

Impact Evaluation Workshop: Day 1 ReCap

Major Concerns

- Omitted Variables
- Selection Bias

These can cause under- or over-estimate of impacts if we don't control for these!

Omitted Variables Example

B' = Assumed outcome with no intervention

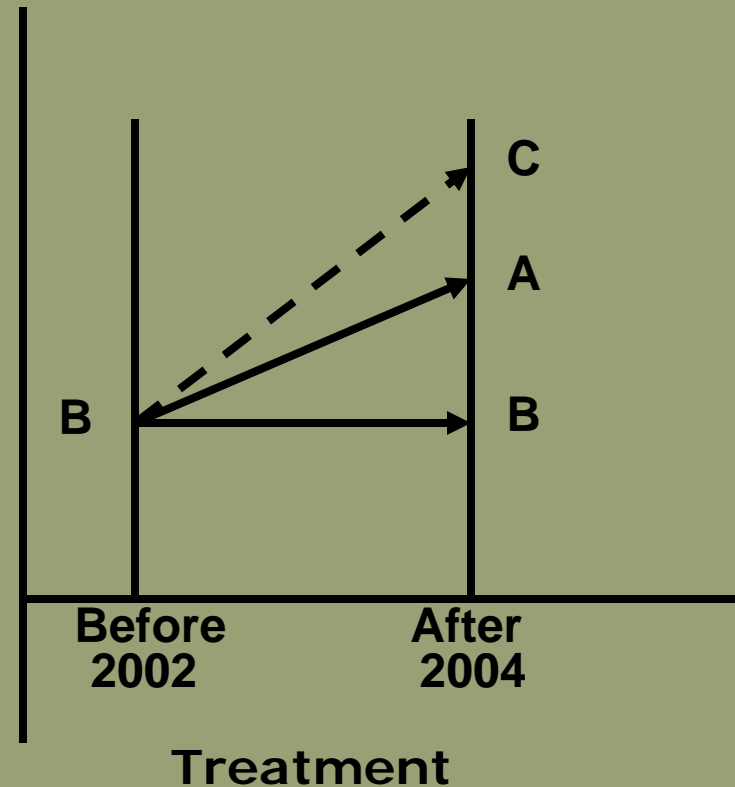
A = Observed outcome

A-B = Estimated impact

Controlling for other factors:

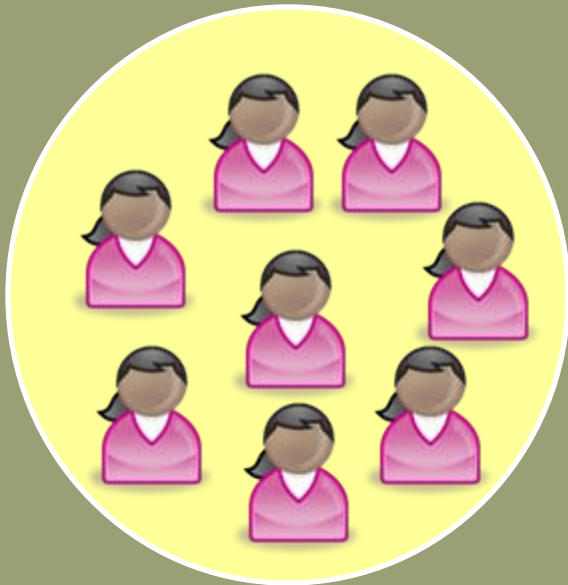
C = Actual outcome with no intervention (control)

A-C = True Impact



What We Can Observe

Population



Women aged 14-25 years

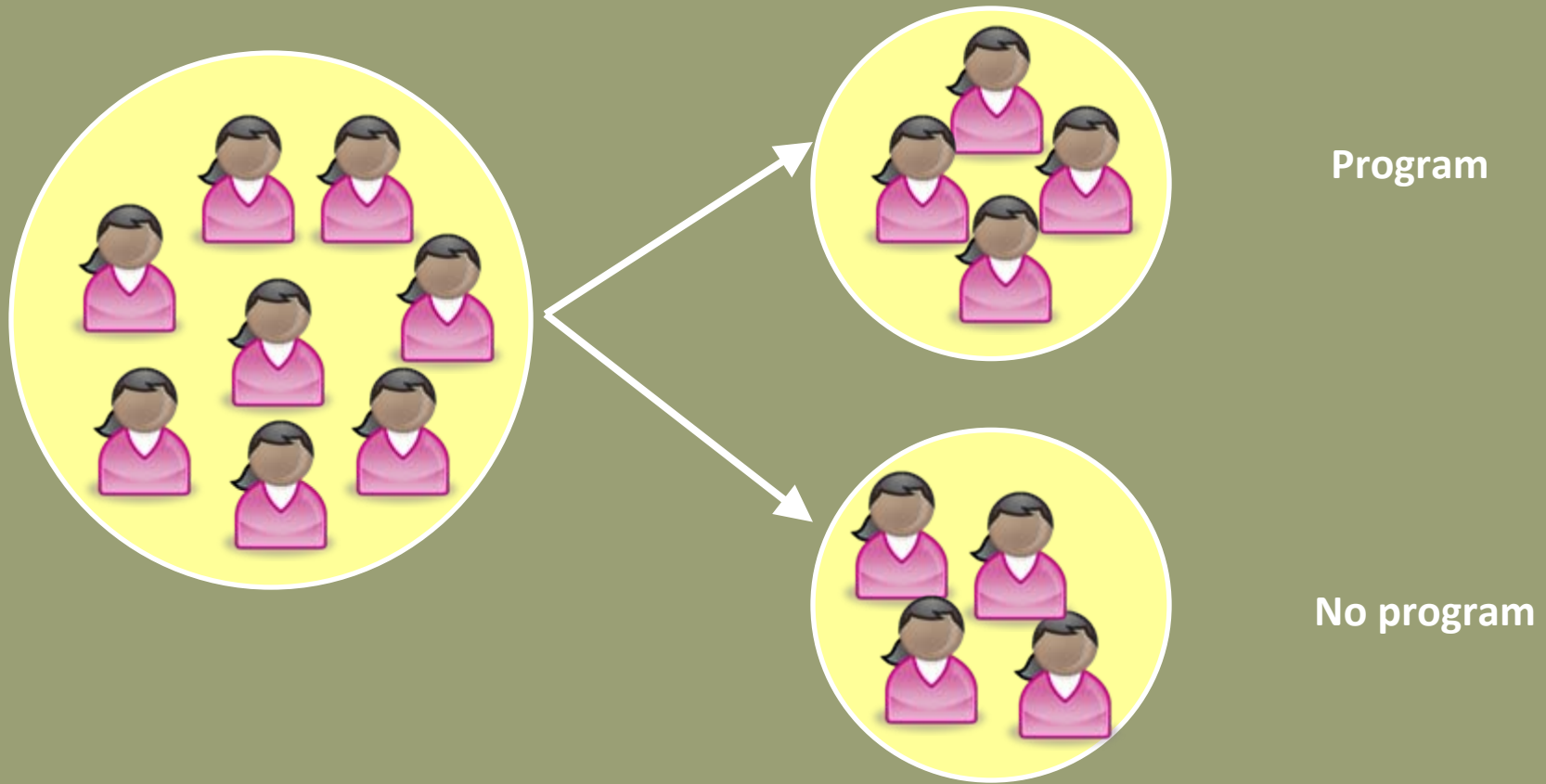
Matched for:

- socio-economic status
- education level
- ethnicity
- marital status
- employment

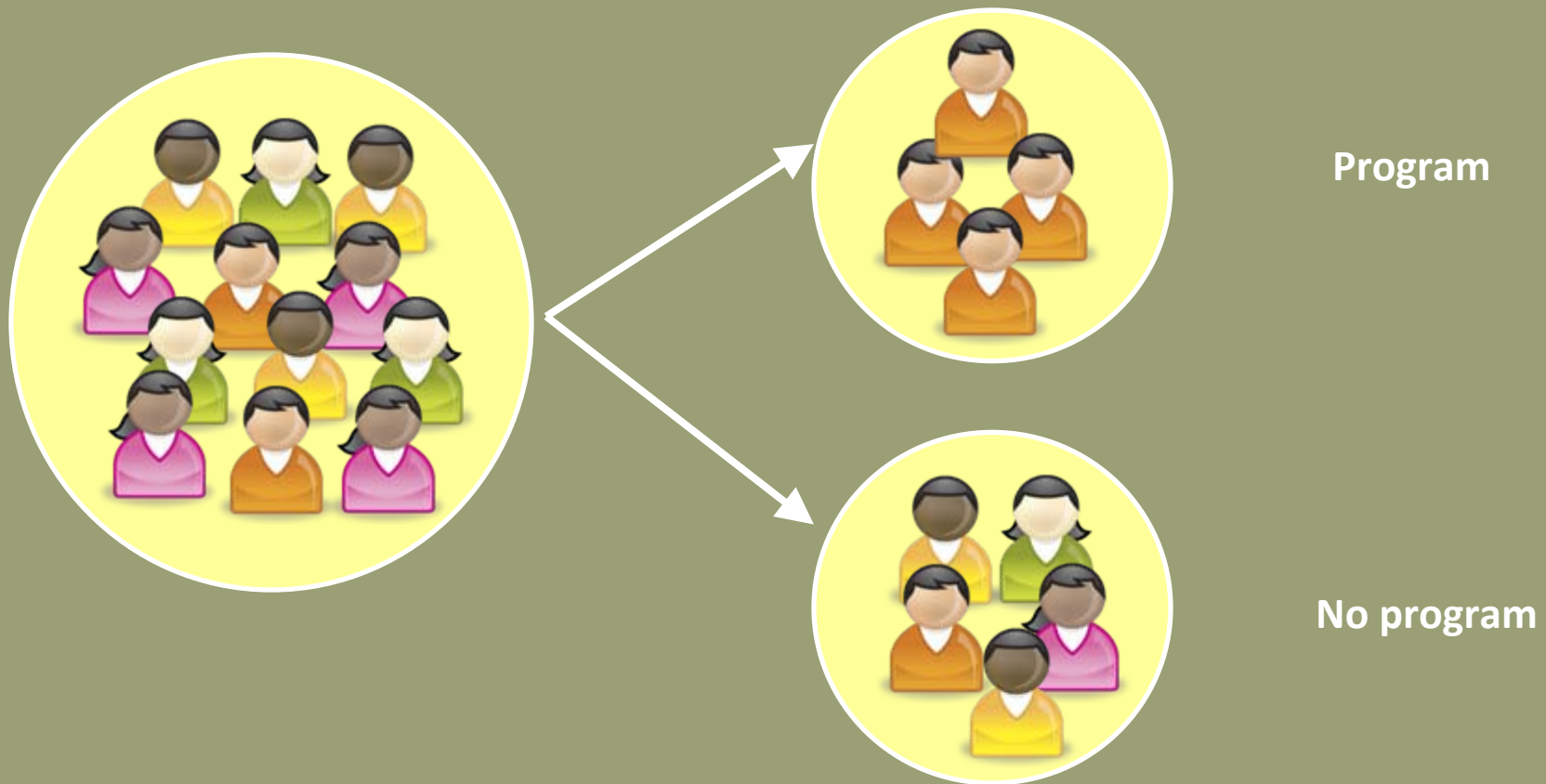
What We Can't Observe



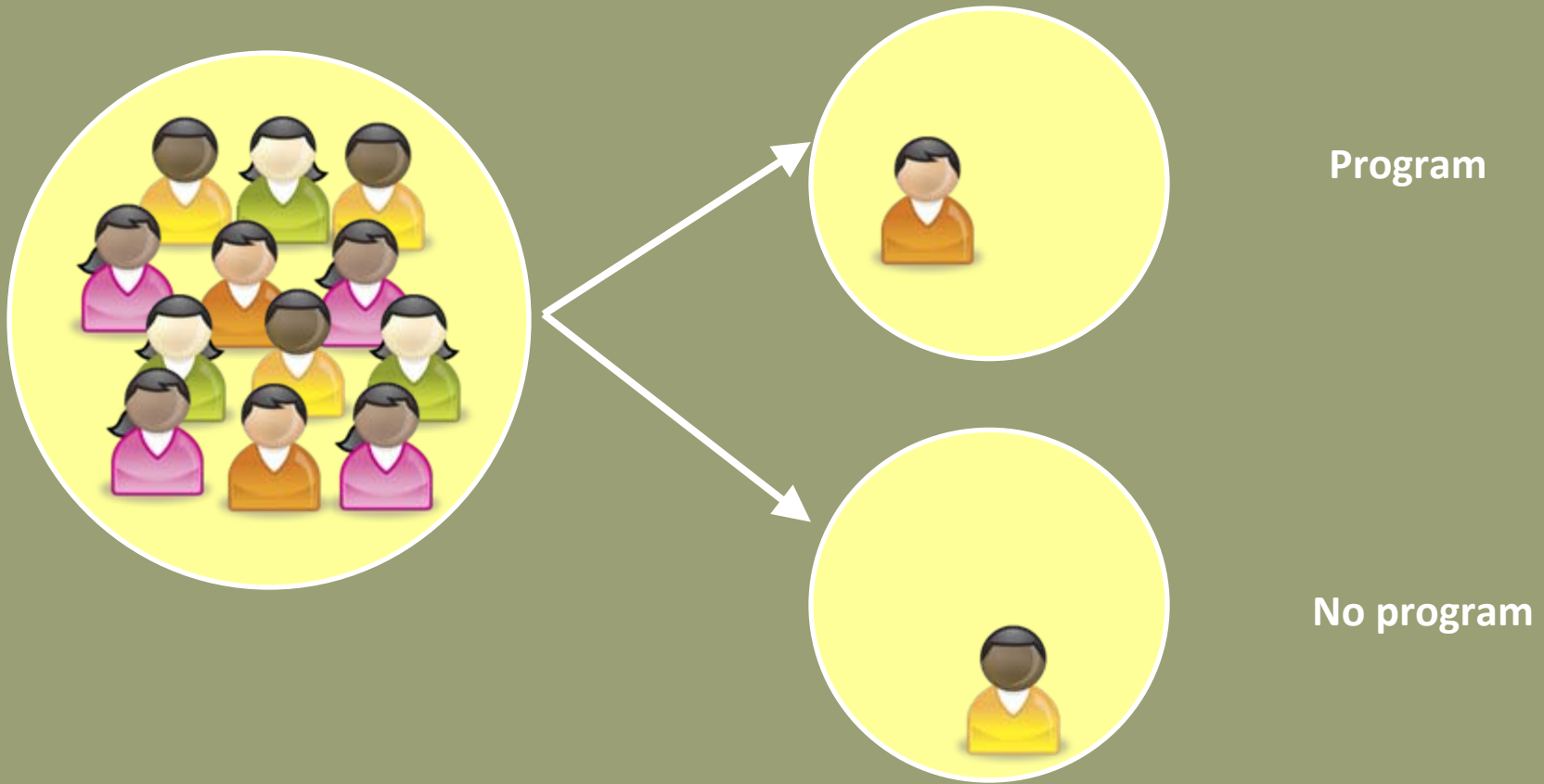
Selection Based on Observables



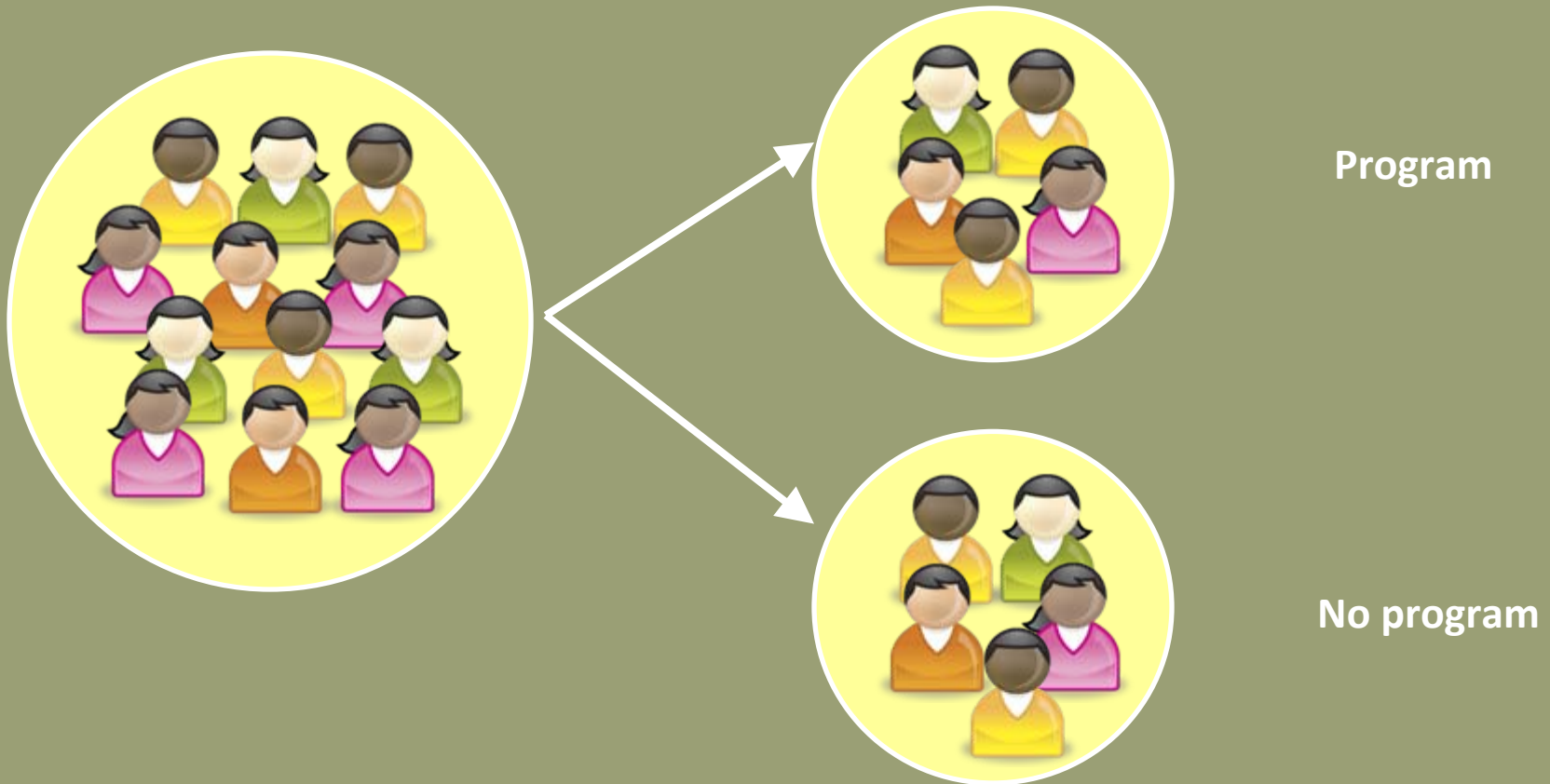
What Might Happen with Unobservables



With Randomization...

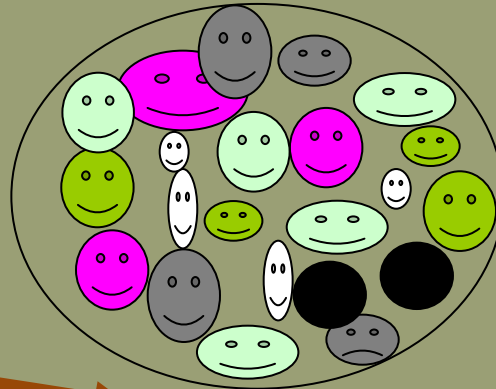


With Randomization...



Validity

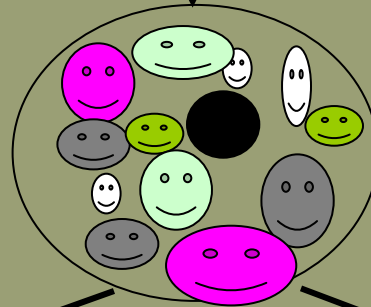
EXTERNAL
VALIDITY



National Population

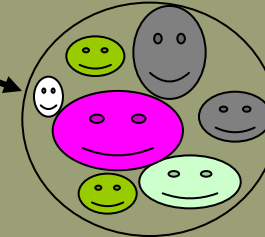
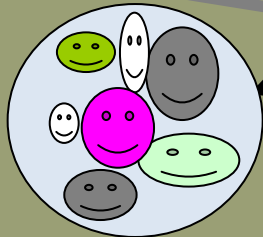
INTERNAL
VALIDITY

Randomization



Sample of National
Population

Randomization



Methods & Study Designs

Study Designs

Clusters

Phased Roll-Out

Selective promotion

Variation in Treatments

Methods Toolbox

Randomization

Reg Disco

Difference in Differences

Matching

Overview of Study Designs

Study Designs

Clusters

Phased Roll-Out

Selective promotion

Variation in Treatments

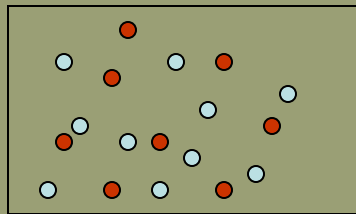
Not everyone has access to the intervention at the same time (supply variation)

The program is available to everyone (universal access or already rolled out)

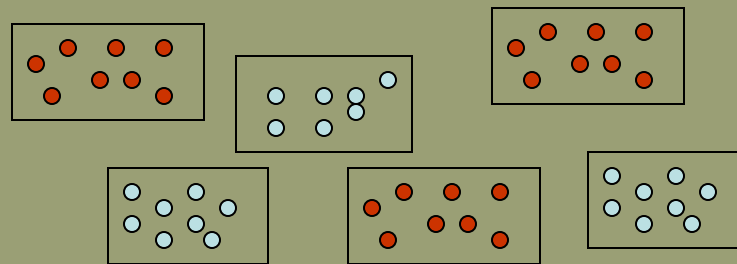
Cluster vs. Individual

- If a program impacts a whole group, randomize whole community to treatment or comparison
- But... it's easier to get big enough sample if we randomize individuals

Individual randomization



Group randomization



Issues with Clusters

- Randomizing at higher level sometimes necessary:
 - Political constraints on differential treatment within community
 - Practical constraints—confusing for one person to implement different versions
 - Spillover effects may require higher level randomization
- Randomizing at group level requires many groups because of within community correlation
- Randomizing at group level may also require many observations (measurements) per group

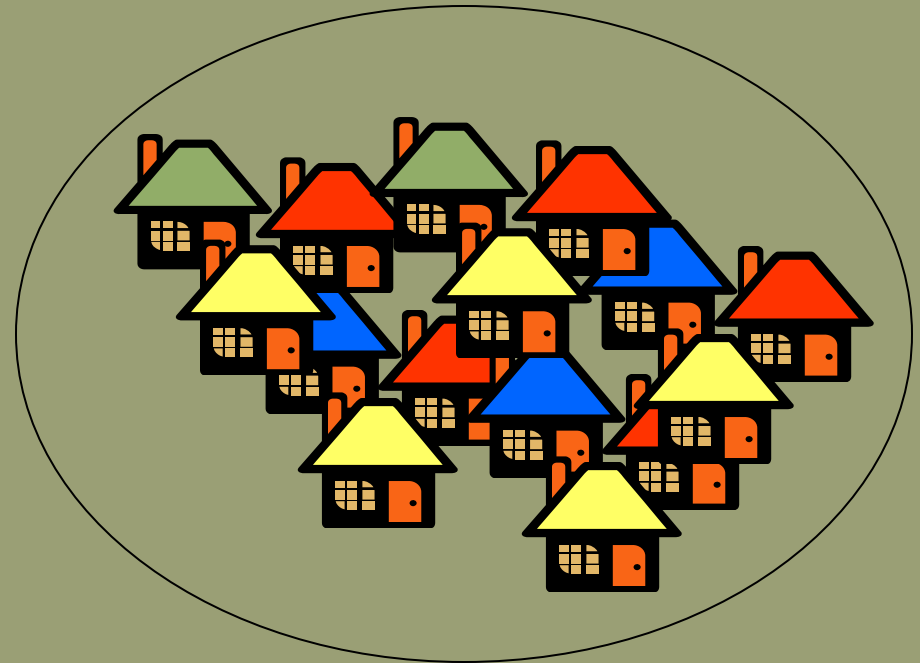
Different Units for Randomizing

- Individual
- Farm
- Farmers' Association
- Irrigation block
- Village level
- Women's association
- Youth groups
- School level

Unit of Intervention vs. Analysis



20
Intervention
Villages



20 Comparison
Villages

Target Population

Unit of Intervention/
Randomization



Random Sample

Evaluation Sample



Random Assignment

Control

Treatment

Unit of Analysis

Random Sample again?

Phased Roll-Out

Clusters	Period
	A
1	
2	
3	

Phased Roll-Out

Clusters	Period	
	A	B
1		Program
2		
3		

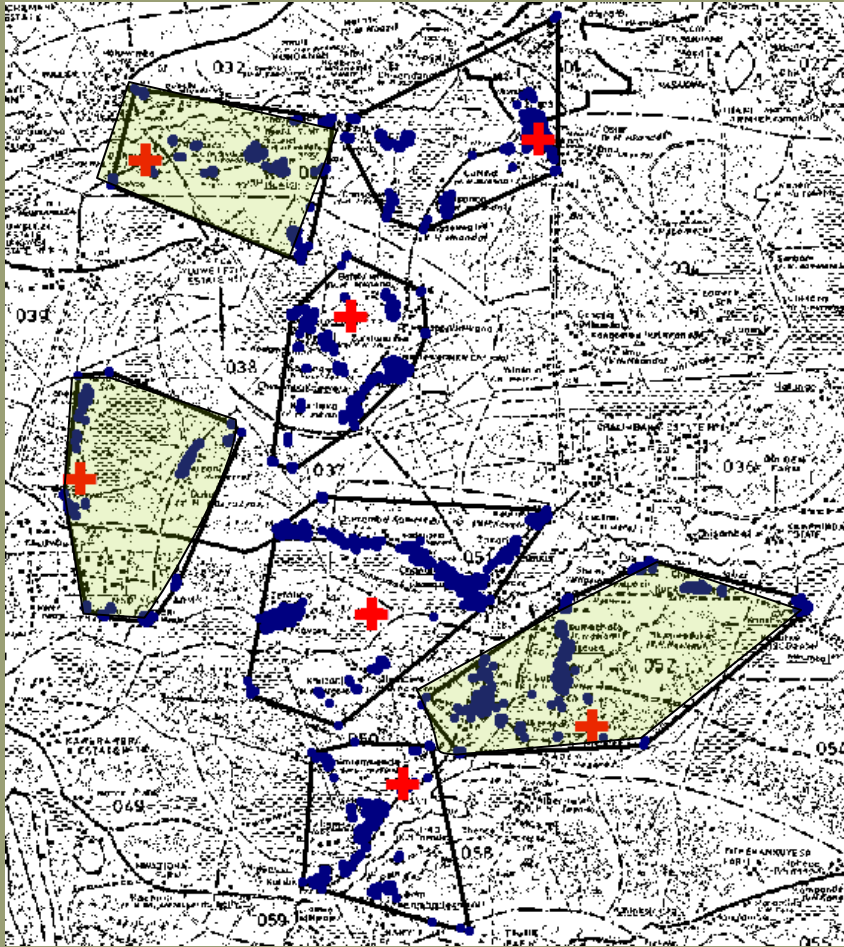
Phased Roll-Out

Clusters	Period		
	A	B	C
1		Program	Program
2			Program
3			

Phased Roll-Out

Clusters	Period			
	A	B	C	D
1		Program	Program	Program
2			Program	Program
3				Program

Evaluation Toolbox



- Phased roll-out