

Why can't Africa produce more food?

Mapping socio-economic constraints

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To ensure food security and reduce poverty, a key challenge is to raise agricultural production in developing countries. In addition to biophysical factors, such as soil quality and rainfall, prevailing socio-economic conditions are considered to be crucial for increasing food production and productivity growth. However, it is not easy to relate socio-economic factors and agricultural yield potentials empirically. We specifically look at socio-economic aspects and yield gaps in Sub-Saharan Africa.

Research question

Our goal is to shed light on the socio-economic conditions hampering the realisation of the biophysical agricultural potential. Given the available data, we attempt to identify those Sub-Saharan African countries where the agricultural production potential is constrained and ask if the difference between actual and potential yield can be explained by socio-economic factors.

Method

Our multidisciplinary research approach spatially maps biophysical yield potential, actual yield and indicators of socio-economic aspects for Africa.

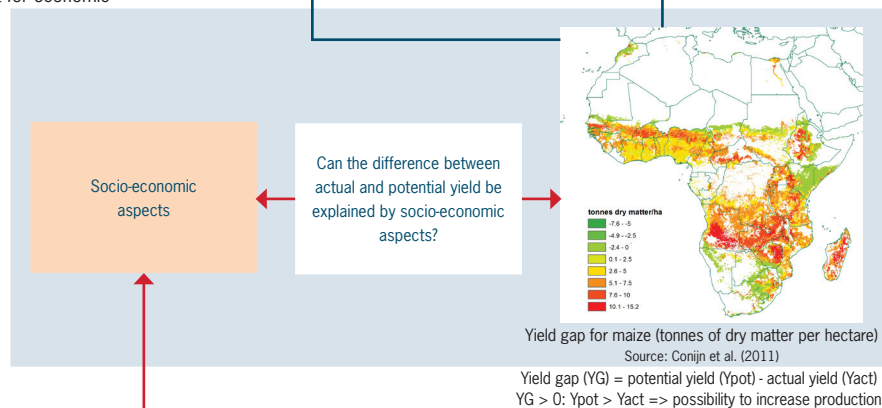
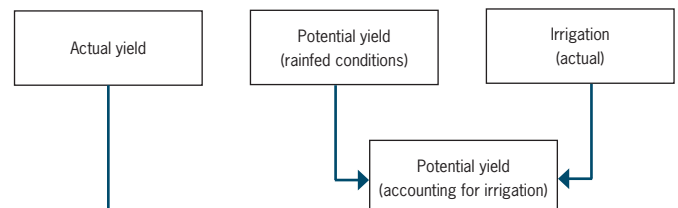
We use the framework of Bindraban et al. (2009) as a starting point to describe socio-economic aspects and derive corresponding indicators relevant for economic development in general and growth in food production in particular.

We distinguish four sets of socio-economic aspects:

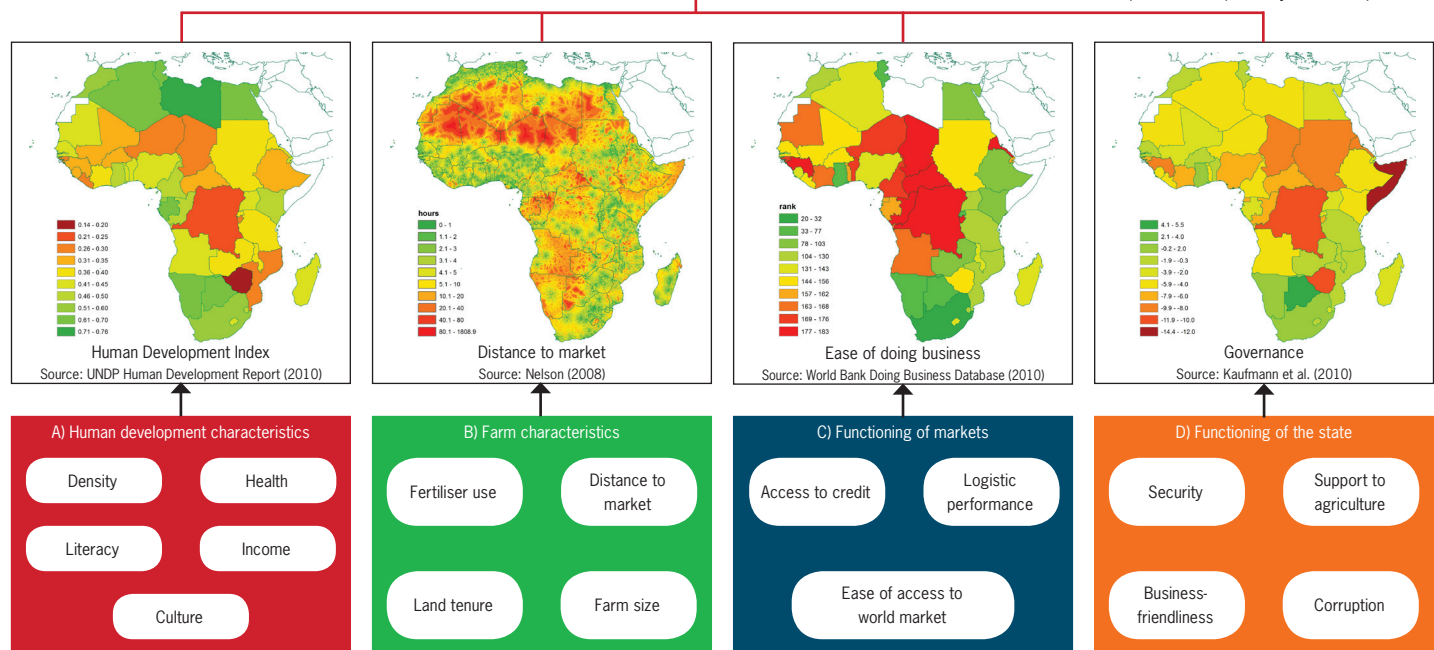
- A Human development characteristics
- B Farm characteristics
- C Functioning of markets
- D Functioning of the state: governance

Challenges

- Causality: Undernourishment could for example be a result of low agricultural output and productivity but could also contribute to low agricultural output and low productivity
- Multicollinearity: correlation amongst indicators of socio-economic aspects
- Endogeneity: yield and socio-economic aspects depend on unobserved local factors
- How to express constraints in terms of productivity forfeited?



Biophysical factors



Socio-economic aspects

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