

Crowd-Sourcing for Indexed Crop Insurance

“How technology could help”

Background

- ▶ Innovative use of mobile devices in developing countries
 - ▶ In general
 - ▶ for microfinance
- ▶ Use of mobile devices in microinsurance?
- ▶ Convinced Eureka to explore the innovative use of mobiles in microinsurance
- ▶ Hope to convince you to explore the use of innovative technology for microinsurance
- ▶ Insurance industry should define its needs
- ▶ Technology can support these needs

Overview

1. What is Crowd-Sourcing?
2. Use of Mobile Phones
3. Crowd-Sourcing for Crop Insurance
4. Challenges
5. Expected improvements

Knowledge-sharing in Rural Communities



- ▶ The success of sustainable development depends on the sharing, application and involving of knowledge within communities

What is Crowd-Sourcing?

- ▶ A task outsourced to an undefined, generally large group of people or community in the form of an open call.
- ▶ Carry out a shared design task
- ▶ Develop a new technology
- ▶ Capture or analyze large amounts of data



Google Flu trends

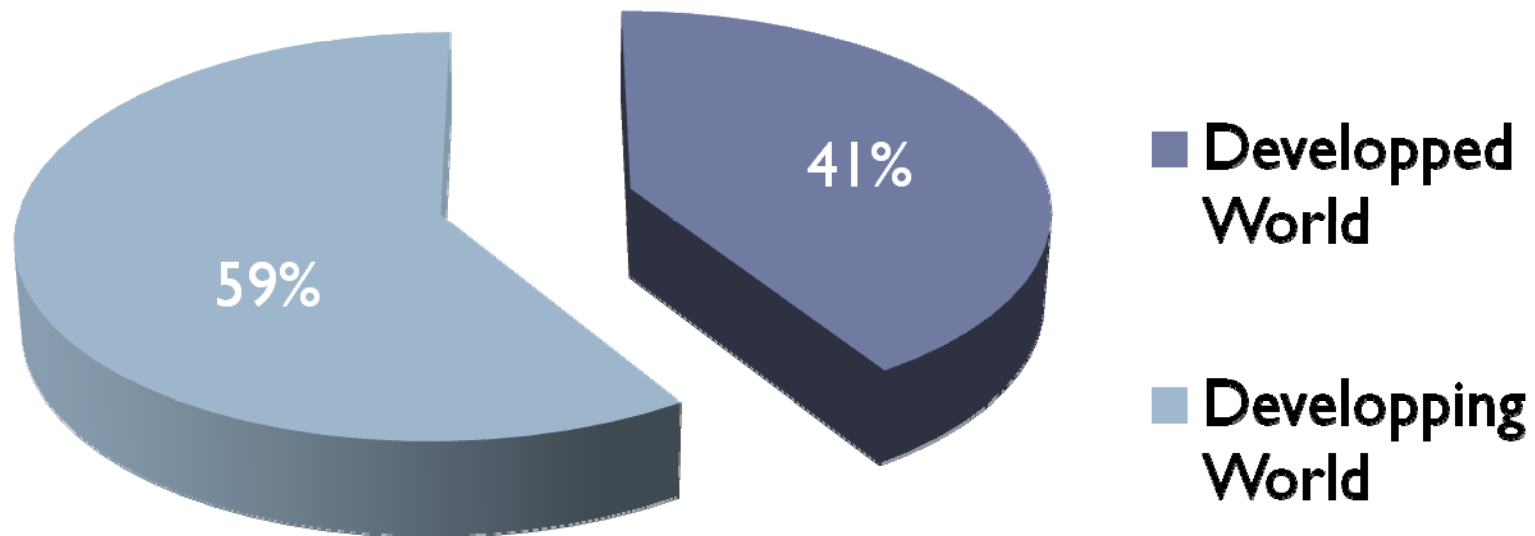
- ▶ Search terms as indicators of flu activity
- ▶ More flu-related searches during flu season

reliable model of real-world phenomena?

- ▶ Found relationship between the number of people who search for flu-related topics and the number of people who actually have flu symptoms.
- ▶ A pattern emerges when all the flu-related search queries are added together.
- ▶ Many search queries tend to be popular exactly when flu season is happening.
- ▶ Google can estimate how much flu is circulating in different countries and regions around the world.
- ▶ Results published in the journal Nature.



Who uses mobile phone?



Use of mobile phone

- ▶ Conservative use of mobile phone in western world
- ▶ Innovative use of mobile phone in developing world
 - ▶ Digital wallet
 - ▶ Water pump
 - ▶ Translation tasks
 - ▶ Surveys
 - ▶ Advertising



txteagle

Empowering the largest knowledge workforce on Earth.

Use of mobiles in microfinance

- ▶ Deposit money
- ▶ Withdraw money
- ▶ Transfer money to other person (direct, MFI or bank)
- ▶ Operate account
- ▶ Pay bills
- ▶ Saving money



Apply innovative use of mobiles to microinsurance



Use of mobiles in microinsurance

- ▶ Premium collection (cash & cashless)
- ▶ Enrolment
- ▶ Transaction of details to insurer

Some advantages..

- ▶ Reduce time lag premium collection - premium deposit
- ▶ Prevent issues when there is a claim in the interim period
- ▶ The possibility of fraud decreases as the time and date are mentioned in all transactions

Eureko

- ▶ Eureko expressed the importance of adequate data for successful (crop) insurance and is therefore looking for a way to overcome the issue of unavailable data
- ▶ Pilot Crowd Sourcing for Indexed Crop Insurance in Senegal



Use mobile phone for Crowd-Sourcing

1. Product development / modelling
2. Pest Management
3. Damage assessments
4. Capacity Building



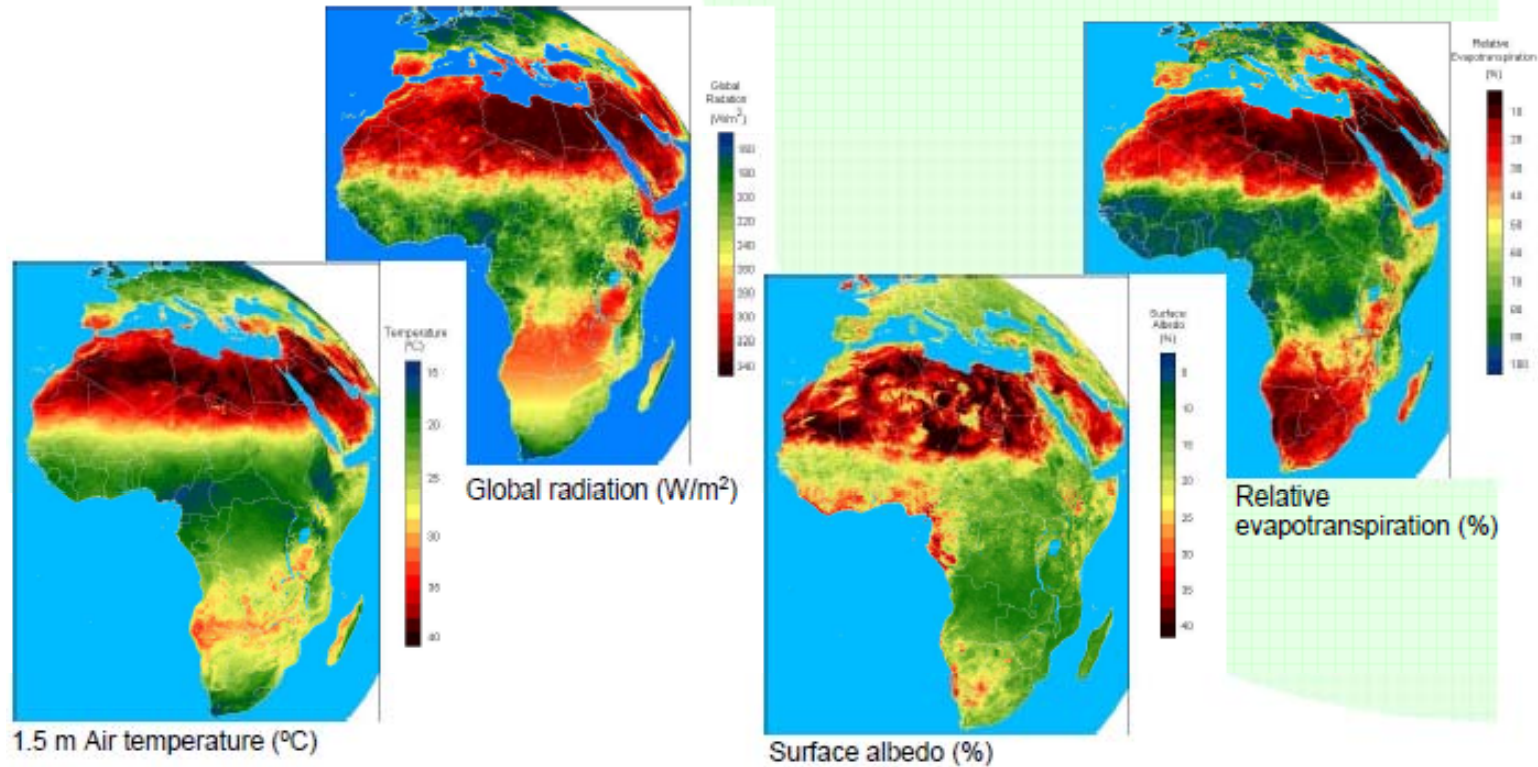
Product development

- ▶ **Collection of data**
 - ▶ Demographical
 - ▶ Geographical
 - ▶ Agricultural
 - ▶ Weather
- ▶ **Aggregate data in Community Based Sentinels**
 - ▶ collect data
 - ▶ delivers data
- ▶ **Risk & yield modeling**

Combine with Satellite Data

Meteosat data products

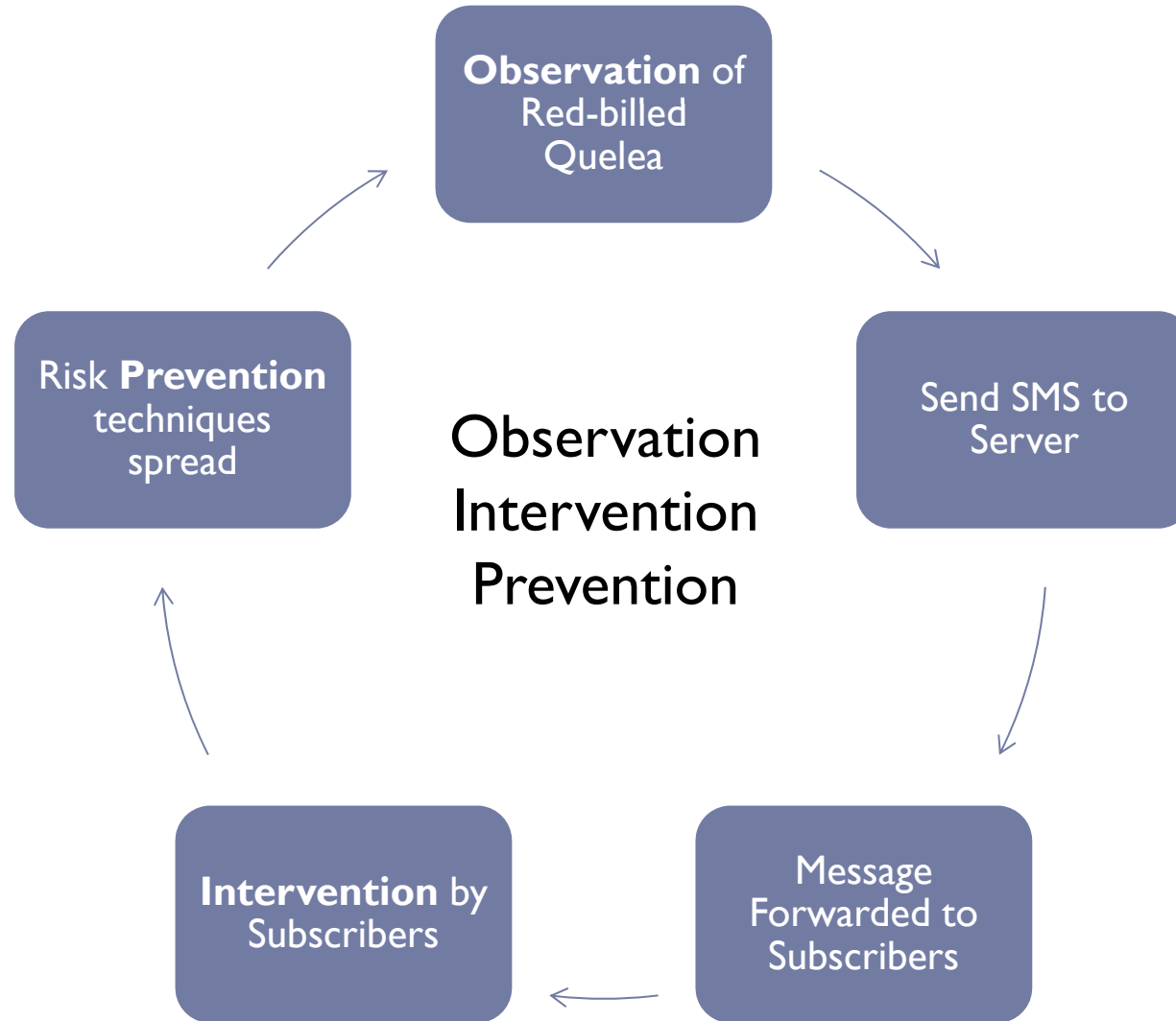
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Pest Management

- ▶ Expansion of farmlands growing large areas of cereal crops have allowed the Red-billed Quelea to flourish
- ▶ Complex movements of the bird vary annually according to variations in rainfall patterns
- ▶ Integrated Pest Management (IPM) strategies are needed to keep bird numbers under control
- ▶ More local data is required for IPM to work effectively

Pest Management



Damage assessments

- ▶ Online assessment
- ▶ GPS provides exact location
- ▶ Workflow built in “screen”
- ▶ Make video/Make picture
- ▶ Directly sent to head office
- ▶ Claim approval yes/no
- ▶ Claim payment



Capacity Building

- ▶ Sending short factual messages
- ▶ Fertilizer application
- ▶ Crop development
- ▶ Market prices
- ▶ Remote training
- ▶ Invite trainers to head office/set up interactive video conference
- ▶ Provide questionnaire + evaluation
- ▶ If online is not available, IPTV option to record session and provide later on, access all time



Challenges of Crowd-Sourcing :

How microinsurance helps

Validation of data

- Community based insurance involves an entire community which solves the problem of moral hazard

Organizing local communities

- Community based schemes use existing organized groups & networks (e.g. to address problems of capacity building and sustainability)

Capacity Building framework

- Existing groups already have some form of organizational skills to address capacity building problems

Making Crowd-Sourcing Sustainable

- In order to be successful microinsurance requires the local pooling and application of local information, same could be done for microfinance

Expected Improvements

- ▶ **Community based sentinels equipped with mobile phones would complement the existing data sources**
 - ▶ Involve the farmers in the process
 - ▶ Improve the accuracy of the index insurance programs
 - ▶ Support management schemes used to address these problems with farmers

Benefits

- ▶ Increase disaster preparedness
- ▶ Disaster risk reduction
- ▶ Enhancing insurability
- ▶ Improve awareness of the agricultural risks
- ▶ Gather and analyze data required in order to draw up basic insurance models (yield per chosen agricultural crop, level of premium acceptable to the producers)



Thank you!



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