total expenditure**
	Total annual kerosene expenditure	Total annual kerosene expenditure	Total annual kerosene expenditure	Total annual kerosene expenditure	Total annual kerosene expenditure	
Douala	.	242,296,660	541,690,126	899,550,703	2,002,839,659	**3,686,377,148**
Yaounde	47,746,748	363,121,257	1,566,723,197	2,768,133,060	3,995,962,331	**8,741,686,593**
Adamawa	415,646,322	839,573,207	573,136,754	602,047,726	1,107,154,093	**3,537,558,102**
Centre (excluding Yaounde)	383,945,803	1,428,311,420	1,418,806,783	1,671,506,027	1,299,216,786	**6,201,786,819**
East	295,751,762	794,934,889	946,610,956	1,333,319,990	907,303,114	**4,277,920,711**
Far North	80,533,830	106,543,263	154,493,205	292,402,838	263,158,065	**897,131,201**
Littoral (excluding Douala)	48,060,248	205,661,233	327,535,058	446,284,496	305,114,772	**1,332,655,807**
North	23,392,008	72,886,932	112,693,771	66,174,436	298,511,890	**573,659,037**
North-West	1,911,442,517	1,331,503,789	805,867,928	796,573,129	499,931,729	**5,345,319,092**
West	82,063,605	1,218,988,029	2,399,652,477	1,616,104,649	1,475,131,335	**6,791,940,095**
South	69,715,451	428,395,093	694,750,412	692,345,001	793,779,013	**2,678,984,970**
South-West	122,848,991	926,715,877	1,221,643,322	2,124,355,942	1,551,953,852	**5,947,517,984**
Cameroon	**3,481,147,286**	**7,958,931,650**	**10,763,603,990**	**13,308,797,999**	**14,500,056,638**	**50,012,537,563**

Source: NIS, ECAM 4, 2014

***Table 2.2-28** : Annual energy expenditure (in CFA francs) of IPUs by sector of activity in 2010*

	Water	Gas	Electricity	Fuel, petrol, lighting	Total
Industry	1,911,112	173,186	7,605,851	13,453,949	23,144,098
Trade	881,325	8,419	3,234,157	20,408,514	24,532,416
Services	5,085,918	1,479,355	10,152,177	23,440,400	40,157,850
Total	**7,878,356**	**1,660,960**	**20,992,186**	**57,302,864**	**87,834,364**

Source: NIS, EESI2, 2010

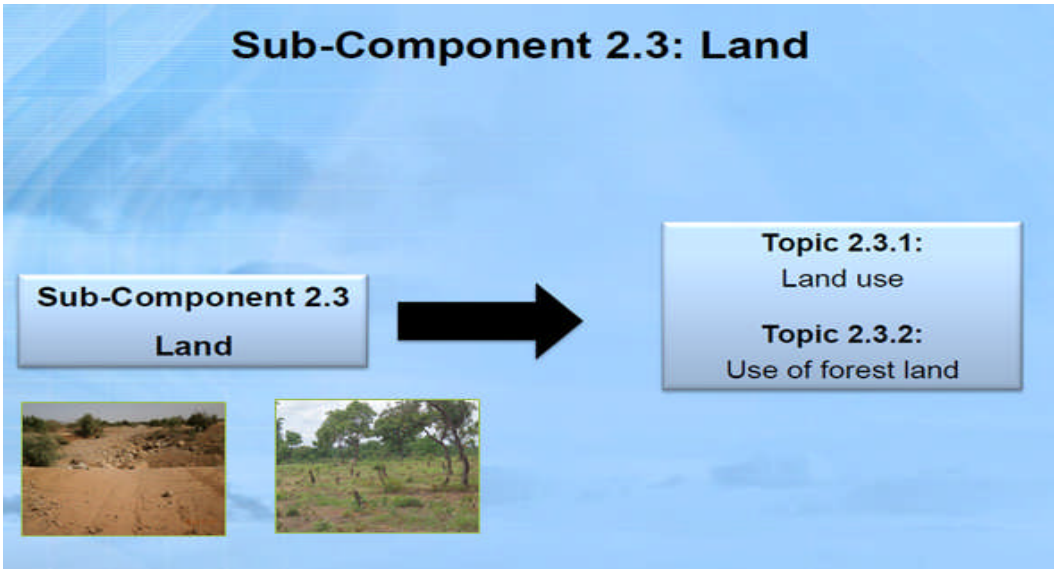
***Table 2.2-29** : Total annual energy, water and gas expenditure (in CFA francs) of IPUs by residence in 2010*

	Urban	Rural	Total
Total annual energy expenditure of IPUs by sector of activity and residence			
Industry	15,244,069	7,900,029	23,144,098
Trade	8,731,499	15,800,916	24,532,416
Services	23,720,694	16,437,156	40,157,850
Total	**47,696,263**	**40,138,101**	**87,834,364**
Total annual water expenditure of IPUs by sector of activity and residence			
Industry	1,273,104	638,008	1,911,112
Trade	752,341	128,985	881,325
Services	3,332,733	1,753,186	5,085,918
Total	**5,358,177**	**2,520,179**	**7,878,356**
Total annual gas expenditure of IPUs by sector of activity and residence			
Industry	167,125	6,061	173,186
Trade	8,419	.	8,419
Services	1,277,406	201,949	1,479,355
Total	**1,452,949**	**208,010**	**1,660,960**

Source: NIS, EESI2, 2010

Sub-component 2.3 : Land

Land is a unique environmental resource that limits the space in which activities, environmental processes take place and within which environmental resources and economic assets are located. The two main aspects are land cover and land use.



Some images for "land"

1) Stone lines in the Dolla locality in Pitoa (up and to the left; 2) Energy wood cutting in Tcheboa (up and to the right); 3) Undermining of the Mayo riverbank in Gayak (down and to the left), 4) breach of the dyke in Maga in 2014 (down and to the right).

Sources: 1) Assessment of land degradation for reforestation, MINEPDED, 2015 (up); 2) Assessment of land degradation for reforestation in the Far North, MINEPDED 2014 (down)

Topic 2.3.1 : Land use

Land use (or land occupation) is the modification by man of his natural or wild environment at ground level when it is turned into a more or less human-transformed landscapes (grasslands, fields, sealing, constructions and other human settlements…).

Land use change contributes to global change by altering the relationship between the atmosphere and the land surface. Deforestation, agriculture and urban sprawl are the main causes, leading to changes in ecosystem control processes. The role of humanity is therefore significant, but the factors affecting land use change are complex. There is a need to detect and monitor these changes, but there are many methods.

Approximately half of the land area has been affected by human-induced changes, either through conversion, i.e. from one land use category to another, such as from woodland to grassland, or through changes within the same category due to the transformation in its physical or functional attributes, such as degradation of land and land cover. According to recent estimates from MINEPDED, the land use patterns that have caused these changes are responsible for the loss of about 50% of our country's net primary productivity; these patterns are:

- deforestation;
- agricultural expansion;
- urban sprawl;
- the impacts of land use changes on ecosystems.

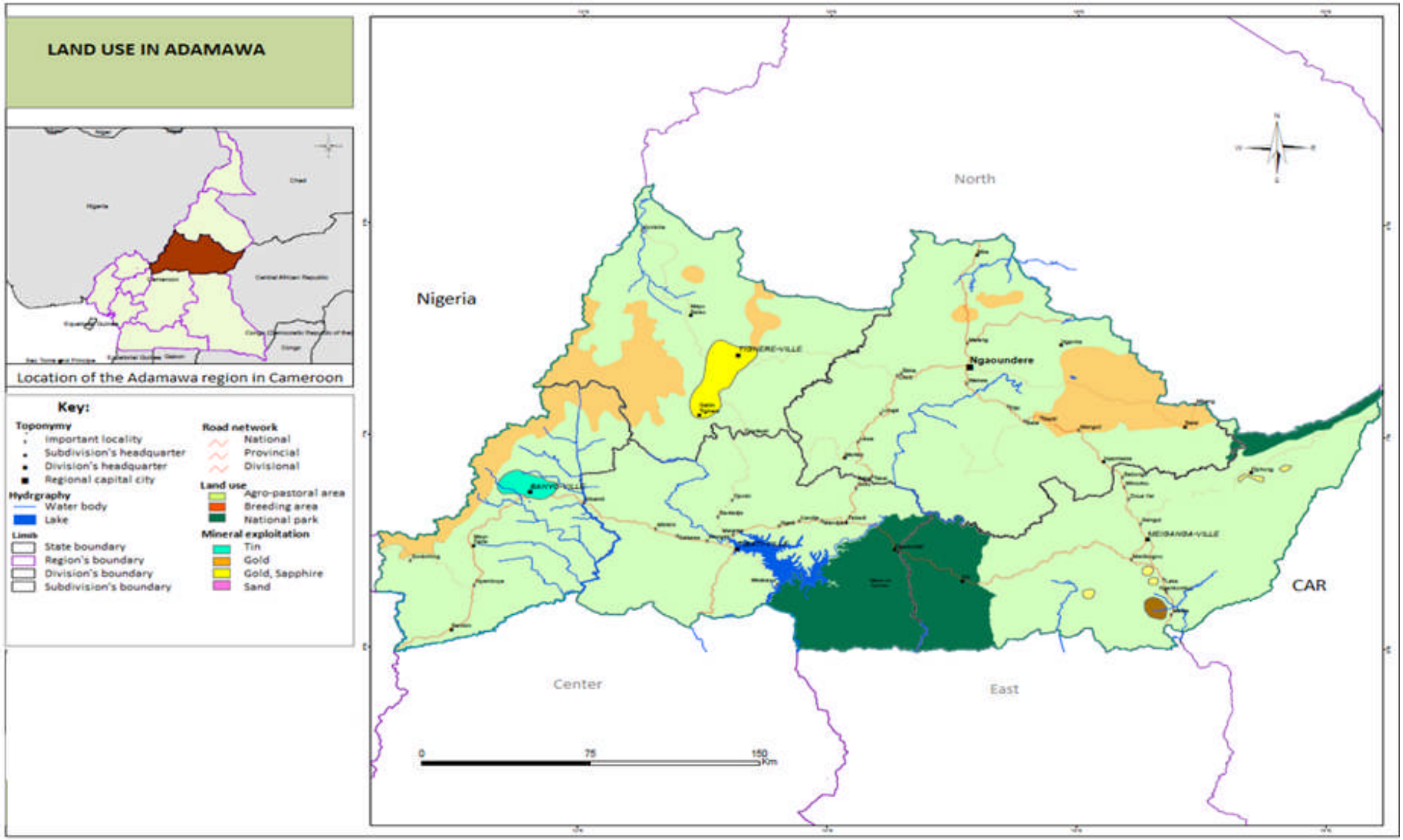
Moreover, land uses are diverse and varied. In the subsequent sections of this topic, we are going to briefly present some figures on land use in some regions and the data derived from them.

Some images for "land"

1) Overgrazing in Babongo, Adamawa (left; 2) Water erosion in Babongo, Adamawa (right)

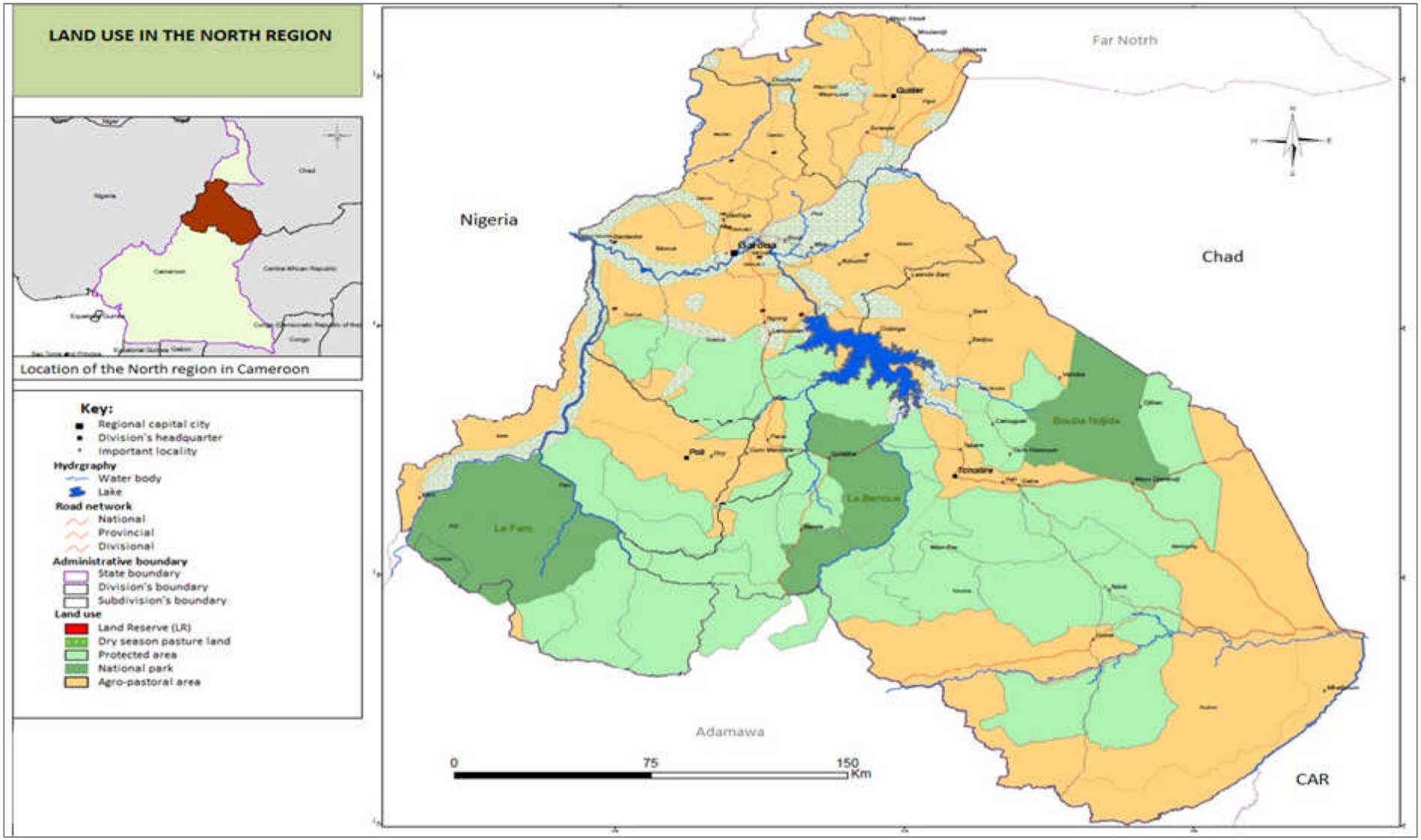
Sources: 1) Assessment of land degradation for reforestation, MINEPDED, 2015

***Map 2.3-1** : Land use in the Adamawa region*



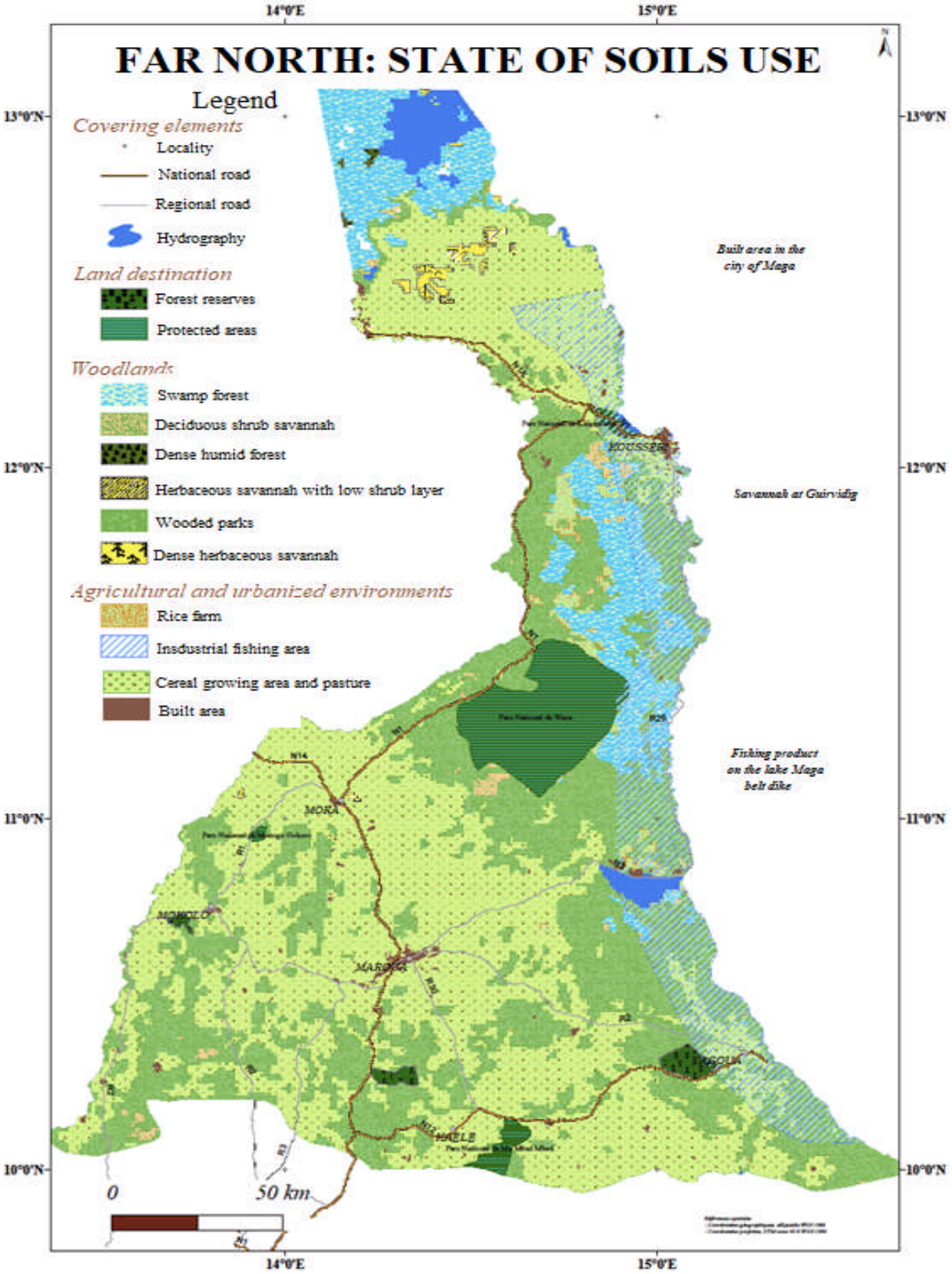
Source: Assessment of land degradation for reforestation, MINEPDED, 2015

***Map 2.3-2** : Land use in the North region*



Source: Assessment of land degradation for reforestation, MINEPDED, 2015

***Map 2.3-3** : State of land occupation and use in the Far North region*



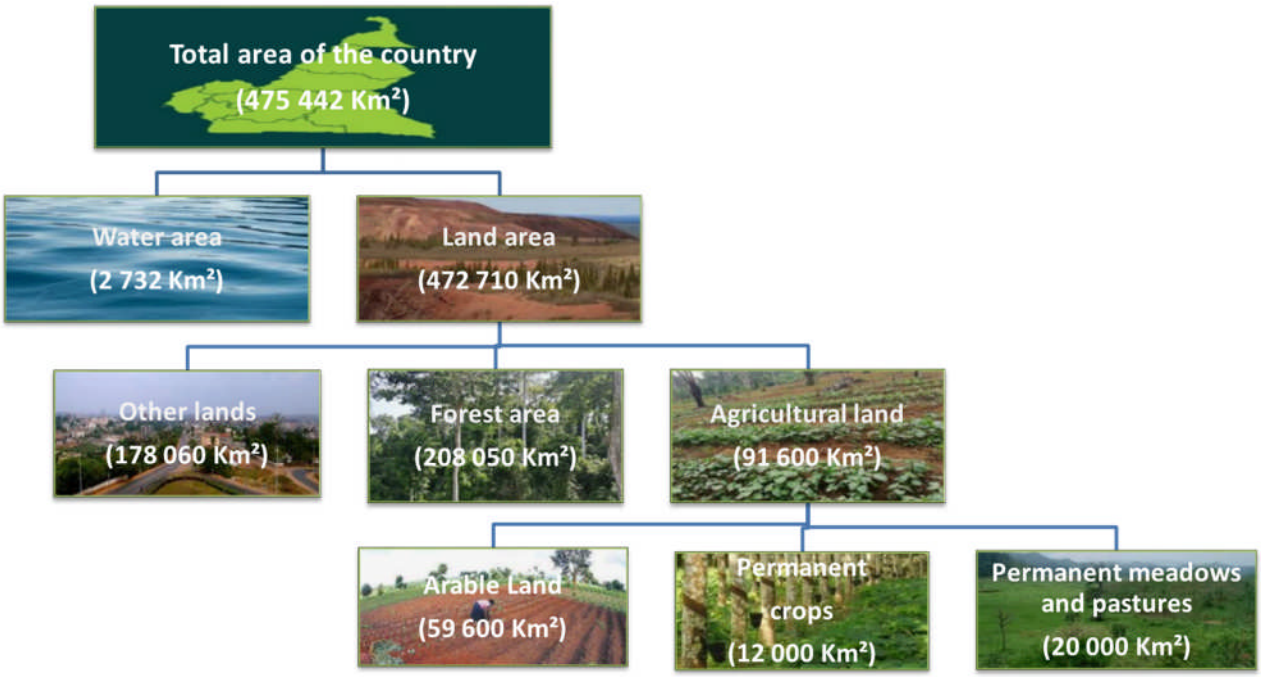
Source: *Assessment of land degradation for reforestation, MINEPDED, 2014*

Table 2.3-1 : *Land use pattern*

Indicator	Year	Value	*Unit*
Total area	2014	475,442	*Km²*
Population density	2011	41.5	*Inhabitant per km²*
Surface area per 1,000 inhabitants	2011	24.1	*km² per 1,000 inhabitants*
Land area	**2014**	**472,710**	***Km²***
Land area per 1,000 inhabitants	2011	24.0	*km² for 1,000 inhabitants*
Land area (in % of surface area)	2014	99.4	*Percentage of surface area*
Water area	**2014**	**2,732**	***Km²***
Water area per 1,000 inhabitants	2011	0.1	*km² for 1,000 inhabitants*
Water area (in % of total surface area)	2014	0.6	*Percentage of surface area*
Agricultural land	**2007**	**91,600**	***Km²***
Agricultural land per 1,000 inhabitants	2007	4.6	*km² for 1,000 inhabitants*
Agricultural land (in % of surface area)	2007	19.3	Percentage of surface area
Agricultural land (in % of surface area of land)	2007	19.4	Percentage of surface area of land
Arable land	**2007**	**59,600**	***Km²***
Arable land per 1,000 inhabitants	2007	3.0	*km² for 1,000 inhabitants*
Arable land (in % of surface area)	2007	12.5	*Percentage of surface area*
Arable land (in % of surface area of land)	2007	12.6	*Percentage of surface area of land*
Arable land (in % of agricultural land)	2007	65.1	*Percentage of agricultural land area*
Permanent crops	**2007**	**12,000**	***Km²***
Permanent crops per 1,000 inhabitants	2007	0.6	*km² for 1,000 inhabitants*
Permanent crops (in % of surface area)	2007	2.5	*Percentage of surface area*
Permanent crops (in % of surface area of land)	2007	2.5	*Percentage of surface area of land*
Permanent crops (in % of agricultural land)	2007	13.1	*Percentage of agricultural land area*
Permanent meadows and pastures	**2007**	**20,000**	***Km²***
Permanent meadows and pastures per 1,000 inhabitants	2007	1.0	*km² for 1,000 inhabitants*
Permanent meadows and pastures (in % of surface area)	2007	4.2	*Percentage of surface area*
Permanent meadows and pastures (in % of surface area of land)	2007	4.2	*Percentage of surface area of land*
Permanent meadows and pastures (in % of agricultural land)	2007	21.8	*Percentage of agricultural land area*
Forest area	**2007**	**208,050**	***Km²***
Forest area per 1,000 inhabitants	2007	10.6	*km² for 1,000 inhabitants*
Forest area (in % of surface area)	2007	43.8	*Percentage of surface area of land*
Forest area (in % of surface area of land)	2007	44.0	*Percentage of surface area of land*
Other land	**2007**	**173,060**	***Km²***
Other land per 1,000 inhabitants	2007	8.8	*km² for 1,000 inhabitants*
Other land (in % of surface area)	2007	36.4	*Percentage of surface area*
Other land (in % of surface area of land)	2007	36.6	*Percentage of surface area of land*

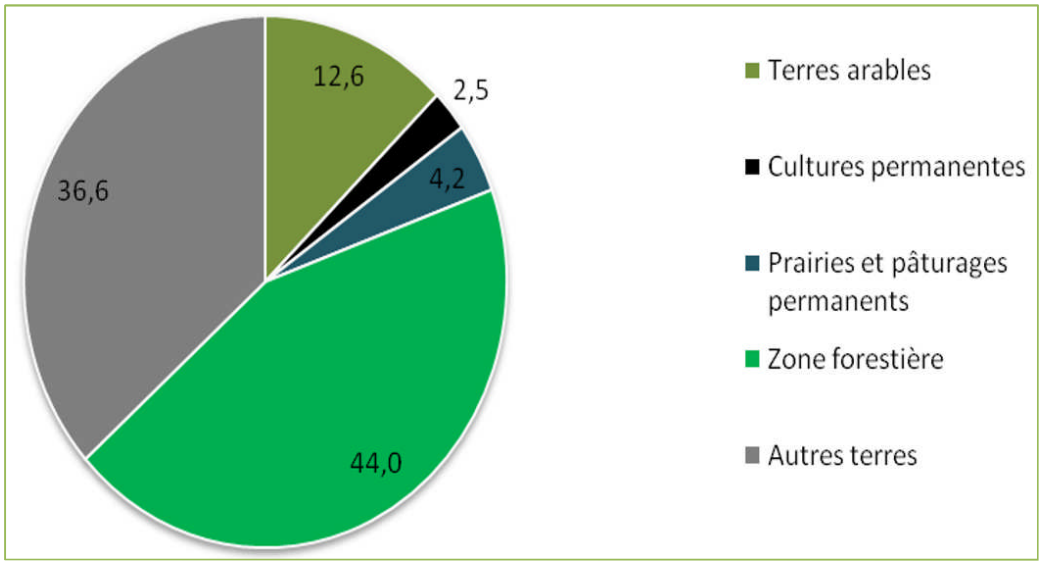
Source: World Bank, WORLD STAT 2015:http://en.worldstat.info/Africa/Cameroon/Land

Figure 2.3-1 *: Distribution of land use in Cameroon by type*



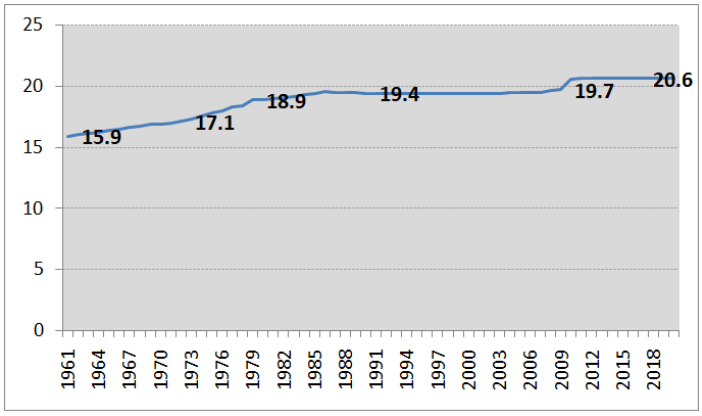
Source: NIS and World Bank 2007 data

Figure 2.3-2 : *Distribution of land use in Cameroon by type (%)*



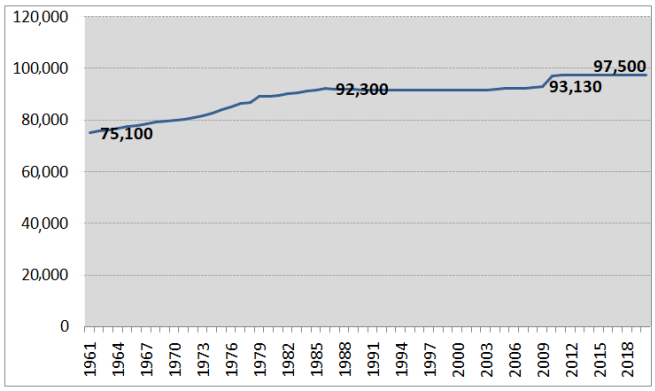
Source: NIS and World Bank 2007 data

Figure 2.3-3 : *Trends in the area of agricultural land (in % of territory) from 1961 to 2020*



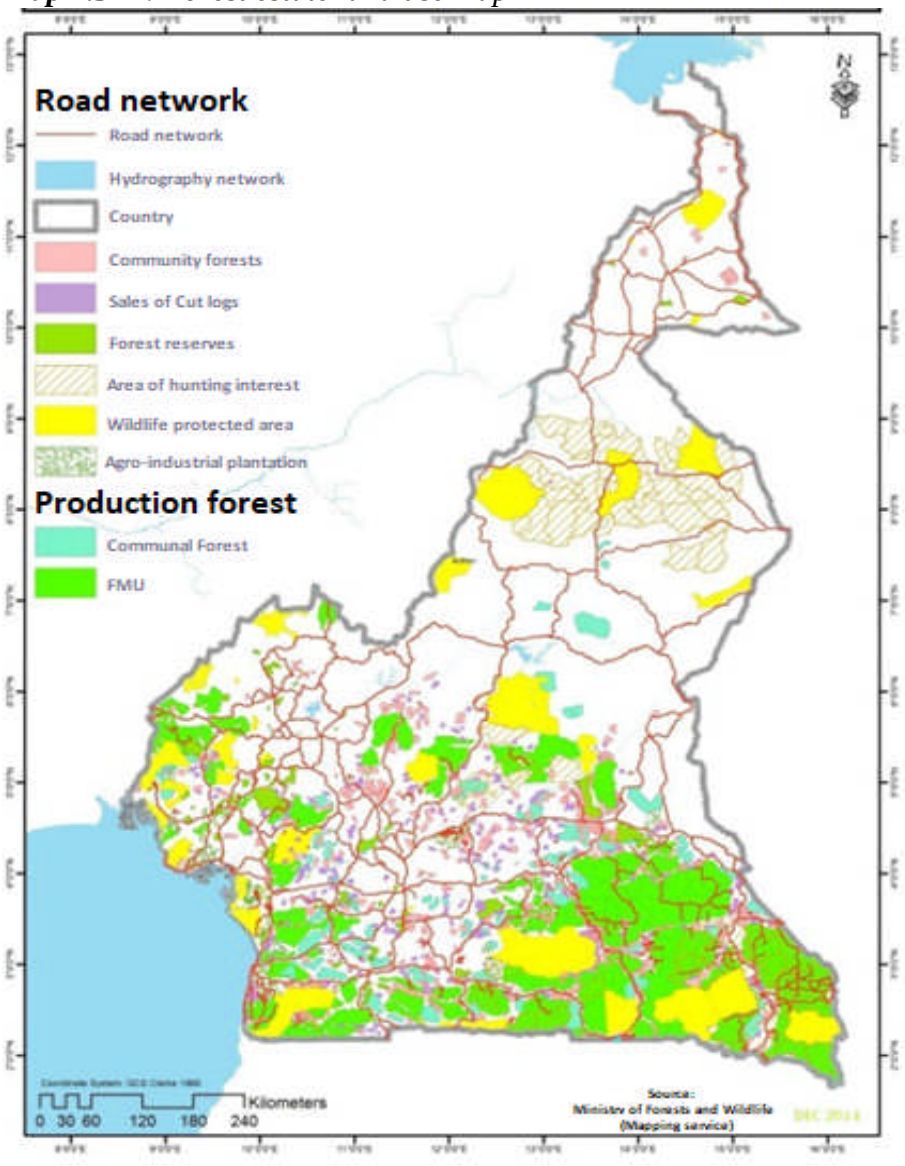
Source: NIS and World Bank 2007 data

Figure 2.3-4 : *Trends in the area of agricultural land (in Km²) from 1961 to 2020*



Source: NIS and World Bank 2007 data

Map 2.3-4 *: Forest estate land use map*



Source: MINFOF, 2014

Topic 2.3.2 : Use of forest land

This topic focuses on the issue of forest land allocation and use. Land-use planning is a process whereby stakeholders (traditional community members, government representatives, private sector, scientists, etc.) come together and discuss how a given geographical area should be managed for the benefit of future generations. This process results in a land-use plan, which is a land-use tool par excellence. A land-use plan for the forest of meridional Cameroon has been validated by decree (Decree 95-678-PM) as a planning and orientation tool. This land-use plan made it possible to assign a precise vocation to each delimited parcel with a view to granting it a particular status and specific protection measures. The final boundaries of the permanent forest (land definitively allocated to the forest) and which fall under the private property of the State or the councils are decided during the classification procedure during which the populations' interests are scrutinized. The forest classification procedure is currently governed by a Decision of the Minister in charge of forests (MINEF Decision No. 135 of 26 November 1999).

The forest law makes a fundamental distinction between Permanent Forest Domain (PFD) and Non-Permanent Forest Domain (NPFD). It gives precise definitions and the land tenure status of the PF (state forest, production forests for timber extraction, protected areas, forest reserves and communal forests) and the NPF (community forest, private forest, etc.) in articles 20 to 26; 30, 35, 37, 39 of the law No. 94/01 of 20/01/1994 to establish the forest, wildlife and fishing regulations).

Despite this land distribution, there has been a problem of conflict between the use of forest land and other sectors, the main ones being mining and agro-industry. In order to resolve these various conflicts, the government has undertaken to draw up a national land-use plan in which the forestry, mining, land and agricultural registries will be clearly defined. All administrations managing activities related to land have been involved (forestry, agriculture, livestock, mining, transport, tourism). Several researches have been carried out and an MoU has been signed between MINEPAT and WRI to establish the land use planning database.

This topic will provide information on the different forest areas (natural, wooded, deforested, degraded and restored). It will also highlight the different land uses according to the types of activity.

Some images for “use of forest land”




1-Cameroon forest atlas (top left); 2- Cocoa farm in Lomie division top right) ; 3- Trees cut by people looking for firewood or arable land (bottom left); 4- Lorries carrying logs in the east of Cameroon (bottom right))

Sources : 1 https://cmr.forest-atlas.org/ ; 2) https://www.agter.org/bdf/fr/corpus_chemin/fiche-chemin-122.html *(Photo M. Merlet) ; 3 et 4-* https://fr.wikipedia.org/wiki/D%C3%A9forestation_au_Cameroun

Table 2.3-2 : *State of the Cameroon Forest Estate in 2018*

Permanent Forest Estate (PFE)		
Type of use	**Number**	**Surface area (in ha)**
Forest Management Units (FMUs)	***117***	***7,030,484***
Classified with approved development plans	95	5,833,259
Unclassified with approved development plans	5	336,321
Classified with development plans under preparation	6	299,782
Unclassified with development plans under preparation	3	98,052
Classified and undeveloped	4	318,950
Unclassified and undeveloped	4	144,120
Forest reserves	56	503,104
Protected areas (PAs)	37	4,767,683
Existing national parks	20	3,234,763
National parks under development	7	674,297
Wildlife reserves	4	693,672
Existing wildlife sanctuaries	4	102,742
Wildlife sanctuaries under development	2	46,675
Hunting zones (ZIC and ZICGC)	67	5,340,858
Communal forests (CFs)	64	1,812,150
Classified	***46***	***1,348,430***
Unclassified	***18***	***463,720***
Non-Permanent Forest Estate (nPFE)		
Community Forests	***624***	***2,143,702***
Provisional agreements	322	1,102,083
Final agreements	302	1,041,619
Timber sales (TS)	163	210,111
Agro-industrial plots	83	459,241

Source: MINFOF Statistical Yearbook, 2018

Table 2.3-3 : *Number and surface area of production forests by region in 2018*

Region	FMUs		Communal forest		Total	
	Nbr.	Surface area	Nbr.	Surface area	Nbr.	Surface area
Adamawa	0	0	5	188,231	5	188,231
Centre	11	630,706	11	274,627	22	905,333
East	63	4,071,879	23	738,476	86	4,810,355
Littoral	2	111,522	6	146,614	8	258,136
North	0	0	1	6,883	1	6,883
South	32	1,649,505	19	481,861	51	2,131,366
North-West	1	46,687	0	0	1	46,687
South-West	8	344,336	3	77,256	11	421,592
Total	**117**	**6,854,635**	**68**	**1,913,948**	185	8,768,583

Source: MINFOF Statistical Yearbook, 2018

Table 2.3-4 : *Loss (in ha) of forest canopy per quarter in 2018 by land use type*

Land use	Losses per quarter (in ha)				Total (ha)
	1st	2th	3th	4th	
Annual crops	1,243.8	230.98	12.99	246.98	1,734.75
Community forests	334.32	83.67	37.19	70.45	525.63
FMUs	130.81	66.14	1.2	9.29	219.44
Mines	269.96	0	1.79	6.42	290.17
Communal forests	130.67	27.03	1.29	10.85	169.84
Periphery of Protected Areas	5.09	1.8	0.11	4.29	11.29
Timber sales	27.03	15.72	12.19	2.87	57.81
Infrastructure	945.78	0.48	2.12	2.83	951.21
Protected areas	14.74	0	0	2.45	17.19
Agro-industries	81.73	13.22	27.96	0	122.91
Logging outside legal title	71.53	0	4.82	0	76.35
Other	42.25	15.4	0	0.78	58.43
Total (ha)	**3,297.71**	**454.44**	**101.66**	**381.21**	**4,235.02**

Source: MINFOF Statistical Yearbook, 2018

Table 2.3-5 *: Trends in the number of trees planted and corresponding surface area (in ha) under the "Green Sahel" project*

AREAS	2011		2012		2013		2014	
	Number	Surface area (ha)	Number	Surface area (ha)	Number	Surface area (ha)	Number	Surface area (ha)
Mayo-Danay	80,000	500	80,000	500	40,000	250	30,000	250
Mayo-Kani	240,000	1,500	192,000	1,200	160,000	1,000	90,000	750
Diamare	0	0	48,000	300	80,000	500	60,000	500
Mayo-Tsanaga	80,000	500	80,000	500	40,000	250	30,000	250
Mayo-Sava	80,000	500	80,000	500	40,000	250	30,000	250
Logone & Chari	80,000	500	0	0	40,000	250	30,000	250
Total	**560,000**	**3,500**	**480,000**	**3,000**	**400,000**	**2,500**	**300,000**	**2,500**

Source: MINFOF Statistical Yearbook, 2014

Table 2.3-6 *: Trends in the number of trees planted and length of the riverbank reforested under the Benue Watershed Management Project from 2010 to 2014*

Year	2010	2011	2012	2013	2014
Number of trees planted	20,000	20,000	20,000	20,000	15,000
Length (in kilometres) of riverbank reforested	20	21	20	21	7.5

Source: MINFOF Statistical Yearbook, 2014

***Table 2.3-7** : Plant production*

	Number of plants					
Branch offices/technical units	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**
Thick forest branch	347,997	264,754	237,499	429,743	357,720	407,200
Wet savannah branch	717,891	902,318	21,469	901,340	563,230	501,617
Dry savannah branch	92,887	108,010	97,620	125,312	236,580	156,901
Mbalmayo cutting park	0	9,900	5,000	8,407	15,000	20,150
Melen Central Nursery	0	15,000	6,500	6,500	3,040	4,000
Other	0	0	0	0	0	13,800
Total per year	**1,158,775**	**1,299,982**	**368,088**	**1,471,302**	**1,175,570**	**1,103,668**

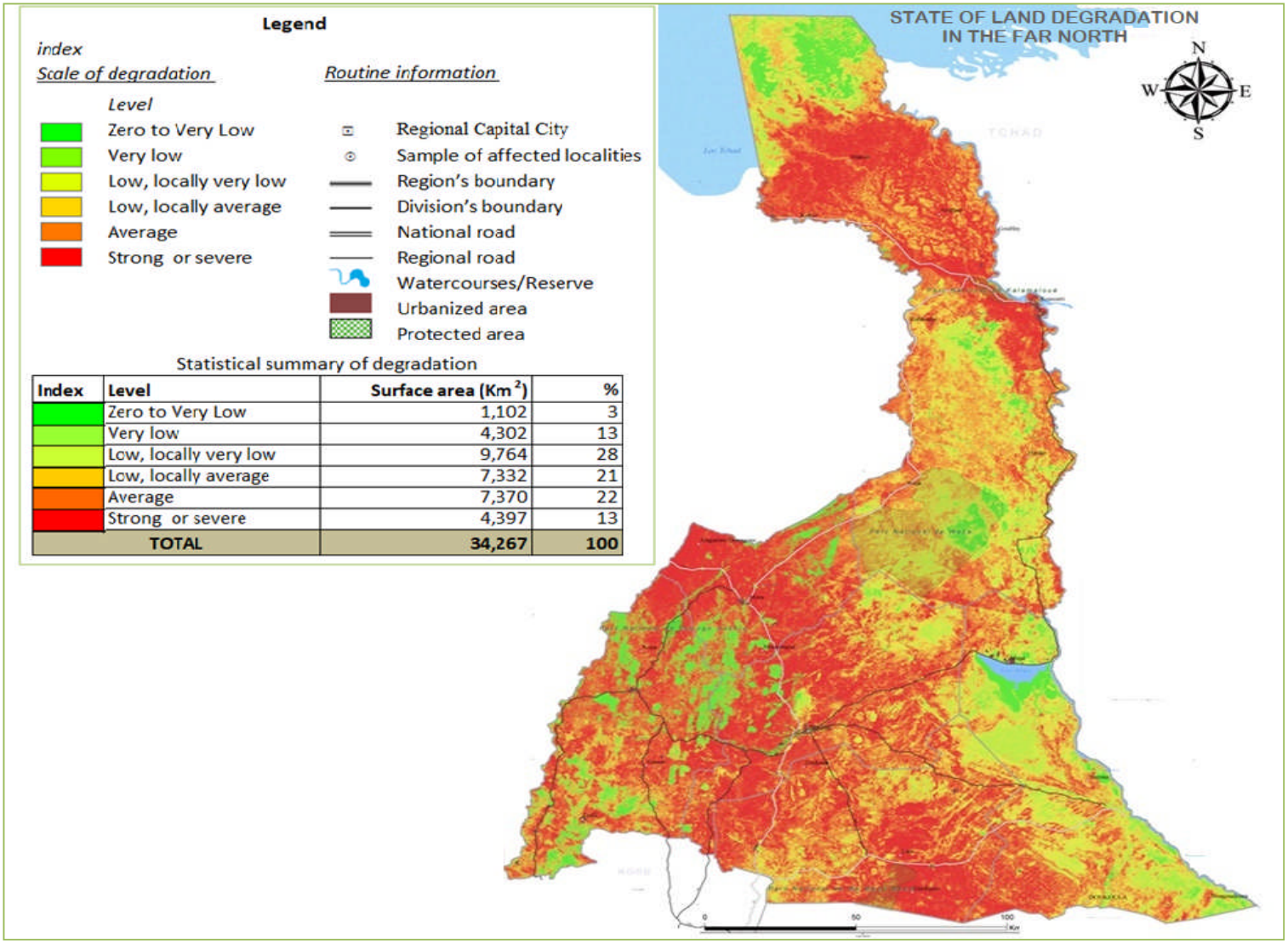
Source: MINFOF Statistical Yearbook, 2014

***Table 2.3-8 :** Forest reserves and reforestation surface areas in Cameroon by Region in 2014*

Region	**Number**	**Surface area**	
		Total surface area (ha)	Surface area of plantations (ha)
Adamawa	1	4,400	1,200
Centre	7	81,277	3,027
East	**2**	248,200	1,028
Far North	17	23,259	1,020.5
Littoral	8	6,000	2,006.5
North	4	12,434	453
North-West	6	25,563	1,011
West	36	37,624	686
South	0	0	0
South-West	12	26,163	1,388.5
Total	**93**	**564,920**	**11,820**

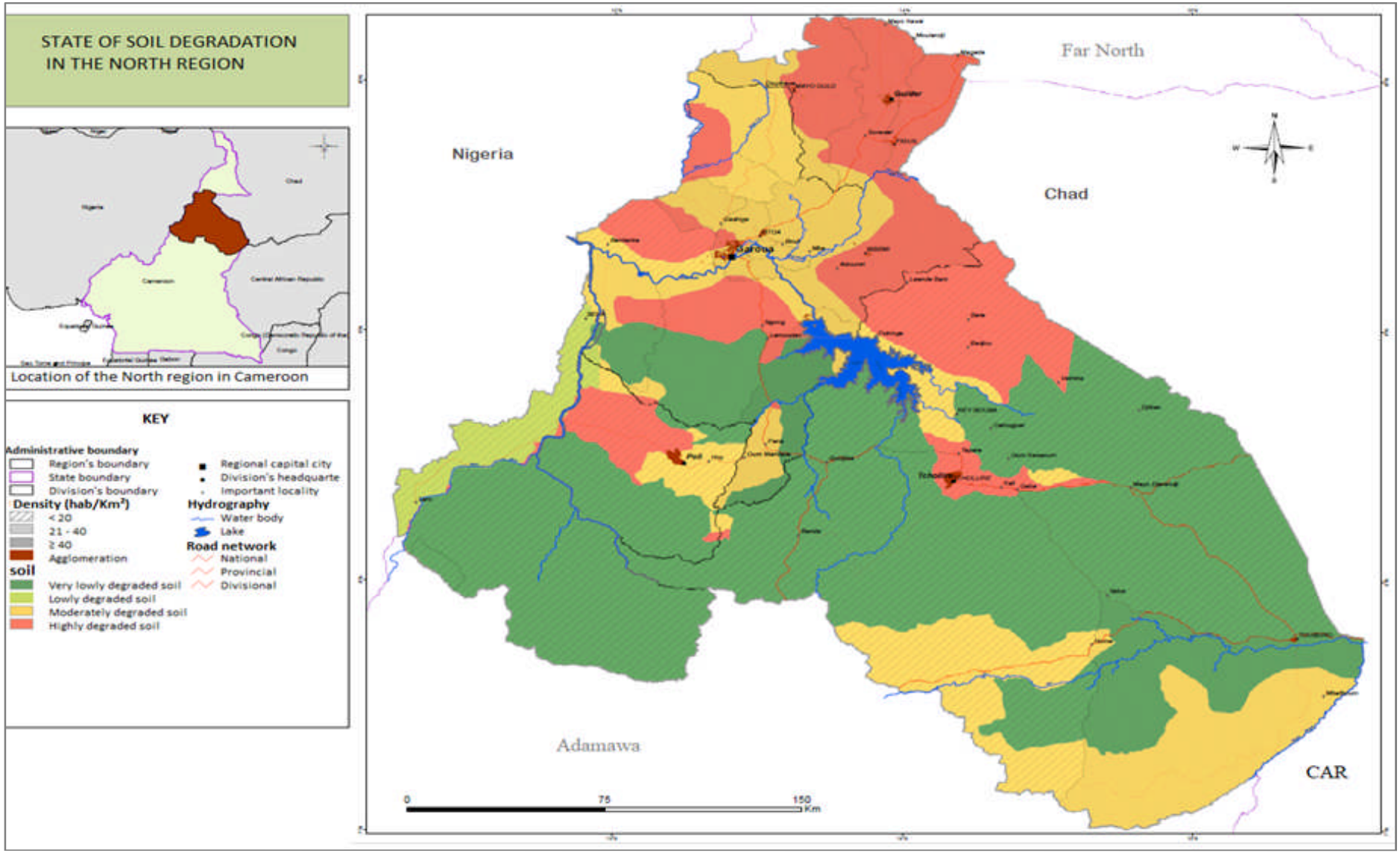
Source: MINFOF Statistical Yearbook, 2014

***Map 2.3-5** : Assessment of land degradation in the Far North region*



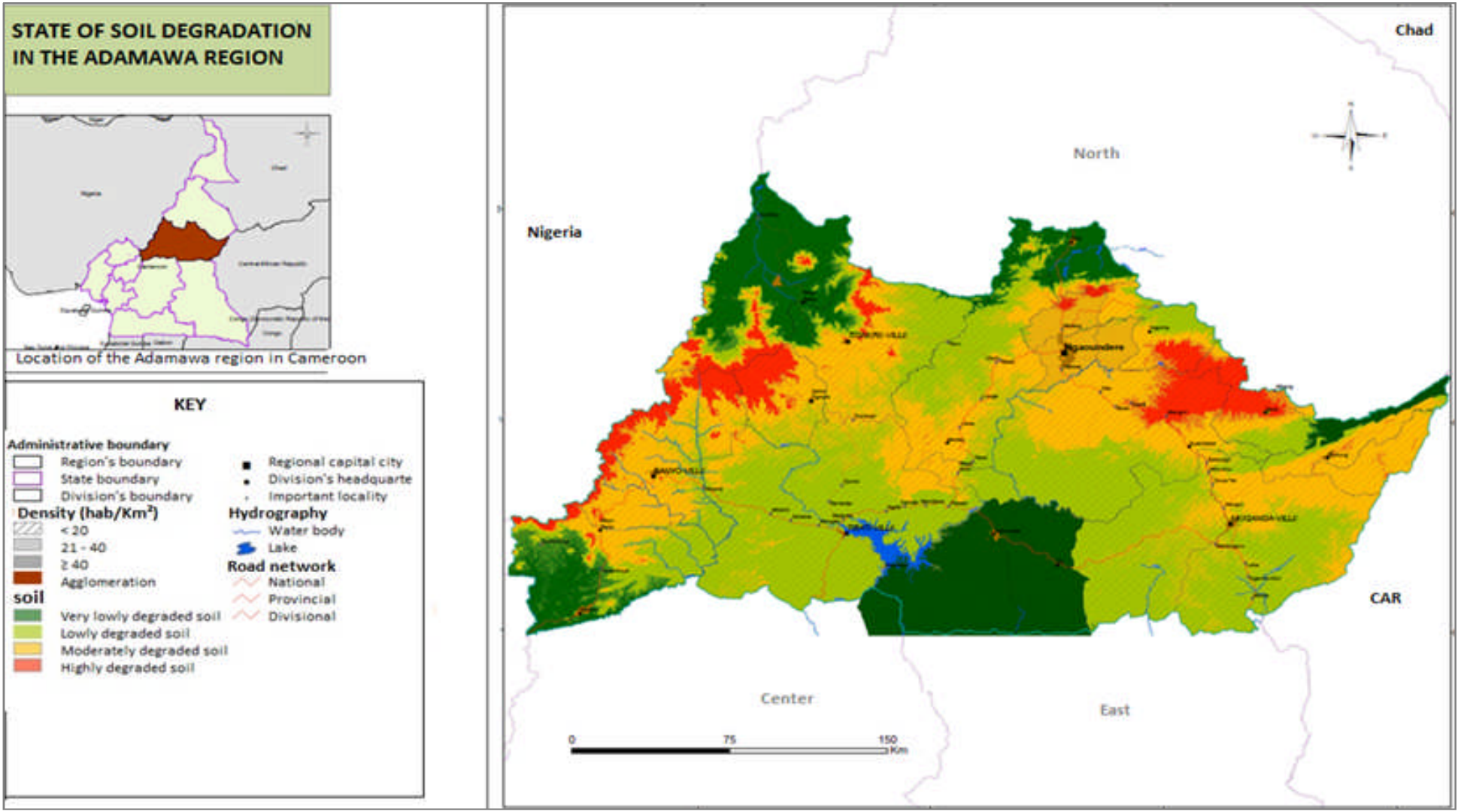
Source: Assessment of land degradation for reforestation, MINEPDED, 2014

***Map 2.3-6** : Assessment of land degradation in the North region*



Source: Assessment of land degradation for reforestation, MINEPDED, 2014

***Map 2.3-7** : Assessment of land degradation in the Adamawa region*



Source: Assessment of land degradation for reforestation, MINEPDED, 2014

***Table 2.3-9** : Surface area of forest allocated to development projects by project type in 2014*

N	Project name	Surface area in hectares
1	Kribi deep-sea port	20,585
2	MEKIN Hydroelectric dam	13,460
3	HEVECAM Expansion	8,796
4	Lom Pangar Hydroelectric Dam	7,710
5	Memve'ele Hydroelectric dam	643.4
6	Agricultural Project (CAM-CAT)	4,953.8
7	Palm grove of SGSOC	2,500
8	Expansion of the city of Sangmelima	2,031
Total		**60,679.2**

Source: MINFOF

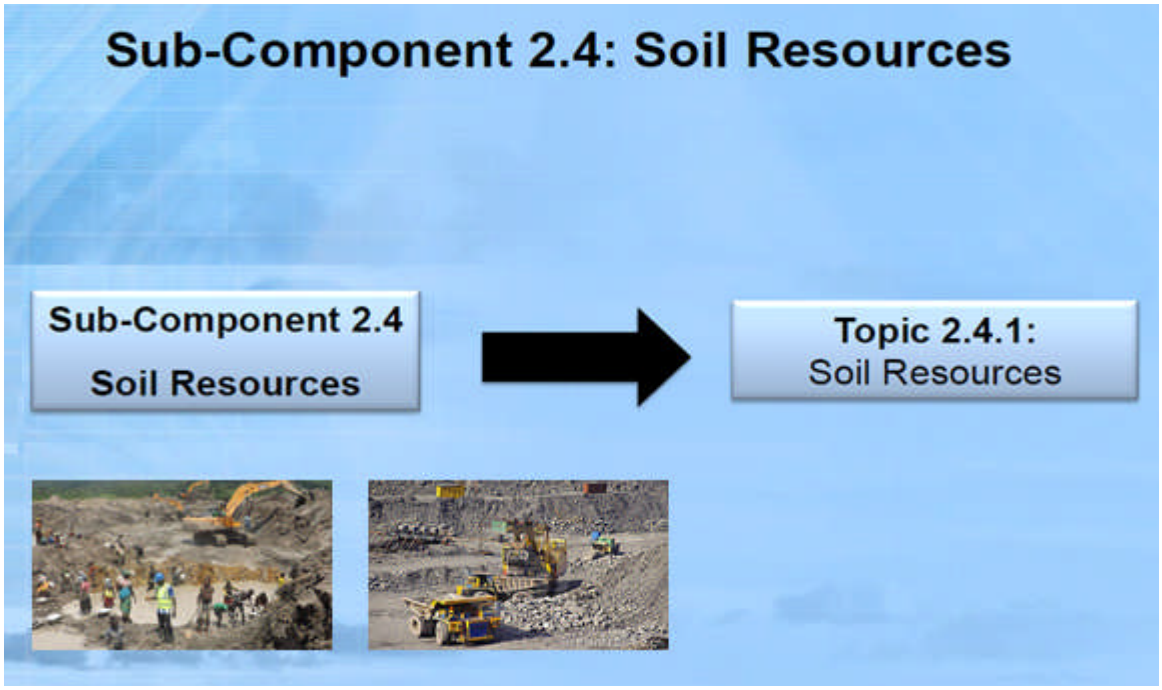
***Table 2.3-10** : Trends in the reforested surface area from 2005 to 2013 (hectares)*

Regions	2005	2006	2007	2008	2009	2010	2011	2012	2013
Far North				68.5	62.75	93.5	98.5	248	193.36
North				68.5	62.75	93.5	98.5	248	120.6
Adamawa	952	952	952	398	41.83	1,054	159	232	89.24
East				134	93.4	15.66	138	113	212.18
Centre				134	93.4	15.66	138.8	113	227.68
South				134	93.4	15.66	138.8	113	87.36
Littoral				134	93.4	15.66	138.8	113	103
South-West				134	93.4	15.66	138.8	113	177.82
North-West	952	952	952	398	41.83	1,054	159	232	98.84
West	952	952	952	398	41.83	1,054	159	232	297.4
Cameroon	**2,856**	**2,856**	**2,856**	**2,001**	**717.99**	**3,427.3**	**1,364**	**1,757**	**1,607.48**

Source: MINFOF Statistical Yearbook, 2014

Sub-component 2.4 : Soil resources

Soil is a useful resource for economic activities and for human life. Statistics on these resources cover two aspects, namely the morphology (biophysical aspects) of the soil and the use (different uses) of the soil.



Topic 2.4.1 : Soil Resources

Soil is a mixture of minerals, organic materials, water and life. Soils in Cameroon are differentiated by the type of material (mineralogical constituents), the climate of the area, time (duration of soil evolution and soil history), topography and soil biology.

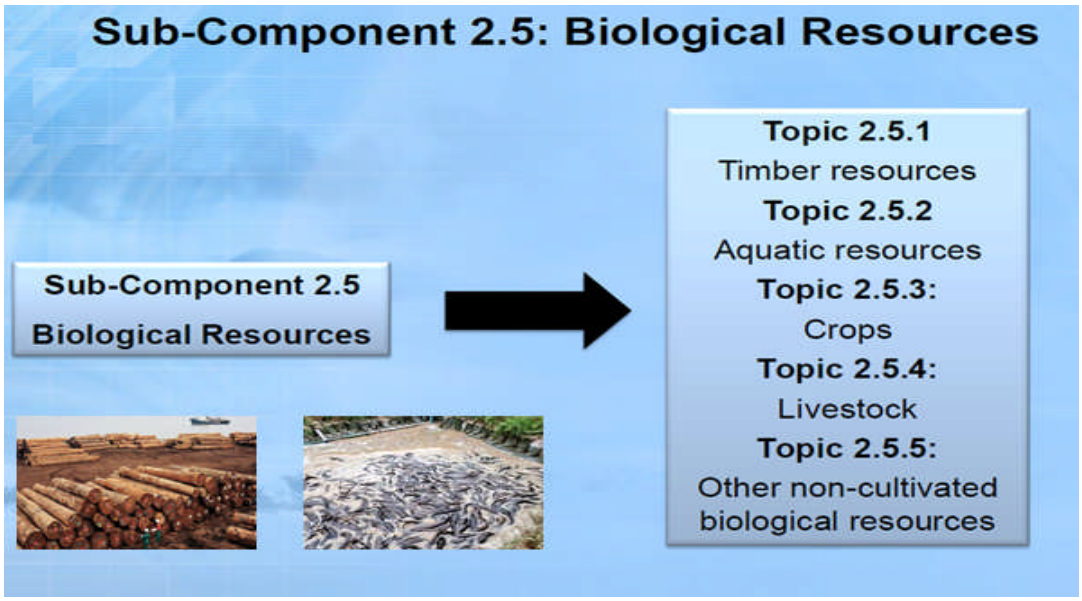
The equatorial forest area is 90% covered by ferralitic, red, yellow-brown soils. In the lowlands, hydromorphic soils containing quartz and sand are found. They are bordered to the north and west by plateaus and mountain ranges where volcanic rocks abound. There is also an abundance of basic rocks, which results in soils of great agronomic value. In addition, farming practices facilitate the infiltration of rainfall. According to the soil classification, in the North (Adamawa, Far North and North), there are:

- ✓ soils with raw minerals;
- ✓ soils not very evolved;
- ✓ vertisolssoils;
- ✓ brownedsoils;
- ✓ soils with sesquioxides;
- ✓ hydromorphicsoils;
- ✓ sodicsoils.

At the current stage of environmental statistics development, there are no statistics for this subcomponent yet.

Sub-component 2. 5 : Biological resources

Biological resources are renewable resources capable of regenerating through natural processes. They include wood, water resources, animal and plant resources (livestock, orchards, crops, wild animals, etc.). These resources can be natural or cultivated.



Some images for "biological resources"

1) Cow breeding in Adamawa (up and to the left; 2) Above ground fish farming in Cameroon(up and to the right); 3)Cassava farming in Cameroon(down and to the left), 4) Hybrid cocoa farming in Cameroon (down and to the right).

Source: 1) Source: afrik.com, November 2019; 2) Source: initiative.ca, August 2020; 3) agricultureaucameroun.net, July 2020; 4) lavoixdupaysan.net

Topic 2.5.1 : Timber resources

Forests and forest products play a vital role in the life and development of communities. Forest products include wood products such as timber. The wood resource faces several threats. These threats are mainly of anthropogenic origin and the most important are: annual crops, the installation of infrastructure and agro-industries, mining and logging (especially illegal).

This topic provides an overview of the most recent statistics on wood stocks, forest production, import and export volumes of wood and wood products. It also aims to provide some data on fuelwood and biofuels such as charcoal produced.

The data for this subject come from the MINFOF and NIS statistical yearbooks; and from the processing of MINFOF and NIS data.

Some illustrative images of "Timber resources"

1- Sawn timbers exported (left); 2- Timber export from Kribi sea port (right)

Sources:1 et 2)- https://www.investiraucameroun.com/environnement/1205-17900-bois-le-cameroun-a-exporte-plus-de-800-000-m3-de-grumes-au-cours-de-l-annee-2021

Table 2.5-1 : *Harvesting per type of operation permit by region from 2010 to 2014*

Region	Titles	2010	2011	2012	2013	2014
Centre	Concession	135,598	165,805	118,726	110,526	102,906
	Timber sales	120,879	207,830	307,513	267,265	286,785
	Other (AEB, ARB)	115,166	30,401	0	0	0
	Total	**371,643**	**404,036**	**426,239**	**377,791**	**389,691**
East	Concession	1,193,865	1,043,302	1,074,622	1,364,977	1,261,465
	Timber sales	50,159	164,226	211,543	150,730	253,378
	Other (AEB, ARB)	53,367	974	0	0	
	Total	**1,297,391**	**1,208,502**	**1,286,165**	**1,515,707**	**1,514,843**
Littoral	Concession	-	1,718	3,721	27,383	25,610
	Timber sales	9,974	14,062	25,914	31,307	38,639
	Other (AEB, ARB)	14,103	6,187	0	0	-
	Total	**24,077**	**21,967**	**29,635**	**58,690**	**64,249**
West	Concession	-	-	-	-	-
	Timber sales	-	-	-	-	-
	Other (AEB, ARB)	-	332	-	-	-
	Total	**-**	**332**	**-**	**-**	**-**
South	Concession	495,112	522,373	441,914	502,697	524,706
	Timber sales	51,557	94,891	127,522	149,722	244,355
	Other (AEB, ARB)	3,770	8,525	7,313	0	-
	Total	**550,439**	**625,789**	**576,749**	**652,419**	**769,061**
South-West	Concession	104,601	93,397	89,605	59,971	129,966
	Timber sales	-	2,165	20,123	21,725	16,722
	Other (AEB, ARB)	-	-	-	-	706
	Total	**104,601**	**95,562**	**109,728**	**81,696**	**147,394**
Cameroon	Concession	1,929,176	1,826,595	1,728,588	1,951,448	1,856,689
	Timber sales	232,569	483,174	692,615	562,606	690,700
	Other (AEB, ARB)	186,406	46,419	7,313	-	706
	Total	**2,348,151**	**2,356,188**	**2,428,516**	**2,686,303**	**2,885,238**

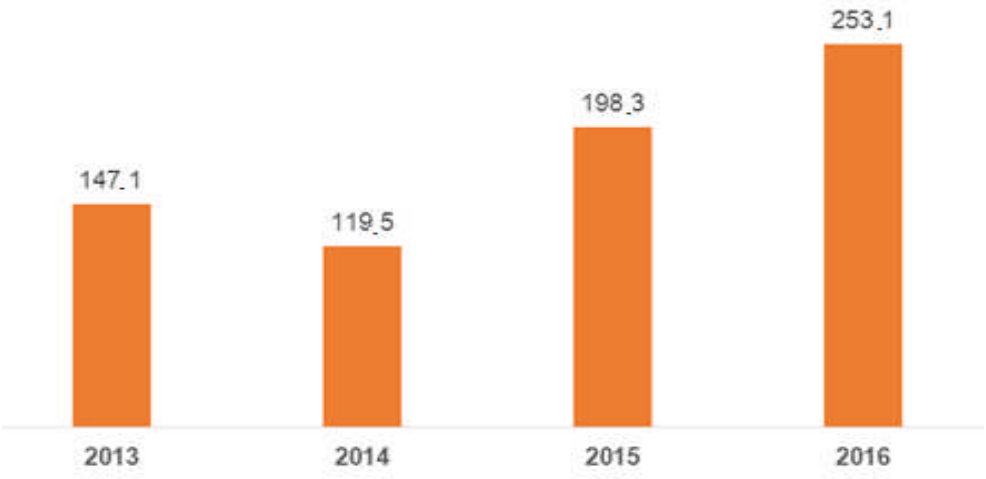
Source: MINFOF Statistical Yearbook, 2014

Table 2.5-2 : *Volume of timber harvested (in m³) per type of operation permit by region from 2013 to 2017*

Regions		2013	2014	2015	2016	2017
Centre	Concession	118,726	102,906	141,309	183,951	199,741
	Timber sales	267,265	286,785	236,003	217,387	90,913
	Total	**377,791**	**389,691**	**377,309**	**401,338**	**290,654**
East	Concession	1,364,977	1,261,465	1,491,812	1,399,105	1,222,945
	Timber sales	150,730	253,378	133,909	168,287	99,652
	Total	1,515,707	1,514,843	1,625,721	1,567,392	1,322,597
Littoral	Concession	27,383	25,610	15,376	9,885	16,174
	Timber sales	31,307	38,639	65,002	110,164	66,343
	Total	**58,690**	**64,249**	**80,378**	**120,049**	**82,517**
South	Concession	502,697	524,706	439,708	464,933	457,660
	Timber sales	149,722	244,355	334,590	256,604	201,855
	Total	**652,419**	**769,061**	**774,298**	**721,537**	**659,515**
South-West	Concession	59,971	129,966	199,724	139,247	96,090
	Timber sales	21,725	16,722	13,738	13,500	49,111
	Total	81,696	147,394	213,462	152,747	145,201
Total	Concession	1,951,448	1,856,689	2,287,926	2,197,121	1,992,610
	Timber sales	562,606	690,700	783,242	765,942	507,874
	Total	**2,514,054**	**2,547,389**	**3,071,168**	**2,963,063**	**2,500,484**

Source: MINFOF/DF, 2017

Figure 2.5-1 : *Trends in the operation of community forests from 2013 to 2016 (authorized volume in m^3)*



Source: MINFOF Statistical Yearbook, 2016

Table 2.5-3 : *Distribution of production forests in the permanent estate in 2013 and 2014*

	2013			2014		
	Number	Surface area (ha)	Percentage of Cameroon's surface area	Number	Surface area (ha)	Percentage of Cameroon's surface area
FMUs	104	6,305,746	13	106	6,419,360	14
Timber sales	115	253,054	1	151	313,910	1
Communal forest	10	266,126	1	11	283,352	1
Total	**229**	**6,824,926**	**15**	**268**	**7,016,622**	**16**

Source: MINFOF/Computerised Forest Information Management System (SIGIF)

***Table 2.5-4** : Distribution of production forests in the permanent estate by region in 2013*

Region	FMU		Timber sales		Communal forest		Total of production forests	
	Number.	Surface area (ha)	Number	Surface area (ha)	Number	Surface area (ha)	Number	Surface area (ha)
Centre	7	395,437	51	112,340	3	82,299	61	590,076
East	59	3,924,630	27	63,173	6	168,827	92	4,156,630
Far North	0	0	0	0	0	0	0	0
Littoral	3	223,327	6	14,269	0	0	9	237,596
South	28	1,467,757	28	56,474	1	15,000	57	1,539,231
South-West	7	294,595	3	6,798	0	0	10	301,393
Cameroon	**104**	**6,305,746**	**115**	**253,054**	**10**	**266,126**	**229**	**6,824,926**

Source: MINFOF/SIGIF

***Table 2.5-5** : Distribution of production forests in the permanent estate by region in 2014*

Region	FMUs		Timber sales		Communal forest		Total of production forests	
	Number	Surface area (ha)	Number	Surface area (ha)	Number	Surface area (ha)	Number	Surface area (ha)
Centre	8	539,848	57	124,818	4	99,525	69	764,191
East	62	4,067,386	32	73,944	6	168,827	100	4,310,157
Littoral	1	28,410	5	11,432	0	0	6	39,842
South	28	1,489,122	53	94,418	1	15,000	82	1,598,540
South-West	7	294,595	4	9298	0	0	11	303,893
Cameroon	**106**	**6,419,360**	**151**	**313,910**	**11**	**283,352**	**268**	**7,016,622**

Source: MINFOF/Computerised Forest Information Management System (SIGIF)

Table 2.5-6 : *Total volume (in m^3) of legally harvested timbers placed on the Internal Wood Market (IWM) between 2014 and 2018*

Descriptions	2014	2015	2016	2017	2018	Total
Per depot	429,556.5	336,960.0	422,902.9	NA	NA	1,189,419.4
Transported by LVD	107,150.7	42,180.4	73,897.1	66,442.7	62,145.7	351,816.6
Sawmill waste	128,220.3	NA	119,658.9	104,926.5	148,529.1	501,334.8
Total	**664,927.5**	**379,140.4**	**616,459**	**171,369**	**210,674.8**	**2,042,570.8**

Source: MINFOF Statistical Yearbook, 2018

Table 2.5-7 : *Trends in the exports of specified special wood and products (1,000 kg for special products and 1,000 m^3 for others) between 2008 and 2012*

Exports	2008	2009	2010	2011	2012	2013	2014
Logs	258	413	608	580	497	624	780
Sawnwood	578	364	737	527	591	591	593
Plywood	18	11	17	13	18	19	13
Veneer	59	31	53	44	37	32	28
Parquet	3	1	0	0	0	0	0
Special products	1,600	1,288	850	872	1,543	1,926	1,789

Source: 2015 Cameroon Statistical Yearbook, NIS

Table 2.5-8 : *Volume of timber harvested (in m^3) per type of operation permit by region from 2013 to 2017*

Region		2013	2014	2015	2016	2017
Centre	Concession	118,726	102,906	141,309	183,951	199,741
	Timber sales	267,265	286,785	236,003	217,387	90,913
	Total	**377,791**	**389,691**	**377,309**	**401,338**	**290,654**
East	Concession	1,364,977	1,261,465	1,491,812	1,399,105	1,222,945
	Timber sales	150,730	253,378	133,909	168,287	99,652
	Total	**1,515,707**	**1,514,843**	**1,625,721**	**1,567,392**	**1,322,597**
Littoral	Concession	27,383	25,610	15,376	9,885	16,174
	Timber sales	31,307	38,639	65,002	110,164	66,343
	Total	**58,690**	**64,249**	**80,378**	**120,049**	**82,517**
South	Concession	502,697	524,706	439,708	464,933	457,660
	Timber sales	149,722	244,355	334,590	256,604	201,855
	Total	**652,419**	**769,061**	**774,298**	**721,537**	**659,515**
South-West	Concession	59,971	129,966	199,724	139,247	96,090
	Timber sales	21,725	16,722	13,738	13,500	49,111
	Total	**81,696**	**147,394**	**213,462**	**152,747**	**145,201**
Total	Concession	1,951,448	1,856,689	2,287,926	2,197,121	1,992,610
	Timber sales	562,606	690,700	783,242	765,942	507,874
	Total	**2,514,054**	**2,547,389**	**3,071,168**	**2,963,063**	**2,500,484**

Source: MINFOF/DF, 2017

Table 2.5-9 : *Timber export volumes per product type from 2015 to 2018*

Year	Export of wood and wood products		Export of raw wood (logs)		Export of sawn timber		Export of wood veneer	
	In tonnes	Value in millions of CFA francs	In tonnes	Value in millions of CFA francs	In tonnes	Value in millions of CFA francs	In tonnes	Value in millions of CFA francs
2015	1,361,309	291,597	911,545	103,530	627,713	164,578	23,645	18,963
2016	1,305,093	284,869	807,029	90,172	663,800	169,732	30,357	21,403
2017	1,507,959	293,209	1,017,971	113,789	151,733	641,188	21,841	35,069
2018	1,718,185	307,036	1,096,775	121,210	157,804	742,535	24,071	45,977

Source: 2015, 2016, 2017, 2018 Briefs on foreign trade, NIS

Table 2.5-10 : *Imports of wood, cork, basketry and wickerwork from 2015 to 2018*

Year	Imports of wood and wooden articles		Imports of cork and articles of cork		Imports of basketry and wickerwork		Imports of wood, cork and articles thereof	
	In tonnes	Value in millions of CFA francs	In tonnes	Value in millions of CFA francs	In tonnes	Value in millions of CFA francs	In tonnes	Value in millions of CFA francs
2015	4,318	3,028	12	53	351	258	4,681	3,339
2016	2,099	1,821	22	36	184	187	2,306	2,045
2017	3,989	2,713	20	59	184	131	4,193	2,903
2018	4,809	2,435	12	31	222	190	5,042	2,657

Source: 2015, 2016, 2017, 2018 Briefs on foreign trade, NIS

Table 2.5-11 *: Timber and timber products imports*

Year	Imports of wood pulp, waste paper		Imports of paper and cardboard	
	In tonnes	Value in millions of CFA francs	In tonnes	Value in millions of CFA francs
2015	329	228	107,559	68,938
2016	397	257	98,213	59,791
2017	265	185	88,175	52,329
2018	323	232	72,406	47,948

Source: 2015, 2016, 2017, 2018 Briefs on foreign trade, NIS

Table 2.5-12 : *Volume (in metric tonnes) of biofuels placed on the market from 2014 to 2018 per type*

Type of fuel	2014	2015	2016	2017	2018	Total
Charcoal	1,272	1,380	5,961.5	3,502.6	*2,682.9*	14,799
Firewood	15,204	15,204	10,179.9	23,544.44	*19,999.2*	84,132
Total	**16,476**	**16,584**	**16,141**	**27,047**	**22,682**	76,248

Source: MINFOF Statistical Yearbook, 2018

Table 2.5-13 : *Volume (in metric tonnes) of biofuels placed on the market in 2018 by region and per type*

Regions	Charcoal (tonnes)	Firewood (tonnes)	Wood energy (tonnes)
North	1.3	10,949.8	10,951.0
Adamawa	3.0	2,092.7	2,095.7
East	1,105.4	806.1	1,911.4
West	653.0	1,149.3	1,802.3
Centre	410.8	1,120.6	1,531.3
Far North	0.0	2,964.7	2,964.7
South-West	0.0	57.7	57.7
Littoral	509.5	426.3	935.8
South	0.0	432.2	432.2
Total	**2,682.9**	**19,999.2**	**22,682.0**

Source: MINFOF Statistical Yearbook, 2018

Topic 2.5.2 : Aquatic resources

The fisheries sub-sector is an important lever for Cameroon's development. The country has a variety of sea and inland fishery resources. The main objectives of the development of this sub-sector are to:

- supply the population with fishery products;
- contribute to food security;
- manage fishery resources sustainably;
- improve the living conditions of the actors;
- promote national fish production in order to reduce the share of imported fish products in the population's consumption.

To achieve this, the government's strategy is based on the implementation of the code of conduct for responsible fishing, on the one hand, and on greater participation of the beneficiaries in the definition and implementation of management measures on the other.

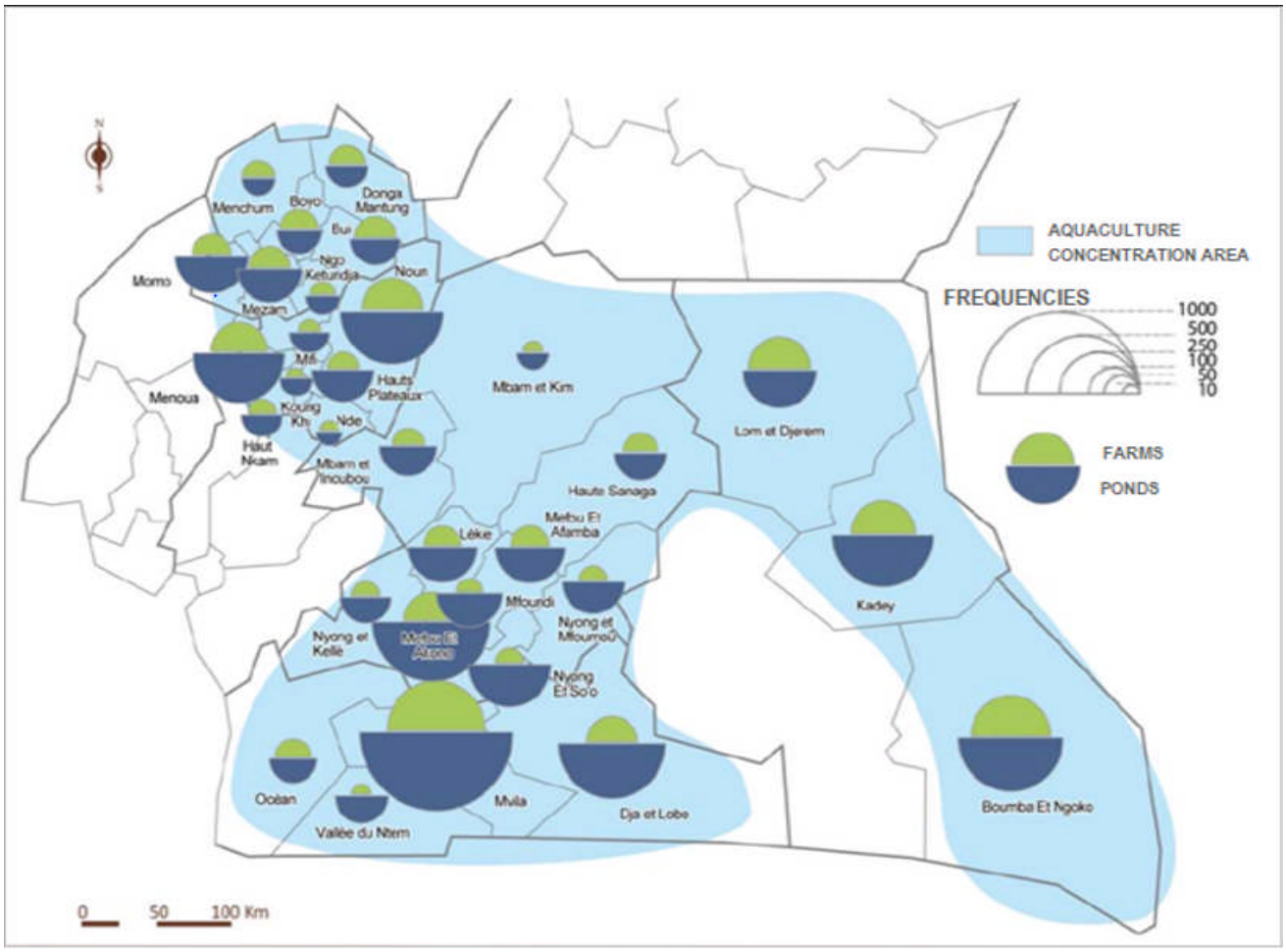
The use of reports, yearbooks and databases of MINEPIA, MINEPDED, MINEPAT and NIS made it possible to draw up a list of indicators for this subject.

***Table 2.5-14** : Trends in fisheries production between 2010 and 2016 (in tonnes)*

Type of fishing	2010	2011	2012	2013	2014	2015	2016
Industrial	4,001	15,021	13,013	11,079.3	9,336.1	9,960	8,648.4
Small-scale maritime	32,939.2	32,861.6	34,131.0	35,484.3	218,598.5	235923	190,205.1
Inland	160,821	157,077.1	163,144.6	169,613.1	22,113.7	233,216	19,337.7
Total	**197,761.2**	**204,959.7**	**210,288.7**	**216,176.7**	**250,048.4**	**266,769**	**218,191.2**

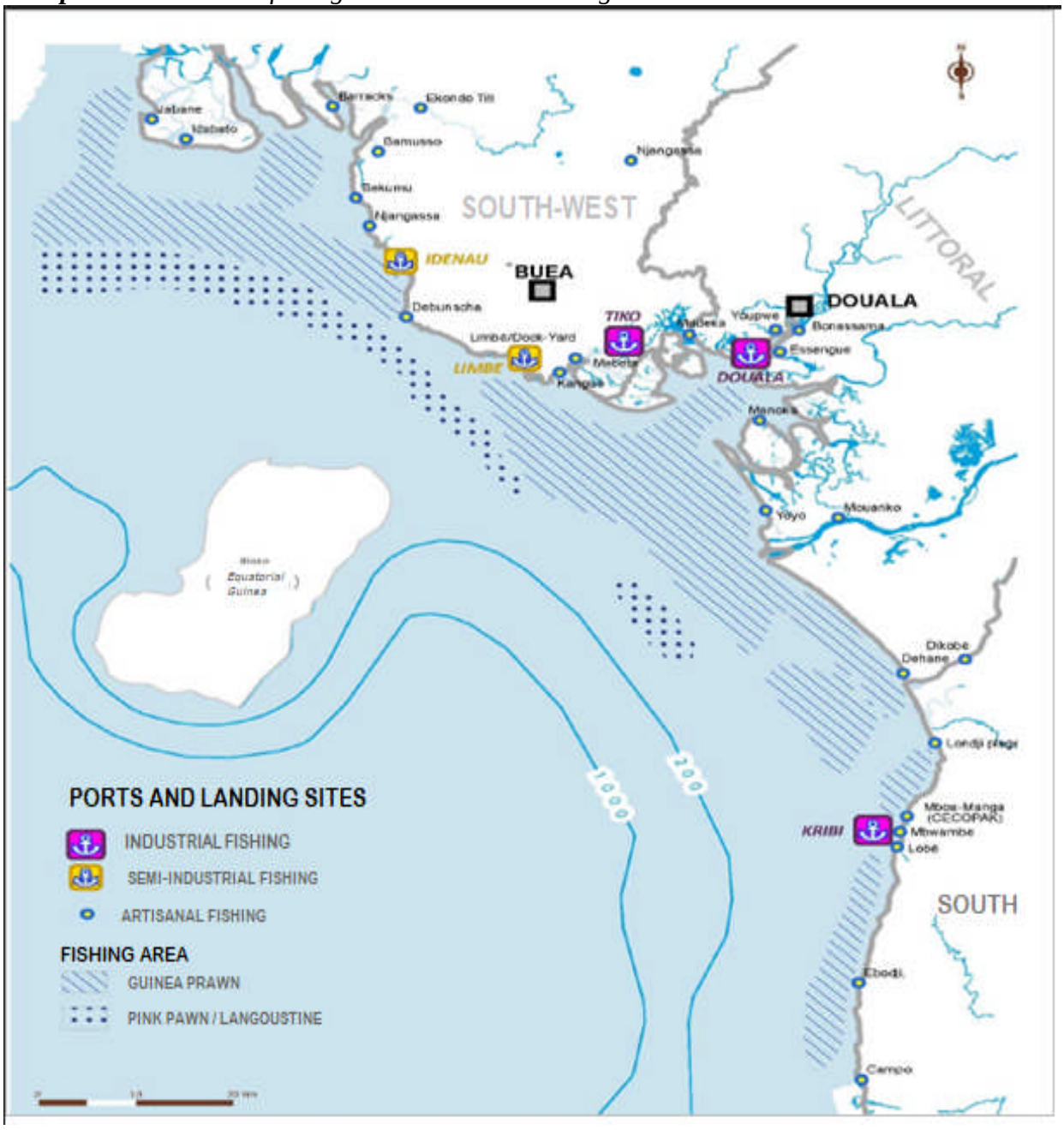
Source: MINEPIA/DEPCS

***Map 2.5-1:** Distribution of fish farms in the 5 divisions with high potential*



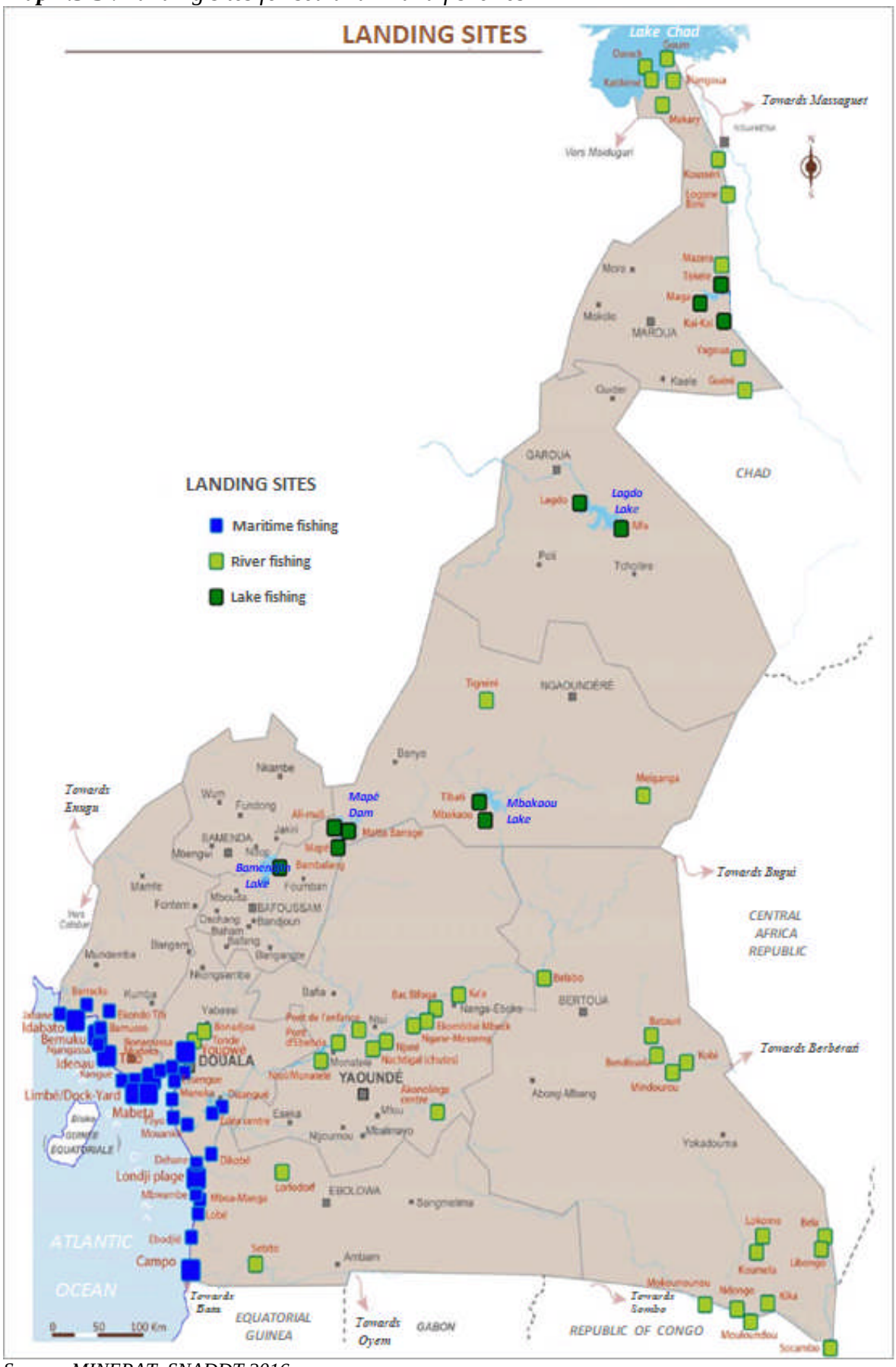
Source: MINEPAT, SNADDT (2016), MINEPIA (2013)

Map 2.5-2 : *Maritime fishing areas and main landing sites*



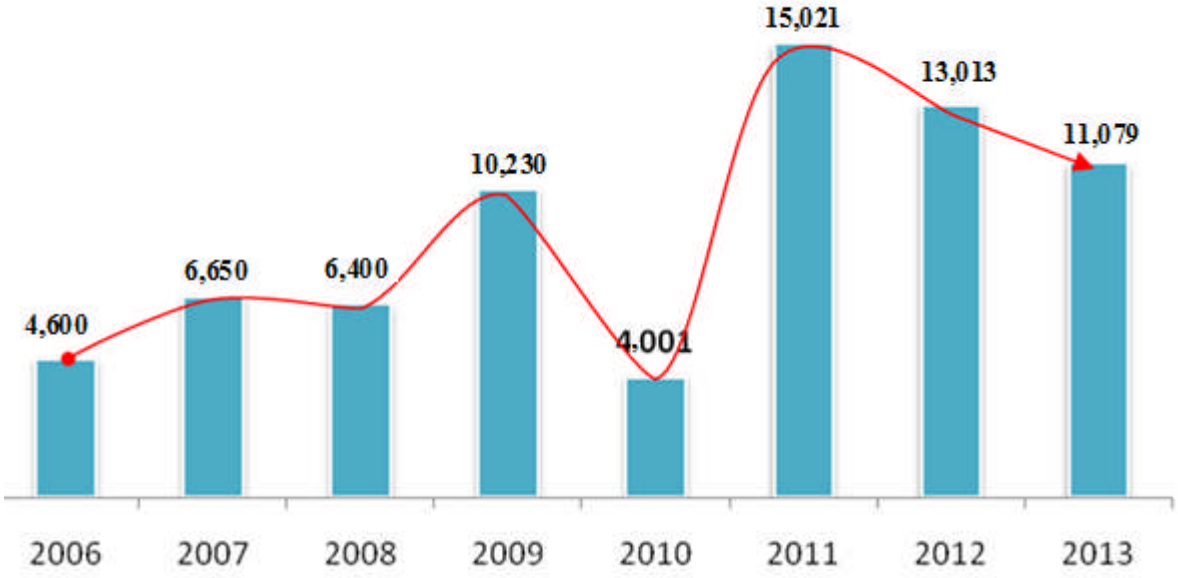
Source: MINEPAT, SNADDT 2016

Map 2.5-3 : *Landing sites for sea and inland fisheries*



Source: MINEPAT, SNADDT 2016

Figure 2.5-2 : *Trends in the industrial fishing catches in Cameroon over the 2006-2013 period (in tonnes)*



Source: MINEPIA: 2013 Statistical Yearbook (data from 2010–2013) and FAO (data from 2006 to 2009)

Table 2.5-15 : *Monthly production of fish capture in 2013 by region (in tonnes)*

Region	January	February	March	April	May	June	July	August	September	October	November	December	Total
Adamawa	1,566.0	1,069.6	4,390.6	1,819.3	5,439.6	6,760.7	3,249.8	3,498.1	2,670.1	4,695.1	3,219.7	5,923.1	**44,301.7**
Far North	523.3	1,062.9	1,620.7	1,625.5	3,298.5	4,619.6	3,194.1	3,074.9	2,670.1	4,695.1	3,219.7	5,922.0	**35,526.4**
North	709.8	6,834.0	5,618.0	7,291.2	5,844.9	5,881.3	229.7	404.3	71.0	6,115.8	6,242.6	4,921.4	**50,164.0**
North-West	1,847.9	1,759.7	2,525.6	3,394.9	935.0	625.4	464.2	473.9	276.1	284.4	495.2	567.1	**13,649.4**
West	195.7	352.1	370.8	379.8	457.1	476.4	399.1	332.9	339.8	62.1	62.4	3.1	**3,431.3**
South	250.4	280.8	275.3	282.9	298.2	268.1	194.3	211.5	206.6	215.1	252.0	304.7	**3,039.9**
South-West	2,041.0	2,231.2	2,722.7	2,417.5	1,321.5	2,764.9	1,118.1	2,029.9	4,010.8	3,882.2	1,914.1	2,194.0	**28,647.9**
Centre	115.1	78.6	322.6	339.4	311.2	350.4	238.8	283.8	316.9	158.6	409.3	709.4	**3,634.1**
East	23.8	47.6	58.0	80.6	114.0	49.7	78.5	102.8	63.8	119.9	183.6	749.1	**1,671.4**
Littoral	11,736.7	960.9	1,257.3	1,709.6	3,135.0	3,668.1	3,059.3	1,269.4	1,264.4	1,512.8	1,064.9	1,471.6	**32,110.0**
Cameroon	**19,009.7**	**14,677.4**	**19,161.6**	**19,340.7**	**21,155.0**	**25,464.6**	**12,225.9**	**11,681.5**	**11,889.6**	**21,741.1**	**17,063.5**	**22,765.5**	**216,176.1**

Source: MINEPIA 2013 Statistical Yearbook

Table 2.5-16 : *Fishing machines used in mangrove areas and on the Cameroon coastline*

Area	BSGN	SSGN	SP	ST	EP.	Pa	LM	P	NG	NC	MB	GN	O
Ocean	785	484	33	-	62	192	549	1	-	23,662	-	-	-
Sanaga Maritime	361	313	4	2	18	76	12	-	14	-	-	37	-
Wouri	713	3,171	24	2	61	655	23	32	2,278	10	20	424	-
Ndian	2,888	3,193	913	26	317	974	564	66	1,113	11,305	22	75	90
Fako	1,113	1,181	24	13	158	373	155	21	528	160	3	74	30
Total	**5,860**	**8,342**	**998**	**43**	**616**	**2,270**	**1,303**	**120**	**3,933**	**35,137**	**45**	**610**	**120**

Source: MINEPIA/MINADER, 2010
Note: BSGN: bottom set gillnet; SSGN: surface set gillnet; SP: Beach seine; ST: purse seine; Pa: longline; EP: sparrowhawk; LM: handline; P: pistol; NG: ngoto; NC: shrimp pot; MB: mbara; FM: mousgoum net; O: other (bamboo, PVC pipe)

Table 2.5-17 : *Fish farming production by species in 2013 in Cameroon*

Species	Fry production (number)	Fish production (tonnes)
Carp	48,607	23.8
Clarias	212,888	787.7
Hemichromis fasciatus	609	0.3
Kanga	3,328	8.5
Other species	3,500	-
Parankana	8,910	-
Viperfish	4,455	0.2
Catfish	38,551	369.2
Tilapia	671,493	1,124.8
Total	**992,341**	**2,314.5**

Source: MINEPIA 2013 Statistical Yearbook

Table 2.5-18 : *Fish farming production by region in 2013*

	Fry production (number)	Fish production (tonnes)
Adamawa	21,060	24.1
Centre	333,410	80.39
East	118,331	0
Far North	21,412	0.2
Littoral	2,000	475.2
North	0	0
North-West	407,726	627.8
West	108,450	660.1
South	192,123	476.7
South-West	200,415	8.9
Cameroon	**1,404,927**	**2,353.39**

Source: MINEPIA 2013 Statistical Yearbook

Table 2.5-19 : *Sea turtle species on the Cameroon coast and their conservation state*

Species	Common name	Conservation status
Chelonia mydas	Atlantic green sea turtle	Endangered
Eretmochelys Imbricata	Hawksbill turtle	Critically endangered
Dermochelys coriacea	Leatherback sea turtle	Critically endangered
Lepidochelys olivacea	Olive Ridley Sea Turtles	Vulnerable

Source: National biodiversity strategy and action plan, MINEPDED 2012

Table 2.5-20 : *Distribution and representativeness of artisanal fishing operators actors by coastal division*

Division	Nationality	Cameroonians	Nigerians	Ghanaians	Beninese	Togolese	Total
Ocean	Fishermen	2,131	184	0	8	2	2,325
	Other actors	1,587	129	0	16	0	1,732
	Total	**3,718**	**313**	**0**	**24**	**2**	**4,057**
	% per country	91.6	7.7	0.0	0.6	0.0	100.0
Sanaga Maritime	Fishermen	813	422	0	8	3	1,246
	Other actors	503	295	0	23	0	821
	Total	**1,316**	**717**	**0**	**31**	**3**	**2,067**
	% per country	63.7	34.7	0.0	1.5	0.1	100.0
Wouri	Fishermen	854	3,789	0	0	0	4,643
	Other actors	574	787	0	73	0	1,434
	Total	**1,428**	**4,576**	**0**	**73**	**0**	**6,077**
	% per country	23.5	75.3	0.0	1.2	0.0	100.0
Fako	Fishermen	665	3082	755	379	8	4,889
	Other actors	831	1,474	329	485	12	3,131
	Total	**1,496**	**4,556**	**1,084**	**864**	**20**	**8,020**
	% per country	18.7	56.8	13.5	10.8	0.2	100.0
Ndian	Fishermen	179	11,531	88	129	0	11,927
	Other actors	134	4,079	30	290	0	4,533
	Total	**313**	**15,610**	**118**	**419**	**0**	**16,460**
	% per country	1.9	94.8	0.7	2.5	0.0	100.0
Total	Fishermen	**4,642**	**19,008**	**843**	**524**	**13**	**25,030**
	Other actors	**3,629**	**6,764**	**359**	**887**	**12**	**11,651**
	Total	**8,271**	**25,772**	**1202**	**1411**	**25**	**36,681**
	% per country	**22.5**	**70.3**	**3.3**	**3.8**	**0.1**	**100.0**

Source: MINEPIA, 2009

Table 2.5-21 *: Fish imports (in tonnes and billionsof CFA francs)*

Year	Fish and shellfish		Frozen sea fish	
	Quantity	Value	Quantity	Value
2015	220,508	166,823	220,374	166,436
2016	237,381	167,310	237,152	166,835
2017	181,922	114,902	181,678	114,294
2018	225,708	154,608	225,294	154,608

Source: 2015, 2016, 2017, 2018 Briefs on foreign trade, NIS

Table 2.5-22 : *Export of frozen shrimps (in tonnes and billions of CFA francs)*

Year	Quantity	Value
2015	1	1
2016	324	227
2017	176	229
2018	0	0

Source: 2015, 2016, 2017, 2018 Briefs on foreign trade, NIS

Table 2.5-23 : *Cetacean species identified/likely to be present in Cameroon waters and IUCN status*

Scientific name	English name	IUCN Status
Order Cetacea		
	Family Delphinidae	
Stenella frontalis	Atlantic spotted dolphin	Data not available
Stenella clymene	Atlantic spinner dolphin	Data not available
Sousa teuszii	Atlantic humpback dolphin	Vulnerable
Delphinus delphis	Atlantic dolphin	Less affected
Delphinus capensis	Common bottlenose dolphin	Data not available
Tursiops truncates	Bottlenose dolphin	Less affected
Stenella coeruleoalba	Blue and white dolphin	Less affected
Grampus griseus	Risso's dolphin	Less affected
Tursiops	Bottlenose dolphin	Less affected
Stenella longgirotris	Long-beaked dolphin	Data not available
Stenella atenuata	Pantropical spotted dolphin	Less affected
Lagenodelphis hosei	Fraser's dolphin	Less affected
Pseudorca crassidens	False killer whale	Data not available
Orcinus orca	Orca	Data not available
Globicephala macrorhyncus	Pilot whale	Data not available
Feresa attenuata	Pygmy killer whale	Data not available
Peponocephala electra	Electra's dolphin	Less affected
	Family Zipihiidae	
Mesoplodon europaeus	Gervais' beaked whale	Data not available
	Family Balaenopteridae	
Balaenoptera borealis	Sei whale	Endangered
Balaenoptera physalus	Fin whale	Endangered
Eubalaena glacialis	Atlantic right whale	Endangered
Megaptera novaeangliae	Humpback whale	Vulnerable
	Family Physeteridae	
Physeter macrocephalus	Sperm whale	Vulnerable
	Family Phoeconidae	
Phoecoena phoecoena	Harbour porpoise	Less affected

Source: MINEPDED, National biodiversity strategy and action plan, 2012

Topic 2.5.3 : Agricultural crops

This topic tackles agricultural products grown for food or commercial purposes. The environmental statistics sought relate to areas used, production of the main types of crops, annual and perennial crops, etc.

The data presented in this document concern the main food and perennial crops, namely: maize, rice, millet/sorghum, yam, cocoyam/taro, cassava, sweet potato, irish potatoes, banana, plantain, pineapple, watermelon, tomato, cucumber, onion, groundnut, oil palm trees, sesame, soya bean, ginger, okra, bean, pepper, cowpeas, voandzou, cotton, cocoa, Robusta coffee, Arabica coffee, rubber.

The statistics on this topic come from the administrative data of the central and devolved services of MINADER.

In addition, statistics on imports and exports of agricultural products are taken from reports on the external trade note published by the NIS.

Some images for “agricultural crops”

1) Pineapple farms in Cameroon (left); 2) Onion farming in Cameroon (right).

Source: 1 et 2) Agriculture du Cameroun

Table 2.5-24 : *Trends in the surface area and in the production of the main cereals from 2011 to 2018 by region*

Products	Year		Adamawa	Centre	East	Far-North	Littoral	North	North-West	West	South	South-West	Cameroon
Maize	2011	Surface area (in ha)	113,459	122,107	58,602	89,885	84,483	130,038	111,415	207,314	44,724	105,188	1,067,214
		Production (in t)	167,132	179,870	86,324	132,405	124,449	191,553	164,120	305,385	65,881	154,948	157,2067
	2012	Surface area (in ha)	102,072	110,685	52,559	83,172	76,705	119,308	101,047	179,510	39,904	97,166	962,129
		Production (in t)	185,655	201,320	95,597	151,278	139,516	217,005	183,791	326,503	72,580	176,730	1,749,976
	2013	Surface area (in ha)	108,901	117,645	56,162	87,504	81,463	126,051	107,373	195,257	42,751	102,313	1,025,419
		Production (in t)	206,883	223,494	106,692	166,233	154,758	239,462	203,979	370,935	81,215	194,367	1,948,019
	2014	Surface area (in ha)	117,833	127,655	60,698	95,681	88,448	137,395	116,533	208,240	46,114	111,803	1,110,400
		Production (in t)	218,916	237,164	112,767	177,760	164,323	255,259	216,500	386,878	85,673	207,712	2,062,952
	2015	Surface area (in ha)	126,307	136,545	65,119	101,757	94,565	146,467	124,629	225,653	49,545	118,960	1,189,547
		Production (in t)	219,855	237,676	113,349	177,123	164,603	254,946	216,934	392,780	86,241	207,066	2,070,572
	2016	Surface area (in ha)	128,098	136,925	65,995	103,880	96,112	149,227	126,636	226,793	50,151	121,393	1,205,211
		Production (in t)	223,043	241,549	114,909	180,874	167,349	259,832	220,497	394,888	87,322	211,368	2,101,631
	2017	Surface area (in ha)	98,934	118,876	81,175	93,076	76,386	134,791	149,517	252,544	59,212	146,387	1,210,900
		Production (in t)	227,548	275,708	119,575	196,391	170,729	348,477	224,951	319,468	89,085	215,637	2,187,570
	2018	Surface area (in ha)	89,041	148,580	83,726	136,911	77,991	130,748	138,810	291,655	62,291	108,619	1,268,372
		Production (in t)	204,793	285,001	123,333	288,883	174,314	331,054	215,728	324,260	91,758	160,003	2,199,127
Millet/ Sorghum	2011	Surface area (in ha)	55,932	-	-	917,614	-	369,295	5,136	-	-	-	1,347,977
		Production (in t)	51,492	-	-	844,771	-	339979	4728	-	-	-	1,240,970
	2012	Surface area (in ha)	49,105	-	-	802,902	-	320,984	4,778	-	-	-	1,177,769
		Production (in t)	59,451	-	-	972,053	-	388,607	5,785	-	-	-	1,425,895
	2013	Surface area (in ha)	42,105	-	-	689,600	-	276,609	3,982	-	-	-	1,012,295
		Production (in t)	68,146	-	-	1,116,102	-	447,685	6,444	-	-	-	1,638,377
	2014	Surface area (in ha)	35,416	-	-	579,320	-	231,793	3,422	-	-	-	849,951
		Production (in t)	72296	-	-	1,182,589	-	473,169	6,985	-	-	-	1,735,040
	2015	Surface area (in ha)	38,999	-	-	638,539	-	255,967	3,708	-	-	-	937,213
		Production (in t)	43,314	-	-	709,183	-	284,286	4,118	-	-	-	1,040,902
	2016	Surface area (in ha)	43,363	-	-	709,422	-	283,938	4,179	-	-	-	1,040,902
		Production (in t)	47,699	-	-	780,364	-	312,332	4,597	-	-	-	1,144,992
	2017	Surface area (in ha)	39,515	-	-	542,493	-	180,720	5,128	-	-	-	767,855
		Production (in t)	47,418	-	-	775,765	-	310,491	4,569	-	-	-	1,138,243
	2018	Surface area (in ha)	40,701	-	-	547,033	-	334,118	489	-	-	-	922,341
		Production (in t)	48,841	-	-	782,257	-	400,942	450	-	-	-	1,232,490

Products	Year		Adamawa	Centre	East	Far-North	Littoral	North	North-West	West	South	South-West	Cameroon
Rice	2011	Surface area (in ha)	369	9,499	376	99,830	28	21,820	23,884	3,750	1,393	1,751	162,700
		Production (in t)	395	10,164	402	106,818	30	23,347	25,556	4,012	1,491	1,874	174,089
	2012	Surface area (in ha)	407	9,577	376	94,296	27	20,954	25,631	3,578	1,571	1,858	158,275
		Production (in t)	468	11,002	431	108,323	31	24,070	29,444	4,110	1,805	2,135	181,818
	2013	Surface area (in ha)	407	10,003	394	101,752	29	22,422	25,977	3,841	1,556	1,894	168,275
		Production (in t)	460	11,288	445	114,822	32	25,303	29,313	4,334	1,756	2,137	189,890
	2014	Surface area (in ha)	322	7,645	300	75,887	21	16,827	20,310	2,876	1,238	1,475	126,901
		Production (in t)	510	12,114	476	120,252	34	26,665	32,184	4,557	1,962	2,337	201,090
	2015	Surface area (in ha)	555	13,526	532	136,750	38	30,181	35,330	5,167	2,126	2,573	226,779
		Production (in t)	681	16,598	653	167,806	47	37,036	43,353	6,340	2,608	3,157	278,281
	2016	Surface area (in ha)	696	15,337	652	165,383	47	36,644	44,006	6,264	2,677	3,196	274,901
		Production (in t)	785	18,745	736	186,641	53	41,354	49,662	7,069	3,021	3,607	311,674
	2017	Surface area (in ha)	395	16,685	748	156,193	53	22,479	49,117	3,678	3,072	3,668	256,087
		Production (in t)	854	20,393	801	203,051	57	44,990	54,028	7,691	3,287	3,924	339,076
	2018	Surface area (in ha)	442	16,459	771	126,516	55	24,329	20,386	4,396	3,409	2,091	198,855
		Production (in t)	1,275	20,129	825	164,471	59	47,824	74,019	5,076	3,648	2,237	319,563

Source : MINADER/DESA: t= tonnes; ha= hectares

Table 2.5-25 : *Surface area and in the production of roots and tubers from 2011 to 2018 by region*

Products	Year		Adamawa	Centre	East	Far-North	Littoral	North	North-West	West	South	South-West	Cameroon
Yam	2011	Surface area (in ha)	5,909	12,060	5,326	-	4,868	1,127	8,029	3,030	518	3,970	44,836
		Production (in t)	68,141	139,084	61,421	-	56,140	12,992	92,589	34,945	5,972	45,785	517,069
	2012	Surface area (in ha)	6,054	12,557	5,599	-	5,260	1,199	8,502	3,209	562	4,187	47,130
		Production (in t)	69,079	143,293	63,885	-	60,025	13,687	97,020	36,618	6,416	47,779	537,802
	2013	Surface area (in ha)	6,462	13,295	5,899	-	5,467	1,256	8,926	3,369	583	4,405	49,662
		Production (in t)	72,782	149,750	66,446	-	61,582	14,145	100,537	37,945	6,567	49,613	559,366
	2014	Surface area (in ha)	6,681	13,830	6,159	-	5,767	1,317	9,344	3,527	616	4,604	51,846
		Production (in t)	73,668	152,499	67,908	-	63,588	14,526	103,035	38,888	6,793	5,0767	57,1672
	2015	Surface area (in ha)	7,051	14,530	6,453	-	5,996	1,375	9,770	3,687	640	4,819	54,321
		Production (in t)	78,170	161,081	71,538	-	66,472	15,248	108,316	40,881	7,092	53,431	602,228
	2016	Surface area (in ha)	7,384	31,777	6,799	-	6,358	1,453	10,312	3,892	679	5,082	73,737
		Production (in t)	79,752	164,967	73,428	-	68,668	15,697	111,371	42,034	7,334	54,885	618,136
	2017	Surface area (in ha)	4,136	27,013	6,590	-	6,642	1,300	9,443	3,132	638	3,811	62,705
		Production (in t)	82,717	164,967	75,998	-	74,123	14,503	100,791	36,443	7,121	43,951	600,614
	2018	Surface area (in ha)	3,706	31,380	6,821	-	6,486	1,335	8,867	3,664	663	2,444	65,367
		Production (in t)	74,129	169,851	78,658	-	74,800	15,397	96,356	42,638	7,651	28,183	587,662
Cocoyam/ *Taro*	2011	Surface area (in ha)	2,891	38,167	38,579	172	45,057	715	11,492	13,937	16,068	17,091	184,168
		Production (in t)	24,627	325,118	328,629	1,461	383,809	6,092	97,891	118,724	136,870	145,583	1,568,804
	2012	Surface area (in ha)	3,133	39,372	40,934	203	46,596	759	12,462	15,104	17,928	19,930	196,421
		Production (in t)	25,747	323,540	336,377	1,664	382,909	6,236	102,411	124,120	147,325	163,774	1,614,103
	2013	Surface area (in ha)	3,308	42,609	43,674	205	50,363	810	13,153	15,946	18,658	20,303	209,028
		Production (in t)	26,280	338,523	346,986	1,630	400,130	6,432	104,497	126,692	148,234	161,307	1,660,710
	2014	Surface area (in ha)	3,511	44,398	45,995	225	52,528	853	13,965	16,927	20,020	22,140	220,562
		Production (in t)	27,019	341,646	353,933	1,729	404,208	6,561	107,464	130,255	154,059	170,371	1,697,245
	2015	Surface area (in ha)	3,729	47,813	49,138	233	56,528	911	14,829	17,977	21,091	23,046	235,295
		Production (in t)	27,850	357,083	366,979	1,741	422,167	6,803	110,744	134,257	157,514	172,112	1,757,249
	2016	Surface area (in ha)	3,537	67,665	46,382	225	53,035	860	14,069	15,692	20,142	22,231	243,840
		Production (in t)	28,653	363,142	375,698	1,826	429,587	6,964	113,956	138,128	163,153	180,073	1,801,180
	2017	Surface area (in ha)	3,021	73,044	46,505	638	59,600	731	10,994	16,864	17,283	21,139	249,820
		Production (in t)	30,212	382,902	396,142	1,926	452,963	7,313	113,956	143,653	152,130	180,073	1,861,269
	2018	Surface area (in ha)	3,505	72,255	47,332	561	59,839	850	10,336	18,036	18,395	10,883	241,991
		Production (in t)	35,046	382,519	403,193	1,695	454,775	6,815	103,355	148,215	156,694	92,702	1,785,009

Products	Year		Adamawa	Centre	East	Far-North	Littoral	North	North-West	West	South	South-West	Cameroon
Cassava	2011	Surface area (in ha)	12,039	92,413	56,490	405	22,625	2,347	8,972	8,848	44,663	31,386	280,189
		Production (in t)	175,432	1,346,642	823,174	5,899	329,691	34,207	130,746	128,932	650,829	457,350	4,082,902
	2012	Surface area (in ha)	12,577	93,874	60,175	412	23,664	2,354	8,899	9,253	47,340	32,792	291,340
		Production (in t)	185,076	1,381,386	885,500	6,056	348,218	34,644	130,959	136,157	696,634	482,546	4,287,176
	2013	Surface area (in ha)	13,395	101,398	63,473	444	25,188	2,560	9,730	9,850	50,058	34,923	311,017
		Production (in t)	193,881	1,467,630	918,703	6,432	364,573	37,046	140,834	142,563	724,535	505,473	4,501,670
	2014	Surface area (in ha)	13,857	103,789	66,138	455	26,067	2,607	9,870	10,193	52,063	36,127	321,165
		Production (in t)	198,495	1,486,786	947,423	6,518	373,412	37,349	141,385	146,010	745,803	517,525	4,600,706
	2015	Surface area (in ha)	14,901	112,499	70,736	493	28,023	2,836	10,771	10,958	55,760	38,849	345,827
		Production (in t)	225,121	1,699,635	1,068,682	7,449	423,364	42,851	162,732	165,550	842,423	586,928	5,224,734
	2016	Surface area (in ha)	142,472	318,574	679,407	468	26,805	26,859	10,731	10,795	54,946	37,456	1,308,513
		Production (in t)	227,955	1,709,709	1,087,052	7,494	428,809	43,324	162,771	167,673	855,915	594,330	5,285,031
	2017	Surface area (in ha)	19,420	298,708	77,533	441	29,321	7,021	12,660	9,129	62,464	38,420	555,115
		Production (in t)	291,301	1,565,843	1,129,804	7,789	445,673	84,248	170,909	156,165	878,470	559,859	5,290,061
	2018	Surface area (in ha)	19,868	294,672	83,468	379	30,083	19,210	13,293	10,461	63,951	25,857	561,242
		Production (in t)	298,022	1,560,001	1,216,294	6,699	457,260	135,259	179,454	178,969	931,894	376,785	5,340,638
Sweet potatoes	2011	Surface area (in ha)	9,127	12,796	3,409	4,139	4,230	4,020	3,496	9,372	2,053	894	53,537
		Production (in t)	52,498	73,606	19,611	23,808	24,331	23,125	20,110	53,910	11,811	5,145	307,955
	2012	Surface area (in ha)	8,898	14,058	3,573	4,308	4,425	4,336	3,726	9,804	2,251	973	56,351
		Production (in t)	51,655	81,607	20,742	25,010	25,687	25,169	21,628	56,913	13,065	5,650	327,126
	2013	Surface area (in ha)	11,853	17,633	4,587	5,550	5,686	5,488	4,744	12,599	2,826	1,227	72,193
		Production (in t)	57,054	84,871	22,081	26,716	27,370	26,415	22,833	60,643	13,603	5,904	347,490
	2014	Surface area (in ha)	9,824	15,286	3,908	4,716	4,841	4,725	4,066	10,725	2,448	1,060	61,599
		Production (in t)	56,635	88,130	22,530	27,190	27,908	27,242	23,444	61,834	14,113	6,109	355,135
	2015	Surface area (in ha)	10,750	16,172	4,189	5,065	5,191	5,025	4,338	11,502	2,591	1,124	65,948
		Production (in t)	63,885	96,103	24,893	30,099	30,851	29,859	25,781	68,355	15,400	6,679	391,905
	2016	Surface area (in ha)	10,284	24,145	4,077	4,921	5,050	4,923	4,239	11,190	2,548	1,103	72,480
		Production (in t)	68,332	105,730	27,088	32,701	33,557	32,710	28,165	74,351	16,933	7,332	426,899
	2017	Surface area (in ha)	7,267	24,763	5,008	2,176	6,586	7,990	1,803	3,499	3,219	3,234	65,545
		Production (in t)	72,666	112,436	28,806	34,775	35,685	44,105	30,768	90,693	17,441	18,604	485,979
	2018	Surface area (in ha)	7,637	27,241	5,353	1,816	6,756	9,620	2,116	4,412	3,123	1,677	69,750
		Production (in t)	76,371	120,869	30,794	29,016	38,861	53,774	33,613	108,994	17,964	9,646	519,903

Products	Year		Adamawa	Centre	East	Far-North	Littoral	North	North-West	West	South	South-West	Cameroon
Irish potatoes	2011	Surface area (in ha)	663	36	-	69	27	1,575	3,356	8,295	41	335	14,395
		Production (in t)	9,056	487	-	939	366	21,516	45,858	113,334	556	4,575	196,687
	2012	Surface area (in ha)	677	38	-	70	28	1,693	3,442	8,548	43	340	14,879
		Production (in t)	9,551	542	-	986	395	23,895	48,589	120,651	604	4,803	210,015
	2013	Surface area (in ha)	691	38	-	71	28	1,684	3,505	8,683	43	348	15,092
		Production (in t)	10,262	567	-	1,061	419	25,022	52,082	129,020	640	5,172	224,246
	2014	Surface area (in ha)	667	38	-	69	27	1,658	3,391	8,414	42	336	14,641
		Production (in t)	10,228	577	-	1,056	422	25,427	52,005	129,056	645	5,147	224,562
	2015	Surface area (in ha)	1,028	57	-	106	42	2,520	5,222	12,941	64	518	22,499
		Production (in t)	15,830	879	-	1,637	648	38,788	80,379	199,206	990	7,975	346,332
	2016	Surface area (in ha)	1,184	98	-	122	49	2,936	6,018	14,930	75	596	26,007
		Production (in t)	17,520	985	-	1,809	722	43,450	89,059	220,963	1,103	8,817	384,429
	2017	Surface area (in ha)	1,203	113	-	95	59	10,499	9,914	28,491	88	613	51,073
		Production (in t)	18,046	1,015	-	1,864	743	48,664	90,002	229,802	1,110	8,377	399,621
	2018	Surface area (in ha)	1,160	78	-	94	55	11,599	10,027	23818	82	454	47,368
		Production (in t)	17,396	751	-	1,850	758	54,990	91,059	234,398	1,125	6,199	408,525

Source: MINADER/DESA. t= tonnes; ha= hectares

Table 2.5-26 : *Surface area and production of bananas from 2011 to 2018 by region*

Products	Year		Adamawa	Centre	East	Far-North	Littoral	North	North-West	West	South	South-West	Cameroon
Banana	2011	Surface area (in ha)	103	27,886	12,207	1	12,185	18	3,229	5,371	7,316	16,275	84,591
		Production (in t)	1,696	459,764	201,255	22	200,890	300	53,245	88,556	120,617	268,330	1,394,675
	2012	Surface area (in ha)	114	32,064	13,109	1	12,011	17	3,183	5,314	7,601	16,330	89,744
		Production (in t)	1,867	525,563	214,863	13	196,878	285	52,174	87,108	124,582	267,673	1,471,007
	2013	Surface area (in ha)	83	22,816	9,644	1	9,229	14	2,446	4,076	5,685	12,434	66,428
		Production (in t)	1,928	532,898	225,255	19	215,567	317	57,131	95,195	132,791	290,414	1,551,517
	2014	Surface area (in ha)	84	23,489	9,682	1	8,970	13	2,377	3,967	5,637	12,166	66,385
		Production (in t)	2,102	589,045	242,799	16	224,935	327	59,611	99,473	141,366	305,103	1,664,777
	2015	Surface area (in ha)	85	23,517	9,877	1	9,377	14	2,485	4,142	5,805	12,654	67,956
		Production (in t)	1,351	374,712	157,384	12	149,408	219	39,597	66,002	92,493	201,621	1,082,800
	2016	Surface area (in ha)	91	21,157	10,547	1	9,811	14	2,600	4,338	6,151	13,297	68,007
		Production (in t)	1,410	394,403	163,074	11	151,696	221	40,202	67,073	94,805	205,583	1,118,479
	2017	Surface area (in ha)	117	25,469	9,872	1	13,755	19	2,035	4,033	5,498	8,020	68,820
		Production (in t)	1,407	393,645	162,761	11	151,405	329	35,201	74,652	95,095	132,233	1,046,740
	2018	Surface area (in ha)	109	22,238	9,960	1	13,812	19	2,135	4,143	5,889	5,948	64,255
		Production (in t)	1,309	395,015	164,210	11	145,651	321	35,200	76,684	97,095	98,071	1,013,566
Plantain	2011	Surface area (in ha)	1,528	68,321	69,177	-	36,308	39	9,625	16,817	49,033	23,494	274,342
		Production (in t)	19,082	853,135	863,821	-	453,381	482	120,195	210,001	612,285	293,375	342,5757
	2012	Surface area (in ha)	1,636	72,342	74,184	-	37,820	42	9,923	17,825	50,627	18,991	283,390
		Production (in t)	20,605	911,154	934,356	-	476,348	532	124,977	224,503	637,654	239,189	3,569,318
	2013	Surface area (in ha)	1,607	71,458	72,821	-	37,663	41	9,933	17,598	50,639	21,630	283,390
		Production (in t)	21,092	937,737	955,624	-	494,243	539	130,347	230,941	664,526	283,846	3,718,895
	2014	Surface area (in ha)	1,734	76,767	78,600	-	40,214	45	10,565	18,913	53,891	20,916	301,644
		Production (in t)	22,037	975,777	999,080	-	511,163	567	134,285	240,397	685,010	265,865	3,834,180
	2015	Surface area (in ha)	1,782	79,136	80,741	-	41,646	46	10,973	19,491	55,948	23,352	313,113
		Production (in t)	23,202	1,030,506	1,051,410	-	542,306	594	142,884	253,811	728,546	304,085	4,077,344
	2016	Surface area (in ha)	1,936	183,911	87,769	-	44,966	50	11,819	21,130	60,284	23,691	435,556
		Production (in t)	24,560	1,088,061	1,113,397	-	570,416	631	149,924	268,047	764,730	300,537	4,280,305
	2017	Surface area (in ha)	2,094	188,148	91,217	-	47,099	205	17,891	20,462	64,191	25,669	456,976
		Production (in t)	25,126	1,113,128	1,139,048	-	583,557	2,505	159,924	268,047	7823,48	320,536	4,394,220
	2018	Surface area (in ha)	1,947	188,753	99,413	-	51,433	313	15,179	18,066	71,403	19,975	466,482
		Production (in t)	23,367	1,115,354	1,241,390	-	585,308	3,903	156,044	236,665	891,620	249,426	4,503,078

Source: MINADER/DESA. t= tonnes; ha= hectares

***Table 2.5-27** : Surface area and production of main fruits and vegetables from 2011 to 2018 by region*

Products	Year		Adamawa	Centre	East	Far-North	Littoral	North	North-West	West	South	South-West	Cameroon
Pineapple	2011	Surface area (in ha)	40	2,540	243	-	1,752	-	12	37	26	60	4,711
		Production (in t)	1,414	89,217	8,541	-	61,545	-	431	1,298	927	2,098	165,471
	2012	Surface area (in ha)	44	2,590	251	-	1,808	-	13	39	27	62	4,835
		Production (in t)	1,523	89,940	8,708	-	62,790	-	441	1,360	944	2,150	167,856
	2013	Surface area (in ha)	54	3,306	318	-	2,295	-	16	49	35	78	6,151
		Production (in t)	1,500	91,519	8,811	-	63,512	-	446	1,358	956	6,653	174,754
	2014	Surface area (in ha)	74	4,430	428	-	3,088	-	22	67	46	106	8,262
		Production (in t)	1581	94,134	9,102	-	65,621	-	461	1,417	986	9,846	183,148
	2015	Surface area (in ha)	77	4,683	451	-	3,254	-	23	70	49	111	8,718
		Production (in t)	1,772	107,462	10,357	-	74,659	-	524	1,600	2,349	13,534	212,257
	2016	Surface area (in ha)	85	6,161	493	-	3,554	-	25	77	53	122	10,570
		Production (in t)	1,923	114,846	11,098	-	80,014	-	562	1,725	3,456	13,941	227,566
	2017	Surface area (in ha)	94	7,995	491	-	2,971	-	21	79	96	391	12,138
		Production (in t)	2,990	123,570	17,253	-	81,614	-	601	1,864	3,354	13,718	244,963
	2018	Surface area (in ha)	97	7,235	501	-	2,977	-	23	86	95	418	11,431
		Production (in t)	3,259	128,513	17,598	-	81,777	-	643	2,013	3,350	14,678	251,831
Watermelon	2011	Surface area (in ha)	-	581	40	-	90	-	50	1,028	2	9	1,800
		Production (in t)	-	14,897	1,014	-	2,309	-	1,290	26,345	39	219	46,113
	2012	Surface area (in ha)	-	654	45	-	101	-	56	1,095	2	10	1,962
		Production (in t)	-	16,691	1,142	-	2,587	-	1,434	27,962	47	244	50,108
	2013	Surface area (in ha)	-	896	61	-	139	-	77	1,542	2	13	2,730
		Production (in t)	-	22,830	1,558	-	3,538	-	1,969	39,294	62	335	69,587
	2014	Surface area (in ha)	-	925	63	-	143	-	80	1,561	3	14	2,788
		Production (in t)	-	23,531	1,609	-	3,647	-	2,024	39,686	66	345	70,907
	2015	Surface area (in ha)	-	957	65	-	148	-	82	1,638	3	14	2,908
		Production (in t)	-	24,280	1,658	-	3,763	-	2,093	41,577	67	356	73,793
	2016	Surface area (in ha)	-	3,558	72	-	163	-	91	1,783	3	15	5,686
		Production (in t)	-	25,432	1,739	-	3,942	-	2,188	43,001	71	373	76,745
	2017	Surface area (in ha)	-	1,944	72	-	294	-	14	1,641	3	4	3,970
		Production (in t)	-	26,878	1,838	-	7,750	-	300	43,001	72	91	79,930
	2018	Surface area (in ha)	-	2,195	76	-	296	-	90	2,081	3	2	4,744
		Production (in t)	-	21,014	1,942	-	7,820	-	2,309	53,772	79	60	86,996

Products	Year		Adamawa	Centre	East	Far-North	Littoral	North	North-West	West	South	South-West	Cameroon
Tomatoes	2011	Surface area (in ha)	47,93	12,005	374	99	400	-	3,596	45,365	681	237	67,550
		Production (in t)	60,529	151,602	4,725	1,250	5,050	-	45,410	572,894	8,605	2,995	853,060
	2012	Surface area (in ha)	5,011	11,599	399	105	244	-	3,524	49,084	637	215	70,818
		Production (in t)	62,955	145,741	5,013	1,324	3,060	-	44,273	616,721	8,001	2,705	889,794
	2013	Surface area (in ha)	5,257	12,669	415	110	347	-	3,821	50,627	708	243	74,197
		Production (in t)	65,733	158,413	5,183	1,370	4,341	-	47,772	63,3027	8,850	3,039	927,729
	2014	Surface area (in ha)	5,401	12,631	429	113	286	-	3,830	52,681	697	236	76,304
		Production (in t)	67,210	157,188	5,339	1,411	3,560	-	47,660	655,608	8,669	2,942	949,587
	2015	Surface area (in ha)	5,835	13,957	461	122	366	-	4,215	56,370	777	266	82,370
		Production (in t)	72,294	172,939	5,711	1,509	4,538	-	52,222	698,457	9,632	3,298	1,020,601
	2016	Surface area (in ha)	6,557	9,174	520	137	358	-	4,664	63,857	850	289	86,407
		Production (in t)	83,679	196,450	6,641	1,755	4,569	-	59,524	814,955	10,852	3,689	1,182,114
	2017	Surface area (in ha)	7,333	7,513	553	201	399	-	4,557	43,997	982	38	65,572
		Production (in t)	87,994	190,160	6,984	1,845	4,805	-	50,115	733,460	11,829	477	1,087,669
	2018	Surface area (in ha)	5,470	8,289	573	207	383	-	5,383	47,140	1,021	322	68,788
		Production (in t)	65,644	189,580	7,242	1,901	4,838	-	53,488	880,152	12,894	4,062	1,219,799
Cucumber	2011	Surface area (in ha)	34,514	58,141	28,449	2,991	30,147	-	3,159	1,844	10,068	25,684	194,998
		Production (in t)	35,220	59,331	29,031	3,052	30,764	-	3,224	1,882	10,274	26,210	198,988
	2012	Surface area (in ha)	31,612	64,083	32,591	3,421	26,382	-	5,199	2,110	27,319	28,398	221,114
		Production (in t)	31,351	63,553	32,321	3,392	26,164	-	5,156	2,092	27,093	28,163	219,285
	2013	Surface area (in ha)	33,982	62,447	31,149	3,272	29,091	-	4,218	2,018	18,606	27,629	212,412
		Production (in t)	32,713	60,115	29,986	3,150	28,005	-	4,061	1,942	17,911	26,597	204,479
	2014	Surface area (in ha)	35,004	69,158	35,001	3,674	29,418	-	5,374	2,266	27,239	30,634	237,768
		Production (in t)	32,815	64,832	32,812	3,444	27,577	-	5,038	2,124	25,535	28,718	222,895
	2015	Surface area (in ha)	41,155	76,962	38,528	4,046	35,081	-	5,392	2,495	24,761	34,061	262,483
		Production (in t)	37,665	70,437	35,262	3,703	32,106	-	4,935	2,284	22,662	31,173	240,227
	2016	Surface area (in ha)	44,641	24,516	44,137	4,634	37,610	-	6,677	2,858	33,354	38,695	237,120
		Production (in t)	42,081	82,359	41,606	4,368	35,454	-	6,294	2,694	31,442	36,476	282,773
	2017	Surface area (in ha)	32,665	82,618	41,995	4,333	35,401	-	6,345	2,529	31,697	34,494	272,078
		Production (in t)	39,199	84,994	42,854	5,200	36,872	-	6,609	2,828	33,014	35,200	286,769
	2018	Surface area (in ha)	31,032	34,609	43,255	5,417	37,939	-	6,800	3,529	33,969	33,976	230,526
		Production (in t)	37,239	89,244	44,140	6,500	38,715	-	6,939	3,947	34,664	34,672	296,060

Products	Year		Adamawa	Centre	East	Far-North	Littoral	North	North-West	West	South	South-West	Cameroon
Onion	2011	Surface area (in ha)	54	415	20	10,573	21	1,001	141	992	30	15	13,260
		Production (in t)	746	5,764	274	146,735	287	13,890	1,954	13,764	412	206	184,032
	2012	Surface area (in ha)	34	726	29	10,308	41	1,854	254	1,734	53	30	15,062
		Production (in t)	450	9,545	379	135,517	534	24,377	3,342	22,797	691	392	198,024
	2013	Surface area (in ha)	55	692	30	12,900	37	1,729	239	1,653	50	27	17,413
		Production (in t)	691	8,687	372	161,856	465	21,692	3,003	20,746	626	339	218,476
	2014	Surface area (in ha)	61	1,129	46	17,102	63	2,868	394	2,695	82	46	24,486
		Production (in t)	741	13,701	553	207,621	760	34,822	4,783	32,722	991	557	297,251
	2015	Surface area (in ha)	76	1,056	44	18,646	57	2,649	366	2,521	76	42	25,534
		Production (in t)	900	12,417	523	219,319	671	31,161	4,305	29,654	895	490	300,335
	2016	Surface area (in ha)	65	4,876	46	17,647	63	2,882	396	2,713	82	46	28,815
		Production (in t)	783	13,761	559	213,791	760	34,909	4,799	32,866	995	557	303781
	2017	Surface area (in ha)	75	1,200	43	26,677	40	8235	88	0	51	0	36,408
		Production (in t)	834	2,240	596	277,706	810	49,387	700	33,852	1,021	0	367,146
	2018	Surface area (in ha)	78	978	0	29,345	0	3,513	107	0	74	0	34,094
		Production (in t)	888	2,524	602	30,5477	824	62,710	900	23,696	1,033	0	398,654

Source: MINADER/DESA. t= tonnes; ha= hectares

***Table 2.5-28** : Oilseed surface area and production from 2011 to 2018 by region*

Products	Years		Adamawa	Centre	East	Far-North	Littoral	North	North-West	West	South	South-West	Cameroon
Groundnut	2011	Surface area (in ha)	8,562	43,046	82,990	131,321	2,851	94,184	6,020	2,755	4,858	26,888	403,475
		Production (in t)	11,973	60,196	116,056	183,643	3,987	131,709	8,419	3,852	6,794	37,601	564,230
	2012	Surface area (in ha)	9,779	47,956	93,634	127,471	3,123	127,242	6,643	2,986	16,814	17,632	453,279
		Production (in t)	13,877	68,052	132,870	180,887	4,431	180,562	9,426	4,237	23,859	25,020	643,222
	2013	Surface area (in ha)	9,340	46,377	84,522	132,416	3,046	112,217	6,455	2,928	16,192	23,035	436,528
		Production (in t)	15,233	75,639	137,854	215,967	4,968	183,022	10,528	4,775	26,409	37,569	711,965
	2014	Surface area (in ha)	8,912	43,841	84,171	118,701	2,861	113,756	6,080	2,739	15,355	17,537	413,954
		Production (in t)	15,864	78,041	149,829	211,296	5,093	202,493	10,823	4,876	27,333	31,218	736,867
	2015	Surface area (in ha)	9,334	46,238	85,371	130,318	3,032	113,901	6,430	2,912	16,156	21,851	435,544
		Production (in t)	13,045	64,622	119,315	182,131	4,237	159,187	8,987	4,069	22,580	30,539	608,714
	2016	Surface area (in ha)	8,931	112,125	83,908	119,908	2,873	113,166	6,103	2,752	15,400	18,128	483,294
		Production (in t)	13,397	69,397	125,862	179,861	4,309	169,750	9,155	4,128	23,099	27,192	626,150
	2017	Surface area (in ha)	14,483	71,327	96,393	130,497	3,280	105,517	10,217	3,139	21,839	5,513	462,205
		Production (in t)	14,483	71,327	134,798	194,440	4,658	164,827	15,563	4,458	31,020	7,710	643,285
	2018	Surface area (in ha)	14,801	92,594	99,371	139,632	3,531	133,025	8,438	3,634	16,268	5,527	516,821
		Production (in t)	14,801	73,327	138,963	208,051	4,938	179,661	11,983	5,082	22,750	7,729	667,285
Palm oil	2011	Surface area (in ha)	-	24,353	2,967	-	26,159	-	18,695	1,991	3,822	45,015	123,002
		Production (in t)	-	70,102	8,542	-	75,301	-	53,817	5,732	11,001	129,581	354,076
	2012	Surface area (in ha)	-	18,968	2,321	-	19,809	-	14,534	1,554	3,281	32,238	92,705
		Production (in t)	-	54,337	6,650	-	56,747	-	41,634	4,452	9,398	92,353	265,570
	2013	Surface area (in ha)	-	22,950	2,803	-	24,305	-	17,602	1,878	3,788	40,687	114,014
		Production (in t)	-	40,095	4,897	-	42,462	-	30,751	3,282	6,619	71,082	199,187
	2014	Surface area (in ha)	-	24,610	3,010	-	25,791	-	18,861	2,016	4,208	42,273	120,769
		Production (in t)	-	43,025	5,263	-	45,089	-	32,975	3,524	7,358	73,905	211,138
	2015	Surface area (in ha)	-	25,637	3,132	-	27,079	-	19,659	2,099	4,270	45,094	126,969
		Production (in t)	-	45,987	5,618	-	48,573	-	35,264	3,765	7,660	80,888	227,755
	2016	Surface area (in ha)	-	11,903	3,539	-	30,363	-	22,178	2,370	4,927	49,900	125,179
		Production (in t)	-	56,509	6,911	-	59,297	-	43,313	4,628	9,622	97,452	277,732
	2017	Surface area (in ha)	-	14,755	3,345	-	52,927	-	32,738	1,682	0	35,208	140,654
		Production (in t)	-	79,039	9,630	-	82,626	-	48,943	4,860	0	101,350	326,448
	2018	Surface area (in ha)	-	17,323	3,278	-	55,498	-	17,687	1,678	0	21,125	116,589
		Production (in t)	-	85,857	9,437	-	99,317	-	54,229	4,850	0	60,810	314,500

Products	Years		Adamawa	Centre	East	Far-North	Littoral	North	North-West	West	South	South-West	Cameroon
Sesame	2011	Surface area (in ha)	1,578	3,642	6,435	11,422	-	4,348	-	2,100	1,653	-	31,179
		Production (in t)	2,256	5,206	9,197	16,325	-	6,215	-	3,001	2,363	-	44,563
	2012	Surface area (in ha)	1,818	4,252	7,531	13,457	-	5,226	-	2,484	1,952	-	36,721
		Production (in t)	2,515	5,883	10,419	18,617	-	7,231	-	3,436	2,701	-	50,803
	2013	Surface area (in ha)	2,021	4,694	8,304	14,788	-	5,687	-	2,724	2,143	-	40,361
		Production (in t)	2,714	6,305	11,153	19,863	-	7,638	-	3,659	2,878	-	54,211
	2014	Surface area (in ha)	2,151	5,023	8,893	15,877	-	6,151	-	2,929	2,303	-	43,326
		Production (in t)	2,811	6,563	11,620	20,745	-	8,037	-	3,827	3,009	-	56,612
	2015	Surface area (in ha)	2,391	5,561	9,838	17,532	-	6,754	-	3,231	2,541	-	47,848
		Production (in t)	3,047	7,087	12,539	22,345	-	8,609	-	4,118	3,239	-	60,984
	2016	Surface area (in ha)	2,591	5,768	10,701	19,099	-	7,392	-	3,523	2,770	-	51,843
		Production (in t)	3,401	7,935	14,048	25,072	-	9,705	-	4,625	3,636	-	68,422
	2017	Surface area (in ha)	2,600	5,996	11,136	17,886	-	12,677	-	-	2,856	-	53,151
		Production (in t)	3,673	8,491	15,917	25398	-	11,287	-	5,180	4,072	-	74,017
	2018	Surface area (in ha)	2,612	6,508	12,617	18,119	-	13,314	-	-	3,191	-	56,361
		Production (in t)	3,967	9,085	18,033	25,728	-	13,126	-	5,801	4,561	-	80,302
Soya beans	2011	Surface area (in ha)	89	2,166	-	413	2,134	340	1,683	2,775	57	131	9,788
		Production (in t)	119	2,894	-	552	2,851	454	2,249	3,707	76	175	13,077
	2012	Surface area (in ha)	81	1,957	-	368	1,886	293	1,511	2,526	51	118	8,791
		Production (in t)	108	2,614	-	491	2,519	392	2,019	3,374	68	157	11,742
	2013	Surface area (in ha)	79	1,908	-	361	1,859	292	1,478	2,453	50	115	8,595
		Production (in t)	105	2,548	-	482	2,482	391	1,974	3,276	66	154	11,477
	2014	Surface area (in ha)	89	2,162	-	407	2,089	326	1,671	2,788	56	130	9,719
		Production (in t)	119	2,887	-	543	2,789	435	2,231	3,722	75	174	12,975
	2015	Surface area (in ha)	147	3,561	-	673	3,463	544	2,757	4,583	93	215	16,035
		Production (in t)	196	4,754	-	899	4,622	726	3,681	6,117	124	287	21,405
	2016	Surface area (in ha)	160	3,539	-	730	3,747	585	2,995	4,994	101	233	17,082
		Production (in t)	225	5,462	-	1,029	5,283	825	4,222	7,041	142	329	24,558
	2017	Surface area (in ha)	164	4,933	-	636	4,741	595	2,219	6,921	117	254	20,581
		Production (in t)	259	6,282	-	1,183	6,076	1,112	4,438	7,393	150	340	27,233
	2018	Surface area (in ha)	193	4,983	-	1,215	4,603	625	2,332	6,131	116	263	20,462
		Production (in t)	304	7,224	-	2,260	6,150	1,113	4,664	6,432	155	352	28,655

Source: MINADER/DESA. t= tonnes; ha= hectares

Table 2.5-29 : *Surface area and production of vegetables and spices from 2011 to 2018 by region*

Products	Years		Adamawa	Centre	East	Far-North	Littoral	North	North-West	West	South	South-West	Cameroon
Ginger	2011	Surface area (in ha)	-	19	-	-	2,960	-	1,216	514	7	181	4,898
		Production (in t)	-	157	-	-	24,497	-	10,065	4,254	61	1,497	40,531
	2012	Surface area (in ha)	-	20	-	-	3,157	-	1,314	551	7	188	5,236
		Production (in t)	-	172	-	-	27,123	-	11,287	4,733	64	1,611	44,990
	2013	Surface area (in ha)	-	22	-	-	3,387	-	1,401	590	8	204	5,611
		Production (in t)	-	192	-	-	30,146	-	12,465	5,248	73	1,817	49,940
	2014	Surface area (in ha)	-	21	-	-	3,337	-	1,387	582	8	199	5,534
		Production (in t)	-	195	-	-	30,780	-	12,788	5,368	73	1,835	51,039
	2015	Surface area (in ha)	-	22	-	-	3,506	-	1,451	611	8	211	5,809
		Production (in t)	-	213	-	-	33,450	-	13,848	5,826	80	2,010	55,428
	2016	Surface area (in ha)	-	172	-	-	4,865	-	2,020	848	12	290	8,207
		Production (in t)	-	303	-	-	47,812	-	19,853	8,337	113	2,854	79,273
	2017	Surface area (in ha)	-	1,756	-	-	5,913	-	2,406	861	14	362	11,312
		Production (in t)	-	2,108	-	-	50,251	-	20,448	8,770	120	2,997	84,694
	2018	Surface area (in ha)	-	1,267	-	-	6,328	-	2,575	873	15	380	11,438
		Production (in t)	-	2,000	-	-	52,361	-	21,307	8,323	128	3,147	87,266
Okra	2011	Surface area (in ha)	1,334	1,920	50	9,781	926	91	3,679	3,478	2,243	500	24,004
		Production (in t)	3,530	5,082	133	25,889	2,452	241	9,738	9,206	5,938	1,324	63,533
	2012	Surface area (in ha)	1,415	2,053	48	10,657	1,113	77	4,264	3,439	2,732	311	26,109
		Production (in t)	3,743	5,429	128	28,189	2,943	205	11,278	9,097	7,225	823	69,060
	2013	Surface area (in ha)	1,558	2,252	56	11,581	1,153	96	4,495	3,928	2,812	465	28,396
		Production (in t)	4,120	5,953	148	30,616	3,048	254	11,883	10,383	7,435	1,230	75,068
	2014	Surface area (in ha)	1,563	2,265	54	11,733	1211	88	4,659	3,835	2,968	375	2,8750
		Production (in t)	4,130	5,985	143	30,999	3,199	233	12,310	10,131	7,841	990	75,960
	2015	Surface area (in ha)	1,616	2,337	58	12,039	1,210	97	4,700	4,046	2,954	459	29,514
		Production (in t)	4,267	6,170	152	31,790	3,194	257	12,410	10,683	7,800	1,211	77,935
	2016	Surface area (in ha)	1,817	6,401	63	13,620	1,399	104	5,393	4,472	3,428	449	37,146
		Production (in t)	4,397	6,370	153	32,964	3,387	251	13,053	10,824	8,296	1,087	80,780
	2017	Surface area (in ha)	1,902	5,374	60	15,927	1,362	103	5,189	4,457	3,463	358	38,195
		Production (in t)	4,662	6,483	160	41,783	3,426	260	13,053	11,231	8,711	949	90,717
	2018	Surface area (in ha)	1,997	6,000	62	17,104	1,397	102	4,932	4,692	3,456	209	39,951
		Production (in t)	5,158	6,420	165	50,083	3,698	270	13,053	11,823	9,147	553	100,370

Products	Years		Adamawa	Centre	East	Far-North	Littoral	North	North-West	West	South	South-West	Cameroon
Beans	2011	Surface area (in ha)	3,389	2,750	1,015	36,118	11,628	14,196	103,802	104,421	512	8,026	285,858
		Production (in t)	4,344	3,526	1,301	46,303	14,907	18,199	133,072	133,865	657	10,289	366,463
	2012	Surface area (in ha)	4,620	3,634	1,324	48,305	15,062	18,608	139,752	140,945	370	10,510	383,130
		Production (in t)	5,907	4,646	1,693	61,760	19,258	23,792	178,679	180,205	473	13,438	489,850
	2013	Surface area (in ha)	3,108	2,483	911	32,807	10,396	12,767	94,600	95,286	359	7,214	259,931
		Production (in t)	3,958	3,162	1,160	41,780	13,240	16,258	120,474	121,347	457	9,187	331,023
	2014	Surface area (in ha)	3,246	2,563	936	34,024	10,652	13,140	98,353	99,162	288	7,423	269,788
		Production (in t)	4,119	3,252	1,187	43,164	13,514	16,670	124,777	125,802	366	9,417	342,269
	2015	Surface area (in ha)	3,437	2,738	1,003	36,216	11,442	14,066	104,494	105,277	374	7,948	286,995
		Production (in t)	4,345	3,461	1,268	45,781	14,464	17,782	132,094	133,084	472	10,047	362,799
	2016	Surface area (in ha)	3,916	4,210	1,131	41,076	12,880	15,879	118,704	119,665	361	8,970	326,792
		Production (in t)	4,699	3,716	1,357	49,292	15,456	19,055	142,445	143,598	433	10,764	390,815
	2017	Surface area (in ha)	4,947	5,074	1,114	39,918	13,150	15,696	117,416	126,509	416	5,626	329,867
		Production (in t)	4,947	3,912	1,429	51,893	16,272	19,423	145,294	146,470	515	7,212	397,367
	2018	Surface area (in ha)	3,346	4,045	1,215	40,024	11,513	15,641	107,896	128,954	478	3,769	316,881
		Production (in t)	3,346	3,669	1,557	52,031	14,760	20,051	138,320	149,400	613	4,832	388,579
Pepper	2011	Surface area (in ha)	158	3,619	303	834	241	37	2049	7,112	391	1,399	16,143
		Production (in t)	327	7,467	625	1,720	498	76	4,228	14,676	807	2,886	33,310
	2012	Surface area (in ha)	173	3,944	307	1,003	275	41	2,165	7,949	436	1,682	17,974
		Production (in t)	359	8,187	636	2,083	571	84	4,493	16,499	904	3,490	37,307
	2013	Surface area (in ha)	192	4,376	353	1,060	298	45	2,440	8,708	478	1,777	19,727
		Production (in t)	400	9,131	737	2,212	623	93	5,092	18,172	997	3,709	41,167
	2014	Surface area (in ha)	210	4,793	376	1204	332	49	2,641	9,628	528	2,019	21,780
		Production (in t)	441	10,050	789	2,526	697	103	5,538	20,190	1,107	4,233	45,673
	2015	Surface area (in ha)	242	5,526	443	1,351	378	57	3,072	11,023	605	2,265	24,963
		Production (in t)	510	11,637	933	2,845	797	119	6,470	23,213	1,274	4,770	52,569
	2016	Surface area (in ha)	262	16,982	471	1,496	414	61	3,301	12,002	658	2,508	38,156
		Production (in t)	569	12,974	1,022	3,246	898	133	7,160	26,034	1,427	5,441	58,903
	2017	Surface area (in ha)	1,251	15,390	570	1,502	479	63	3,759	15,333	703	2,838	41,887
		Production (in t)	626	8,337	1,175	5,241	1,023	135	7,201	29,939	1,501	5,855	61,033
	2018	Surface area (in ha)	1,376	12,747	655	1510	565	70	3,346	15,075	776	3,178	39,299
		Production (in t)	688	8,866	1,351	6,791	1,167	145	7,265	34,429	1,602	6,558	68,862

Products	Years		Adamawa	Centre	East	Far-North	Littoral	North	North-West	West	South	South-West	Cameroon
Black-eyed pea	2011	Surface area (in ha)	869	18,211	-	217,253	1,367	43,336	540	131	-	1,055	282,763
		Production (in t)	476	9,977	-	119,024	749	23,742	296	72	-	578	154,914
	2012	Surface area (in ha)	931	19,504	-	251,037	1,464	46,412	578	140	-	1,130	321,197
		Production (in t)	459	9,609	-	123,678	721	22,866	285	69	-	557	158,243
	2013	Surface area (in ha)	946	19,826	-	245,572	1,488	47,178	588	143	-	1,149	316,890
		Production (in t)	419	8,770	-	108,632	658	20,870	260	63	-	508	140,180
	2014	Surface area (in ha)	1,009	21,140	-	269,481	1,587	50,306	627	152	-	1,225	345,527
		Production (in t)	405	8,476	-	108,044	636	20,169	251	61	-	491	138,533
	2015	Surface area (in ha)	1,190	24,940	-	311,130	1,872	59,348	740	180	-	1,445	400,844
		Production (in t)	439	9,192	-	114,673	690	21,874	273	66	-	533	147,739
	2016	Surface area (in ha)	1,508	9,608	-	401,131	2,370	75,154	937	227	-	1,830	492,765
		Production (in t)	572	11,989	-	152,280	900	28,530	356	86	-	695	195,408
	2017	Surface area (in ha)	774	10,174	-	322,235	1,461	58,895	556	100	-	1,296	395,491
		Production (in t)	619	12,965	-	154,673	973	24,736	370	89	-	710	195,135
	2018	Surface area (in ha)	376	10,208	-	346,264	1,807	38,055	703	76	-	1,305	398,795
		Production (in t)	301	12,446	-	166,207	990	19,789	385	92	-	715	200,925
Voandzou	2011	Surface area (in ha)	-	1,871	-	23,436	3,728	1,554	5,069	562	-	-	36,220
		Production (in t)	-	1,595	-	19,978	3,178	1,325	4,321	479	-	-	30,876
	2012	Surface area (in ha)	-	1,852	-	22,634	3,629	1,507	4,972	544	-	-	35,138
		Production (in t)	-	1,552	-	18,972	3,042	1,264	4,168	456	-	-	29,453
	2013	Surface area (in ha)	-	1,712	-	21,180	3,383	1,408	4,617	509	-	-	32,808
		Production (in t)	-	1,409	-	17,435	2,784	1,159	3,801	419	-	-	27,007
	2014	Surface area (in ha)	-	923	-	11,321	1,813	754	2,482	272	-	-	17,565
		Production (in t)	-	735	-	9,007	1,443	600	1,975	216	-	-	13,975
	2015	Surface area (in ha)	-	1,645	-	20,305	3,245	1,350	4,433	488	-	-	31,465
		Production (in t)	-	1,284	-	15,854	2,534	1,054	3,461	381	-	-	24,568
	2016	Surface area (in ha)	-	1,769	-	22,335	3,576	1,487	4,894	537	-	-	34,597
		Production (in t)	-	1,463	-	17,962	2,876	1,195	3,935	432	-	-	27,864
	2017	Surface area (in ha)	-	1,724	-	10,729	3,505	2,976	4,728	684	-	-	24,347
		Production (in t)	-	1,482	-	14,485	3,008	4,253	4,057	456	-	-	27,742
	2018	Surface area (in ha)	-	1,792	-	20,703	3,691	3,872	4,907	723	-	-	35,689
		Production (in t)	-	1,502	-	27,949	3,147	4,717	4,183	482	-	-	41,980

Source: MINADER/DESA. t= tonnes; ha= hectares

***Table 2.5-30** : Average consumer prices (in CFA francs/kg) of some agricultural products from 2014 to 2018*

Group	Year	2014	2015	2016	2017	2018
Cereals	Maize	190	194	194	185	-
	Paddy rice	204	207	206	265	-
	Millet/Sorghum	148	151	149	176	-
Tubers	Yam	516	516	515	-	-
	Cassava	169	169	169	120	145
	Cocoyam/*Taro*	220	218	215	391	390
	Sweet potatoes	106	108	107	110	110
	Irish potatoes	285	289	288	466	466
Bananas	Banana	100	104	100	105	105
	Plantain	179	180	179	189	189
Fruits and vegetables	Pineapple	210	210	208	210	210
	Papaya	156	154	153	155	156
	Watermelon	456	457	453	455	460
	Tomatoes	240	245	240	240	240
	Cucumber	750	755	751	750	750
	Onion	380	395	385	386	401
Oilseeds	Groundnut	495	490	491	-	495
	Palm oil	631	635	630	651	655
	Soy beans	353	363	358	-	-
Pulses and Spices	Ginger	114	115	112	120	120
	Okra	424	426	430	430	430
	Beans	410	412	424	423	425
	Pepper	343	358	320	320	320
	Black-eyed pea	380	370	377	-	-
	Pistachio	657	660	652	653	653
	Voandzou	215	210	210	210	210
Stimulants	Cocoa	-	1,110	1,658	1,125	1,100
	Robusta coffee	-	950	951	1,100	-
	Arabica coffee	-	1,680	1,695	1,611	-

Source: MINADER/DESA, MINCOMMERCE

***Table 2.5-31** : Export and import of agricultural products (in millions of CFA francs) between 2012 and 2017*

Year	2012	2013	2014	2015	2016	2017
Exports of agricultural products	292.5	290.4	352.7	527.1	469.4	303.8
Imports of agricultural products	115.2	109.3	109.5	116.8	107.1	125.3
Total country exports	3,880.8	4,086.1	4,308.4	4,070.3	3,721.8	3,777.8
Total country imports	4,497.5	4,800.4	5,204.8	5,048.5	4,636.0	4,595.4

Source: NIS, 2018 National Accounts

Topic 2.5.4 : Livestock

Livestock are animal species raised by humans for commercial purposes, consumption or labour.

Generally raised on farms, typical livestock species include cows, poultry, pigs, goats and sheep. In Cameroon, livestock include cattle, sheep, goats, pigs and poultry.

Relevant livestock statistics include the number and characteristics of live animals, as well as the antibiotics and hormones used on them. In addition, livestock imports and exports are also a good measure of the national quantity of livestock and, possibly, of the pressure on the environment.

The statistics for this topic come from the reports and operation of the MINEPIA and NIS databases.

Some images for "livestock" in Cameroon

1) Breeding of swine in Cameroon (left), 2) Breeding of goat in Cameroon (right)

Source: MINEPIA

***Table 2.5-32** : Trends in the livestock population (animals) from 2010 to 2016*

Speculation	2010	2011	2012	2013	2014	2015	2016
Cattle	4,843,104	5,084,754	5,527,128	5,805,297	6,310,358	6,859,359	7,456,123
Sheep	3,739,325	2,879,280	2,974,297	2,952,264	3,050,061	3,172,063	3,283,086
Goats	5,405,046	6,053,651	5,950,739	6,298,059	6,190,992	6,290,048	6,365,528
Swine	2,440,404	2,806,464	2,896,271	3,112,973	3,212,588	3,373,217	3,491,280
Poultry	70,176,806	65,286,625	66,592,358	72,758,691	75,063,425	80,317,865	93,929,648

Source: MINEPIA/DEPCS including broiler production

***Table 2.5-33** : Trend of meat production from 2010 to 2016*

Speculations	2010		2011		2012		2013	
	Downed workforce	*Quantity of meat (ton)*	*Downed workforce*	*Quantity of meat (ton)*	*Downed workforce*	*Quantity of meat (ton)*	*Downed workforce*	*Quantity of meat (ton)*
Cattle	420 054	81 910	441 013	85 998	448 691	87 495	472 631	92 163
Sheep	485 558	9 711	444 053	8 881	529 643	10 593	235 731	4 715
Goats	2 658 096	53 162	2 259 208	45 184	1 642 297	32 846	735 278	14 706
Swine	832 579	58 281	1 015 513	71 086	586 325	41 043	502 570	35 180
Poultry	48 572 142	97 144	51 109 287	102 219	53 645 832	107 292	59 526 535	119 053
Total	///	**300 208**	///	**313 368**	///	**279 269**	///	**265 817**
	2014		**2015**		**2016**		**2017**	
Cattle	526 010	102 572	548 749	112 909	756 205	122 306		
Sheep	641 660	12 833	666 133	11 297	584 650	11 693		
Goats	1 267 060	25 341	1 213 979	34 719	1 756 750	35 135		
Swine	402 148	28 150	580 193	40 614	720 600	50 442		
Poultry	70 209 980	126 378	67 386 688	134 773	81 805 131	137 924		
Total	///	**295 274**	///	**334 312**	///	**357 500**		

Source: MINEPIA/DEPCS

Table 2.5-34 : *Volume slaughtered by region from 2013 to 2016 (number of animals)*

Region	Year	Cattle	Goats	Sheep	Swine	Poultry
Adamawa	2013	47,593	31,388	31,859	2,585	280,614
	2014	44,226	43,250	38,150	3,629	330,977
	2015	64,082	32,179	51,886	3,006	1,893,118
	2016	77,662	46,566	45,539	3,733	2,298,180
Centre	2013	97,357	32,244	30,143	181,349	12,044,360
	2014	68,944	54,400	29,950	123,971	14,206,005
	2015	84,530	55,318	30,364	87,839	19,089,727
	2016	187,460	80,051	26,650	109,096	23,174,275
East	2013	21,593	12,443	5,889	6,391	642,785
	2014	32,836	30,200	21,750	11,500	758,148
	2015	28,276	3,406	2,499	671	12,980
	2016	82,962	4,929	2,193	833	15,757
Far North	2013	51,066	394,174	91,143	20,276	2,385,857
	2014	44,205	650,850	278,350	18,571	2,814,055
	2015	60,906	729,624	295,455	791	3,023,037
	2016	59,242	1,055,839	259,314	982	3,669,863
Littoral	2013	89,273	41,333	26,396	114,302	15,289,774
	2014	179,764	85,550	101,550	120,800	18,033,886
	2015	93,322	60,109	90,995	72,882	22,716,261
	2016	124,875	86,984	79,864	90,519	27,576,763
North	2013	43,815	134,920	30,919	15,963	885,090
	2014	42,985	265,450	92,400	17,700	1,043,940
	2015	62,085	194,406	105,519	11,873	2,230,965
	2016	95,769	281,325	92,612	14,746	2,708,315
North-West	2013	56,038	53,522	10,833	91,362	11,075,677
	2014	65,585	92,900	48,900	56,186	13,063,469
	2015	80,868	100,225	51,164	372,888	3,473,395
	2016	56,593	145,036	44,905	463,127	4,216,583
West	2013	33,359	13,822	4,862	37,875	9,336,854
	2014	20,226	19,200	19,950	29,100	11,012,573
	2015	36,049	4,195	23,356	9,822	9,284,919
	2016	34,252	6,071	20,499	12,199	11,271,574
South	2013	8,676	4,584	2,649	14,594	2,491,349
	2014	4,913	3,300	6,850	7,714	2,938,481
	2015	9,380	3,255	7,457	5,537	25,6719
	2016	13,497	4,710	6,545	6,877	311,648
South-West	2013	23,861	16,848	1,038	17,872	5,094,173
	2014	22,328	22,000	3,850	12,971	6,008,443
	2015	29,250	23,810	7,437	14,883	5,405,566
	2016	23,893	34,455	6,527	18,485	6,562,172
Cameroon	**2013**	**472,631**	**735,278**	**235,731**	**502,570**	**59,526,535**
	2014	**526,010**	**1,267,060**	**641,660**	**402,143**	**70,209,980**
	2015	**548,749**	**1,213,979**	**666,133**	**580,193**	**67,386,688**
	2016	**756,205**	**1,756,750**	**584,650**	**720,600**	**81,805,131**

Source: MINEPIA/DEPCS

***Table 2.5-35** : Meat production by region from 2013 to 2016 (in tonnes)*

Region	Year	Cattle	Goats	Sheep	Swine	Poultry
Adamawa	2013	9,281	637	628	181	561
	2014	8,624	865	763	254	1,015
	2015	12,496	643	1,038	210	3,786
	2016	9,307	1,199	695	455	3,875
Centre	2013	18,985	603	645	12,694	24,089
	2014	13,444	1,088	599	8,678	25,637
	2015	16,483	1,106	607	6,145	38,179
	2016	31,533	1,508	546	15,550	39,072
East	2013	4,211	118	249	447	1,286
	2014	6,403	604	435	805	4,657
	2015	5,514	68	50	47	26
	2016	10,908	837	396	1,442	27
Far North	2013	9,958	1,823	7,883	1,419	4,772
	2014	8,620	13,017	5,567	1,300	2,038
	2015	11,877	14,592	5,909	55	6,046
	2016	8,623	18,048	5,072	2,329	6,187
Littoral	2013	17,408	528	827	8,001	30,580
	2014	35,054	1,711	2,031	8,456	36,268
	2015	18,198	1,202	1,820	5,102	45,432
	2016	23,231	2,372	1,851	15,152	46,494
North	2013	8,544	618	2,698	1,117	1,770
	2014	8,382	5,309	1,848	1,239	1,355
	2015	12,106	3,888	2,110	831	4,462
	2016	13,793	7,361	1,684	2,220	4,566
North-West	2013	10,927	217	1,070	6,395	22,151
	2014	12,789	1,858	978	3,933	7,657
	2015	15,769	2,004	1,023	26,102	6,947
	2016	13,510	2,576	891	7,048	7,109
West	2013	6,505	97	276	2,651	18,674
	2014	3,944	384	399	2,037	28,672
	2015	7,029	84	467	687	18,570
	2016	4,886	532	364	3,650	19,004
South	2013	1,692	53	92	1,022	4,983
	2014	958	66	137	540	733
	2015	1,829	65	149	387	513
	2016	2,849	92	125	968	525
South-West	2013	4,653	21	337	1,251	10,188
	2014	4,354	440	77	908	18,346
	2015	5,704	476	149	1,042	10,811
	2016	3,666	610	70	1,627	11,064
Cameroon	**2013**	**92,163**	**4,715**	**14,706**	**35,180**	**119,053**
	2014	**102,572**	**25,341**	**12,833**	**28,150**	**126,378**
	2015	**107,006**	**24,279**	**13,323**	**40,613**	**134,773**
	2016	**122,306**	**35,135**	**11,693**	**50,442**	**137,924**

Source: MINEPIA/DEPCS

***Table 2.5-36** : Trends in the monitored camelid and equine livestock from 2013 to 2016 (per animal)*

Region	Donkeys				Camels				Horses			
	2013	2014	2015	2016	2013	2014	2015	2016	2013	2014	2015	2016
Adamawa	5,251	5,251	73,902	6,120	0	170	2,619	0	985	1,177	30,505	2,332
Centre	10	188	1,736	213	…	…	18	0	81	106	1,577	102
East	562	1,707	1,732	573	…	0		0	58	218	180	160
Far North	24,109	34,222	295,759	26,963	2	219	1,274	0	8,248	10,140	94,297	19,777
Littoral	34	169	15	0	1	…		0	37	301	75	135
North	15,823	16,735	136,418	14,771	15	24	6,041	13	1,736	2,191	17,132	2,219
North-West	1,130	1130	1,130	0	…	…	0	0	20,778	22,117	22,117	23,002
West	184	179	6,352	87	…	0	8	0	621	719	705	670
South	20	21	36	10	3	4	2	2	28	23	68	53
South-West	…	…	311	311	…	…	0	0	366	248	181	333

Source: MINEPIA/DEPCS

***Table 2.5-37** : Situation of non-conventional livestock from 2013 to 2016 (per animal)*

Region	Aulacodes				Rabbits			
	2013	2014	2015	2016	2013	2014	2015	2016
Adamawa	186	6	6	32	171	50	314	133
Centre	4,681	970	3,559	1,361	2,595	1,545	2,724	2,724
East	10	180	125	217	317	550	46	1,513
Far North	269	17	0	17	1,036	772	20,626	2,050
Littoral	412	6,887	159	162	127	1,000	3,327	1,048
North	0		0	0	1,587		54,931	1,691
North-West	1,250		3,380	/	7,179	32,432	73,235	5,688
West	853	11,052	148	2,279	17,812	191,730	36,525	36,660
South	220	1,450	45	66	122	1296	890	194
South-West	667	6	9,861	1,328	2,035	2012	159,704	3,116

Source: MINEPIA/DEPCS

***Table 2.5-38** : Situation of non-conventional livestock from 2013 to 2016 (per animal) (next)*

Region	Guinea pigs				Snails	
	2013	2014	2015	2016	2013	2014
Adamawa	361		1,506	4,234	710	
Centre	2,341	3,488	3,269	…	…	
East	35		235	0	…	7,800
Far North	…		7,203	20	250	
Littoral	305		2,602	12	1,717	2,680
North	0	47	3,189	13,948	0	
North-West	13,225	11,708	87,131	17,369	…	1,300
West	19,948	7,470	36,058	397	9,824	7,233
South	164	773	381	20,779	1,158	1,914
South-West	1,218	3,163	1,709	77	1,626,000	1,840

Source: MINEPIA/DEPCS

***Table 2.5-39 :** Production of bacterial vaccines (in doses) from 2010 to 2016*

Products	2010	2011	2012	2013	2014	2015	2016
Anthrax vaccine	726,500	1,057,000	…	626,940	0	471,700	403,000
CBPP vaccine, strain T1-44	704,650	1,866,220	1,493,700	402,650	1,405,000	863,850	539,050
CBPP vaccine, strain T1-SR	5,799,000	2,338,100	5,503,800	2,931,450	9,554,600	2,841,750	1,070,200
Vaccine against cattle pneumonic pasteurellosis	5,664,000	9,066,550	6,629,050	6,788,300		4,862,000	4,478,150
Symptomatic anthrax vaccine	3,490,150	4,086,250	4,661,500	3,841,250	1,830,000	2,485,000	4,162,800
Contagious bovine pleuropneumonia vaccine (PERIVAX T1-SR)	704,650	2,338,100	5,503,800	2,931,450	9,554,600	2,841,750	1,070,200

Source: LANAVET

***Table 2.5-40** : Viral vaccine production (in doses) from 2012 to 2016*

Products	2012	2013	2014	2015	2016
PPR vaccine	3,190,400	1,610,600	1,542,800	1,303,800	…
Vaccine against Newcastle disease, typhoid and fowl cholera	1,550,600	1,069,400	238,100	…	709,800
Newcastle disease vaccine (Avipestovax)	…	…	…	…	…
Lumpy disease vaccine	1,432,200	1,493,300	2,591,500	2,475,700	…
Newcastle disease vaccine, strain I2	4,562,400	0	0	…	…
Thinner	5,664,550	///	///	5,433,800	2,072,000

Source: LANAVET

***Table 2.5-41** : Trends in vaccinations by animal species from 2012 to 2016*

Speculation	2012	2013	2014	2015	2016
Cattle	--	--	--	--	--
Contagious pleuropneumonia	1,186,689	1,065,826	59,260	1,321,943	424,562
Pasteurellosis	801,170	632,542	704,613	455,105	395,082
Symptomatic charcoal	800,955	816,519	625,845	594,979	275,067
Anthrax	252,119	252,119	173,497	130,424	276,684
Nodular disease	497,816	269,585	591,928	725,766	265,174
Sheep – Goats	--	--	--	--	--
Sheep and Goat Plague	77,782	279,131	466,148	211,114	82,811
Swine	--	--	--	--	--
Red mullet	55,615	64,872	12,076	5,405	4,976
Poultry	--	--	--	--	--
Avian pseudo-plague (Newcastle)	1,220,668	2,536,385	813,190	1,273,128	406,298
Dog	--				
Rabies	8,354	23,184	26,536	21,476	11,899

Source: MINEPIA/DEPCS

***Table 2.5-42 :** Exports and imports of livestock and hunting products from 2012 to 2016 (in billions of CFA francs)*

Year	Export of livestock and hunting products	Import of livestock and hunting products	Total exports of the country	Total imports of the country
2012	98.4	33.7	3,880.8	4,497.5
2013	13.1	51.5	4,086.1	4,800.4
2014	109.1	36.4	4,308.4	5,204.8
2015	114.0	41.5	4,070.3	5,048.5
2016	119.6	37.9	3,721.8	4,636.0
2017	125.6	41.0	3,777.8	4,595.4

Source: NIS, 2017 National Accounts

***Table 2.5-43** : Import of live animals, meat and edible offal*

Year	Live animals		Meat and edible offal	
	Quantity (in tonnes)	Value (in millions of CFA francs)	Quantity (in tonnes)	Value (in millions of CFA francs)
2015	151.0	214	1,551	1,707
2016	324.0	227	1,594	1,780
2017	366	229	898	1,096
2018	68	536	1,203	1,363

Source: 2015, 2016, 2017, 2018Briefs on foreign trade, NIS

Topic 2.5.5 : Other non-cultivated biological resources

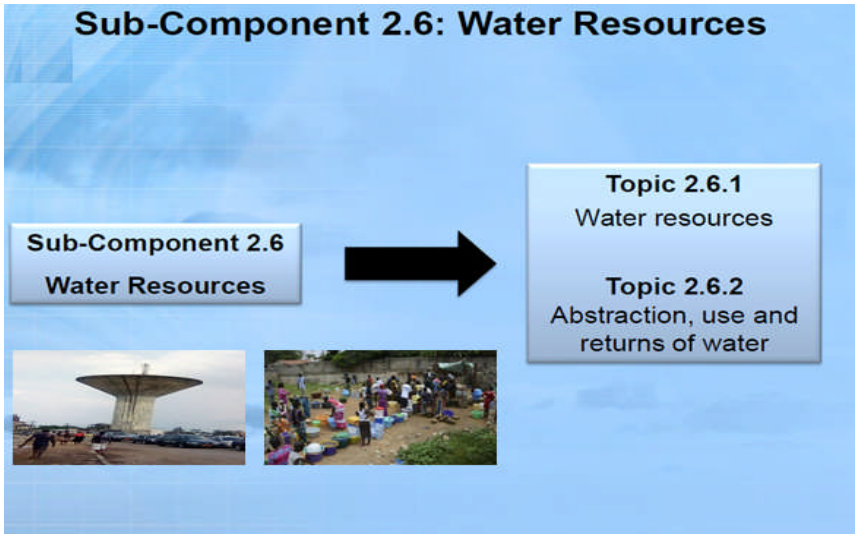
A range of natural biological resources provide inputs to the economy and are an important part of biodiversity. They may include wild berries, fungi, bacteria, fruits, sap, etc. This topic excludes wood and aquatic resources, as they are included in topics 2.5.1 and 2.5.2, respectively.

The relevant environmental statistics on this topic focus on the use and management of these resources.

At this stage, the relevant statistics are not known.

Sub-component 2. 6 : Water resources

The management of water resources, particularly in terms of quantity, distribution and quality, remains a concern and priority in today's world. Decision-makers need information/statistics on water resources, their abstraction and use in order to estimate the quantity of water resources available and to monitor the abstraction of major water bodies to avoid overuse. This helps to ensure equitable use of the water collected, and to monitor the volume of water returned into the environment.



Some images for "water resources"

1) Production and distribution of drinking water in Cameroon (up and to the left; 2) Bonaberi water tower, Douala 4 (up and to the right); 3) Production of drinking water in Cameroon (down and to the left), 4) Difficulties in accessing drinking water in Cameroon (down and to the right).

Source: 1) Cameroon Tribune, 2) Wikipedia, 3) cameroon-info.net, October 2019, 4) cameroon-info.net, October 2017

Topic 2.6.1 : Water resources

Water resources consist of freshwater and brackish water of all qualities in inland water bodies, including surface water and underground water.
Water resources statistics include the volume of water generated in the country or territory as a result of precipitation, the volume of water lost through evapotranspiration, inflow from neighbouring territories and outflow to neighbouring territories.

Generally, the statistics come from hydrometeorological and hydrological sources monitoring, measurements and models.
As far as this topic is concerned, statistics are from the CDE and MINEE statistical reports and yearbooks.

Some images for "water resources"

1) Project for the construction of 3,000 boreholes in northern Cameroon (left; 2) Betare Oya: four water sources to improve the living conditions of the population (right)

Source: 1) actucameroun, 2) journalduCameroun.com

***Table 2.6-1** : Distribution of surface water in Cameroon's watersheds*

Watershed	Usable renewable resources in average year	
	Km³/year	%
Lake Chad Basin	32.52	12.23
Niger Basin	43.90	16.51
Sanaga River Basin	61.21	23.02
Congo Basin	33.45	12.58
Coastal River Basin	94.81	35.66
Total	**265.88**	**100.00**

Source: MINEE & GWP-Cmr, 2009a.

***Table 2.6-2** : Hydroelectric dams in Cameroon*

Basins	Name of the Dam	Administrative Unit	Main river	Capacity (million m³)
Niger	Lagdo	North	Benoue	7,800
Costal Rivers	Mopfou	Centre	Mefou	5
	MemveEle	South	Ntem	na
	Njock-Poume	Centre	Nyong River	10
Sanaga	Mbakaou	Adamawa	Djerem	2,600
	Bamendjin	West	Noun	1,879
	Song Loulou	Centre	Sanaga	10
	Littoral	Sanaga	Sanaga	6.573
	Mape	Adamawa	Mape	3,300
	Nachtigal	Littoral	Nachtigal	na
	Lom Pangar	East	Lom & Pangar	7,500
	Bini Warak	Adamawa	Bini	na
	Kadei	East	Kadei	na
	Son Mbengue	Littoral	Sanaga	na
	Song Ndong	Littoral	Sanaga	na
	Kikot	West	Sanaga	na
TOTAL				**23,110.573**

Source: MINEE & GWP-Cmr, 2009a.

***Table 2.6-3** : Some key water sector indicators from 2007 to 2013*

Libelled	2007	2008	2009	2010	2011	2012	2013
Production and consumption of drinking water (in thousands of m³)	108,743	107,601	124,378	124,871	122,999	123,931	115,322
Water collected (in millions of m³)		82.9	124.4	127.4	129.1	129.9	120.4
Water produced from plants and/or boreholes (in millions of m³)		77.9	117.8	120.8	123.0	123.9	115.3
Water supplied to the network (in millions of m³)		77.9	117.8	120.8	123.0	123.9	115.3
Billed water (net output in million m³)		46.0	75.5	79.8	87.2	90.8	85.5

Source: CDE, 2013 data are for the period from January to November

***Table 2.6-4** : Estimation of surface water reserves in Cameroon*

Watersheds	Water volumes (km³)	Percentage of national volume (%)
Lake Chad	32.52	12.14
Niger	43.91	16.39
Sanaga	63.18	23.59
Congo	33.45	12.49
Costal Rivers	94.82	35.40
Total	**267.88**	**100.00**

Source: Olivry, 1986; SighaNkamdjou et al., 2002 & GWP/MINEE, 2009a

***Table 2.6-5** : Estimated groundwater reserves in Cameroon and its mainunits*

Aquifer location	Surface area (km²)	Available reserves (in billion m³)		
		(1)	(2)	(3)
Base area	430,000	15.40	79.2	79.2
Coastal sediment basins	7,500	21.63	21.6	21.63
Benue sedimentary basins	7,800	15.75	15.0	15.75
Lake Chad sedimentary basins	19,800	3.2	5.0	3.20
Secondary basins	9,900	-	-	-
Total	**475,000**	**55.98**	**120.8**	

Source: (1) GWP/MINEE (2009); (2) World Bank (1992); (3) Sighomnou (2004)

***Table 2.6-6 :** Quantitative assessment of surface water resources*

Basins	Water volume (km³)	Percentage of national volume
Lake Chad	32.52	12.14
Niger	43.91	16.39
Sanaga	63.18	23.59
Congo	33.45	12.49
Costal Rivers	94.82	35.40
Total	**267.88**	**100.00**

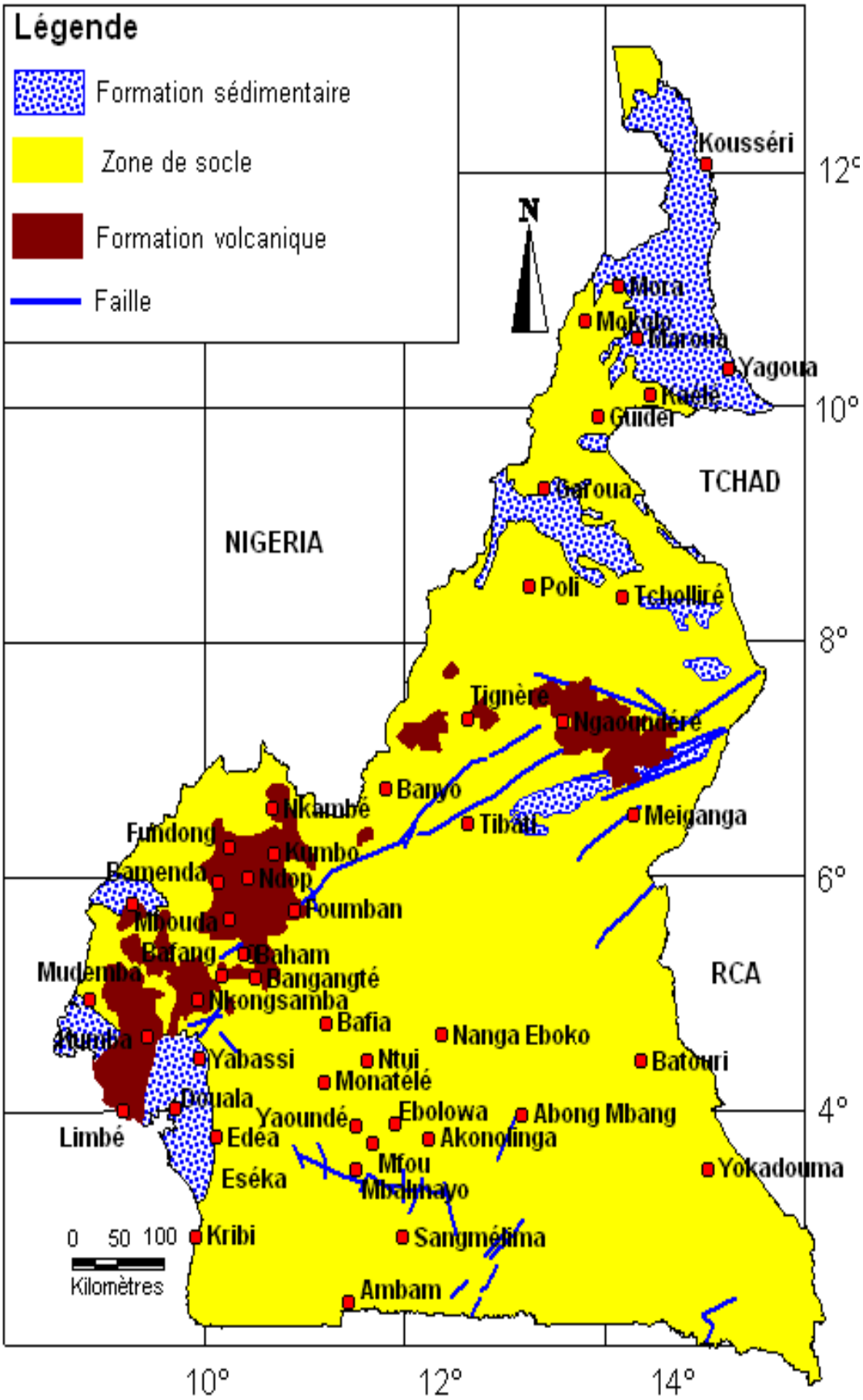
Source: MINEE/PANGIRE 2009

***Table 2.6-7** : Groundwater Resources Quantity Assessment*

Aquifers	Water volume (km³)	Percentage of total volume
Lake Chad sedimentary basin	3.2	5.72
Benue sedimentary basin	15.75	28.14
Coastal sediment basins	21.6	38.64
Base area	15.40	27.51
Total	**55.98**	**100.00**

Source: MINEE/PANGIRE 2009

Map 2.6-1 : *Cameroon's groundwater resources*



Source: MINEE & GWP-Cmr,2009

Topic 2.6.2 : Abstraction, use and returns of water

Water abstraction, use and returns are the flows of water between the environment and the human subsystem and within the human subsystem. Water extraction is the amount of water withdrawn from any source, permanently or temporarily, over a given period of time.

Water abstraction statistics should be disaggregated by water source (surface or groundwater) and per catchment (economic activity or household).

Statistics for this topic are derived from the NIS databaseand CDE reports.

***Table 2.6-8** : Proportion (%) of households having access to a drinking water source (tap (SNEC/CAMWATER/CDE), mineral water) by some characteristics*

	2006	2011	2014	2018
Residence				
Douala/Yaounde	83,9	76,5	71,3	71,2
Autre urbain	61,4	63,1	59,5	52,8
Residence				
Urban	70,9	68,6	64,1	61,0
Rural	13,5	14,9	13,1	9,8
Survey region				
Douala	75,2	25,8	26,7	15,4
Yaounde	94,9	26,0	21,4	16,8
Adamawa	25,5	65,5	62,5	72,0
Centre (excluding Yaounde)	17,4	13,7	8,6	11,5
East	10,6	16,5	11,6	14,8
Far North	8,5	58,9	54,0	55,2
Littoral (excluding Douala)	62,4	22,6	23,6	15,0
North	14,8	60,7	68,8	62,8
North-West	50,1	33,0	33,6	34,3
West	41,5	25,3	27,7	23,0
South	22,5	60,7	55,8	94,7
South-West	69,0	87,7	82,2	70,2
Cameroon	**42,3**	**42,2**	**39,4**	**38,5**

Source: NIS, MICS (2006), DHS-MICS (2011), MICS (2014), DHS-V (2018)

***Table 2.6-9** : Proportion (in %) of the population having access to a drinking water source (tap (SNEC/CAMWATER/CDE), mineral water)*

	2006	2011	2014	2018
Residence				
Douala/Yaounde	84,6	75,1	69,5	69,9
Autre urbain	59,8	60,3	57,0	47,8
Residence				
Urban	69,7	65,9	61,6	56,8
Rural	12,3	14,2	11,2	8,0
Survey region				
Douala	75,5	24,6	26,4	14,3
Yaounde	95,1	20,6	17,4	13,2
Adamawa	21,9	64,0	61,9	71,3
Centre (excluding Yaounde)	17,9	13,3	7,3	10,7
East	10,5	17,3	12,0	12,9
Far North	8,7	56,0	51,0	56,3
Littoral (excluding Douala)	63,1	22,0	21,0	12,4
North	13,1	58,5	66,5	59,8
North-West	50,4	30,7	33,3	30,7
West	45,4	23,3	26,4	18,0
South	20,5	61,6	53,8	92,6
South-West	71,8	85,7	79,0	68,3
Cameroon	**40,7**	**38,7**	**35,4**	**32,7**

Source : NIS, MICS (2006), DHS-MICS (2011), MICS (2014), DHS-V (2018)

***Table 2.6-10** : Proportion (%) of households having access to an improved source of drinking water according to some characteristics*

	2006	2011	2014	2018
Residence				
Douala/Yaounde	99,3	98,6	97,9	99,2
Autre urbain	83,6	85,9	91,7	92,8
Residence				
Urban	90,2	91,1	94,2	95,6
Rural	50,0	49,6	54,8	57,3
Survey region				
Douala	99,2	69,8	74,5	63,5
Yaounde	99,5	74,1	81,3	68,6
Adamawa	56,7	99,0	98,8	99,9
Centre (excluding Yaounde)	76,2	54,4	66,2	70,6
East	51,3	54,9	63,9	76,7
Far North	53,4	74,0	78,9	87,6
Littoral (excluding Douala)	80,4	53,1	59,2	45,9
North	42,3	65,8	72,9	81,8
North-West	58,3	67,4	68,8	76,6
West	68,6	72,1	76,4	83,5
South	61,8	67,2	69,1	98,9
South-West	77,3	98,3	96,8	98,2
Cameroon	**70,2**	**70,8**	**75,1**	**78,8**

Source : NIS, MICS (2006), DHS-MICS (2011), MICS (2014), DHS-V (2018)

***Table 2.6-11** : Proportion (%) of the population having access to an improved source of drinking water according to some characteristics*

	2006	2011	2014	2018
Residence				
Douala/Yaounde	99,4	98,5	97,6	99,3
Autre urbain	83,5	84,3	90,6	91,6
Residence				
Urban	89,8	89,7	93,2	94,8
Rural	49,2	49,6	54,2	54,7
Survey region				
Douala	99,5	68,9	72,7	60,6
Yaounde	99,3	72,1	77,4	64,0
Adamawa	52,4	99,0	99,1	100,0
Centre (excluding Yaounde)	76,3	55,9	67,9	68,1
East	50,9	54,7	63,7	75,7
Far North	54,3	71,3	77,8	86,6
Littoral (excluding Douala)	80,9	52,9	56,5	43,3
North	41,1	64,3	71,9	79,6
North-West	59,1	66,7	69,1	75,8
West	71,2	71,1	75,2	80,0
South	60,7	67,3	66,6	97,9
South-West	78,7	98,0	95,7	98,6
Cameroon	**69,3**	**68,6**	**72,9**	**74,9**

Source : NIS, MICS (2006), DHS-MICS (2011), MICS (2014), DHS-V (2018)

***Table 2.6-12** : Average and total reported daily water consumption (in litres) perHousehold*

	Average consumption	Total consumption
Residence		
Urban	167.2	356,378,581.4
Rural	139.3	372,175,609.5
Survey region		
Douala	172.5	122,631,873.2
Yaounde	164.6	103,170,512.0
Adamawa	134.8	34,849,491.0
Centre (excluding Yaounde)	136.7	40,034,551.6
East	174.9	30,089,979.5
Far North	148.7	106,649,775.0
Littoral (excluding Douala)	133.7	20,393,489.9
North	156.1	62,864,842.2
North-West	147.9	68,683,121.1
West	149.2	63,920,734.8
South	156.0	23,969,800.2
South-West	121.1	51,296,020.4
Cameroon	**151.7**	**728,554,190.9**

Source: NIS-ECAM 3 & 4

***Table 2.6-13** : Average household water consumption expenditure (in CFA francs)*

	Source of expenditure				
	Invoice/consum-ption of non-mineral water	Purchased non-mineral water	Subscription to water distribution network (CDE/CAMWATER)	Other water expenditure	Total
Residence					
Urban	17,053	11,840	350	4,619	33,862
Rural	2,325	2,779	214	380	5,698
Survey region					
Douala	17,986	10,318	636	2,275	31,216
Yaounde	20,325	11,164	282	11,618	43,389
Adamawa	4,844	6,029	-	109	10,982
Centre (excluding Yaounde)	3,910	3,265	319	1,368	8,862
East	1,319	2,221	182	1,194	4,917
Far North	2,159	6,763	-	170	9,092
Littoral (excluding Douala)	7,380	4,835	78	273	12,567
North	3,403	10,538	-	524	14,465
North-West	5,500	1,682	4	196	7,382
West	5,978	2,130	1,079	1,192	10,379
South	7,274	3,624	420	1,762	13,080
South-West	9,745	7,951	57	79	17,833
Cameroon	**8,873**	**6,807**	**275**	**2,265**	**18,219**

Source : NIS-ECAM 3 & 4

***Table 2.6-14** : Production and consumption of drinking water (in thousands of M^3)*

Year	Production	Change (in %)
2010	124,871	0.4
2011	122,999	-1.5
2012	123,931	0.7
2013	126,186	-6.90
2014	137,295	-8.09
2015	150,322	-8.67
2016	148,716	1.08
2017	149,804	-0.73
2018	50,934	194.11

Source: CDE, CAMWATER, 2018 data are for the period from January to April

***Table 2.6-15** : Some key water sector indicators from 2007 to 2013*

	2007	2008	2009	2010	2011	2012	2013
Production and consumption of drinking water (in thousands of M^3)	108,743	107,601	124,378	124,871	122,999	123,931	115,322
Water collected (in millions of m^3)		82.9	124.4	127.4	129.1	129.9	120.4
Water produced from plants and/or boreholes (in millions of m^3)		77.9	117.8	120.8	123.0	123.9	115.3
Water supplied to the network (in millions of m^3)		77.9	117.8	120.8	123.0	123.9	115.3
Billed water (net output in million m^3)		46.0	75.5	79.8	87.2	90.8	85.5

Source: CDE, CAMWATER, 2018 data are for the period January to November

***Table 2.6-16** : Trends in the access rate to potable water in urban areas from 2008 to 2016*

	U	2008	2012	2015	2016
Installed production capacity	m^3/d	444,270	498,936	666,516	680,200
Captured water	m^3	82,940,299	129,903,472	90,600,000	155,156,645
Production output	%	95.32	95.38	96.04	95.85
Water supplied to the network	m^3	77,860,688	123,904,181	86,970,000	148,724,961
Distribution output	%	59.03	73.25	74.13	71.6
Total number of subscribers on	U	258,752	270,607	280,642	291,052
Water supply rate - per BP	%	23.83	27.65	29.21	/
- per BF	%	14.65	15.38	14.89	/
Water supply rate	%	38.48	43.03	44.1	/

Source: CDE

APPENDICE

Glossary

Career activity: Operations of recognition, development, exploitation, processing, enrichment, transport, storage, loading, marketing, rehabilitation and closure of exploitation sites of quarry substance.

Mining craftsman: physical person of cameroonian nationality, working as own account artisanal miner and having a mining craftsman's card.

Authorization for artisanal exploitation: Legal act which confers to its holder the exclusive right to carry out artisanal exploitation work within the assigned scope.

Mine Benefits Map: An up-to-date official topographic map containing the boundaries of all existing mineral titles, pending claims, available squares, land, forest and wildlife reserves, national parks and protected areas.

Management Agreement: A contract by which the wildlife authority assigns to a community a hunting area within the national domain for the purpose of its conservation and sustainable use of wildlife resources in the interest of that community.

Land degradation: It is a process that reduces or destroys the capacity of land for agricultural, plant and animal production, and for forest production. It results from human activities or is a natural phenomenon aggravated by the effect of human activities.

This degradation can lead to:

- a more or less significant deterioration of one or more of the seven essential soil functions listed below;
- or loss of soil;
- or its processing for non-agricultural use;
- or its pollution 7 which makes the areas concerned unusable or still exploitable, but with major constraints for agricultural use.

It is important to note that the concept of land degradation is broader than that of soil degradation, as it includes, in addition to the soil itself, the landscape, vegetation, water, air, living organisms and potential impacts on human life.

Thermo-mineral water: Mineral water at high temperature at the point of resurgence.

Marine energy: Hydraulic energy of the seas, whose motion factors are waves, ocean currents, tides, offshore wind, or whose factors are temperature or salinity gradients.

Deposits previously identified: Deposits which have been studied up to the stage of mechanical and geotechnical soundings at close mail, geophysical surveys and geochemical and alluvial prospections.

Hydraulic energy: Refers to hydroelectric and marine energy.

Mine: Deposits of mineral substances not classified in quarries, with the exception of liquid or gaseous hydrocarbons or place of exploitation of mineral substances, open or underground, including facilities and real estate or movable property used in the operation.

Research licence: A legal act that gives the holder the exclusive right to conduct research within the scope of the licence.

Ores: A mineral substance that is potentially exploitable in solid, liquid or gaseous form and occurs naturally on or under the earth, except for water and petroleum.

Research: A process or method of investigation for the purpose of locating and evaluating mineral deposits including prospection, bulk sampling and laboratory testing.

Mineral substance: Natural amorphic or crystalline, liquid or gaseous substances, as well as fossilized organic substances and geothermal deposits.

Cultivated area: The physical area occupied by crops during an agricultural season.

Area of soil affected by erosion: A surface that is potentially usable for agricultural purposes but has no material on the surface of the outermost layer of the earth crust.

Sale of cutting: Authorization to operate for a limited period of time, a specific volume of standing wood sold and not exceeding the annual possibility of cutting.

Hunting Area of Interest (ZIC): Any protected area reserved for hunting.

Managed Wildlife Area (ZIGC): Any protected area reserved for hunting and managed by a community.

Index: Certain, directly controlled, information about the existence at a given point of a mineralization.

Ad valorem tax: a sum due to the State or sectoral national institutions for the value of the production on the mine site of mineral products and spring, mineral and thermo mineral waters, and geothermal deposits.

Agricultural area: all land potentially usable or used by the farmer. It therefore includes fallow land and land that has not yet been harvested (excluding classified forest reserves and national parks).

Agroforestry: cultural practice using the capacities of certain tree species to contribute to the improvement of temporary crop production. It is generally used to protect crops (windbreaks, hedges), improve soils (drainage, erosion control) or to improve soil fertility.

Agro-industry: industrial company with an agropastoral vocation.

Annual or temporary crops: crops that have a growing cycle of one year or less. Data on the area under temporary crops refer to the reference agricultural year.

Anomaly: a peculiarity observed in the usual characteristics of a mineral substance and suggesting indications or mineral concentrations likely to justify mining activity.

Arable land: land intended for cultivation and whose surface layer is arable.
Area of land affected by desertification: area that is affected by soil degradation, caused by climate change and/or the consequences of human activities.
Artisanal operation (exploitation): mining where activities consist of extracting and concentrating mineral substances and recovering marketable products using traditional methods and processes.
Artisanal mining: The process of extracting and concentrating surface or sub-surface mineral substances to a maximum depth of 10 metres and having marketable products using traditional methods and processes.
Artisanal quarry: the exploitation of quarry substances by manual and traditional methods and processes, not involving the use of explosives.
Semi-mechanized artisanal mining: mining carried out under an artisanal semi-mechanized mining permit for precious and semi-precious minerals using no more than three excavators (mechanical shovels), one shovel loader and possibly other equipment such as a machine for washing mineralized gravel or concentrating mining products, the use of chemicals whose processing is strictly prohibited.

Semi-mechanized artisanal quarry: the area where quarry materials are exploited by semi-industrial methods and processes.

Biofuel: non-fossil fuels. These are energy carriers that store energy derived from organic materials (biomass), including plant material and animal dung. They can be solid, such as firewood, charcoal or wood pellets; liquid, such as ethanol, biodiesel and pyrolysis oils; or gaseous, such as biogas.

Biomass: all organic matter, it can be either of plant or animal origin.

Captured water: quantity of water that arrives at the treatment plants.

Communal forest: forest under a classification act on behalf of the given council or which has been planted by it.

Community forest: forest of the non-permanent forest domain, subject to a management agreement between a village community concerned, with the support or technical assistance of the administration in charge of forests.

Deposit: concentration of mineral substances in a specific area of the earth's crust.

Deposit: natural deposit of mineral substances that can be exploited under the economic conditions of the moment.

Distribution output: ratio of the quantity of water billed to the quantity of water emitted to the network.

Domestic quarry: perimeter of artisanal exploitation of quarry materials by the owner of the land for exclusively personal and non-commercial purposes.

Energy resources: natural reserves of a given form of energy.

Erosion: soil erosion is the displacement of material on the surface of the outermost layer of the earth's crust. It is one of the forms of soil regression and degradation.

Exploration permit: a legal act that gives its holder the exclusive right to carry out exploration work within the perimeter of the permit.

Extraction tax: a sum due to the State or sectoral national institutions, in respect of the value of production of commercial artisanal quarry substances, semi-mechanized artisanal quarries and industrial quarries.

Extraction: all work aimed at removing mining or quarrying substances from the ground and subsoil.

Forest area: area used for the production of wood and its by-products from the forest.

Forest Management Units (FMU): portion of the permanent forest domain to be managed.

Forest products: products consisting mainly of wood and non-wood plant products, as well as wildlife and fishery resources derived from the forest. Some forest products, such as ebony, ivory, wildlife trophies, and certain animal or plant species, medicinal or of special interest, are called special products.

Forest reserve: protected area with flora conservation status.

Forest: lands with a vegetation opening in which trees, shrubs and other species likely to provide products other than agricultural ones predominate.

Gas: gaseous hydrocarbons existing in their natural state, otherwise known as natural gas or resulting from hydrocarbon refining operations, as well as all related products and substances extracted from the said gaseous hydrocarbons, the exhaustive list of which is fixed by regulation.

Geothermal energy: thermal energy from within the earth's crust, usually in the form of hot water or steam.

Harvested area: area on which a crop is harvested.

Hydrocarbons: liquid or gaseous hydrocarbons existing in their natural state, otherwise known as crude oil or natural gas as the case may be, as well as all related products and substances extracted in association with said hydrocarbons.

Industrial quarry: the exploitation of quarry materials by industrial methods and processes that may involve the use of explosives.

Land use: a particular use of an area within the boundaries of a forest concession where certain human activities are either prohibited, permitted or regulated. A series can be considered as all the areas of the same allocation.

Land: a parcel of land with a specific shape and dimensions. It may be in the private State property, the public property or the national estate. This definition applies in particular to:

the surface and the earth below the surface of the land; water; the beach, the area between the mean high and the mean low water mark.

Liquefied Petroleum Gas: hydrocarbons composed essentially of a mixture of butane and propane which is not liquid under normal conditions (0 °C, 1 atm).

Lumber: wood cut into pieces, intended for retail sale. Etymologically, this expression refers to wood cut into bits, i.e. logs or planks. A tree is said to be cut. In fact, it has to do with reducing wood for practical and commercial use.

Mineral resources: a mineral concentration of natural, solid, inorganic or fossilized material in the earth's crust, regardless of form, quantity, grade or quality.

Mineral water: water of natural origin containing either mineral salts or gases or both in solution and having therapeutic properties.

Mining activity: operations of reconnaissance, research, development, exploitation, processing, beneficiation, transport, storage, loading, marketing, rehabilitation and closure of sites of exploitation of mineral substances.

Mining fees: a sum levied at the time of the first sale, the amount of which is due to the State or to sectoral national institutions, in respect of the value of production on the mine site.

Mining Impact Map: an official topographic map that is kept up to date and shows the boundaries of all existing mining claims, pending applications, available land, forestry and wildlife reserves, national parks and protected areas.

Mining right: the prerogative conferred on the holder of a mining permit or title.

National Park: a single area whose fauna, flora, soil, subsoil, atmosphere, water and, in general, the natural environment is of special interest and which must be preserved against any effort at natural degradation and removed from any intervention likely to alter its appearance, composition and evolution.

Non-conventional animal husbandry: non-conventional animal husbandry or non-conventional mini-livestock farming is the farming of small wild vertebrates (mammals, birds, reptiles and amphibians) and invertebrates (annelids, molluscs and insects).

Operation: all the preparatory, extraction, transport, analysis and treatment work carried out on a given deposit in order to obtain marketable or usable products.

Perennial crop: crops that have a growing cycle of more than one year and can wait several years before being replanted.

Perimeter: the boundary around the surface of the land for which a mining title or reconnaissance permit is granted.

Precious substances: precious metals, precious and semi-precious stones.

Produced water: quantity of water obtained after the treatment of captured water.

Production forest: an area intended for the sustained and sustainable production of timber, services or any other forest product; the rights of use for hunting, fishing and gathering are regulated.

Production output: ratio of the amount of water collected to the amount produced at the outlet.

Proportional fees: ad valorem tax on mineral substances and extraction tax on quarry substances.

Protected area: a geographical area delimited and managed to achieve specific conservation and sustainable development objectives for one or more data.

Proven reserve: the economically recoverable portion of the indicated resources and in some cases the measured resources demonstrated by a feasibility study.

Probable reserve: Economically exploitable part of the indicated resources and in some cases of the measured resources demonstrated by a pre-feasibility study.

Public interest quarry: perimeter of industrial exploitation of quarry substances intended for public works.

Quarry substances: building materials or industrial minerals extracted by excavation or otherwise, for the purpose of supplying materials for construction, trade or industry.

Quarry: perimeter of exploitation of construction materials or industrial minerals of phosphates and nitrates and the installations dedicated to it.

Reconnaissance permit: a legal act which confers on its holder;

- the non-exclusive and non-transferable right to carry out reconnaissance operations within the reconnaissance perimeter,
- the right to access the reconnaissance perimeter and to erect, subject to compliance with the land, forestry and state legislation in force, installations intended exclusively for reconnaissance work.

Reconnaissance: all systematic and itinerant surface investigations, particularly by geological and geophysical methods, with a view to detecting indications or concentrations of useful mineral substances.

Reforestation area: land that has been or will be reforested with the objective of producing forest products and/or protecting a fragile ecosystem. Hunting, fishing, grazing and gathering rights are regulated according to the objective assigned to the reforestation area.

Rehabilitation: restoration of former mining sites to conditions of safety, rural productivity, and visual appearance close to their original state, in a sustainable manner and in a manner deemed adequate and acceptable by the administrations in charge of Mines and the Environment.

Reserve: the part of the measured and indicated resources that can be economically exploited under market conditions at the time of estimation.

Solar energy: energy resulting from the exploitation of solar radiation for the production of :

- electricity, by means of photovoltaic cells, or thermoelectric power stations;
- hot water from flat-plate collectors, which operate mainly by thermosiphon.

Special products: some forest products such as ebony, ivory, wild animal trophies, as well as certain animal or plant species, medicinal species or species of special interest.

Spring water: water with little or no mineralization, gaseous or not at the point of resurgence.

Surface fees: sum due annually by holders of mining titles, quarrying authorizations and permits and mineral water exploitation permits in return for the surface area occupied by the activity they carry out.

Waste rock and quarry tailings: waste rock, spoil and tailings from mining and quarrying operations.

Water supplied to the network: quantity of water released into the distribution circuit for consumption.

Wind power: the kinetic energy of the wind harnessed to generate electricity by means of wind turbines.

Wood energy: consumption of wood as an energy source (cooking, smoking, drying, lighting, etc.).

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