2015

Evaluation at the frontiers of systemic design

Moore, Marah, Nicklin, Claire and Miller, Keith

COLLABORATIVE CROP RESEARCH PROGRAM

THE McKNIGHT FOUNDATION

Evaluation at the Frontiers of Systemic Design

Presentation at RSD4

Banff, AB, August 1, 2015

*Marah Moore, (Claire Nicklin, Keith Miller)

This presentations . . .

1. Systems perspective for complex problems
2. R&D as a human centered design process
3. From product to outcomes

Paradigm Shifts

What can we—International R&D—learn from design practitioners?

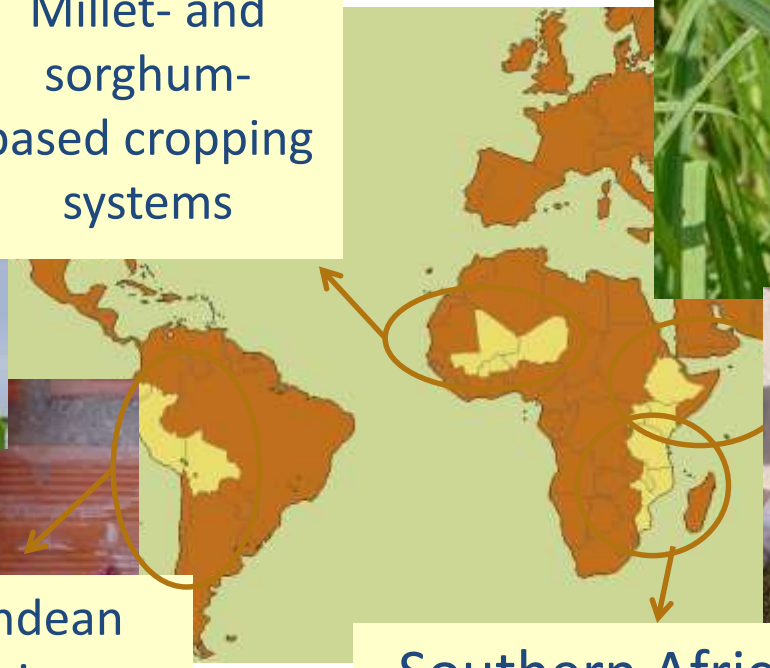
What can design practitioners learn from evaluators?

The McKnight Foundation's Collaborative Crop Research Program (CCRP): Quick Overview

CCRP

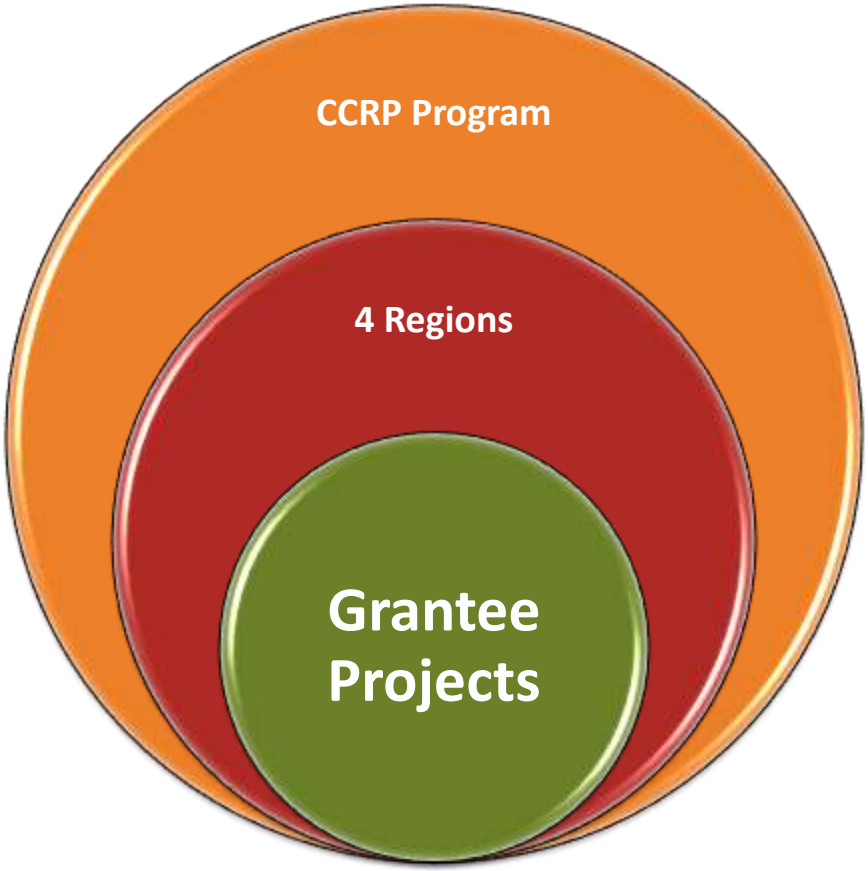
W Africa: Millet- and sorghum-based cropping systems

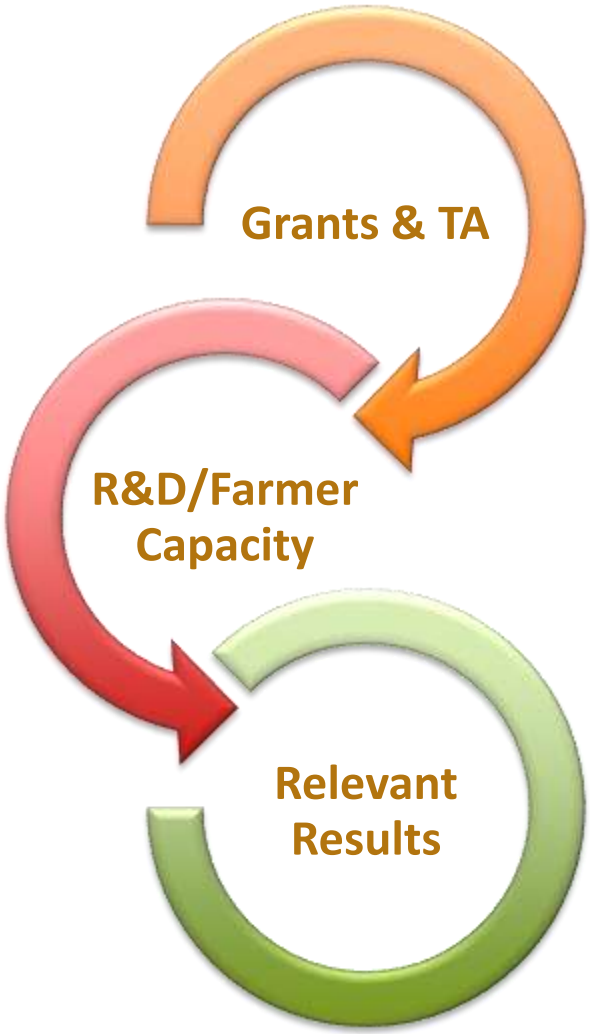
E/H of Africa: Crop Improvement



High Andean Cropping systems

Southern Africa: Integrating legumes in cereal-based systems


CCRP Program
4 Regions
Grantee Projects

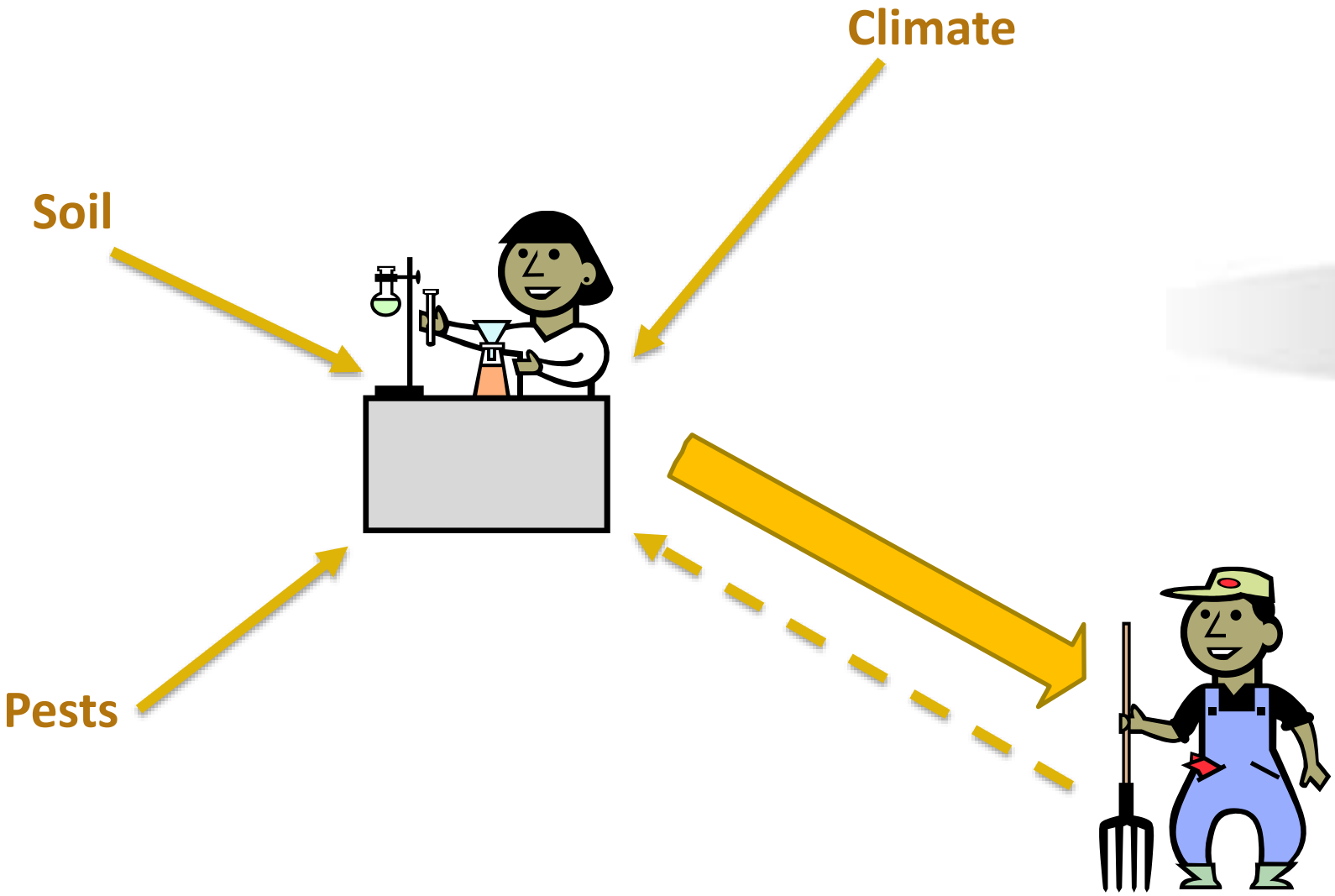


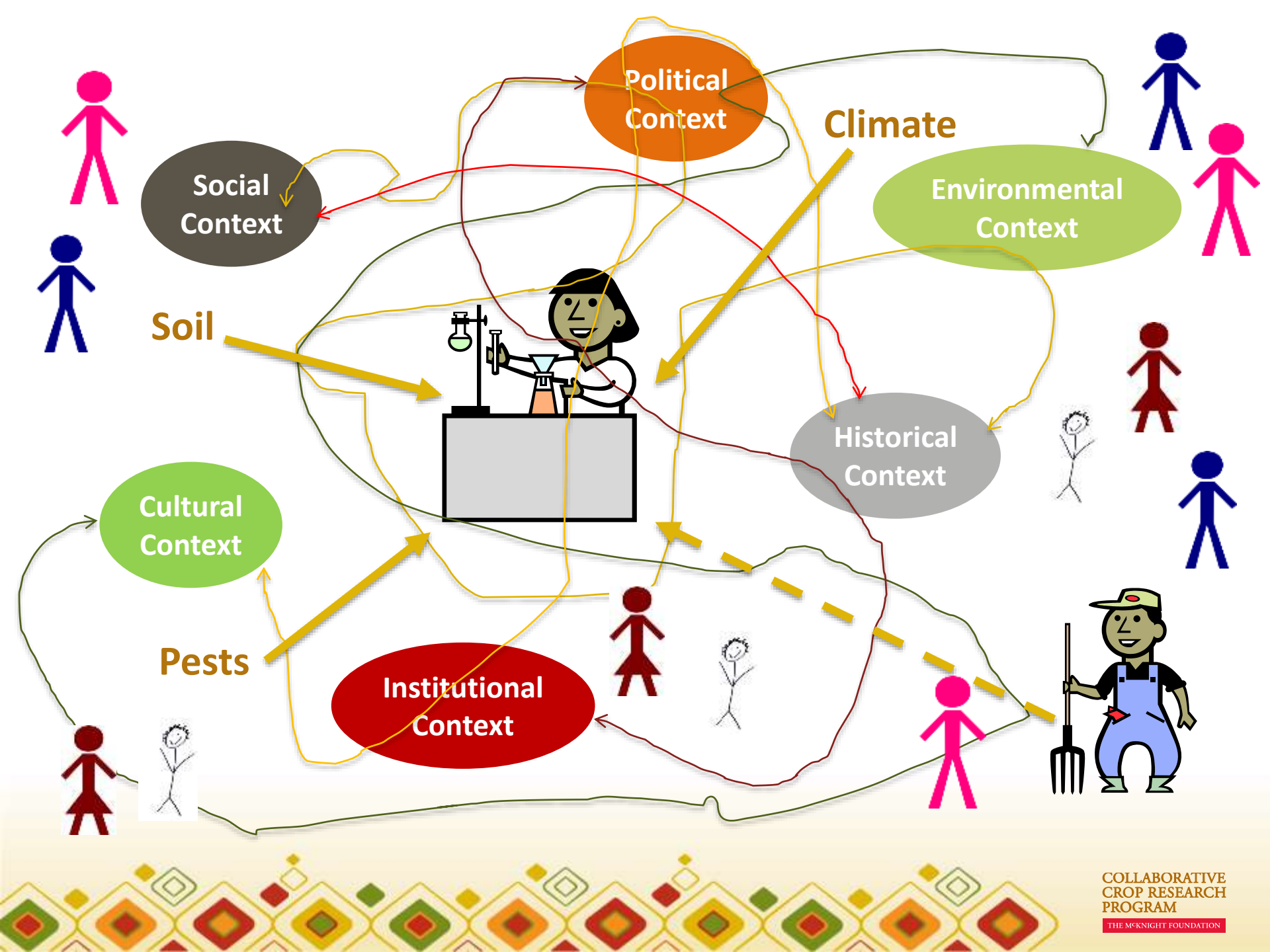
Communities grow local nutritious food, sustainably

Research and Development as a Design Process

Traditional R&D Design:

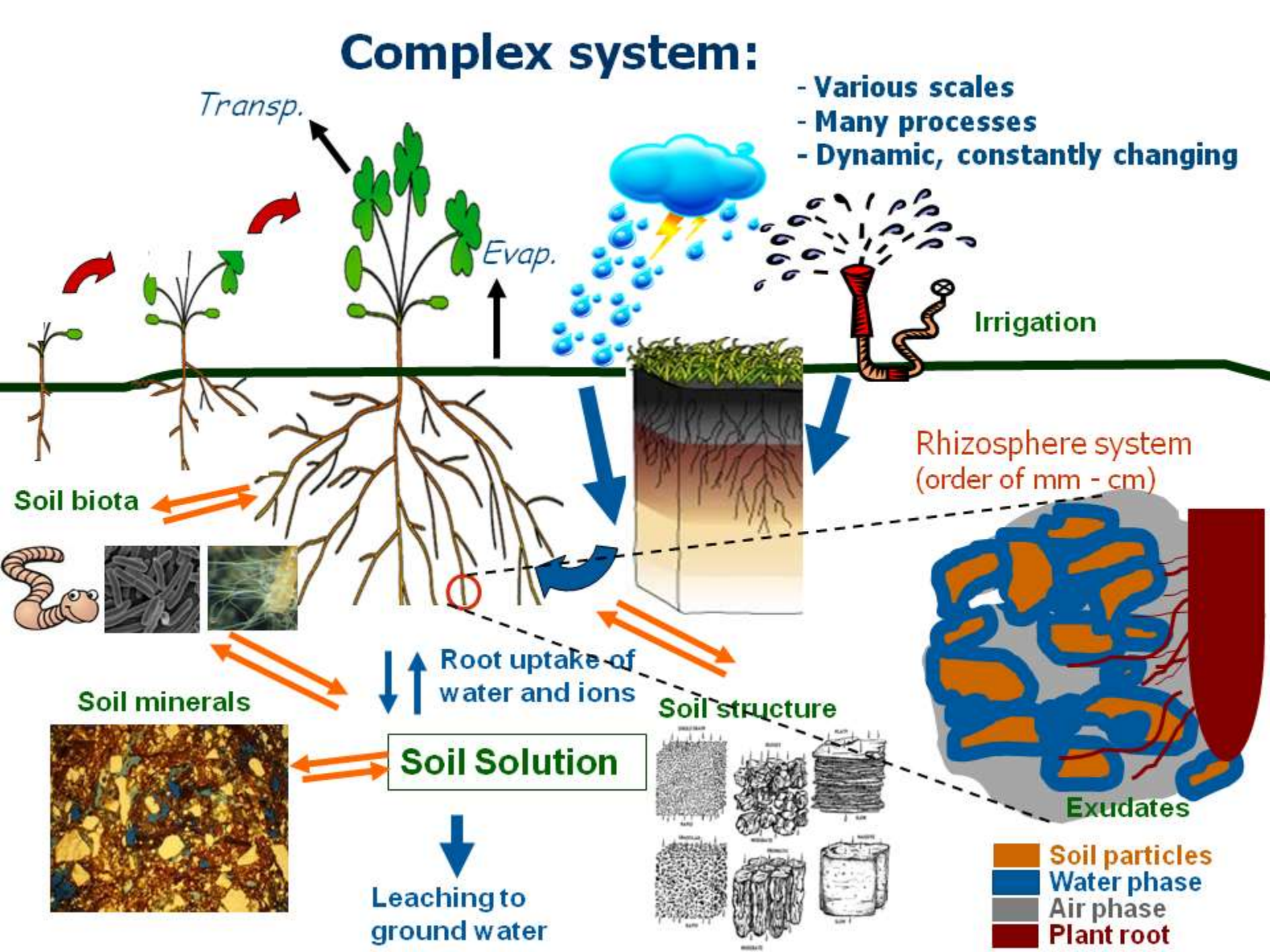
Linear Problem Solving Approach → “Product” Design


Climate
Soil
Pests


Political Context
Climate
Social Context
Environmental Context
Soil
Historical Context
Cultural Context
Pests
Institutional Context

Complex system:

- Various scales
- Many processes
- Dynamic, constantly changing



Rethinking R&D as HC Design:

A Systems Approach (R&D as a “service” to design outcomes)

Complex Adaptive Systems

. . . dynamic systems able to adapt *in* and evolve *with* a changing environment.

IMEP

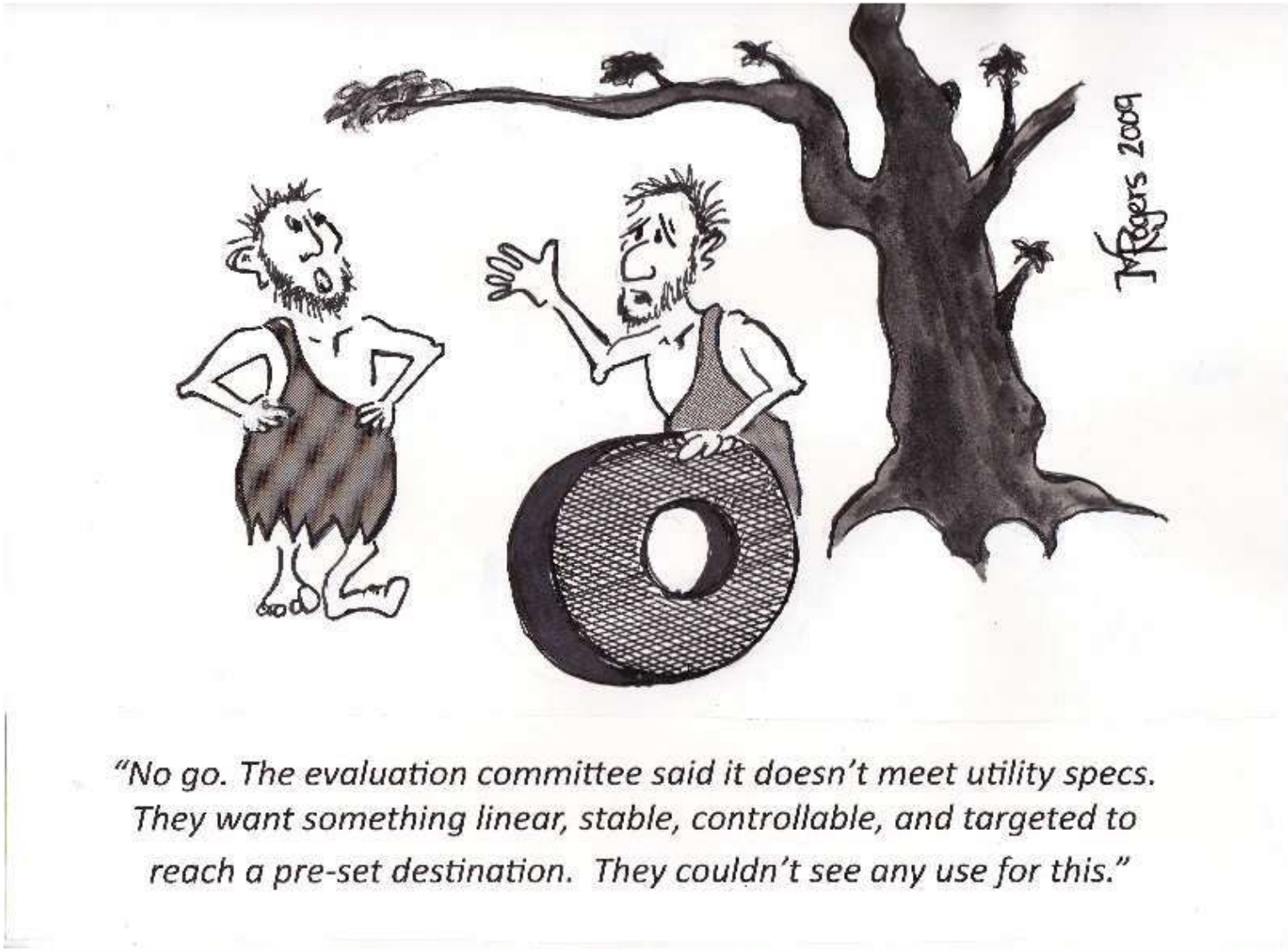
(Integrated Monitoring Evaluation and Planning)

COLLABORATIVE
CROP RESEARCH
PROGRAM
THE McKNIGHT FOUNDATION

The Role of Evaluation

Traditional evaluation mirrors traditional R&D in many ways:

- Top down
- Narrow focus
- Isolated results
- Or, sometimes only process . . .

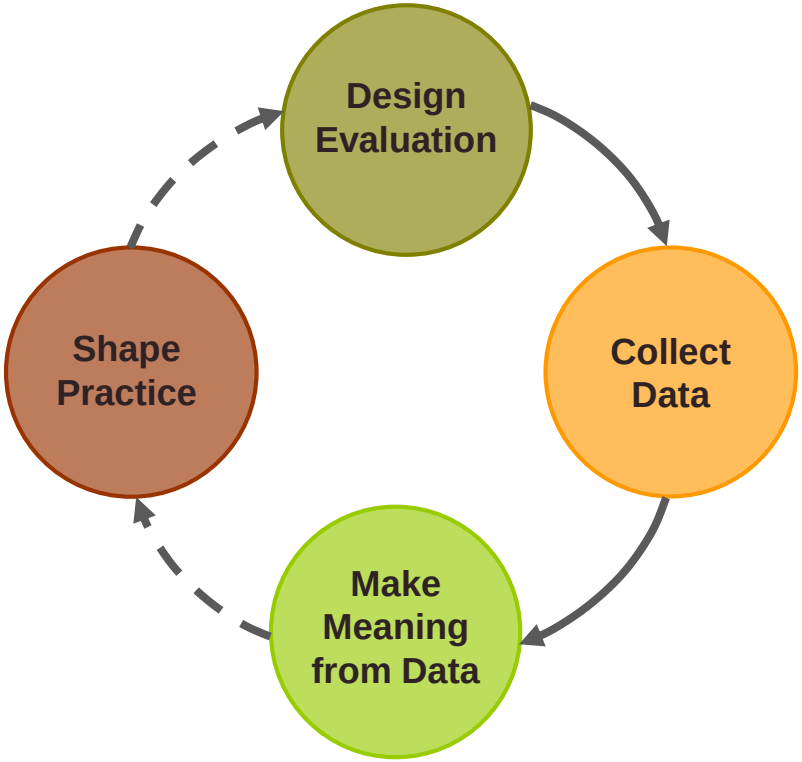


"No go. The evaluation committee said it doesn't meet utility specs. They want something linear, stable, controllable, and targeted to reach a pre-set destination. They couldn't see any use for this."

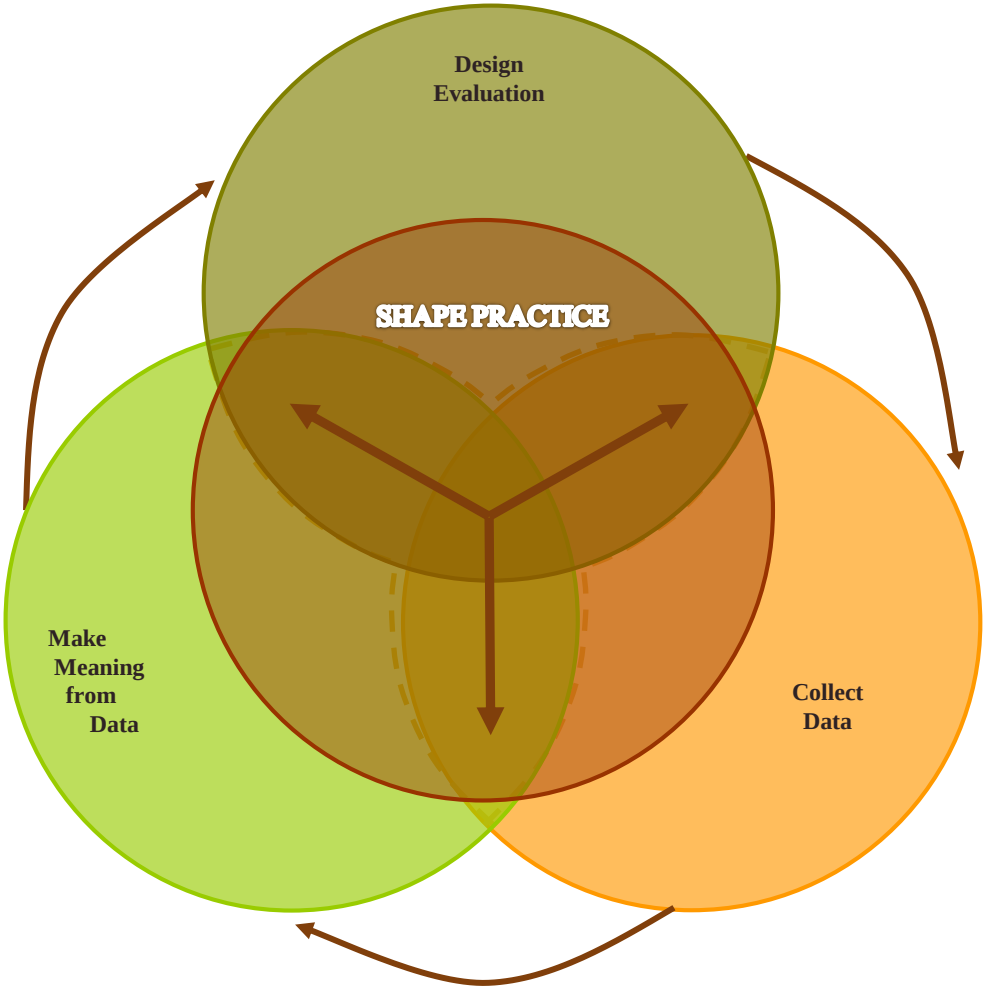
In Michael Quinn Patton, *Developmental Evaluation: Applying Complexity Concepts to Enhance Innovation and Use,* Guilford Press, June 2010

Ricardo Wilson-Grau@interpl.net

Traditional Evaluation Framework



Complex Systems-Oriented View of Phases of Evaluation



An Alternative: Developmental Evaluation

Evaluation to support the development of innovation in complex situations

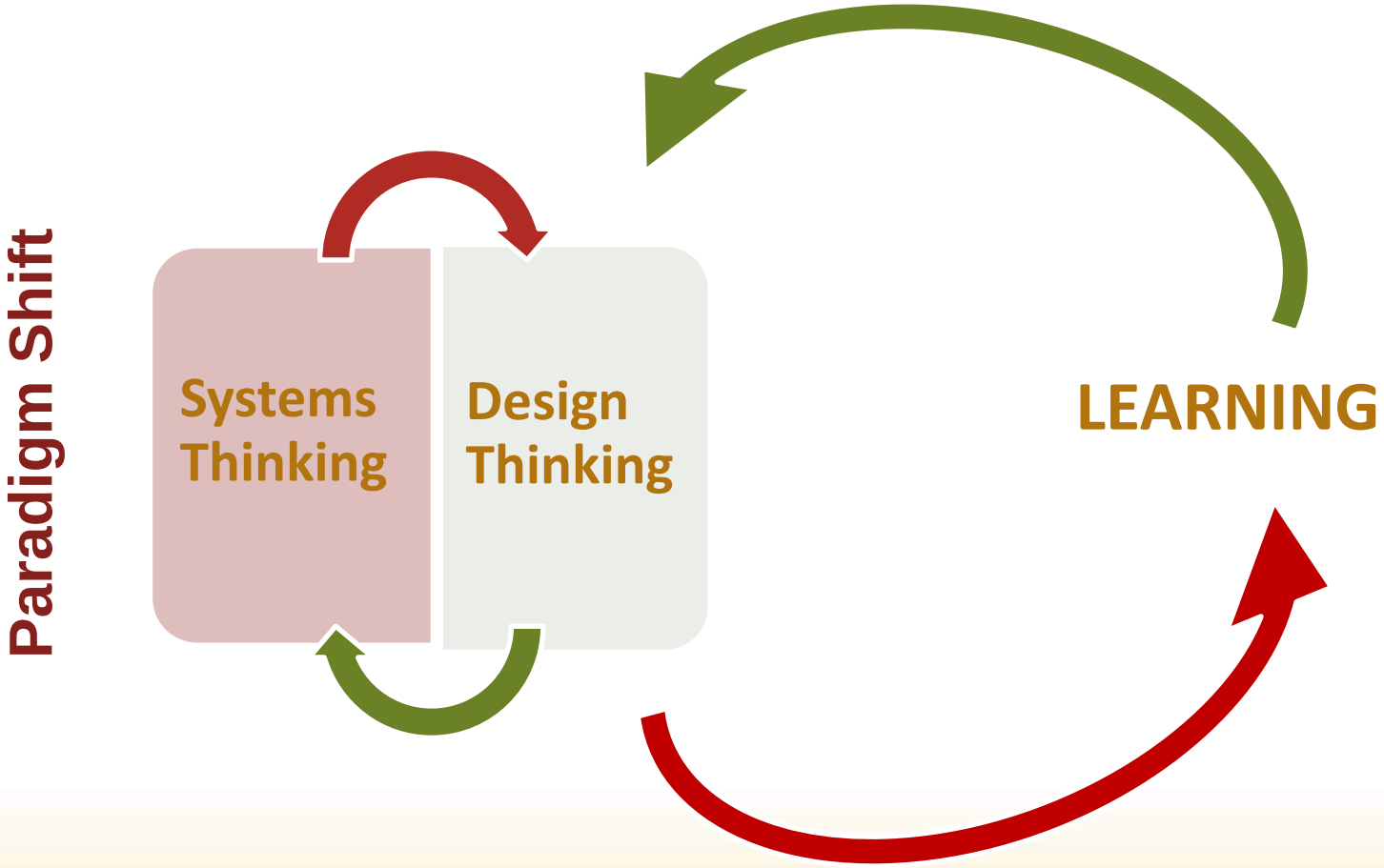
CCRP DE Challenges:

1. Fostering Adaptive Capacity

2. Building Coherence: Articulating and Testing Assumptions About Change

3. Going to Scale in a Complex Environment

CCRP DE Challenge # 1: Fostering Adaptive Capacity



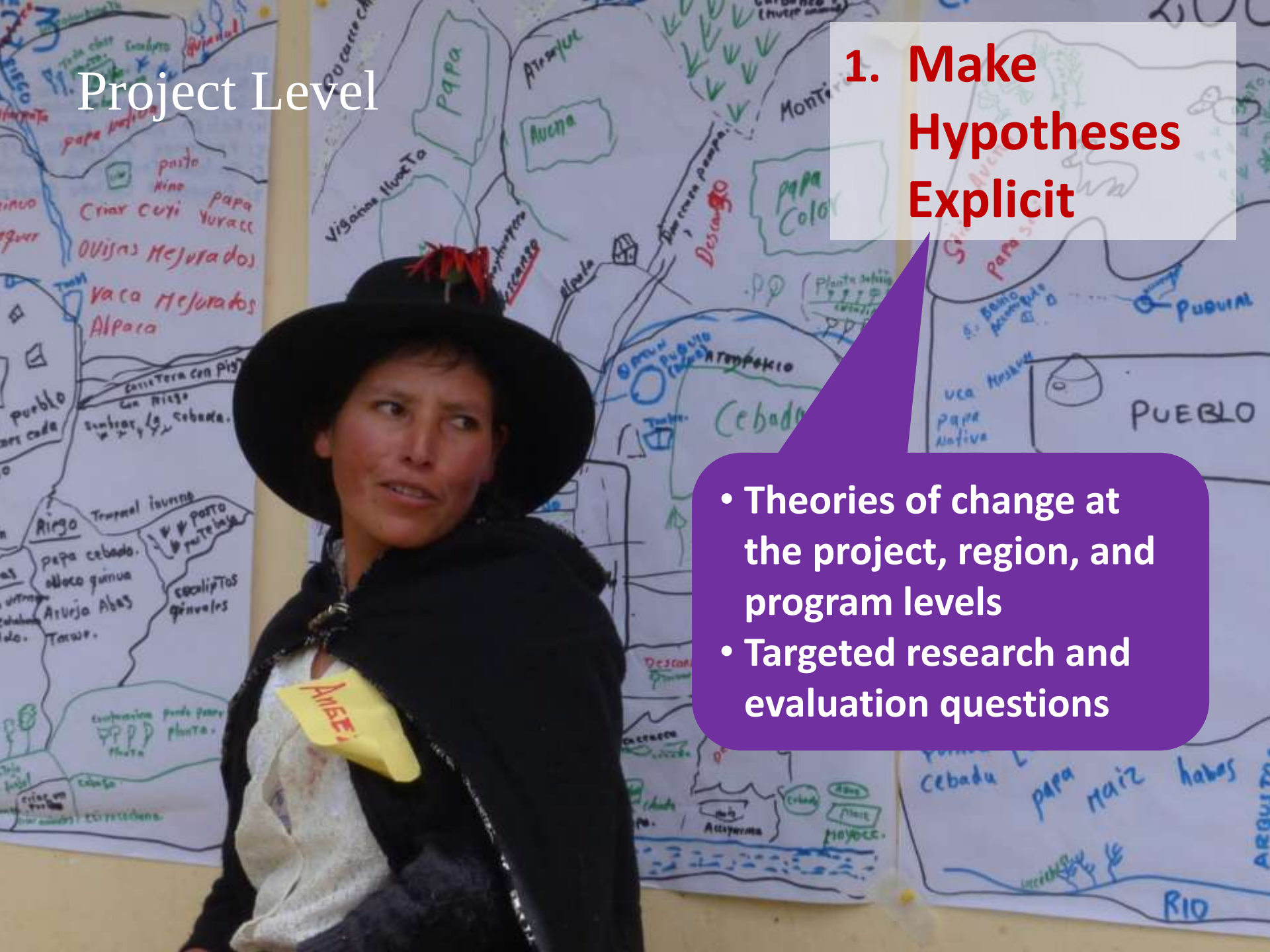
Adaptive Action: iterative cycles, design mindset

Example: Soils, Northern Andes

Now What?

CCRP DE Challenge #2: Building Coherence, Articulating and Testing Assumptions about Change

- Expanded vision
- Contextualized R&D
- Focus on outcomes


Project Level
1. Make Hypotheses Explicit
• Theories of change at the project, region, and program levels
• Targeted research and evaluation questions

Adaptive Action in complex systems

1. Make Hypotheses Explicit

3. Collaborative interpretation, planning, and design

2. Collect cross-cutting and deep data

Going Deeper: Roles/jobs of women and men

Productive

(10 tasks) (18 tasks)

Agriculture:

Place seed during sowing
Work in sowing and harvesting

Animals:

Pasturing sheep and cows on the hills

Bring cows to hill
Use of local technology
Weaving and Spinning
Put on the yoke
Build the house

Temporary migration to the city

Give money to the mothers
Leave to earn money in the city

Services

(14 tasks) (14 tasks)

Outside the home:

Purchase clothes and necessities
Take sick children to the hospital or traditional healer
Bring firewood to the house

In the home:

Prepare and serve food to the family

Toast quinoa for pito drink

Clean the house
Wash clothes

Help to make bread

Feed children

Acculturation

Raise children
Teach our children
Teach children how to work

Educate children

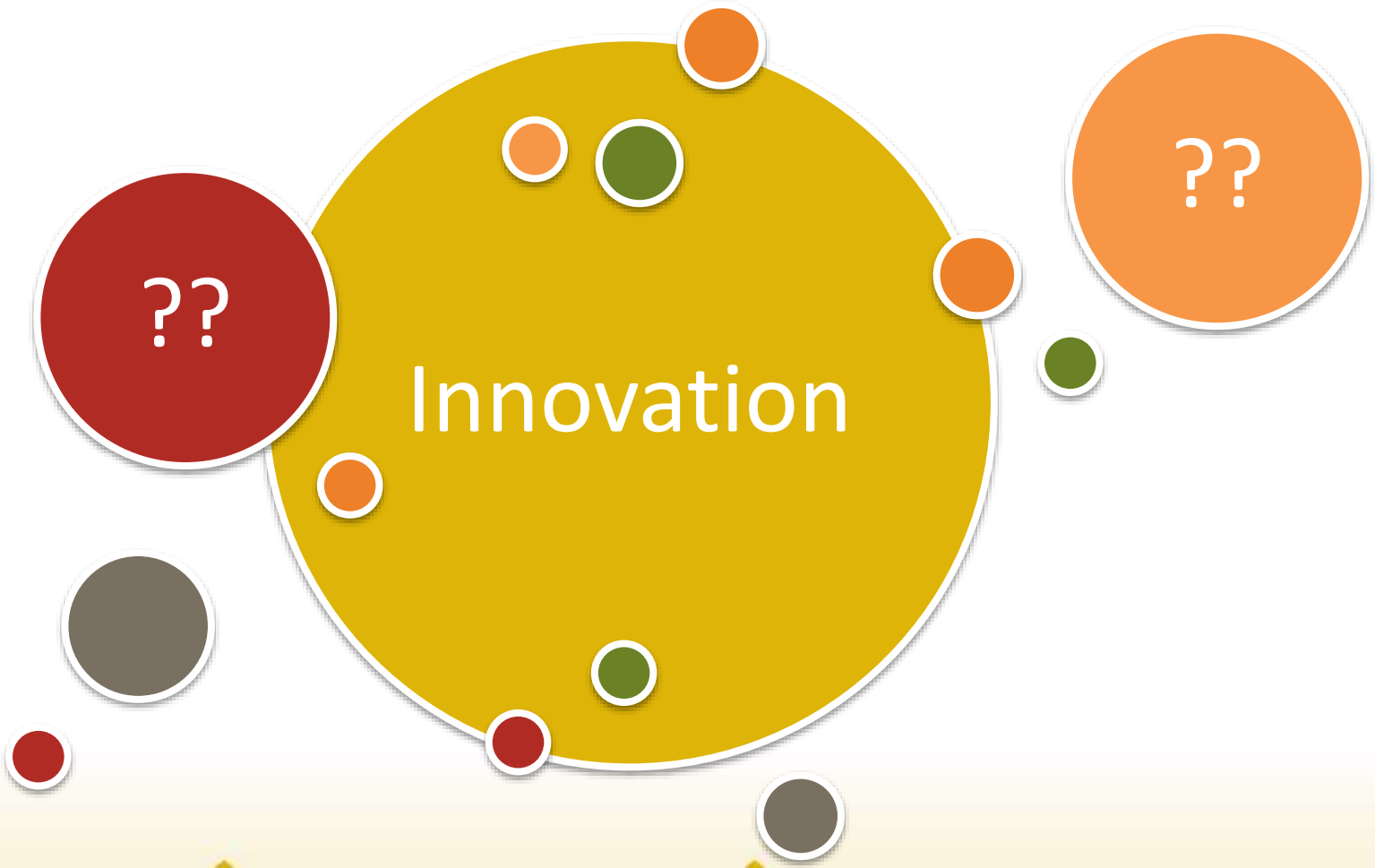
Reproductive

Breastfeed children
Carry children in the womb
Make woman pregnant and form the family

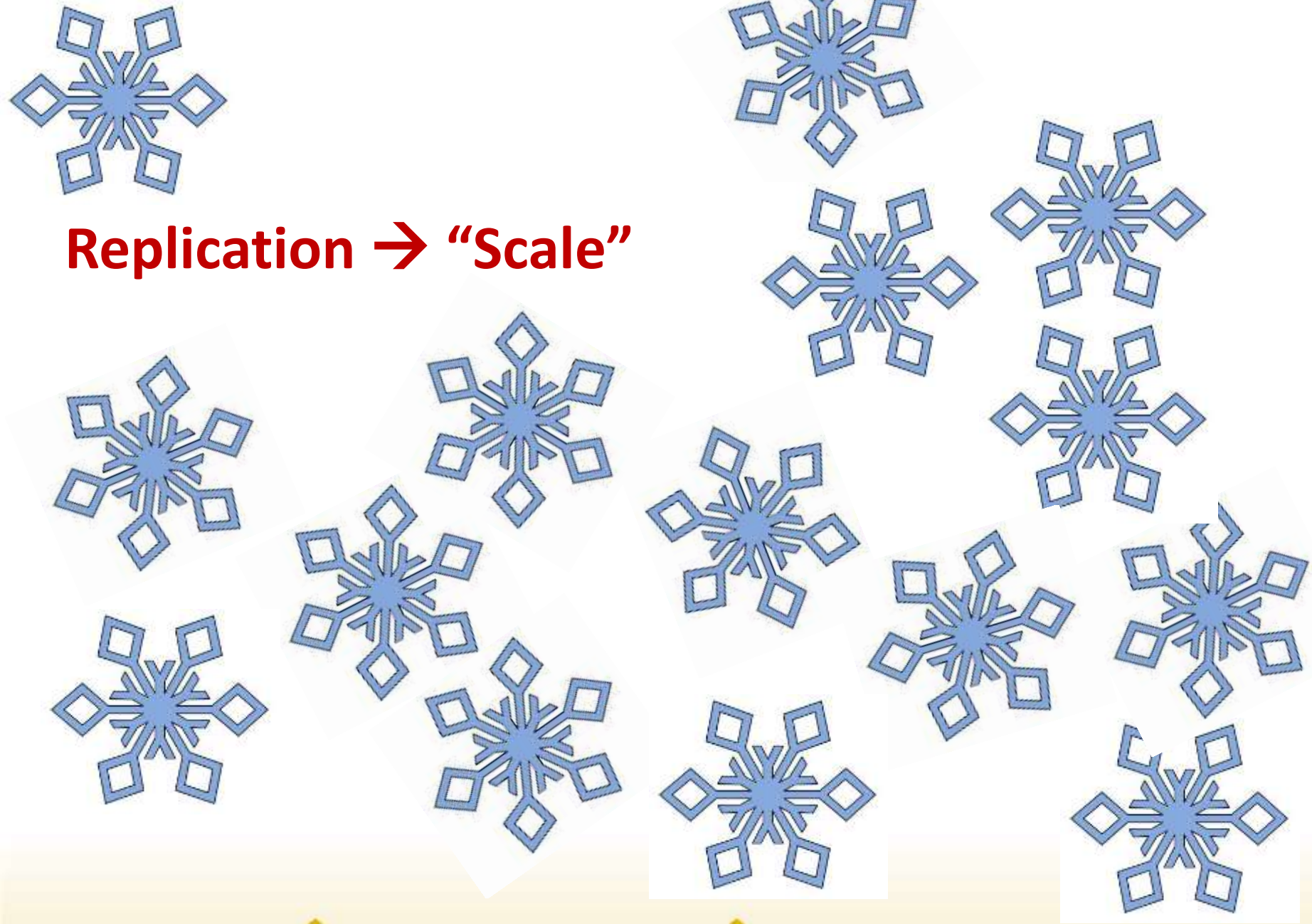
COLLABORATIVE CROP RESEARCH PROGRAM
THE McKNIGHT FOUNDATION

- When men learned that malnutrition effects mental capacity not just growth, they became much more interested in improving it
- The support of men and mothers-in-law has been critical in increasing the frequency and quality of feedings

CCRP DE Challenge #3: Going to scale in complex environments



Replication → "Scale"

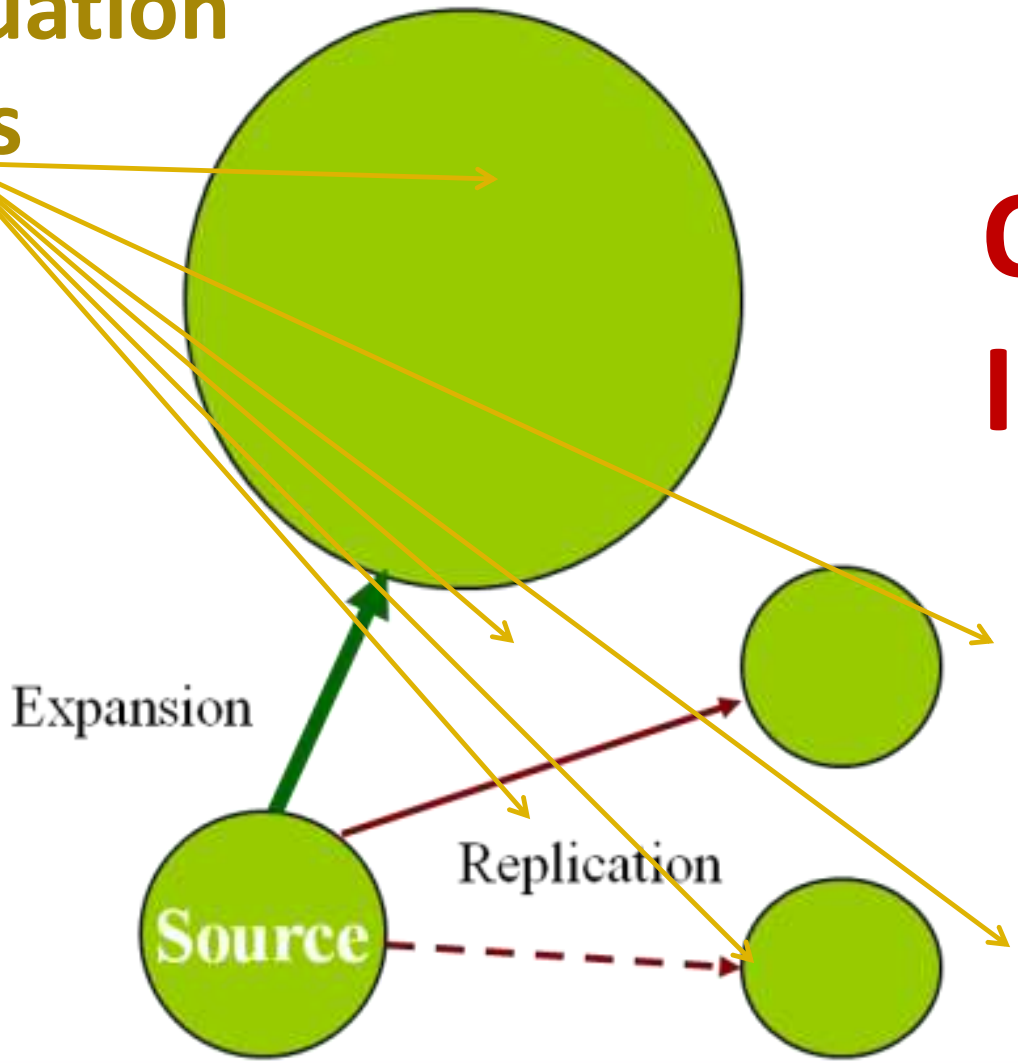



Scale: Farmers need to make and apply compost to their fields to increase fertility

1. Make a bin: wire cylinder that is 3-4 feet in diameter
2. Add 6 inch layer of brown organic material to the bottom
3. Add 2-3 inch layer of green organic matter
4. Repeat layers until pile is 4-5 feet high
5. Mix the layers in 2 days

**From “Compost for dummies”

Evaluation Tasks



Outcomes/ Impact

Fidelity

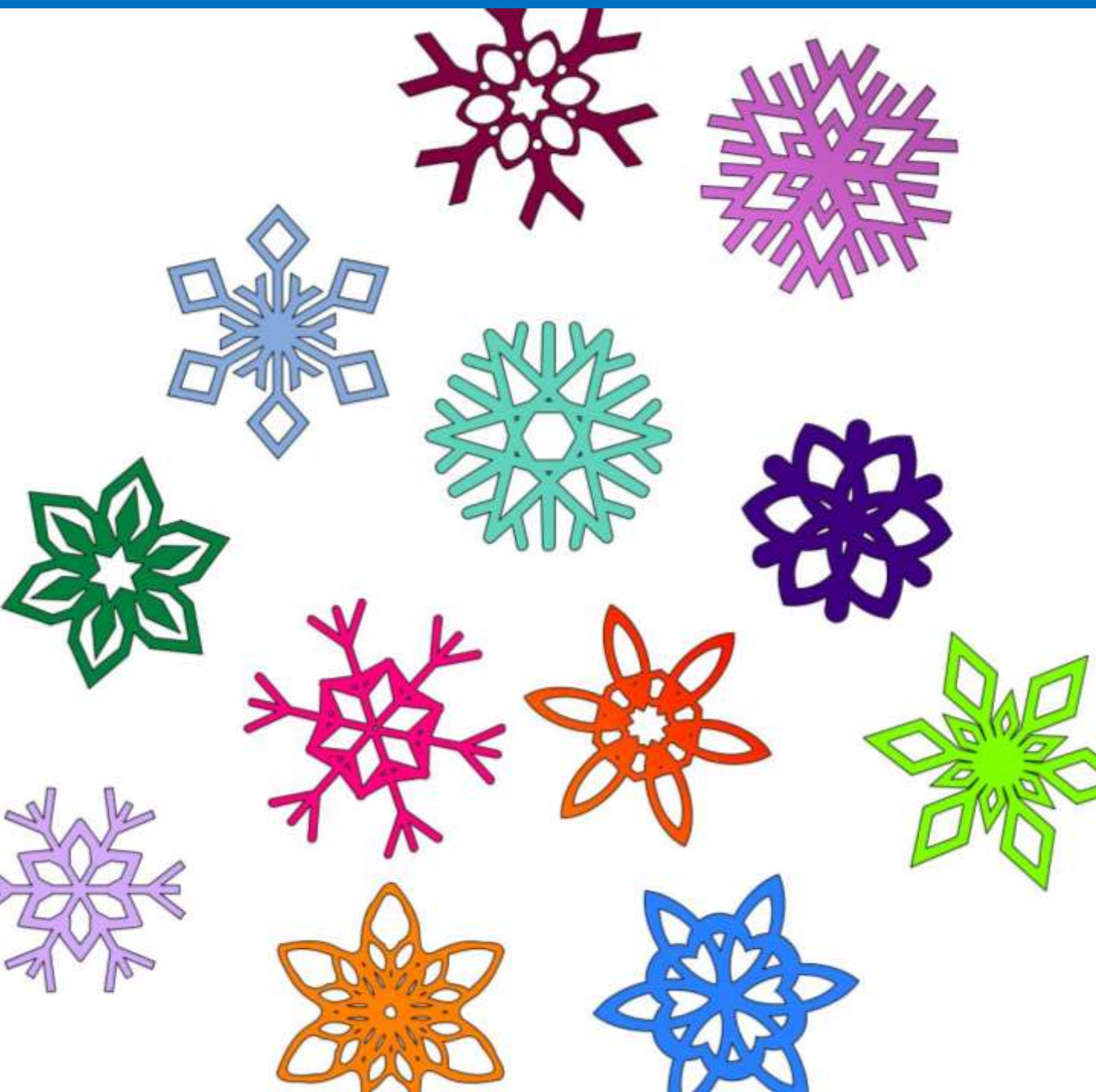
Universalist

In complex systems …

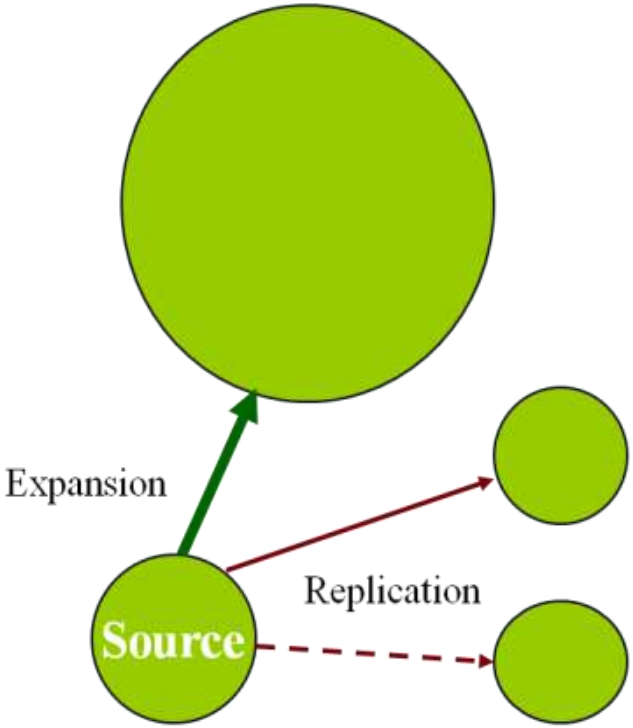
(i.e. the “real world”)

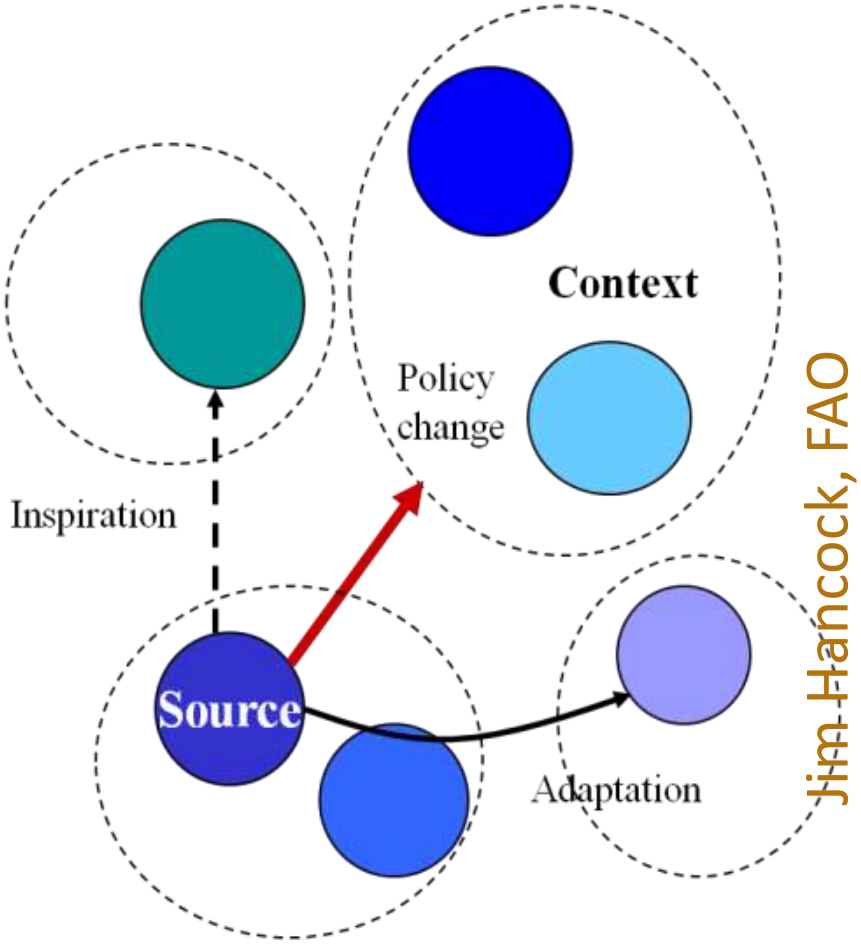
this usually looks a bit different …

The real world . . .



Scaling models





Universalist

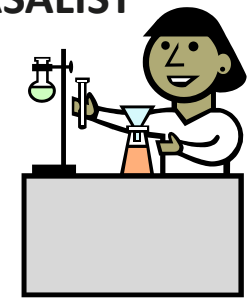
Contextualist


Compost in the real world?
It depends…

What does this look like on the ground?

Case of Soil Fertility (complex system)

UNIVERSALIST

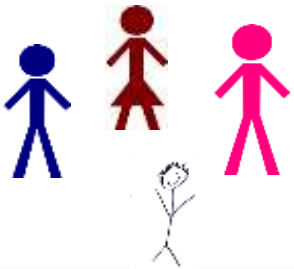


+

=

CONTEXTUALIST

Farmer typologies



Options = success at small scale

- Compost
- Green Manure
- Legumes
- Fallows
- Do nothing
- Chemical fertilizer

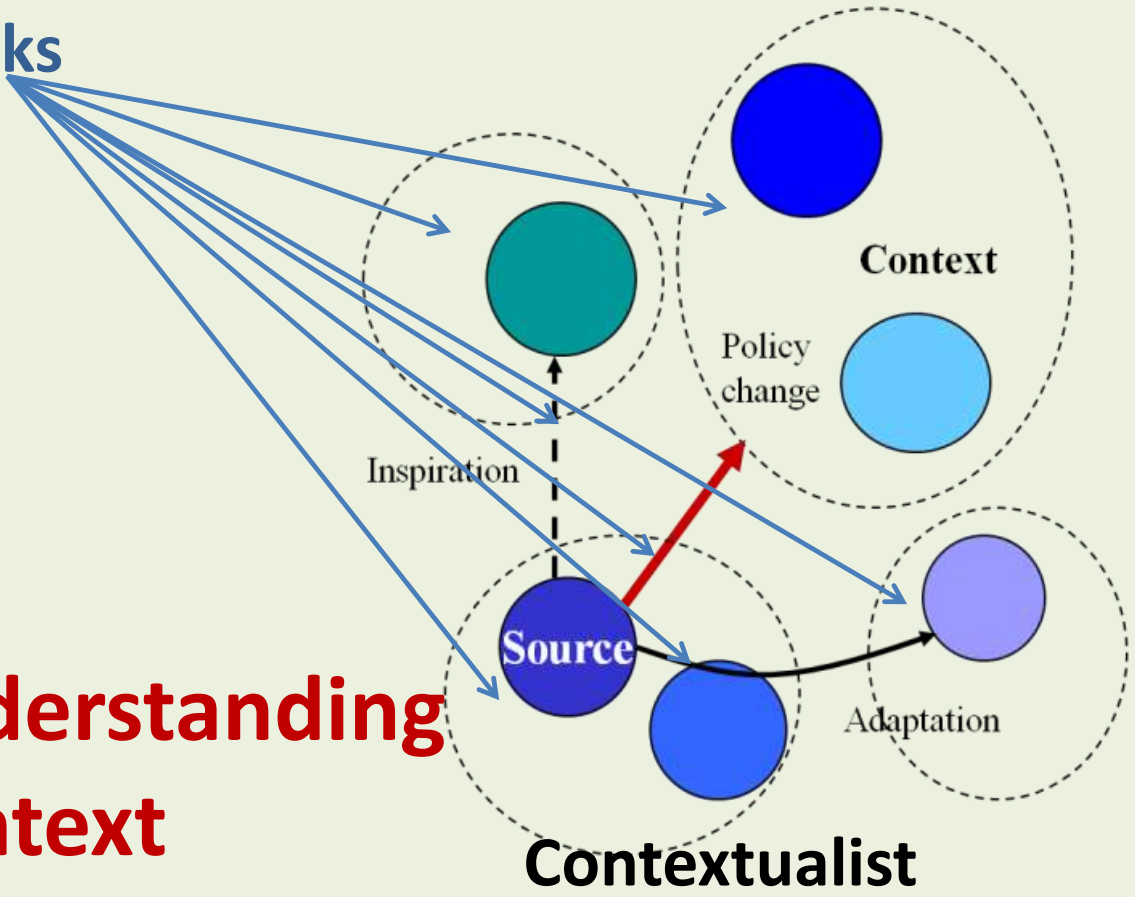
Innovation Networks

- Inspiration
- Adaptation
- Influence

Policies and practices at scale

Evaluation Tasks

Outcomes/Impact

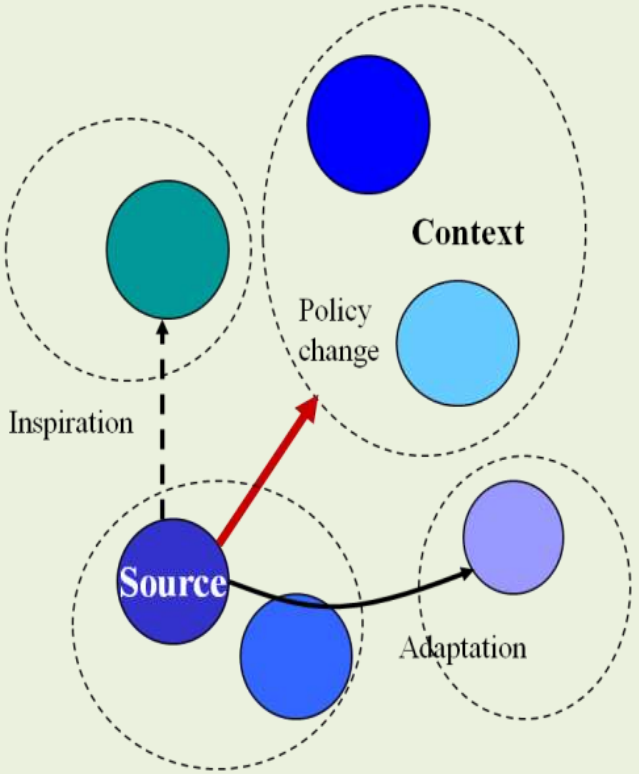


Understanding Context

Jim Hancock, FAO

Examples of Evaluation Questions

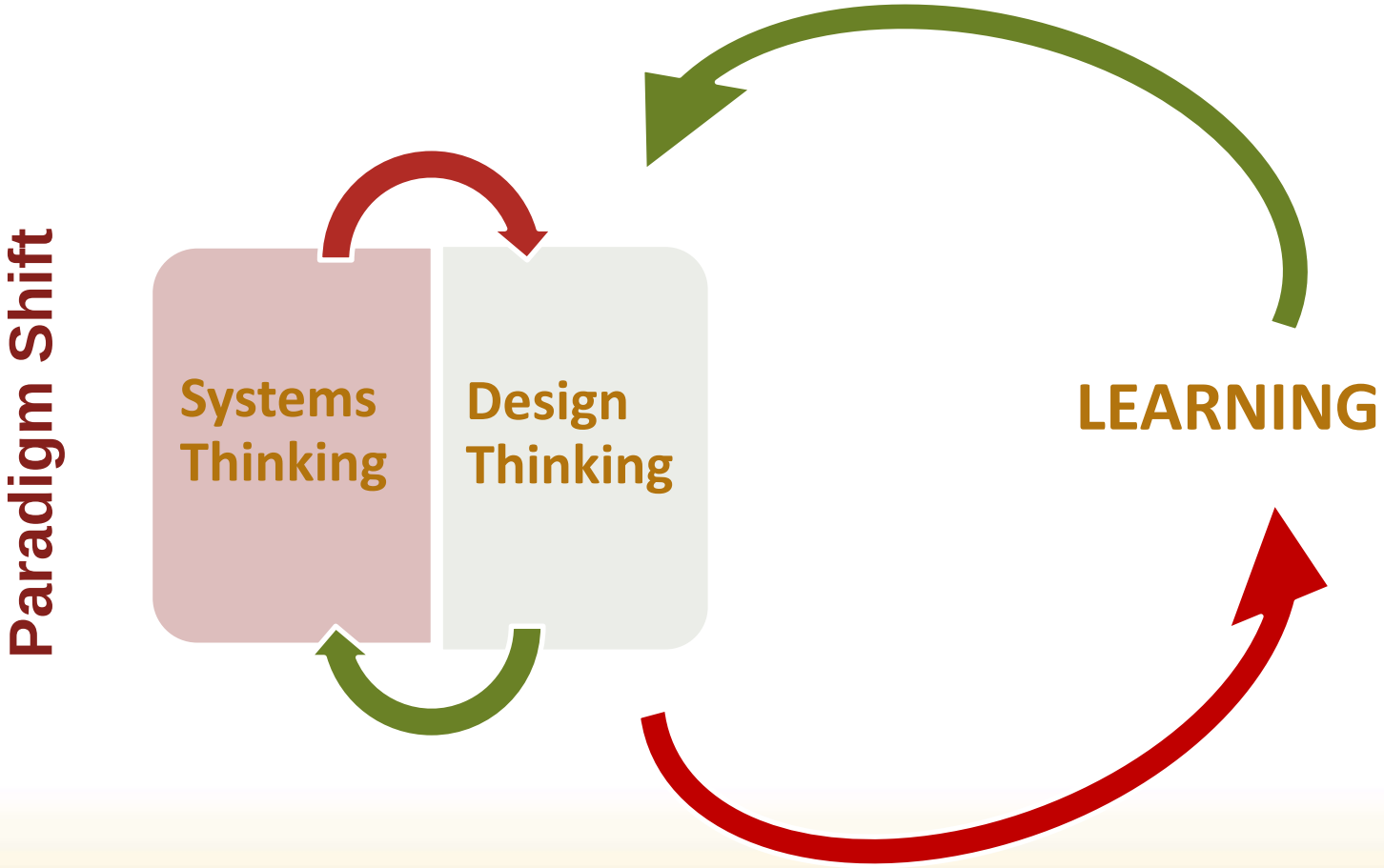
- Factors for success or failure?
- Understanding drivers: what starts something, and helps it grow?
- Constraints, bottlenecks?
- Context, or 'spaces': understanding the enabling environment
- External triggers? How can these be harnessed?



Contextualist

Jim Hancock, FAO

The deep learning that comes after the innovation is out in the community



Now What?

What design can teach the development/research world

- If people don't use it, it's not their fault, it's our fault
- Participation: be creative about getting into people's hearts and minds understanding what they need, want and will use—iterative
- Not just following a protocol—you have to get creative, observe, set up tests—you need good human capital
- Other?

What the evaluation world can teach design

- There is use and then there is dis-use. Where are the incentives to track if it is useful over time, for who and why?
- To what depth are designers really understanding the systems, and using a contextual approach to scale?
- Other?

Marah Moore, MCRP

marah@i2i-institute.com