Proposal of an innovative analysis framework of plant health management practices for the design of sustainable cocoa-based agroforestry systems

E. Transitioning to Food Security and Health

Poster number: E17

Clémentine Allinne, CIRAD, France

*** Martin Notaro, CIRAD, Ivory Coast**

The concepts of integrated approaches of health are based on an integrative conception of knowledge and action strategies in the domains related to the health of humans, animals and the environment, including plants. This integrative conception refers to "One Health" approaches in order to understand the issues related to health in relation to the multiplicity of variables that build them but also in relation to the systemic dynamics that make them interact. Applied to cropping system, these concepts lead us to have a double perspective on it: (i) as complex biophysical systems with its different compartments and components in permanent evolution under the influence of pedoclimate and techniques, and (ii) as an object of implementation of farmers' rationales that can be described in decision-making systems. We propose to explore the potential of activity analysis, which considers practice as a dynamic of asymmetric interactions between a farmer and his environment, for the study of plant health management in cocoa-based agroforestry systems. Farmers experiment different ways of understanding the health of their agro-ecosystems. The cultural heritages and farming experiences of each farmer shape their management of the agroecosystems and thus the resulting practices in terms of pruning, choice of species and varieties, use of inputs, and many other practices. This original paper aims to propose an innovative analytical framework based on a systemic approach for the analysis of plant health management practices at the agroecosystem scale. Taking into account such an approach to foster the design of "healthy" agroecosystems would constitute a major advance.