Intervention Effectiveness

Which behaviour change approaches have been effective in ensuring clean cooking practices are sustainably adopted?

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Nicholas Goodwin, Founder and Director
Sarah Ellen O'Farrell, Associate

HED|Consulting
Household energy & development

Jonathan Rouse, Director
Kirstie Jagoe, Associate

Adam Biran, Lecturer
Elisa Roma, Research Fellow

Duke
UNIVERSITY

Eric Finkelstein, Associate Professor

What we will cover today

1. Early encounters – clean cooking meets behaviour change
2. Objectives of the study
3. Design of the study
4. Literature review results
5. Highlights from case studies
6. Initial findings and recommendations

A clean cooking encounter of behaviour change (1)

- What does ‘behaviour change’ mean to the clean cooking sector?
  - Drying wood, using lids and pre-soaking beans…
- Broadening of concept
  - More than individual behaviour - ‘outcomes’
  - Framework for describing approaches to affect change - ‘inputs’
  - Entire discipline comprising regulation, promotion, changes to physical environment…
- What interventions *aren’t* considered in this study?
  - Pure technology *dissemination* interventions
  - Everything else can be described in terms of the behaviour change concepts

A clean cooking encounter of behaviour change (2)

- What's new?
  - Explicit use of BC terms not found but principles have been applied
  - New framework and terminology
  - Sharper tools for some existing approaches
  - **Sharper focus on ultimate aim: changing behaviour**

- Ultimate aim of clean cooking sector: to change behaviour

A behaviour change encounter of clean cooking (1)

- Strong feeling among cookstove people that they have been working on behaviour change for **years**.
- The clean cooking/HAP sector faces something of a **crisis:**
  - 3 billion people STILL live in households using inefficient/dangerous cookstoves?!?
  - Many so-called successes have fallen short of meaningful impact and provided a false impression of progress made.
- Governments, donors, etc hungry for **solutions to leapfrog** beyond incremental change and **scale up for real impact**.
- Our journey from discussing whether the issue is an engineering, economic or social one to seeing solutions as based in a wide range of **connected human needs and behaviours**.

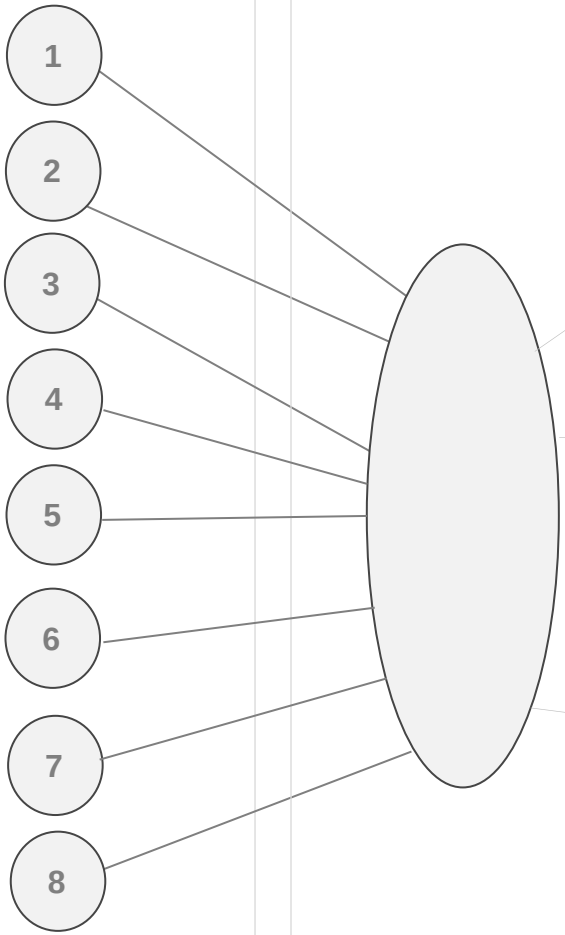
A behaviour change encounter of clean cooking (2)

- Participation is a good start but we need to move to a **deep understanding of customers and the social ecologies** of their decision making on clean cooking.
- The ultimate aim of behaviour change approaches is to **help the clean cooking sector achieve scale and sustainability**.

Study Objectives

1. **Define** a set of impacts, outcomes, interventions, and the **behaviour change techniques (BCTs)** used in the clean cooking sector.
2. Investigate and describe **how these BCTs have been implemented** within the household clean cooking sector in resource poor settings.
3. Analyse the evidence of the **impact of BCTs within clean cooking** programs on human welfare and the environment.
4. Identify and develop **case studies** to present programs that have **shown impact from BCTs**.
5. Provide **recommendations for effective use of behaviour change** approaches in clean cooking interventions.

BEHAVIOUR CHANGE TECHNIQUE	INTERVENTION	OUTCOME	IMPACT



1. Reward and threat
2. Shaping knowledge
3. Change physical environment
4. Social support
5. Goals, planning &monitoring
6. Comparisons
7. Identity and self-belief
8. Regulation

1. Expand production
2. Increase demand
3. Stimulate purchase
4. Maximise correct use
5. Promoting awareness
6. Policy and regulation

Improved indoor air quality
Stove uptake
Reduced energy consumption

Health
Economic
Environmental

Our initial view of how the elements fit together

Definition: Outcomes

1. Acquisition of technology (stove, fuel, hoods and chimneys)
2. Use of technology (measured, observed or reported)
3. Improved indoor air quality (ventilation, household air pollution and personal exposure)
4. Reduced emissions (environmental)
5. Reduced cooking time demands (e.g. cooking, fuel collection, increased school attendance)
6. Community empowerment (social, cultural and political)
7. Health and safety (e.g. fewer burns and injuries)
8. Household fuel consumption and switching
9. Financial (monetary savings and income generation)
10. Regulation of technology and fuels
11. Policies implemented
12. Increased local capacity (skills and tools)

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6. Policy and regulation
Definitions: Interventions

What is a Behaviour Change Technique?

"The active component within an intervention that helps produce behaviour change to improve human and/or environmental impact."

Behaviour change techniques (BCTs)

1. Reward and threat, e.g. incentives for households to buy stoves.
2. Shaping knowledge, e.g. radio announcements on stove availability.
3. Change the physical environment, e.g. construction of a smoke hood
4. Social support, e.g. community health workers advising on fuel choice.
5. Goals, planning and monitoring, e.g. purchase plans for new stoves.
6. Comparisons, e.g. making a variety of stove models available.
7. Identity and self-belief, e.g. women empowered to decide on stove choice.
8. Regulation, e.g. restriction on the use of certain fuel types.

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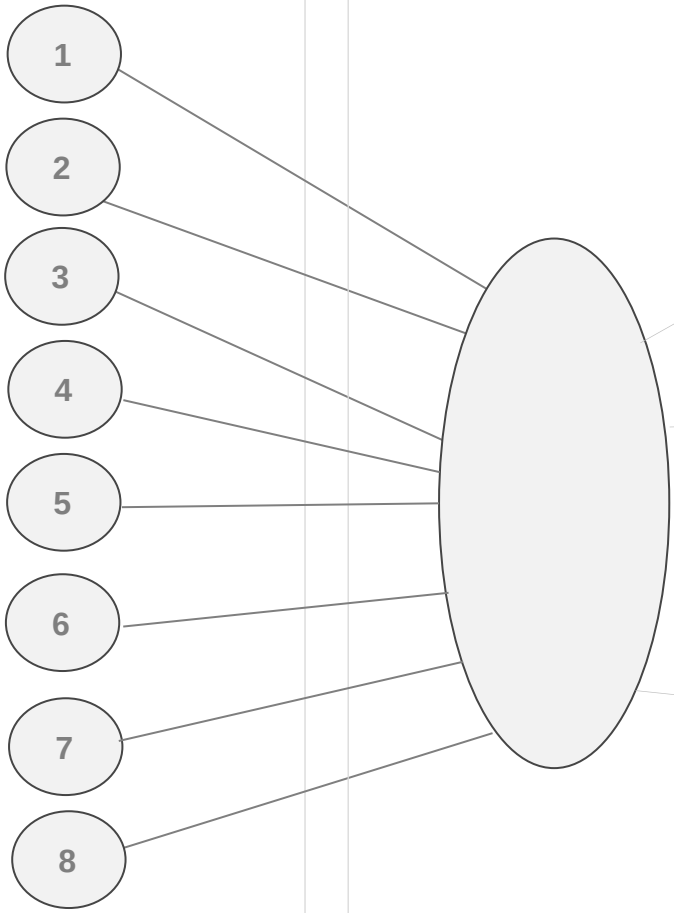

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Results

Results highlights – impacts

- Economic benefits were widely reported, with (N = 15 articles and N = 37 interventions)
- Health (and safety related) benefits (N = 24 articles and N = 32 interventions).
- Environmental benefits were documented the least (N = 12 articles and N = 20 interventions)

Results highlights – outcomes

- Most frequently reported was stove installation and/or uptake (N = 25 articles and N = 47 interventions).
- Indoor air quality (IAQ) improvements were the next most documented (N = 18 articles and N = 26 interventions).

Results highlights – BCTs

- Most frequently used is “Shaping Knowledge” (47 interventions).
- Next most frequently used are “Rewards and Threats”, with 35 interventions.
- Activating people’s “Goals” is the least widely used, only three interventions.

Case studies

Scorecard of effectiveness

Criterion	Question 1	Question 2	Question 3
1. Behaviour focus	Does the intervention have specific behaviour change goals?	Does it use behaviour change theory and/or models?	Does it use behaviour change techniques?
2. Target population	Does it demonstrate a robust understanding of the target population?	Is it based on market, behavioural and consumer research, including segmentation?	Does it combine data from different sources?
3. Barriers and benefits	Does it incorporate an understanding of what the person has to give/do to get the benefits proposed?	Does it take account of, and resolve, problems that prevent people changing their behaviour?	Does it incorporate an understanding of what competes for the time and attention of the target population?
4. Methods	Does it use a mix of intervention types (e.g. increasing demand, expanding distribution)?	Does it use a mix of activities to deliver the BCT(s)?	
5. Capacity Building	Does it build the skills, resources and capabilities of the target population?	Does it build the skills, resources and capabilities of local organisations, agencies and implementers?	Does it include development of tools and other resources?
6. Outcomes	<5% behaviour change (1/3 point)	5-10% behaviour change (2/3 point)	>10% behaviour change (1 point)
7. Impact	Did the project report on the impacts (e.g. health, economic, environmental)?	Were the impacts positive?	
8. Monitoring and Evaluation	Does it include an M&E framework?	Does this M&E framework include standardised tests (e.g. HAP monitoring and/or temperature sensor monitoring)?	Does it include a mix of methods to measure behaviour change?
Total score			

Scorecard of effectiveness

1. Behaviour focus
2. Target population
3. Barriers and benefits
4. Methods
5. Capacity Building
6. Outcomes
7. Impact
8. Monitoring and Evaluation

Case studies

1. Cambodia New Lao Stove: Geres
2. China National Improved Stove Programme: Ministry of Agriculture
3. India Room to Breathe: Shell Foundation and Envirofit
4. Indonesian kerosene to LPG conversion: Pertamina
5. EnDev Kenya
6. Nepal Biogas Support Programme: SNV
7. South Africa Study Testing Selected Behaviours to Reduce Indoor Air Pollution Exposure in Young Children: MRCSA, AED and Manoff
8. Strategies for Improved Cookstove Adoption in Rural Uganda: Impact Carbon

Case Study 1: GERES Cambodia New Lao Cookstove Project

Lead organisation:	Groupe Energies Renouvelable, Environnement et Solidarités (GERES)
Partner(s):	Ministry of Industry, Mines and Energy, Institute of Standards
Country:	Cambodia
Budget/funding:	European Union; the sale of Verified Emission Reductives (VERs)
Target:	Cookstove producers and distributors, families using charcoal and wood for cooking; commercial food producers; food service entrepreneurs.
Technology used:	Stove: New Lao Stove (NLS); Fuel: charcoal
BCT(s):	Reward and threat; Shaping knowledge; Comparisons; Regulation
Results:	Target sales (2006 – present): 2,500 units per month Actual sales (2006 – present): 5,000 units per month 32,000 tonnes of charcoal saved (212,000 tonnes of green wood)
Target impact:	Reduction in CO2: 3.2m tons Reduction in deforestation: 5,525ha of forest

Case Study 1: GERES Cambodia New Lao Cookstove Project

Effectiveness

- Strong mix of marketing, production and financing solutions.
- Uptake increased with awareness of rising oil prices (it is a charcoal ICS); when roads improved (better distribution) and when the economy improved (affordability).
- Stove used exactly as the traditional one – same utensils, same fuel and portable.
- Sustainable market-led solution: value-chain created thousands of jobs. People want to manufacture and distribute NLS as a livelihood, i.e. the supply-side has a vested interest in the market growing.

Initial Findings & Recommendations

Selected Initial Findings

- Little evidence of BCT impact and behavioural outcomes
- Few design and evaluations use behavioural models and theories.
- Limited innovation in BCTs used.
- Successful interventions consider barriers/benefits all the way along the value chain.
- Effective interventions have a mix of approaches/BCTs which complement each other.
- Removing financial barriers are essential.
- Journey to scale: some evidence of successful programs reaching a “tipping point” where the new technology became the norm.

Preliminary recommendations for interventions

1. Understand and use behavioural theories, models and research, including the multiple levels of influence.
2. Build evidence base for behaviour change approaches in clean cooking.
3. Further refine the groupings of BCTs and test the validity.
4. Strike out into new BC areas, including Goals, Identity and Self Belief.
5. Develop behaviour change resources for clean cooking interventions.
6. Expand the use of brands at category and product/behaviour levels.
7. Take advantage of opportunities offered by interdisciplinary collaboration between behaviour change and clean cooking.

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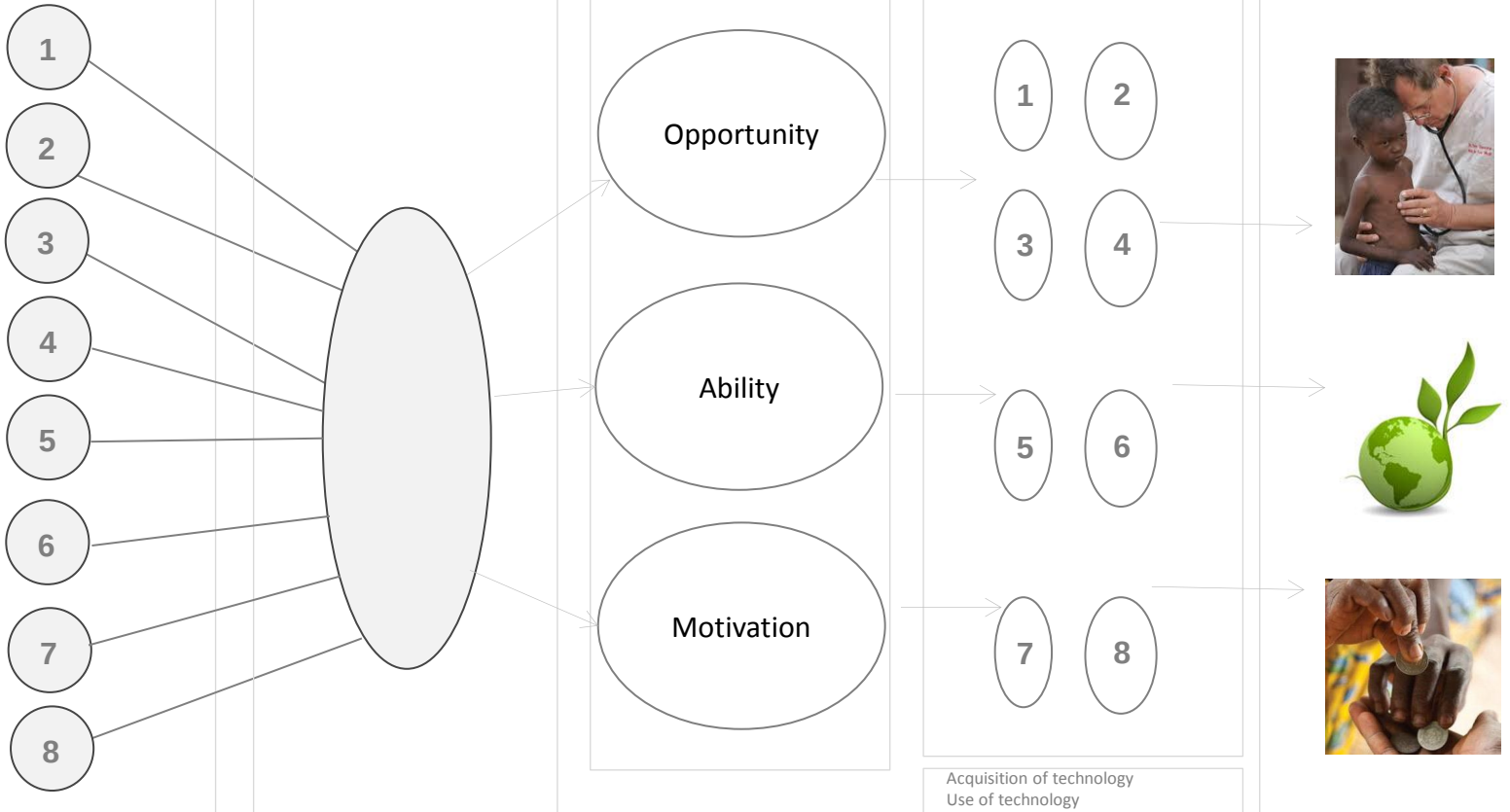

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(COMBI; Puzzolo; World Bank,, WHO)

Acquisition of technology
Use of technology
Improved indoor air
Reduced emissions
Reduced cooking time demands
Community empowerment
Health and safety
Fuel consumption & switching
Financial
Regulation
Policies implemented
Increased local capacity

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Health
Economic
Environmental

Behaviour Change

A special sauce range to suit all tastes in clean cooking.

Thank you!

Contact:

Nicholas Goodwin
Founder and Director
Tulodo
E: nick@tulodo.com
Twitter: nickgoodwin
Web: tulodo.com