

Transdisciplinary systems research to develop a holistic approach to reduce the spread and impact of cocoa swollen shoot virus disease in Ghana (TransdisCSSVD)

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West Africa is the world's most important cocoa (*Theobroma cacao* L.) growing region. The Cocoa Swollen Shoot Virus Disease (CSSVD) is one of the major productivity limitations, particularly in Ghana. Some 800'000 farm families' livelihoods depend on revenues from the crop in Ghana alone. The only measure to treat CSSVD is to cut out infected trees. The national eradication program, implemented by the Ghanaian government since 1946, has cut out more than 250 million trees until today. Despite these efforts, CSSVD is still prevalent in the field. Research has tried to contribute to CSSVD control through breeding for resistant varieties, as well as investigating the effects of barriers with immune crops and protection through a "vaccination" with the mild virus strain N1. Despite the promising nature of the results from these research activities, they have seen limited application in the field. Therefore, a shift in approaches is needed: farmers, extension agents and other relevant stakeholders need to be involved in planning and execution of future interventions from the very beginning of project life cycles.

We are starting a project called "TransdisCSSVD" in Ghana, which approaches disease control by capitalizing on the farmers' perspective on CSSVD control in order to identify the main bottlenecks for implementation of available CSSVD control options. Furthermore, an in-depth study on diversification of cocoa production systems (e.g. agroforestry; fragmentation of landscapes by barriers of non-host crops, shrubs or trees; etc.) will fill an important knowledge gap with regard to CSSVD regulation. The expected results may provide crucial insights for policy makers about meaningful ways of adapting the existing CSSVD prevention and control program. For that purpose, transdisciplinary workshops with policymakers are planned. More dissemination activities such as farmer field days and exchange workshops aim at stimulating the implementation of research results on the ground.

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