Asian Development Bank - International Initiative for Impact Evaluation

Video Lecture Series

Systematic Reviews

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What Are Systematic Reviews?

- A way of establishing the **overall balance of empirical evidence** on a topic or policy

- And separating **higher quality** from lower quality evidence

- A way of identifying what is **generalisable** and what is **context specific**
Why Do We Need Systematic Reviews?

Sheer amount of available evidence

“Beyond the capacity of the human mind”
Why Do We Need Systematic Reviews?

• Single studies can:
  ➢ Misrepresent the *balance* of research evidence
  ➢ Illuminate only one part of a policy issue
  ➢ Be sample-specific, time-specific, context-specific
  ➢ Often be of poor quality
  ➢ Consequently, give a biased view of the overall evidence
What Makes a Review Systematic?

- Systematic searching for studies
- Systematic critical appraisal of identified studies – separating the wheat from the chaff
- Systematic and transparent inclusion/exclusion of studies for final review
- Systematic and transparent extraction of data
- Systematic statistical testing and analysis
- Systematic reporting of findings
Searching for Evidence

Systematic Searching for Studies

Electronic Sources
- Database
- Electronic Libraries
- Internet

Print Sources
- Journals
- Textbooks
- Handsearching

'Grey' Literature
- Databases (e.g. SIGLE)
- Conference Proceedings
- Research Funders
Types of Systematic Review

- Statistical Meta-Analyses
- Narrative Systematic Reviews
- Rapid Evidence Assessments
- Qualitative Systematic Reviews
Statistical Meta-Analytical Reviews

• Involves data-pooling and statistical synthesis of independent studies

• And aggregating/cumulating samples and findings

• Seeks to measure and control bias

• Requires included studies to be as similar (homogeneous) as possible
Requirements for Homogeneity

Similarity of:

- Population (or sub-groups)
- Intervention
- Comparator
- Outcome

Overlapping confidence intervals
### FFS Participants

- Indonesia: National IPM Training Project Phase II (FAO, World Bank, GoI)
- India: Maharashtra project (National Centre for Integrated Pest Management)
- Philippines: IPM Collaborative Research Support Program (CRSP), Nueva Ecija (USAID)
- China: FAO/EU IPM Programme for Cotton in Asia, Hubei Province
- Sudan: Gezira Scheme, FAO IPM in Vegetables
- Vietnam: FAO Programme for Community IPM in Asia
- India: FAO/EU IPM Programme for Cotton in Asia
- Zimbabwe: Cotton IPM-FFS, Sanyati district
- Pakistan: FAO/EU IPM Programme for Cotton in Asia
- Kenya: FAO/EU IPM Programme for Cotton in Asia
- China: FAO/EU IPM Programme for Cotton in Asia
- Sri Lanka: IPVM Project (FAO, UNEP)
- Thailand: FAO/EU IPM Programme for Cotton in Asia
- Pakistan: National IPM Programme, Khairpur
- Indonesia: National IPM Training Project Phase II (FAO, World Bank, GoI)
- Ecuador: EcoSalud
- Nicaragua: Project for IPM in Central America (PROMIPAC)
- Indonesia: National IPM Training Project Phase II (FAO, World Bank, GoI)
- Ecuador: Plataformas Program (FAO)
- Uganda: East African Sub-regional Pilot Project Phase II (FAO)
- Subtotal (I-squared = 93.7%, p = 0.000)

### FFS Neighbours

- Indonesia: National IPM Training Project Phase II (FAO, World Bank, GoI)
- China: FAO/EU IPM Programme for Cotton in Asia
- Pakistan: FAO/EU IPM Programme for Cotton in Asia
- Nicaragua: Project for IPM in Central America (PROMIPAC)
- Thailand: FAO/EU IPM Programme for Cotton in Asia
- Pakistan: National IPM Programme, Khairpur
- Indonesia: National IPM Training Project Phase II (FAO, World Bank, GoI)
- Subtotal (I-squared = 85.2%, p = 0.000)
• Provide a descriptive account of what the evidence tells us
• Provide descriptive and inferential statistics
• But on each included study individually, not cumulatively
• Provide a summary analysis of what the evidence suggests
• Provide the ‘Signal’ and ‘Noise’ of evidence
Rapid Evidence Assessments – What Are They?

• Scaled down systematic reviews of existing evidence
• Timed to meet the needs of policy makers/practitioners (1-3 months)
• Strategically using the ‘three arms’ of systematic searching, but less exhaustively
• Critical appraisal of identified studies is included
• Summary of findings, with caveats and qualifications
• Not a comprehensive or exhaustive as systematic reviews;

• Hence, REAs are more likely to be subject to statistical bias than a full systematic review

• We must, therefore proceed with greater caution with REAs
Qualitative Systematic Reviews

• Synthesise qualitative and ethnographic evidence

• In-depth interviews, focus groups, observational studies, documentary analysis, case studies

• Seek common themes, concepts and principles across different studies

• Detailed attention to context/contextual specificity

• And stakeholders’ views

• Do not seek generalisations
Systematic reviews:

• Provide the balance of evidence on a topic
• Avoid the limitations of single studies alone
• Can provide generalisable statistical meta-analysis of the available evidence
• Or narrative/descriptive analysis of context
• Can be done rapidly (as REAs)
• Are also undertaken on qualitative evidence
Thank you
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