BASIC STUDY OF THE SEED SECTOR IN DEMOCRATIC REPUBLIC OF CONGO, IN KEEPING WITH REGIONAL HARMONIZATION OF SEED LEGISLATION

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Introduction

To begin with, it should be noted that when the Democratic Republic of Congo became an independent state in 1960, there were some research centres dealing with agriculture sector such as the INERA Yangambi, in Eastern province; the INERA Ngandajika, in Eastern Kasai and the INERA Vuazi in Lower Congo province. All these three centres were well equipped with material and human resources.

But, after 1960 and due to various civil wars taking place in the country from time to time, all those research centres were abandoned and the infrastructures left by the colonial rule fell apart and all of them were either fully looted or burnt down. Most of the well trained human resources available quit the country and joined international organisations while some of them ran into neighbouring countries. As a result, the Congolese governments that have been in office since 1960 had to start from scratch. Almost all of them changed regulations that are hard to lay hand on or follow. Hence the absence of any law ruling the seed sector.

We checked with ministries of agriculture, external trade and their various departments and failed to get any kind of documents or information given that all archives had been either destroyed or looted. It is then hard to find any type of reliable statistics. What we are giving below is the best we could obtain and it does not cover the whole country together with its 11 provinces.

We strongly believe that there is a lot of harmonisation work to be done by our country with the help of the SADC member states now that there is full peace and things are back to normalcy. Our government is doing its best but the task is very hard. There is hope given that the human resources exist. What is lacking now is the appropriate equipment and the law to govern seed sector operations.

The fact is that there is no effective law on seeds and the Draft Law is now under discussion in the Parliament. Once promulgated, it will be easier to harmonise it with the SADC regulations. It is a matter of months.

In the meantime, the government high ranking officials are aware of the SADC initiative on seed policies harmonization and much more involved as it can be realized that some key officials from our ministry of agriculture actively took part in workshops organized by COMESA in Kinshasa (DR. Congo) and Lusaka (Zambia). Two key officials even left Kinshasa to Nairobi to attend the workshop on this very subject. The Nairobi workshop being a follow-up to that which took place in Lusaka, Zambia- December 2010.

Efforts on the vulgarization the SADC initiative on seed policies harmonization in the country are made in order to get the majority of officials at all levels involved in this matter.

The future prospects are as follows:

a. The promulgation of the Law on Seeds, Phytosanitary Measures and Plant Breeder's Rights;
b. Vulgarization of existing regulations and procedures:
c. Vulgarization of seed varieties already homologated by the government;
d. Maintaining and application of standards homologated as per the technical regulations in force.

In our country, the seed policies that require attention in order to improve farmer's access rank as indicated below:

1. Plant Breeder's Rights;
2. Seed testing;
3. Regional seed labelling;
4. Quarantine pest list;
5. Seed certification/accreditation;
6. Phytosanitary measures and procedures
7. Variety release system

Background of the seed sector in D.R. Congo

Seed production in the Democratic Republic of Congo began during the colonial rule with the setting up of what was known as National Institute for Agriculture Studies in Congo (INEAC in short) towards 1933. The aim was to make peasants benefit from research carried out by the institute. A few years later, they set up the Agriculture Centres for the Production of Improved Seeds, CAPSA, and the Local Stations for Adaptation (SAL).

The role of the CAPSAs was to assure the multiplication of certified seeds from genetic material supplied by INEAC before their release to peasants. About thirty centres existed in the country. In addition to them, the SAL were in charge of adapting agriculture material to local climate.

These structures in charge of multiplying and releasing quality certified seeds in rural areas to the peasants were the only channel between the research sector and the agriculture sector. Much success was then noted. The agriculture sector then was at all time offered quality seeds and satisfactory results were obtained; the level of agriculture production was high and was widely appreciated.

After independence up to date, the years were marked with social and political disturbances, most of the structures mentioned above stopped being (it is one of the reasons for failure). This led to a noticeable downfall in production by the Congolese agriculture sector. Other reasons for that downfall were as follows:

- Degenerating of seeds and absence of the release of new seeds;
- Dilapidated agriculture tools which were not replaced with new ones;
- Difficulty to be supplied with agriculture inputs and the irrational use of those obtained;
- Deterioration of roads from and to rural areas;
- Lack of incentives for public servants as well as for seed producers at basic level;
- Absence of efficient programmes for the agriculture sector;
- Absence or inefficiency of legislation and regulations.

SEED CERTIFICATION STANDARDS

Important requirements for the national seed certification/accreditation system are as follows:

1. Training ;
2. IT capabilities ;
3. Equipment/machinery ;
4. Infrastructure ;
5. Information acquisition ;
6. Statement of seed crops and their control.

National Seed Bureau

Background

Long before the set up of the National Seed Bureau (BUNASEM) in 1984, the production of quality seeds was done by the Agriculture Centres for the Production of Improved Seeds (CAPSA in short). The agriculture centres were operating only in some provinces of the

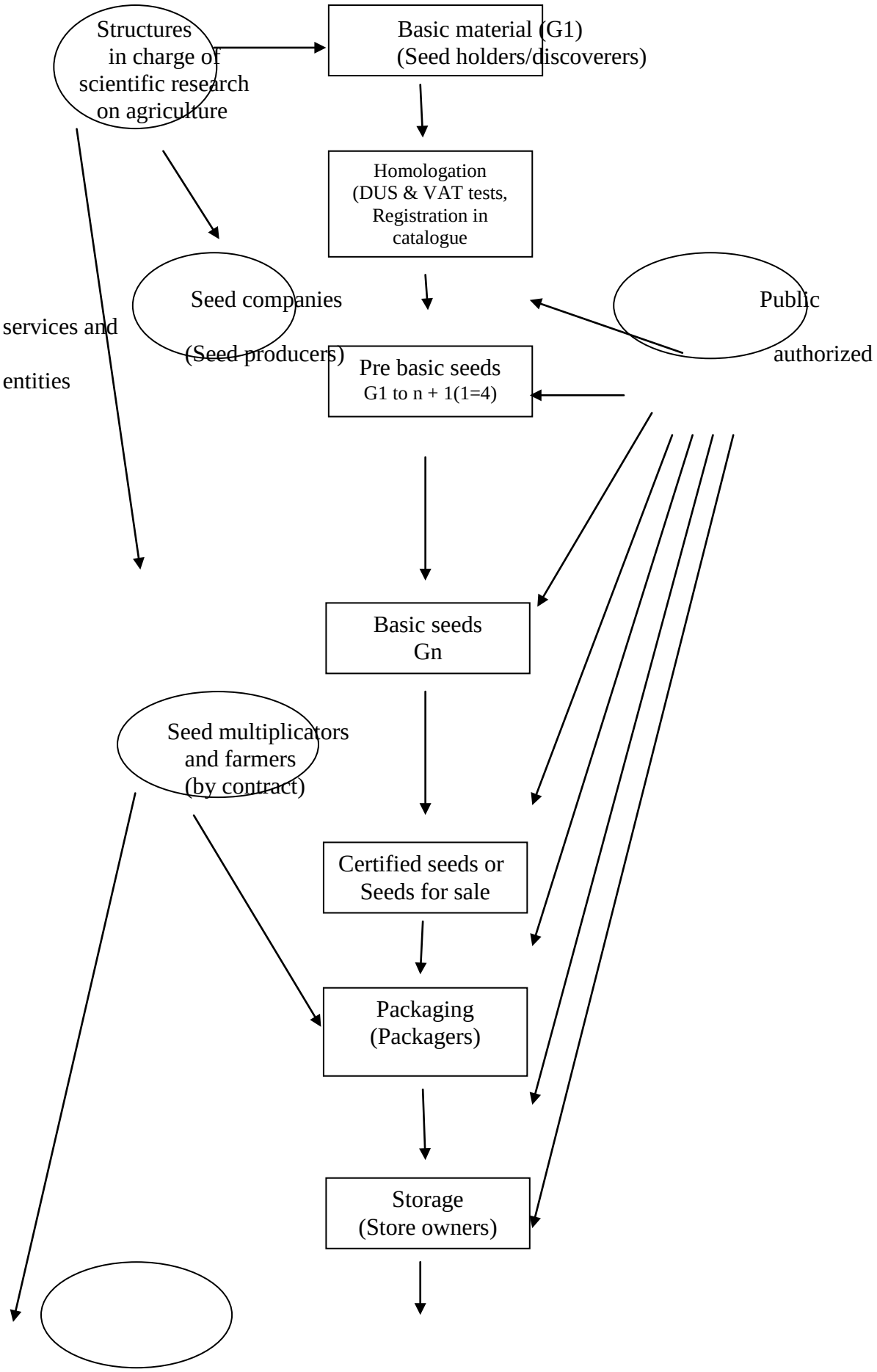
country. But the lack of appropriate infrastructures led to their falling apart and the production of quality seeds was stopped. The then government of public salvation which had created the BUNASEM requested it to carry out the control of quality for seeds as well as issue certificates. But, in the absence of independent structures able to help produce good quality seeds; the government gave to the BUNASEM a second role: to set up a viable seed industry.

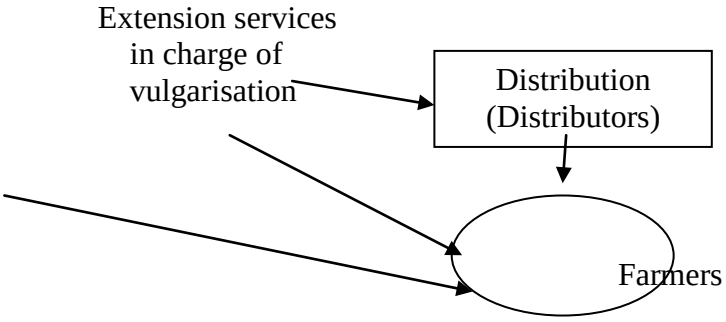
In its efforts to set up a viable seed industry as directed by the government, the BUNASEM set up what it named Primary Seed Farms (FSP) expecting to set up Secondary Seed Farms all over the country while trying to rehabilitate the centres for the production of improved seeds that once existed.

It should however be noted that the BUNASEM was requested to accomplish the second role given to it in short term. In order to find solutions to the seed issue, the then government changed BUNASEM into “SENASEM” (National Seed Authority) and demanded it to stop producing seeds. So, it had to leave seed production to private sector and focus on controlling the seed sector. Seed farms were then privatised.

In fact, when the BUNASEM was set up, it had to deal with the control of quality and the issuing of certificates. From the beginning, only germination and specific purity analyses were made. In the long run, it had to check water content in 1000 grains of seed while the sanitary issue suffered seriously due to the lack of appropriate equipment. Some rudimentary tests were however carried out. For the time being, the SENASEM is the only public office in charge of the certification for seeds used all over the country.

Organogram of the public seed sector





WHAT IS WORKING AND WHAT IS NOT

What is working :

- Laboratory work is OK; meaning that tests needed before the certification are done keeping up with ISTA techniques and methods.
- Implementation laboratories in provinces are under way in order to bring "quality control" close to its users.
- Training in laboratory techniques and inspection of varieties are done well.
- Vulgarization of cultural methods and new genetic material is made.
- Vulgarization of new inputs (improved seeds, fertilizers, etc) is done well.
- There is synergy between research and the service in charge of control.
- Collaboration between public and private sectors exists.
- Services in charge of production and control are not the same for provinces not assisted by the Belgian Technical Cooperation project (ASS/BTC).

- The study made recently indicates that the seed and plant sector in the DRC has many positive aspects and achievements from many years of hard work that, if well used, could help to rehabilitate the seed sector on appropriate technical and scientific bases.

- The main achievements read as follows:
    a) Availability of a list of relatively important and performing varieties for a great number of food species. The National Catalogue worked out in 1997 by SENASEM includes now a certain number of varieties needing certification. They are: (i) six varieties for the composite , 5 for autonomous lines and 3 hybrid corn; (ii) for the rice: 6 varieties; (iii) for groundnut: 7 varieties;(iv) 8 varieties for niebe; (v)3 varieties for beans and 7 varieties for cassava.

b) Important abilities and resources at the INERA level. The latter could, if well funded, help to find solution to the lack pre-basic and basic seeds. This lack is stifling the development of seed production for the market.
c) A draft law ruling the modalities for the production, multiplication, import, export, trade of seeds and the protection of intellectual rights is now being discussed and may be promulgated in short term
d) National expertise able to assure the start up of a seed industry on required technical bases exists
e) The positive impact of joint action by agriculture research and the structures in charge of control and vulgarization has led to a high demand for improved seeds for which a hopeful market exists.
f) The perception of the advantages obtained from a well done control and certification by all operators of the seed sector.

What is not working:

Despite the above-mentioned achievements the seed sector is facing, like the whole agriculture sector, serious constraints and obstacles specific to the seed sub-sector. Those constraints are as follows:

a) Institutional constraints: (i) no coherent seed policy taking into account the real needs of every province and those of various actors exists. Everything is named project; (ii) there is no seed legislation; institutional partition among various ministries and services operating in seed sector; (iii) absence of reliable statistics enabling to estimate the demand that could be met and its development; (iv) total absence of coordination among various seed activities; (v) the structure in charge of control and certification is hardly operating.
b) Economic constraints: (i) insufficient of financial, human and material means at the research level in order to assure the upkeep of varieties and their maintenance in good condition according to an appropriate scheme of conservation; (ii) lack of funds as well as materials in order to assure the production of quality pre-basic and basic seeds in large quantity at the research centre levels; (iii) lack of finances and material that could help to assure the control of quality seeds and their commercialization all over the country; (iv) high cost of commercialized seeds; (v) inability for the peasants to afford quality

seeds and fertilizers is noted; (vi) absence of a policy for credits to agriculture sector and incentives.

c) Technical constraints: (i) confusion between the seed notion and seed performance by peasants as well as among technicians in the sector; (ii) bad behaviour of some vulgarized seeds; uncertainty on physical and genetic quality of batches of seeds due to lack of/or failing of the control; (iv) low technical level of peasants to implement or follow recommendations made on small farms. (v) very small farms which could not help to implement new technologies in order to produce quality seeds.

d) Social constraints: peasants' doubts as to the risks arising out of the use of the proposed seeds and their high costs; (ii) anarchic interventions by a multitude of operators strengthens the peasants' doubts.

e) Commercial constraints: (i) absence for a great number of speculators in a well organised market (processing industry for instance) which could help to drain the overproduction with the use of improved seeds and other inputs; (ii) marketing techniques for the promotion of seeds are not used or are not fully used; (iii) difficulty to take in time to market the produced seeds due to the lack of transportation means and or to bad state of roads and other communication systems.

f) It must be noted that the absence of appropriate measures helping to get rid of the obstacles mentioned above aggravates, in short term, the stagnation or the low yields and accentuates the sensitivity of seed producers and that leads to the diminution of used varieties. Finally, there is a risk for serious degenerating and degradation of genetic potential and consequently nullifies any national effort made in order to achieve self-sufficiency and food security.

What must be done

The most needed thing is a synergy among the parties operating within the seed sub sector which are as follows:

- Research structures, seed authority and the private sector (seed producers)
- Strengthening of the concerned parties capabilities;
- Training

The only available statistics of seed production and its evolution are given below:

It should be noted that the production of commercial seeds "called certified" is now made by a few farms owned by the private sector called "autonomous" together with a network of NGOs. They are the ones now controlling the production of seeds by groupings of peasants. A great number of people working in the production and commercialisation of seeds together with the absence of the structures assuring the follow-up of activities in this sub-sector make the collection of reliable statistics very difficult and that for past five years. Anyhow, the data available to SENASEM are in the table below together with those from INERA:

Table 1: Production of trade seeds for the years 1998 through 2002 in DR. Congo:

Species	Years				
	1998	**1999**	**2000**	**2001**	**2002**
Corn	258,225	258,881	446,957	521,680	752,905
Rice	20,975	8,870	1,750	80,983	168,112
Soybean	9,114	71,686	26,000	36,218	61,280
Groundnut	2,584	8,747	52,385	24,753	76,520
Beans	715	2,860	640	68,168	65,800
Niébé		2,307		152	69,200
Sunflower				500	
Sesam					600
Vegetables	525	1,414.3	2,893.9	3,835.5	7,884.7
Total	301,239	304,754.3	530,825.9	736,289.5	1,202,301.7

Source: SENASEM 2003: Seed statistics (working document)

Taking into account the above data, the average production for the past five years can meet only 0.45 to 0.5% of potential needs for improved seeds of the main food species.

What is more, for cassava, many projects are funded in order to increase its production (OSRO/DRC/105/BEL, TCP/DRC/105/BEL. TCP/DRC/006, PMURR. And most of all

SECID and GCP/DRC/029/EC). With financial assistance from USAID, as ITA sub dealer, SECID multiplied and gave to users 4 varieties that resist mosaic. Since the beginning of this project in October 2001, over 235 hectares of field for fast multiplication have been planted. At the same time, the European Union funded GCP/DRC/029/EC project and the FAO carried it, which had for goals food security and generation of profits through assistance to small farm owners with the INERA technical assistance. This project increased the production of cassava until June 2004. 308.2 hectares of land (including 30 hectares for primary multiplication and 278.2 hectares for secondary multiplication) of good cuttings were planted in Kinshasa, Lower-Congo, Western Kasai, Eastern Kasai, and North and South Kivu provinces. The total length of this project as 6,164 kilometres of sound cuttings of cassava. The genetic material then released is expected to increase the yields 2 to 3 times. But, the number of cuttings released up to date can cover but 1ù of total needs of the country.

As for potato, the production of commercial seeds by CAPSA at Luhoto in North Kivu province increased as per the above table. The general situation indicates that there is no: (i) a full-fledged plan for the national production of certified seeds; (ii) the production of seeds used many times yields very little; (iii) the deficit of sane or mildew tolerating or still seeds resisting bacteria make the yields to become very low (between 6 and 8 tons per hectare at an experimental farm and around 5 tons per hectare in areas controlled by peasants.

Research Centre	Variety	Years					
		2000		2001		2002	
GANDAJIKA	Groundnut	Pre-basic seed	Basic seed	Pre-basic seed	Basic seed	Pre-basic seed	Basic seed
	Corn	50	170	23	170	80	380
	Niebe	65	222	14	58	48	97
	Beans	4	37	13	1	15	5
	Cassava m/l	-	15.000	-	-	-	34.400

MVUANZI	Ground nut	-	2044	-	2650	-	560
	Corn	-	11320	-	560	-	1000
	Niebe	-	3877	-	1058	-	1320
	Beans	-	43000	-	2546	-	1654
	Cassava m/l	-	72000	-	58000	-	22000
KIYAKA	Groundnut	-	-	-	-	-	68
	Corn	-	265	-	150	-	613
	Rice	-	617	-	878	-	822
	Cassava m/l	-	90000	-	-	-	-
KIPOPO	Corn	-	100	-	500	-	1000
	Niébé	-	17	-	20	-	20

Source: INERA and GCP/INT/758/EC/DRC Project. August 2003

Evolution of seed production for trade (in tons)

The production of pre-basic and basic seeds for food crops has seriously interfered with the development of seed activities. Face to this state of things, the SENASEM did its best in order to maintain varieties and assure the production of basic seeds so as to meet the needs for certified seeds. The project PNUD/FAO/82/002 having come to its end in 1997, the SENASEM also stopped its efforts. But, despite hardships met, INERA went on and produced small quantities of pre-basic and basic seeds of corn, groundnuts, beans, soybean cassava cuttings;

Year Variety	1985/1986	1986/1987	1987/1988	1988/1999	1999/2000	2000/2001	2001/2002
Corn	235.35	391.00	393.00	846.22	1,195		
Rice	4.39	21.13	90.70	117.00	243		
Soybean	3.89	2.36	34.77	202.00	148		

Groundnut	13.30	23.36	16.56	51.30	91		
Beans + vine	1.14	3.41	8.84	43.10	63		
Vegetables			52.5	1,414.3	2,893.9	3,835.5	7884.7
Potato			98.785	71,762	132,982	141.946	54.733

, Source: 1. SENASEM, 2003 Seed Statistics

Years	Production by centre (kg)	Production by peasants (Kg)	Total (Kg)
1998	40,250	58,485	98,785
1999	15,762	56,000	71,762
2000	15,762	117,220	132,982
2001	64,547	77,372	141,946
2002	54,733	-	54,733

2. CAPSA: LUHOTU: Annual report

About the **garden species,** especially those called local or African, various operators produce over 14 types of seeds (amaranth, eggplant, African basilica, squash, spinach, gumbo, watermelon, pepper and tomato. It needs to be noted that the local production of these species faces various constraints, especially (i) absence of conservation know-how , and (ii) absence of basic seeds to begin with. To produce this type of seeds requires a lot of capital and well trained human resources.

Industrial species: The production of coffee and cacao seeds was once effected by INERA within the framework of a convention with the National Coffee Authority (ONC and that until 1995 when the last convention was terminated. According to that convention, the INERA had to produce thanks to ONC funding, basic seeds (seeds and plants) to be used by centres situated in Kisanga and Beni in Upper-Congo province, and Gemena in Equator

province. Budget constraints due to the fall of coffee price on international market and the partition of the country because of civil war made those conventions to be reduced and even abandoned as many plantations were hard to exploit.

About the **palm oil tree**, the production of seeds at the INERA research centre of Yangambi in Upper-Congo province reached 20,000 grains and 10,000 plants for the years 2002 – 2003. It should be noted that the Yangambi INERA centre can well produce 2 millions of grains. What is more, the PHC (Plantation and Oil company of Congo) which belongs to UNILEVER group produces quality seeds especially for its own use and export to countries in Asia and Latin America.

CURRENT SITUATION OF SEEDS

Cereals and Vegetables

Generally speaking, due to the absence of overproduction to export, food crops are used only locally. Very small quantities are exported, especially the rice, beans, niébé, groundnut, soybean and sorghum. In fact, cereals are produced and sold only in local or national market. .There is no real export trend for cereals.

IMPORT AND EXPORT OF SEEDS

As regards to the import and export of seeds, no reliable statistics exist given that everything is called grain without indication as to vegetable or food grain.

In the Democratic Republic of Congo, it is the Department of Quarantine that is in charge of import and export of seeds. It is one of the departments of the Ministry of Agriculture.

The documents below are demanded upon import or export of seeds:

- Import permit for crops
- Phytosanitary certificate
- Letter of non-similarity
- Phytosanitary certificate additional export.

When someone or a company wants to import seeds, he/it applies for an import permit from the DPPV which issues it while indicating to him/it the conditions on the nature, quality, packing, preserving product used, and entry point etc. and, he/it has to pay custom duties. On

the other hand, the permit is handed to the importer after the DPPV had obtained information on the exporting company and its country.

As for the export, the DPPV issues a phytosanitary certificate certifying the quality of seeds produced in DRC which are to be exported. It also issues another certificate for additional export process if the seeds are to be re-exported to another country. The seed import and export process now in use in DRC needs to be completed by setting up an organism collaborating directly with the SADC.

A. 2. Seed classification (5 categories/classes)

In regard to various hardships met with by public servants, the seed classification is not made in most cases. The certification procedure is more theoretical than practical. The public service in charge of this matter is short of financial and material means. It finds it very hard to do the follow up in seed sector it is supposed to control and it has limited means.

Officially and theoretically, the classification of seeds is made by the public sector. The production of seeds is made in keeping with the respect for genealogic filiations.

Breeder	G0
Pre-basic	G1 – G2
Basic seed	G3
Certified seed	R1 – R2
Quality seed	5 (QD)

A. 3. Certification standards

1. Corn/maize

Description	Basic seeds	Certified seeds
Maximum variety purity	0.10%	0.20%
Specific purity	98%	98%
Minimum germination capacity	90%	90%
Maximum humidity	12%	12%

2. **Hybrid corn/maize**

Description	**Certified seeds**	**Basic seeds**

Maximum variety purity (colour grain with different texture)	98%	98%
Specific purity	99%	99%
Minimum germination capacity	90%	80%
Maximum humidity		12%

3. <u>Sorghum</u>

Description	Basic seeds	Certified seeds
Maximum variety purity	-	-
Specific purity	98%	98%
Minimum germination capacity	80%	80%
Maximum humidity	12%	12%

4. <u>Rice</u>

Description	Basic seeds	Certified seeds
Maximum variety purity	99%	98%
Specific purity	98%	98%
Minimum germination capacity	75%	75%

Maximum quantity, number seeds per sample of 500 grains of other kinds of rice	5%	5%
Minimum quantity of weed	0.%	0.%
Maximum of inert matters	2%	2%

5. <u>Vegetable crop seeds (soybean, ground nut, garden pea, beans and niebe)</u>

Description	Basic seeds	Certified seeds
Maximum variety purity (soybean, groundnut + garden pea)	99%	00%
Maximum variety (beans and niébé)	97%	97%
Specific purity (for soybean,	99%	99%

groundnut and garden pea		
Specific purity (for beans and niébé)	98%	98%
Minimum germination capacity	70%	70%
Maximum humidity	12%	12%
Maximum quantity of grains o f weed	0.05%	0.05%
Maximum quantity of inert matters (stone, wool and so on)	2%	2%

6. **Cassava (accepted minimum standards)**

With bent stems:	15%
Dry stems during preservation period :	1%
Fit with germinated cuttings, deformed or bent: :	5%

Diseases

Anthrocnose on stems	5%
Cassava bacteria (Manicotis Xanthomonas (on stems and short cuttings	1%

7. Potato: no known disease observed.

Certification process:

There are administrative and technical processes effected as follows:

Administrative process:

° Request for acceptance (letter of application) written to SENASEM

° Request for control. A form has to be filled in by the seed producer and once done the form is forwarded to SENASEM within 90 days before the season beginning.

Technical process is made as follows:

Acceptance of variety - verification of seed origin – control of stems - sampling of seed batches following packing and laboratory analysis (specific purity, humidity content, germination) - issuing of certificates and labelling.

Verification of standards:

National standards are very close to those adopted by the SADC except for slight differences relating to some types of seeds.

EVALUATION OF VARIETIES, RELEASE AND REGISTRATION

In our country, the important requirements for the national seed release system are follows:

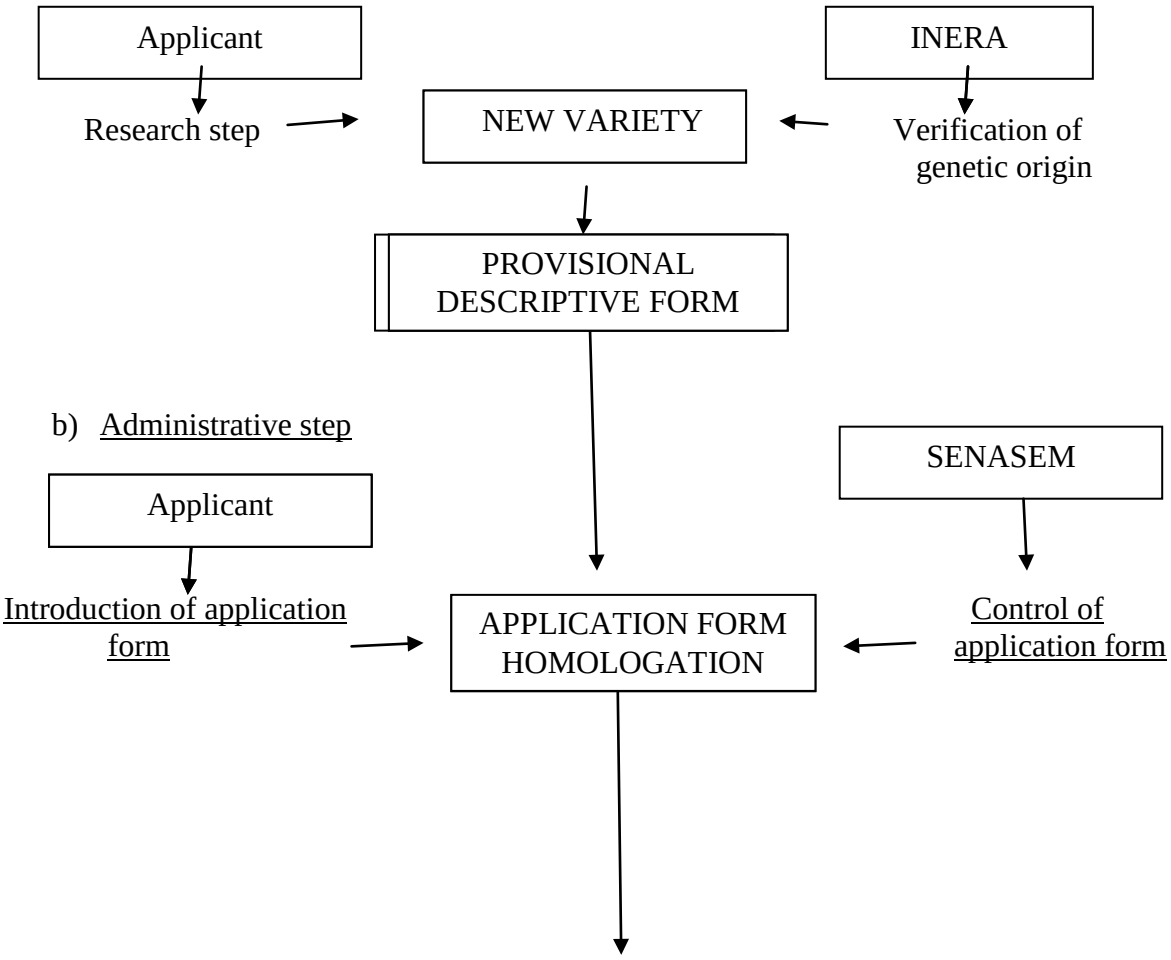
4. Training ;
5. IT capabilities ;
6. Equipment/machinery ;
7. Infrastructure ;
8. Information acquisition ;
9. Statement of seed crops and their control.

In our country, the important requirements for the seed testing run as follows:

1. Trainig ;
2. IT capabilities ;
3. Equipment/machinery ;
4. Infrastructure ;
5. Information acquisition ;
6. Sampling.

Diagram

a) Obtaining step



c) Step of tests

SENSEM

Making of trial tests

CTAC

Examination of results

DUS & VAT DESCRIPTIVE FORM

d) Step of vulgarisation

CTAC

Proposal

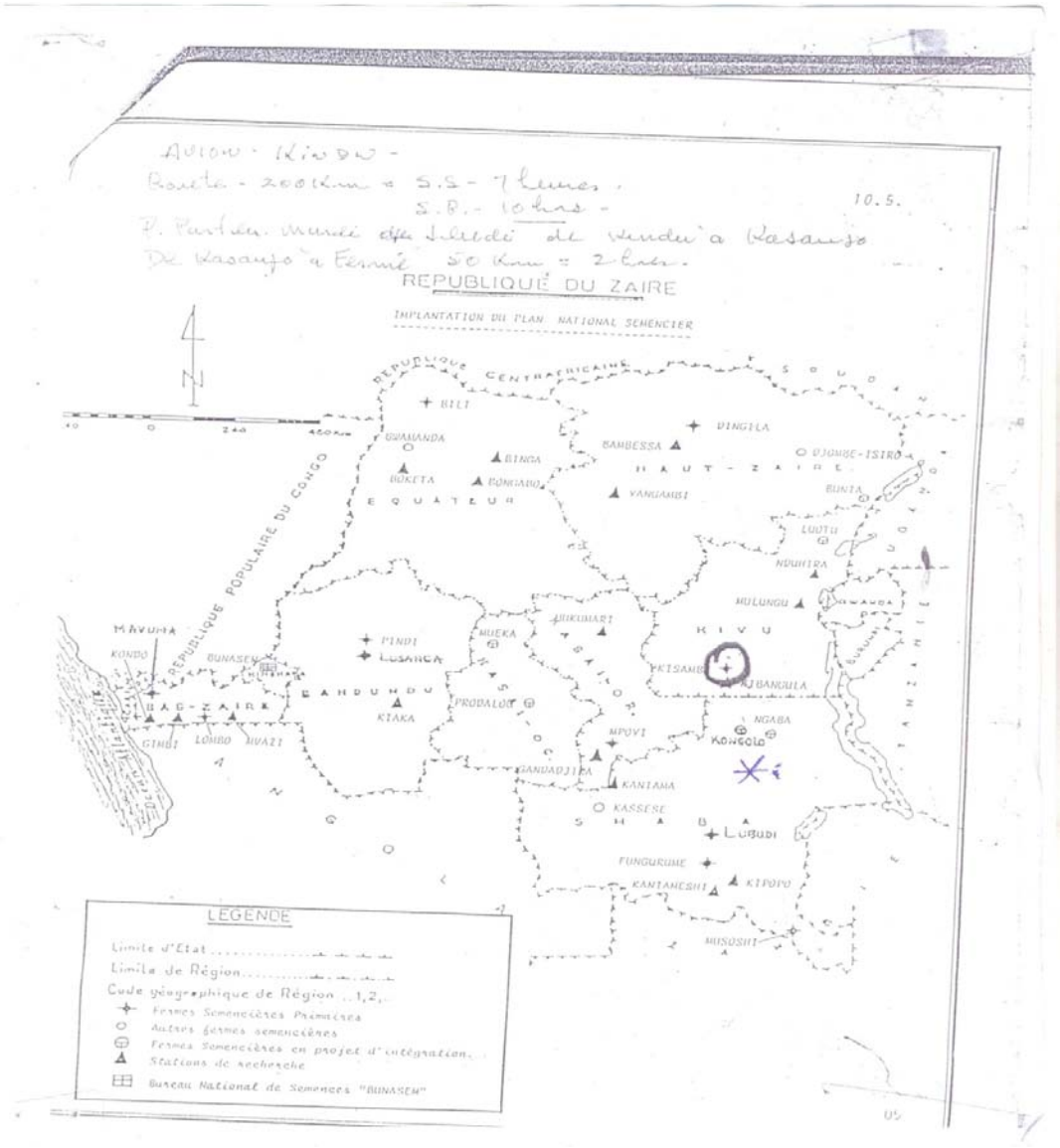
MINISTER OF AGRICULTURE

Signing of decree

REGISTRATION OF VARIETY

VARIETY RELEASE

VARIETY TRADING



The map indicates very well the areas where seed activities were once working efficiently. For the time being all the centres are waiting for funds from the government which seems to have abandoned the production activities. Some seed centres receiving financial assistance from the Belgian Technical Cooperation (BTC) exist in the following four provinces out of 11: Bandundu, Eastern Kasai, Lower-Congo and Katanga are doing very well.

The National Seed Department (SENASEM) is once more in charge of evaluating varieties released in the Democratic Republic of Congo; it has to record and release new varieties. The names and addresses of the persons heading this office are already mentioned above.

As for the registration in the catalogue of varieties and release of new varieties, after the owner of the varieties had applied their registration by SENASEM, handed over to the latter the descriptive form together with their samples and the results from his own tests, the SENASEM carries out what is known as DUS and VAT tests. At the end of these tests, the Technical Commission in charge of Registration in the Catalogue checks the test results and finally makes a proposal to register and release the variety in case of positive results. The Ministry of Agriculture then authorizes the registration and release of the variety. Varieties now released in the Democratic Republic of Congo are registered in the Variety Catalogue of Crops. It now has 137 varieties belonging to 10 species to note: corn (7 breeders and 6 hybrid varieties), rice (6 lower varieties and 12 rain varieties), beans (10 dwarf varieties, 12 with semi volubility and 6 with volubility), groundnut (7 varieties), niebe (10 varieties), soybean (8 varieties), cassava (13 varieties of soft cassava and 5 varieties of sour cassava), potato (6 varieties) and banana (9 varieties of plane banana, 4 varieties of cooking banana and 8 of table banana).

The registration and release processes for a given variety takes at least 3 months in the Democratic Republic of Congo. Until now only Food Crops are registered in the Catalogue and given homologation. The above processes are in line with the SADC standards.

LIST OF VARIETIES RELEASED FOR THE PAST 20 YEARS

Only some information has been obtained from the public sector and is given as follows:

Year	Name of variety	Origin	Erected percentage	Type of variety	Ecotype
1990	Irat 112	Irat (côte d'ivoire)		Riz pluvial	
1995	Salongo 2	Cymmit (Mexique)		Mais à pollénisation ouverte	
	L9	Zemum polje (zambie)		Self fecundated maize	
	L12	CRM (zambie)		Self fecundated maize	
	L33	CRM (zambie)		Self fecundated maize	
	L55	CRM (zambie)		Self fecundated maize	
	2P800	CRM (zambie)		Self fecundated maize	
1997	Babongo	CRM (Tanzanie)		Mais à pollénisation ouverte	
	Kasai	PNM (rdcongo)		Mais à pollénisation ouverte	
	Zp 800m	CRM (zambie)		Mais hybride simple	
	De kenya	CIAT/PRELAAC		Haricot nain	
	PV14	INERA		Haricot nain	
	PV14/2	INERA		Haricot nain	
	Tendezi	INERA		Haricot nain	
	A65	BRESIL		Arachide erigé	
	Bubanji	ICRISA (INDE)		Arachide érigé	
	P43	ANGOLA		Arachide semi-erigé	
	AFYA (TGx849-294D)	IITA IBADAN		Soja érigé	
	Kitoko	NIGERIA		Soja érigé	
	Munanga (TGx814-26D)	IITA BADAN (NIGERIA)		Semi erected soybean	
	SIATSHA	IITA BADAN (NIGERIA)		Semi erected soybean	
	TGx 73-209D	IITA BADAN (NIGERIA)		Semi erected soybean	
	ZEYA	IITA		Soja dressé	

		BADAN (NIGERIA)			
	Vuangi (TGx222-490)	IITA BADAN (NIGERIA)		Soja étalé	
1999	IAC2	ADRAO(CÖTE D'IVOIRE)		Rain rice	

Year	Name of variety	Origin	Erected percentage	Type of variety	Ecotype
2000	PRERP-1	ADRAO (COTE D'IVOIRE)		Bottom rice	
	PRERP-3	ADRAO		Botto, rice	
2001	JASMINE	RRI		Irrigation rice	
	IRAT 233	ADRAO (thailande)		Rain rice	
2003	HUBEI-6	Chine		Irrigation rice	
2005	LIENGE	INERA (RDCongo)		Riz pluvial	
	LIMBIMI	IITA (Nigéria)		Semi erected niebe	
	VIMPI	IITA (Nigéria)		Niébé rampant	
	DIYIMBA	IRAZ (Burindi)		Banane plantain	
	MFUBA NDONGILA	INERA (DCongo)		Banane plantain	
	SABA			Banane à cuire	
	MAFUTA	INERA		Banane de table	
	MWASI ZOBA	INERA		Banane de table	
2007	KIMPESE	INERA		Banane de table	
2008	BAMBOU	ISAR (Rwanda)		Arachide semi-érigé	
	MUSANGANA	INERA (RDCongo)		Mais à pollénisation ouverte	
	SAMARU	IITA IBADAN (Nigéria)		Mais à pollénisation ouverte	
	TAMBO	CRM (Zambie)		Mais à pollénisation ouverte	
	SIPI	IITA (Nigéria)		Mais à pollénisation ouverte	
	BAIBINGE 1	INERA		Bottom rice	
	LOBOGA	INERA		Riz pluvial	
	LIOTO	INERA		Rain rice	

	NERICA 4	ADRAO (côte d'ivoire)		Rain rice	
	NERICA 6	ADRAO (côte d'ivoire)		Rain rice	
	NERICA 7	ADRAO (côte d'ivoire)		Rain rice	
	NERICA	ADRAO (côte d'ivoire)		Rain rice	

Year	Name of variety	Origin	Erected variety	Type of variety	Ecotype
2002	BOMBE	Inera (BAS CONGO)		Petty bean	
	CIM 932-2	CIAT/SABRN (Afrique du sud)		Petty bean	
	LOLA	INERA (Rdcongo)		Petty bean	
	MUDUKU	CIAT (colombie)		Petty bean	
	PC 115-B4	CIAT /sabrn(Afrique du sud)		Petty	
	SIMANA	CIAT (colombie)		Petty	
	DB 196	CIAT/SABRN (Afrique du sud)		semi-volubile bean	
	C 12476-50			semi volubile bean	
	DOR 715	CIAT/SABRN(Afrique du sud)		semi – volubile bean	
	DPS – RS 4	CIAT/SABRN (Afrique du sud)		semi- volubile bean	
	NAHARAGI SOJA	CIAT (Colombie)		semi-volubile bean	
	MCR 2301	INERA		semi-volubile bean	
	MFUTILA	ISAR (Rwanda)		t semi-volubile bean	
	M'SOLE	ISAR (Rwanda)		semi-volubile bean	
	NTOMO	CIAT (Colombie)		semi-volubile bean	
	UYOLE JE	CIAT(Tanzanie)		semi-volubile bean	
	XAN 76	CIAT /SABRN (Afrique du Sud)		semi-volubile bean	
	G 59/1-2	CIAT (Colombie)		Volubile bean	
	KIANGARA	CIAT (Colombie)		Volubile bean	
	KIHEMBE	CIAT (Colombie)		Volubile bean	
	LIS 1	CIAT (Colombie)		Volubile bean	
	MORE	INERA (Burundi)		Volubile bean	
	MPOLO	INERA (RDCongo		Volubile bean	

	A 1408	INERA (RDCongo)		Semi erected groundnut	
	DIAMANT	INERA (RDCongo)		Niébé semi-rampant	

Year	Name of variety	Origin	Erected variey	Type of variety	Ecotype
2002	TGX 1440-1D	IITA IBADAN (Nigeria)		Soja dressé	
	TGX 1230-2D	IITA IBADAN (Nigéria)		Soja semi-érigé	
	ANTIOTA	IITA TME 1 (Nigeria)		Soft cassava	
	BUTAMU	INERA (RDcongo		Soft cassava	
	LIYAYI	IITA EARNET (Ouganda)		Soft cassava	
	LUEKI	IITA IBADAN (Nigéria)		Soft cassava	
	MAHUNGU	INERA (RDCOngo)		Soft cassava	
	MALYOHA	IITA EARNET (Ouganda)		Soft cassava	
	MAPENDO	IITA EARNET Ouganda)		Soft cassava	
	MAYOMBE	INERA (RDCongo)		Soft cassava	
	USANSI	IITA IBADAN (Ouganda)		Soft cassava	
	MAPAYI	INERA (RDCongo)		Soft cassava	
	RAV	INERA (RDCongo)		Soft cassava	
	SAWASAWA	IITA IBADAN		Soft cassava	
	RIZULA	INERA (RDCongo)		Soft cassava	
	DISANKA	INERA (RDCongo)		Sour cassava	
	MUSIMWA	IITA Earnet (Ouganda)		Sour cassava	
	MUGAMA	INERA (RDCongo)		Sour cassava	
	MVUAZI	IITA IBADAN (Nigéria)		Sour cassava	
	SADISA	INERA (RDCongo)		Sour cassava	
	BENICOMACHI	INERA		Patate douce semi-	

				rampant	
	BURANDE	Ouganda		Patate douce semi	
	KABARE 2	INERA		Patate douce semi	
	MUNONGO	INERA		Patate douce semi	
	XASHO 13	INERA		Patate douce semi	
	YAN SHU 1	INERA		Patate douce semi	
	CRUZA 148	CIP (Mexique)		Pomme de terre de taille moyenne	
	ENTULA	CIP (Mexique		Pomme de terre à peu dressé	

Year	Name of variety	Origin	Erected percentage	Type of variety	Ecotype
2002	GAHINGA	CIP/INIA (Mexique)		Higher Potato	
	KINJA	CIP/INIA (Mexique)		Pomme de terre à port dressé	
	MONTSAMA	CIP/INIA (Mexique)		Pomme de terre de petite taille à moyenne	
	N'SIMIRE	CIP/INIA (Mexique)		Pomme de terre de port dressé	
	SANGENA	CIP/INIA (Mexique)		Pomme de terre de taille moyenne	
	SESENI	INERA (RDCongo)		Pomme de terre de haute taille	
	BS 210	IRAZ (Burundi)		Banane plantain	
	BS 529	IRAZ (Burundi)		Banane plantain	
	BUBI	INERA (RDCOngo)		Banane plantain	
	FHIA 21	HONDURAS		Banane plantain	
	NSELUKA	INERA (RDCongo)		Banane plantain	
	CRISHELE	IITA(Nigéria)		Banane plantain	
	BITA	INIBAP (Cameroun)		Cooking banana	
	CARDABA	HONDURAS (Inibap)		Table banana	
	FHIA 25	HONDURAS (Inibap)		Table banana	
	FHIA 01	HONDURAS (Inibap)		Table banana	
	FHIA 03	HONDURAS (Inibap)		Table bana	
	FHIA 23	HONDURAS (Inibap)		Table banana	
	IBOTA	HONDURAS (Inibap)		Hybrid maize	

	SH 3040	HONDURAS (inibap)		Hybrid maize	
	GROS MICHEL	GUADOLIQUE		Hybrid maize	
2009	DH 06	KENYA SEED C		Hybrid maize	
	DH 04	KENYA SEED C		Hybrid maize	
	H 624	KENYA SEED C		Hybrid maize	
	H 520	KENYA SEED C		Composite maize	
	H 513	KENYA SEED C		Composite maize	
	H516	KENYA SEED C		Hybrid maize	
	H61 AD	KENYA SEED C		Hybrid maize	
	GLP 1127	KENYA SEED C		Hybrid maize	
	GLP 12	KENYA SEED C		Hybrid maize	
	REN SOJA 1	KENYA SEED C		Hybrid maize	
	REN SOJA 2	KENYA SEED C		Hybrid niebe	
	KUNDE	KENYA SEED C		Hybrid sunflower	

PHYTOSANITARY MEASURES

In DR. Congo, the important requirements for the adoption and implementation of the regional quarantine pest list are as follows:

1. Training ;
2. IT capabilities ;
3. Equipment/machinery ;
4. Infrastructure ;
5. Information acquisition ;
6. Phytosanitary inventory.

Background

In the Democratic Republic of Congo, import and export of seeds are made by the private sector with permits from the Ministry of Agriculture through its Direction in charge of the Production and Protection of Cultural Varieties (DPPV) which was set up in 2004

Name and address of the DPPV head:
Director YALULU LAMPES Desiré
Cell number : (+243) 81 637 32 43

E-mail: yaluludesire@yahoo.fr

The DRC adheres to the SADC harmonised list on Quarantine.

List of pests reads as follows:

Crop	Name of pest
Corn	Cephalosporium maytis
	Peronocierospora philipensis
	Ewinia sterwarti
	Cochlliobolus heterostrophus
Brassica (cabbage)	Tobacco rattle virus
Triticum spp (wheat)	Tilitia indica
	Tiletia controversa
	Anguirta tritici
Alliums pp. (onion)	Tomato black ring virus
	Ditylenchus dipsati
	Tobacco rattle virus
Phaseolus spp.(beans)	Curtobacterium faccumfanciensf.sp
	Bean's mosaic virus
	Virus of earlier browning of grain
	Ditylenchus tlisaci
	Tomato's black ring virus
	Virus of severe dolique mosaic
Arachis ssp. (Groundnut)	Aphelenchoides arachic
	Groundnut dwarfing virus
	Groundnut marble virus
Vigna ssp. (dolique)	Austral virus of bean's mosaic (Soberno virus)
	Cartobacterium fiaccumfanciens f.sp.
	Virus of bean's leaf ràlling

	Groundnut stria potyvirus
Hlianthus spp.(sunflower)	Tobacco's annular necrosis
	Helminth diaporama
Cpsicum ssp.(pepper)	Tomato dwarfing virus
	Tomato's annular annular necrosis virus
	Virus of pepper slight marble

Lycopersicum esculentum (tomato)	Fusartium oxysporum f.sp. licoperstici race3
	Tomato marble virus
	Viroid of tomato's zoning root
	Tobacco's marble virus
	Tomato's black rings virus
Lalium ssp. (ray-grass)	Tiletia controversa
Nicotiana ssp. (tabac)	Peronospora hyoscyami f.sp.
	Tobacco's marble virus
	Ralstonia solanacearum
	Tomato's marble virus

QUARANTINE

Upon the entry of seeds in DRC, they are controlled by the Quarantine Department (SQAV) at the country border. The SQAV officials check the import documents that comprise an import permit, phytosanitary certificate and make a complete control of labels and the colour of labels that give much more information. For vegetable crop seeds, some kind of germination tests are made in addition to phytosanitary and physical purity aspects

In case the conditions specified in the import permit are not in accordance with those specified above, the SQAV rejects the seeds by issuing a certificate of non-compliance . In case of bad or expired seeds, they are then confiscated and burnt.

PROTECTION OF PLANT VARIETIES (Intellectual Property Rights)

In our country, the important needs for establishing/implementing plant breeder's rights are given here :

a. Information acquisition;
b. Training;
c. IT capabilities;
d. Equipment/machinery;
e. Infrastructure.
f. Promulgation of the law on plant breeder's rights.

Named "Protection of Crop Ownership" in the Democratic of Congo, this task has also been given to SENASEM.

All kinds of varieties and vegetable species, wild species excluded, can be subject of ownership right. This ownership is recognized only when the variety is new, distinct, homogeneous and stable. On the other hand, the variety must be given a name.

The process for the protection of variety ownership in the Democratic Republic of Congo is mentioned in Draft Law on Seeds now under discussion in Parliament. Once adopted, the Head of State shall have to promulgate it before its effectiveness. On November 18th , 2005, the Ministry of Agriculture issued a decree setting up the Quarantine Service which has to deal with control of imported and exported animal and plant products.

Name of the head of quarantine service: Dr Fulbert MUPWASA NKUMU Cell. Number (+243) 99 99 39 899 email: fulbertmupwasa@yahoo.fr

PROCESS AT PARLIAMENT FOR SEED LEGISLATION TO BE EFFECTIVE

Normally, things work as follows: after the Government has written and adopted a draft law at a cabinet meeting, it should be taken to Parliament and Senate for examination. Once approved by the two bodies, it is presented to the President of the Republic for promulgation.

The first Draft Law on seeds was worked out in 1990 by an international expert under FAO funding and it was handed over to the Minister of Agriculture to defend it at cabinet meeting. Nothing happened. In 2005, still under FAO funding, Seed Law and Regulations were

worked out by local and foreign experts as well as lawyers from seed sector. It is still at the Parliament for the time being.

But the IASC - Association of Seed Traders of Congo which I am chairing – has been making the lobbying in Parliament and Senate in order to have the new legislation approved and then promulgated.

The draft law on seed sector in the DRC is still under discussions in the Parliament and has not yet been promulgated.

(Cfr. Annex 1 & 2

ROLE OF PRIVATE SECTOR

The private sector had to carry out the following seed activities:

1. Production and multiplication of seeds;
2. Collection of produced seeds (direct purchase or collection by credit purchase from producers);
3. Packing;
4. Trading;
5. Release;

Due to the lack of organisation and in the absence of legislation and regulations well enforced, the private sector does not influence the public sector on this matter. It does not have a strong voice. This is why we felt obliged to set up our association (AISC) and we have been doing very well by trying to fill the gap.

In fact, the private sector now plays the following roles:-

- Multiply commercial seeds;
- Vulgarise vegetable material and. cultivation methods;
- Import seeds.

The private sector does not have well trained workmanship and depends on public sector which controls it.

MEMBERSHIP TO INTERNATIONAL ORGANISATIONS

It is very important for our country to be part of the OECD Seed Certification Scheme given the following reasons:

1. All neighbouring countries are part of it and in order to avoid isolation within the region our country has got to adhere to regional organizations.
2. Encouraging the regular use of quality seeds by the Member States, the OECD Scheme is very important for our country.
3. The OECD Scheme is a system which makes sure to supply the farmer with quality seeds.

It is important for our country to be part of the Union for the Protection of New Plant Variety (UPOV) as the UPOV enables on the basis of precise criteria to make distinction between two varieties of the same specie. It then helps to establish the characteristics of varieties and the UPOV descriptive paper is the basis for DUS testing. It is therefore a must for our country to be part of it.

The Democratic Republic of Congo is signatory to the Catagena/CBD Protocol. Also, it is member of OECD, ISTA, AFSTA etc. Membership to international organisations is effective. Our people take an active part in international workshops, conferences and meetings.

Benefits obtained from this membership:-

- Case of SADC: implementation of international standards and homologation methods as well as laboratory techniques. Updating of and improvement of working conditions at laboratory level.
- COMESA, expected acquirement of new laboratory equipment and materials.
- Learning about international methods of seed certification.;

The structures existing in our country do what they can for the reasons given below:

- Evaluation of varieties, registration and seed certification/accreditation are carried out by the Ministry of Agriculture through the Seed Authority (SENASEM in our country). Despite the support received from time to time and the equipment made available to it SENASEM has hardly owned its attributes (role).
- The release of seed has to be made by the service of vulgarization (one of the expert service of the Ministry of Agriculture), but this service cannot do very much as it lacks funds.
- Phytosanitary measures and the quarantine pest list are under the control of provincial services which, for the same reasons, are unable to do their work efficiently.

N.B. The part of the national budget given to agriculture sector is very little (about 5 per cent) while 90 to 95 per cent of active population are in agriculture. This is the source of problems facing the Congolese agriculture sect

Done in Kinshasa, on November 13th, 2010

LIST OF ACRONYMS

- **INERA**: Institut National d'Etudes et Recherches Agricoles (National Institute for Agriculture Studies and Rechearches)
- **BUNASEM** : Bureau National de Semence (National Seed Bureau)
- **CAPSA** : Centre Agricole de Production des Semences Améliorées (Agriculture for the Production of Improved Seeds)
- **SENASEM** : Service National des Semences (National Seed of Autority)
- **SQAV** : Service de Quarantaine Animale et Végétal (National Autority for Crop Quarantine)
- **DPPV** : Direction de la Production et Protection des Végétaux (Department for Production and Protection of Crops)