How can the data revolution help deliver better agronomy to smallholder farmers in Africa?

Agronomic research and extension are often aspatial and give farmers blanket recommendations with limited impact on yields and incomes.

To generate site-specific agronomic advice at scale, e.g. what best fertilizer application or crop variety for a field, we can use geospatial data and analytics to map and predict crop yields and profitability at different scales.

Research should work with various service providers to develop appropriate mobile applications and large-scale decision support tools that can provide timely, accurate advice on subjects such as crop varieties, fertilizer use and seed spacing. It will maximize the impact of on-farm extension and large-scale agronomic investments.

Research impacts for sustainable intensification

Taking Maize Agronomy to Scale in Africa (TAMASA) has calibrated and tested Nutrient Expert® and other mobile advisories in Nigeria, Tanzania and Ethiopia. Farmers following such mobile advisory increased maize yields from 2 tons to 4 tons per hectare, and farmers’ benefits by 60%.

The lime dashboard compiles woreda-specific information on the extent of acid soils, as well as the expected costs and benefits of liming. This decision-support tool can help target areas where liming will be most profitable for farmers and value-chain actors.