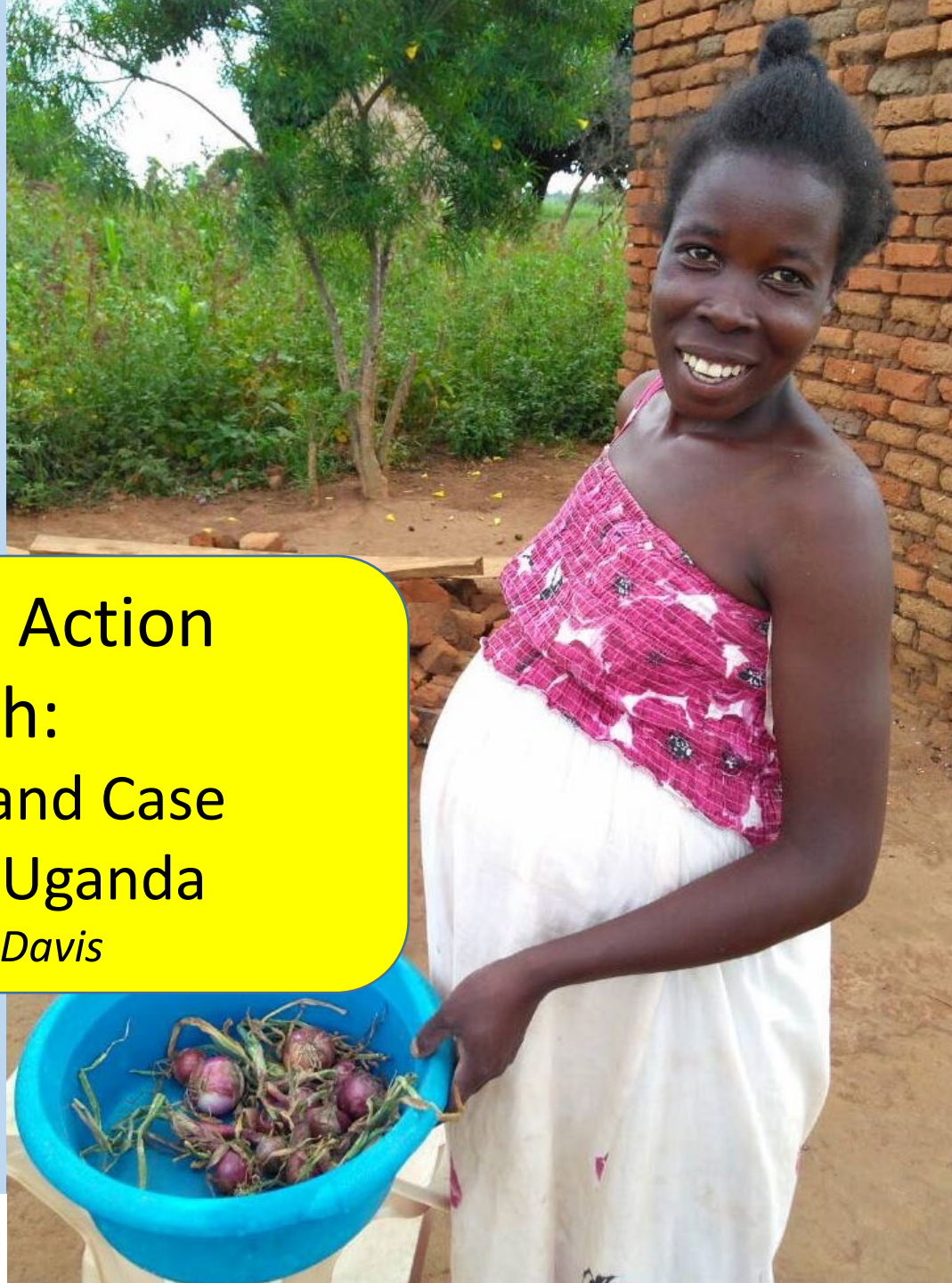




Participatory Action
Research:
Principles and Case
study in E. Uganda
Kate Scow, UC Davis



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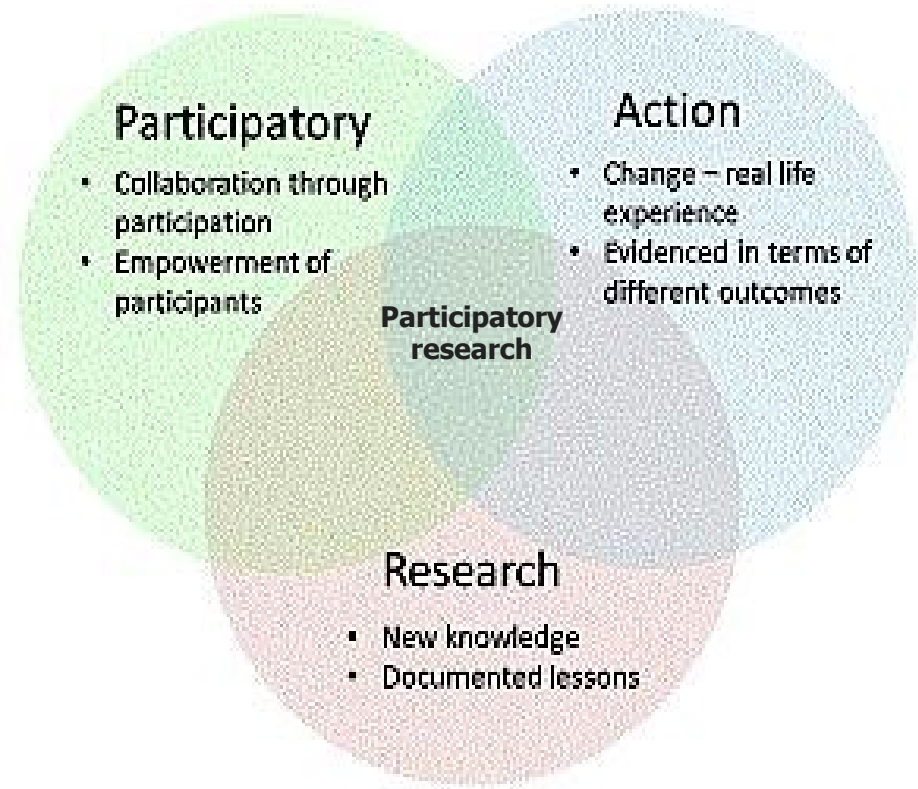
Outline

1. Participatory action research: What is it? Case study with E. Uganda smallholder farmers--*Kate Scow Professor, UC Davis*
 - Introduction
 - Overview of PAR methodology/approach
 - Uganda case study: developing gender-sensitive irrigation practices
 - Challenges and critiques of PAR

2. Connecting human and soil health: linking human gut microbiomes and soil microbiomes--*Mariah Coley PhD student at UC Davis currently doing research in Kisumu*

What is PAR?

- **Participatory action research** (PAR) generates results iteratively, as participating communities and stakeholders influence research processes including methods.
- Makes sense of world through collective efforts to **transform** it rather than just **observe** and **study** it.
- Identifies local capacity limitations needing external forms of support such as knowledge, technologies, financial resources. Critical for building **adaptive capacity** of communities.



PAR differs from traditional research

PAR is more an *orientation*, than method. Differs from conventional research in:

	Participatory research	Conventional research
What is the research for?	Action.	Understanding with perhaps action later.
Who is the research for?	Local people.	Institutional, personal and professional interests.
Whose knowledge counts?	Local people's.	Scientists.
Topic choice influenced by?	Local priorities.	Funding priorities, institutional agendas, professional interests.
Role of researcher	Facilitator, catalyst.	Director.
Methodology chosen for?	Empowerment, mutual learning.	Disciplinary conventions, 'objectivity' and 'truth'.

(Cornwall and Jewkes 1995)



Not PAR: Farmers lectured on best irrigation practices





Not PAR: Farmers being lectured on “proper” tomato cultivation

PAR: learning and
customizing practices in
field



A group of people, including men and women, are gathered around a water pump in a rural setting. One woman is kneeling and filling a container from the pump's output. The background shows lush green vegetation and a dirt path. A yellow text box is overlaid on the image.

Creation of knowledge often not connected to engagement with transformative action and social history. Often isolated around particular challenge.

A large black checkmark icon pointing towards the text.

PAR: learning and customizing practices in field

What are traits of PAR?

PAR is a reflective and collaborative process of problem-solving through research.

Social learning: Involves social learning, where multiple actors collectively define problem and objectives, and work towards solutions. Iterative cycles of action and reflection make change robust by ensuring that learning and sharing take place.

- *Participatory research strengthens people's awareness of their own capabilities*

Adaptation: Actions are continually adjusted to align with objectives, and actors continuously learn and adapt

Local knowledge: PAR builds on communities' knowledge about their own environment and puts research capabilities in hands of users so they can transform their lives for themselves

Researchers part of team: Researchers with specialized training though outsiders, are committed learners in process that leads to helping work for change rather than detachment

(New pathways to resilience IDRC/CRDI/DfID).

What are traits of PAR?



What are tools of PAR?

PARTICIPATORY TOOL/APPROACH	USES
Mental models	• Drivers and effects of climate change
Seasonal calendars	• Seasonality and links with livelihoods • Can be combined with timelines to show perceived changes in seasonality over time
Timelines	• Hazards and events • Trends in climate, e.g. temperature and rainfall
Community mapping and modelling	• Resources • Types and causes of risks and threats • Extent of vulnerable areas • Vulnerable households and individuals • Planning DRR/CC adaptation measures
Transect walks	• Vulnerability/risks • Land use • Resources
Ranking	• Vulnerabilities and hazards • Coping and DRR strategies, e.g. water management options, crop varieties
Dream maps and drawings	• Vision of community or farm and how to achieve
Theatre, poems, songs	• Awareness raising of risks and risk reduction measures • Advocacy
Participatory video	• Awareness raising • Farmer to farmer communication • Advocacy
Stakeholder analysis	• Institutions, relationships, power
Key informant discussions (e.g. <i>storian</i>) ⁴	• In-depth discussion of vulnerability, livelihood sources

Case Study: Farmer-Led Innovation in Irrigation for Smallholder Vegetable Production in Uganda



Farmer-Led Innovation in Irrigation for Smallholder Vegetable Production in E. Uganda (HIP project)

Develop innovations in small-scale *irrigation* for smallholder horticultural production—using *participatory* research platform and approaches

Identify constraints and solutions for engagement of *women* farmers in horticultural production

Strengthen irrigation capacity among support organizations (extension, government labs, NGOs, Industry and **university students**)



Partners and Collaborators:

- University of California, Davis
- TEWDI Uganda
- **Busitema University**
- Amelioration of Agricultural Risk
- Local Governments (Jinja, Mbale, Kween)
- National Agricultural Research Organization



Background:

Vegetables increase food security and nutrition

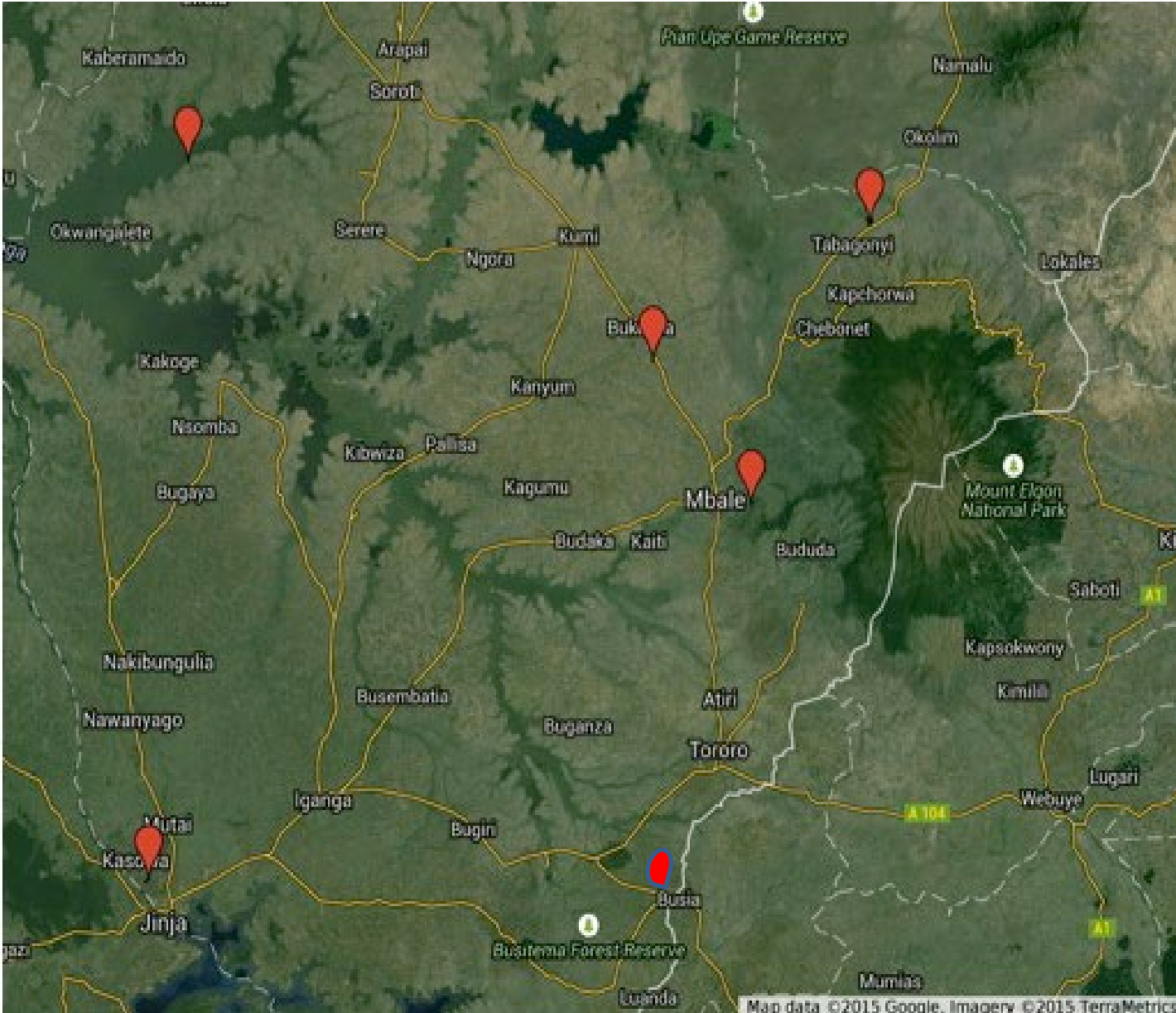
- Good source of income; local markets
- Some can be harvested multiple times over season

Irrigation beneficial

- Can grow during dry season
- Deal with unpredictability of rainfall during wet season
- Provides drainage when too much rain

The map displays Uganda's location in East Africa, bordered by Sudan to the north, Kenya to the east, Tanzania to the south, and the Democratic Republic of Congo to the west. Key geographical features include Lake Victoria, Lake Edward, and Lake George. Major cities such as Kampala, Jinja, and Entebbe are indicated. The map also shows the borders of neighboring countries and the location of the equator.

Recruited
working farmer
groups with at
least some
access to
markets



Sites span broad range of hydrogeologic, soil and climatic sub-regions.



Broad diversity of landscapes and hydrogeologic conditions



General challenges for women farmers

- complex and extensive workloads constrain their time
- lack of recognition as more than family laborer
- poor or no access to land leasing and/or ownership
- roles and needs often overlooked



Project membership

Women >50% participation throughout: Pls, farmer groups, facilitators, farmer governance and irrigation committees, students involved (almost), academics. Exception: engineers.

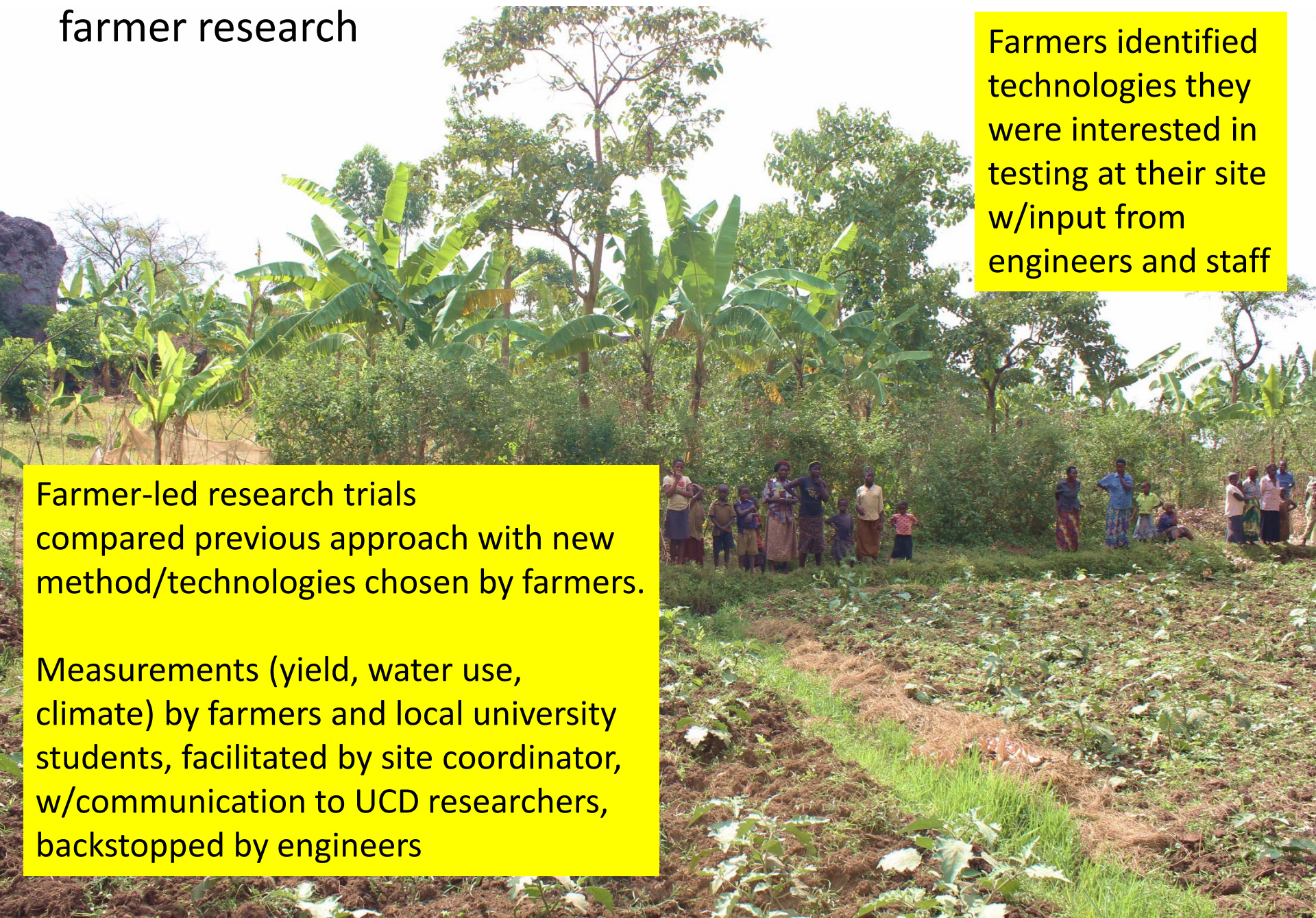


Dedicated innovation space at each site provided test bed for farmer research

Farmers identified technologies they were interested in testing at their site w/input from engineers and staff

Farmer-led research trials compared previous approach with new method/technologies chosen by farmers.

Measurements (yield, water use, climate) by farmers and local university students, facilitated by site coordinator, w/communication to UCD researchers, backstopped by engineers





~25 technical innovations

Technologies: Multiple-head sprinklers, micro furrows & basins, water powered pump, raised furrow-basins, low cost reinforced canals & spiles, hybrid pipe/canal systems, oxen traction reservoirs, soil leveler, local material reservoir sealant, onion transplanter

1. Savings based irrigation groups

- Incorporate goals-based savings for irrigation costs: Land rent, crop inputs, equipment maintenance



2. Irrigation land trusts

- Renting or purchasing land in irrigable area, held for irrigation plots for women
- Yearly subscription for women irrigators



3. Women's operators and equipment:

- Women appointed operator to ensure women get access to equipment
- Equipment dedicated for women to use



Social innovations by women addressed gender inequalities

4. Startup loans or grants

- Women starting or expanding irrigation often lack capital for inputs, fuel
- Startup loans for women encourage learning and capital base

<https://horticulture.ucdavis.edu/information/irrigation-smallholder-women-farmers-uganda>

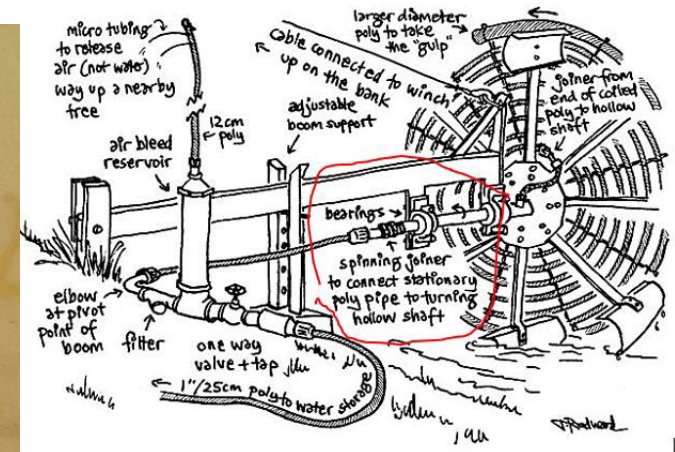
Student Engagement--Busitema University



Human-Centric Design: students farm with farmers, learn issues, identify problems to solve.



Used “design cycle” curriculum for students to come up with potential solutions, take back for farmer feedback on feasibility, economics, modify.





PAR provides many opportunities for student

Types of activities w/HIP project

- Class visits
- Field practicums
- Internships
- Student capstone projects

POST GRADUATION

- MS degree project
- Post-graduate internship
- Working as project assistant
- Working as site coordinator (Suzan)

- **EMPLOYMENT**-many now employed in government, NGOs, private sector

Increasing degree of involvement



Lessons learned about PAR:

- Less about “ultimate” technologies that farmers develop and *more* about creating space and networks for farmers to innovate and *de-risk discovery*. Their local knowledge provides foundation to build from and lens to evaluate new info/knowledge
- The “design process” is valuable philosophically and compatible with PAR: everyone is a designer. “Social learning”.
- Continual adaptation and iteration essential--need to stay nimble and keep learning. Make space for trial-and-error. Keep some budget for this.
- Students are valuable partners especially when collaborators not just trainees: opportunities to become professionals, entrepreneurs, farmers.
- PAR is inclusive, better approach to ensure all are represented (gender), though takes continual work to do so.

Lessons learned about PAR:

- Farmers won't stay engaged unless valuable; they vote with their feet. Why they disengage is valuable information. Social workers can help understand constraints and root causes; find solutions.
- What could appear to be lack of "proper training" often due to other pressures: farmers may "fail" to irrigate their crops in order to save fuel, minimize labor. PAR helps see and solve this (irrigation saving groups)
- PAR involves complex teams because need different skills, perspectives. Conflicts and tensions among team are opportunities for creative change and major breakthroughs (and sometimes failure).
 - Honor but do not be constrained by your own specialization
 - Learn about value of others' specializations
 - Some partners may not share values of PAR

The following statements are communications from researchers to the communities in a joint project.

Rank in order from least (1) participatory to greatest (5) participatory in philosophy.

“We will work with you to ensure that your concerns and aspirations are directly reflected in the alternatives developed and provide feedback on how public input influenced the decision.”

“We will implement what you decide.”

“We will keep you informed, and listen to and acknowledge concerns and aspirations, and provide feedback on how public input influenced the direction.”

“We will keep you informed.”

“We will look to you for advice and innovation in formulating solutions and incorporate your advice and recommendations into the decisions to the maximum extent possible.”

2, 5, 3, 1, 4

Discussion

Based on reading “A short guide to community based participatory action research” (PAR) by Janice C. Burns, M.A.; Deanna Y. Cooke, Ph.D.; Christine Schweidler, M.P.H.

Questions:

1. What in your mind are the top 3 benefits of using a participatory action (PAR) rather than traditional research approach in a public health study?
2. Do you see challenges that could arise from using a PAR approach in research?
3. Will you adopt any PAR approaches in your research?



Short reading (blog)

<https://horticulture.ucdavis.edu/blog/video-3-insights-participatory-farmer-led-irrigation-development>

Some challenges of PAR

- Takes time! Collaboration time-intensive, building trust
- Must keep mobilizing and sustaining partner participation, trust, and commitment (some leave but some join in)
- Differences in expectations, opinion, interpretation, institutional agendas, desirable outcomes
- Power imbalances still there
- Toolkits need to be implementable and endure over time; context-specificity vs generalizability
- Need to be fluid and adaptable to respond to changes with learning—can be challenging for budget
- Can be difficult for donor/funder to understand—“what is intervention”. Different M&E?
- Scaling up—PAR solutions, by definition, are locally relevant. How translate, diffuse?

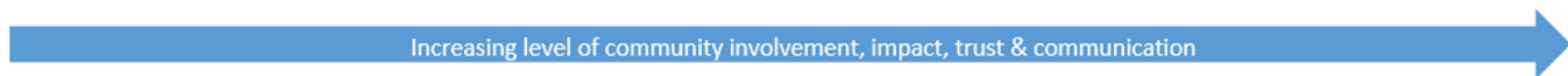
Decision Making: Different Types of Participation in Research (A Tool for Reflection)

Type of local involvement in the research	Who controls and makes decisions?	Who undertakes activities?	Who benefits from the results?
Problem/opportunity identification			
Setting of research priorities and goals			
Choosing options, planning activities and identifying potential solutions			
Taking action and implementing activities			
Monitoring of activities			
Evaluation			

Source: Adapted from McAllister and Vernooy, 1999



- | | | | | |
|---|--|---|--|---|
| <ul style="list-style-type: none"> • Some community involvement • Communication flows from one to the other, to inform • Provides community w/ information • Entities co-exist • Outcomes: establishes communication channels & channels for outreach | <ul style="list-style-type: none"> • More community involvement • Communication flows to the community & then back, answer seeking • Gets information or feedback from the community • Entities share information • Outcomes: develops connections | <ul style="list-style-type: none"> • Better community involvement • Communication flows both ways, participatory form of communication • Involves more participation w/ communities on issues • Entities cooperate w/ each other • Outcomes: visibility of partnership established w/ increased cooperation | <ul style="list-style-type: none"> • Community involvement • Communication flow is bidirectional • Forms partnership w/ community on each aspect of project from development to solution • Outcomes: partnership-building, trust-building | <ul style="list-style-type: none"> • Strong bi-directional relationship • Final decision making is at community level • Entities have formed strong partnership structures • Outcomes: broader health outcomes affecting broader community |
|---|--|---|--|---|



“We will keep you informed.”	“We will keep you informed, and listen to and acknowledge concerns and aspirations, and provide feedback on how public input influenced the direction.”	“We will work with you to ensure that your concerns and aspirations are directly reflected in the alternatives developed and provide feedback on how public input influenced the decision.”	“We will look to you for advice and innovation in formulating solutions and incorporate your advice and recommendations into the decisions to the maximum extent possible.”	“We will implement what you decide.”
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