



# **Is SBCC the secret sauce in clean cooking interventions?**

*From global review to randomized controlled trial in Bangladesh*

**Dr Nicholas Goodwin**  
**Director, Tulodo**

**Research Associate, School of Public Health, University of Sydney**

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Globally, household air pollution causes approximately 4.3 million deaths every year.

HAP is caused by the use of traditional stoves and fuels by close to 3 billion people.

Women and girls, as the primary cooks for their families, are at greatest risk.

# What we will cover today

1. Global review of behaviour change in clean cooking
2. The HAPPeN Trial
3. Thoughts on production of evidence



Nicholas Goodwin, Director  
Sarah Ellen O'Farrell, Associate



Jonathan Rouse, Director  
Kirstie Jagoe, Associate



Adam Biran, Lecturer  
Elisa Roma, Research Fellow



Eric Finkelstein, Associate Professor

## 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 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.

## What is a Behaviour Change Technique?

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

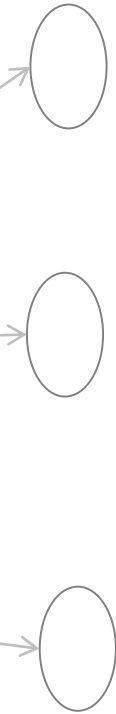
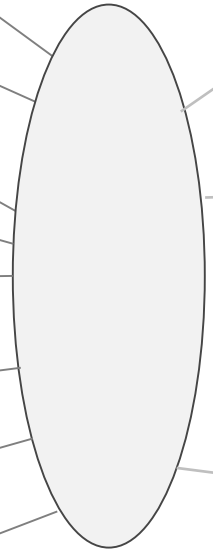
**BEHAVIOUR CHANGE  
TECHNIQUE**

**INTERVENTION**

**OUTCOME**

**IMPACT**

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8



- 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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- A black metal pot is cooking over a fire. The pot is the central focus, with a list of six items overlaid on it. The background shows a natural setting with soil and green plants.
1. Expand production
  2. Increase demand
  3. Stimulate purchase
  4. Maximise correct use
  5. Promote awareness
  6. Policy and regulation

*Definitions: Interventions*

# 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. social motivations for poor households.
8. Regulation, e.g. restriction on the use of certain fuel types.



Results

## Results highlights

- 195 unique references
- 48 items remained after cleaning and screening
- 55 behaviour change interventions
- Most frequent BCT 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

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

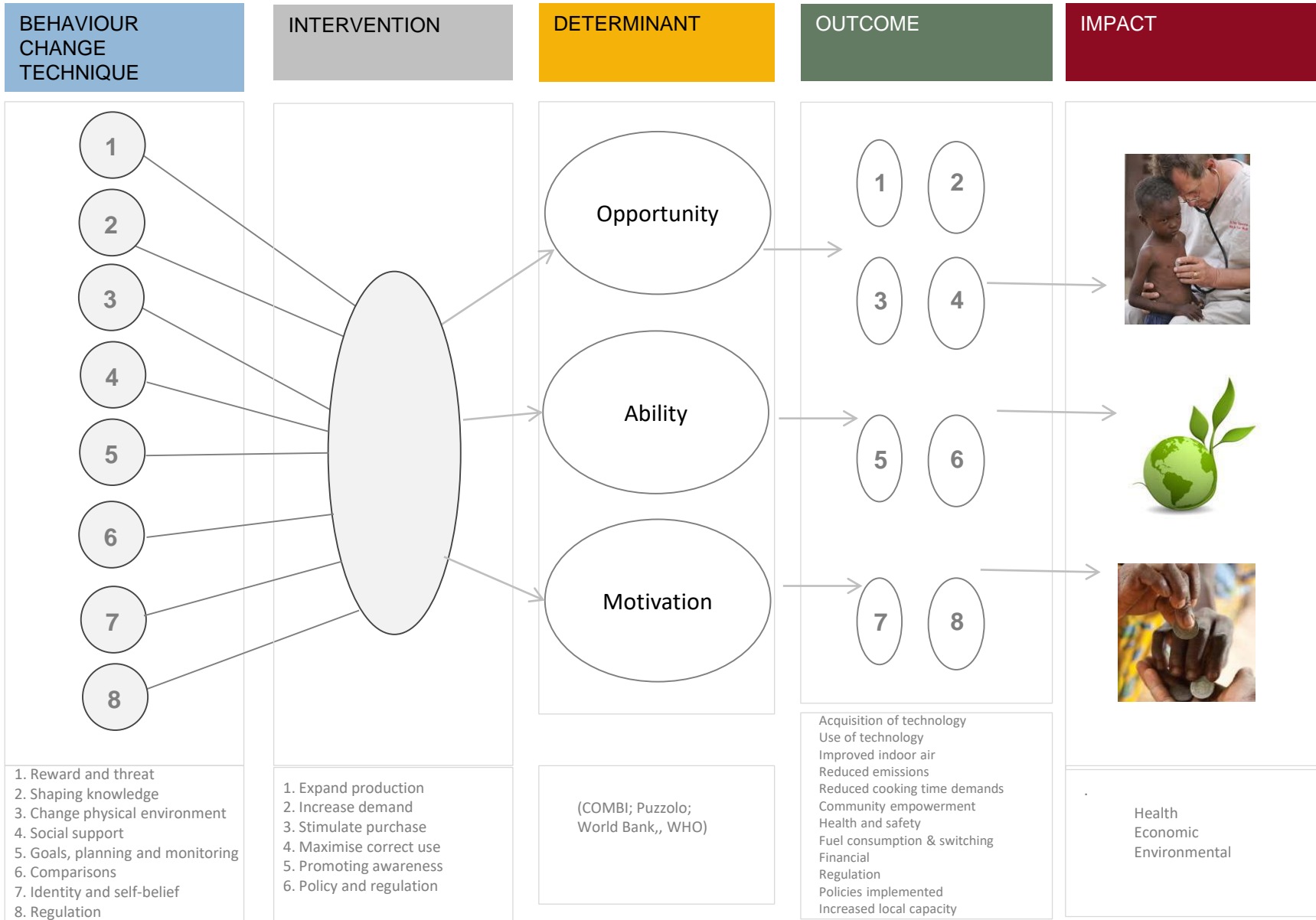
1. Cambodia New Lao Stove: Geres
2. China National Improved Stove Programme: Ministry of Agriculture
3. India Room to Breathe: Shell Foundation and Envirofit
4. Indonesian kerosene to LPG conversion: Pertamina
5. EnDev Kenya
6. Nepal Biogas Support Programme: SNV
7. South Africa Study Testing Selected 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



Findings &  
Recommendations

## Selected 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.



# Recommendations

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.
8. Fund interventions using behaviour change approaches.



THE UNIVERSITY OF  
**SYDNEY**

# The HAPPeN Trial

A cluster randomised controlled trial of  
cleaner cookstoves to reduce adverse  
pregnancy outcomes in rural  
Bangladesh

# Bangladesh

Stillbirth estimates in Bangladesh are high at 35 per 1,000 and are worse in rural areas, where there is widespread reliance on traditional stoves.

The Government of Bangladesh has declared that 70% of households will use LPG within next 3 years.



# Feasibility Study

- ❑ 50 pregnant women given LPG cookstoves and cylinders for 3 months.
- ❑ Assessed their cooking behaviours, acceptability of LPG, and feasibility of distributing LPG stoves and cylinders in rural Bangladesh.

## *Findings*

- ❑ Participants consider LPG stoves to be easy to operate, save time, are smoke free, easy to clean and require less maintenance.
- ❑ Time saving enabled more leisure and family time and therefore better personal relationships.
- ❑ Women also appreciated that LPG cooking did not blacken their utensils, clothes, and house interiors.
- ❑ Quality and taste of the cooked food was considered good.

# Study design



- ❑ Two-armed community-based cluster randomised controlled trial in the Joypurhat and Sherpur districts.
- ❑ Approximately 8,000 households - half receive LPG, half usual practices.
- ❑ Supported by behaviour change communication.
- ❑ Distributed to women in early pregnancy, and followed through until approximately one month after they give birth. Gas supply will continue throughout pregnancy until the birth.
- ❑ Personal air monitors will be used to measure particulate matter (PM<sub>2.5</sub>).

# BCC components

- Formative research + Discrete Choice Experiment to produce benefits/barriers and understanding of user journey.
- Branded communications
- Household visits
- User group meetings
- Household coms materials



# Evidence for SBCC in Clean Cooking

- In-depth understanding of cooking behaviours can improve interventions, especially barriers and benefits to change.
- Production of evidence should include mix of methods.
- SBCC to influence both purchase decisions and encourage consistent use.
- People must be motivated to make the shift away from a way of cooking that their families and communities have used for generations.
- SBCC that builds on an evidence base around the factors that influence consumers' purchase and consistent use will enhance the effectiveness of interventions.
- Comparison (e.g. through RCTs) of different SBCC approaches needed.



## **Behaviour Change**

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

# Thank you!

*Contact:*



Nicholas Goodwin

Director, Tulodo

E: [nick@tulodo.com](mailto:nick@tulodo.com)

Twitter: nickgoodwin

Web: [tulodo.com](http://tulodo.com)