**Preventing a cassava crisis in West and Central Africa – WAVE’s plea for a preparedness plan**

**The importance of cassava and the viral threats to its sustainable production**

Cassava is a staple food for nearly 800 million people worldwide, including nearly 500 million Africans. Once considered a subsistence crop, cassava has also become a cash crop for farmers and a strategic crop for food security and poverty reduction in Africa. Indeed, the cassava industry guarantees income for women and young people and reduces the excessive dependence on imported food and agricultural products.

This situation has led to the increased of national and international initiatives to boost both the production and the processing of cassava. The trend goes towards an industrialization of the cassava sector at all levels of the value chain.

However, production is a prerequisite for processing, just as high-productivity and healthy seeds are a prerequisite for production.

Although the production factors such as good agronomic practices and the use of improved high-yielding varieties, which guaranteed optimum productivity, are well known and well disseminated, cassava productivity in Africa remains well below expectations due to a major constraint often neglected: viral diseases.

Indeed, cassava production faces several constraints related to viral diseases, including the African Cassava Mosaic Disease (ACMD), which is the most important in terms of geographical distribution in Africa. Almost all traditional cassava cultivars of the African continent are susceptible to this disease, which causes yield losses of 40 to 70%.

Worse, Cassava Brown Streak Disease (CBSD), discovered for the first time in Tanzania in 1930 (Storey, 1936), causes losses of up to 90% or even 100%. This disease is another real threat to cassava production. According to FAO, CBSD initially present in East Africa has been identified in Central Africa and is moving ineluctably towards West Africa.

When CBSD will arrive in West Africa , will we be ready?

**Learning from our past mistakes**

In the 1990s, a humanitarian crisis occurred in East Africa due to a viral epidemic that began in northern Uganda before spreading rapidly to the south of the country, destroying all cassava plantations on its path. This viral outbreak, caused by a recombinant variant of the African cassava mosaic virus, has affected at least nine countries in East and Central Africa and caused food shortages and famine in several areas of Uganda that were heavily dependent on cassava for food and income. This resulted in an estimated economic loss of US $ 1.9-2.7 billion and a famine that killed thousands of people (Legg et al., 2006). The humanitarian catastrophe caused by this food crisis in East Africa that left enough traces in the collective memory of Africa and should not be allowed to repeat itself in another part of the continent.

**If CBSD and other emerging diseases of cassava are not curbed, the humanitarian disaster will certainly happen again! How will we then justify our wait-and-see attitude?**

**The case of the Ebola virus and the Cocoa Swollen Shoot Disease**

An outbreak of the Ebola fever had already occurred in Central Africa in the Democratic Republic of Congo (DRC) in the periods 1976-1979 and 1994-1996. Very little has been done by African governments to protect people against the resurgence of this terrible disease. Also, according to the March 2016 WHO report, this epidemic decimated more than 11,000 people in West Africa between 2012 and 2015.

The Cocoa Swollen Shoot Disease (CSSD) officially identified since 1936 in Ghana, represents a scourge for the cultivation of cocoa and a real scientific and economic challenge in West Africa. When it was reported in Côte d’Ivoire in the 1940s, the disease was only observed in the eastern part of the country. At that time, neither disease control measures, nor joint actions at a regional level were undertaken to curb its spread. Today, the Ivorian cocoa sector is in turmoil in the face of this disease, which has spread to all the producing countries of West Africa, from Nigeria to Sierra Leone. To date, cocoa production is being sustained at the cost of enormous financial sacrifices from producing countries governments and at the expense of sustainable natural resources management.

**Preventing the spread of CBSD**

The CBSD is embedded in a context of climate change favorable to the appearance or spread of new pathogens. As chaos theory suggests, when an environment is suitable for the development of a viral disease, with time and the help of men, it absolutely ends up establishing itself. We are thus in a process of evolution to the advantage of the virus. From four countries in 1960, CBSD was reported in seven countries in 2009. Over the last 10 years, the CBSD epidemic has spread to more East African countries: Rwanda, Burundi and South Sudan. It has reached countries in Central Africa such as Congo and the Democratic Republic of Congo. This has significantly increased the risk for other Central and West African countries that are among the world's leading cassava producers.

**It is undeniable, CBSD is moving towards West Africa and will eventually reach it!**

'When the rhythm of the drum changes, the dance steps must also change'. So, let's get started now in the preventive fight against emerging and re-emerging viral diseases.

Although cassava viral diseases, unlike the Ebola virus, do not directly affect human health, we must fear the cassava shortage they can cause as well as the famine and the resulting loss of life. Will we wait and keep on reaching out to seek for relief when CBSD will appear in West Africa? Certainly not!

Recognizing the seriousness of the situation, a college of West and Central African scientists have created the West African Virus Epidemiology Program (WAVE) for food security. The main goal of WAVE is to sustainably increase the production of root and tuber crops (PRTs) in Africa. The support of the Bill & Melinda Gates Foundation (BMGF) and the United Kingdom Department for International Development (DFID) has been instrumental in implementing the WAVE program and the fight against cassava viral diseases. We are grateful to these development aid agencies, BMGF and DFID, which help us fight cassava diseases in Africa. They gave a meaning to the well-known saying, 'When the fire is in your neighbor's house, yours is in danger'. But obviously, extinguishing the fire is primarily the responsibility of the owner of the house that burns.

What are the worthy "owners" of West and Central Africa doing?

Distinguished Kings and Traditional Leaders, guardians of our traditions; Excellencies Ladies and Gentlemen, Ministers of Government of West and Central Africa, we know you are very attached to the preservation of our heritage and concerned about the development and the future of Africa.

The common goal is to ensure food security in sub-Saharan Africa. We strongly believe that you appreciate the support provided by these organizations to enable us to continue to enjoy the benefits of cassava. However, a strong and sustained regional effort is needed to effectively address the needs of local farmers. Consequently, we are confident that when our present benefactors turn to other horizons after they have, to the best of their abilities, made their most beneficial contribution to food security in Africa, you will continue the fight for sustainable cassava production and processing with us.

**The time has come to act, let's be proactive!**

'It is not the day of the hunt that you train the dog'

Now is the time for action for food security in sub-Saharan Africa. It is our duty to protect vulnerable communities and small producers. Your support for preventive control measures against cassava viral diseases is more than ever essential.

Challenges remain, and they can only be met with your support and your commitment. Indeed, in the context of ever-increasing populations in Africa, we are faced with the following challenges:

* Provide food in quality and quantity to populations knowing that cassava is their staple food;
* Improve agricultural production knowing that family-type farming is the most widespread;
* Provide clean planting material and strengthen seed quality certification systems;
* Build extension officers’ capacity in plant viral diseases diagnosis;
* Develop standardized diagnostic tools and harmonized protocols;
* Strengthen quarantine systems for better surveillance.

The WAVE program, in a research-action and development dynamic awaits from you, Governments, Chiefs and traditional leaders of West and Central Africa, ownership, financial support, and involvement to carry out the following actions:

* Continue to build cassava stakeholders’ capacity in disease management;
* Set up a monitoring system through innovative participatory surveillance using the latest technologies;
* Develop a regional early warning and response systems against CBSD and other emerging plant diseases;
* Increased knowledge on plant viral diseases;
* Strengthen human capacity building taking the gender aspect into account;
* Develop an effective communication strategy on cassava viral diseases;
* Consolidate synergy between breeders, entomologists and virologists for an effective control of cassava viral diseases;
* Provide clean planting material to smallholder farmers;
* Improve control measures of planting material traded at country borders;
* Improve quarantine services within our different countries;
* Better protect smallholder farmers, a vulnerable link of the cassava value chain.

Let us reject the status quo, let us ensure sustainable cassava production in Africa!