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Assessment of cover crops implementation in mango and longan orchards in Battambang province, Cambodia

SOFIA MARCON¹, ALESSANDRA GIULIANI¹, FLORENT TIVET², VENG SAR³, ROSA ROEURN⁴,
SETHA RATH⁵

¹*Bern University of Applied Sciences (BFH), School of Agricultural, Forest and Food Sciences (HAFL), Switzerland*

²*French Agricultural Research Centre for International Development, France*

³*Conservation Agriculture Service Center (CASC), Cambodia*

⁴*National University of Battambang (NUBB), Cambodia*

⁵*Swisscontact, Cambodia*

Abstract

After years of mono-cropping and farmland expansion, Cambodia is facing soil degradation, deforestation, and biodiversity loss. Conservation Agriculture (CA) could improve the Cambodian situation. Among the CA approaches, permanent soil organic cover, like cover crops, decreases soil erosion, suppresses pests and diseases, and increases yields. This study investigates about cover crops' opportunities and constraints in mango and longan orchards and farmers' knowledge and attitude towards this practice. A combination of qualitative and quantitative data collection was conducted in 2022 in Battambang province. Thirty-nine semi-structured household interviews were led in nine villages of Rattanak Mondoul and Banan districts, with CA-, CT- (conventional) and CT (CA*)- (previous CA, now CT) farmers. Two Focus Group Discussions were led in Sangha and Borun villages of Rattanak Mondoul districts. Key informant interviews and literature review completed the data gathering. The results showed that 21 out of 39 farmers does not know the definition of CA. Eighteen out of 18 CA- and CT (CA*)-farmers are satisfied with the application of cover crops and recommend CT-farmers to grow them. Thirteen out of 21 CT-farmers are willing to start growing cover crops in their orchards. The main reasons for farmers to start growing cover crops are weed presence, low soil fertility and high soil erosion in the orchards. Farmers have been noticing an improvement on their orchard and an increase in fruit yield since they started growing cover crops. According to farmers' perspective, more trainings and technical support about CA and cover crops are needed, which might also attract more farmers to these approaches.

Keywords: Cambodia, conservation agriculture, cover crops, extension, farm management, farmers' adoption, fruit trees, soil health