



# Lessons from the field: Understanding farmer behavior and options to improve outcomes

Kai Mausch

Senior Economist

World Agroforestry, Nairobi



# ICRAF, CIFOR, CGIAR

- World Agroforestry (ICRAF) is a centre of science and development excellence that harnesses the benefits of trees for people and the environment.
- CGIAR is a global research partnership for a food secure future dedicated to reducing poverty, enhancing food and nutrition security, and improving natural resources.



# Background

- Low adoption rates of technically effective agricultural innovations
- Long pay-off periods especially for trees and NRM
- Intangible or non-monetary benefits
- Complex farming systems require substantial knowledge and changes to practices
- Unlikely one fits all strategy
  
- Tendency to trial new ways of operation first
- Multiple income streams and small-scale farming operations (on- and off-farm)





# Citizen Science - Uganda

- The problem
  - Low milk yields in the dairy sector
  - Feed supplements unaffordable
- Our approach
  - Fodder Shrubs integrated into the farming system (potential erosion control)
  - Supported trialing within the community (monitoring approach, Calliandra provided)
  - Self-monitored and compared to status quo (paired farmers)
- Early insights
  - Directly visible improvements rather than waiting for shrubs to mature
  - Milk yields up from 4 to 9L per day
  - Increased adoption in the community (now 75%)



Citizen Scientist showing results of the experiment.  
Photo: World Agroforestry, Joan Kimayo

Funded by:



Transforming Lives and Landscapes with Trees

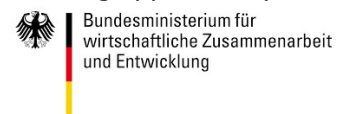
<https://tinyurl.com/y2c2w4mr>



# S4C – Kenya + Malawi

- The problem
  - Low milk yields
  - Milk supply gap in Kenya and Malawi
  - Nutrition implications
  - Scaling the Uganda experience successful yet expensive
  - Goal of reaching 120.000 farmers requires translation of Uganda findings

Funding approved by:





# S4C – Kenya + Malawi

- Our approach
  - Cooperatives as entry points
  - Enabling trialability through Citizen Science
  - Supported through trained and supported cooperative members
  - Timed learning session along the growth cycle of Calliandra
  - Direct link to buyers / processors
  
- Supporting an enabling environment
  - Sliding subsidies to encourage full adoption
  - Incentives for nursery operators to produce seedlings and support farmers



# Rural aspirations – the pilot

- The problem
  - Farm and non-farm income streams likely limit incentives and options to invest in farming
  - Profit- or yield-maximization interventions
    - likely not the mainstream among small producers
- The goal
  - Understanding medium- to long-term income portfolio aspirations
  - Customizing technologies and communication approaches to relate to differing aspirations
  - SenseMaker to elicit aspirations and drivers



Funded by:



Transforming Lives and Landscapes with Trees

<http://worldagroforestry.org/projects1/timeline/>

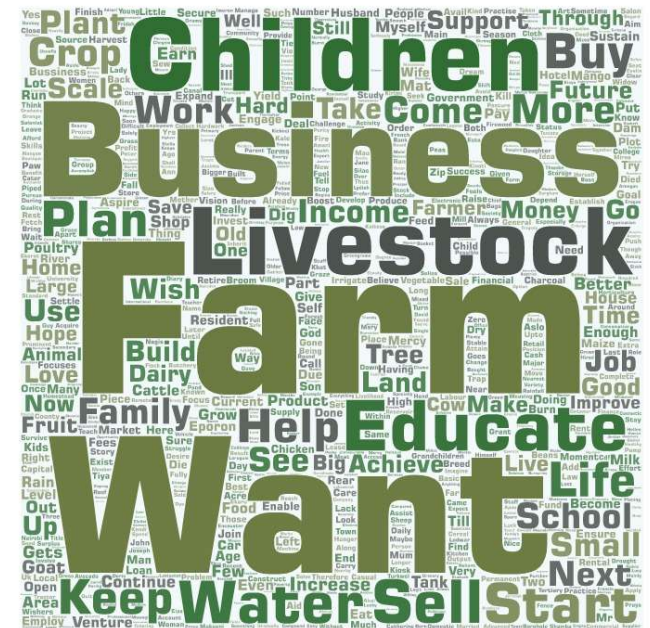




# Exploring aspirations

How to get a better understanding of peoples' livelihood portfolio aspirations?

- Explorations in focus groups
  - Difficult as people do not think in abstract terms
- Exploring using DCEs
  - Too complex for DCE
  - Could be used later to test if people respond to choice sets according to our assumptions on aspirational influences
- Traditional household survey
  - Trial using 'direct questions but triangulate
  - ifpri aspiration index as complementary data







# Rural Aspiration

How can we measure / elicit what people want?

## Exploring new options

What does the farm ↔ non-farm income split mean for technology demand – using psychology



2014

## Using standard method while exploring

While generating some more qual. data, we explored SenseMaker



2016

## The analysis

Challenging new type of data  
- More details following -



today



## Stumbling across SenseMaker

After understanding that the problem is too complex the inaugural lecture that opened new options



201

## Designing a pilot

Design workshop with Cognitive Edge → learning about each others context takes time



2018

# Food narratives food choice motives

- The problem

- Urban diets are more and more unhealthy
- Food deserts in high density areas
- Health threats not acknowledged
- Diversified diets unpopular
- Maize focused farming systems often less sustainable
  - Yet policy and extension focuses on Maize as a staple in East Africa

- Our approach

- Focus on mothers
- Known aflatoxin issue as the entry point
- Develop health food value chains
- Using dominant food narrative as levers of change
- RCT as a proof of concept



Funded by:





# The analysis

- Challenging new type of data
- Between quantitative and qualitative
- Analyzing to make it best rather than worst of both
- Framing it for publishing
- Complex adaptive systems analysis for tangible entry points
  
- Communicate findings in a clear enough way to reach an audience with broad range of backgrounds (our colleagues)



# CIFOR-ICRAF Impact Group

## REOCCURRING PROBLEM

Persistent poverty, food insecurity, marginalization, climate maladaptation and environmental degradation  
Yet, solutions often fragmented, piecemeal & uni-dimensional, failing to effectively address underlying causes



## MEANINGFUL DIAGNOSIS

Holistic root cause analysis  
Multi-dimensional economic, demand & gender assessment  
Levers of change identification

## STRONG INTERVENTION DESIGN

Integrated option assessment  
Adoption incentives  
Inclusive Scaling strategy  
Impactful Theory of Change

## EFFECTIVE & EFFICIENT DELIVERY



Technical support brokering  
Formative evaluation & monitoring systems  
Operational research

## CREDIBLE EVIDENCE & SCALABLE LEARNING

Focused impact evaluation at key nodes of Theory of Change  
Influence tracking and evaluation

MORE IMPACT ON



**SUSTAINABLE DEVELOPMENT GOALS**

### Purpose:

To accelerate, intensify, and evidence the translation of research and development interventions into sustainable and inclusive development impact

# Thank you!

**K.Mausch@cigar.org**

World Agroforestry (ICRAF),  
United Nations Avenue, Gigiri,  
P.O Box 30677-00100, Nairobi, Kenya  
Phone: +254 727 857 193  
Website: [www.worldagroforestry.org](http://www.worldagroforestry.org)



Science for a food-secure future