



## FEASIBILITY STUDY FOR THE DEVELOPMENT OF PUBLIC-PRIVATE SEED DELIVERY SYSTEMS IN Congo Republic



**FEASIBILITY STUDIES FOR THE DEVELOPMENT OF SEED SYSTEMS IN  
CONGO REPUBLIC**

**BEMBE Albert Pierre**  
**National Consultant**

**November 2019**

<b>SUMMARY</b>	5
<b>1. Introduction and Background</b>	5
at. Farming Systems	5
b. Current and recent agricultural development initiatives	6
c. Development prospects for agriculture	7
<b>2. Farming Systems</b>	
at. Levels of current production of food crops, yields and trends	7
b. Description of the main agro-ecological zones and farming systems	
c. Current status of agricultural extension activities, public and private	11
d. adoption of improved seed level, Culture	14
e. Level of use of fertilizers and organic manure to increase yields by crop	15
f. General description of the marketing system of excess production of staple crops	16
g. Trends in the development of industries and sales channels for staple crops	
<b>3. National Agricultural Research System</b>	17
at. public institutes and universities actively engaged in plant breeding	
b. Current situation of recent or ongoing varietal selection by species	19
c. State of the art of seed research institutions to public vocation	19
d. Recent collaborations or underway with the private sector and farmers' organizations seed supply material	19
e. current situation of seed production license agreements by third entities	19
<b>4. State of the art for the provision and supply of seeds</b>	
at. History of Plant Breeding and provision of seeds countries	20
b. Recent and ongoing activities aimed at dissemination of improved crop varieties, by crop	20
c. Recent and ongoing to increase the seed capital of the country	21
d. Current options for small farmers to access improved and certified seed	21
e. Number of private seed companies operating in the country and an annual quantitative estimate of their seed production	21
f. nongovernmental organizations and peasant organizations involved in the production and supply of seeds	22
g. existing infrastructure for processing and packaging of seeds	22
h. Quantity of certified seeds sold in the past five years, by crop	
i. Number of small and medium businesses involved in agriculture / seed currently active, by region	22
j. level of imports of certified seeds, by crop	23
k. the seed sector improvement Prospects	
<b>4. National Strategic Plan of the seed sector</b>	23
at. Administrative formalities for seed production	
b. Administrative formalities for the registration of new varieties	24
c. Administrative formalities for certification of new varieties	
d. State of the art of agencies responsible for regulation and certification of new varieties	24
e. Inventory of basic seed	24
f. Procedures for the production and supply of basic seed	25
<b>6. Summary and Conclusions</b>	25
at. Current state of access to improved seeds among small farmers	25
b. Contribution and governmental support for the improvement of seed systems	25
c. Prospects and opportunities for the improvement of seed systems	
d. recommendations	26

## **ABBREVIATIONS**

<b>AGRICONGO</b>	Research Institute for Development Support in Tropical area
<b>ANVAR</b>	National Agency for Valuation Results of Research
<b>CAT</b>	Center Technical Support
<b>CDTA</b>	Agricultural Technical Demonstration Center
<b>CEMA</b>	Centers Agricultural Machinery Exploitation
<b>CEMAC</b>	Economic and Monetary Community of Central Africa
<b>CEP</b>	Champs Producers Schools
<b>CNSA</b>	National Improved Seeds Center
<b>CPP</b>	Programming Framework Country
<b>SARC</b>	Agricultural Research Center Loudima
<b>CVTA</b>	Center for Popularization of Agricultural Techniques
<b>DDA</b>	Departmental Directorate of Agriculture
<b>PRSP</b>	Strategic Document for Poverty Reduction
<b>ESA</b>	Study Agricultural Sector
<b>FAO</b>	United Nations Food and Agriculture
<b>FCPA</b>	Farms Agricultural Production Community
<b>FSA</b>	Support Fund for Agriculture
<b>GECOBIDE</b>	Group for the Study and Conservation of Biodiversity for Development
<b>IPCC</b>	Economic Interest Group Community
<b>IITA</b>	International Institute of Tropical Agriculture
<b>IPHD</b>	International Partnership for Human Development
<b>IRA</b>	National Institute of Agronomic Research
<b>APRM</b>	Ministry of Agriculture, Livestock and Fisheries
<b>OCC</b>	Office Coffee Cocoa
<b>OCV</b>	Office of Food Crops
<b>NGO</b>	Non Governmental Organization
<b>OP</b>	Peasant organization
<b>OPVA</b>	Operation Outreach Pilot
<b>PADEF</b>	Support Program for Agricultural Commodities Development
<b>WFP</b>	World Food Program
<b>PDAC</b>	Support Project Agricultural Development Commercial
<b>PDARP</b>	Project Agricultural Development and Agricultural Rehabilitation Tracks
<b>GDP</b>	Gross domestic product
<b>PND</b>	National Development Plan
<b>PNIASA</b>	National Program for Agricultural Investment and Food Security
<b>PNIASAN</b>	National Investment Plan and Food and Nutrition Security
<b>NASP</b>	National Food Security Program
<b>PNSAN</b>	National Security Policy Food and Nutrition
<b>PRODER</b>	Rural Development Project
<b>RGA</b>	General Census of Agriculture
<b>SARIS</b>	Company Agricultural and Industrial Sugar Refining
<b>NARS</b>	National Agricultural Research System
<b>SOC</b>	Control Official Service

## **1. Introduction and Background**

### ***a. Farming Systems***

The agricultural system is one of the most important economic sectors of the country to primary specialization. It contributes significantly to the gross domestic product (GDP) in many African countries (Doumbia et al. 2013).

The agriculture sector occupies an important place in the economy of sub-Saharan African countries, especially the Congo. Despite the relative weakness of the share of agricultural value added (including the areas of fishing and forestry) in the Gross Domestic Product (GDP) is around 10%, agriculture remains a priority sector Congo given its consistent development potential. Still considered top priority, Congolese agriculture is still underdeveloped as dominated by smallholders as part of family farming, often subsistence. Agricultural assets represent a workforce of 514 358 farmers on an estimated population of 4,801,684 inhabitants in 2015. Of these numbers, 65% of women contribute to 70% of food production according to the General Census of Agriculture (RGA) realized in 2016.

Essentially, the Congolese agricultural production, to date, the fruit of village agriculture. The agricultural sector is based primarily on small producers of family agriculture. The major operating systems in the Congo are: traditional and modern semi. In general, farmers practice associative culture in order to reconcile the food diversification aspects in self consumption, improving income for a multiplicity of products to market and land restoration with plants with high production of carbon-rich organic and / or nitrogen.

This sector is dominated by subsistence crops (groundnut, banana, maize, cassava, etc.). It also provides a range of products for urban consumers (fruits, vegetables, rice), agricultural industries (sugar cane, palm oil and tobacco) and exports (cocoa and coffee).

current production systems are based on the practice of shifting cultivation on brulis to cassava. In general, remain rudimentary production systems, farm households with only small equipment, using very little improved agricultural inputs and are very connected with conventional and decentralized financial systems.

### ***b. Current and recent agricultural development initiatives***

From 1987, public authorities are embarking on an agricultural development policy to promote private sector initiatives and reduce state intervention in economic activities. Congolese agriculture remains essentially manual until today to 96%. Under these conditions, the ability to develop the volumes then only depends on the ability to find labor at an acceptable price. In practice, the surfaces remain extremely modest.

Since then the Congo has implemented several investment programs for the development of the agricultural sector. Its programs and projects (PADEF, PRODER, NASP, PNIASA, PDARP, PSSA, etc.) are under the authority of the APR which is the client. These programs and projects have not helped address key challenges facing the agricultural sector, including: - the land problem; - poor access to production areas; - lack of access to inputs; - low involvement of the private sector; - absence of local credit; - Rural exodus of young people; - poor organization of producers; - low level of funding.

The implemented cassava program has improved cassava production (4,629,222 tons of fresh tuberous roots in 2016). As part of this program, the following results were

obtained: (i) 916.5 hectares of parks wood implanted in households, (ii) 12,665,117 healthy cassava cuttings distributed to producers to strengthen the distribution network, (iii) 7500 vitro plants of local ecotypes remediated products in collaboration with National Institute of Agronomic Research (IRA). Maize production to support the animal feed production chain has reached approximately 20 700 tonnes in 2016.

For cash crops, cocoa production is around only 892.1 tons of beans. The mid-term implementation of the PND gives the following results; cocoa: 3 million young cocoa plants have been distributed to producers, a nursery of 3 hectares with a capacity of producing 1.4 million plants was installed in Pokola in the Sangha and 460 planters benefited first plants in 58 villages of the departments Likouala, Sangha and Cuvette; in addition, 2 800 ha of cacao trees were planted.

This subsector also provides: - training and research and development by the Agricultural Technical Demonstration Center (CDTA) of Kombe; popularization of efficient technical routes with 280 beneficiaries, with the experimentation of 12 Champs Producers Schools (FFS) drivers; promoting public-private partnership-active population in collaboration with International Partnership Human Development (IPHD) through the Community Farms Agricultural Production (FCPA) for the production and marketing of corn, soybeans and potatoes; support agricultural micro financing scheme through the Support Fund for Agriculture (FSA); support to agricultural mechanization through the Agricultural Machinery Operations Centers (CEMA).

Moreover, an important enabling incentives for development of competitive agricultural private sector program has resulted in: the implementation of modern farms agricultural production (toddi Farmers Rivers tolonga, DAPIL, etc.); consolidating the gains of the sugar industry; the revival of agro industries oilseeds by companies ATAMA PLANTATION Eco Oil and Energy; the start of production of cashew with Congo CELTS Industries company.

All these projects and programs have been the main objective the improvement of agricultural performance to make it able to contribute to poverty reduction and economic development and the country's social and ensure sustainable food security and nutrition of the population.

### ***c. Development prospects for agriculture***

The government intends to base its action on the agricultural sector to diversify its economy, currently based on oil revenues. Thus, he stated repeatedly its commitment to the agricultural sector to develop in order to contribute to better feed its population in general, but also to reduce its colossal food imports, which weigh heavily on the national budget and growth of GDP.

Under the new National Development Plan (NDP) 2018-2022, Congo has opted to fight against food and nutrition insecurity by focusing on the development of the agricultural, pastoral, forestry and fisheries through, among other promoting youth entrepreneurship which represent approximately 47.7% of the population. To this end, for the farming and fishing industry, a national agricultural policy and a priority action plan and a food and nutritional security policy was developed. Similarly, a strategic framework for the fight against malnutrition and the national strategy for infant and young child feeding were made.

The National Development Plan (NDP) 2018-2022, has retained three priority areas namely: (i) strengthening governance, (ii) the depth strengthening the education system and the qualification and professional training, and (iii) the third axis is diversification and structural transformation of the economy through key sectors such as agriculture.

To this end, it adopted a National Plan for Agricultural Investment and Food and Nutrition Security (PNIASAN) 2017-2021 which aims to boost investment in agriculture and a national agricultural policy with a Program Priority Actions (PAP) for the 2018-2020 period aims to revive the Congolese agriculture. PAP aims: (i) increase agricultural production capacity, livestock and fisheries, (ii) the incentive for investment and production subsidy and (iii) improving the institutional framework and legal, including control of agricultural statistics and strengthening human resource capacity. Similarly, a national policy on food and nutrition security (PNSAN) was adopted in 2017 which aims to improve the state of food security and nutrition of the Congolese. A strategy for capacity building of farmers' organizations which aims to strengthen the capacity of farmer organizations to facilitate their involvement in the process of formulation and implementation of development policies and programs for agricultural and rural sector has been developed. The national gender profile of agriculture and rural development that provides a diagnosis of the degree of involvement of women in these areas has been developed. The master plan for agricultural research, which aims to revitalize agricultural research so that it contributes effectively to the fight against food insecurity and malnutrition has been validated. The master plan for the development of water resources for agriculture, livestock and fishing, which aims to develop the agricultural irrigation sector to increase agricultural yields produced. The strategies and the cassava sector development action plans with the aim to ensure sustainable management of the cassava sector in Congo have been developed (CPP 2019-2022). farming and fishing which aims to develop the agricultural irrigation sector to increase agricultural yields produced. The strategies and the cassava sector development action plans with the aim to ensure sustainable management of the cassava sector in Congo have been developed (CPP 2019-2022). farming and fishing which aims to develop the agricultural irrigation sector to increase agricultural yields produced. The strategies and the cassava sector development action plans with the aim to ensure sustainable management of the cassava sector in Congo have been developed (CPP 2019-2022).

The main objective of the Government in the framework of the implementation of the NDP 2018-2022 is to make agriculture one of the main pillars of diversification, growth, competitiveness and sustainable job creation. Specifically, the Government plans to: (i) increase agricultural production capacity to favorable performance in the dynamics of economic diversification; (li) ensure food and nutrition security, and (iii) participate in the fight against poverty.

**2. Farming Systems**

**a. Levels of current production of food crops, yields and trends**

The national production data are very approximate. We could not imagine having reliable information as to the extent an agricultural census would be launched nationwide and conducted over several years and in all seasons to properly capture the data returns, surfaces, and fresh produce transformed, etc.

According to recent estimates, one would have the following orders of magnitude for the main crops:

Table 1: Evolution of the production of certain agricultural crops in tons

years	2005	2006	2007	2008	2009	2010
cassava	1507000	1071000	1140000	1196000	1231000	1243000
Plantain	74,000	75000	76900	79500	81,400	82800

Peanut	22900	23400	23900	24,600	24900	30100
But	9300	9400	9500	10300	10700	10900

Sources: MFA 2011 baseline for monitoring and evaluation of PDARP, analysis report, 13.

The statistics of areas, agricultural yields and productions of the 2017-2018 campaign of individual producers are presented in the following table.

Table 2: Farm Products Production Statistics of individual producers, Campaign 2017-2018

Agricultural products	total area (ha)	average area (ha)	Yield (kg / ha)	Total production (kg)	average production (kg)
But	2112	5.6	325.3	686962	1831.9
Cassava	1822	1.8	1398	2546862	2475.1
Banana	439	2.1	2261	992418	4913
Peanut	466	1.7	1125.1	524 284	1935
vegetable products	464	1.2	5286.9	2453135	6 720.9

PDAC interim report in May 2019

The average areas declared by producers vary speculation. They are lower than 2ha: cassava (1.8 ha), peanuts (1,7ha) and vegetable crops (1,2ha). However they are greater than 2ha for corn.

Table 3 below shows the distribution of area, yield and production of maize from producers by the department from 2017 to 2018 campaign.

Table 3: Distribution of area, yield and production of maize from producers by the department from 2017 to 2018 campaign

Department	Area (ha)			Yield (kg / ha)			Production (kg)		
	H	F	Total	H	F	Together	H	F	Total
Kouilou	1	3	4	1425.0	333	356.0	425	1000	1425
Niari	47	42	89	902.0	444	686.0	42382	18658	61040
Lékoumou	33	15	49	335.3	341	337.3	11123	5260	16383
Bouenza	623	304	927	234.2	237	235.1	145885	72069	217954
pool	98	56	154	1051.7	2810	1691.0	103070	157348	260418
uplands	8	35	43	599.0	218	289.0	4795	7635	12430
Bowl	-	1	-	-	300	3000.0	-	300	300
Bowl O.	12	1	13	117.0	63	113.0	1402	63	1465
Sangha	16	10	26	1038.5	501.5	832.0	16628	5015	
Likouala	762	37	799	74.7	756.8	106.3	56904	28000	84904
Brazzaville	-	-	-	-	-	-	-	-	-
Black Point	5	2	7	-	4500.0	1285.7	-	9000	9000
Together	1605	507	2112	238.4	600.6	325.3	382614	304348	686962

In total, the area under crops producers have a total area of 2112ha 1605ha of which 507ha for men and for women. Agricultural production totaled 686962 kg corresponds to a yield of 325.3 kg / ha.

Cassava is the main crop supported by the program. The PADEF has achieved significant results in the spread of cassava varieties resistant to mosaic and productive. Of 445 parks provided wood, 40 have been fully implemented with 2,865,000 cuttings distributed to IPCC 4,450,000, or 64% and 28,180,915 cuttings distributed to households 44,450,000 provided at 63%. The PADEF planning to set up 204 IPCC in

2016. The expected effects of the component, such as yields and adoption rates of improved varieties are not known yet.

As for the statistics of acreage and average yields of cassava, they are presented in Table 4.

Table 4: Cassava Production statistics from producers by department and gender, the campaign 2017-2018

Department	Area (ha)			Yield (kg / ha)			Production (kg)		
	H	F	Total	H	F	Together	H	F	Total
Kouilou	31	59	90	1038	1537	1365	32,190	90700	122890
Niari	142	43	185	1765	1391	1679	250693	59,833	310 526
Lékoumou	142	92	234	2480	87	1539	352185	8033	360 218
Bouenza	75	17	92	3890	5882	4258	291729	100000	391729
pool	127	100	227	1328	1689	1487	168685	168927	337612
uplands	391	200	591	810	826	816	316 777	165 211	481988
Bowl	12	31	43	1706	1625	1647	20476	50,365	70841
Bowl O.	75	48	123	942	1049	983	70637	50,333	120 970
Sangha	39	17	56	1958	730	1585	76350	12407	88757
Likouala	106	69	175	2139	380	1446	226782	26248	253030
Brazzaville	0	1	1		1000	1000	0	1000	1000
Black Point	2	3	5	650	2000	1460	1300	6000	7300
<b>Together</b>	<b>1142</b>	<b>680</b>	<b>1822</b>	<b>1583</b>	<b>1087</b>	<b>1398</b>	<b>1807804</b>	<b>739057</b>	<b>2546862</b>

For this survey PDAC, the areas are 1,822 ha with 1,142 ha to 680 ha men and for women. The highest cassava areas were recorded in trays with 591 hectares including 391 hectares for men and 200 ha for women. Regarding average farm yields in cassava, they are 1398 kg / ha with 1583 kg / ha for men and 1087 kg / ha for women. The highest yields were observed in Bouenza with 4258 kg / ha with 3890 kg / ha for men and 5882 kg / ha. Finally, production levels are 2,546,862 kg with 1,807,804 kg for men and 739,057 kg for women. They are the highest in the trays with 481,988 kg followed Bouenza with 391,729 kilograms.

Household activities and cropland by department are as follows.

Table 5: Household Activities by department

departments	Activities of households		cropland (ha)	cropland (ha)
	Agriculture	Vegetable growing		
Bouenza	49%	34%	1.56 million ha	46 460 ha (2.9%)
Brazzaville	29.1%	41.8%	-	-
cuvette Ouest	66%	8%	-	-
Bowl	36%	35%	2,986,630 ha	18,737 ha
Kouilou	56%	26%	-	-
Lékoumou	76%	10%	-	-
Likouala	54%	27%	-	46 460 ha (2.9%)
Niari	33%	28%	90 000 ha	Ha 20 268 (22.5%)
uplands	79%	10%	1.56 million ha	46 460 ha (2.9%)
Black Point	58%	21%	1300 ha	-
pool	64%	30 %	1.56 million ha	46 460 ha (2.9%)
Sangha	52%	39%	1.56 million ha	46 460 ha (2.9%)

The main products and production factors in each department are shown in Table 6

Table 6: Main products and production inputs

departments	main productions	Production factors				
		Main non-family labor	Mechanization	Fertilizer use	Use plant protection products	Technical assistance
Bouenza	Sugarcane (SARIS), market gardening, peanut, cassava, beans, maize, fruit	80%	8.3%	14%	4.7%	14%
Brazzaville	Maraichères Cultures (1015 t in 2010)	90%	%	97%	100%	42%
cuvette Ouest	Cassava, yams, plantains, corn	19%	%	2%	2.4%	%
Bowl	Cassava, groundnut, corn, banana, yam	%	%	2%	1%	36%
Kouilou	Banana, cassava, fruits, vegetables	56%	%	44%	5.5%	%
Lékoumou	Cassava, groundnut, corn, banana, paddy	78%	%	2%	1.5%	25%
Likouala	Cassava, banana, taro, pineapple, cocoa	72%	%	12%	1.6%	13%
Niari	Cassava, peanut, plantain, maize, vegetable crops	77%	%	8%	6.8%	9%
uplands	Cassava, yams	31%	%	7%	1%	29%
Black Point	Vegetable crops, cassava, groundnut, corn, fruit crops	71.7%	%	80%	%	38.6%
pool	Cassava, peanut, plantain, fruit crops, corn, vegetables	76%	1%	24%	7.3%	19%
Sangha	Cassava, banana, maize, groundnut, cocoa and shallot	61%	5%	11%	8%	24%

Table 7 that follows, we present the various sales markets for agricultural products department.

Table 7: Processing and marketing

departments	Processing and marketing				
	Agribusiness	sales market for agricultural products			
		department market	Local market	National market	
Bouenza	SARIS (sugarcane), corn plantings MINOCO, BRASCO and CODDIPA (UAB)	1%	75%	24%	
Brazzaville	Juice T-DELCOOP fruit drinks Brasco, Bayo, BAB Ragec	3%	97%		
cuvette Ouest	Craft units for processing cassava into fufu or chikuangue, crushing palm nuts, the fermentation of corn, not agribusiness	26%	71%	3%	
Bowl	scale cassava processing No agribusiness	1.2%	98.8%	-	
Kouilou	scale cassava processing No agribusiness	26%	61%	13%	
Lékoumou	scale cassava processing No agribusiness	15%	72%	13%	

Likouala	artisanal soap production, palm oil, palm wine, honey wine (Duma) and the local alcohol (from corn and pineapple)	10%	87%	3%
Niari	Mills artisanal cassava, peanuts and corn; craft processing units for alcoholic beverages. No agribusiness	12%	83%	4%
uplands	scale processing of cassava and fruits. No agribusiness	2%	81%	16%
Black Point	Drinks: Brasco, Bayo, Plasco Flour: MINOCO, Enoce Bio	2%	98%	-
pool	scale processing of cassava and fruits. No agribusiness	3%	52%	44%
Sangha	scale cassava processing. village production of palm oil. No agribusiness	9%	89%	2%

### ***b. Description of the main agro-ecological zones and farming systems***

On the biophysical, the simultaneous analysis of the climate, geology, soils and vegetation has been subdivided into 9 agro ecological zones Congolese territory, they are:

1. coastal basin (or coastal plain) covering the department of Pointe Noire and Kouilou part of the department, the population is 724 754 inhabitants, Pointe-Noire is the second largest city, industrial city, economic capital. The plateaus and hills are gently undulating whose height does not exceed 180 m, the coastal plain is drained by numerous rivers that flow to the sea: Tchinouka, Songolo ... The lateritic soils are heavily depleted and desaturated texture is sandy, grassy savannahs and sparse low shrubs; Eucalyptus plantations.
2. Mountain range Mayombe covering most of the Kouilou department, 75 380 inhabitants distributed in the districts of: Hinda, Madingo Kayes, Kakamoeka, Nzambi and Mvouti) crystalline basement and crystallophyllian Precambrian succession of low mountains (maximum: 930 m) forming a Appalachian type of terrain, coastal rivers : Loémé, Kouilou. Lakes: Cayo, Bindi, Loufoaleba (or Nanga) Conkouati Youbi .... Marais Ntombo. lateritic soils, clay and sandy clay. Dense forest dominated by the Limba.
3. Chaillu forest covering the northern parts of Niari and Lékoumou, 157 427 inhabitants, city Mossendjo (6th largest city), includes the districts of: Divenie, Moutamba, Yaya Mougoundou South Mougoundou North Mayoko, Mbinda, Sibiti Mayeye, Komono, Zanaga, Bambama. Base crystallophyllian crystalline Precambrian; the hills are in the form of massive ridges separated by deep valleys. Tributaries and sub-tributaries of Niari and Ogooué: the Louesse the Gokango the Léboulou the Limogny the Itsibou, Lékoumou, the Mpoukou the Lélali. lateritic soils heavily desaturated reworked texture clay-sandy and clayey soil waterlogged (located in the valley bottoms). rain forest dominated by Okoumé.

4. Niari Valley encompassing the departments of Niari and Bouenza, 420 321 inhabitants. Cities Dolisie and Nkayi (3rd city and fourth largest city), districts are: Kibangou, Nyanga, Kimongo, Louvakou District, Makabana, Londela-Kayes Banda Madingou, Mfouati, Loudima, Kayes, Mouyondzi, Yamba, Mabombo, Kingoué , Tsiaki. Sedimentary basin consists of dolomitic limestone and sandstone series of Mpioka dated Precambrian. Wide depression (average elevation: 200m) lined more rugged terrain, hills cataracts shelf trays Mouyondzi, Moon Mountains ... River Niari and its tributaries (Bouenza Louesse, Lé Boulou, Gokango, Loubomo, Loudima, Nkenké ...) lateritic soils heavily desaturated lateritic soil moderately revised and desaturated. Texture very clayey, dense grassland, shrub and tall.
5. Cataracts tray extending over the southern parts of departments Bouenza and Pool; 206,094 inhabitants Districts: Boko-Songho, Mfouati, Kinkala, Mindouli Goma Tsetse, Mayama, Mbandza-Ndouna, Louingui, Louingui, Loumo, Vindza, Kimba. Sandstone series of dated Precambrian Inkisi; Series of hills along the right bank of the river Congo, the Congo River and its tributaries (The Djoué and The Loufoulakari). Lateritic soils, sandy clay, grassy savannahs, less dense, more or less shrubby.
6. Department of Brazzaville containing the set of cataracts and the Batéké; 1,375,237 inhabitants; Political and administrative capital of Congo, sandstone series of dated Precambrian Inkisi; Series of hills along the right river Congo River; Sand, silt and sandstone polymorphic Batéké trays tertiary age. The Congo River and its tributaries (the Djoué the Djiri the Kelekele the Madoukoutsékélé the Mfoa the Tsiémé the Mfilou ...) Floor ferralitic heavily desaturated impoverished gritty or sandy clay. Grassy savannah more or less shrubby. Forest Reserve Patte d'Oie.
7. Trays Batéké including the Pool and Plateaux Department; 212,731 inhabitants, districts: Ignié, Ngäbe, Lékana, Djambala Gamboma, Abala Allembé, Makotimpoko, Mbon, Mpouya, Ngo and Ongogni, Sands, stringers and sandstone polymorphic Batéké trays tertiary age; sandstone series of Inkisi of Precambrian age; high plateaus varying altitude 600-800m (Mbe, Ngo-Nsa, Djambala and Koukouya) and hills. The Congo River and its tributaries: Mary (or Maty) Léfini the Nkéni ... Soils lateritic, sandy and sandy clay. Grassy savannah more or less shrubby. gallery forests, Wildlife Reserve Léfini; Natural Lesio Louna reserve.
8. Congolese basin covering the department of Cuvette; 299,577 inhabitants Districts: Ollombo, Makoua, Owando, Boundji, Mossaka, Oyo Tchikapika, Loukoléla, Ngoko, Ntokou, Mokéko, Impfondo, Epena, Dongou, Bouanila. sedimentary basin filled tertiary and quaternary sands; depressed area whose altitude varies between 200 and 400 m. Tributaries of the Congo River: Alima, the Komo, the Kouyou, Likouala-Mossaka, Likouala aux Herbes, Sangha ... Sandy soils (in exposed areas). Waterlogged soils (in wetlands). flooded forest (nearly 8 million hectares)

9. forest Northwest covering the departments of Sangha and Likouala. 58 443 inhabitants; City Ouessou (5th largest city); Main ethnic groups: Makaa, Sangha Mboko, Kota, Baya; Presence of indigenous peoples. crystalline and crystallophyllian Stand series Kelle Ouessou-and-Sembé Souanké of Precambrian age; Trays and Mont Nabemba (1,000m above sea level) which is the highest point of the country. Tributaries of the Congo River: the Mambili, Sangha, the Bokiba the Kandéko, Ngoko ... Soils lateritic, clay.

Table 8: agro-ecological zones of the Congo and the main uses  
(Source: Agricultural Sector Study 2011)

agroecological zones	annual rainfall (mm)	Vegetative growth (days)	main crops
<b>1. Coastal Basin (Pointe Noire and Kouilou departments)</b>	Bimodal 1000-1 200	233	cassava, banana, taro, corn, peanuts, vegetables, mango, citrus, African plum, avocado, cocoa
<b>2. Mountain range Mayombe (Departments of Kouilou)</b>	Bimodal 1200 - 1700	240	cassava, banana, yam, taro, corn, citrus, African plum, coffee, cocoa;
<b>3. Forest Massif Chaillu (Departments of Niari and Lékoumou)</b>	Bimodal 1200 - 1700	260	cassava, peanut, squash, plantain, banana dessert, bean, sugar cane, palm, coffee
<b>4. Niari Valley (Departments of Niari and Bouenza)</b>	Bimodal 900 - 1000	203-260	cassava, paddy, maize, beans, plantain, banana dessert, peanut, pumpkin, mango, African plum, citrus, sugar cane, palm, coffee tree;
<b>5. Plateau Cataractes (Departments of Bouenza and Pool)</b>	Bimodal 1200 - 1700	235	Production of vegetables and food (mainly cassava);  Paddy
<b>6. Department of Brazzaville (tray Cataractes and Bateke Plateau)</b>	Bimodal 1200 - 1700	235	cassava, vegetable, beans, mango, litchi, mangosteen, citrus, avocado, safoutier;
<b>7. Tray Batéké (Departments of Pool and Plateaux)</b>	Bimodal 1600 - 1800	240 to 300	cassava, yam, plantain, potato, pumpkin, corn, onion, peanut, citrus, safoutier, avocado, kola, tobacco, coffee

<b>8. Cuvette Congolaise (Departments of Cuvette)</b>	Bimodal 1600 - 1800	300	cassava, yams, dessert banana, citrus, African plum, palm oil, coffee, cocoa;
<b>9. Massif Northwest Forest (Departments of Sangha and Likouala)</b>	Bimodal 1600 - 2 000	365	cassava, yams, dessert banana, citrus, palm oil, coffee, cocoa

NB: Vegetative growth on the favorable period of high vegetation for each agro-ecological zone

### ***c. Current status of agricultural extension activities, public and private***

Extension to agricultural producers began to be structured that from 1987 the implementation of agricultural extension Pilot operation (OPVA). Long before, technical support centers (CAT) created in 1967 played a significant role in popularizing the productive sector of the state level.

The CVTA is mandated to: (i) - to carry out experimental activities on seeds, grafted cuttings and seedlings and farming techniques (tillage, amendements, etc.); (li) - and ensure the extension (field agents and producers). In reality, its outreach are practically nil. The outreach to farmers are now non-existent due to lack of operating budget, while the rural areas has undergone profound changes with the disengagement of the state in the production and marketing sector.

The CNSA which focuses on breeding, seed improvement and distribution in 2009, past service with the South Proder delivery contracts and PDARP for producing soybean seeds, corn and peanuts and cuttings healthy cassava. Subsequently PRODER South and PDARPinvolved in the popularization of improved seeds. It supports Community Economic Interest Groupings (IPCC) who want to produce basic seed.

At the National Agency of Valuation Results (ANVAR), the search results for certain reasons and in a given context, the valuation function is limited only around journals. Currently, the ANVAR website has been created and an outreach project newsletter as the voice of the peasant is being here in January 2020.

### ***d. adoption of improved seed level, Culture***

Regarding cassava. Peveral clones in the intervention zones were introduced in 2014 in the Plateaux / bowl / bowl West under the PADEF (Mabiala Nguyi, I93 / I97 and 0029/0162). The introduction of cassava varieties resistant to mosaic greatly reduced the incidence of mosaic and allowed increased yields to be determined. After two years of introduction of new varieties, members of the IPCC and households in surrounding villages have these varieties. In the sites where these varieties were more than three crop cycles, some information about the yield per hectare were verbally provided and indicate that the variety I93 / 0029 which has high dormant for lifting, is the most productive popular in Cuvette-Ouest then it is rejected in Bouenza for his precocity. Access to improved genetic material is much found at the IPCC and their members who also have personal fields.

For beans, leveraging the network of multipliers in the implementation of the bean program, supported by PABRA with improved seeds and the project to support small bean farmers in the department of Bouenza. introduced improved seeds have been

well appreciated and well taken by the multipliers farmers and other farmers Bouenza department.

Table 9: Adoption of the technology by the producers, POs and MSMEs

technologies	individual producers		Organization of producers		MSMEs	
	Effective	%	Effective	%	Effective	%
For banana: use of the method of plants from fragments (PIF)	34	1.9	9	5.5	3	10.34
Cassava: use of improved cuttings	269	15.1	22	13.4	4	13.79
For corn / peanut: use of improved seeds	189	10.6	28	17.1	4	13.79
Use of improved seeds	0	0	0	0	0	0
Using biofertilizer and biopesticides	217	12.2	48	29.3	4	13.8
Installation of irrigation system (pump, water tower, distribution pipes)	93	5.2	8	4.9	2	6.9

Source: Surveys ESA 2011

All technologies and whatever the actors concerned (Individual producers, OP, MSMEs) the technology adoption rates are low. On average these rates are lower than 10%, insufficient rate to cause diffusion of innovations in players who have not been affected.

Table 10: Adoption of the technology by individual producers

technologies	producers Men		Women producers		Total	
	Effective	%	Effective	%	Effective	%
For banana: use of the method of plants from fragments (PIF)	24	2.1	10	1.5	34	1.9
Cassava: use of improved cuttings	164	14.6	105	16.1	269	15.1
For corn / peanut: use of improved seeds	107	9.6	82	12.5	189	10.6
Use of improved seeds	0	0	0	0	0	0
Using biofertilizer and biopesticides	119	10.6	98	15	217	12.2
Installation of irrigation system (pump, water tower, distribution pipes)	56	5	37	5.7	93	5.2
Together	78.33	6.98	55.33	8.46	133.66	7.5

Source: Surveys ESA 2011

In all producers, the adoption rate is 7.50% with 6.98% for men and 8.46% for women. Adoption rates are variable, however, depending on the technologies. Thus: - the rate of adoption of improved cassava cuttings was 15.1% with 14.6% for men and 16.1% for women, - the adoption rate was 12.2% for use of biofertilizers and biopesticides with 10.6% for men and 15% for women.

#### **e. Level of use of fertilizers and organic manure to increase yields by crop**

These are the seeds and cuttings which represent the bulk of inputs that farmers will buy and use. The use of pesticides and fertilizers is fairly marginal, marginal or very soon as one moves away from urbanized centers that use quite commonly. It has an equivalent response with  $\frac{3}{4}$  of the farmers who use no pesticides and just over one quarter who use it. This is so mainly insecticides and fungicides.

Table 10 above shows that the adoption rate of fertilizer use is very low, 12.2% for the use of biofertilizers and biopesticides with 10.6% for men and 15% for women,

For those who use pesticides, it is essentially insecticides and fungicides. In practice, this mainly concerns the market gardeners peri-urban producers who are the main consumers nationwide. Almost all farmers fertilize their fields, mainly with organic fertilizer, sometimes supplemented with mineral fertilizers. Again, the inputs used demonstrate the predominance of gardening. The use of plant protection products (in particular fungicides) is much more common in peri-urban areas for gardening than in other departments. To increase yields by crop, GECOBIDE uses 100kg of NPK / ha and 50kg urea / ha. IPHD used to increase maize yields NPK at a rate of 200kg / ha

***f. General description of the marketing system of excess production of staple crops***

The marketing system has been long held by the state, and this until 1986. The divestiture of all that can be entrusted to the private sector, led to the closure of state structures who cared for marketing, such as Office Food Crops (OCV) and the Office Coffee Cocoa (OCC).

Unlike other countries in the sub-region where the States, while those responsible for the marketing of products, are based on approved private traders but to achieve commercialization. The Congo has never had a group of private traders in place. At the end of the intervention of the State, the marketing of food crops was left without any actor to perform the supply of urban centers. Private trade then developed without a clear framework and in a difficult political environment for several years. Currently, the commercial part of the collection, consolidation, routing and distribution products is still very unstructured.

The marketing of domestic production is now ensured in part by the private sector (poultry, meat, vegetables) and to a lesser extent by the producers themselves. But, overall, they contribute very imperfectly to supply urban centers. The low flow of food between production centers and places of consumption is mainly due to the following reasons:

- high transport costs due to poor roads and rural roads of production areas to places of supply and marketing, and various other checks such as the costs of administrative barriers and burdens;
- insufficient competition between traders, due to the difficulty of access of new operators to equipment and campaign funds (monetary resources, warehouses or warehouse);
- dispersion of marketable inadequate organization and production of the producers;
- low household purchasing power;
- lack of market information (prices, quantities available in the different areas).

In Congo, marketing is the second axis to strengthen to operationalize the food chain. This market is disorganized because the role of actors is not well defined, the markets are few, access to production areas is insufficient, storage is not done in good conditions and price information is nonexistent. This whole, which currently still operates, is insufficient to support a good supply consumer areas.

Current flaws of the marketing system can result in a very profitable investment for some players if they invest in the improvement and modernization. All sectors concerned are private and can generate profitability that will be all the greater as the marketing sector will be well structured.

The issue of marketing of agricultural products is essential to the development of the sector itself. In fact, it is primarily a transport capacity of matter in good conditions more or less fragile products from agriculture, livestock, fisheries or forests. In practice, the most important factor is simply to have good roads to service departments and within departments production areas.

It should be noted that, in Congo, there are few markets. This low presence of markets does not facilitate the sale of products since producers are often forced to sell farm-gate, or at home in passing traders. The sale of products on a village market (also known producer market) would gain in transparency for producers.

At the Ministry of Agriculture and Livestock, there is a direction of the marketing of agricultural products. This direction was in the past mission to coordinate and control the activity of agricultural marketing boards (OCC, OCV, OCT). Without any preparation, these offices were liquidated in 1990. Thus, the marketing of agricultural products has become unpredictable and this has led to discouragement of many producers. If during services, there was a guaranteed price (price floor) and a certainty to sell the product, with the liberalization of the market, prices are guaranteed and observed not especially regarding an annuity products sell-off at the expense of producers. Some transactions are done clandestinely without state control. The products are not classified, but sold loose causing a loss of revenue for the producer. Since 2001, management of marketing initiated a paper on the regulation of agricultural products. Not having had echoes, the project was revived in 2003, but has not yet reached a conclusion. A project was set up and financed by public funds. It aims to support economic operators in the agricultural marketing praising their transport vehicles at affordable costs. This project should be operational in 2012. the project was revived in 2003, but has not yet reached a conclusion. A project was set up and financed by public funds. It aims to support economic operators in the agricultural marketing praising their transport vehicles at affordable costs. This project should be operational in 2012. the project was revived in 2003, but has not yet reached a conclusion. A project was set up and financed by public funds. It aims to support economic operators in the agricultural marketing praising their transport vehicles at affordable costs. This project should be operational in 2012.

Agricultural products are sold mainly in production areas, namely the local market (73%), then on the domestic market (16.3%). The county market (9.1%) and external (1.5%) are less represented. This shows that the partitioning of local markets generates a departmental and national market slightly fluid and insufficiently supplied by local production.

The marketing of garden produce is often in the hands of women. One of the major problems of this phase of the industry is the lack of appropriate packaging to limit losses. The sale is without calibration or other recovery. The markets are very poorly equipped and sanitary conditions are not met. Demand is high throughout the year but is often unsatisfied. Moreover, there is no transformation which would use the overproduction of certain periods.

More than half (52.9%) of the production departments is for own consumption, while 47.1% of this production is for sale. This result includes a significant disparity between departments because in suburban areas it reaches 100% for sale when the other side

can have 90% of consumption in the most difficult to access areas. Accessibility is everywhere the main factor influencing this rate.

#### ***g. Trends in the development of industries and sales channels for staple crops***

The trends of the national survey for the study of the agricultural sector (ESA) 2011 allowed a glimpse of the relationship between the consumption and sale, structuring the internal market, the income of producers and the major constraints faced by farmers, ranchers and fishermen in marketing their products.

The most widely used means of transport is moving the feet (60.5%), followed by displacement in vehicle (32.9%). This reflects the lack of roads and means of transport to access markets. The goods are sold mainly locally and in small amounts (which can wear on your head, a bike or a push). Nationally the train and the canoe are little used, although this may be the main way of residents affected locally.

Much of the production sold is not transformed (85.5%), against only 14.5% which undergoes a transformation prior to sale. This reflects the lack in processing facilities and packaging in the country but also globally the same low volume production.

### **3. National Agricultural Research System**

#### ***a. public institutes and universities actively engaged in plant breeding***

At the Congo, the structure which is engaged in plant breeding is the IRA in the 80 to create varieties of cassava, groundnuts and cassava. Universities room public and private stop just the theoretical part of the course.

#### ***b. Current situation of recent or ongoing varietal selection by species***

Currently, at the IRA varietal selection was almost more senior researchers who were in charge of selection in different cultures are allowed to retire, and since the 90s, there are virtually no recruitment at the state structures. Current 2016 there was renewed breeding activities with traditional hybridization cassava to Loudima leading to the defense of a dissertation of a junior researcher.

#### ***c. State of the art of seed research institutions for public purposes***

The agricultural research only really start until 1935 with the creation of the Loudima station by the Services of Agriculture of the territory. The National Agricultural Research System (NARS) Congolese includes ten institutions (SARC, CERAG, CRVZ, CRCRT, GERDIB, CRRAFO, CRFL, CRFO, CRDPI, CRHM) that are mostly ineffective because of several reasons: means work (infrastructure, scientific equipment and other) very inadequate and badly damaged, operating credits and paltry equipment, cooling of international scientific cooperation relations, lack of motivation of the research staff, etc. In the past, the NARS Congolese had interesting results including cassava, maize, rice, peanuts and soybeans.

The National Agricultural Research System (NARS) of Congo currently has a research institution seed for public purposes, it is the National Agricultural Research Institute (ARI).

#### **- Scientific staff**

The situation of the IRA personnel has changed very little from 2014 to 2018. Of 130 officers in 2014, that number increased to 149 officers in 2018. Qualitatively, the administrative staff is relatively too large in relation to research staff and this situation is amplified gradually year by year, from 27% in 2015 to 42% in 2018. In contrast, the proportion of researchers who were advancing in years remained stable at around 20% of the workforce.

The IRA Loudima account within it:

- two doctors with a Research Master and a Research Associate;
- five Engineers;
- six technicians.

#### **- Infrastructure**

The search box Loudima received basic scientific infrastructure of the former SARC. IRA Loudima amenities are inadequate with inadequate packaging materials. The laboratories are hardly equipped for lack of funding. The understaffed agents and skill levels, the absence of certain work tools (mechanical working means) does not allow the station to carry out the tasks assigned to him.

#### ***d. Recent collaborations or underway with the private sector and farmers' organizations seed supply material***

It should be noted that the lack of a structured institutional framework for the needs of the seed sub-sector, farmers use almost 81% of the self-produced seed. Due to the self-production of seeds by the producer, the development projects implemented proceed more often in the distribution of seeds to farmers, rather than selling them. The impact of seed purchases by producers is only 13.7%. This indicates that the seed market with the private sector and farmers' organizations in seed supply is still embryonic in Congo. Boosting the national seed market should be a strong lever in improving agricultural production.

#### ***e. current situation of seed production license agreements by third entities***

At the Congo seed produced locally by farmers are not controlled, as well as those imported under the replenishment of seed stocks are not as subject to the control, this lack of control the quality of analysis structure and seed certification. The subsector seed is dislocated due to the lack of seed law organizing interventions and establishing the rules of the game; hence the lack of a certified seed production policy and multiplication of biological material in the country. Seed legislation of Congo should ensure security and legal predictability for the organization of the seed sector and activities that the state and all potential actors of the seed sector intend to have in charge, to order agreements seed production license.

At present, the Ministry of scientific research and technological innovation is committed to a process of definition and implementation of a National Seed Policy (NSP) with an

action plan for the development of the sub-sector to develop an effective seed legislation.

#### **4. State of the art for the provision and supply of seeds**

##### ***a. History of Plant Breeding and provision of seeds countries***

Plant breeding and seed supply started with the SARC is a public scientific and technical nature. He was responsible for: the selection and improvement of food crops, vegetables, fruits and industrial. This center had four regional agricultural stations in the country of which the IRA has benefited after the dissolution of the research centers. These are: the station Kindamba, in the Pool region; Sibiti the station, in the department of Lékoumou; Odziba the station in the Pool region; Ewo the station, in the department of Cuvette West. The SARC was providing pre-basic seed the CNSA, which ensured the multiplication through multiplication farmers. Improved varieties of rice are provided by the SARC and made available to farmers under cover of Extension Center of Agricultural Engineering (CVTA). In addition, the CERAG also aimed to conduct research on plant breeding useful with particular emphasis on biotechnology. At present it is the IRA involved in plant breeding and seed supply after dissolving the SARC and CERAG.

##### ***b. Recent and ongoing activities aimed at dissemination of improved crop varieties, by crop***

The IRA by research centers such as SARC and CERAG, acquired some expertise in varietal improvement and evaluation of certain food crops such as cassava, maize, rice, beans, the peanut and soybean. The institute collects and stores the germplasm of crop plants. It also introduces, from international research institutions (IITA Africa-Rice, etc.) varieties that tests and disseminates it. Important collections were made and many high-yielding varieties have been tested and transferred to the middle peasant.

##### ***c. Recent and ongoing to increase the seed capital of the country***

The research activities in agriculture are based on breeding programs and genetic improvement of food crops in the IRA: roots and tubers (cassava, yams), pulses (peanuts, beans and soybeans ) and cereals (rice, corn). To raise the seed capital must be sufficient resources to maintain collections. The NSAT, agro pastoral farm for example, produces corn on very large areas to meet the needs of the company and ranchers for livestock feed. Essentially, we must remember that in Congo, farms in staple crops evolve in an environment that lacks seed circuit capable of making available the producers of good quality seeds. Indeed,

##### ***d. Current options for small farmers to access improved and certified seed***

At the department of Bouenza, the project to support small bean producers Loudima and Boko-Songho enables smallholders forming a grouping (10 groups per district) with the support of WFP and IRA access improved seeds bean. Also in Bouenza, distribution of improved seed PABRA bean by the IRA gave the opportunity to the farmers / multipliers to be in possession of improved seeds. The projects / programs (proders, PDARP, CongoSAN, PADEF, NASP ....) Distribute to small farmers improved seeds and healthy cuttings of cassava. Vegetable speculations use certified seed that come from large seed companies.

***e. Number of private seed companies operating in the country and an annual quantitative estimate of their seed production***

At the Congo, there is virtually no private seed companies operating in seed production. Since the withdrawal of the state with the dissolution of the OCC and the OCV, no private enterprise only developed. There is no private seed producer tall on the food in the Congo. However, one can note the production on a small scale grafted fruit trees (mango, avocado, etc.)by a large number of small seed multipliers are not always mastering seed technology and require thereby close supervision to produce quality plants.

Some large agricultural producers exist, but they are rather seed consumers, achieving the satisfaction of their seed requirements through imports. Private structures involved in seed issues are more of seed marketing entities.

***f. nongovernmental organizations and peasant organizations involved in the production and supply of seeds***

One NGO that is involved in the production and supply of seeds, is the GECOBIDE which is located in the department of Bouenza, located in Loutété. The GECOBIDE an area of 6,4ha, a warehouse of 24 m<sup>2</sup>, for maintaining the viability of seed freezer of 500 liters acts as the cool room. With own resources it conducts characterization, test adaptability and comparison. On financing of some projects and participation in other programs, the GECOBIDE could benefit from some resources. To his credit, nine active members who are top researchers supervises students in post-graduate or preparation of Master and PhD; the diploma students of the University Marien Ngouabi who do their research on soybeans, pigeon peas, beans, maize, groundnuts and cowpeas. The GECOBIDE introduced material from ICRISAT, IITA, Cameroon, Senegal, Burkina Faso, DRC, FAO Congo, CNSA and IRA. The GECOBIDE at two sites at Loutété; Kimbimbi the site's production and life Nice site for seed multiplication. The area covered by the GECOBIDE is the Bouenza and sells seeds among farmers virtually improved the department and surrounding departments. The GECOBIDE mainly deals in production and the increase in soybean seeds, pigeon peas, beans, maize, groundnut and cowpea and also produces the PIF for banana and plantain. The average weight of the stock sold by year for corn is 5 tons and the capacity of the warehouse is 6 tons. The only private that produces improved seed. Weakness and see the obsolescence of certain equipment and material limits the actions.

***g. existing infrastructure for processing and packaging of seeds***

The IRA search area Loudima has an area of 1500 ha less exploited yet. The 2018-2019 campaign, the center has used 4,625 hectares for the production of improved seed with 2 ha for basic seed (bean and soy) and 2 ha for seed multiplication groundnut, soybeans, pigeon peas and corn. Rice held 625 m<sup>2</sup>. The IRA has good warehouse, seeds are packed in polyethylene bags, storage conditions airy with a stowage jute bags weighed 50kg for rice and corn, and bags of 20kg type50 and 50kg for peanuts and soybeans; 80 30kg type bags for peanuts. The IRA has a cold room that can hold 4 tons and a cool room, with a capacity of 15 tons. The IRA sorting and processing of seeds to the preservative. At Brazzaville, there is a vitrothèque containing the in vitro collection of varieties of cassava, yam and also an apple collection of land.

The CNSA in the northern part of the country, presents Etsouali (in the Plateaux), an area of 200 m<sup>2</sup> occupied buildings and 400 ha of rent for the production of basic seed and propagation. For storage, the CNSA 5 corn silos with a capacity of 1500 kg / silo. Or about a storage 60 ha of seed per silo. At the southern area of the country, Mayoumina (in Bouenza), it has an area of 1800 hectares with a warehouse of 10.60 mx 10.25 m. CNSA produces corn, peanuts, soybeans, cassava and potato.

The GECOBIDE with an area of 6,4ha, a warehouse of 24 m<sup>2</sup>, for maintaining the viability of seed and freezer of 500 liters which acts as cool room. lthe processes and packages of seeds for characterization, testing adaptability and comparison.

#### ***h. Quantity of certified seeds sold in the past five years, by crop***

Essentially, we must remember that in Congo, farms in staple crops evolve in an environment that lacks seed circuit capable of making available the major part of producers of good quality seeds. On the Congolese market, there is now no state owned company as engaged in the production and distribution of improved seeds for food crops. The subsector seed is dislocated due to the lack of seed law organizing interventions and establishing the rules of the game; hence the lack of a certified seed production policy in the country.

#### ***i. Number of small and medium businesses involved in agriculture / seed currently active, by region***

Private seed operators and seed groups working with the CNSA as subcontractor. Other seed groups are led by projects that provide inputs (basic seed and fertilizer). Currently, there is almost no private operators involved in seed issues nationally. There are some large agricultural producers but are more seeds of consumers, achieving satisfaction seed needs through imports.

#### ***j. level of imports of certified seeds, by crop***

The acquisition process is open to any response provider shortlists producers tackle the SOC does not exist and inventory control by the official control service is not set up in Congo. Imports of seed is the fact of sellers who import seeds to the needs of producers. These imports are much more on vegetable speculations that come from some large seed companies producing certified seed. The exotic vegetable seeds are purchased directly from outside the country by representatives of grainières houses,

unfortunately there is no formal structure for quality control of seeds or seed laboratory for analysis. Permits to import quarantine and newsletters are not allocated.

#### ***k. the seed sector improvement Prospects***

As prospects for improving the seed sector include:

- The implementation of CEMAC provisions seed material which Congo is a party to be effective;
- provision of a seed circuit capable of making available good quality seed producers;
- the establishment of a TCP / PRC / 3703 "Support for the development of a national seed policy by FAO and to pay the Government in 2018 for its implementation;

### **5. National strategies for the seed sector plan**

#### ***a. Administrative formalities for seed production***

The institutional framework is represented by a number of structures working in the sector of agricultural production, and consequently, in the sub-sector seed. This is the National Institute of Agronomic Research (IRA) for the Ministry of Scientific Research and Technological Innovation and research institutions development and seed multiplication under the Ministry of Agriculture and Livestock (CNSA CVTA, rural development projects, etc.). However due to the lack of a structured institutional framework for the needs of the seed sub-sector, farmers use almost 81% of the self-produced seed. Due to the self-production of seeds by the producer, development projects implemented proceed more often in the distribution of seeds to farmers, rather than selling them. The impact of seed purchases by producers is only 13.7%. This indicates that the seed market is still embryonic in Congo. Boosting the national seed market should be a strong lever in improving agricultural production. The system of supervision and advisory support for farmers is generally insufficient and do not adequately meet the requirements of developing a vibrant national seed sub-sector. There is still no National Seed Committee. Similarly there are no varietal release technical committee.

#### ***b. Administrative formalities for the registration of new varieties***

At the Congo seed produced locally by farmers are not controlled, as well as those imported under the replenishment of seed stocks are not as subject to the control, this lack of control the quality of analysis structure and seed certification. The Congo does not yet have the appropriate legal and regulatory arsenal for production, trade of seeds and the registration of new varieties. The seed control is not governed by laws and regulations allowing incidentally, to fill the legal vacuum. The seed system still has low operational capabilities for registration of new varieties.

#### ***c. Administrative formalities for certification of new varieties***

The institutions of research and production of seeds and seedlings are functional, but the seed sub-sector is disjointed because of the lack of seed law organizing interventions and establishing the rules of the game; hence the lack of a certified seed production policy and multiplication of biological material in the country. The formal

structure of quality control and seed certification is nonexistent, and more There are no laboratory for seed testing and seed control, so it would be inappropriate to speak of the effectiveness of inspections and laboratory analyzes and publication of bulletins, monitoring and traceability of lots.

***d. State of the art of agencies responsible for regulation and certification of new varieties***

In the Ministry of Agriculture and Livestock, all questions concerning seeds are virtually attached to the CNSA and CVTA. The control builds on regulations establishing minimum acceptable quality standards for each type of seed and plants. Controls would be in the field and in the laboratory samples at each stage of production processes would be taken. At the CNSA, there is no functional laboratory for sample analysis. The official service delivery by monitoring the seed certification quality standards according to the parameters of each culture does not exist.

**- Staff**

The CNSA has a whole 77 agents in different structures. The highest number is found at the branch in Brazzaville. Support agents seeds at the three seed farms of CNSA are not qualified. At the seed farm of Etsouali manager is a main driver of untrained agriculture. A farm Mayoumina, there are two engineers of the rural development work involved seed problems but who are not specialists in seed. A farm Ndziegué was an agricultural engineer at the head of the farm.

**- Infrastructure**

The farm Etsouali has a large building that serves as offices. There are five corn storage silos and a hangar for rolling stock. Tractors are in poor condition. A Mayoumina there is a storage magazine, five building with dilapidated roofs totally or in part, a water tank in unsanitary conditions. The farm has an area of 1850 ha insecure, often plundered by neighboring companies.

***e. Inventory of basic seed***

On the Congolese market, there is now no state owned company as engaged in the production and distribution of improved seeds for food crops. The production and storage of pre-basic and basic seed are counted among the tasks assigned to the IRA Loudima search area. Despite the lack of funding, Loudima maintenance station basic seed from bright collections of the following species: peanut, soya, maize, cowpeas, mung bean, rice bean, adzuki bean and common bean. Under the self-financing GECOBIDE also the preservation of basic seed collections.

***f. Procedures for the production and supply of basic seed***

**- Access by private seed companies to basic seed**

As we noted above, private seed companies to basic seed barely exist in Congo. The impact of seed purchases by producers is only 13.7%. This indicates that the seed market is still embryonic in Congo. However, we note the presence of large agricultural producers but are more of seed consumers.

## **- Policies in place for the supply of basic seed by the private sector**

At the Congo seed produced locally by farmers are not controlled, as well as those imported under the replenishment of seed stocks are not as subject to the control, this lack of control the quality of analysis structure and seed certification. The supply of basic seed privately held by the GECOBIDE that test supply some farmers Loutété and environments. For now there is no policy for the supply of basic seed by the private sector.

With the project "Support to the development of a national seed policy of the Republic of Congo," the implementation of the national seed policy and its action plan, will supply problem by basic seed sector private find his account.

### **6. Summary and Conclusions**

#### ***a. Current state of access to improved seeds among small farmers***

The project to support small bean farmers in the department of Bouenza structured supports 200 farmers in 20 groups, 10 groups in the district of Loudima and 10 groups in the district of Boko-Songho. Access to improved seeds among its smallholder farmers is ensured through the IRA which provides the basic seed in its small farmers for the production of good quality seeds they sell at the school canteen which is a important market for its small farmers. The IRA also supplies producers / multipliers formed from the PABRA project in the district of Madingou.

#### ***b. Contribution and governmental support for the improvement of seed systems***

Seed legislation of Congo should ensure security and legal predictability for the organization of the seed sector and activities that the state and all potential actors of the seed sector intend to have in charge. The Congo does not yet have a real policy for the seed sector, capable of guaranteeing a steady supply improved seeds; the Government of the Congo requested the valuable technical and financial assistance from FAO to carry out the project "Support to the development of a national seed policy of the Republic of Congo," which is being validated.

#### ***c. Prospects and opportunities for the improvement of seed systems***

The seed sector when organized and energized is a center of excellence in agriculture. The Congo would organize the seed sector by establishing appropriate seed legislation and ensuring adequate funding. Private sector participation in the development of the sector should be encouraged and staff training should be provided in specific areas (quality control, certification and quarantine) the seed production activity to improve seed systems.

#### ***d. recommendations***

It should be noted that the seed sub-sector is disarticulated this is caused by lack of legislation. The main recommendations are:

- Implement CEMAC provisions seed material;
- Apply the National Seed Policy (NSP) of Congo that has been validated;
- Financing the PSN Action Plan which has been validated;

- Work for the implementation of different organs (SOC, CNS).

**e. *Impacts and benefits of a better smallholder access to improved seeds***

The impacts and benefits of a better smallholder access to improved seeds can improve the quantity and quality of supply to small farmers, and also to improve their income and thus indirectly their living conditions.

## **Bibliography**

BEMBE Albert Pierre, MIYOUNA Claude Thomas, SAMBA Joseph Leon and NGOUISSANI Adolphe. 2nd National Report on the State of Plant Genetic Resources for Food and Agriculture. Brazzaville in December 2007.

BEMBE Albert Peter. The development of a model code of conduct in emergency situations in the CEMAC zone, CONGO, November 2014  
national draft diagnostic record. Study of the agricultural sector (ESA) CONGO. November 2011

Country Programming Framework (CDPF) 2019-2022

Diagnosis of the national research and extension system of Congo and capacity building strategy for the dissemination of agricultural knowledge and technologies  
Abdoul Aziz Sy, Moses Houssou and Stev-Mapangou Divassa;

FAO study. Brazzaville 2008. 77P.

Doumbia Sekou and 2DEPIEU Méougbé Ernest (2013). "Peasant Perception of climate change and adaptation strategies in upland rice in the Central West of Côte d'Ivoire", Journal of Applied Bioscience 64: 4822-4831.

Study of the baseline in the project areas of Support to Agricultural Development Commercial (PDAC): Interim Report. May 2019

Study of the agricultural sector ESA CONGO: National final diagnosis. CERAPE-SOFRECO. Brazzaville, July 2011

National Development Plan of Congo (NDP) 2018-2022

National Security Policy Food and Nutrition (PNSAN), December 2017

National Agricultural Investment Program and Food and Nutrition Security (PNIASAN) review, 2017-2021

General Census of Agriculture (RGA 2014-2017)