



Systematic Behaviour Change for WASH and Nutrition using the RANAS Approach

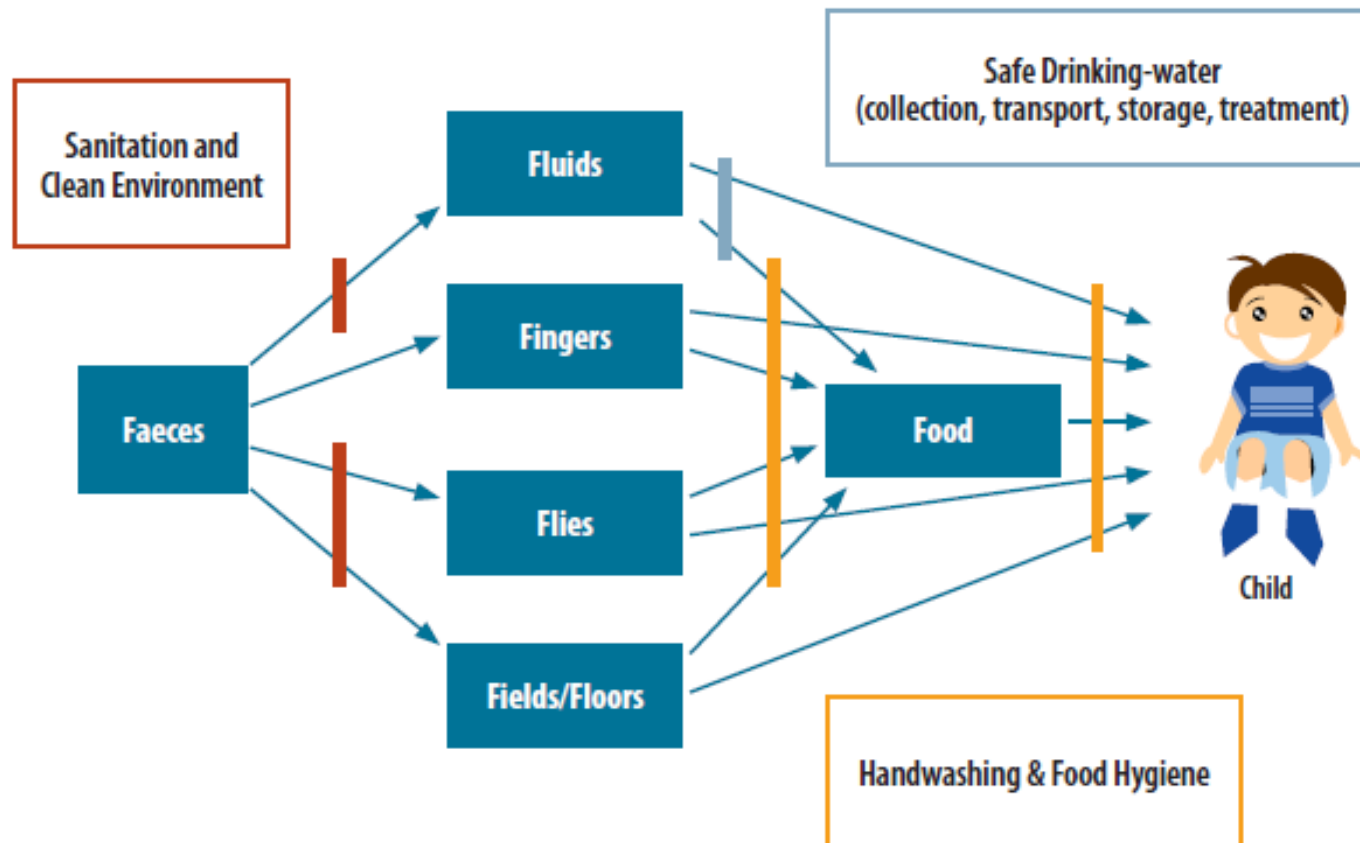
WASH & Nutrition Forum 27-28 Nov. 2017

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Environmental Social Sciences
Environmental & Health Psychology



Which are the relevant behaviors?



Source:

PROGRAMMES IMPROVING NUTRITION OUTCOMES WITH BETTER WATER, SANITATION AND HYGIENE: PRACTICAL SOLUTIONS FOR POLICIES AND PROGRAMMES IMPROVING

Nutrition and WASH Behaviors

Key behaviors for an adequate diet – Family/community

- Eat a variety of different foods.
- Include carbohydrates.
- Eat proteins.
- Include fibers.
- Include only small amounts of fats.
- Include vitamins and minerals.
- Ensure a balance.
- Use simple and careful cooking methods.
- Consume safe water and healthy drinks.

Key behaviors for WASH Sanitation

- Construct or buy toilets
- Maintenance of toilets (cleaning, emptying)

Hygiene

- Handwashing after toilet visit
- Handwashing before contact with food
- Food hygiene
- Household environment hygiene

Water

- Safe water collection
- Safe water transport
- Safe water storage
- Drinking water treatment

Source: Nutrition Guidelines; IFRC

How to introduce behavior change?

IFRC: Nutrition Guidelines

What can volunteers do?

Volunteers can play a useful role in the promotion of good nutrition at the community and household level, where they can encourage people to change their behaviours and adopt good dietary practices. Specifically, volunteers can be actively involved in teaching community members the importance and benefits of a varied and balanced diet.

Volunteer activities

For the community:

- Eat a healthy diet, leading by example.
- Promote key nutrition behaviours for an adequate (varied and balanced) diet.
- Support demonstration activities to highlight the elements of a varied and balanced diet.
- Identify and address key challenges to recommended behaviours at the household and community level.

How to introduce behavior change?

WHO: PROGRAMMES IMPROVING NUTRITION OUTCOMES

4.3 EVIDENCE-BASED, EFFECTIVE APPROACHES TO BEHAVIOURAL CHANGE

Knowledge is often not sufficient to change WASH practices. Household members also **need skills, access to required supplies, social support and acceptance, and confidence that they can succeed in practicing the new behaviors.** The community agent or health care clinician ought to try to assess the barriers to each practice and negotiate a commitment to try a few practices that seem feasible and worth changing from the householder's point of view.

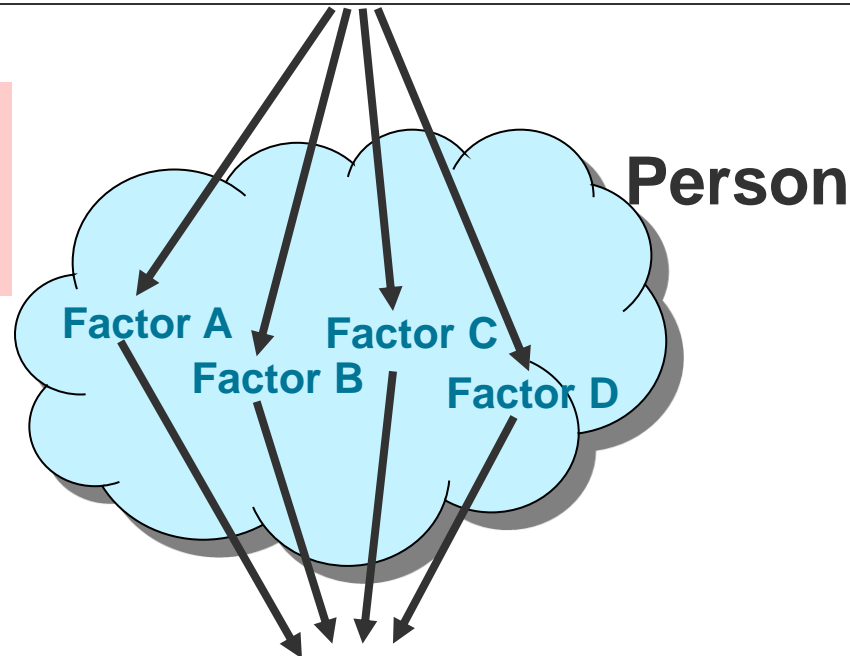
Some questions that could help the community agent identify barriers to or enablers of the desired behaviour include the following:

- What makes it hard to ... [wash your hands with soap and water (e.g.) ... before eating or preparing food]?
- What would make it easier to ... [wash your hands with soap and water (e.g.) ... before eating or preparing food]?
- Who approves or disapproves of you spending time and resources to ... [wash your hands with soap and water (e.g.) before eating or preparing food]?

How to introduce behavior change?

Promotion of behavior

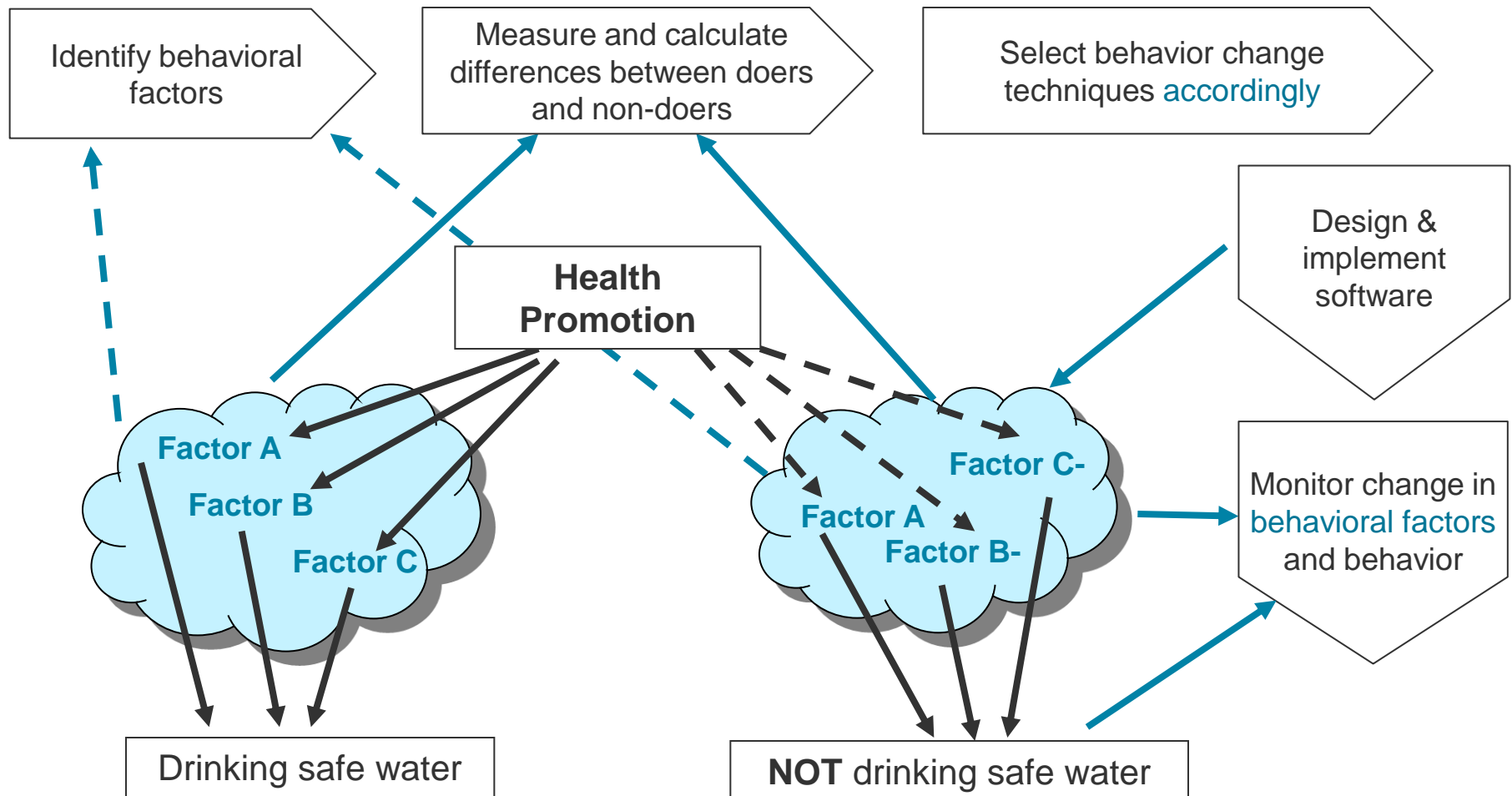
Behaviour change starts in the head of the people!



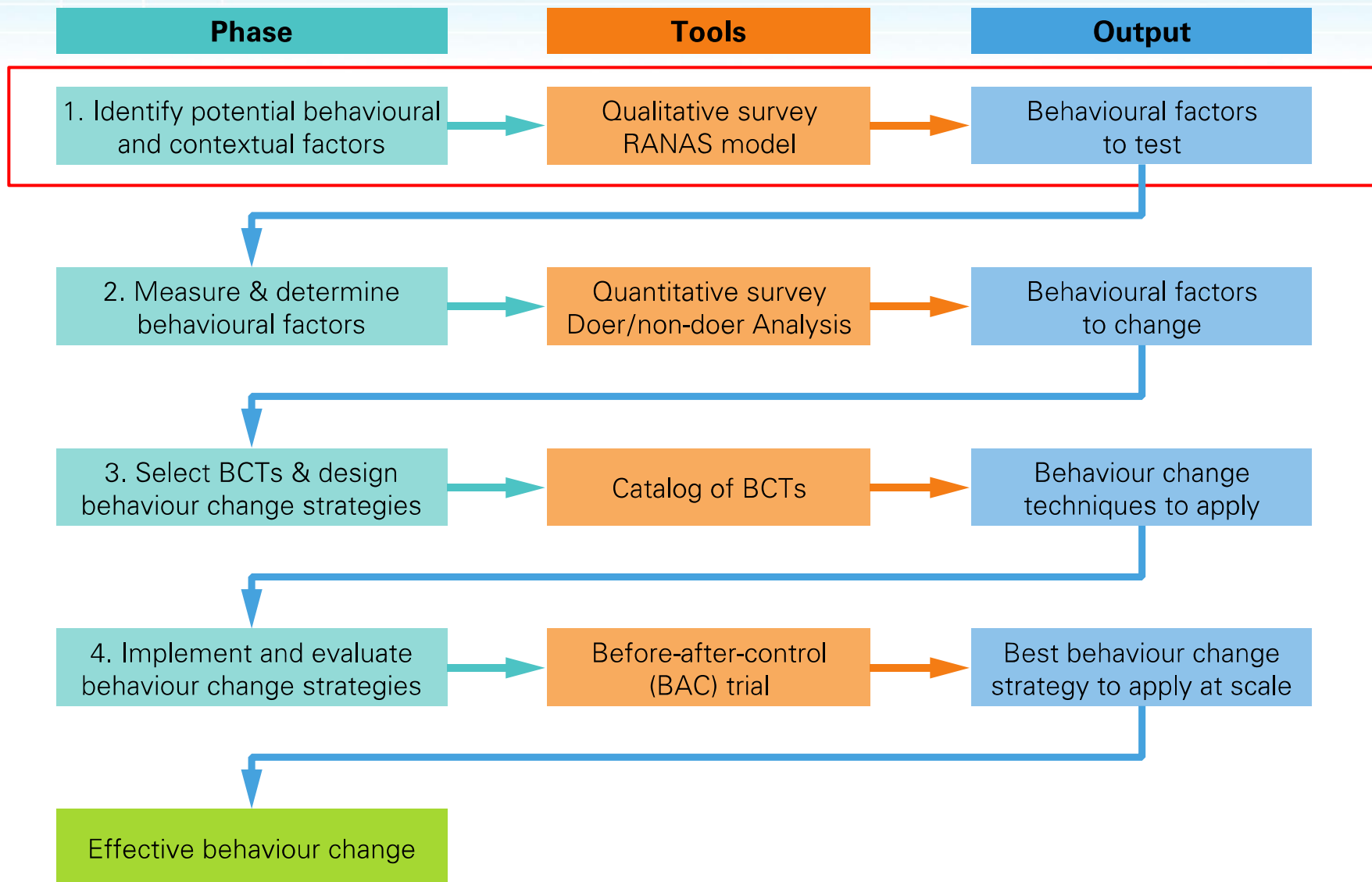
Behavioral factors

Behavior change

How to introduce behavior change?



The RANAS Systematic Behavior Change Approach





How to manage it?

Can I do it?

What will others say?

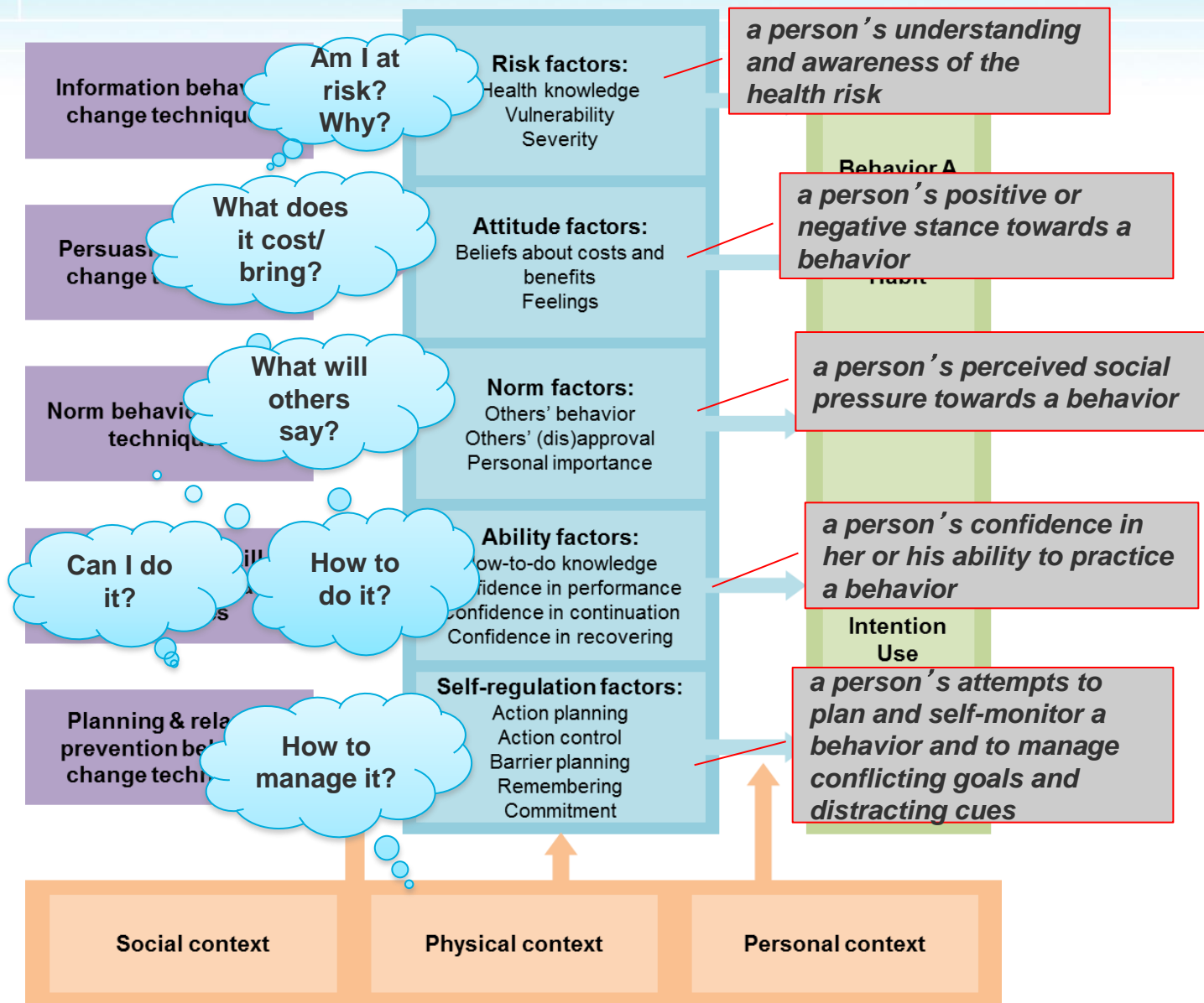
Do I like it?

What does it cost/bring?

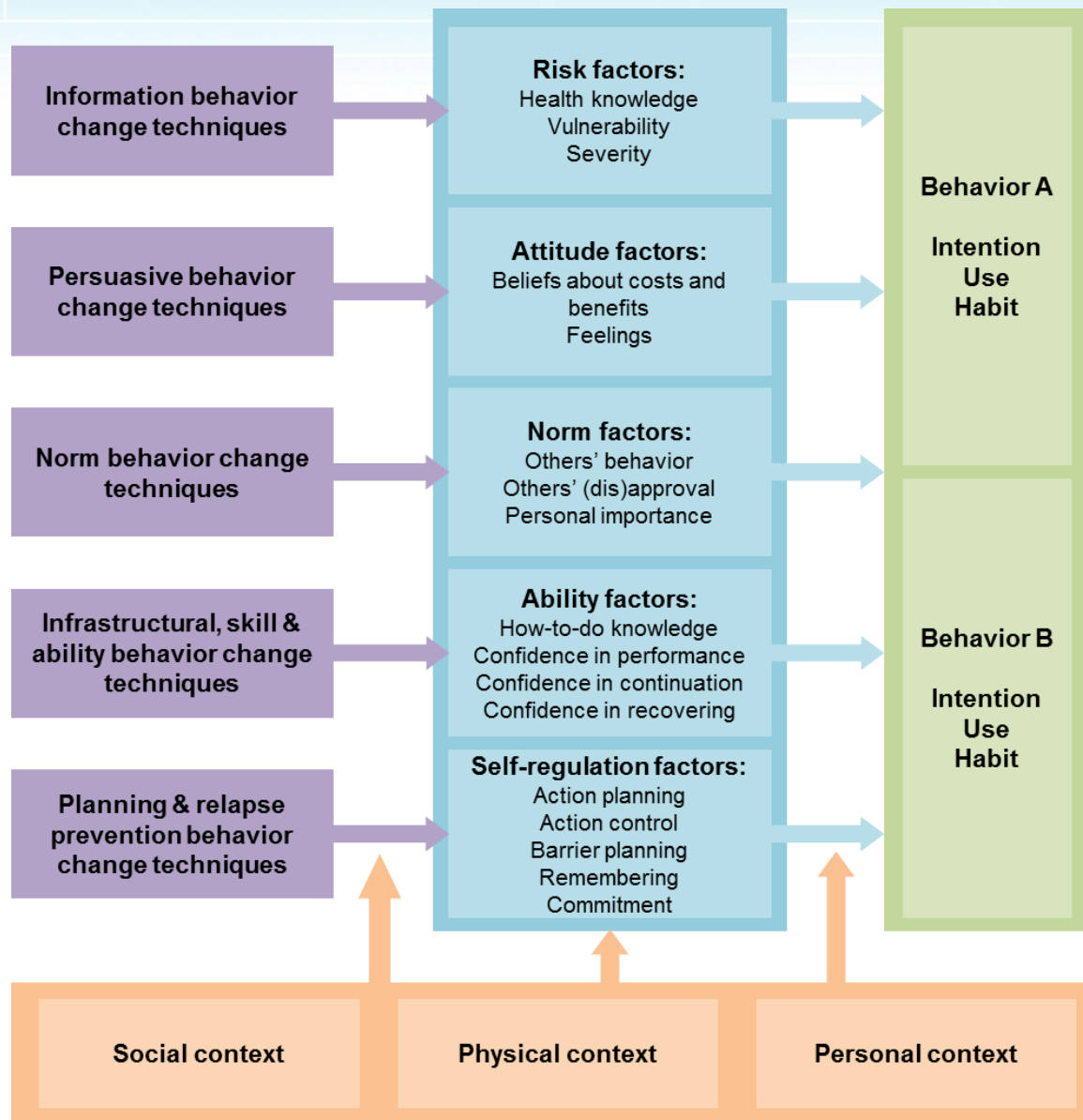
Am I at risk? Why?

How to do it?

The RANAS-Model: Risk, Attitudes, Norms, Ability and Self-regulation



The RANAS Model: Risks, Attitudes, Norms, Abilities, and Self-regulation



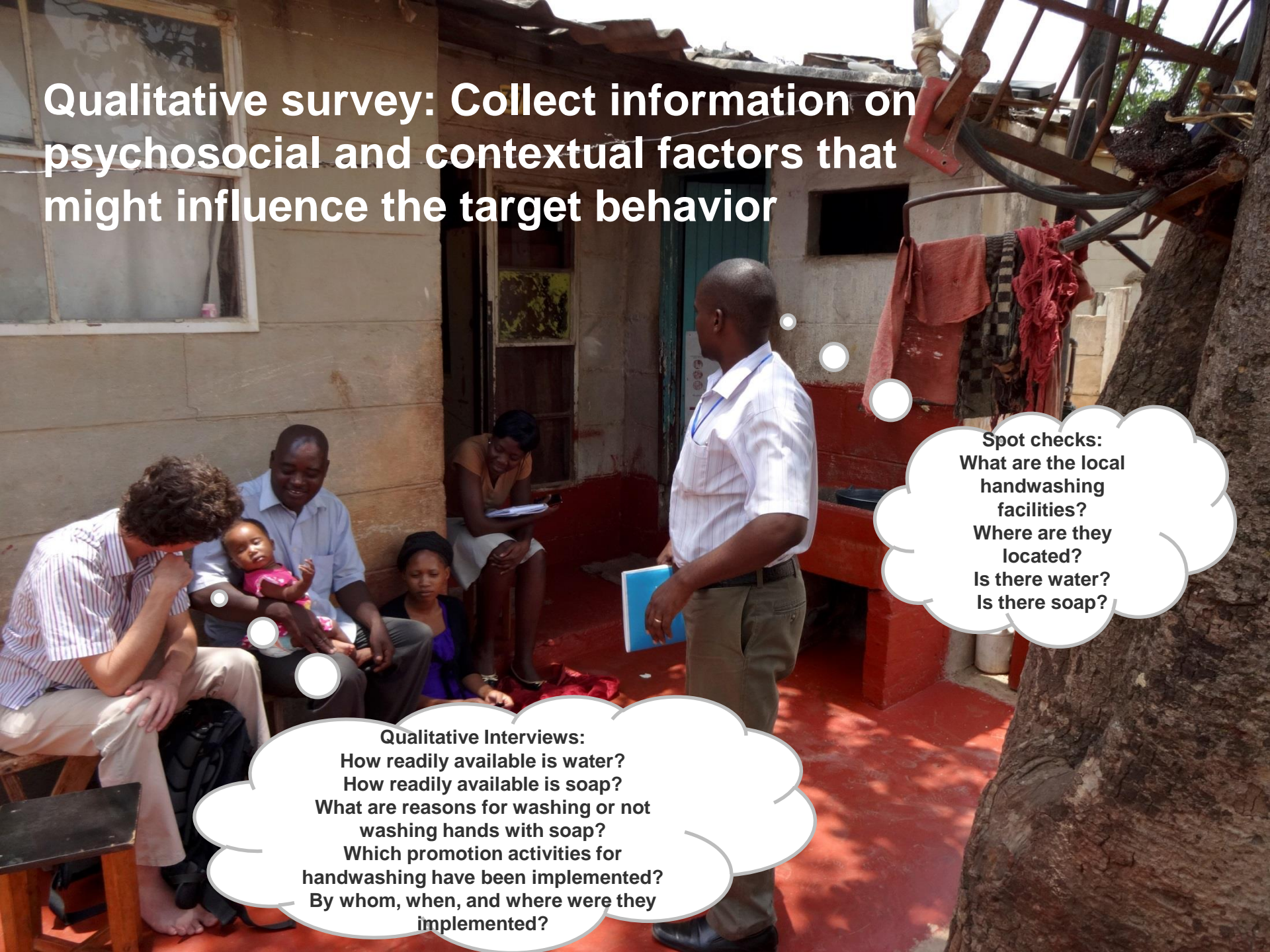
Case Study: Design, Implementation and Evaluation of a Handwashing Campaign in Zimbabwe

Urban: Harare

Rural: Masvingo Province



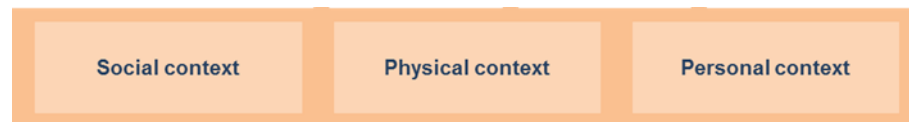
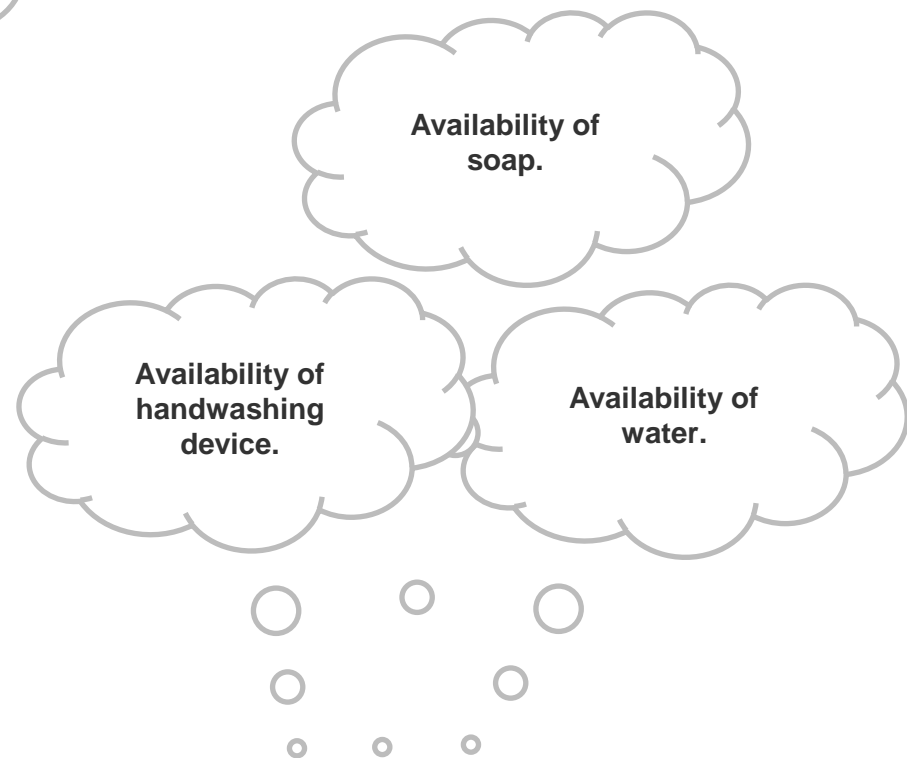
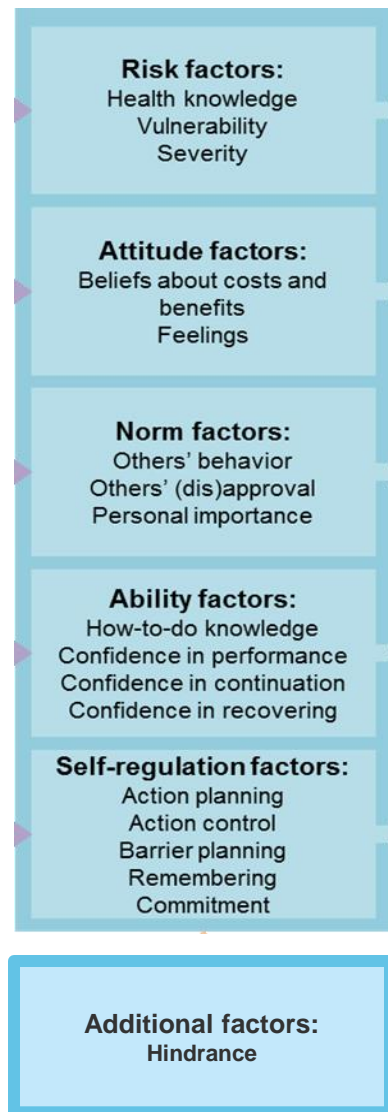
Qualitative survey: Collect information on psychosocial and contextual factors that might influence the target behavior



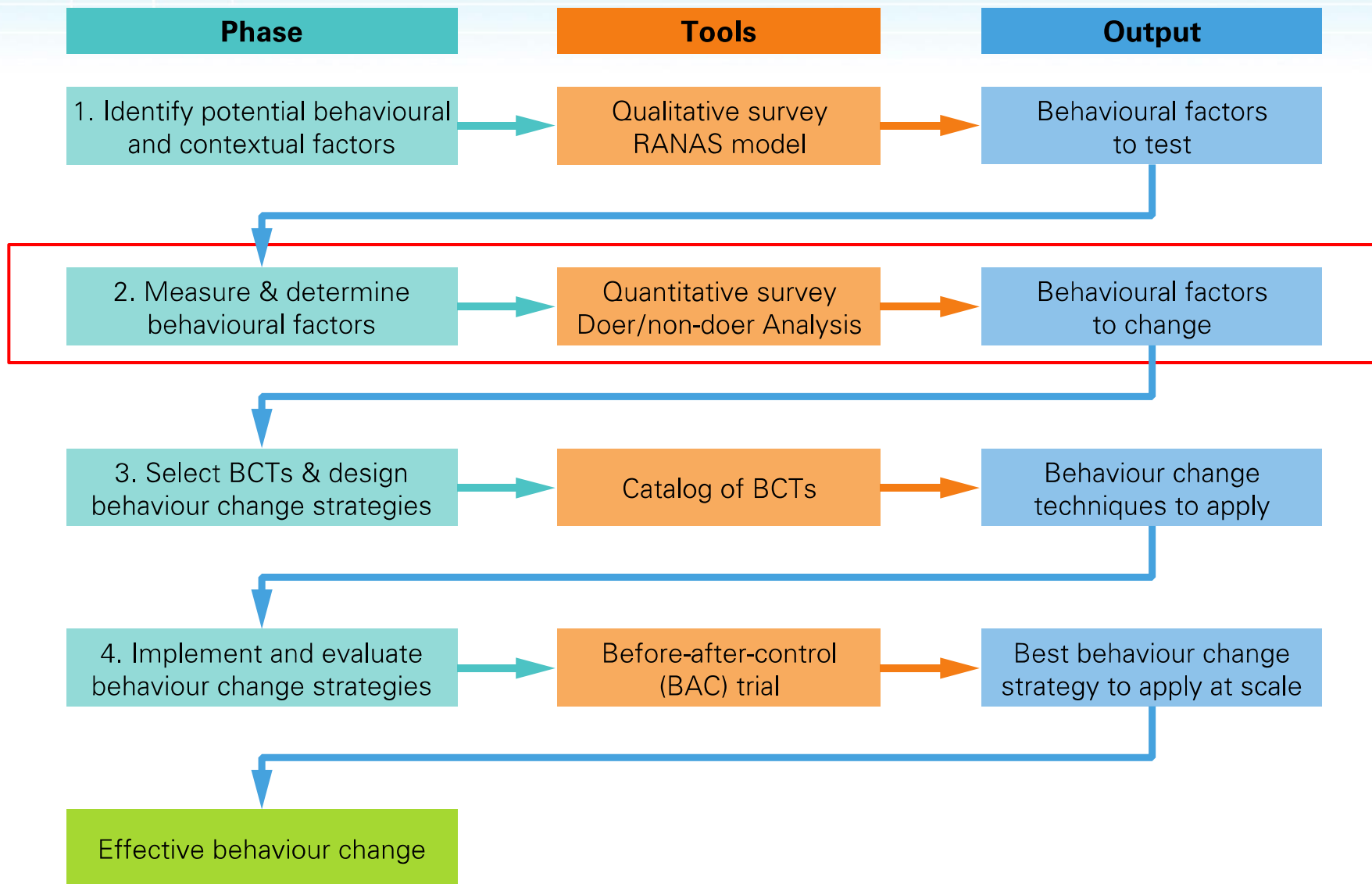
Spot checks:
What are the local handwashing facilities?
Where are they located?
Is there water?
Is there soap?

Qualitative Interviews:
How readily available is water?
How readily available is soap?
What are reasons for washing or not washing hands with soap?
Which promotion activities for handwashing have been implemented?
By whom, when, and where were they implemented?

Allocate psychosocial and contextual factors to the RANAS model



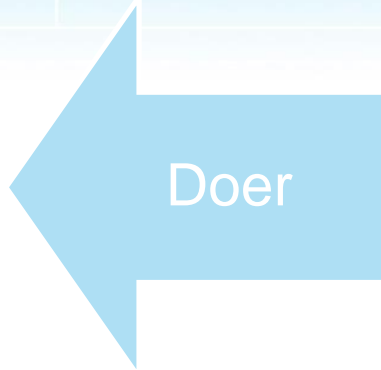
The RANAS Systematic Behavior Change Approach



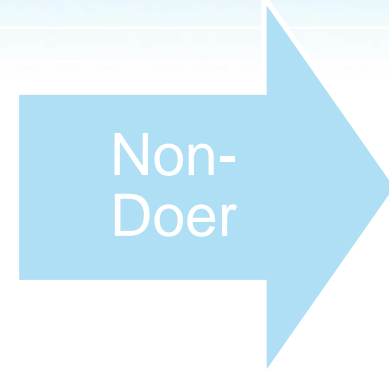
Quantitative survey: Standardized questionnaire

Block	Factor	Exemplary questionnaire item (with response scale)
Behaviour	Self-reported handwashing	In the following situations, how often do you wash your hands with soap and water? Please tell us in how many out of 10 times you wash your hands with soap and water ... <i>Before eating? Before preparing/cutting food?</i>
Risk	Vulnerability	If you always wash your hands with soap and water before handling food, how high do you feel is the risk that you contract diarrhea? (1 = <i>no risk</i> to 5 = <i>high risk</i>)
	Severity	Imagine that you contracted diarrhea how severe would be the impact on your life in general?' (1 = <i>not severe</i> to 5 = <i>very severe</i>)
	Health Knowledge	Can you tell me what causes diarrhoea? (open ended question)
Attitude	Beliefs about costs and benefits	How effortful do you think is always washing hands with soap and water before handling food? (1 = <i>not at all</i> to 5 = <i>very much</i>)
	Feelings	How disgusting do you think is it not to always wash hands with soap and water before handling food? (1 = <i>not at all</i> to 5 = <i>very much</i>)
Norm	Others' behavior	How many people in your household always wash hands with soap and water after contact with stool? (1=Almost) nobody to 5=(Almost) all of them)
	Others' (dis)approval	People who are important to you, how much do they think you should always wash your hands with soap and water? (1=not at all to 5=very much)

Doer/non-doer analysis



1. Classification based on behavior
2. Comparison of doers and non-doers



Doers: handwashing ≥ 9 out of 10 times		
Person	Score in perceived effort	Score in others' approval
A	2	4
D	3	3
F	4	4
H	2	2
I	1	1
J	3	4
L	3	4
P	3	3
R	0	0
S	4	4
U	3	3
V	2	4
W	2	3
Mean score	2.46	3.00

Non-doers: handwashing < 9 out of 10 times		
Person	Score in perceived effort	Score in others' approval
B	4	4
C	2	0
E	2	1
G	1	1
K	3	2
M	2	2
N	3	2
O	1	1
Q	0	0
T	1	0
X	1	1
Y	2	2
Z	4	3
Mean score	2.00	1.46



Why is it important to differentiate between Doers and Non-Doers?

Survey question: Is chlorination expensive?

No Differentiation: 80% rate chlorination as expensive

→ Intervention: (if possible) make purchase of chlorine less expensive

Differentiation: 80% of Doers as well as 80% of Non-Doers rate chlorination as expensive

→ **NO** intervention on price of chlorination

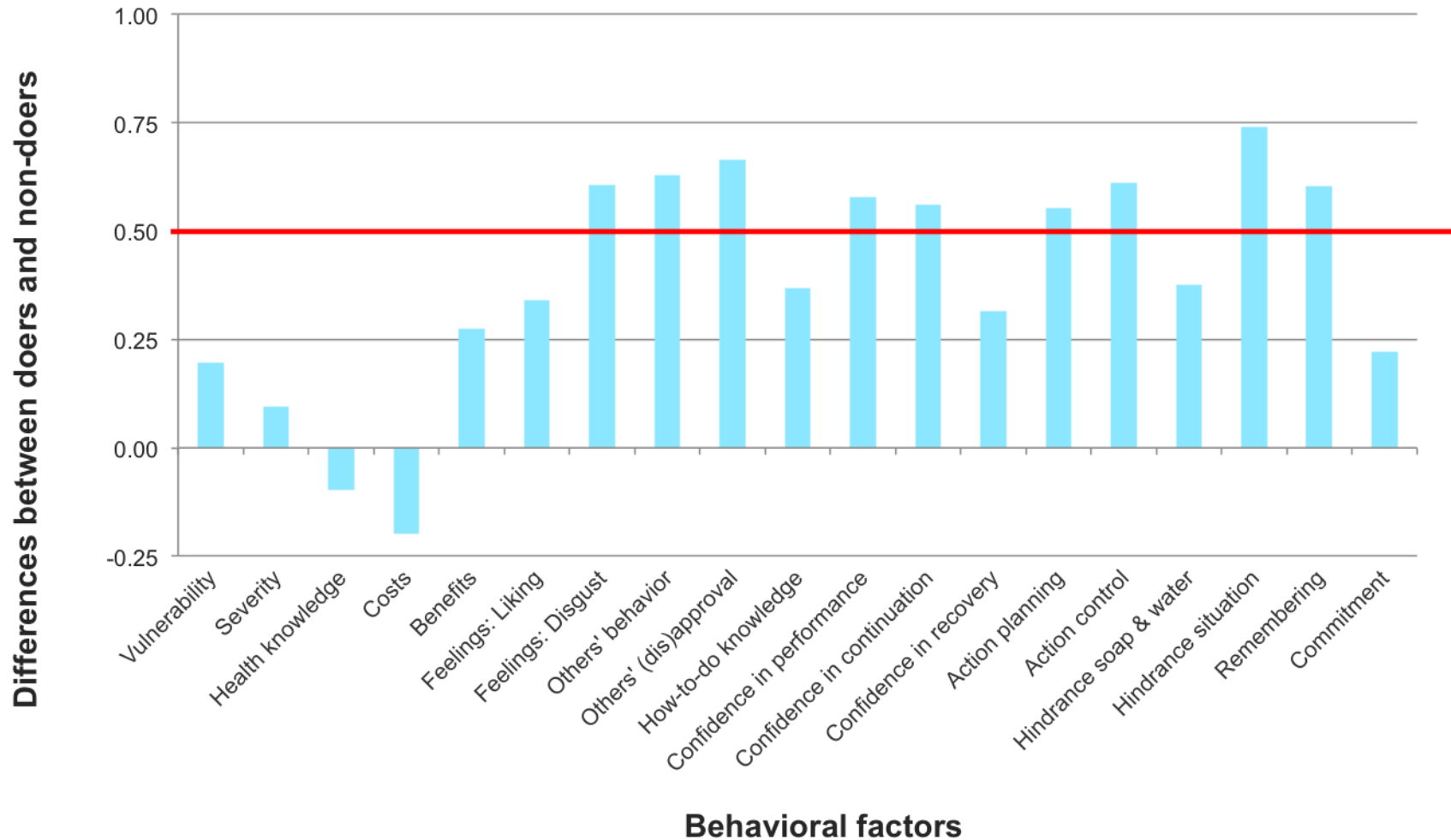
because **independently** of expensiveness chlorine is purchased or not

However: if 20% of Doers but 70% of Non-Doers rate chlorination as expensive

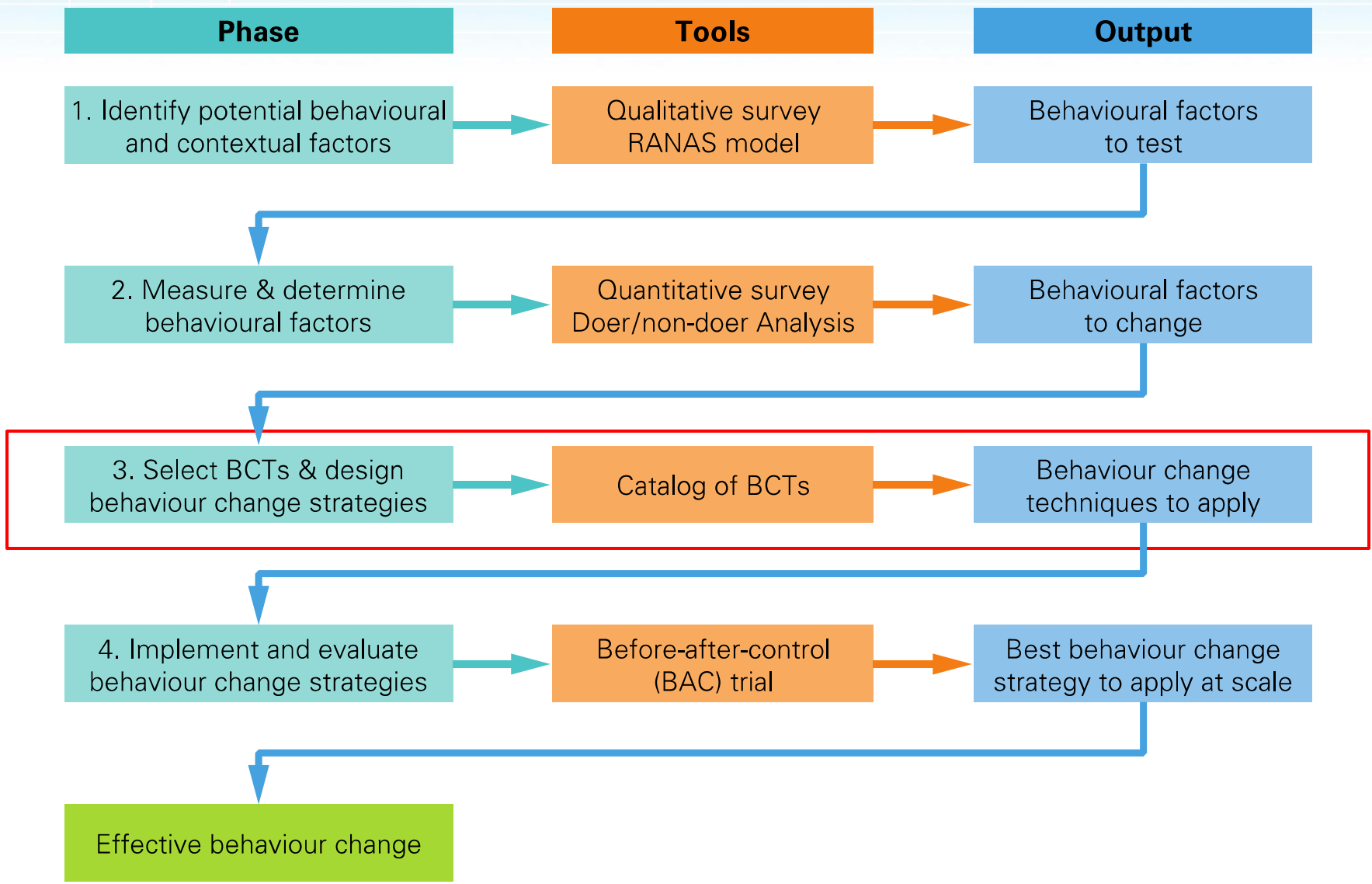
→ then the price for chlorination is a reason for not purchasing chlorine

→ Intervention on perceived price

Handwashing Zimbabwe: Doer/non-doer analysis



The RANAS Systematic Behavior Change Approach



RANAS Catalog of 36 Behavior Change Techniques

Behavioral factors	Behavior change techniques
Information BCTs – Risk factors	
Health knowledge	<p>1. Present facts: present information about the circumstances and possibilities of contracting a disease and about the relationship between a behavior and the disease.</p> <p>2. Present scenarios: present situations in the everyday life of the participant, showing how a certain behavior leads to the disease.</p>
Vulnerability	3. Inform about and assess personal risk: present qualitative and quantitative assessments individually for each person in such a way that the person realizes that his/her health is at risk.
Severity	4. Arouse fear: use threatening information that stresses the severity of contracting a disease.
Persuasive BCTs – Attitudinal Factors	
Beliefs about costs and benefits	5. Inform about and assess costs and benefits: provide information about costs and benefits of a behavior (omission) and conduct a cost-benefit analysis.
	6. Use subsequent reward: reward the person each time she/he has performed the desired behavior or achieved the behavioral outcome.
	7. Prompt to talk to others: invite participants to talk to others about the healthy behavior in question.
Feelings	8. Describe feelings about performing and about consequences of the behavior: present the performance and the consequences of a healthy behavior as pleasant and joyful and its omission or an unhealthy behavior as unpleasant and aversive.
Norm BCTs – Norm factors	
Others' behavior	9. Inform about others' behavior: point out that a desired behavior is already adapted by other persons.
	10. Prompt public commitment: let people commit to a favorable behavior and make their commitment public, thus showing to others that there are people who perform the behavior.

RANAS Catalog of 36 behavior change techniques

Behavioral factors	Behavior change techniques
Planning & relapse prevention BCTs – Self-regulation factors	
Barrier planning	<p>30. Prompt coping with barriers: ask participants to identify barriers to behavior change and plan solutions to those barriers.</p> <p>31. Restructure the social and physical environment: prompt participants to remove social and physical bolsters of the undesired behavior so as to interrupt habitual procedures.</p> <p>32. Prompt to resist social pressure: ask participants to anticipate and prepare for negative comments from others or for pressures towards the undesired behavior.</p> <p>33. Provide negotiation skills: prompt participants to reflect on others' perspectives to find compromises that benefit both sides and arguments bolstering them.</p>
Remembering	<p>34. Use memory aids and environmental prompts: prompt the participant to install memory aids or to exploit environmental cues so as to help to remember the new behavior and to trigger it in the right situation.</p>
Commitment	<p>35. Prompt goal setting: invite participants to formulate a behavioral goal or intention.</p> <p>36. Prompt to agree on a behavioral contract: invite the participant to agree to a behavioral contract to strengthen her/his commitment to a set goal.</p>

Handwashing Zimbabwe: Select BCTs to change the behavior-steering factors

Behavior-steering factor	Corresponding BCTs
Disgust	BCT 8 Describe feelings about performing and about consequences of the behavior
Others' behavior	BCT 9 Inform about others' behavior BCT 10 Prompt public commitment
Others' (dis)approval	BCT 11 Inform about others' approval/disapproval
Confidence in performance	BCT 16 Provide infrastructure BCT 17 Demonstrate and model behavior BCT 18 Prompt guided practice BCT 19 Prompt behavioral practice BCT 20 Facilitate resources BCT 21 Organize social support BCT 22 Use arguments to bolster self-efficacy BCT 23 Set graded tasks/goals
...	...

Handwashing Zimbabwe: Develop and design behavior change strategies

Strategy 4 (out of 4)

Slogan: Handwashing? Of course! We all do it.

Communication channel: Interpersonal: Community meeting.

BCT 10 Prompt public commitment

Activities: Participants come in front of the community
They shout the slogan as sign of their commitment

Targeted behavioral factors: Others' behavior

Implement behavior change strategies



*BCT 21 Organize social support
BCT 10 Prompt public commitment*

Implement behavior change strategies



KUGEZA MAOKO? EHEKA! TINOGONA KUZVITA

GWARO REKUZVIIONGORORA

MAZUYA	1	2	3	4	5	6	7	8	9	10	11	12
MUVHURO												
CHIPIRI												
CHITATU												
CHINA												
CHISHANDU												
MUGOVERA												
SVINDO												

Mapezwa emako

KUGEZA MAOKO? EHEKA! TINOGONA KUZVITA

GWARO REKUZVIIONGORORA

MAZUYA	1	2	3	4	5	6	7	8	9	10	11	12
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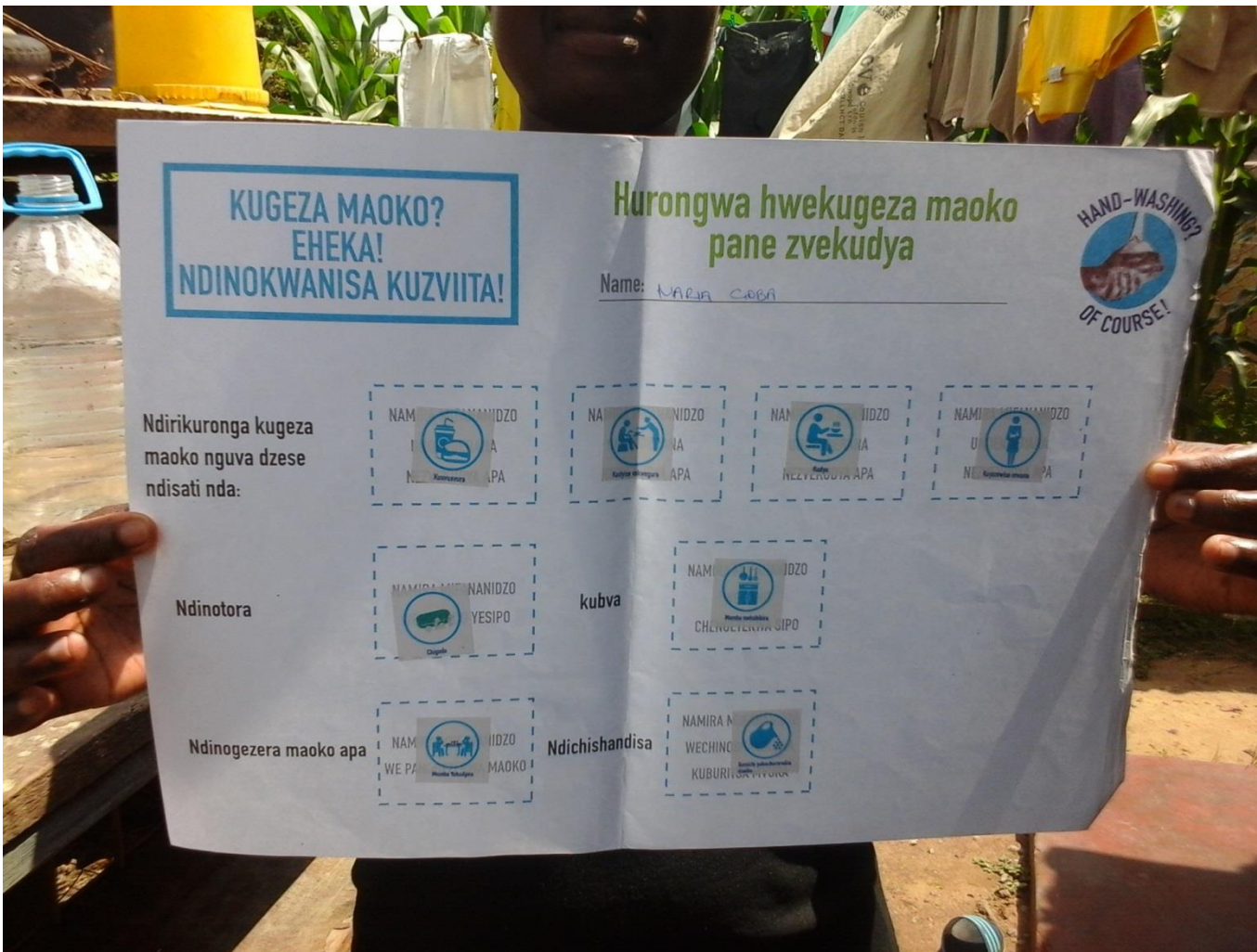
GWARO REKUZVIIONGORORA

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Mapezwa emako

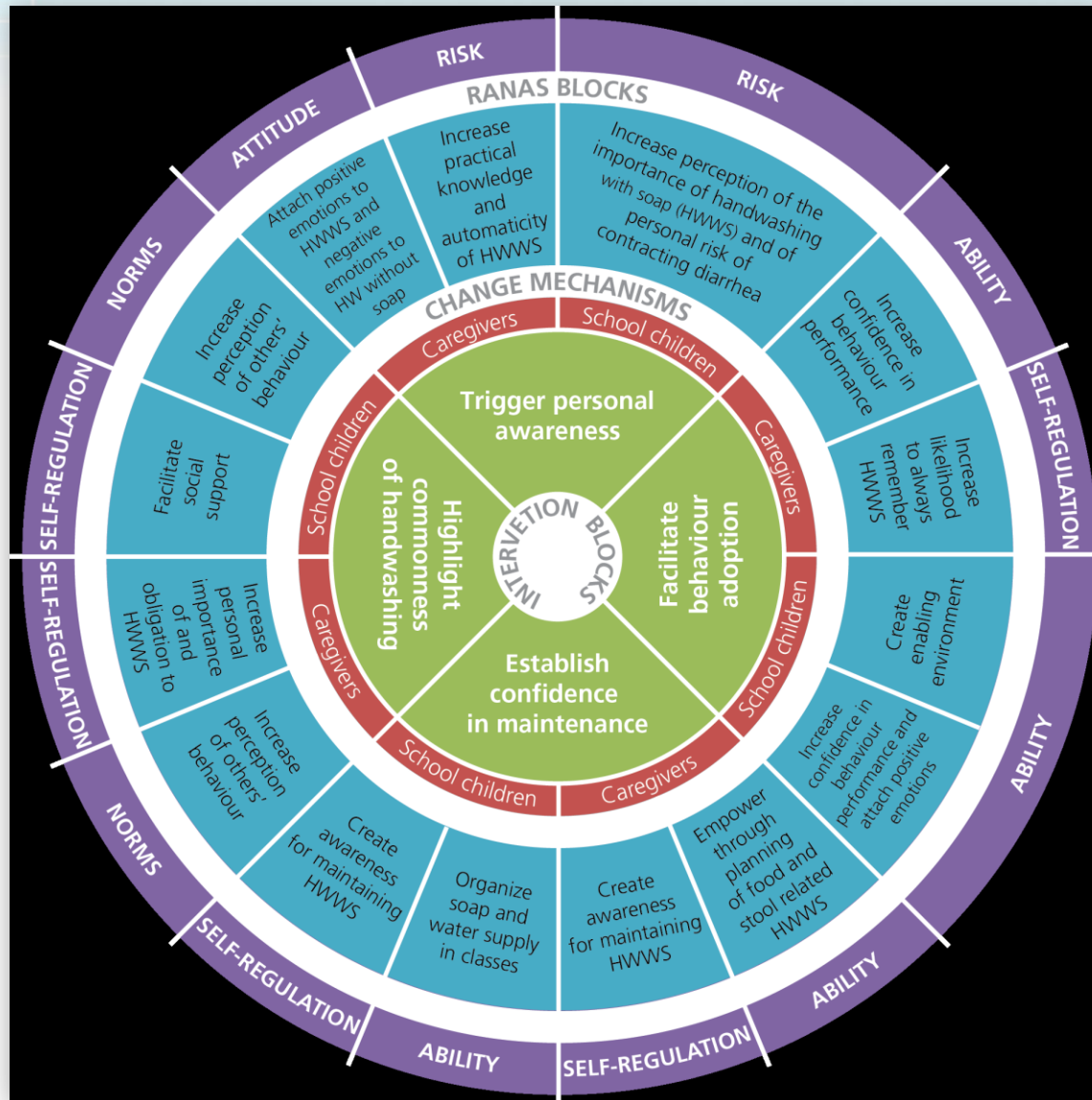
BCT 27 Prompt self-monitoring of behavior

BCT 26: Prompt specific planning: when, where, and how plans



A plan when to wash hands in Zimbabwe

Handwashing Zimbabwe: campaign wheel



Source: *Handwashing with soap? Of course!*

Global Program Water, Swiss Agency for Development and Cooperation, SDC

Communication Channels: mode of delivery of behavior change techniques

Household visits by promoters



Community meetings



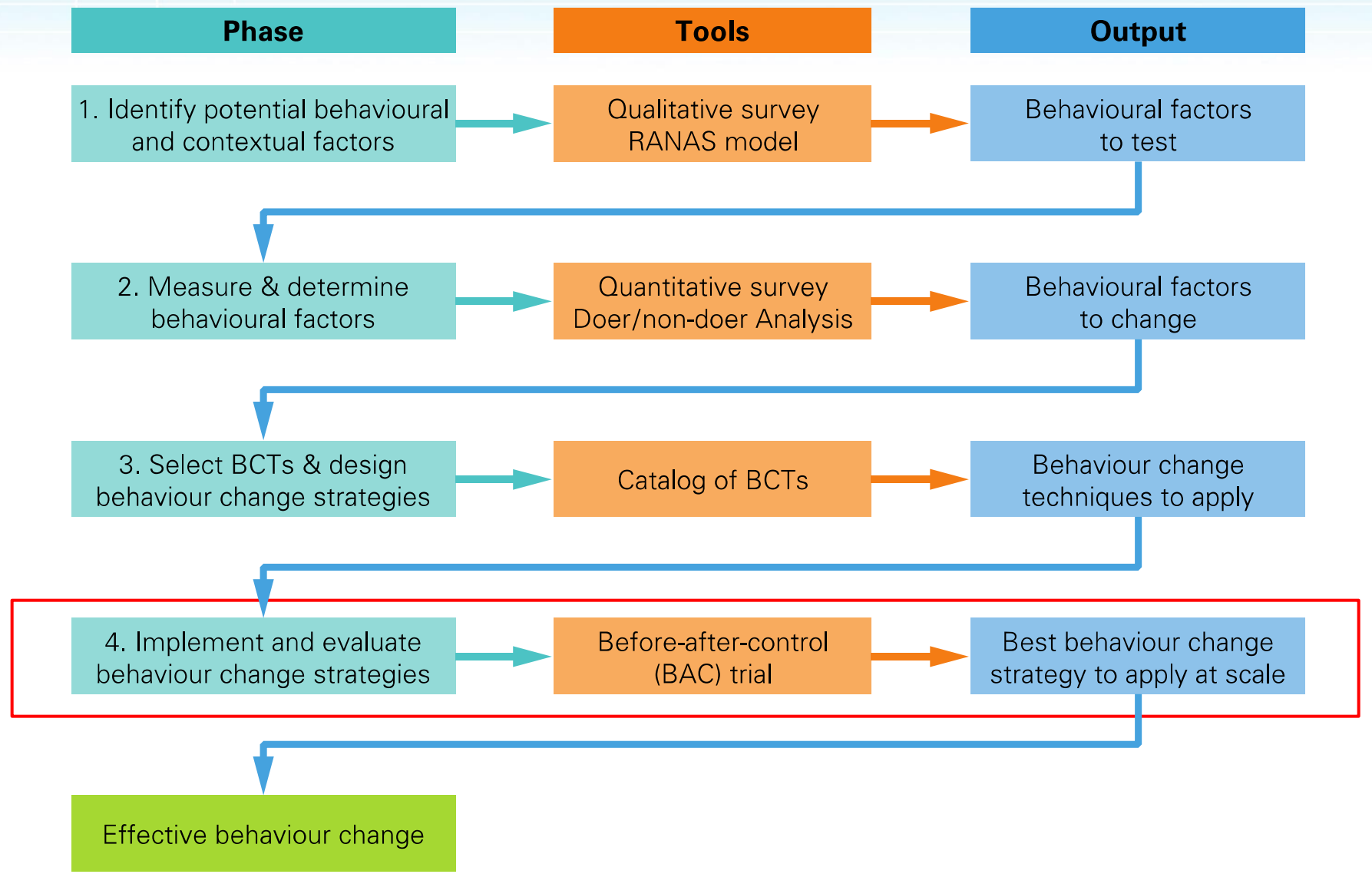
Advertising



Loudspeaker Trishaw

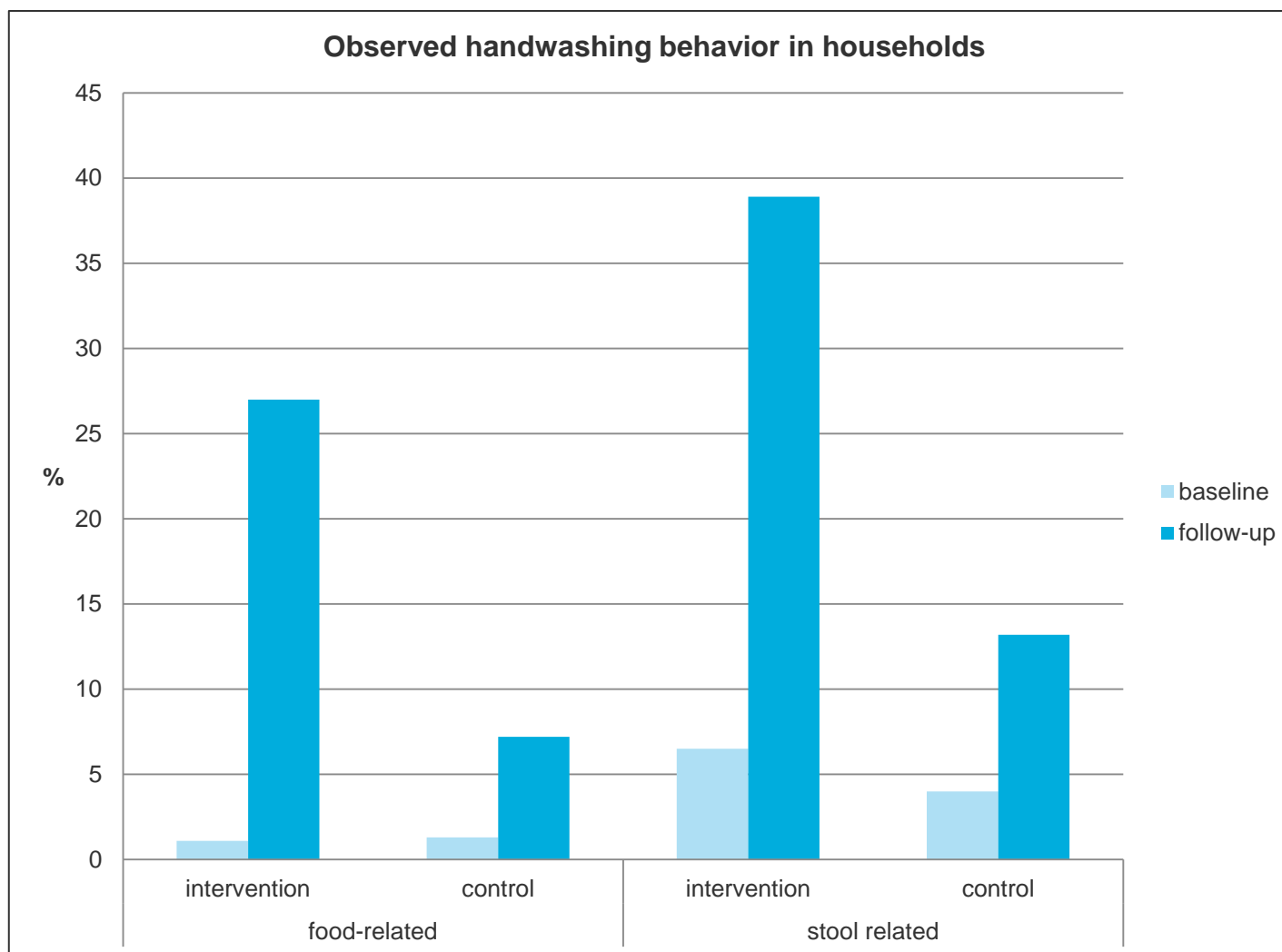


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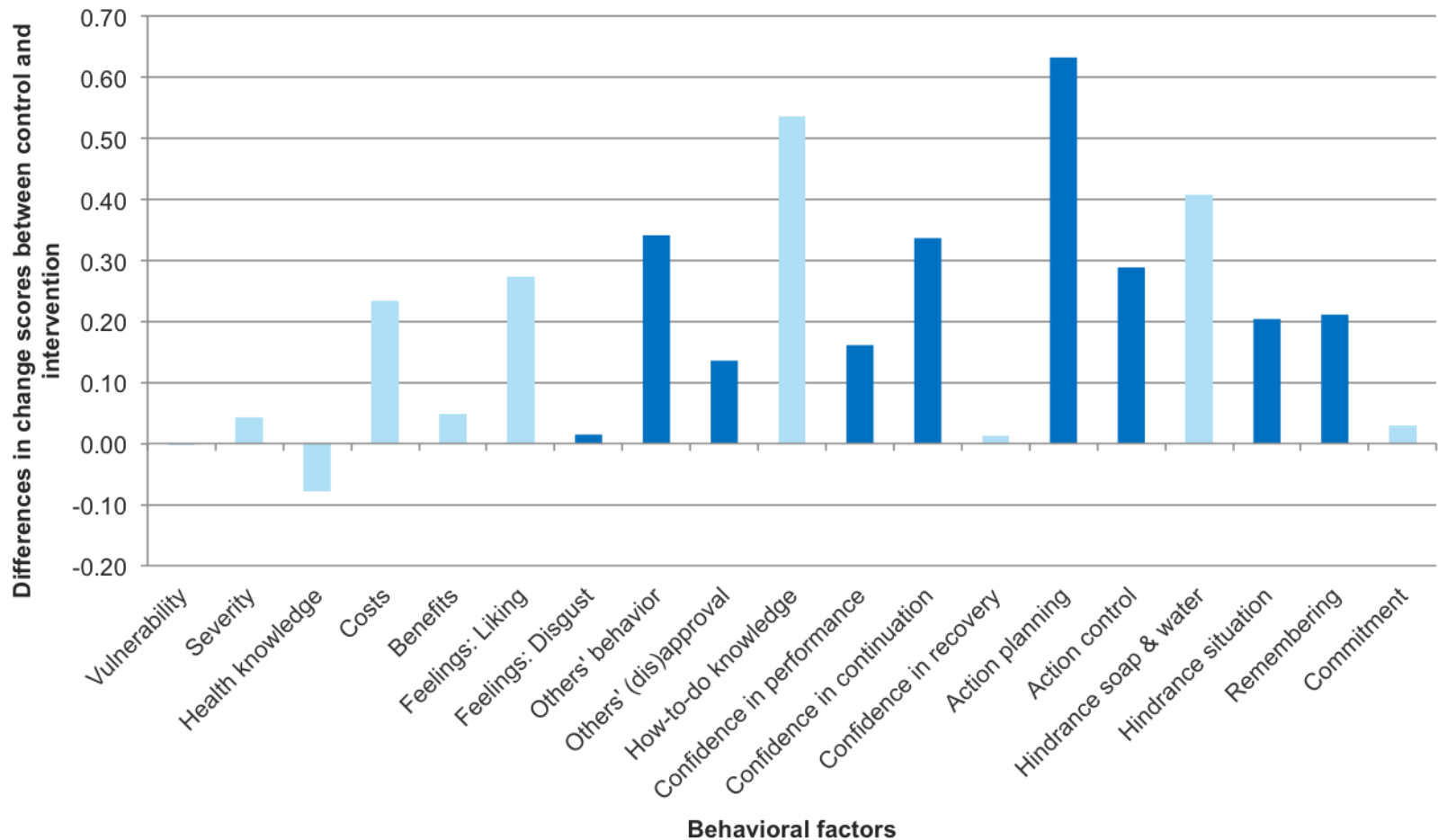
Handwashing Zimbabwe

Evaluation: Change in observed handwashing with soap

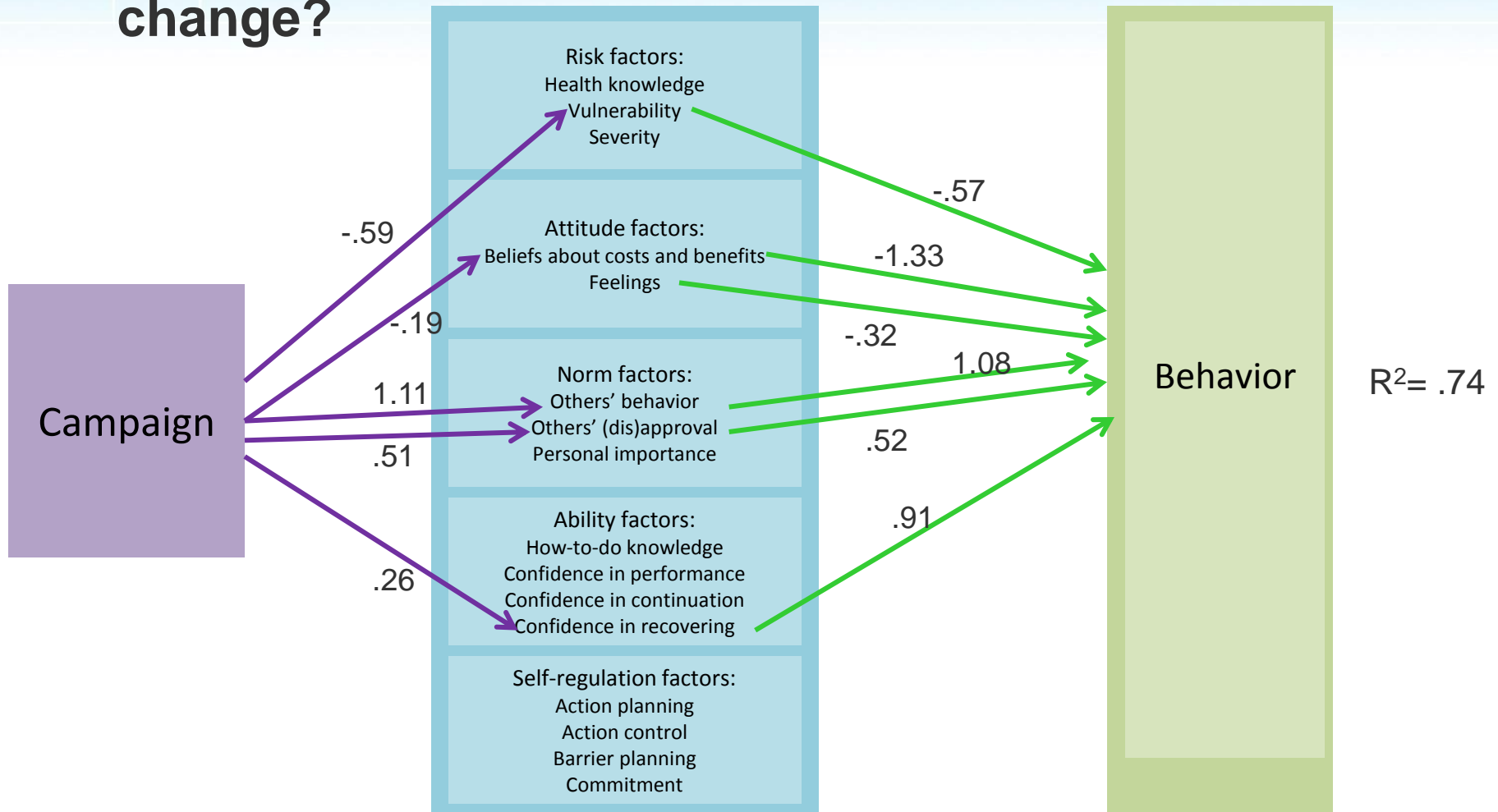


Handwashing Zimbabwe: Evaluation: Change in psychosocial factors

Difference in difference: change in intervention group minus change in control group



Which behavioral factors did the campaign change?



➔ Persons who received the campaign changed some behavioral factors more than persons who did not receive the campaign

Example 2: Purchasing fluoride free water from a community filter in Ethiopia

BCT 5 Inform about and assess costs and benefits

Argument: Higher price = better quality

- Examples with common consumables (red teff vs. white teff, oil vs. butter)

Argument: Personal water budget

- Promoter calculates water consumption of family
- How much water do they need from community filter?
- How much money does it cost?

By reducing perceived costs by half purchase was raised by 20%

Intervention sheet on perceived costs

I would like to talk to you about the costs of treated water and find out together with you how much money you would have to spend if you decide to consume filtered water from the Community filter.

Persuasion: costly = better quality

Imagine you grow to different types of teff, the red and the white teff. You take the teff to the market.

- For how much would you sell 1 sack of red teff?
- And for how much would you sell 1 sack of white teff?
- So white teff is much more expensive than red teff?
- Why is it more expensive?
- So you think white teff is better quality teff than red teff? Even though it is both teff?

→ So, it is logical, that white teff is more expensive than red teff, because it's quality is a lot better?

Imagine you cook wat. So you can use butter or oil for cooking wat.

- Which one is better of taste? Butter or oil?
- Which one is better for your health? Butter or oil?
- Which one is more expensive? Butter or oil?
- So at the end, which one is better quality? Butter or oil?

→ So, it is logical that butter is much more expensive than oil, because it is healthier and it's quality is a lot better?

The same it is with water in Wayo Gabriel. There are different water sources. All of the sources contain a lot of fluoride, which is very dangerous for your health. Still you have to pay money for water at any water source. The community filter offers fluoride treated water, which is very good for your health because it prevents you from getting fluorosis. If you compare now for example the Community filter water with water from Shibre or Mesken Sefer water point...

- Which is better for your health?
- Which has better quality?
- Which is more expensive?

→ Even if both are water their price is different (like red and white teff or butter and oil). But it is logical that community filter water is more expensive than untreated water, because it is much healthier and it's quality is a lot better?

Personal water budget for the household

→ Take the **budget sheet** and fill it out with the family!

Personal water budget sheet

How many family members are living in your household? _____ people

How many children of yours are under 13 years? _____ children

Where do you normally fetch water (if you do not fetch at the Community filter)? _____

How much does the water cost at this water point? _____ Birr per _____ liters

	How many cups does one child drink per day?	How many cups does one adult drink per day?	How many jugs do you use for cooking per day (including food, coffee, shai)?
cups/jugs			
liters	0.2	0.2	1
Total liters			
Total per day	Sum of total drinking and cooking: _____ liters		
Total per week	Above multiplied by 7 days: _____ liters		
Total jerrycans per week	Above divided by 20 liters: _____ jerrycans of 20 L		
Total expense per week	Above multiplied by 0.50 Birr: _____ Birr		

So if you want that your family only consumes filtered water you have to buy: _____ jerrycans of 20 liters per week at the Community Filter.

This will cost you _____ Birr per week.

That is only _____ Birr more than if you consume fluoride contaminated water.

All other water you need, for your cattle, animals, for washing and cleaning you don't have to buy at the Community Filter, you can buy untreated water, which is cheaper.

Example 3: Use of arsenic free tubewells in Bangladesh

Every day after / before 
(getting up / breakfast /)  and after / before 

I am going to walk to *Medarok*'s tubewell
(name of green tubewell owner)

and I am going to collect 
(number of kolshi)

for  and .
(drinking / cooking / drinking and cooking)

BCT 26 Specific Planning *Signature*



BCT 10 Public commitment

65% of the households use arsenic free tubewells (had access before)

BCT 34 Memory aid



Before your Kalosh is empty, go to collect water for drinking or cooking from _____'s (name of neighbor) green shallow tubewell!

Example 4: Solar water disinfection (SODIS) in peri-urban Harare, Zimbabwe



BCT 10 Public
Commitment

BCT 5 Assess
costs and
benefits

85% of the
households have
observed SODIS
bottles in the sun
even 18 months
after intervention



BCT 26 Specific
Planning

BCT 6 Subsequent
reward



RANAS Projects Map & more than 70 scientific publications



RANAS in Red Cross:

1. BC on Menstrual hygiene management with **Red Cross Bangladesh**
2. Solid waste management in refugee camps in Lebanon with **Swedish and Lebanon Red Cross**
3. WASH in households and schools in Malawi with **Belgian and Malawi Red Cross**
4. Training of 45 RC participants in Kathmandu, 2016 for **IFRC**
5. Training of 25 participants in Siem Reap, 2016 for **Swiss Red Cross**

Menstrual Hygiene Management in Bangladesh

Behavior: School attendance during menstruation

Doer/Non Doer: Girls who do not attend school during their periods

- rate it less bad for their school performance when not attending
- rate it not so beneficial if they do attend school during their periods
- find it less important to go to school during their periods
- are less confident not to miss school
- less confident to overcome barrier

Menstrual Hygiene Management in Bangladesh

Behavior: School attendance during menstruation

Campaign:

- A 'Buddy System' where girls are accountable to a friend for attendance and personal psychological support
- A calendar to track periods and successful attendance
- Threatening information will be given that stresses the severity of missed education
- Emphasizing that attending school comes from being prepared
- Advertisements promoting being prepared for periods, using pads (reusable or disposable) and the freedom it offers to attend school
- Highlight detriment to future prospects by not attending school and pitfalls for making this a taboo subject
- Show girls who manage menstruation and don't miss school come from good supportive families who solve problems together

Solid waste management in refugee camps in Lebanon

Doer/Non-doer: Households *who do not throw* most of their garbage into bin:

..... Think that disposing the garbage into the bin is time consuming

... Are more bothered from throwing the garbage in the bin

... Feel the bad smell when the garbage is in the bin

..... Feel disgust to dispose their waste in the waste bin

Community meetings with discussions emphasizing

- benefit of disposing the garbage in a safe way
- how people feel about garbage and
- their perception and confidence in performing the correct behavior



WASH in households and schools in Malawi

Households:

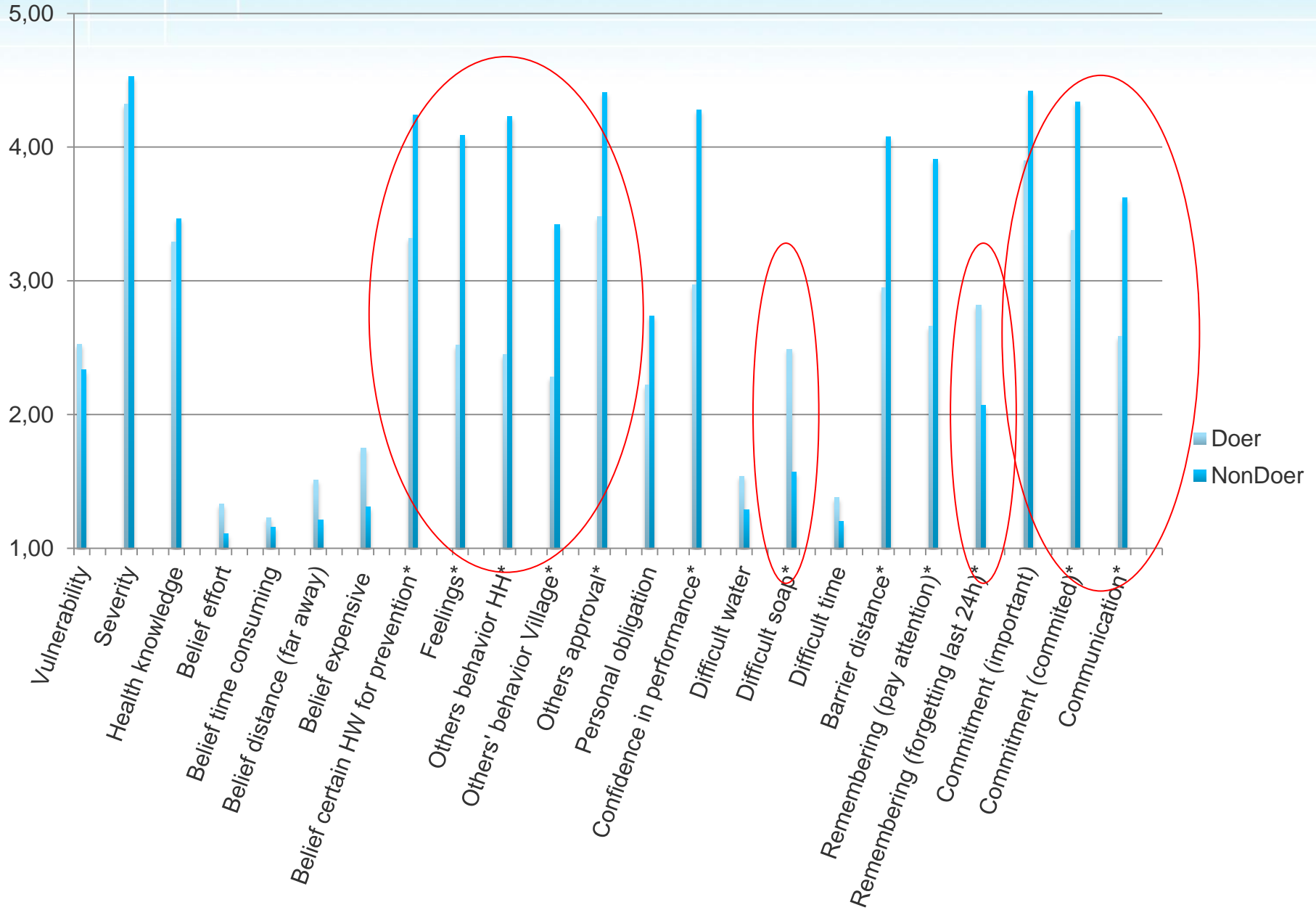
- Safe drinking water collection
- Handwashing
- last non-owners of latrines

Schools:

- handwashing infrastructure
- nudges



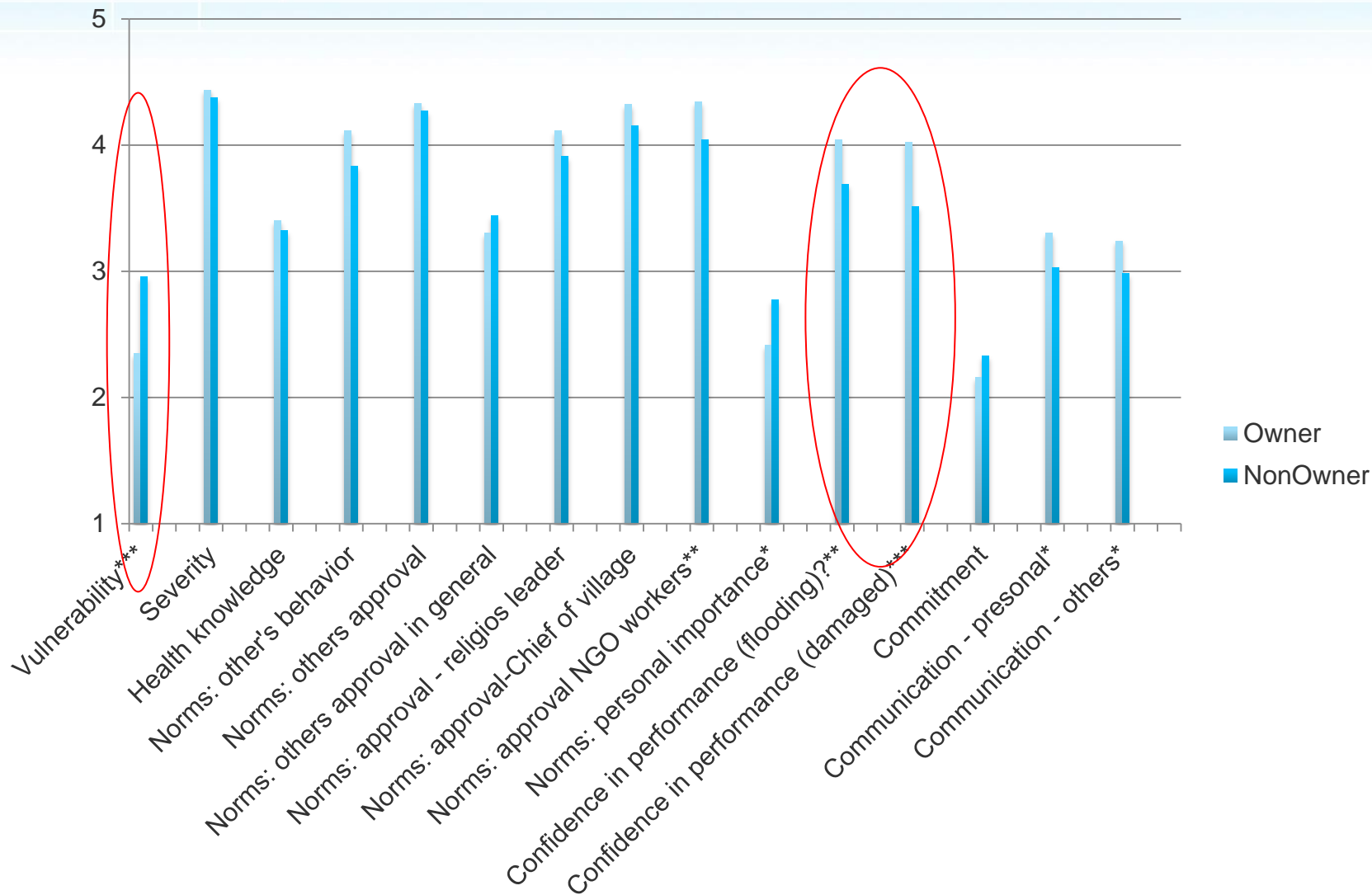
Doer/NonDoer: Handwashing



Overview handwashing promotion

Intervention strategy	Behavior Change Techniques (BCT' s)	BCT Description	Communication Channels		
			Mass Media	Group	One-to-one
1 Hardware Promotion and Planning	Promotion to build infrastructure	Provide material and prompt to build a hand washing facility – e.g. tippy tap.		X	
	Prompt specific planning	Stimulate the participants to plan exactly and specific the maintenance of the hand washing facility.			X
	Use memory aids and environmental prompts	Provide and encourage to hang-up a poster with clean hands close to the entrance of the latrine.			X
	Prompt behavioral practice.	Prompt participants to practice the new behavior – hand washing with soap and water at key times (repeated performance is crucial for habit building).			X
2 Foster positive emotions	Describe or prompt experience of positive feelings when washing hands with soap and water.	Present hand washing as pleasant and ask the participant to describe the good feeling of washing hands with soap and water. Induce good emotion (smile during hand washing) and take picture of the participant and attach it next to the hand washing facility			X
3 Social Influence	Inform about others' behavior	Build a hand washing facility – tippy tap (strategy 1). Preferable placed at a visible spot to make sure that other family and community members can see it.			X
	Prompt public commitment/ Prompt to agree on a behavioral contract	Let participants commit at a public meeting to wash hands with soap and water. They should receive a certificate with the written commitment.		X	
	Inform about others ' approval	Provide posters with the picture of Red Cross worker washing hands with soap and water with the following text: 'Red Cross and government of Malawi and chief of the village appreciate that you always wash hands with soap and water before eating and after using the toilet.'	X		
4 Social support	Organize social support.	Prompt people to receive practical or (verbal) emotional support from others' (apply only for vulnerable families).		X	
	Prompt to talk to others'.	Prompt irregular Doers and NonDoers to talk about hand washing to others.		X	

Owners/Last NonOwners: Latrine Construction



Overview promotion of latrine construction of last non-owners

Intervention strategy	Behavior Change Techniques (BCT' s)	BCT Description	Communication Channels		
			Mass Media	Group	One-to-one
1 Hardware Promotion	Promotion to build infrastructure	Help to find material and prompt to build a latrine.			X
	Prompt behavioral practice.	Prompt participants to begin with building a latrine.			X
2 Social Influence/persuasion	Inform about others ' approval	Point out that important others' support the latrine construction and disapprove open defecation. Important others may be family members, neighbors, famous persons. Their approval/ disapproval can be expressed by themselves or a Red Cross volunteer can inform about their opinion.			X
3 Social support	Inform about, and assess costs and benefits	Provide information about costs and benefits of a latrine construction and conduct a cost-benefit analysis. This includes not only financial costs & benefits, but also health or social consequences and the entailed effort. Reward a person after latrine construction (material or social reward).			X
	Organize social support.	Prompt people to receive practical or verbal support from others' (only vulnerable families).			X
	Prompt to talk about latrine construction'.	Prompt NonOwners to talk about latrine construction with owners.			X

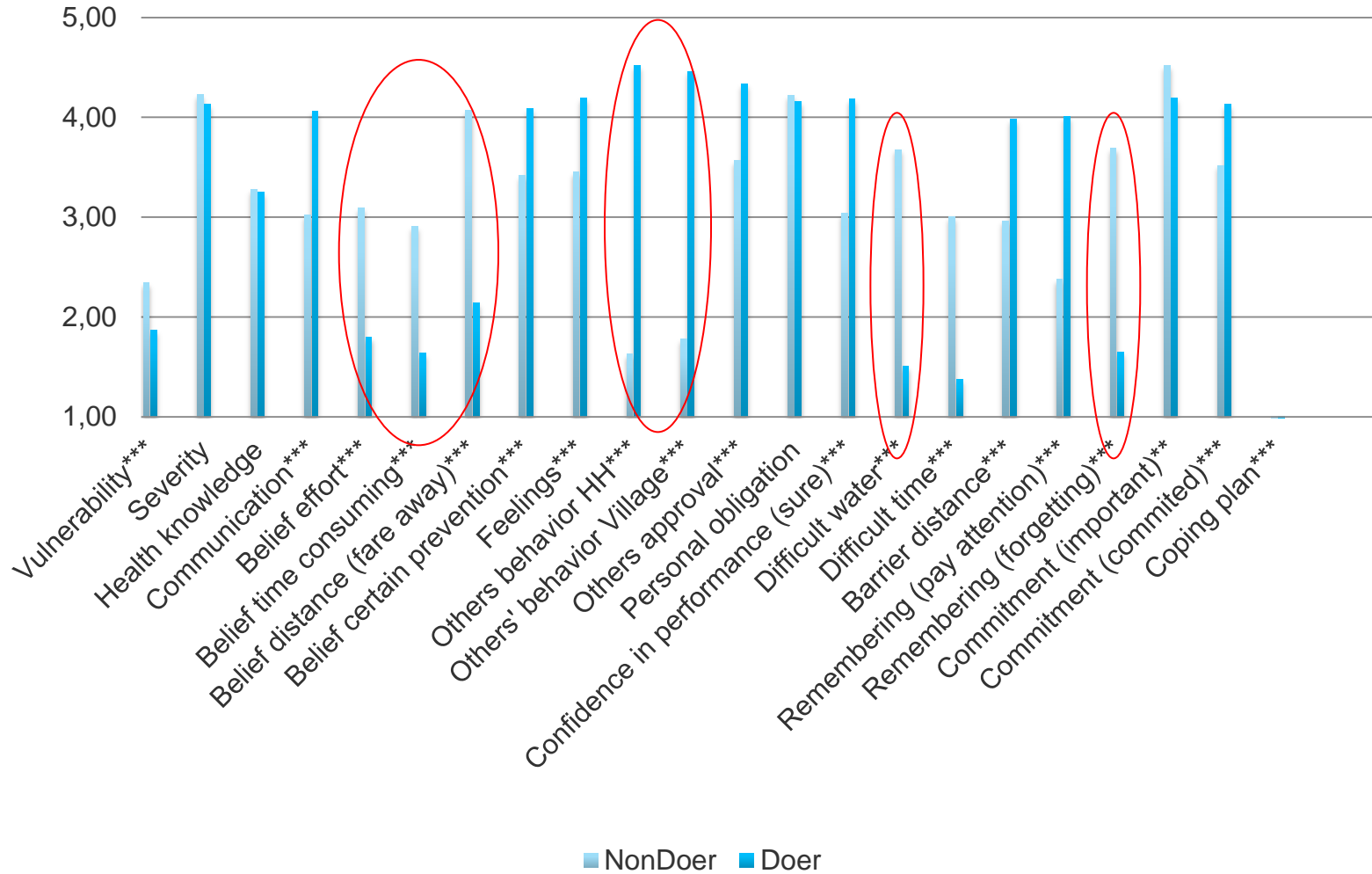
Interventions: latrine construction and handwashing

1. Promotion to build infrastructure (tippy tap & latrine) BCT_16
2. Foster positive emotions/ feelings BCT_8
3. Prompt specific planning BCT_26
4. Use memory aids & environmental prompts BCT_34
5. Inform about others' approval BCT_11



Doer/NonDoer: Safe Drinking Water Collection

safe drinking water collection



Promotion of safe water collection

Intervention strategy	Behavior Change Techniques (BCT' s)	BCT Description	Communication Channels		
			Mass Media	Group	One-to-one
1 Information and planning	Step1: Inform about and assess personal risk	Present assessments for each person in such a way that the person realizes that his/her health is at risk if the person does not collect water from the safe source and give individualized messages which focus on cumulative risk effects			X
	Step 2: Prompt specific planning and coping with barriers	Ask participants to identify and plan solutions to those barriers. Participants can think about strategies she/he has already used in previous situations or about new solutions.			X
	Step 3: Use memory aids and environmental prompts	Prompt the participant to install memory aids so as to help to remember the new behavior and to trigger it in the right situation.			X
	Step 4: Prompt behavioral practice and use arguments to bolster self-efficacy	Prompt participants to practice the safe water collection. This can be done in an organized setting like during community meeting.		X	
2 Social Influence/ persuasion	Inform about others' behavior	Let people commit to safe water collection and make their commitment public.		X	
	Inform about others ' approval	Point out that important others' support the collection of water from safe water source.			X
	Increase personal importance -provide a positive group identity	Describe people already engaged in collection at safe water source in an attractive way,		X	
	Inform about, and access costs and benefits	Provide information about costs and benefits of a behavior and conduct a cost-benefit analysis.			X
3 Communication	Prompt to talk to others about water use from safe water source.	Invite participants to talk to others about the safe water use.		X	

Handwashing intervention in schools

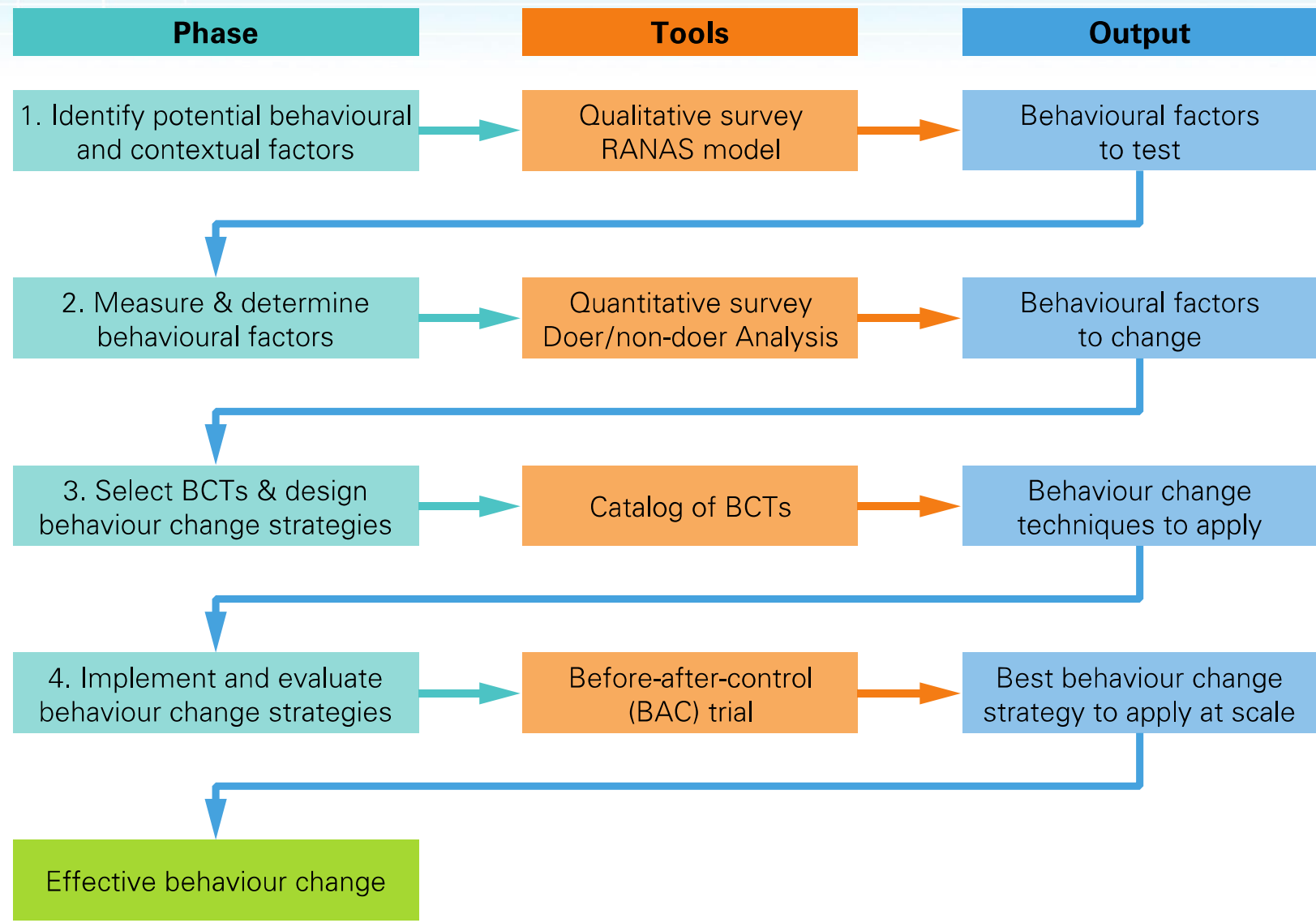
1. Nudges intervention/ environmental cues BCT_34



Systematic behavior change using the **RANAS** approach enables:

1. The exact determination of the behavioral factors to be changed
2. The focused selection of the corresponding behavior change strategies
3. Their proven record of success

The RANAS Systematic Behavior Change Approach

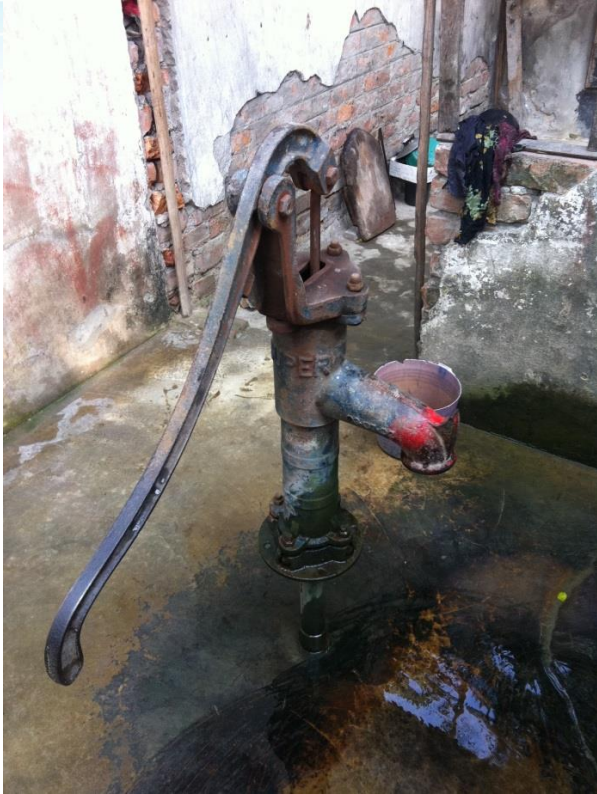


Implementation guide for Community-based health and first aid *in action* (CBHFA)

5.2 Health promotion planning

A comprehensive plan has to be developed before any health promotion intervention. An outline of steps to plan health promotion intervention will:

- identify concerns and problems of the community that affect the quality of life
- understand the nature of the health problem and position it in relation to other social problems. A specific health problem and its nature are determined by available epidemiological data as well as the perception of a particular community
- identify behavioural factors and define their clear status in relation to the health problem. Three factors determine a person's behaviour and affect motivation to change:
 - belief
 - values
 - attitude
- analyse behaviour factors and determine the key issues
- decide which issues are the focus of the intervention
- develop and implement appropriate promotional interventions
- evaluate the health promotion intervention.



Systematic Behavior Change in Water Sanitation and Hygiene

A practical guide using the RANAS approach

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