



Systematic review of the impact of farmer field schools

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Farmer Field Schools viewed as a promising intervention

CA-SARD Giving Voice to women in Farmer field schools



Picture taken from ACT-Africa publication.

Origins of farmer fields schools

- Originated in response to the overuse of pesticides in irrigated rice systems in Asia
- Associated with the FAO
- Founded on the idea that farmers will be more willing and able to reduce pesticide use if they learn certain agro-ecological principles that are best acquired through 'discovery learning'

The FFS intervention

- Roughly 20–25 farmers who meet periodically throughout the major part of the crop cycle
- Encouraged to learn through Q&A rather than lectures
- Learning through experimentation
- Emphasis on social learning

Many studies do show results



“Studies reported substantial and consistent reductions in pesticide use...” Van den Berg 2004

Ready for policy?

- Limited number of high-quality impact evaluations
- No systematic review of high-quality impact evaluations

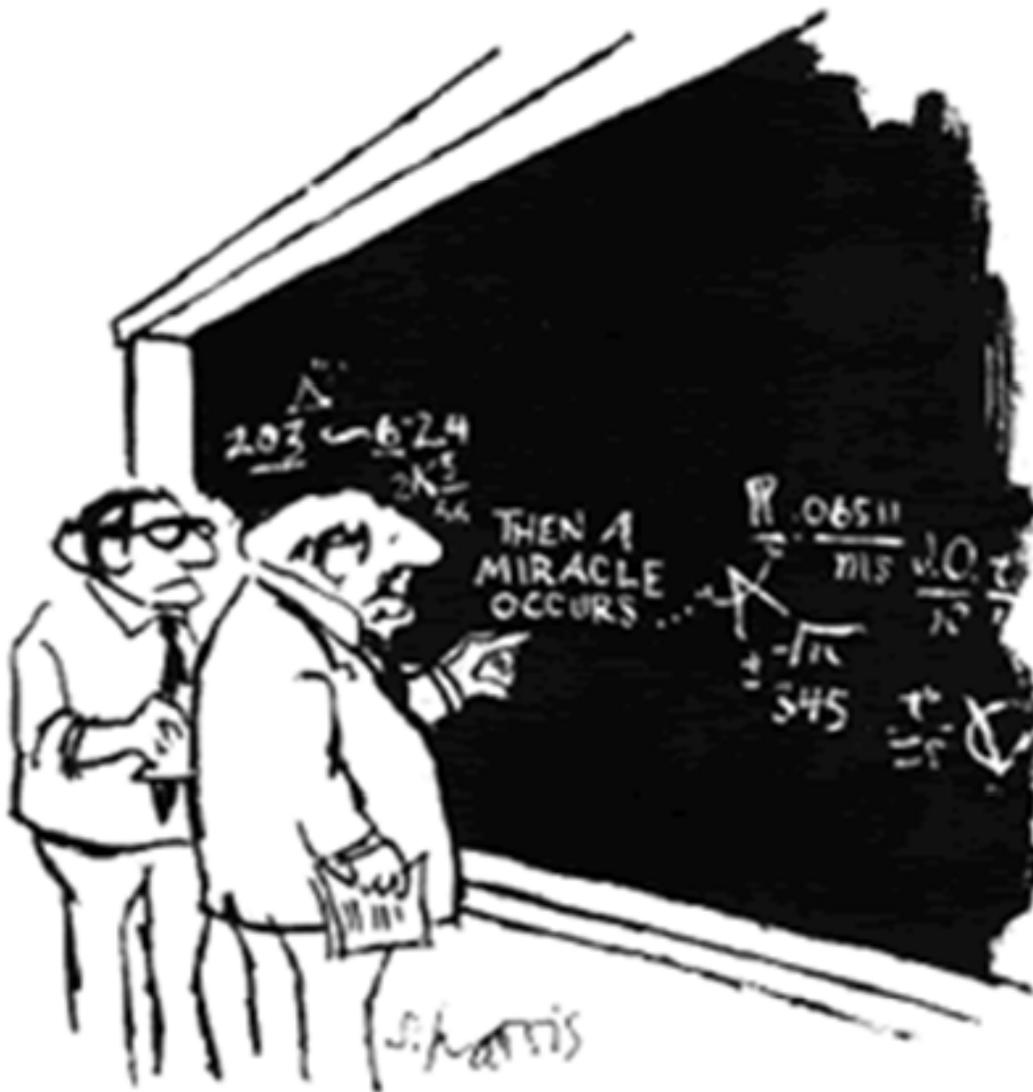
What is a (3ie) systematic review (SR)?

- SRs are designed to be key inputs into evidence-based policy making—they aim to synthesize the best available evidence on a specific type of intervention.
- 3ie SRs follow the Cochrane/Campbell Collaboration SR methodology.
- 3ie SRs include analysis of what works (effectiveness based on IE), when (variation by context), and why (theory of change)

SR process for an unbiased, transparent, and rigorous synthesis

1. Methodology set out ex ante in a study protocol (study inclusion criteria, methods of search, appraisal and synthesis, causal chain)
2. Rigorous search to identify published and unpublished literature, in any language
3. Application of study inclusion criteria, determines what gets included
4. Critical appraisal of study quality, to assess how reliable is the included evidence
5. Synthesis of evidence (outcomes and causal chain), sensitivity and sub-group analysis
6. Review updated as new evidence emerges

To understand 'why', need a theory of change

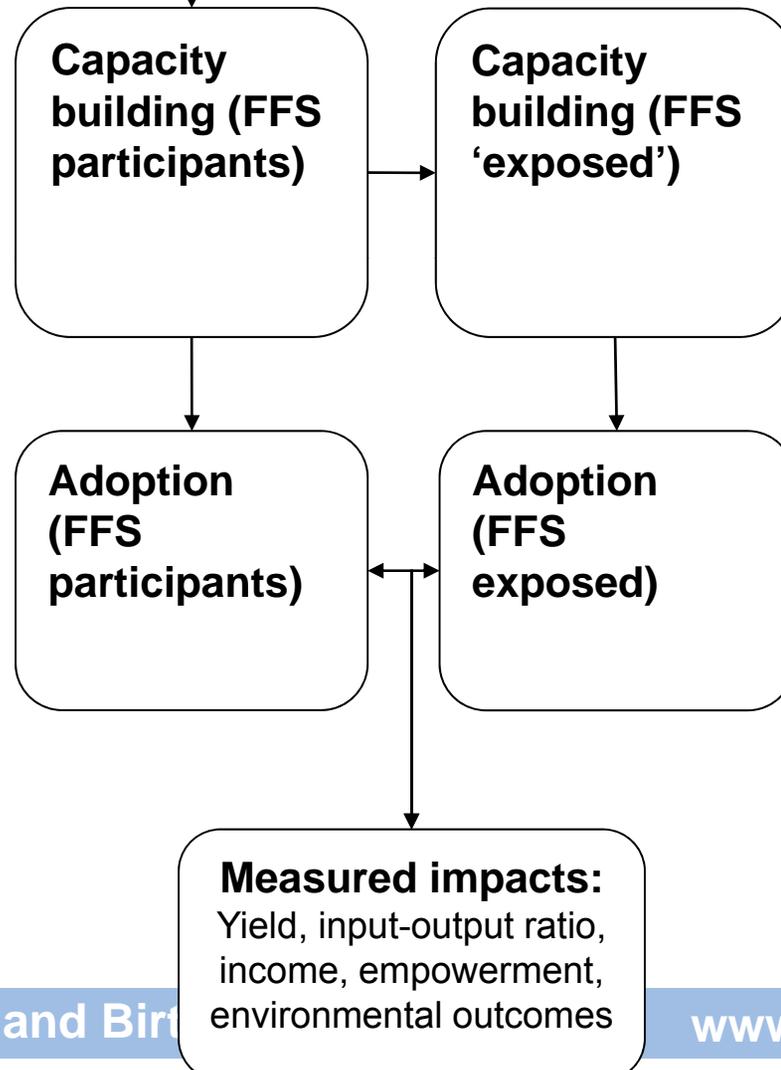


“I think you should be more explicit here in Stage 2...”

**Input 1 Training
of trainers**

**Input 2 Field
school**

Farmer field school intervention theory...



...with assumptions

Input 1 Training of trainers

Input 2 Field school

Assumptions:

- Facilitators adequately trained
- Farmers and facilitators attend full meeting schedule
- FFS appropriately synchronised with planting season
- Capacity to learn
- Use of 'control' plots

Capacity building (FFS participants)

Capacity building (FFS exposed)

Assumptions:

- High degree of social cohesion
- Geographical proximity to other farmers (observation) or market (communication)

Adoption (FFS participants)

Adoption (FFS exposed)

Assumptions:

- Curriculum relevant to problems facing farmers
- Farmer attitudes changed (convinced message appropriate)
- Farmers convinced others will do the same
- Access to inputs if necessary

Assumptions:

- New technology is appropriate
- Market access
- Favourable prices
- Environmental factors including weather, soil fertility

Measured impacts:
Yield, input-output ratio, income, empowerment, environmental outcomes

Why is attribution difficult for FFS?

- Programs are situated in geographic areas seen as more receptive → endogenous program placement bias
- Programs specifically target those likely to benefit (farmer leaders) or skilled farmers are more likely to seek out extension services → participant self-selection bias
- Other interventions may interact with the FFS intervention → contamination
- Isolation may be difficult: e.g. unintended spillovers through social networks and at the market-place
- FFS programs aim to diffuse information from direct beneficiaries (participants) to indirect beneficiaries through social contact (exposed) so need to measure 3 groups and ensure geographically separated control/comparison group

Search strategy

Titles screened: 27,886

Database searches:

9,459

Google: 18,398

From contacts: 29

Abstracts screened:

872

Studies from previous reviews: 65

Full text sought: 524

459 from searches

65 from reviews

Full text obtained: 288

26 FFS impact papers

158 Excluded on design
(no comparison group and high risk of selection bias)

13 individual FFS studies

Characteristics of included impact studies

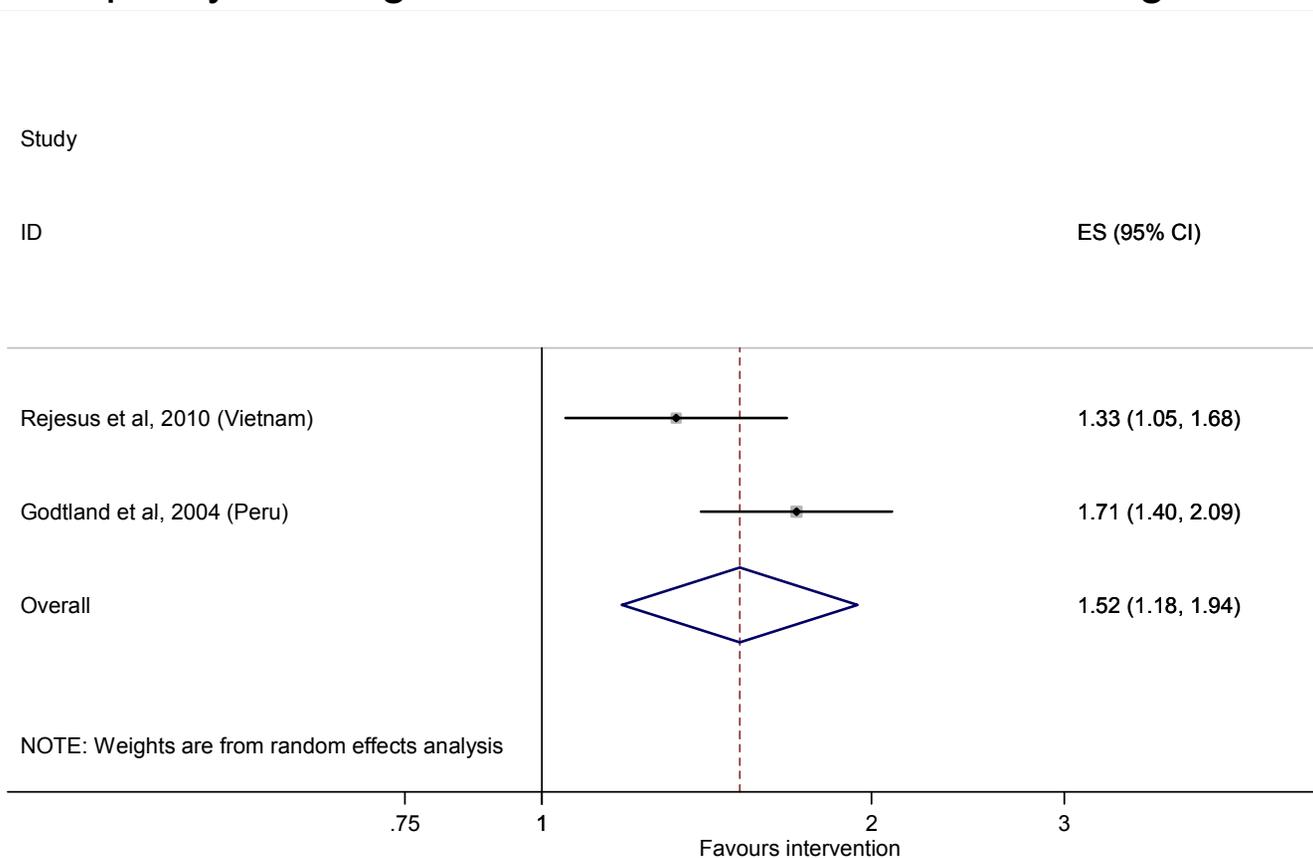
- 17 separate FFS programs: 2 in Latin America, 4 in East Asia, 6 in South Asia, and 5 in sub-Saharan Africa
- Evaluation design: quasi-experiments using IV, PSM and DID for identification (no RCTs)
- Study arms: 7 include 'exposed' farmers – those living within FFS villages – to measure spillovers from farmer-to-farmer diffusion
- Small samples: on average about 400 farmers and often only a handful of primary sampling units (clusters or villages)

Critical appraisal and synthesis methods

- Critical appraisal based on identification strategy, attrition, quality of statistical matching, approach to managing selection bias
- Effect estimates measured as change in FFS treatment group over non-FFS comparison group
- Synthesis using forest plots and meta-analysis

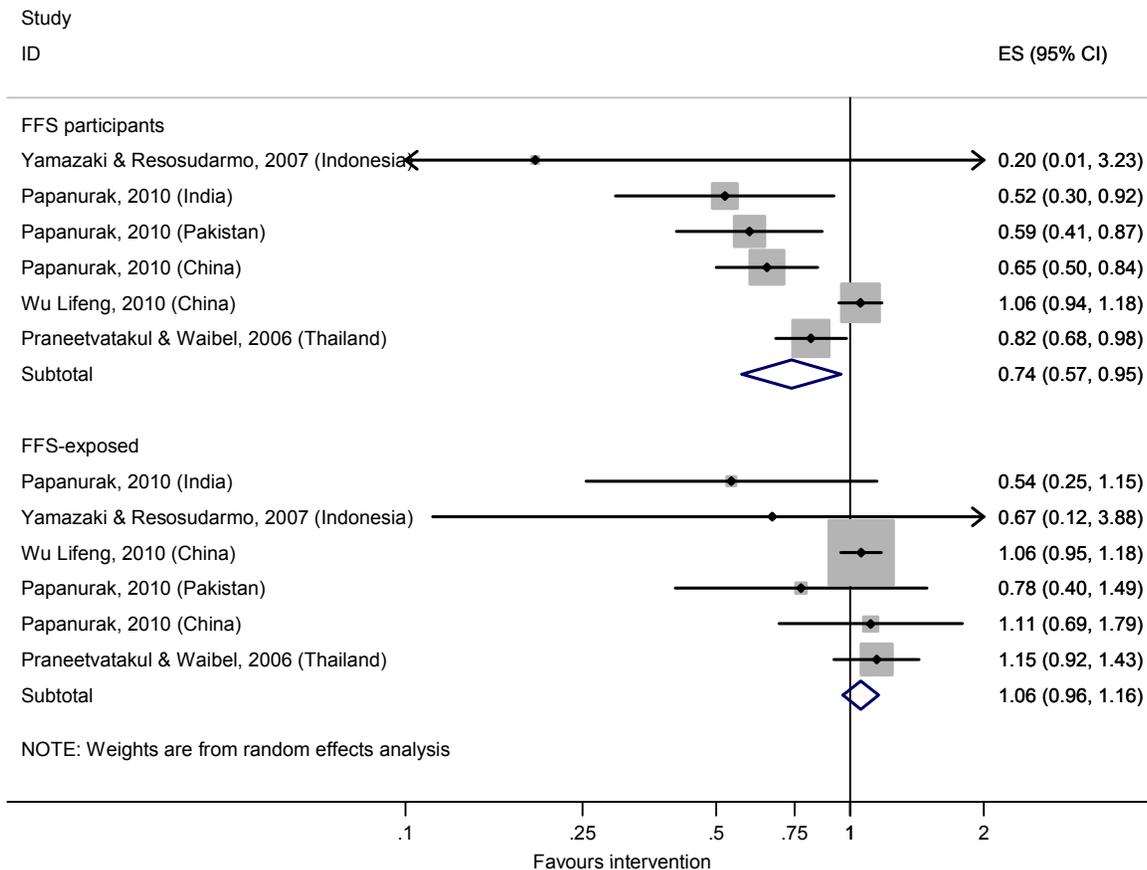
Positive impacts on knowledge (IPM practices) among FFS-beneficiaries

Capacity building outcomes measured with knowledge scores



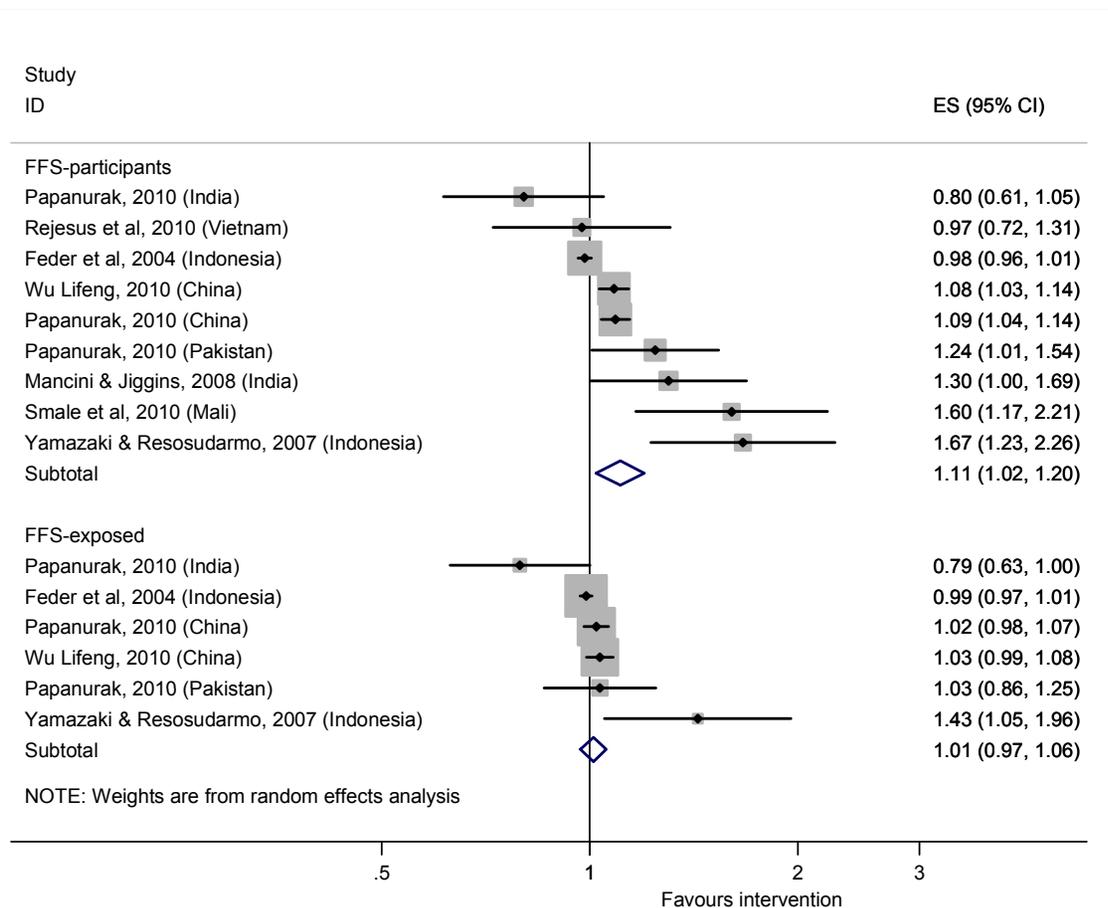
Reduced pesticide use among FFS-participants, but not FFS-exposed

Adoption outcomes measured with pesticide costs



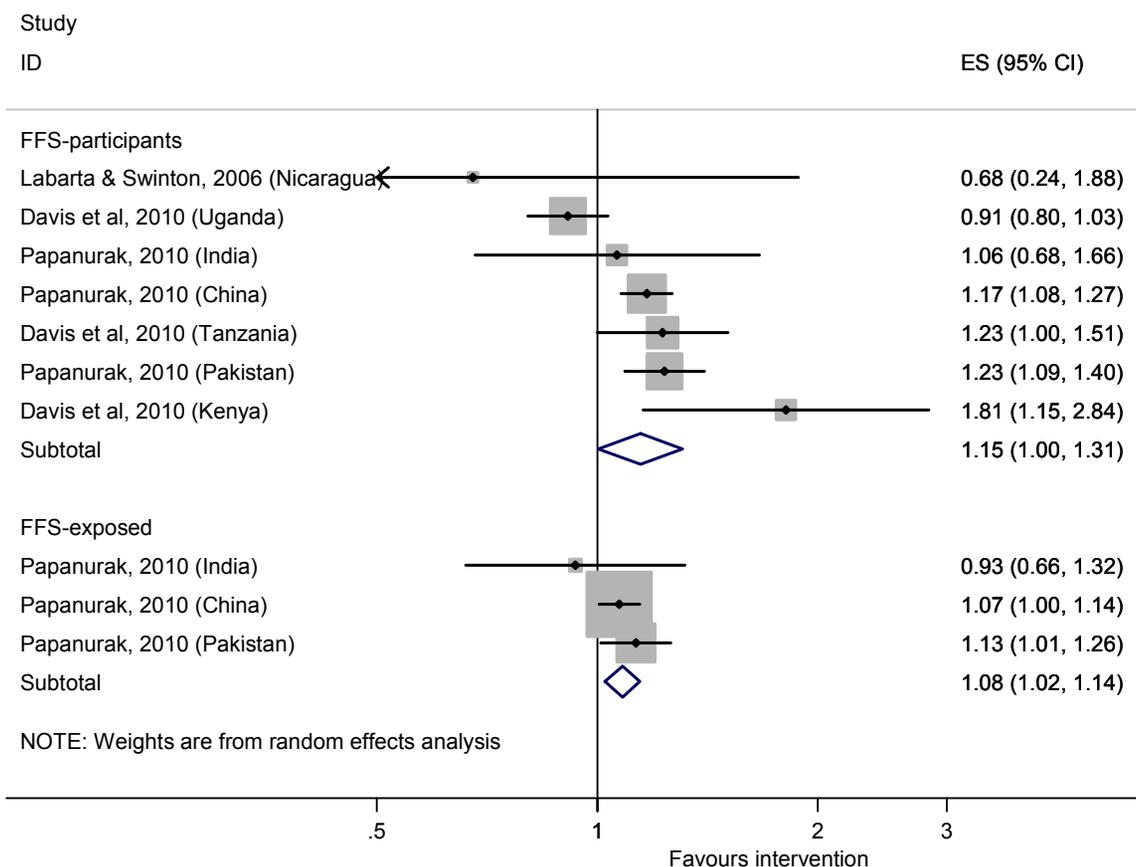
Increased yields among FFS-participants, but not FFS-exposed

Agriculture outcomes measured with yields

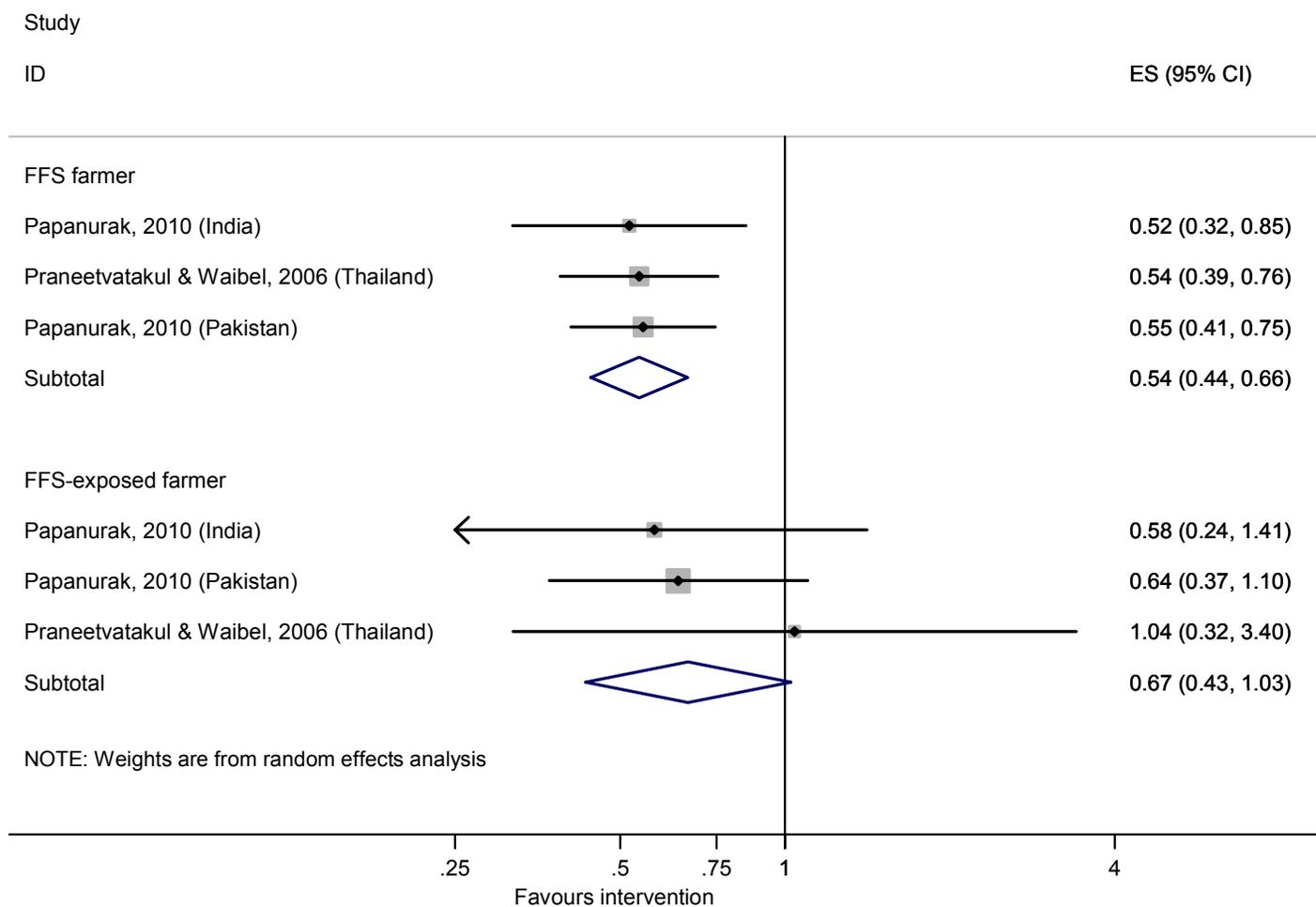


Increased revenues among FFS-beneficiaries (+ some lower-quality evidence for FFS-exposed)

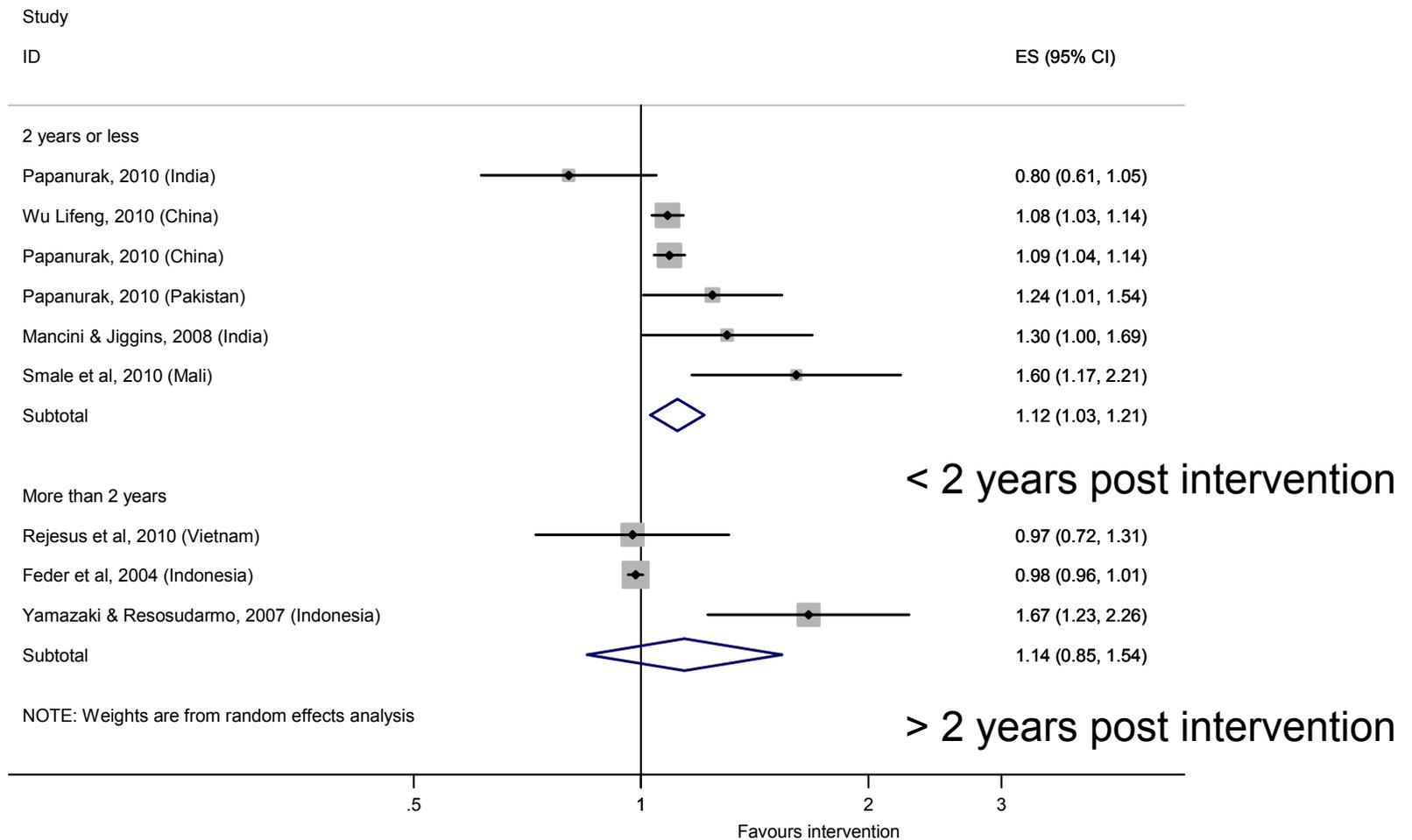
Agriculture outcomes measured with revenues



Reduced environmental risk factors



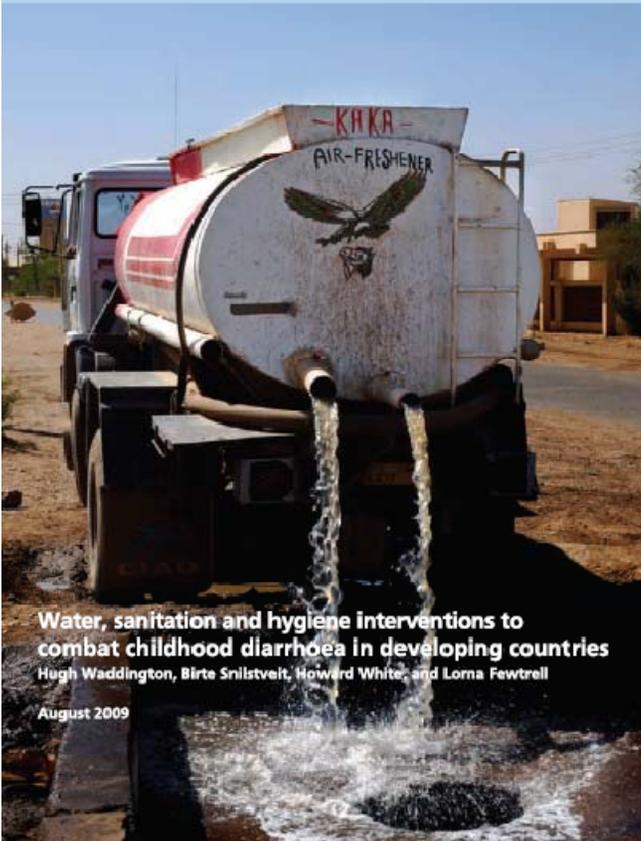
But concerns about sustainability of yields



Please visit:

www.3ieimpact.org/syntheticreviews

International Initiative for Impact Evaluation
Synthetic Review 001



A white water truck with a large cylindrical tank is parked on a dirt road. The tank has 'KAKA' and 'AIR-FRESHENER' written on it, along with a logo of an eagle. Water is being dispensed from a tap at the back of the truck into a hole in the ground.

Water, sanitation and hygiene interventions to combat childhood diarrhoea in developing countries
Hugh Waddington, Birte Snilsveit, Howard White, and Lorna Fewtrell
August 2009

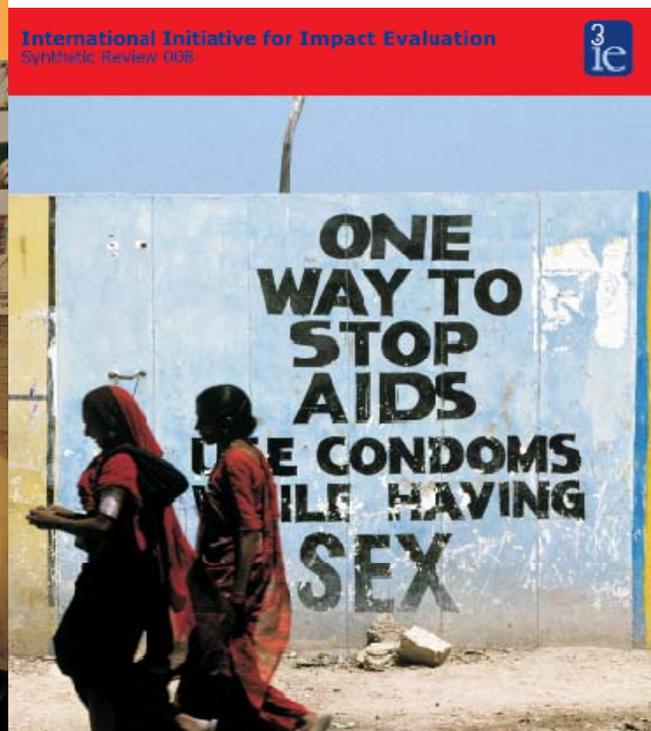
International Initiative for Impact Evaluation
Synthetic Review 005



A healthcare worker in a pink uniform is examining a pregnant woman's arm. The woman is wearing a colorful patterned wrap. They are in a simple room with a window and some posters on the wall.

Community-Based Intervention Packages for Preventing Maternal Morbidity and Mortality and Improving Neonatal Outcomes
Zohra S Lassi, Batool A Haider, and Zulfiqar A Bhutta
March 2010

International Initiative for Impact Evaluation
Synthetic Review 006



A blue sign with white text reads: 'ONE WAY TO STOP AIDS IS TO USE CONDOMS WHILE HAVING SEX'. Two women in red and black clothing are walking past the sign.

Behaviour Change Interventions to Prevent HIV among Women Living in Low and Middle Income Countries
Sandra McCoy, R. Abigail Kangwende and Nancy S. Padian
December 2009

Hugh Waddington and Birte Snilsveit

www.3ieimpact.org