Crowdsourcing

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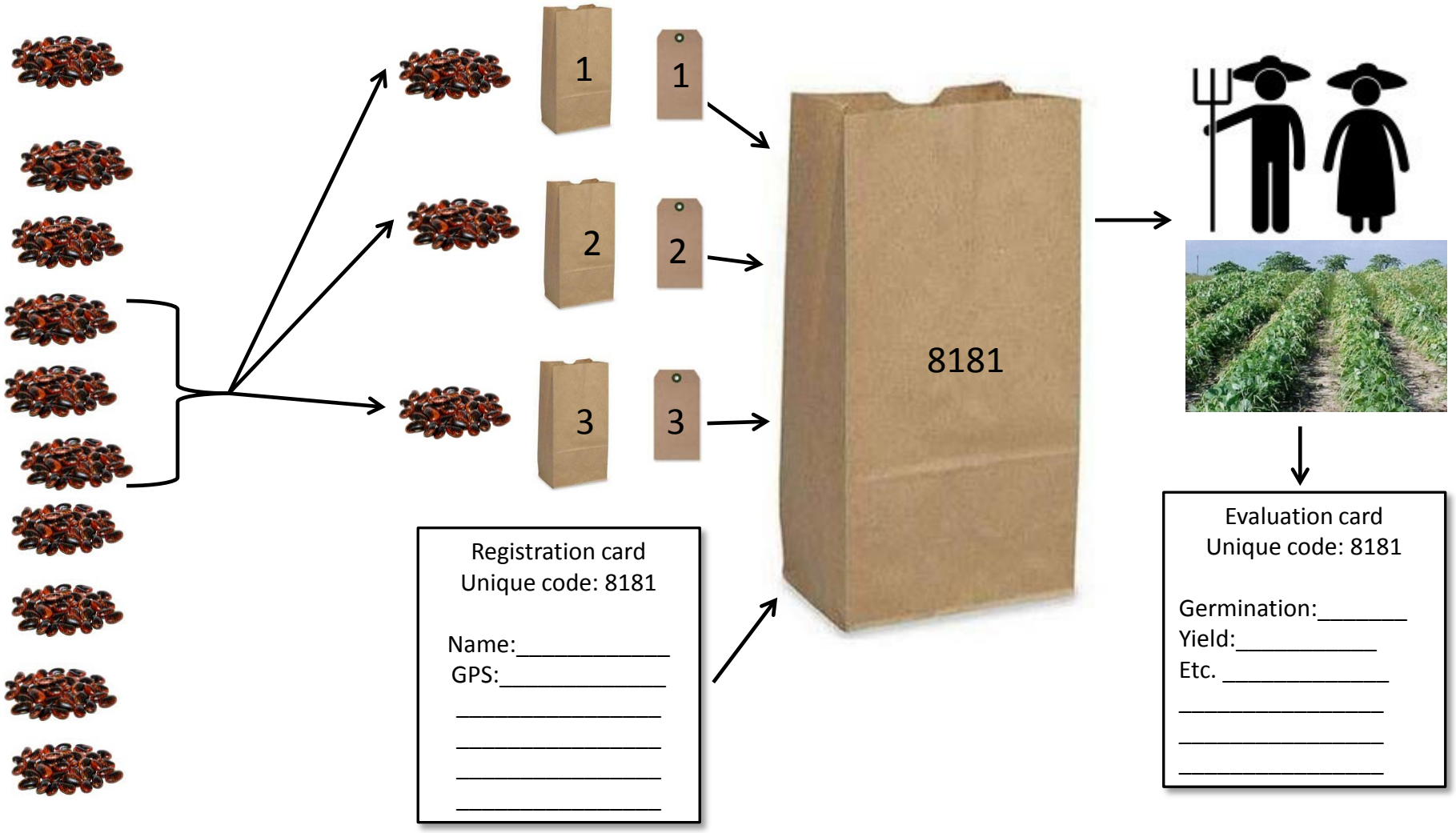
Constant monitoring and massive testing is required for a more rigorous assessment of the performance of different varieties and the ability to provide tailored recommendations based on different management regimes and different environments.

Crowdsourcing concept



Crowdsourcing

Citizen science approach

Individual farmers get free seed samples and observe them grow

Farmers provide feedback by mobile phones

+ -

A > C > D

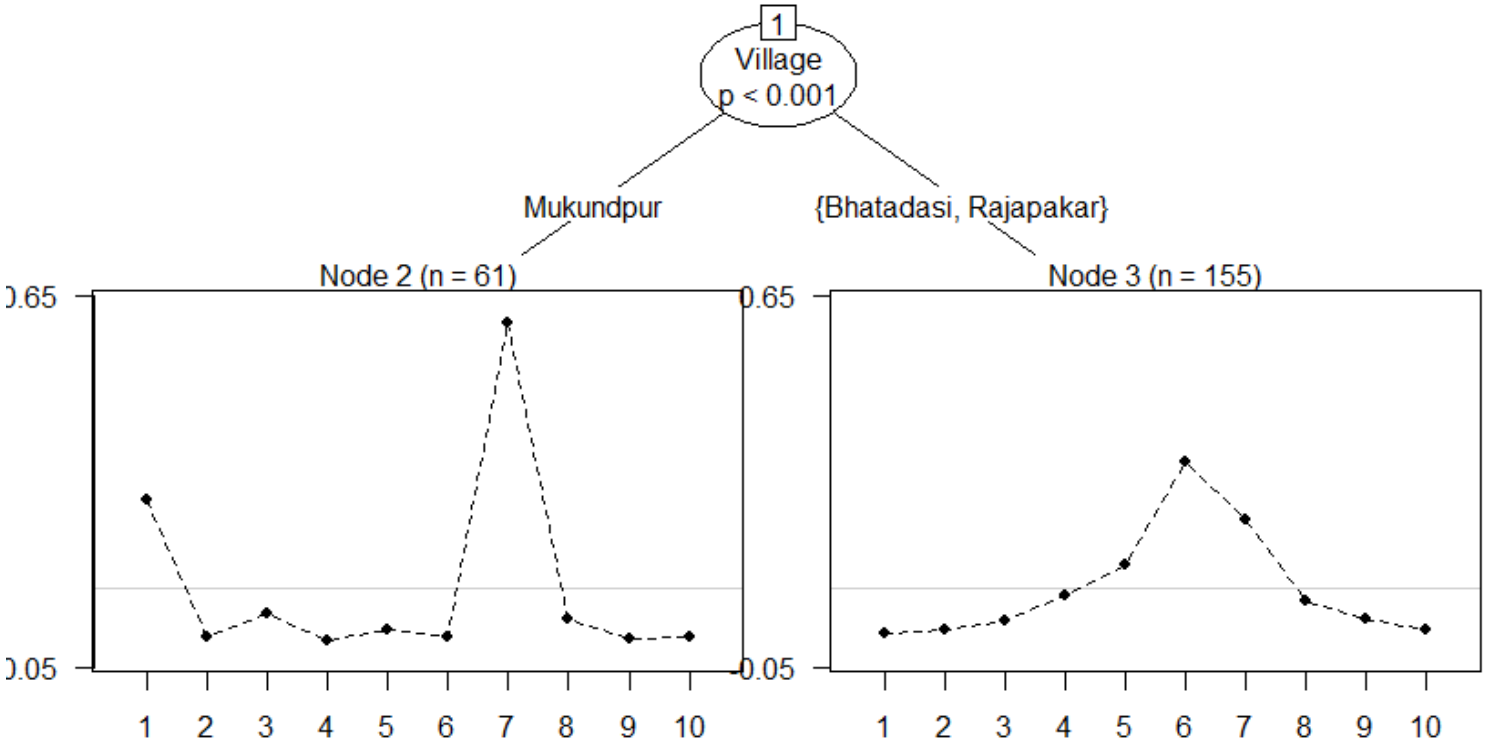
A > D > G

A>C>D>G

Software


ClimMob - Main menu
ClimMob
Crowdsourcing climate-smart agriculture
Bioversity International
CGIAR
RESEARCH PROGRAM ON
Climate Change, Agriculture and Food Security
CCAFS
Make randomization
Merge datasets
Load data
Create model
Generate analysis report
Generate info sheets
Get more info and help

Data analysis



Some conclusions

Farmer like to participate: curiosity, access to seed

Most farmers are ready to answer by phone, but some problems with access

Data quality is good enough

The method is easy to implement but is (still) paper intensive

Women can be involved through women groups

In summary…

1. A broad set of varieties (10-50) is evaluated

2. Each farmer gets a different combination of varieties

3. Environmental data (GPS, sensors) to assess adaptation

4. Farmers test and report back by mobile phone

5. Farmers receive tailored variety recommendations and can order seed

6. Data are used to detect demand for new varieties and traits

Mobile phones

Mobile telephones: we call people up with two simple questions

For example

- Which one yields most?
- Which one is more drought tolerant?

- A yields more than your local variety?
- B yields more than your local variety?
- C…

We do this for all traits.

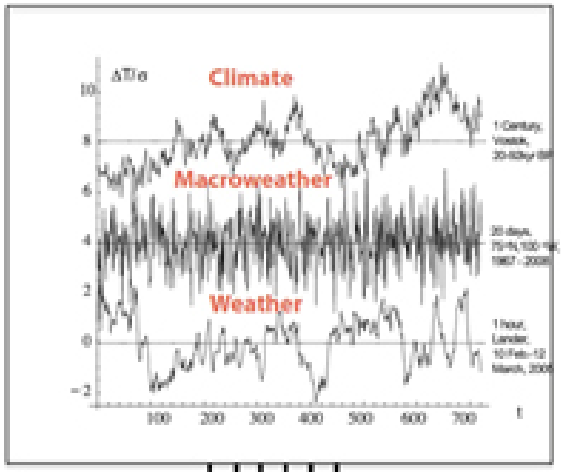
Interviews are done several times during the growing season.

M-Farm

- Market prices for 42 crops
- Group selling tool and SMS advertising
- Group buying tool for fertilizers
- Information dissemination, for example on international regulations

M-Farm is a for-profit organization based in Kenya. The company started in 2010 and has grown to 7,000 users (http://mfarm.co.ke)

Crop modelling



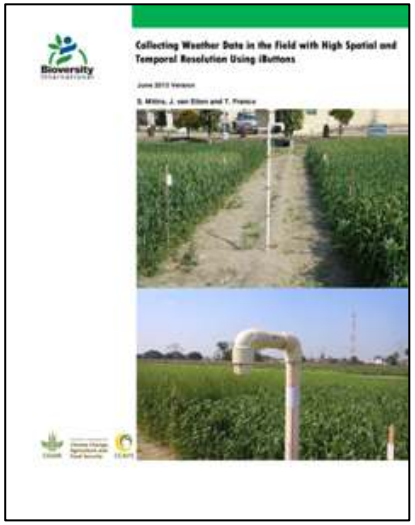
Yield probability distribution $Crop_i$

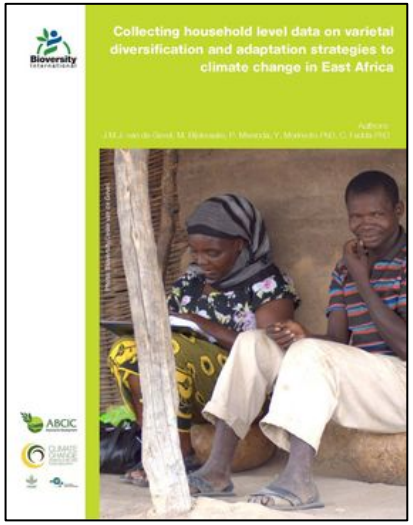
Farm household characteristics and:
- Crop system management
- Adaptation options, e.g. diversification

Farm household food security

Global information platform

- Repository of data
- Modelling to extrapolate PVS and crowdsourcing data
- Platform to share results and approaches that *partners can use*
- Manuals
- Training courses





Monitoring the methodology

- Behavioral and cognitive aspects

  motivation/incentives for participation, effective engagement, decision making, speed of adoption

- Social and economic aspects

  diffusion of adaptation options, gender and social inclusion, cost-benefit analysis

- Training in applying citizen science methods for climate adaptation

Thank you

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