

Constraints to adoption – Learning in highly variable environments

Emilia Tjernström, University of Wisconsin – Madison

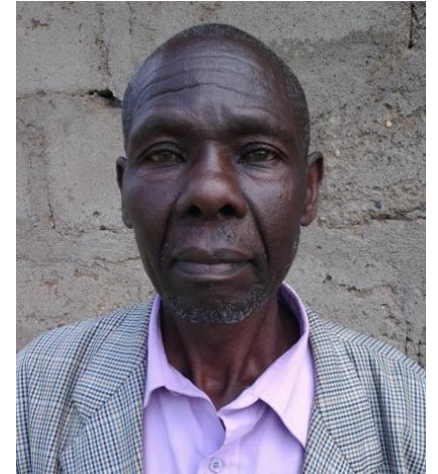
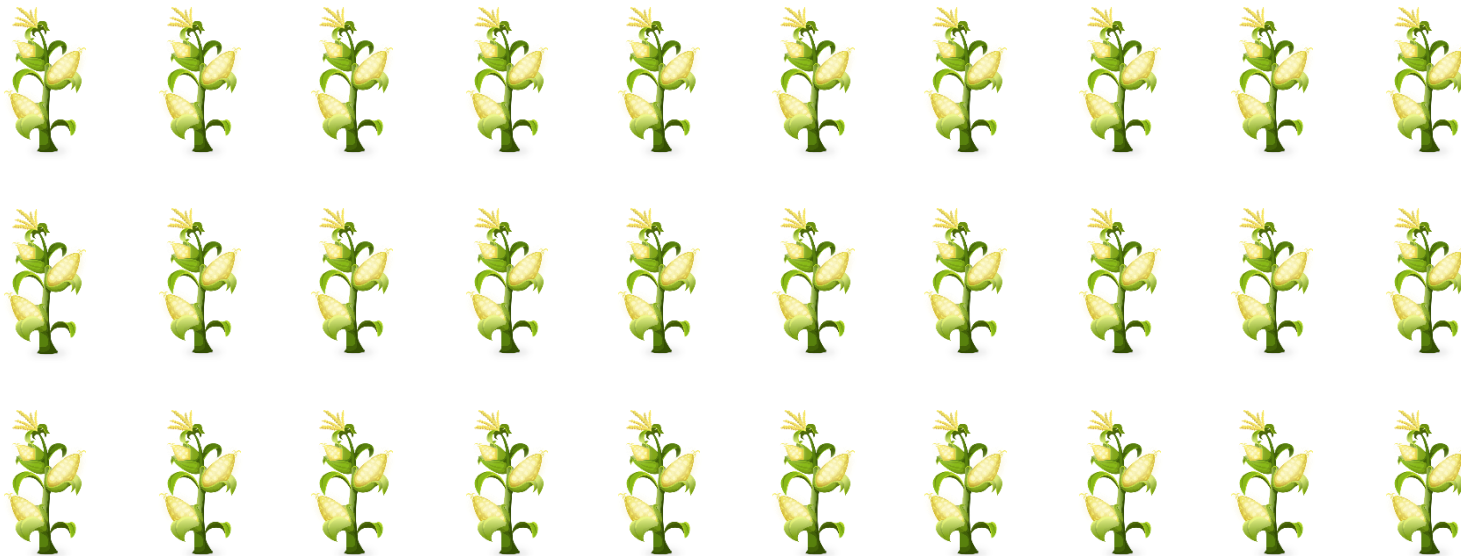


Many things affect yields

- The production environment
- The technology bundle used
- The match between production environment & technology bundle
- So a farmer trying to figure out the optimal approach for her field needs to keep many factors in mind

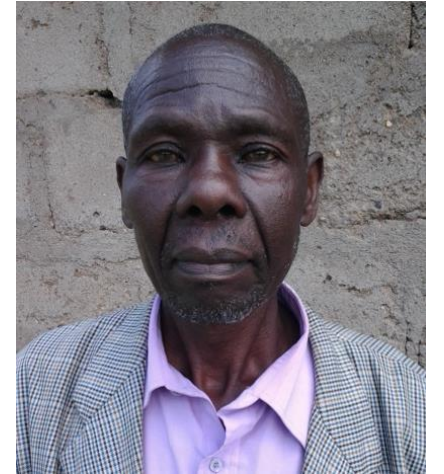
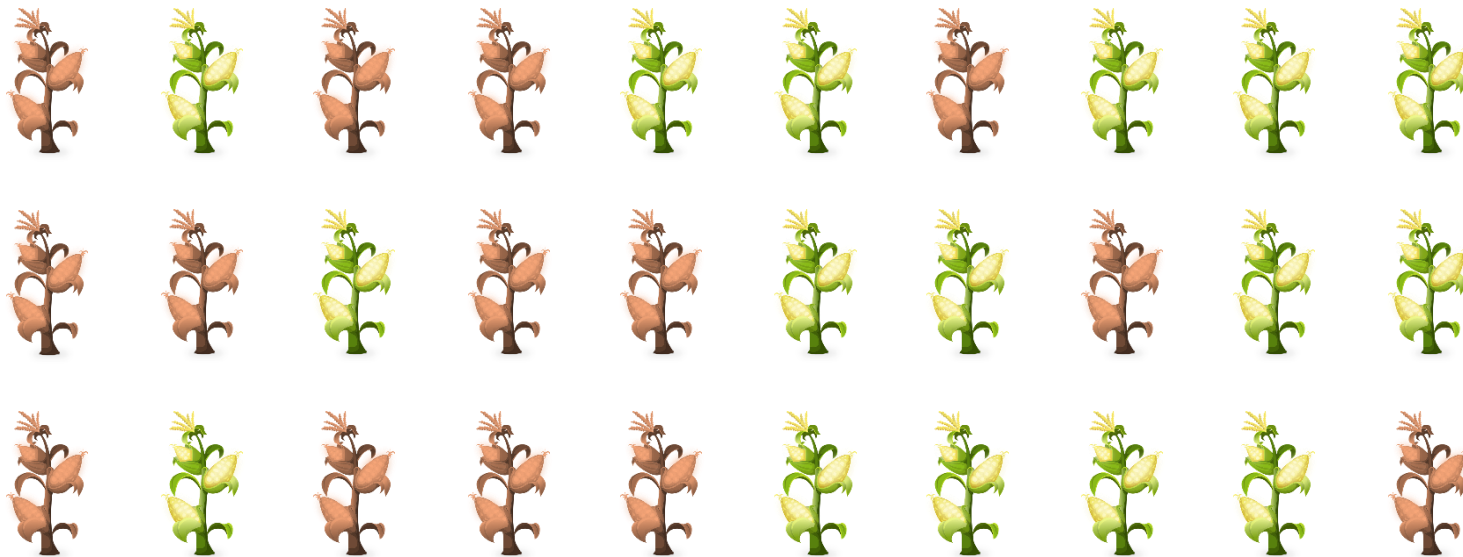
Sources of information for farmers

- A farmer who wants to learn about a hybrid variety (or fertilizer, or herbicide, or...) can learn from different sources
 - you can try the seed yourself



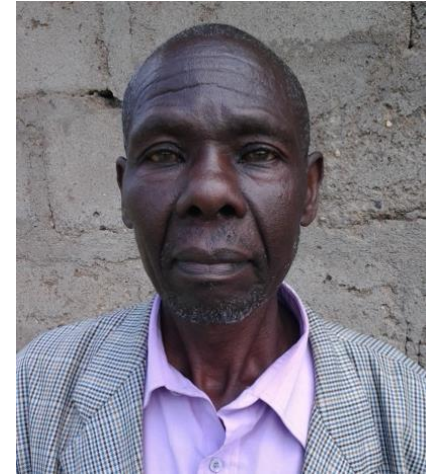
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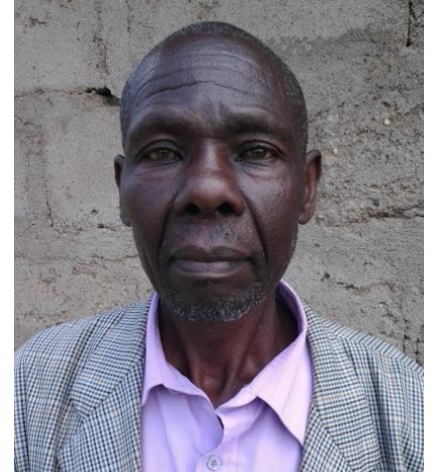
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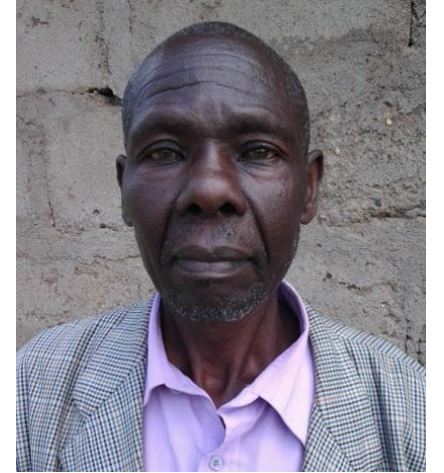
Sources of information for farmers

- A farmer who wants to learn about a hybrid variety (or fertilizer, or herbicide, or...) can learn from different sources
 - you can try the seed yourself – but every “trial” is risky
 - extension agents
 - government information/outreach
 - seed company information



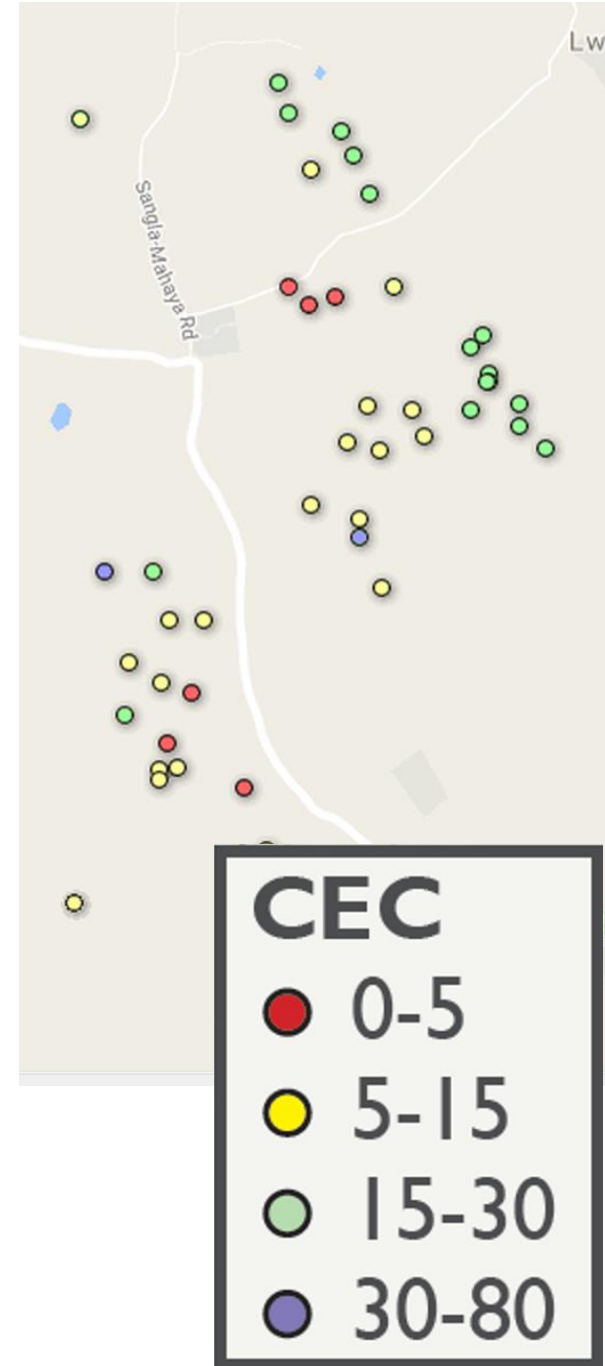
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 - you can learn from others – what did your neighbors do, and did this technology bundle perform well for them?

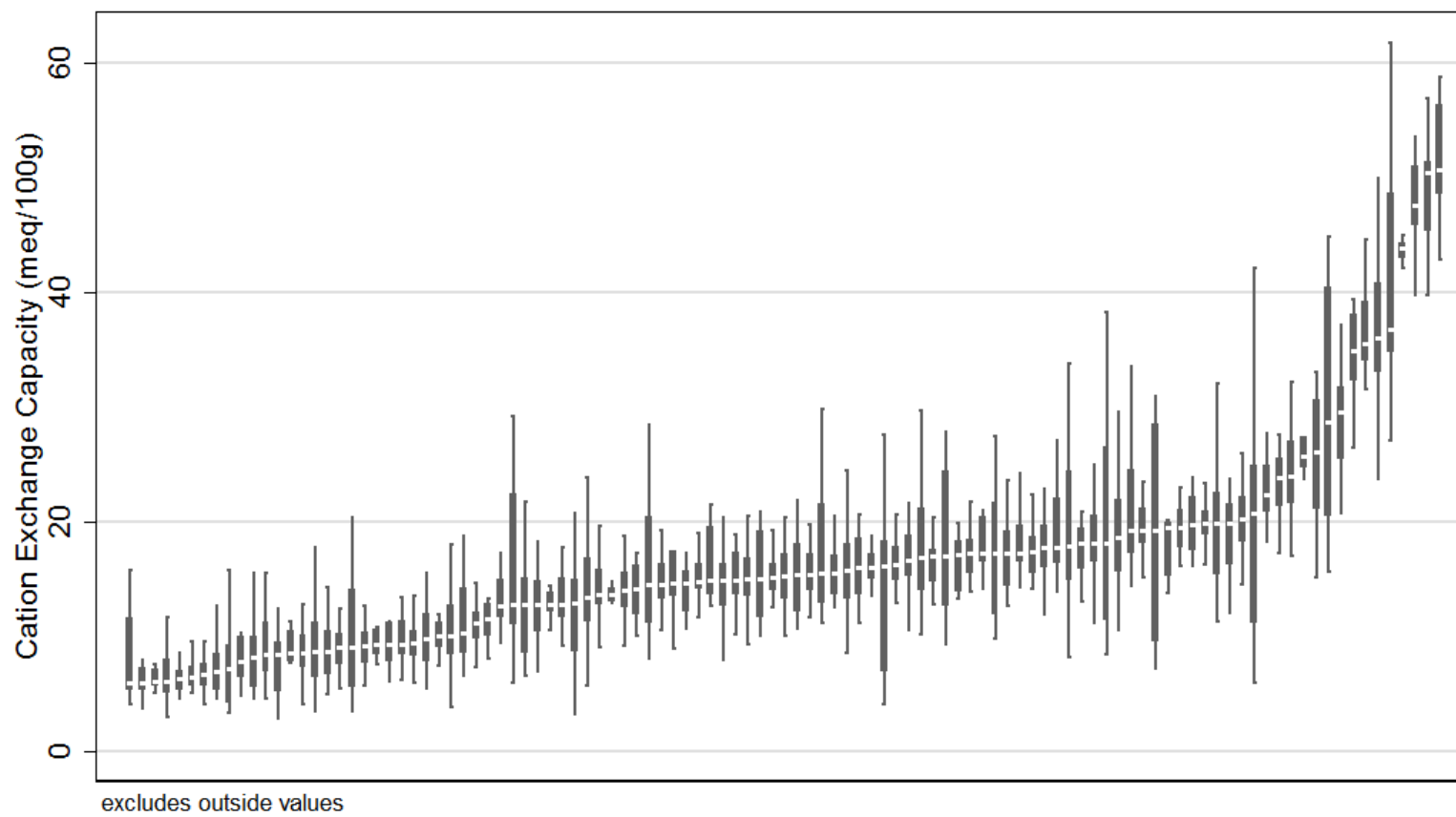


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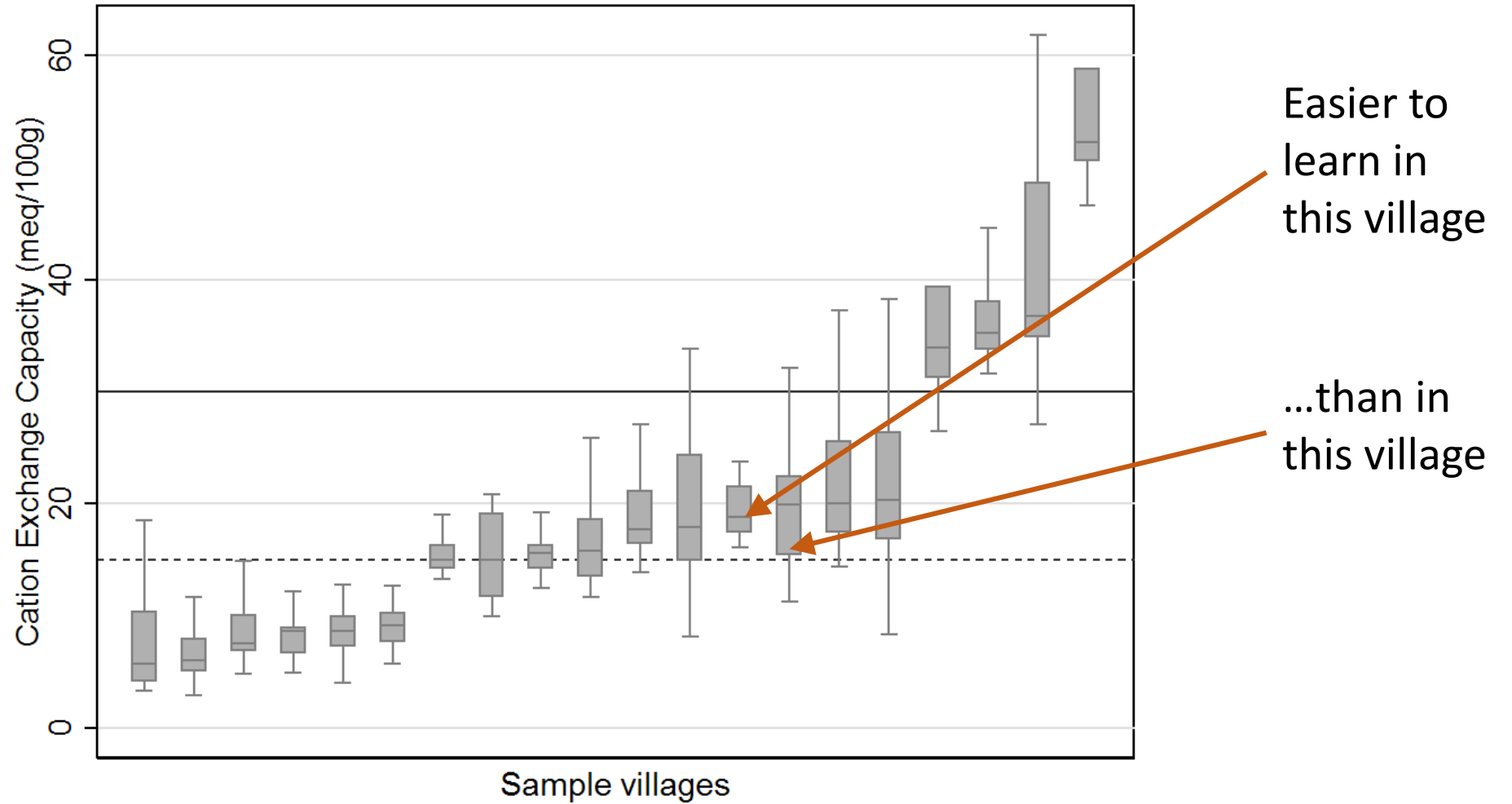
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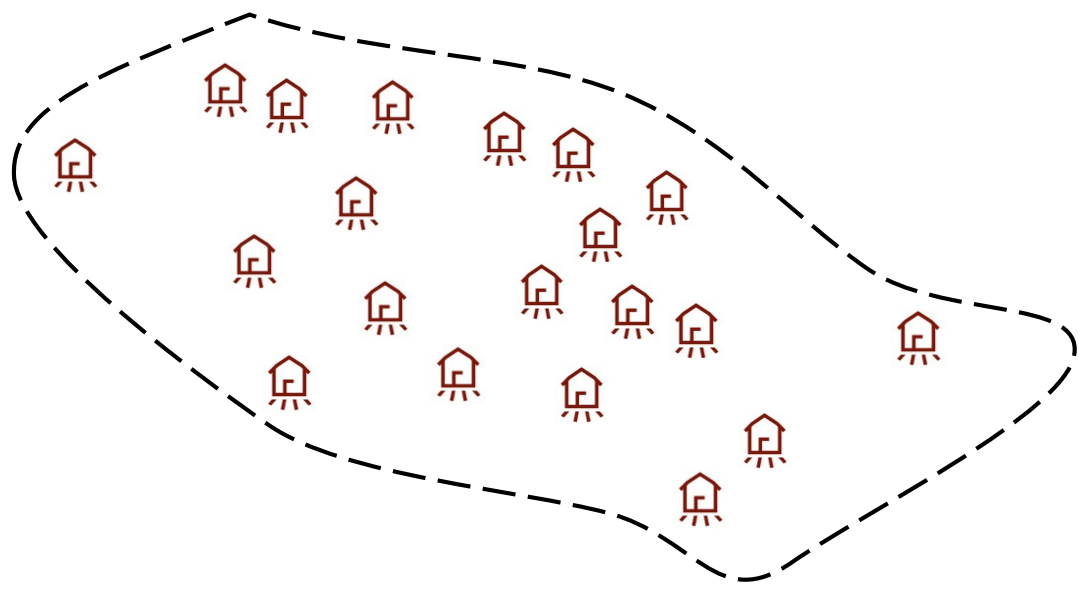
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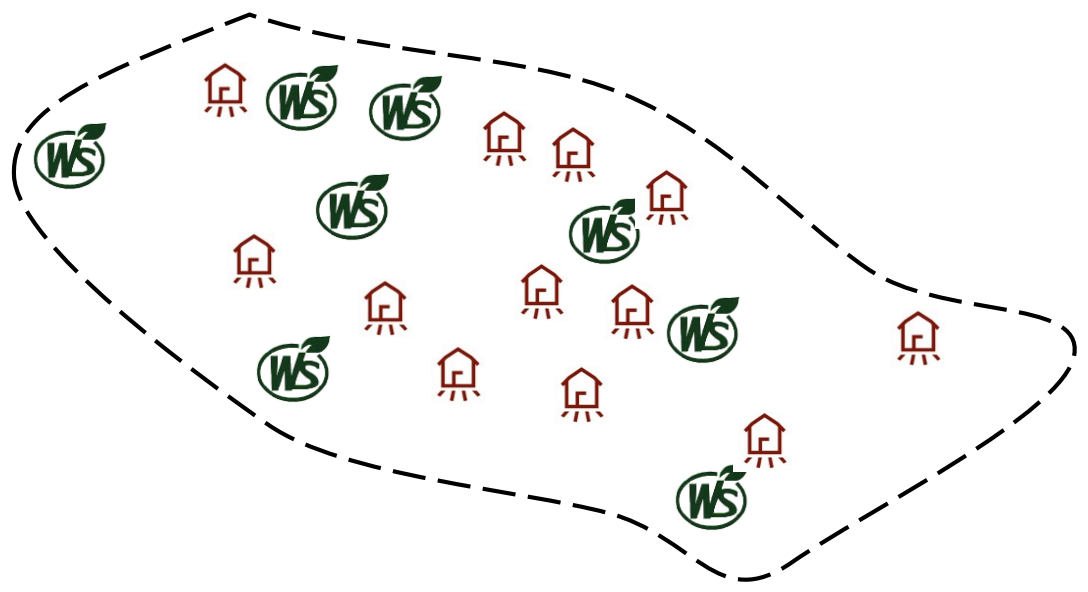
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Soil heterogeneity and learning

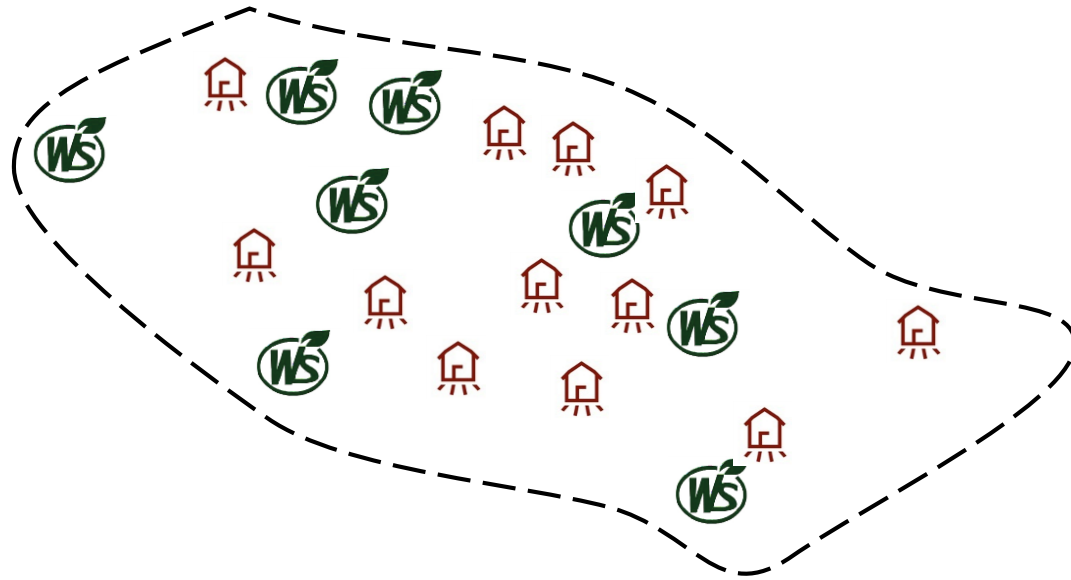


Soil heterogeneity and learning



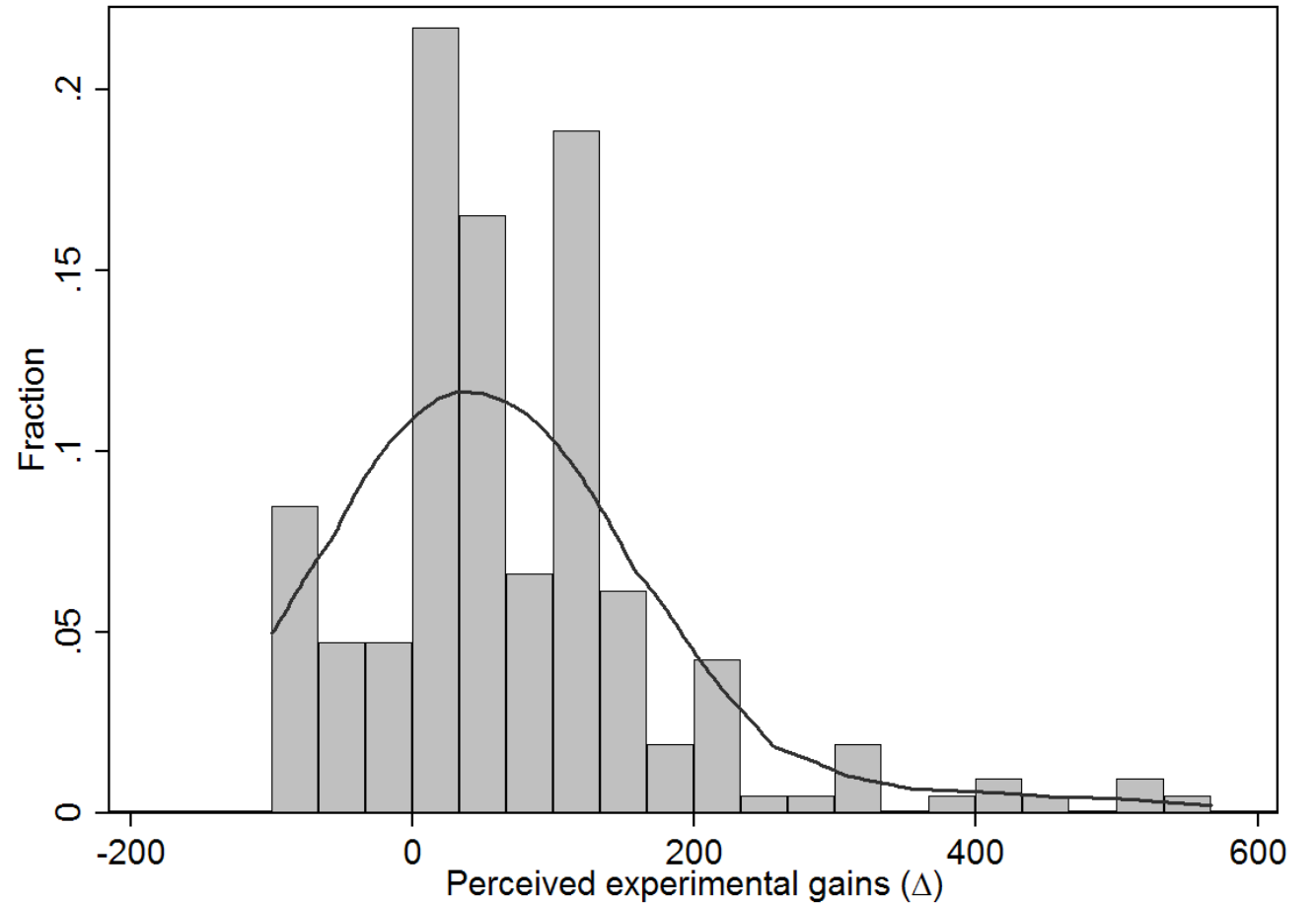
Soil heterogeneity and learning

- I conducted network surveys, asking farmers who they speak to about agriculture, who is in their microfinance group, etc.



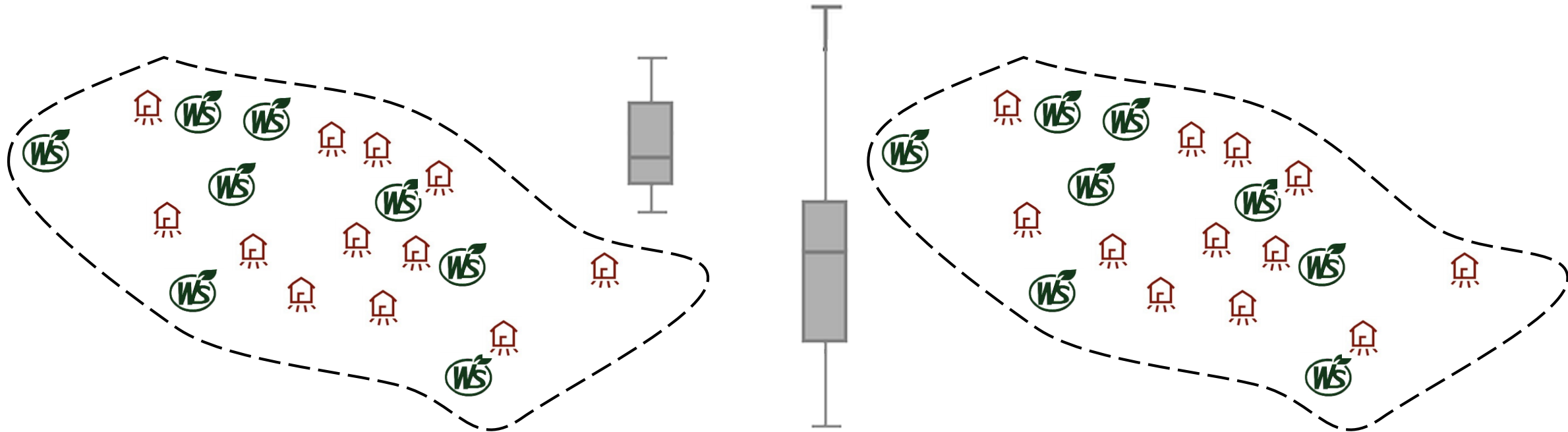
Two measures of information

- How many ‘treated’ farmers in your network?
- But also elicit “perceived experimental gains”



Soil heterogeneity and learning

- I conducted network surveys, asking farmers who they speak to about agriculture, who is in their microfinance group, etc.
- In all villages, farmers (unsurprisingly) talk to each other
...but whether soils in your village are homogeneous or heterogeneous matters!



Soil heterogeneity and learning

- The more fields in your village differ from each other, the less likely you are to imitate a neighbor's success with the new seeds by trying it out yourself
- But in villages where soils are similar, people seem to learn quite a lot from their neighbors: having more friends who had a good experience with WSC sample pack means that you are
 - more likely to be familiar with WSC varieties
 - willing to pay more for WSC varieties
 - more likely to adopt a WSC variety the next season
 - more likely to adopt other hybrid varieties

Policy take-away

- In some areas, you can get bigger “bang for the buck” by leveraging social networks: give seed samples to a few people in village, and it spreads
- ... but in other places we may need to encourage/subsidize individual learning, since learning from others is difficult