Networks and learning about an agricultural technology

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Motivation

- GDP growth originating in agriculture benefits the poor substantially more than growth originating outside ag (Egan & Subudhi, 2017)
- Ag yields and productivity have remained low and flat in sub-Saharan Africa. As such, increasing yield is a substantial portion of ag GDP with small gains in output translating into large gains in GDP
- Among other things, we elicit motivation to learn how to adopt new technologies.

Selection is intuitive and quick, allowing us to ask more questions than usual (Learn by doing)

Despite relatively high hybrid adoption rates, and many improved varieties on the market, Kenyan maize yields have stalled (Feed the Future, 2013)

Average age of hybrids is 20+ years (Tegemeo, TAPRA survey data, 2010), so recent advances don’t translate into yield increases (in Kenya, more than 100 kg/person)

GDP; maize accounts for a substantial portion of ag GDP & caloric consumption (in Kenya, more than 100 kg/person)

The yield gap on the continent, resulting in a widening yield gap with the rest of the world (western Kenya, Saharan, Central Kenya, and Western Kenya) (18 learning zones / 54 villages / 900 hhs)

Experience-Weighted Attraction (EWA) learning model

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We can model participants’ decisions using a modified version of the EWA learning model (Camerer & Lo, 1994)

Typically used to study how individuals learn about other players’ strategies in games of strategic interaction—here, payoffs are independent of other players’ decisions. In games of strategic interaction, instead, participants are learning about Nature’s strategy, i.e., the payoff of the two different technologies.

Social network characteristics:

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