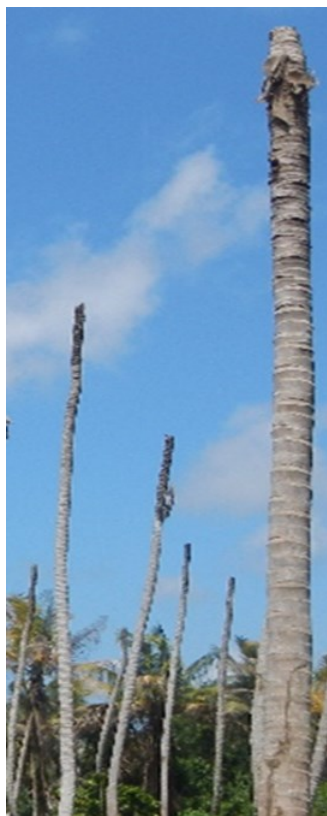


Stories of Change



Approaches to fight lethal yellowing disease bear hopes for the smallholder coconut farmers of Grand-Lahou



Context

Côte d'Ivoire is the top African country that exports coconut oil from copra to Europe and West Africa. Eighty five thousand smallholder farmers live on copra coconut oil in Grand-Lahou, one of the five major national coconut growing areas, and home for 30.6 % of the coconut plantations of the country.

The Ivoirian coconut industry boosted during the 90's from an oil deficit in Nigeria and Ghana, and the decimation of the coconut grove in Ghana due to a lethal yellowing (LY) disease known as Cape St. Paul Wilt (CSPW). During the last ten years there were suspicions of LY occurring in Grand-Lahou, but it was not until 2013 that a phytoplasma, similar to the CSPW strain was associated with the Côte d'Ivoire lethal yellowing (CILY) disease. Since then, four hundred hectares have been wiped out, representing a lost of 12,000 tons of copra/year, and over 7000 are under a severe threat.

The University of Nangui Abrogoua (UNA) and the National Centre for Agronomic Research (CNRA) in collaboration with the Canadian private sector (Sporometrics) and the Canadian academia (University of Toronto) have team up to find short-term solutions to the problem. The main goal is to provide and communicate new needed information through gender-responsive approaches to allow authorities, stakeholders, policy makers and farmers to better control the disease.

For most of resource-poor farmers there is inadequate knowledge on plant diseases, including CILY and their control measures, which results in heavy crop losses, production and marketing constraints. Hence, increasing CILY awareness and implementing a new community disease management plan have been the key goals of the dissemination strategy developed by the Ivoirian-Canadian team to fight CILY.

Field schools and plant clinics have been established in selected villages of Grand-Lahou to train, educate and organize farmers, stakeholders and policy makers in improving disease management, and income and nutrition sources, aiming at alleviating the impact of CILY on the livelihood of the coconut smallholder farming community.

Key Messages

- Ten field schools have trained circa 2000 smallholder farmers in coconut farming and CILY management.
- Know-how in establishing coconut nurseries to support local seedling supply and control of seed exchange, and manage resistance trials transferred to farmers
- A new CILY disease management plan has been disseminated through nine plant clinics.
- Six Women Groups have been created to support women cassava yards as an extra income and nutrition source.
- Over 300 women farmers have increased their business capacity by displaying and selling their coconut by-products in Women Coconut Fairs.



Emerging outcomes

Field Schools: tool to increase disease knowledge and boost gender-responsive ways to defeat CILY.

A comprehensive socio-economic study conducted at the beginning of the IDRC-DFATD project on 338 families yielded a significant low level of literacy in Grand-Lahou, specially for women. Farmers grow coconut but lack the basics of farming skills to keep up with the crop maintenance and protection.

According to the Ivoirian government, school fees were affordable in Grand-Lahou and coconut industry was blooming until the once vibrant coconut copra processing company 'SICOR' closed down in 1997 leaving a stream of unemployment, low access to education and poverty.



As an approach to increase CILY awareness for the coconut farming community of Grand-Lahou, UNA and ANADER have established ten field schools during 2015-2016 in eight villages of Grand-Lahou: Braffedon, Badadon, Yaokro, Lahou Kpanda, Likpilassié, Doudoug-bazou, Gredjigberi and Palmidustrie V1, with a total area of 1086.5 ha.

The first field school was held in Braffedon in April 2015 attended by 26 farmers (21 men, 5 women). Since then, farmers and extensionists have been offered training modules ranging from coconut farming and setting up of coconut nurseries for seed production to crop and environment protection, and marketing. The figure increased from 941 in 2015 to 1960 farmers (1568 men, 392 women) trained in 2016, including 180 extensionists, who will be able to train other farmers.



Six Women Groups have been created in six different villages with a total of 173 members to train women on coconut farming and maintenance, land preparation, and processing and marketing.

Women Groups have overcome the limited access to land resources, the remote distance to the villages, and the lack of transportation means to support each other in setting up their own cassava yards.

These have been established in selected areas of dead coconut palms in which coconut is not longer produced. Women trainees prepare the land and grow cassava, which they sell in their own and other villages as an alternative cash crop, as well as, an income and nutrition source for the family.





Nine plant clinics held in seven villages (Badadon, Braffedon, Yaokro, Palmindustrie V1, Likpilassié, Braffédon, Liboli) have attracted 595 attendees including 474 villagers (334 men, 140 women), and scored 178 queries on CILY and diseases of other 19 crops such as cassava, yam, cocoa, coffee, avocado, maize, etc.

A new CILY disease management plan developed for farmers and stakeholders was officially launched at the Braffedon plant clinic (April 2016). This event was attended by the Canadian Ambassador in Côte d'Ivoire; the General Director of Technological and Innovation Research of the Minister of High Education and Scientific Research in Côte d'Ivoire; the Prefect and the Major of Grand-Lahou, UNA President, CNRA and ANADER Directors, and more than 10 Village Chiefs. Plant clinics were confirmed as a very effective platform to engage policy makers in Grand-Lahou.



Plant Clinics and Women Coconut Fairs: an incentive for youngsters and a path to empower women farmers

Plant clinics are considered by youngsters as a great potential job source in Grand-Lahou. Farmers are willing to pay from 500 to 1000 FCFA per crop analyzed to each certified plant doctor that run the clinic. So, the establishment of a plant clinic service to provide on-site field diagnosis for farmers is under study, and will be indeed supported by the General Director of ANADER. Community meetings are taking place to discuss the fairest amount to pay to plant doctors, once certified.

Four Women Coconut Fairs have been organized as part of the plant clinics, where women have displayed and sell their own coconut products. Coconut products sold during the Fairs that vary from crafted products, cosmetics to home furniture increased from 14 to 26 (86%) in the last six months,.

Coconut products included art pieces from coconut trunks, coconut charcoal, coconut-based fish food, copra, coconut milk, and coconut firewood. A product sold by approximately 20 % of women (hand-made coconut cakes) during the Fairs became highly popular, which allowed them to start-up their small coconut businesses within the village area and Abidjan.

Summary reports reflecting the impact of field schools and plant clinics in improving livelihoods of smallholder coconut farmers, and empowering women have been handed to the Major of Grand-Lahou and the Ministry of High Education and Scientific Research to engage them in the post project activities.



Conclusions

Field schools, Plant Clinics, Women Coconut Fairs and Women Groups have been key factors for the proper implementation of our gender and communication strategies, and the most effective tools to increase disease awareness and empower women within the coconut production chain.

Such events have proved to be the best routes towards the effective control of CILY, and the improvement of the livelihoods of the coconut smallholder farmers in Grand-Lahou. Hence, their scaling-up to the national level is under study.

Acknowledgements

Special acknowledgement to UNA and ANADER in the implementation of field schools and plant clinics in Grand-Lahou.

This work was carried out with the aid of a grant from the International Development Research Centre (IDRC), Ottawa, Canada, www.idrc.ca, and with financial support from the Government of Canada, provided through Foreign Affairs, Trade and Development Canada (DFATD), www.international.gc.ca

References



ANADER, Agence Nationale d'Appui au Développement Rural. (2013). Monographie du Département de Grand-Lahou, 60 p.

Bentley J., et al (2007). Plant clinics for healthy crops. *Leisa Magazine* 23(4): 16-17.

Boa, E. (2007). Plant Healthcare for Poor Farmers: An Introduction to the Work of the Global Plant Clinic. Online. APSnetFeatures. doi: 10.1094/APSnetFeatures-2007-1007.

Boa E., Bentley J. (2015). Lethal Yellowing of coconut palm in Côte d'Ivoire: getting started with plant health clinics and 'Going Public'. *AgroInsight*, 18 p.

Davis K. (2006). Farmer Field Schools: A Boon or Bust for Extension in Africa?. *Journal of International Agricultural and Extension Education* 13(1): 91-97.

Food and Agriculture Organization of the United Nations (FAO). (2001). Progress report-2001. "Farmer innovation and new technology options for food production, income generation and combating desertification" (KEN/99/200). Nairobi: Food and Agriculture Organization of the United Nations.

Université Nangui Abrogoua (UNA). (2015). "Controlling the lethal diseases in coconuts for the benefit of producers" in Grand-Lahou, Côte d'Ivoire. CIFSRI-IDRC Project NO. 107789-003. Second Interim Technical Report, 26 p.

Waddington H., et al. (2014). Farmer Field Schools for Improving Farming Practices and Farmer Outcomes: A Systematic Review. The Campbell Collaboration. *Campbell Systematic Reviews* 6: 335 p. ISSN 1891-1803.

