Seed Systems Strategy to combat efficiently cassava viruses in Africa

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What could be the cassava seed system to mitigate the virus spread??

- The increasingly importance of cassava is threatened by virus diseases

- The present situation shows that CMD and CBSD are spreading very fast mostly due to the most of exchange of planting materials through farmer to farmer and to no accessibility/availability of clean planting materials of preferred varieties.

- But whiteflies complicates more the situation because they do not have boundaries

The PVS in Eastern province showing heavy CMD infestation on the farmer cultivar

Improved clone

Local cultivar

Recent observations in farmers field in Eastern province

Sooty mould

Nymphs which secrete the honey dew on which the sooty mould grows

- The war against the cassava viruses has to use different fronts or approaches.

  - ✓ Epidemiology,
  - ✓ Virus diagnostic studies,
  - ✓ Breeding for resistance;
  - ✓ Efficient seed system and
  - ✓ Environment policies that encourage and strengthen positive collaboration

- But none could win alone , the integrated approach is be the most appropriate

The role of a sustainable seeds system in combating cassava virus

- Seeds or planting materials for vegetatively propagated crops such as cassava are the basic agricultural inputs to increase production. More importantly quality seeds of any preferred variety are basis of improved agricultural productivity because they respond to farmers or end users' needs for both their increasing productivity and crop uses

- In Africa, the agriculture is dominated by small scale farmers who are using local preferred varieties BUT mostly very susceptible to diseases and are under threat for extinction

- Then the use of improved and resistant varieties could contribute significantly to mitigate virus . It will require skills and resources (human, finance and infrastructure) to enable deployment of appropriate varieties.

- However, quality seed availability and accessibility to users has been and still remain remarkable challenges to cassava. Many factors such as crop (i) breeding systems, (ii) institutional/organizational arrangements, (iii) policy environment and (iv) socio-economic conditions of farmers contributed to the spread of virus.

- And the non commercialisation of cassava is a bottleneck.

- I think therefore that any seed system to work, it should be linked to the grower or the farmer as the basic unit of the entire seed systems
- Though some few farmers in some countries are aware of the virus diseases symptoms but majority are rather unaware, specifically in Southern Africa region, even extension staff and some research technicians

How do we envisage an efficient that will contribute to minimise the spread of virus?

Key steps of the strategy

The prerequisite is: *varieties that are market driven*
A breeding program of disease resistant and high yielding disposing variety release system

- *awareness creation* about the cassava virus diseases among stakeholders and mostly farmers.

- Identification or creation of virus disease free areas or zones , through survey and disease surveillance.

- Production of virus-free cuttings which should start from cleaning cuttings of any virus stains which requires facilities lab

- Multiplication of clean planting materials in areas of virus free

- Strengthening seeds certification services supported by a viable phytosanitary and quarantine system around virus disease free areas !!! By-laws policy is needed at this stage

- Improving skills--- capacity building in infrastructure and personnel

- Policy environment that support the development of cassava sub sector

There has been a lot of talk and discussion on how to use clean planting materials but this has been unsatisfactory practiced nationally and regionally though it sounds logically correct. The question then is why it is not practically executed?

The change of people attitude is over due and that should be the tough job ahead to take now by demonstrating that it is worth to invest in growing cassava. Cases studies showing stakeholders that investing in cassava chain is beneficial .

The weakest link I have seen is the lack of inspection, certification and coordination. Collaboration between different actors is another challenge to resolve the seeds system has to achieve its results.

Different and many examples cases.
Zambia versus Malawi

Yes willing people and working hard can make it possible