Short Research Activity (SRA):
Developing and emergency response and long
term management strategy for Cassava
Mosaic Virus in Cambodia and Vietnam

January 15, 2018
Vientiane
About SLCMD and its arrival in SE Asia

Wang et al., 2015. Plant Disease
Global distribution viruses – late 2015
Vectoring: two main mechanisms

Human-mediated movement
- Long-distance disease spread
- Between-field movement
- Most important driver of spread

Insect-mediated movement
- Short-distance disease spread
- Within-field movement
- Presumably of lesser importance
Laboratory-based confirmation SLCMV presence

Report shared with Cambodian authorities & FAO on March 8, 2016

Planning Workshop  SRA, 2016

Sharing of Findings Workshop, 2016
OVERALL OBJECTIVE:
• Gain an in-depth appreciation of the current level of geographical spread, incidence and severity of the SLCMD in Vietnam and Cambodia, and to develop an overarching framework to guide further applied research and action towards SLCMD containment and management

SPECIFIC OBJECTIVES:
• Generate an accurate, baseline diagnosis (including map) of the current geographical distribution of SLCMD in Cambodia and Vietnam (including measures of field-level incidence and severity) and baseline information on the insect / anthropogenic vectors involved in SLCMD spread
• Generate broad-level awareness of the risks posed by SLCMD and to build critical capacity among multiple stakeholders, including researchers, plant protection officers and extension agents, to deal with disease.
Activities – SO 1

1. Organize a multi-stakeholder workshop to share current knowledge and plan implementation of the SRA
2. Develop a survey and sampling protocol following a customized sampling design
3. Train a survey team in the implementation of the baseline diagnostics surveys
4. Implement the baseline diagnostics surveys and conduct extensive plant sampling and vector information
5. Conduct centralized data entry and data cleaning of the completed diagnostics and vectoring surveys
6. Conduct centralized disease diagnosis on cassava leaf and insect samples
7. Conduct statistical analysis, generate maps and draft a working paper on the baseline situation of the SLCMD geographical incidence, severity / incidence, and direction of spread, as well as disease vectoring
Activities – SO 2

1. Develop information-extension materials on SLCMD, its symptoms and management for public or private sector actors
2. Organize a technical training on sampling protocols, laboratory-based diagnostics and recommended post-baseline-diagnostics surveillance
3. Elaborate a focused strategy document for sector-wide sensitizing with actions, research needs or targeted biosecurity measures, based on the baseline diagnostics to devise SLCMD management / mitigation plans
4. Organize a multi-stakeholder (closing) workshop to share the project’s finding and present / discuss a strategy for the short, mid- and long-term
What makes this SRA unique?

- Short duration and ‘to the point’ activities
- Wide range of stakeholders consulted and involved
- Involved multidisciplinary team (young researchers taking a lead)
- Involved two countries (and attracted a third)
- First robustly designed and geographical representative survey
- Use of published primers and uniform protocol / lab facility
- Tight link between disease surveillance and seed systems studies
- Picture database of each sampled plant and georeferencing
CIAT’s Role

- Provide science-based evidence and solutions
- Support regional intelligence (i.e. spatial / temporal monitoring, south-south learning)
- Participate in and contribute to national and regional / platforms that deal with / strategize about the problem / solution
- Backstop collective action to deal with the complex problem of emerging diseases
- Enhance national capacity and extension where demanded
From short to mid / long term responses

2016-2017
Phase 1

2017-2018
Phase 2
- Information – extension material
- Capacity building
- Digital pocket diagnostics
- Feasibility SS development

Economic losses for nation / region / sector