

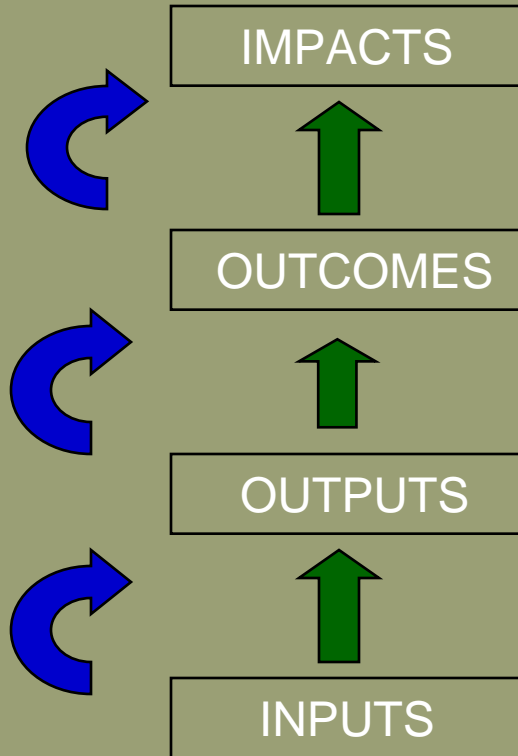
# Impact Evaluation Workshop: Introduction

# Outline

- What is Impact Evaluation?
- Why
- Workshop Overview
  - Methods Toolbox
- Shifting Paradigms
- About CEGA

# Measuring Impacts

Program impacts  
confounded by local,  
national, global effects



Stable workforce

Job retention

Enhanced skills

Worker Training

# What is Impact Evaluation?

Measuring the effect of a development activity on a beneficiary population...

... controlling for all other factors that might have affected the target population during the program period

Weather shock

Economic downturn

Disease outbreak

Elections

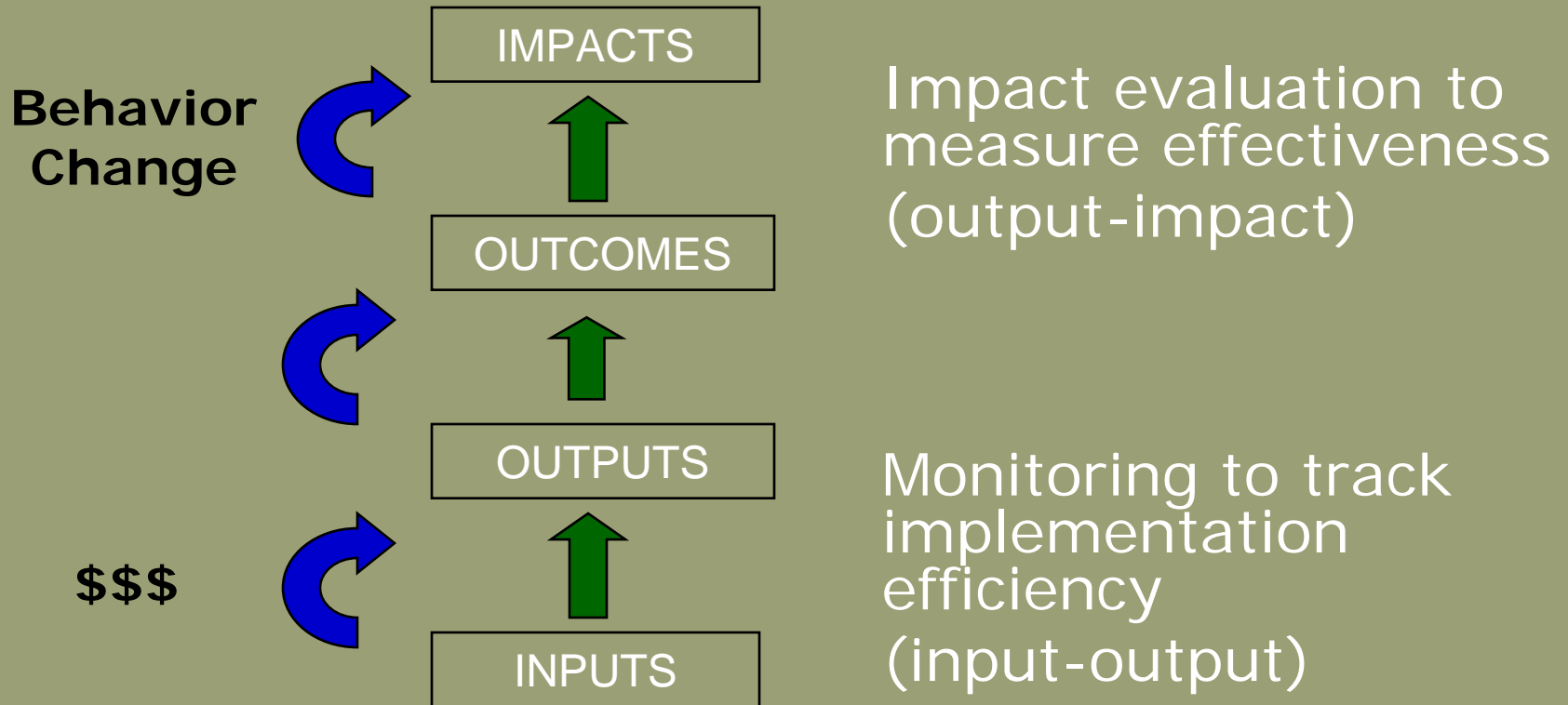
Factory closure

# What is Impact Evaluation?

IMPACT =

- portion of an outcome that can be attributed directly to your development activity
- difference between what happened with the program, and what would have happened without, for the same target group

# Impact Evaluation vs. M&E



# Questions in M&E vs. IE

- Process Evaluation / Monitoring:

- Is program being implemented efficiently?
- Is program targeting the right population?
- Are outcomes moving in the right direction?

- Impact Evaluation:

- What was the effect of the program on outcomes?
- How would outcomes change under alternative program designs?
- Does the program impact people differently (e.g. females, poor, minorities)?
- Is the program cost-effective?

# Why do we care?

- We don't always know what works best
- Targeting limited resources
- Accountability & reputation
- Safety



# Why Impact Evaluation?

- If you need evidence that a program works

*Does the program actually improve business outcomes?*

*Does it improve welfare for the people most in need?*

- Accountability to civil society
- Accountability to donors
- Ability to target a limited budget

- If you want to improve the program over time

- Results-based management
- Cut ineffective components or programs
- Cost-effectiveness

- If you want to scale up but need proof of concept

# Results-Based Management

- Use most rigorous method of evaluation possible
- Focus on higher level outcomes
  - educational achievement, income, health/safety
- Measure impact of operation on stated objectives
  - One, two, three year horizon
- Compare with results from other programs
- How much does the program deliver?
- Is it cost-effective?
- Inform budget process and allocations

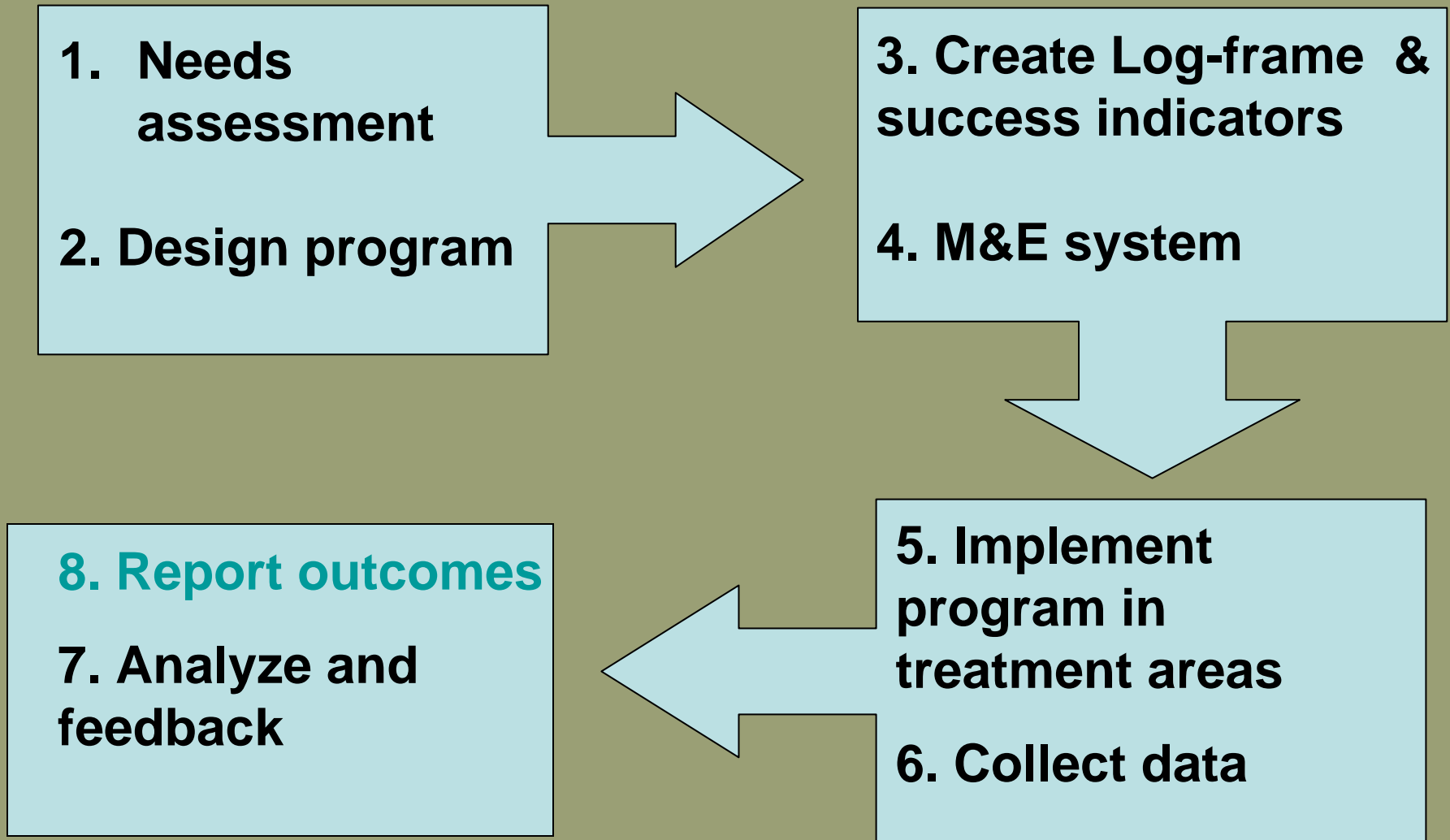
# Shifting the Program Design Paradigm

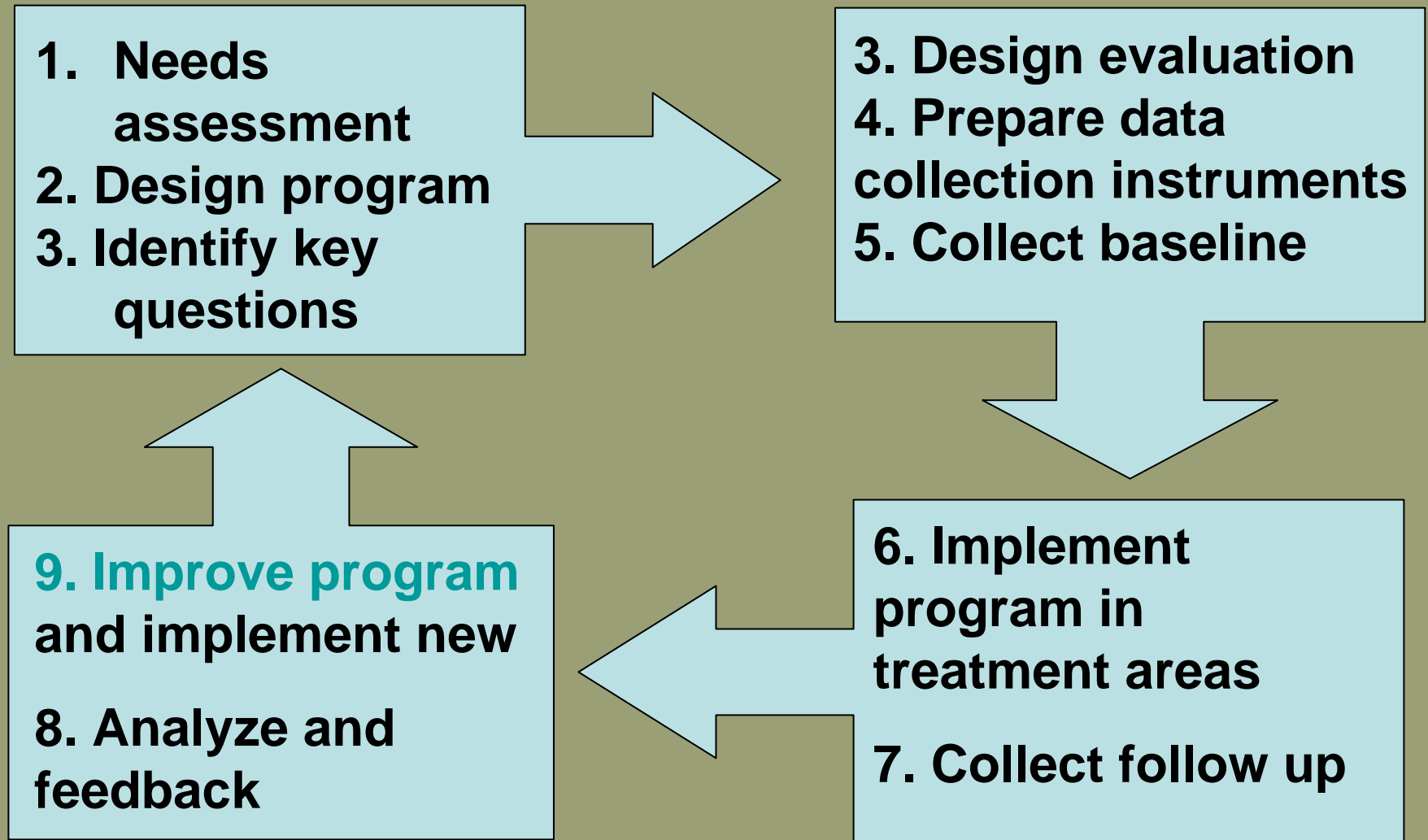
- From a project design based on “we know what’s best” ...

... To project design based on the notion that “we can learn what’s best in this context, and adapt to new knowledge as needed”

## Work iteratively:

- Discuss what the team knows and what it needs to learn—the questions for the evaluation—to deliver on project objectives
- Discuss translating this into a feasible project design
- Figure out what questions can feasibly be addressed





# Priorities for Learning

Identify a development target

- Increase proportion of women voting in elections
- Reduce police absenteeism

How to reach target?

- Create incentives for women's participation
- Make police accountable to communities

What interventions or services can be used?

- Local govt budget tied to proportion of women voting that cycle
- Payments to police force conditioned on attendance and performance measures.

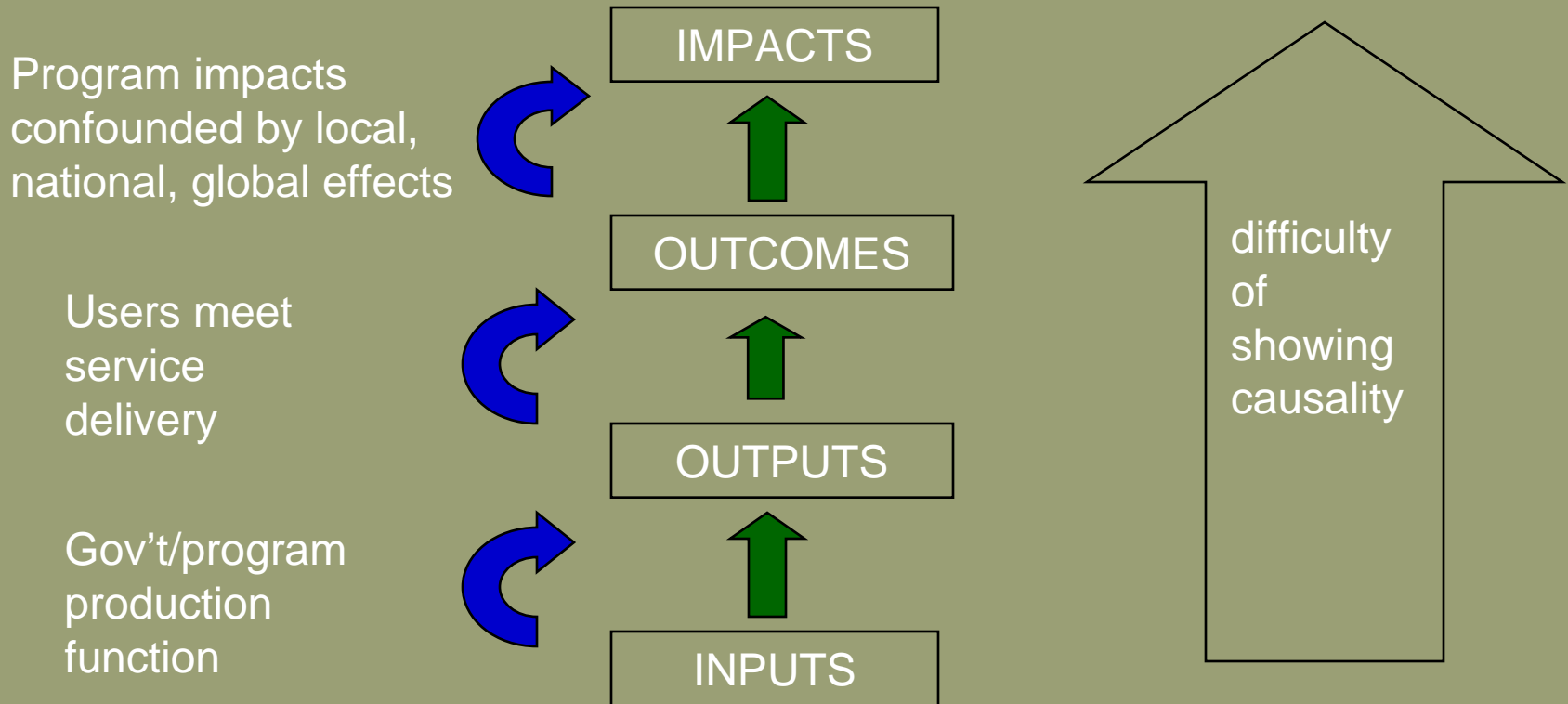
Which is the best program to use?

- Pilot a few programs and measure their impacts and costs.
- Strip away alternative explanations for the results.

# M&E vs. IE

- Are women's empowerment groups being facilitated as planned? ➤ **M&E**
- Do women's empowerment groups increase school attendance of participants' children? ➤ **IE**
- Are those near voting booths more likely to vote? ➤ **M&E**
- If we give incentives (i.e. a free set of cooking pots) to women who bring female neighbors to vote, is the number of women elected greater, relative to the level in communities without this intervention? ➤ **IE**

# Measuring Impacts





# An Example

The intervention: provide training to factory workers in a poor region of a country

- Program targets poor areas
- Workers have to enroll at the factory office
- Starts in 2002, ends in 2004, we have data on employment in the poor region (region A) and another region (region B) for both years
- We observe that the workers we provide training to have a *decrease* in employment from 2002 to 2004

# What is Impact?

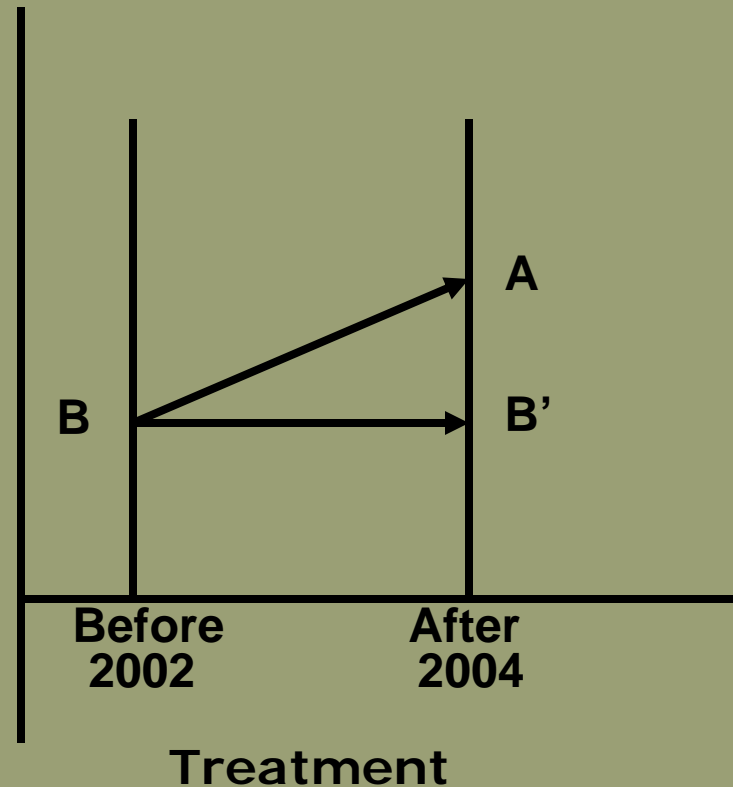
## Unemployment

Compare before and after intervention

*B' = Assumed outcome with no intervention*

*A = Observed outcome*

*A-B = Estimated impact*



- Further study reveals there was a national economic downturn, and employment went down everywhere in 2003-2004

*Did the program have a negative impact?*  
–Not necessarily

# What is Impact?

Compare before and after intervention

*B' = Assumed outcome with no intervention*

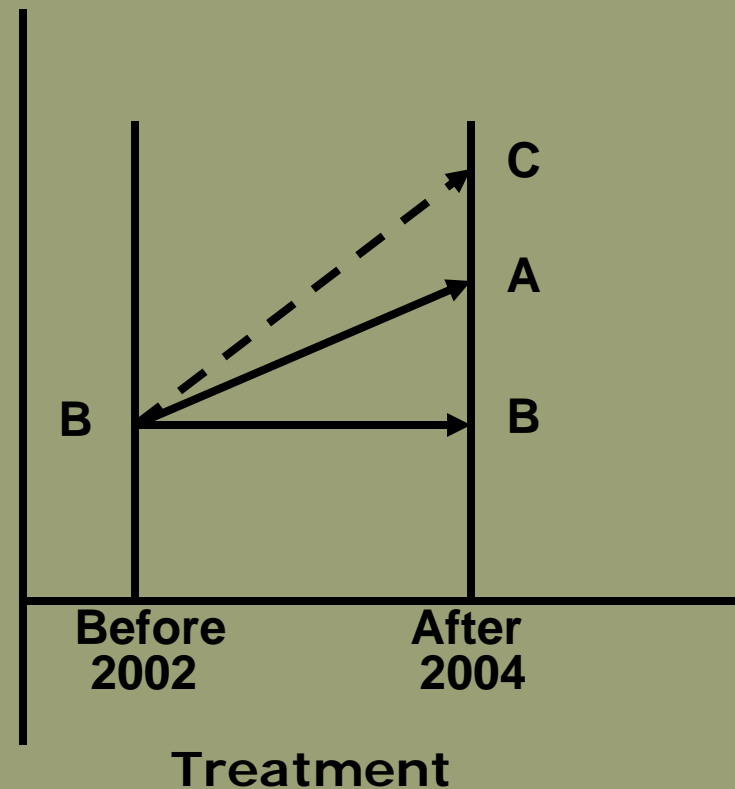
*A = Observed outcome*

*A-B = Estimated impact*

Control for other factors

*C = Actual outcome with no intervention (control)*

*A-C = True Impact*



- Now we compare the workers in the program region A to those in another region B. We find that our “treatment” workers have a larger decline in employment than those in region B.

*Did the program have a negative impact?*

–Not necessarily (remember program placement!)

- Workers in region B are more tenacious-- more likely to keep searching for a job until they find one (unobservable)
- More workers in region B are unionized, which is key to maintaining jobs in a downturn year (observable)

# Problems with Simple Comparisons

## BEFORE/AFTER

Collect data on individuals before and after intervention.

Is difference in outcome due to the project?

Problem: Many things change over time, including the project.  
***Omitted Variables.***

## WITH/WITHOUT (Apples & Oranges)

Compare people who enrolled in the program with those who did not?

Problem: Why did the enrollees decide to enroll?  
***Selection bias.***

# Exercise: Selection Bias

## Health Insurance

- Who purchases insurance?
- What happens if we compare health of those who sign up, with those who don't?

# To Solve the Impact Problem:

We need to know:

- The change in outcomes of the treatment group
- What would have happened in the absence of the treatment (“counterfactual”)

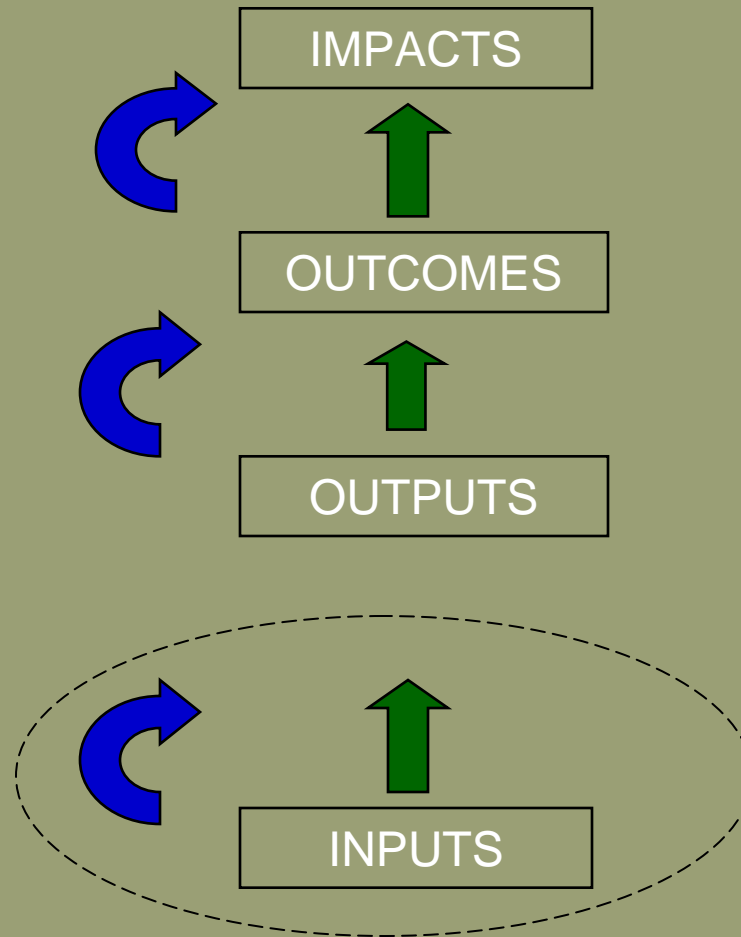
We need a comparison group that is as identical in observable and unobservable dimensions as possible, to those receiving the program



# Evaluation Toolbox

- Randomization
- Regression discontinuity
- Difference in differences
- Matching
- Promotion or encouragement
- Phased roll-out
- Variation in treatment

# Measuring Impacts



# Evaluation Toolbox

- Randomization

- Use a lottery to give all people an equal chance of being in control or treatment groups
- With a large enough sample, it guarantees that all factors/characteristics will be equal between groups, on average
- Only difference between 2 groups is the intervention itself

“Gold Standard”

# Evaluation Toolbox

Create a transparent & observable criterion for who is offered program

- Regression discontinuity
  - PENSIONS
  - WELFARE

An arbitrary rule (age or income eligibility) generates assignment into a program by threshold

Assumption: There is a discontinuity in participation, but we assume that it does not impact outcomes as well.

# Evaluation Toolbox

Compares observed changes in the outcomes for a sample of participants and non-participants

- Difference in differences

Big assumption: In absence of program, participants and non-participants would have experienced the same changes.

Can be combined with randomization, other matching methods

# Evaluation Toolbox

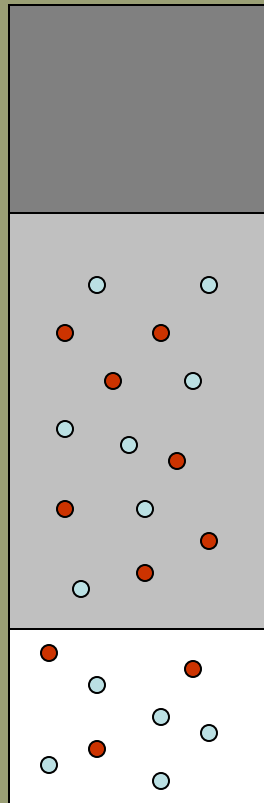
Each program participant is paired with one or more non-participant that are similar based on observable characteristics

Again, big assumption is required:  
In absence of program,  
participants and non-participants  
would have been the same.

- Matching

Combine with difference in differences

# Evaluation Toolbox



Already have the program

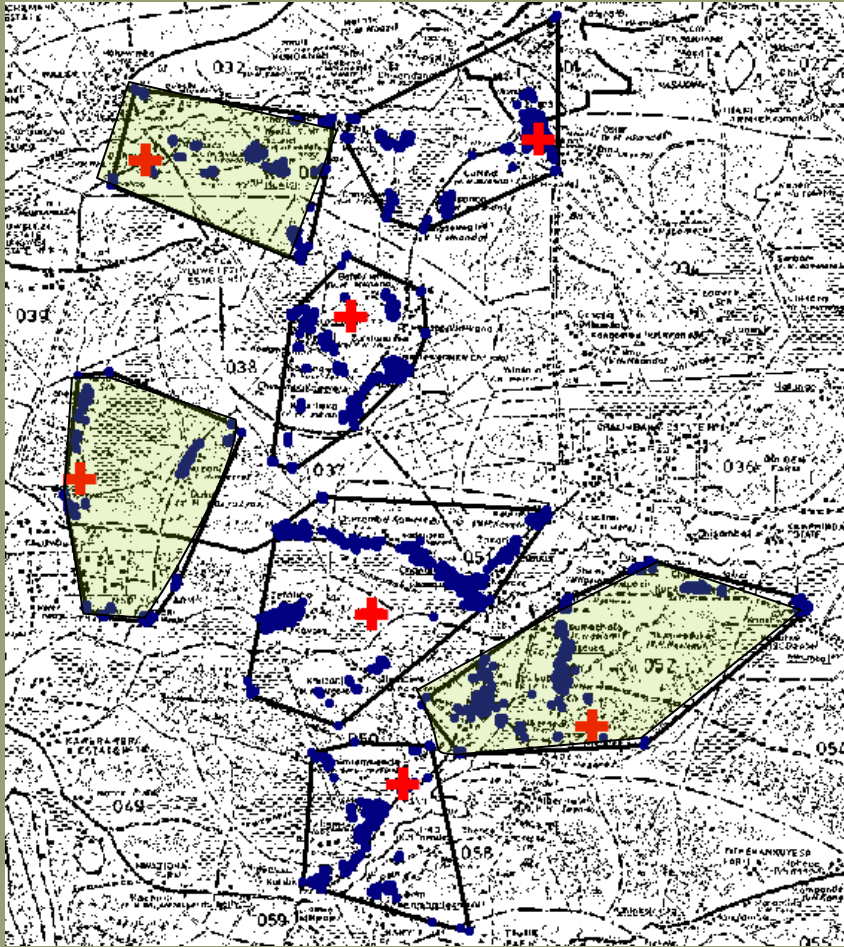
- Promotion or encouragement

Likely to join the program if pushed

Randomize who gets an extra push to participate in the program

Unlikely to join the program regardless

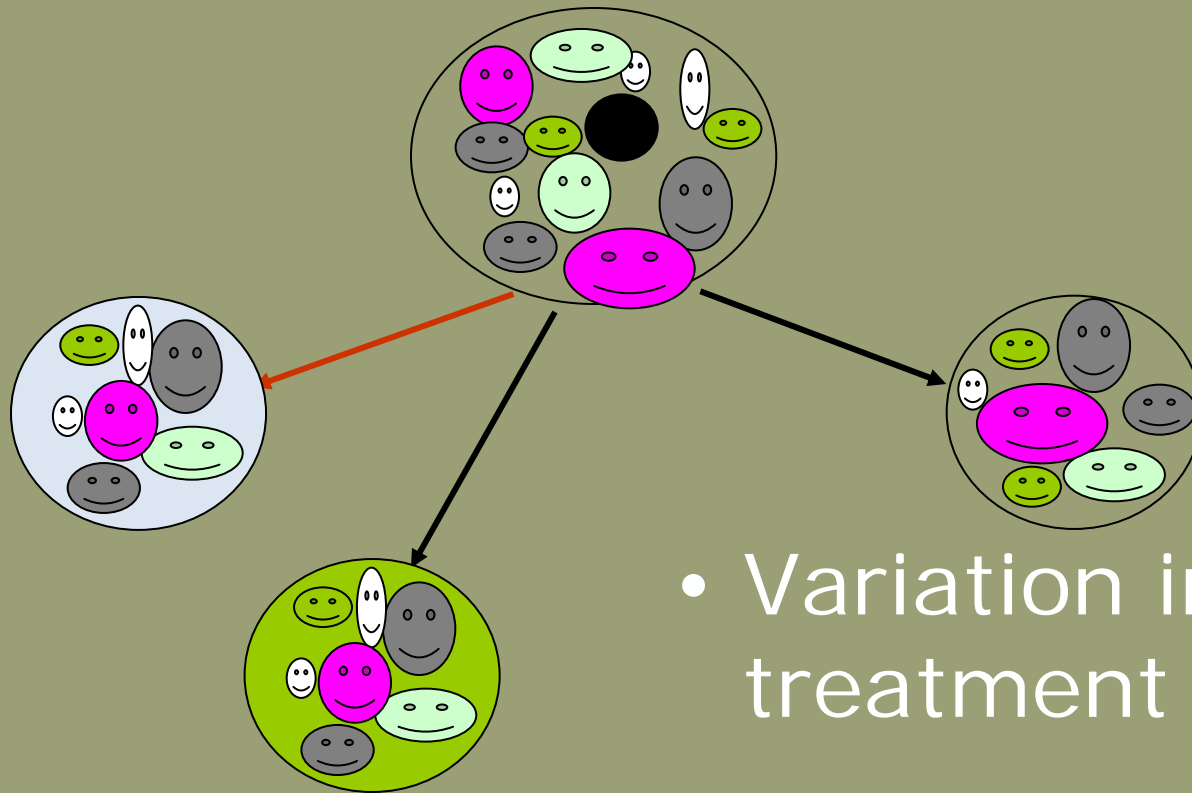
# Evaluation Toolbox



- Phased roll-out



# Evaluation Toolbox



- Variation in treatment

# Evaluation Toolbox

- Randomization
- Regression discontinuity
- Difference in differences
- Matching
- Promotion or encouragement
- Phased roll-out
- Variation in treatment

# Advantages of “experiments”

- Clear and precise causal impact
- Relative to other methods
  - Much easier to analyze
  - Can be cheaper (smaller sample sizes)
  - Easier to explain
  - More convincing to policymakers
  - Methodologically uncontroversial

# When to think impact evaluation?

- EARLY! Plan evaluation into your program design and roll-out phases
- When you introduce a CHANGE into the program
  - New targeting strategy
  - Variation on a theme
  - Creating an eligibility criterion for the program
- Scale-up is a good time for evaluation!
  - Sample size is larger

# When is impact evaluation impossible?

- Treatment was already assigned and announced *and* no possibility for expansion
- The program is over (retrospective)
- Universal take up already
- Program is national and non excludable
  - Freedom of the press, exchange rate policy (sometimes some components can be randomized)
- Sample size is too small to make it worth it

# Shifting Evaluation Paradigms

Move From...

- Program is a set of activities designed to deliver expected results
  - **Program will either deliver or not**

To...

- Program is menu of alternatives with a learning strategy to find out which work best
  - **Change programs overtime to deliver more results**

# Shifting Evaluation Paradigms

- From retrospective, external, independent evaluation
  - Top down
  - Determine whether program worked or not
- To prospective, internal, and operationally driven impact evaluation /externally validated
  - Set program learning agenda bottom up
  - Consider plausible implementation alternatives
  - Test scientifically and adopt best
  - Just-in-time advice to improve effectiveness of program over time

# Why Evaluate?

- Questioning program helps strengthen design
- Provide answers to questions early
- Cut or change program as a result



# Behavior Change: The Options

What to do when training/knowledge aren't enough?

- Contingent (conditional) transfers
- Incentives
  - Individual and group
  - Positive and negative
- Commitment strategies

# About CEGA

- Impact Evaluation Center headquartered at UC Berkeley
- UC-wide faculty: 16 members (and growing)
- Multidisciplinary:
  - Economics
  - Agricultural & Resource Economics
  - Political Science
  - Public Health
  - Business
  - Education
  - Public Policy
  - International Studies
- Projects in 25+ countries

# A Few of our Partners



# Farmer Training & Development

Honduras-Millennium Challenge Corporation

## Adapting large-grower technologies:

- Marketing
- Production
- Post-harvest
- Forecasting

... for small-scale farmers



# Zimbabwe: Preventing HIV/AIDS

## Shaping the Health of Adolescents in Zimbabwe

Girls learn to avoid sugar daddies through:

- Vocational training
- Stipends
- Micro-loans
- Job placements



Lesson learned: Vocational training + mentorship, but not microcredit or training alone, has the potential to reduce HIV transmission

# South Africa: Microfinance & Health

Measuring the mental health impacts of micro-credit

- Low-income South Africans have high depression rates in general
- Access to credit induces no change in depression among women, but does increase perceived stress
- Does the structure of microfinance programs matter?



# More Lessons Learned...

- Zambia: For CDD, working at the district level improves pro-poor targeting, compared to centralized management of social funds.
- Guatemala: Credit bureaus help credit agents better select among the poor and induces better repayment by clients.
- Kenya: Spring protection and POU water treatment both significantly reduce children's diarrhea, but rural households are necessarily not willing to pay.
- Mexico: Replacing dirt floors with cement can reduce parasitic infections and anemia, and improve cognitive development in children (Piso Firme).

# What CEGA Brings to our Partners

- Mentoring by researchers with experience conducting impact evaluation at multiple scales
- Research capacity building, through international student exchanges, short courses, workshops
- Dissemination of research and assistance in scaling up successful interventions, via global network of think tanks, policy-makers and implementers



# How We Benefit from Partnership

- Opportunities for collaborative research and learning
- Building our capacity to translate research into better policies and programs
- Partners for training in impact evaluation
- Expanding our network of researchers, policy-makers and implementing organizations
- Access to grants and projects that require international partnership