Confronting farmers' perspectives with agronomic findings for the co-design of agro-ecological options in Burkina Faso

Bagagnan A. Rasmane[1,3], Descheemaeker Katrien[1], Berre David[3], Webber Heidi[2], Raboin Louis Marie[3]

[1] Wageningen University and research (WUR), Plant Production System, Wageningen, Netherlands
[2] Leibniz Centre for Agricultural Landscape Research (ZALF) , Müncheberg, Germany
[3]Centre de Coopération Internationale pour la Recherche Agronomique et le Développement (CIRAD), Ouagadougou, Burkina Faso

Background and objectives

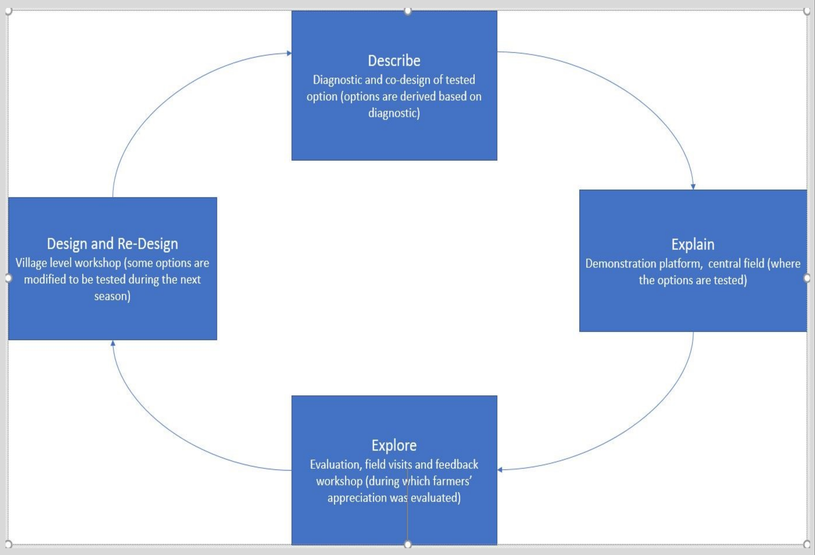
- Smallholder farmers in Burkina Faso face poor soil fertility, unpredictable weather conditions and weak market infrastructure.
- Enabling their transition towards more sustainable farming system can be supported with co-designing new options.

Questions

- How do farmers appreciate the yield of the tested options?
- Is this appreciation in line with absolute and relative yield data?

Methodology

- Iterative approach following the Describe-Explain-Explore-Design (DEED)



- Only data from the Describe (tested options), the Explain (yield data) and the Explore (farmers' appreciation) are used in this study. Farmers' yield appreciation refers to their evaluation of the tested options based on the yield indicator

Study area

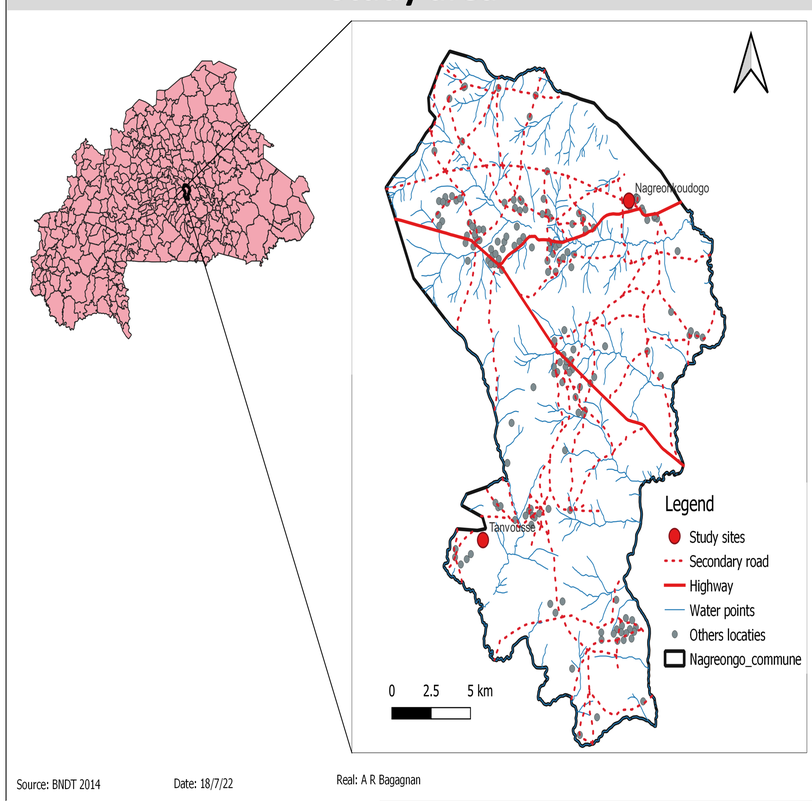


Figure2: Map of the study area

Highlights

⇒Farmers' yield appreciation differs according to the localities

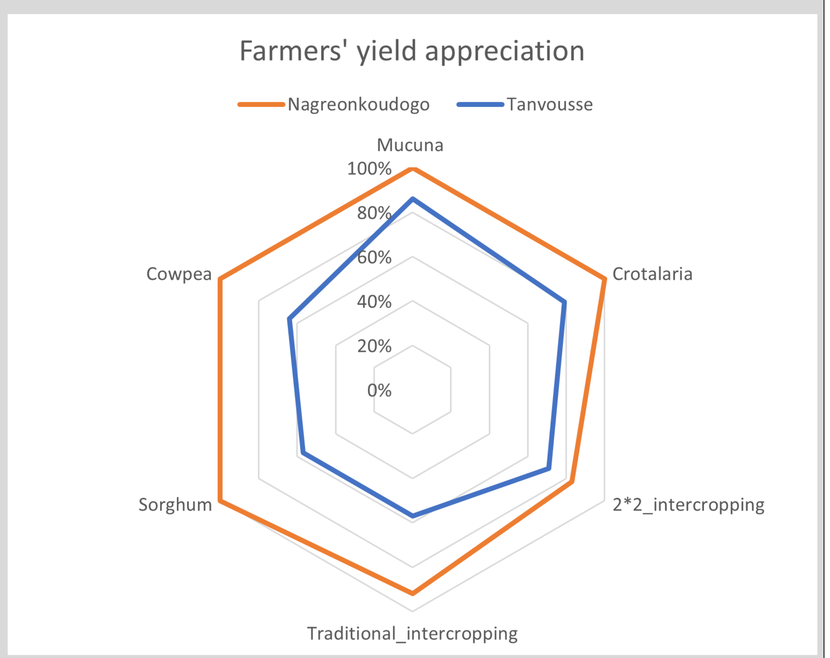
⇒Farmers' yield appreciation corroborates with yield data

⇒Farmers' yield appreciation is not in accordance with relative yield (in intercropped fields)

⇒It is therefore necessary for scientists and farmers to work together in the process of the co-design

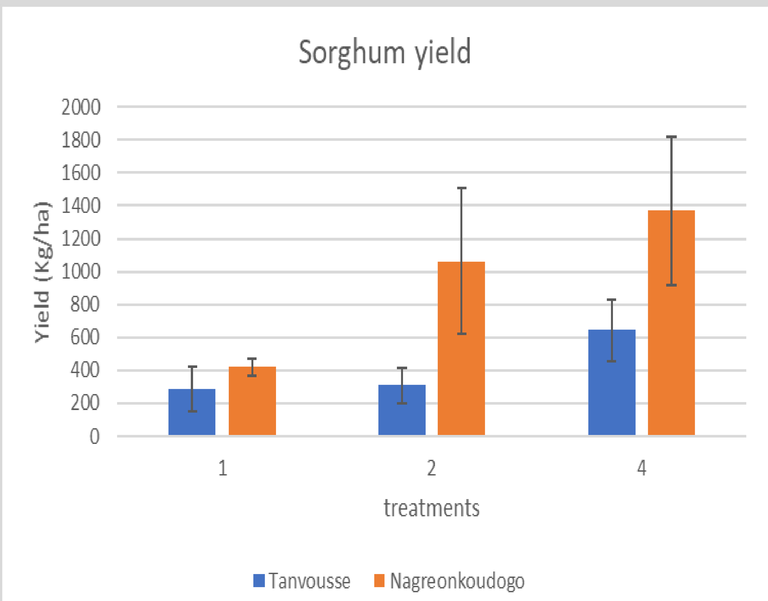
⇒This facilitates co-learning and increases finding accuracy

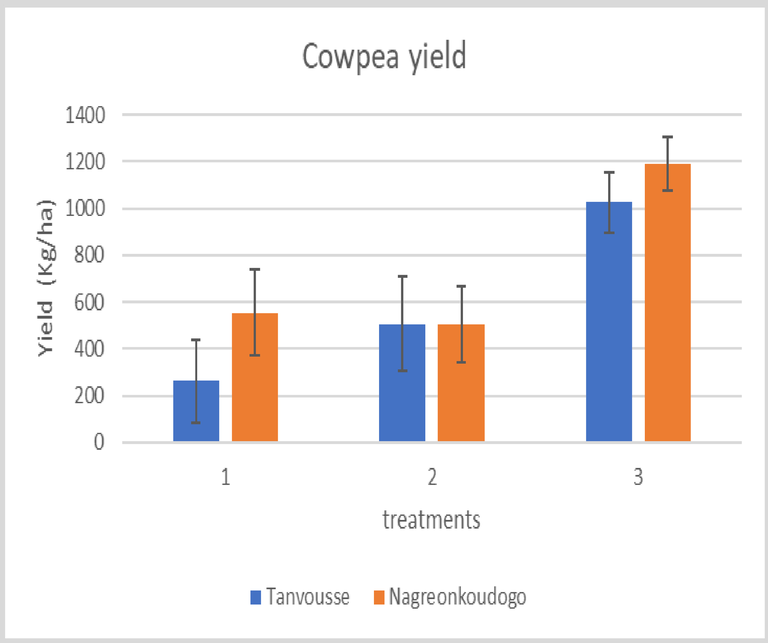
Results



- More farmers were happy with yield in Nagreonkoudogo as compared to Tanvousse.
- In both communities, less farmers appreciated the yield of traditional_intercropping pattern as compared to sorghum or cowpea sole crop pattern

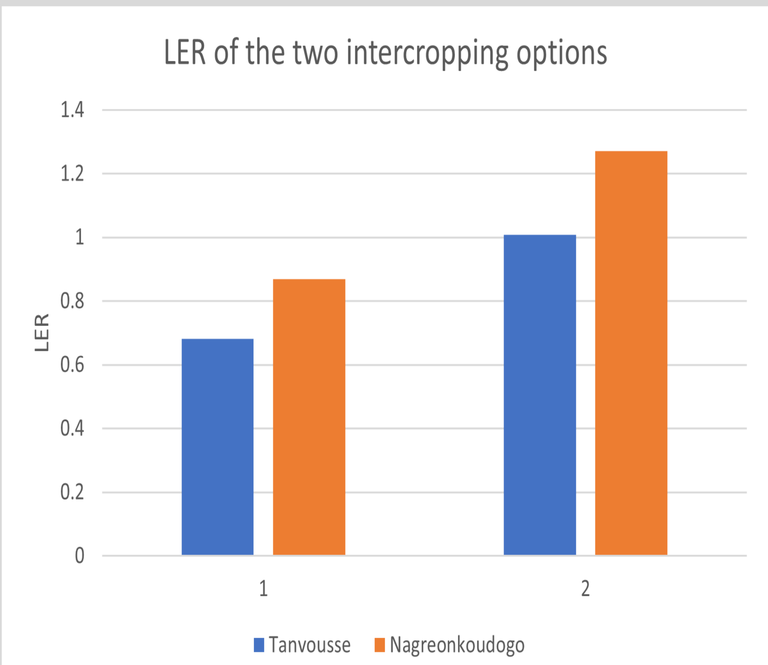
Results





1=2*2_intercropping
2=Traditional_intercropping
3=cowpea
4=sorghum

Farmers' yield appreciation was in accordance with cowpea and sorghum yield



- The land equivalent ratio of the sorghum_cowpea traditional intercropping was greater than 1 in the two localities.
- This means that sorghum_cowpea traditional intercropping was the most advantageous in term of yield as compared to the sole crop.
- The land equivalent ratio of the 2*2_intercropping was less than 1 in the two localities
- This means that the sole crop was advantageous in term of yield as compared the 2*2_intercropping

Acknowledgement: this study is conducted as part of a PhD work within the FAIR-Sahel project financed by the European Union and AFD. It is supported by WUR, CIRAD, ZALF and INERA.