



THE CAMPBELL COLLABORATION

What helps? What harms? Based on what evidence?

Impact Evaluation for Development in a Global Context

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More opportunities, a better future



More opportunities, a better future... But how do we know?

- Results agenda and New Public Management – such as US Government Results and Performance Act 1993 and UK *Modernizing Government* White Paper 1997
- Focused on outcome monitoring
- Which has its place, but DOES NOT TELL YOU WHAT DIFFERENCE YOU ARE MAKING (eg USAID)



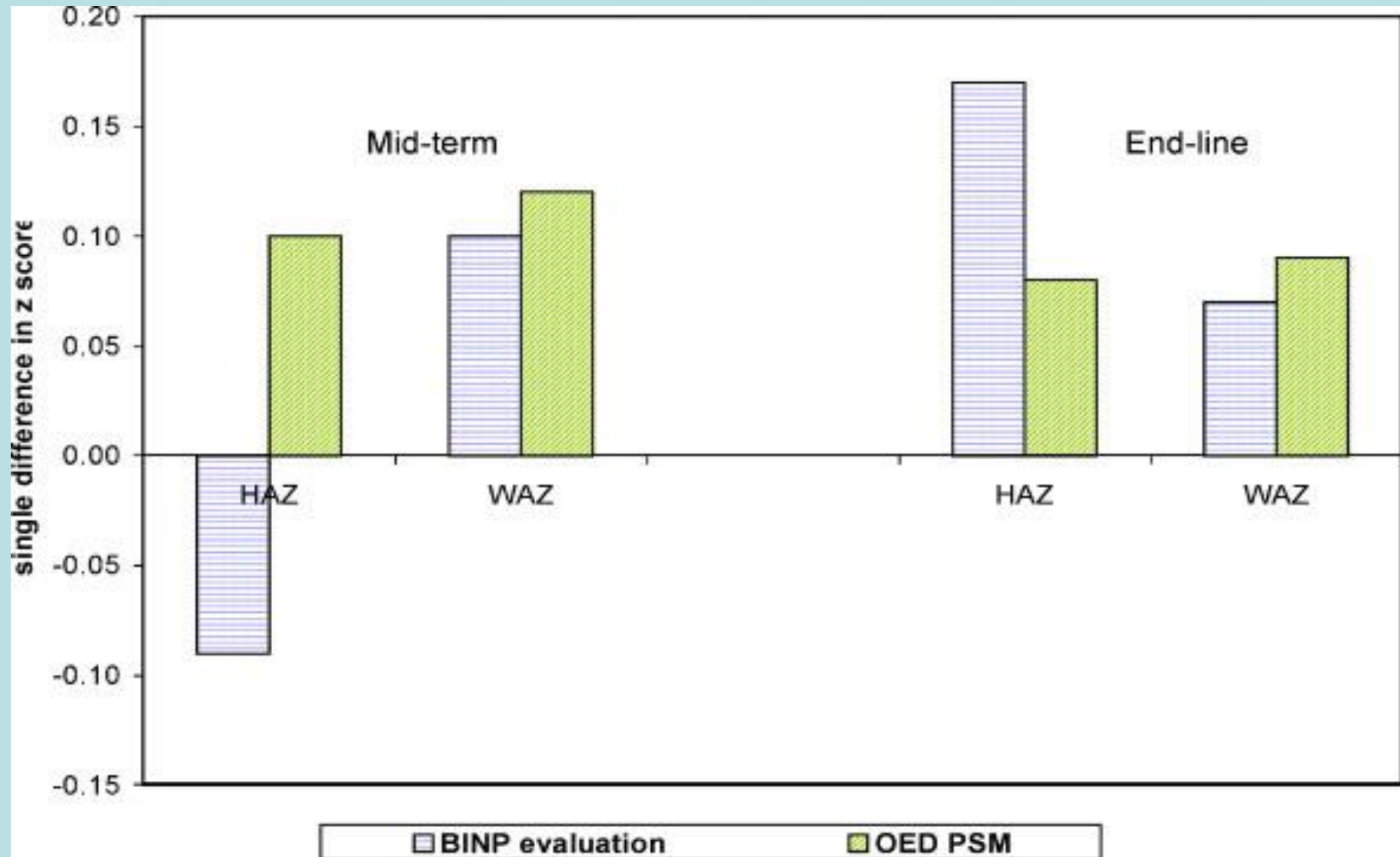
The
misguided
results
agenda: a
cautionary
tale



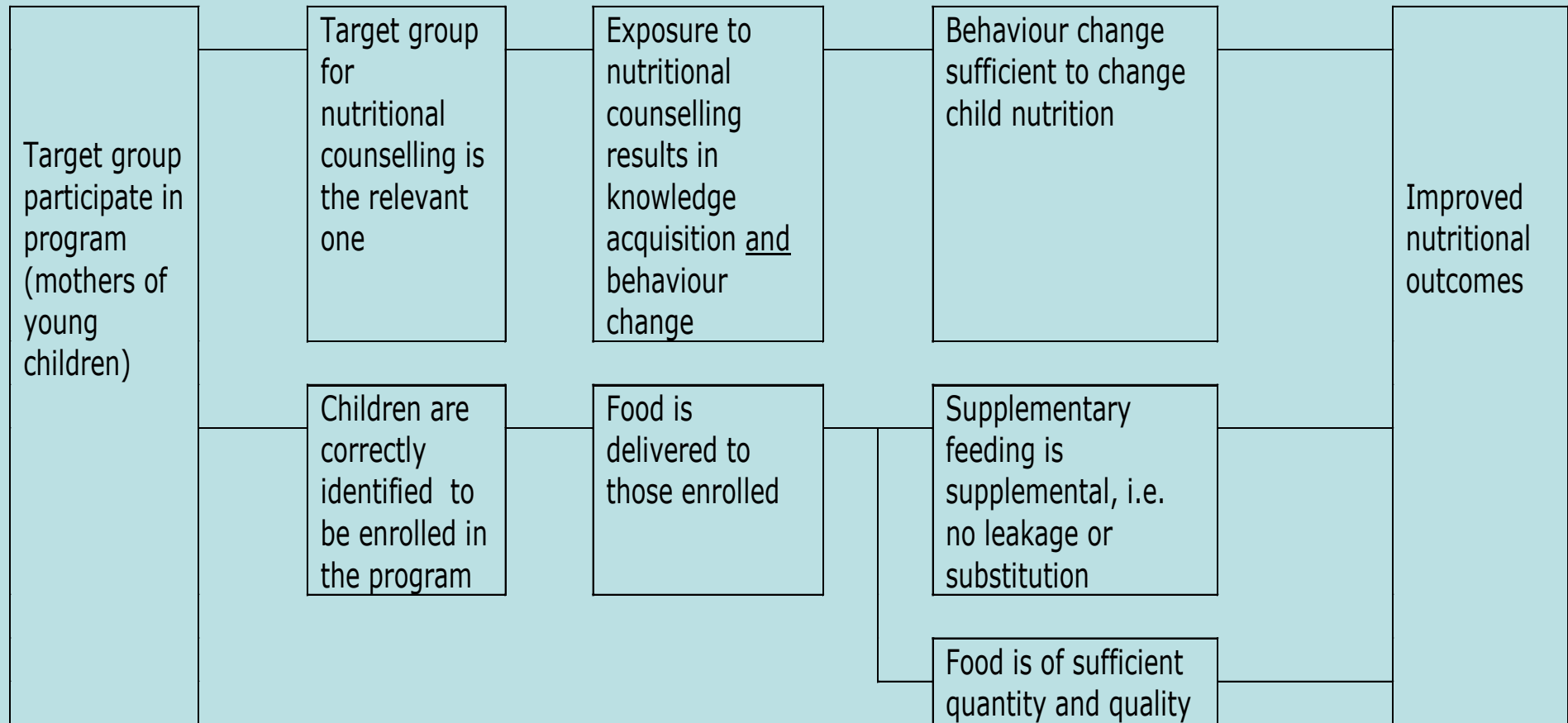
The case of the
Bangladesh
Integrated Nutrition
Project (BINP)



BINP: Comparison of impact estimates



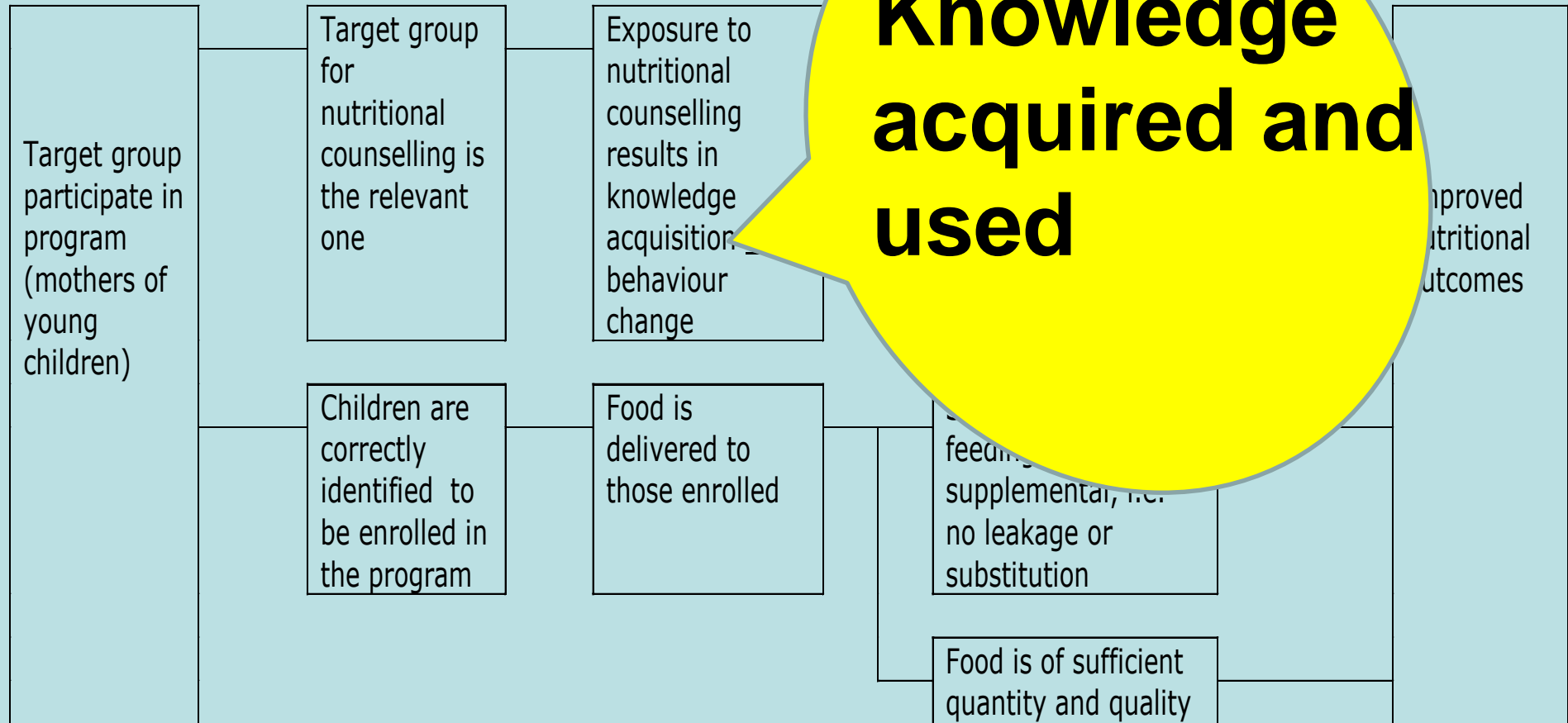
Summary of theory



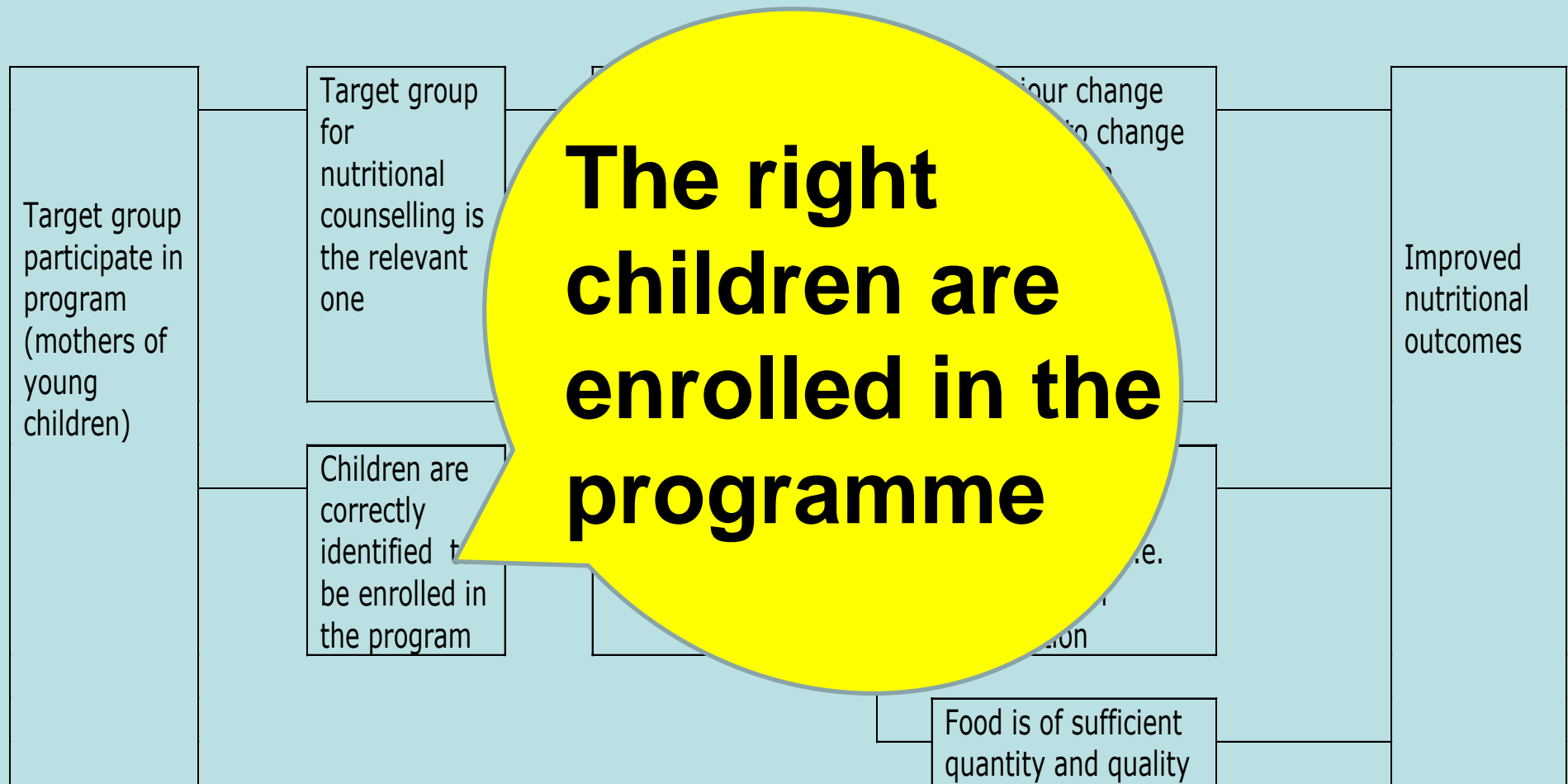
The theory of change



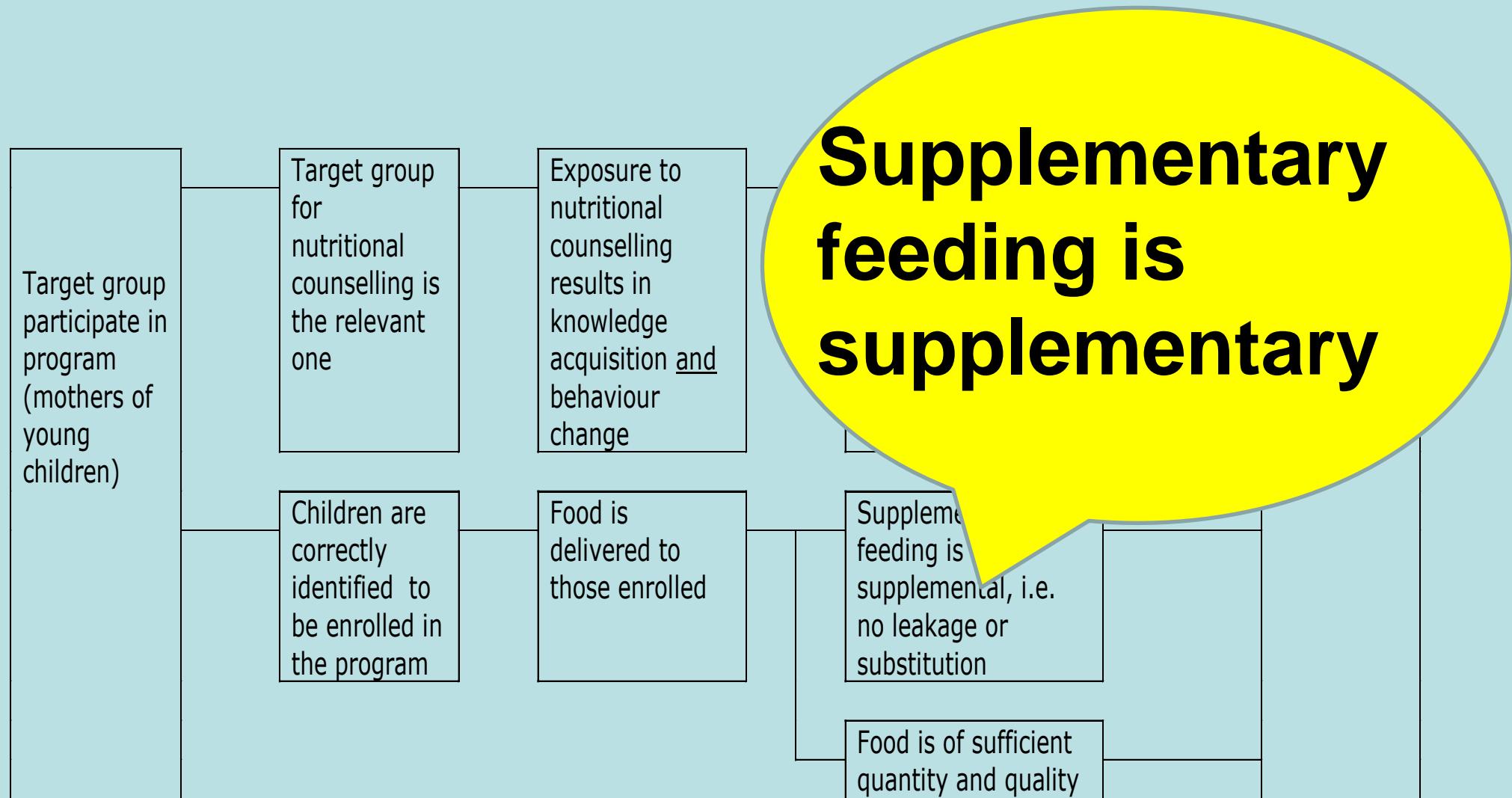
The theory of change



The theory of change

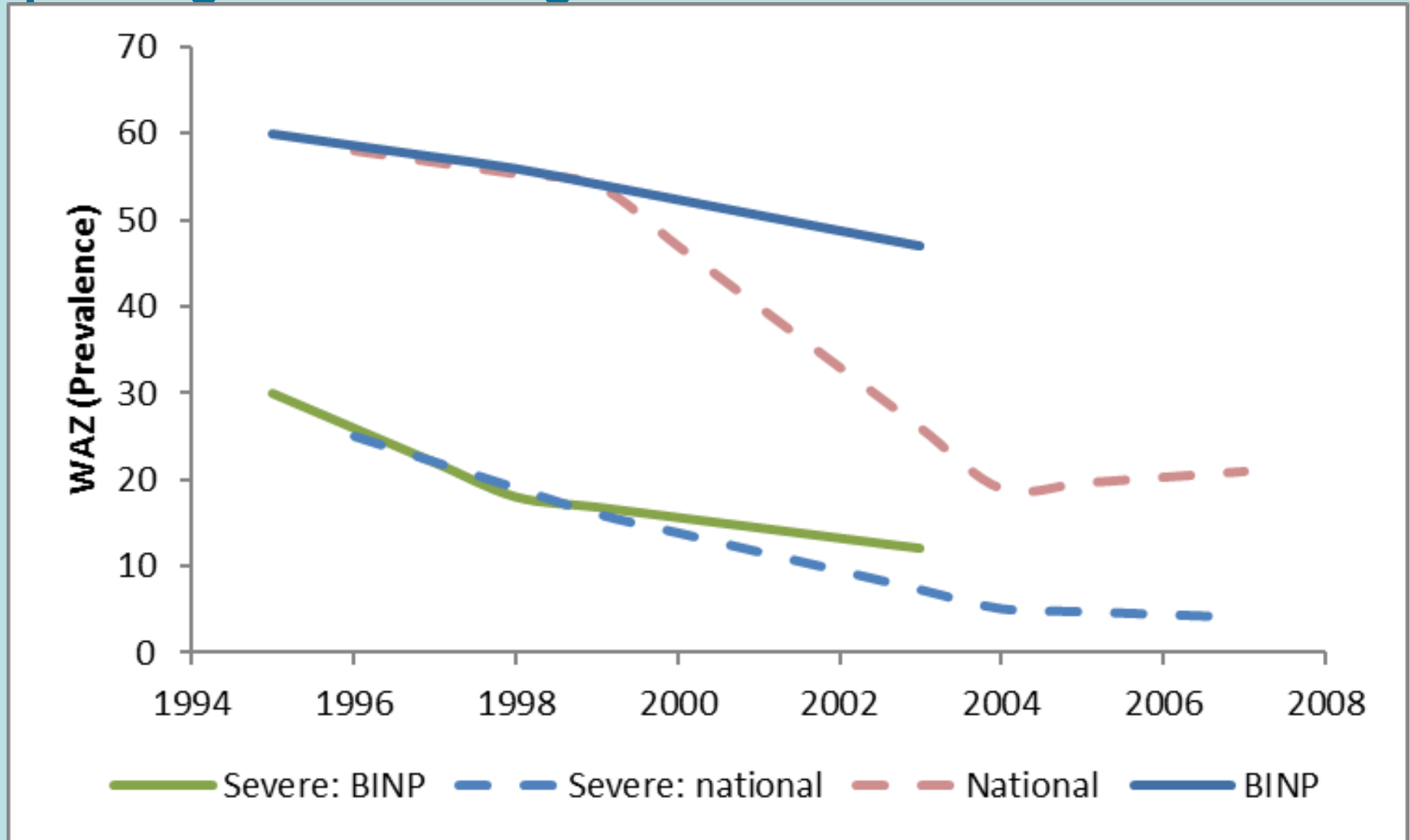


The theory of change





So nutrition was improving in BINP areas... but it was improving all over Bangladesh





Lessons from BINP

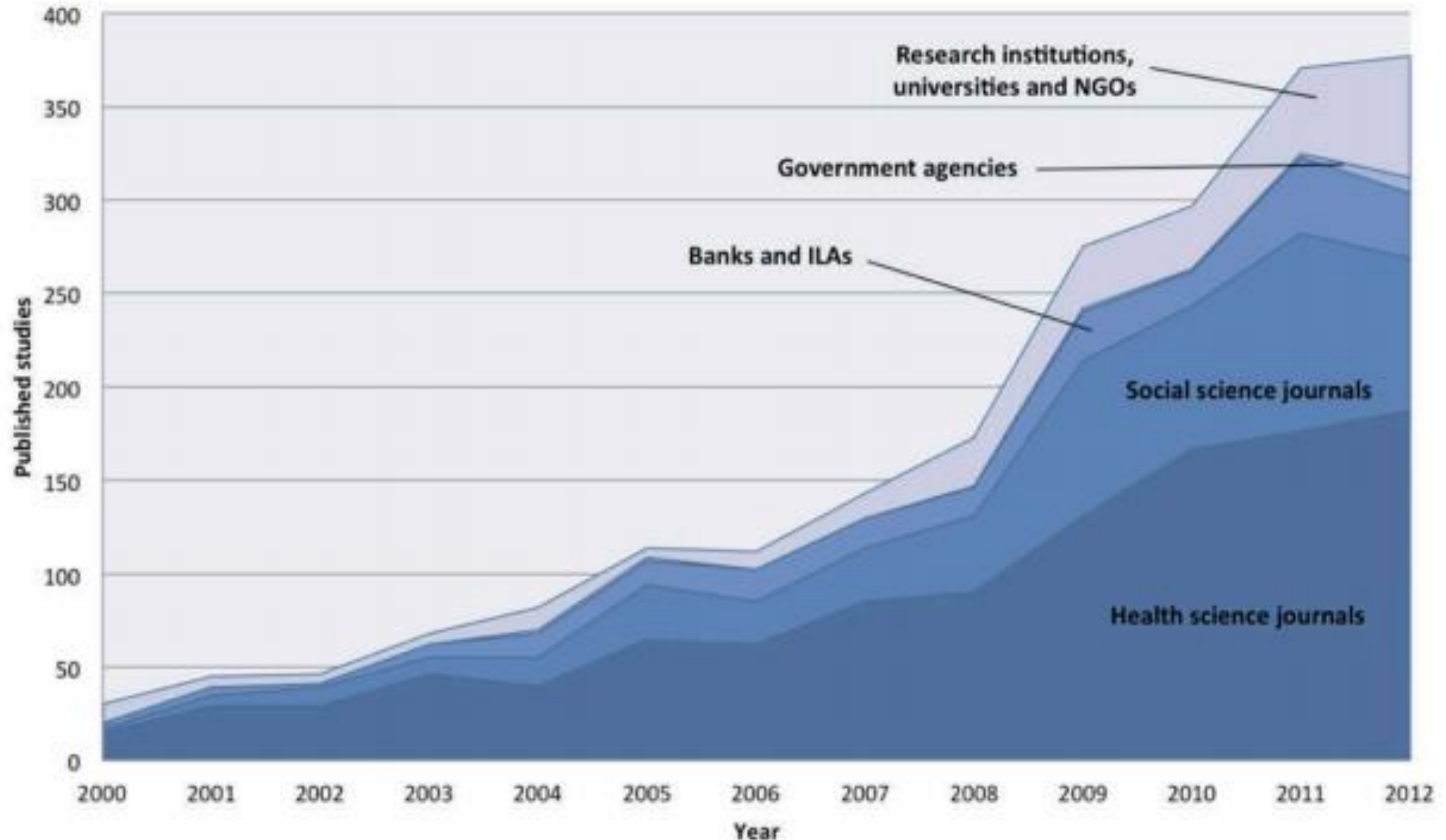
- Apparent successes can turn out to be failures
- Outcome monitoring does not tell us impact and can be misleading: **only rigorous impact evaluation does this**

All this is some years ago. Since then large rise in impact evaluation....

Grown rapidly but focused health, then education...



Studies published each year





So what about infrastructure?

Is randomization possible?



Yes, for many interventions it is



Off-grid electricity, can randomize at the household level (e.g. solar home systems) or community level (e.g. micro-hydro)



Urban development: slum upgrading, can randomize at household level (improved housing) or settlement level (community-level services, e.g. street lighting)



Water supply and sanitation: community (e.g. standpipes) or household (latrines, point of use water treatment)

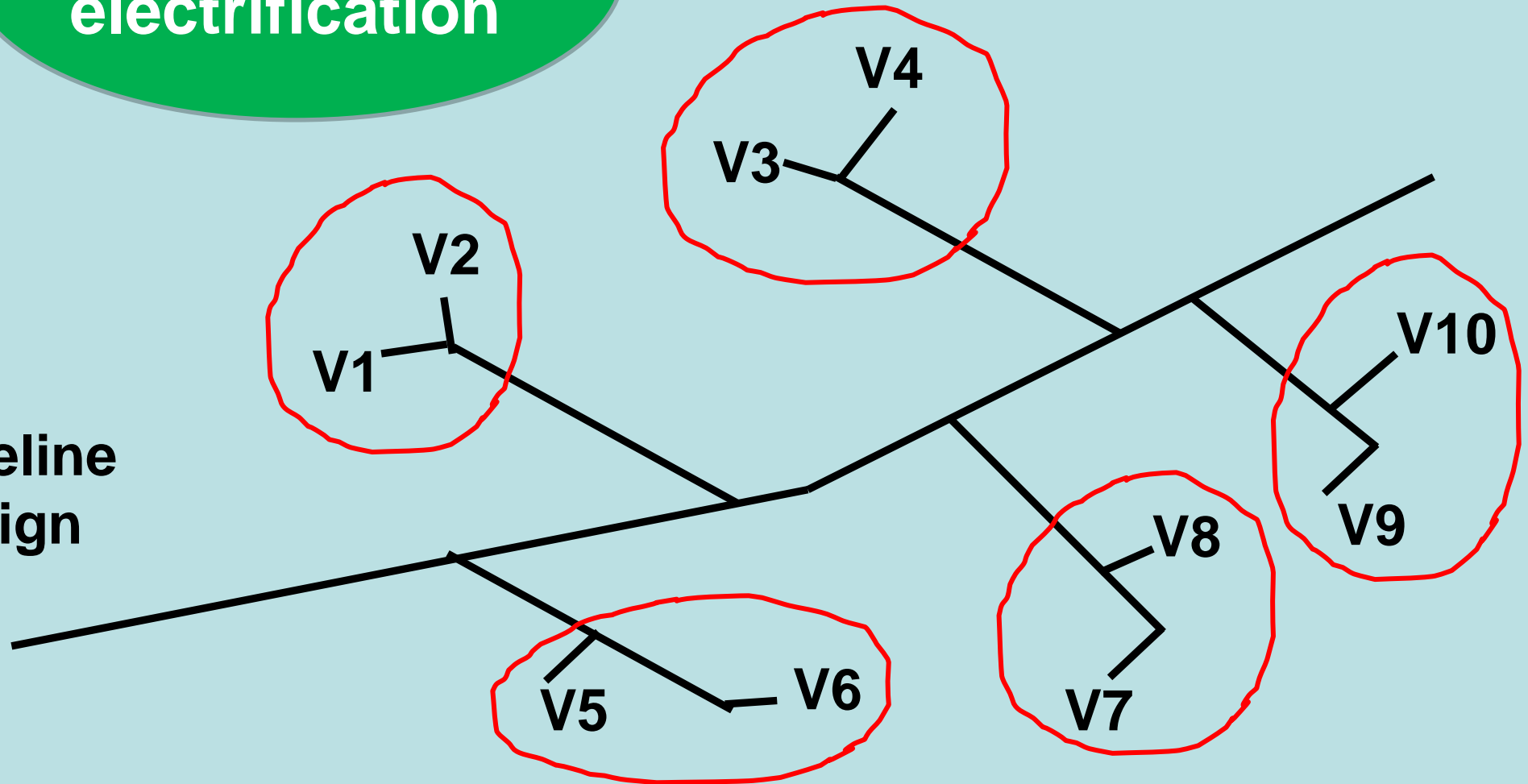


Even large scale infrastructure

**Rural
electrification**

**Matched pair
randomization**

**Pipeline
design**



Other possible random roll out (pipeline design)



- Rural roads (or urban upgrading)
- Rehabilitation (e.g. piped water system)
- Secondary or tertiary irrigation canals



Or can examine policy reform



New system of pollution auditing in Gujarat



Agricultural water pricing in West Bengal





Can randomize pricing

- Subsidy for electricity connection charge
- Vouchers for
 - Utilities
 - Road and bridge tariffs
 - Using transport services
- Vary community-level subsidy for services



And you can use an encouragement design



- Everyone is exposed to the treatment
- Random assignment is of encouragement, not the treatment
- But the encouragement must not affect the outcomes

- **Examples of possible encouragements are information or reducing transaction costs (randomized pricing is an encouragement design)**

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Sinhala Health Ltd (Pvt) Ltd
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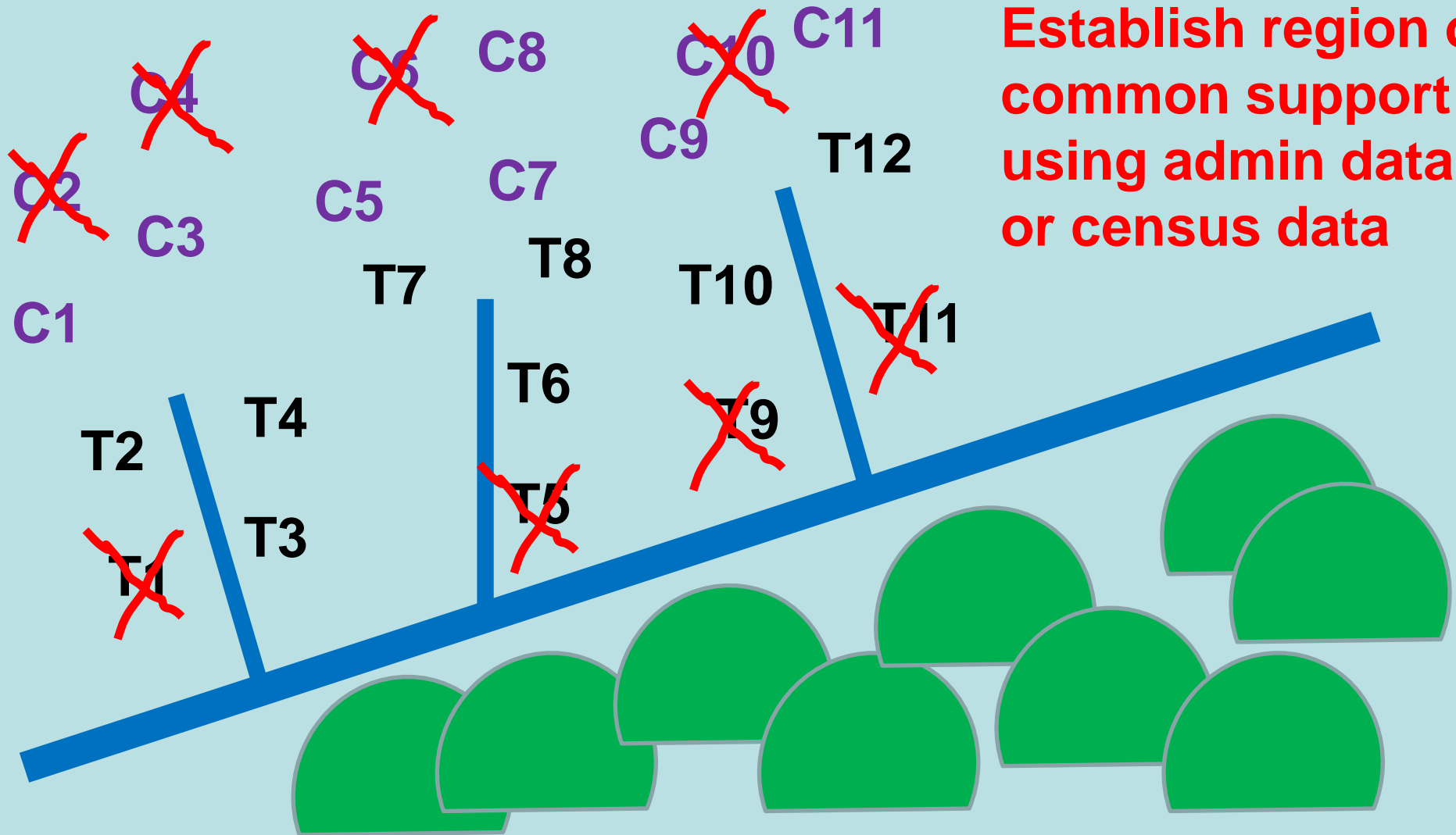
Non-experimental methods can be used

- If randomization not possible because
 - Study is ex-post
 - Administrative or political difficulties
- There may be a natural experiment
 - John Snow water supply in London 1850s cholera outbreak
 - Water privatization in Peru
- Can use ex-post design
 - Instrumental variables have been used for large infrastructure e.g. dams and roads
 - E.g. Propensity score matching at household or community level
 - Regression discontinuity of eligibility criteria for service subsidy
 - Preferably always double difference



But with Diff in Dff still use matching

Example: irrigation



Establish region of common support using admin data or census data



Access to improved water source in Nepal

Variable	Before matching	After matching
Rural resident	Treatment: 29% Comparison: 78%	Treatment: 33% Comparison: 38%
Richest wealth quintile	Treatment: 46% Comparison: 2%	Treatment: 39% Comparison: 36%
H/h higher education	Treatment: 21% Comparison: 4%	Treatment: 17% Comparison: 17%
Outcome (diarrhea incidence children < 2)	Treatment: 18% Comparison: 23% OR = 1.28	Treatment: 15% Comparison: 23% OR = 1.53



Strengthening weak designs

- Triangulate
 - Different impact estimates from different sources
 - Qualitative sources
- Use theory of change to think who benefits and how
- Check the causal chain





Example of Andhra Pradesh Irrigation

- Triangulation
 - Own survey double difference
 - Government data on irrigated and unirrigated *mandals* in treatment districts
 - Baseline report
 - Expert opinion

All agreed 2-2.5 t/ha without and 4-4.5 t/ha with cf 7 t/ha with in appraisal report
- Causal chain
 - Construction delays (20 years before any water received)
 - Interrupted water supply





And what about large scale single investments e.g. ports and major bridges?

- Is the impact question the most important one? (also quality of construction, cost-effectiveness etc.)
- Will have made benefit estimates for ex-ante cost-benefit analysis, can test these with 'best available double difference' (going beyond before versus after)
- May well need computable general equilibrium analysis



In summary

- We need impact evaluation to properly allocate resources and justify investments
- Randomization is often possible
 - Of the intervention itself
 - Of a related policy issue
 - Or using an encouragement design
- Non-experimental methods will otherwise often serve
- If weak designs, buttress them
- And can apply these principles to large-scale infrastructure



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Thank you

Don't miss the

What Works Global Summit London, 26-28 September

Wwgs2016.org

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