Sustainable Palm Oil Production – SPOP –

International collaborative research aims at improving practices

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Despite guidelines from certification standards (e.g. RSPO, ISPO), there is still a strong need to fill in the knowledge gap and develop toolkits in order to assess socio-economic and environmental impacts (3D-impacts) of oil palm, especially while considering the local specificity of cropping systems and their capacity to adapt to global changes. The backbone of ANR SPOP project (2012-2016) is to investigate the 3D-impacts of various oil palm systems, their rationales and the possible levers to improve practices and steer palm oil production toward sustainability.

Field surveys on oil palm practices.

Research team and activities

- The research team involves 10 senior scientists in agroecology, sociology and economy. The project also supports 3 Ph.D. studies and 8 interns from Master level.
- Research activities take place in Indonesia and Cameroon; including field surveys at household and plot levels on livelihoods, practices and performances, interviews with local and international stakeholders, participatory workshops on prospective analysis, and multi-agent modelling work.

Oil palm landscape.

Palm oil fresh fruit bunches.

Results

A wide diversity of systems

- We describe the production systems of *ca* 200 smallholders and as much of industrial plantation blocks. We observe a great diversity of systems beyond the rough distinction between smallholders' and industrial plantations. Input quantities and performances were highly variable. Growers' rationales and strategies depend on their background assets and on local opportunities [1].
- An agent-based model is developed to anticipate future developments of oil palm at the landscape scale. It allows for exploring the impact of several socio-political scenarios, such as different conservation strategies, on oil palm development and potential environmental impacts [2].

Some key control levers

- Agronomic practices and performances can be improved by better adapting inputs levels to the oil palm needs, while fostering the use of selected planting material. We propose agro-ecological indicators to regulate inputs (nitrogen and pesticides) and reduce leakages into the environment.
- Adapted practices require specific knowledge for which adequate training of non-specialised smallholders is a key prerequisite [3-4].
- Win-win situations between smallholders (native and migrants) and companies should rely on transparent negotiations, which are often hampered by imbalanced knowledge and information levels among actors. The role of public actors is of paramount importance for the proper handling of land tenure issues in order to ensure win-win pathways for the various growers and for both the local development and the global environment [3-5].

Palm oil fruits on the edge of an industrial plantation.

Smallholder's palm plantation.

Selected oil palm seedlings at nursery.

References

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Conclusion

Multidisciplinary work is essential in order to successfully understand oil palm system diversity and steer them toward sustainability.

Our research highlights the complexity of the typology of oil palm smallholders in both countries regarding their practices and rationales, their holding sizes,

as well as their relationships with companies and governments.

This diversity should drive further research in order to provide refined data on production structures, practices and 3D performances regarding each type of producer.

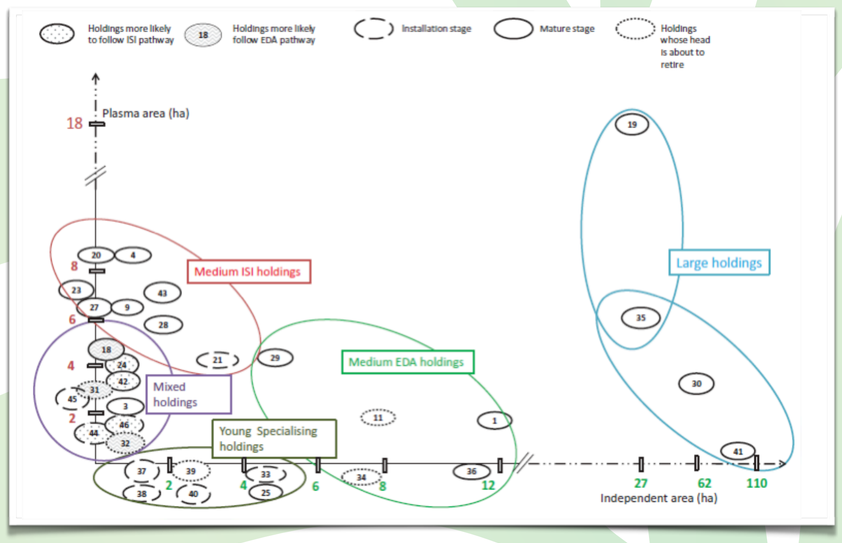

Figure 1. Different groups of holdings based on oil palm surfaces and potential strategies, i.e. ISI = Intensification/Specialisation/ Integration; EDA = Extensification/Diversification/Autonomy.

5th International Conference on Oil Palm & Environment ICOPE 2016 16th - 18th March 2016 The Westin Resort Nusa Dua-Bali, Indonesia