



Sanitation outcomes of a WASH intervention in Manufahi District, Timor-Leste

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TIMOR-LESTE



Australian Government
National Health and Medical Research Council

WASH
FUTURES



Water, Sanitation & Hygiene Conference 2018

Collaboration for Universal WASH

#WASHFutures18



Manufahi District



Image found at:
<https://www.google.com.au/maps/@-8.120145,118.5144135,4.48z>



WaterAid WASH Program – delivered through partnerships

Strong collaboration between WaterAid, the Gov't of Timor-Leste and partner CSOs to deliver:

PAKSI - local adaptation of CLTS

Gravity-fed water supply

Hygiene promotion

Gender training



Photo: Naomi Francis

Background

The results of WASH programs are often categorised as:

Outputs e.g. new water supply system

Outcomes e.g. changes in knowledge, attitudes and practices

Impacts e.g. changes in health

(Poulos, Pattanyak and Jones 2006)

Research Question

What are the changes, if any, in household representatives' WASH knowledge, attitudes and practices between the following points in time:

- Up to a fortnight prior to;
- Up to one week after; and
- 9-11 months after

the WaterAid inception meeting?

'True'
baseline

Rapid
response

Mid-term
response

Method

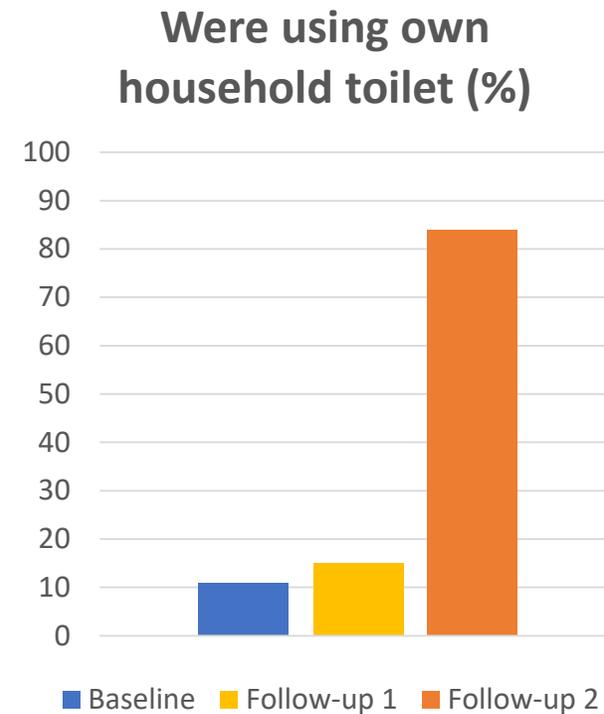
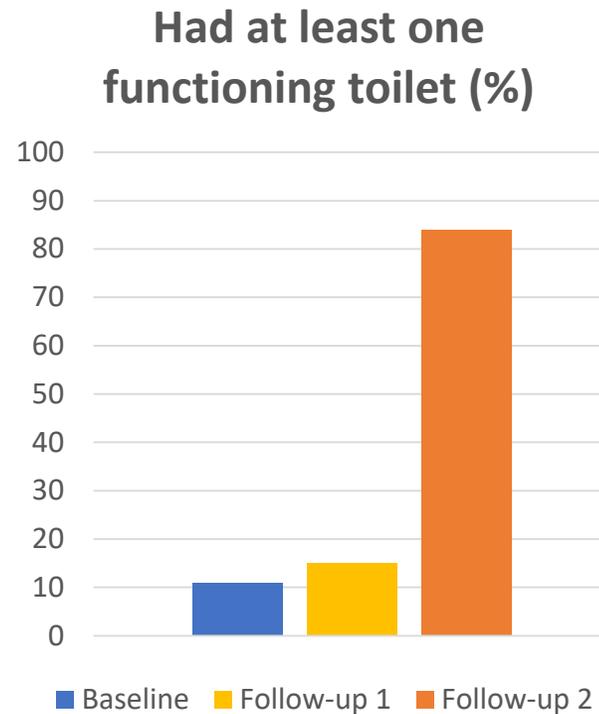
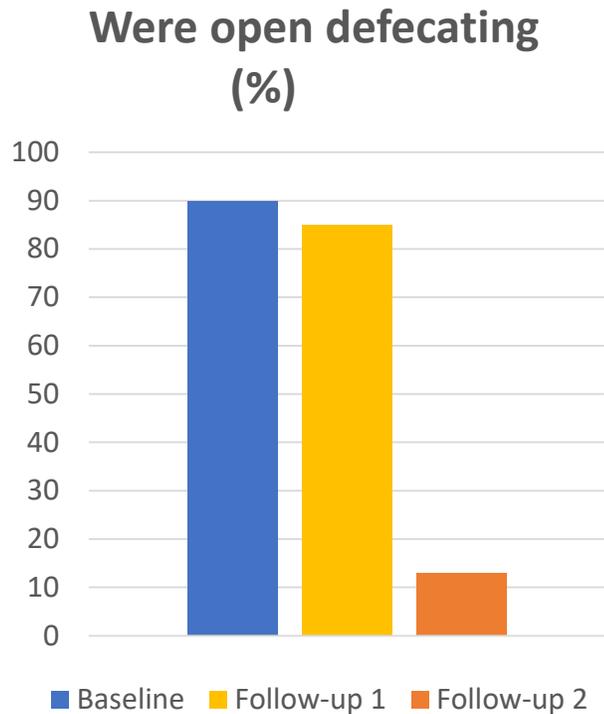
- Questionnaire about participants' WASH-related knowledge, attitudes and practices.
- Administered by the researcher with a Tetun-English interpreter in 2013 at 3 time-points:
 - 'True baseline' - Baseline
 - 'Rapid Response' - First follow-up
 - 'Mid-term Response' - Second follow-up
- 65 households from 3 villages.
- Analysis: calculated the change in proportions of variables over time (two-sample test in STATA)



Photo: Naomi Francis

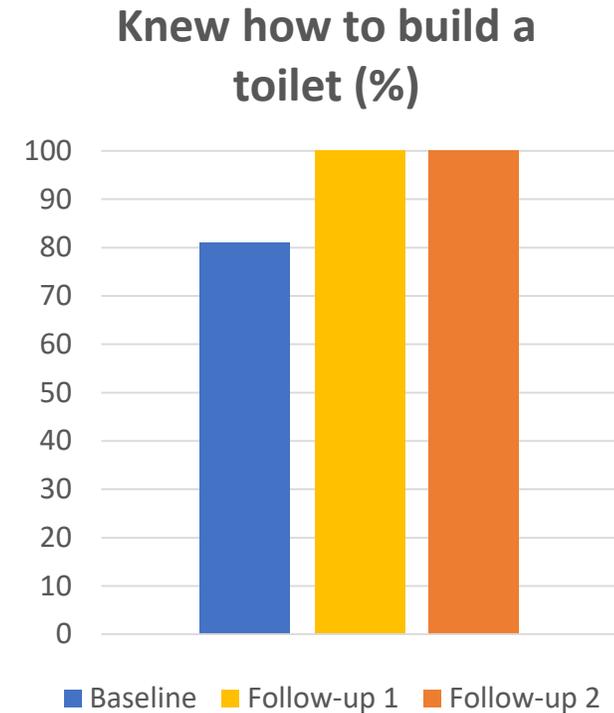
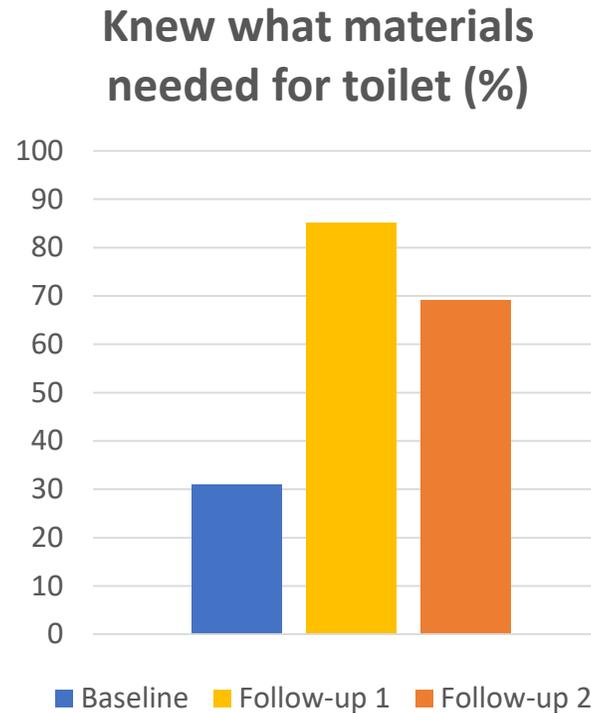
Findings

Sanitation practices improved over the course of the study.



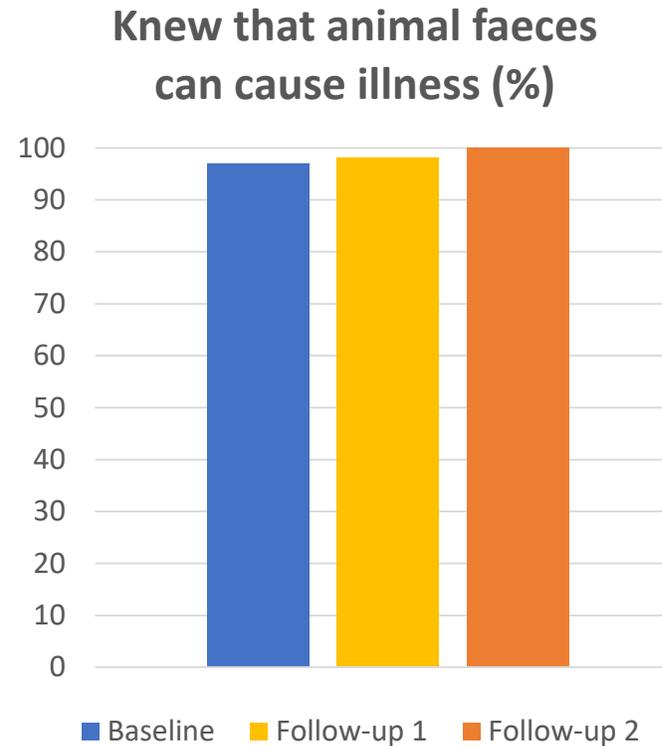
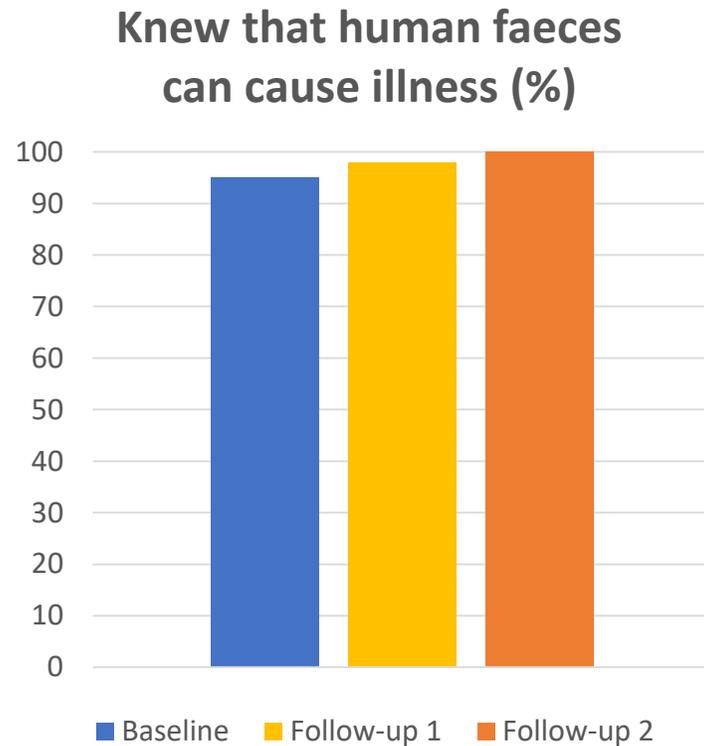
Findings - continued

Participant's knowledge about which materials were needed and how to build a toilet increased after the inception meeting.



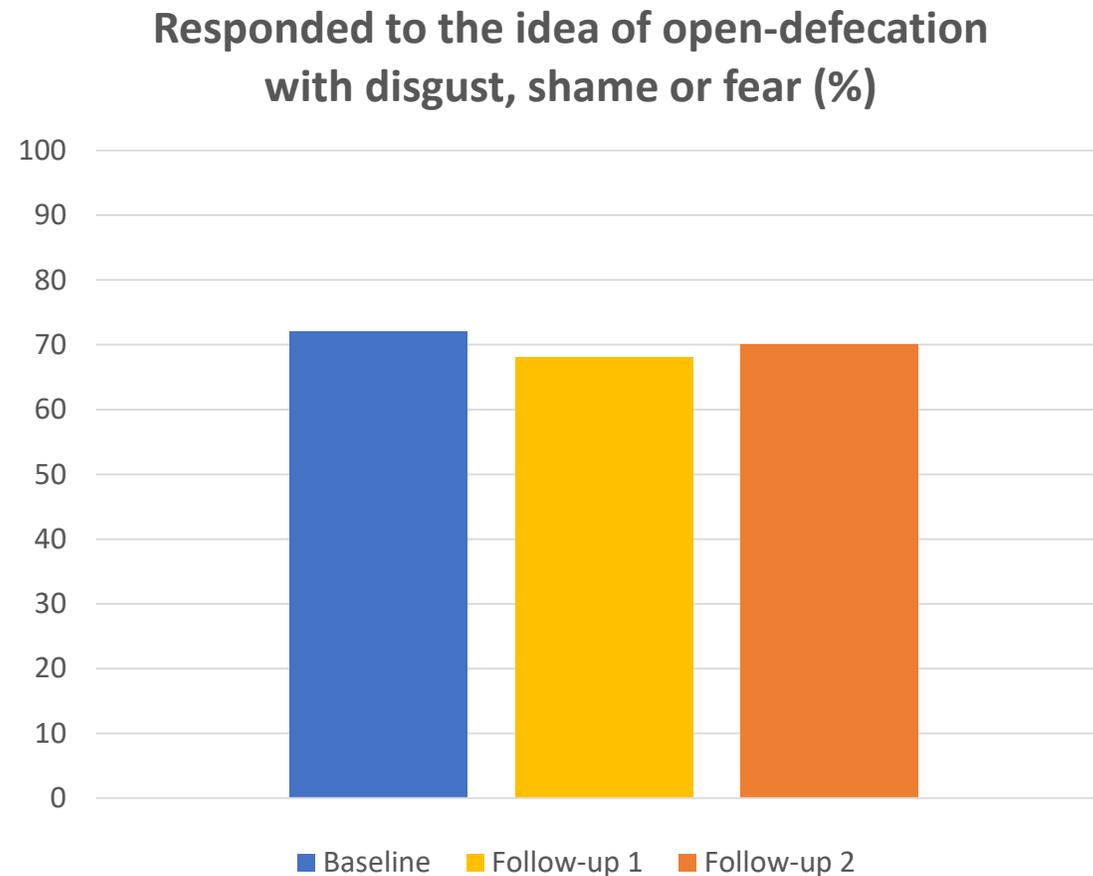
Findings - continued

Participant's **knowledge about the connection between faeces and health** were high at each time point.



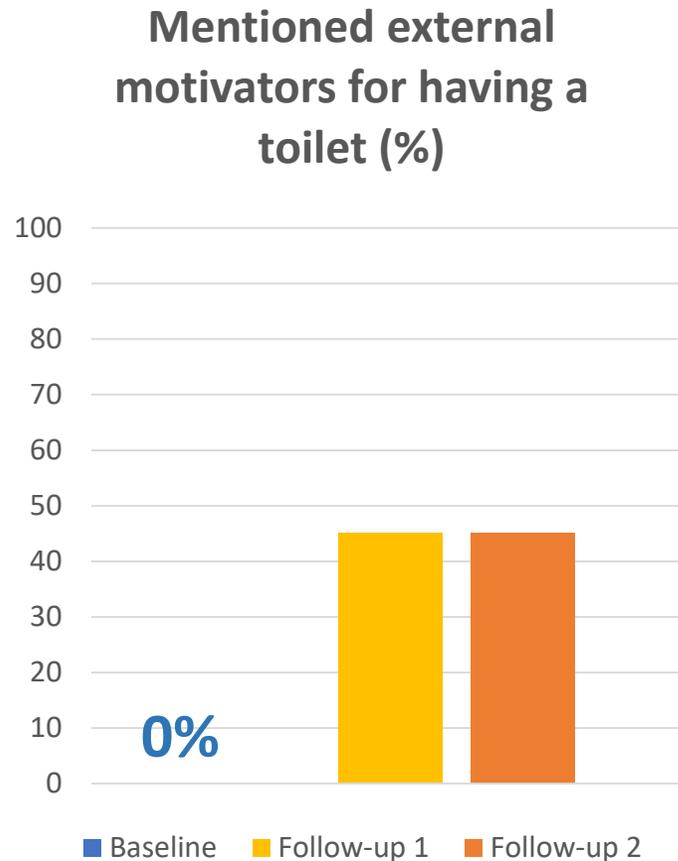
Findings - continued

Participant's feelings of disgust, shame and fear about open-defecation did not change significantly throughout the study.



Findings - continued

The proportion of participants who reported being motivated to have a toilet or plan to have a toilet for reasons such as being advised or supported by the govt or NGOs or the perceived incentive of a new water supply increased between baseline and first follow-up.



Conclusions

The findings suggest that the intervention worked in general over the duration of the study...

...but perhaps not in expected ways.

Further research: What is it about triggering (and/or follow-up activities) in CLTS and similar approaches that motivates participants' behaviour change?



It is worthwhile to consider the **outcomes** of an intervention, such as changes in **knowledge, attitudes** and **practices**.

Acknowledgements



Collaboration for Universal WASH

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Sampling

- Comparison of two proportions
 - Confidence level – 95%
 - Power – 80%

$$n = \frac{p_1(1-p_1) + p_2(1-p_2)}{(p_1 - p_2)^2} (1.96 + 0.84)^2$$

- Expected changes of 50-60 percentage points
- Aimed to detect changes of at least 30 percentage points (sample size = **43** households (hh))
- Allowing for loss to follow-up, we aimed to invite at least **60** hh.
- **63** hh participated. Average of **46** hh responded to individual questions.



Photo: Naomi Francis

Findings - continued

Participants' preference to defecate somewhere other than in the open was already high at baseline and increased slightly over the course of the study.

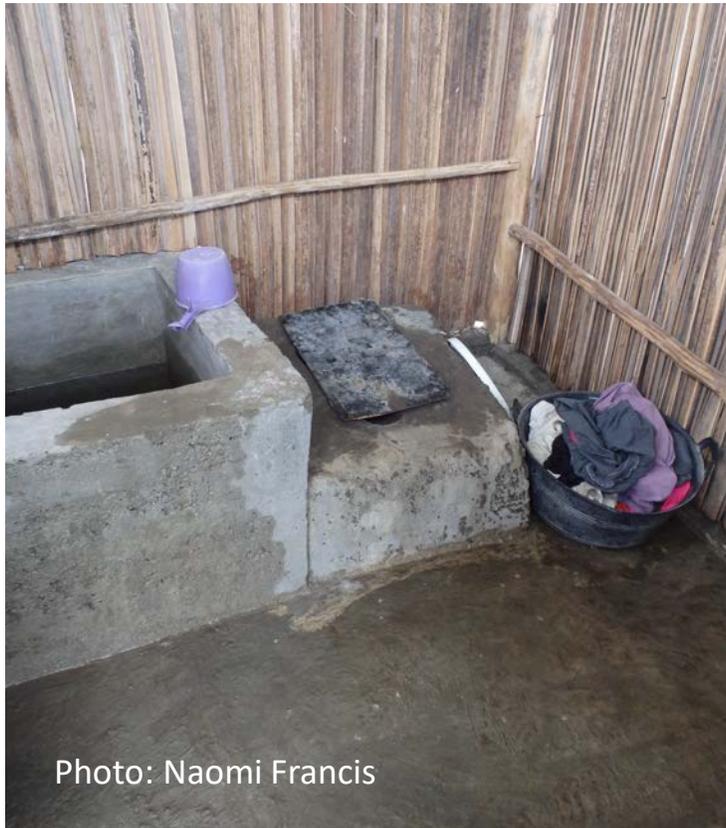
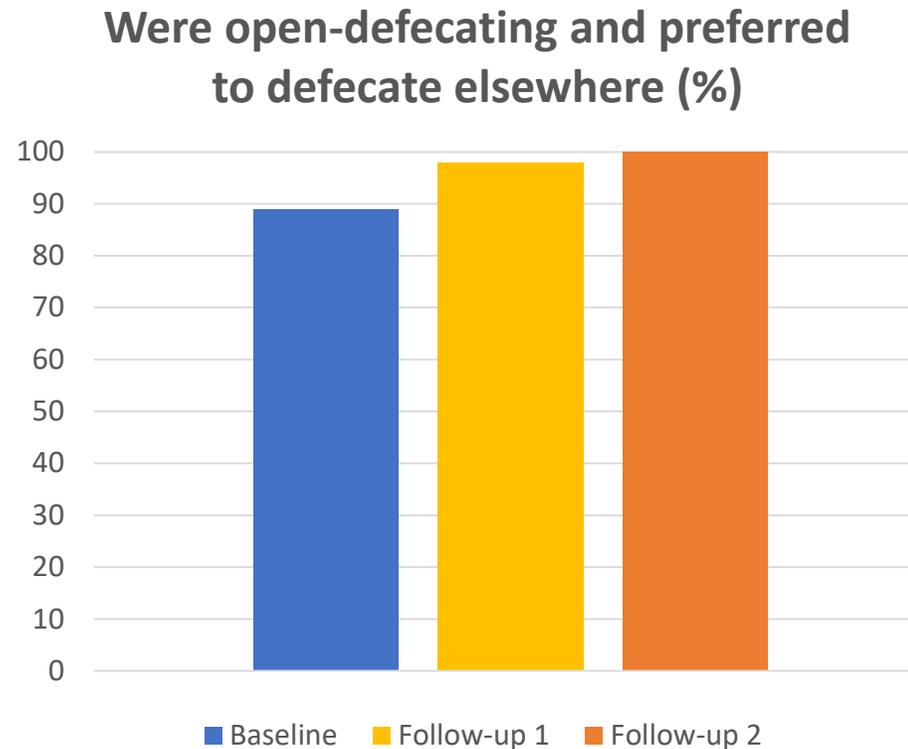


Photo: Naomi Francis



Findings

Sanitation practices improved over the course of the study.



Indicator	Time period	Proportions (%)	p-value
Were open-defecating	BL → FU1	90 → 85	0.38
	FU1 → FU2	85 → 13	<0.0001
	BL → FU2	90 → 13	<0.0001
Had at least one functioning toilet (regardless of level of construction)	BL → FU1	11 → 15	0.60
	FU1 → FU2	15 → 84	<0.0001
	BL → FU2	11 → 84	<0.0001
Were using own household's toilet	BL → FU1	10 → 13	0.56
	FU1 → FU2	13 → 81	<0.0001
	BL → FU2	10 → 81	<0.0001



Findings - continued

Participants' preference to defecate somewhere other than in the open was already high at baseline and increased slightly over the course of the study.

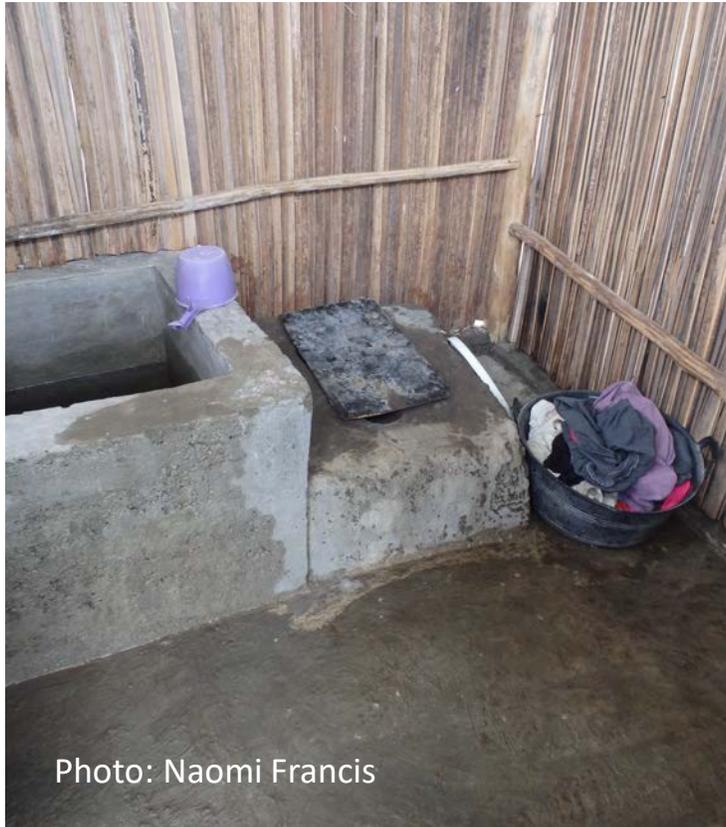


Photo: Naomi Francis

Indicator	Time period	Proportions (%)	p-value
Was open-defecating and preferred to defecate elsewhere	BL → FU1	89 → 98	0.09
	FU1 → FU2	98 → 100	0.71
	BL → FU2	89 → 100	0.39

Findings - continued

Participant's knowledge about which materials were needed and how to build a toilet increased after the inception meeting.



Photo: Naomi Francis

Indicator	Time period	Proportions (%)	p-value
Knew what materials were needed to acquire a new toilet (and were planning or constructing a toilet)	BL → FU1	31 → 85	<0.0001
	FU1 → FU2	85 → 69	0.09
	BL → FU2	31 → 69	<0.01
Knew how to build a toilet (and were planning or constructing a toilet)	BL → FU1	81 → 100	<0.01
	FU1 → FU2	100 → 100	*
	BL → FU2	81 → 100	0.08

Findings - continued

Participant's **knowledge about the connection between faeces and health** were high at each time point.

Indicator	Time period	Proportions (%)	p-value
Knew that human faeces can make them sick	BL → FU1	95 → 98	0.38
	FU1 → FU2	98 → 100	0.34
	BL → FU2	95 → 100	0.12
Knew that animal faeces can make them sick	BL → FU1	97 → 98	0.64
	FU1 → FU2	98 → 100	0.34
	BL → FU2	97 → 100	0.21

Findings - continued

Participant's **feelings of disgust, shame and fear about open-defecation** did not change significantly throughout the study.

Indicator	Time period	Proportions (%)	p-value
Responded to the idea of open-defecation with disgust, shame or fear	BL → FU1	72 → 68	0.62
	FU1 → FU2	68 → 70	0.81
	BL → FU2	72 → 70	0.83

Findings - continued

The proportion of participants who **reported being motivated to have a toilet or plan to have a toilet for reasons such as being advised or supported by the government or NGOs or the perceived incentive of a new water supply** increased over the course of the study.

Indicator	Time period	Proportions (%)	p-value
Mentioned external motivators for having a toilet	BL → FU1	0 → 45	<0.01
	FU1 → FU2	45 → 45	0.99
	BL → FU2	0 → 45	<0.01
Mentioned external motivators for planning a toilet	BL → FU1	7 → 56	<0.01
	FU1 → FU2	56 → 7	<0.01
	BL → FU2	7 → 7	*
Mentioned external motivators for using a toilet	BL → FU1	0 → 0	*
	FU1 → FU2	0 → 13	0.32
	BL → FU2	0 → 13	0.45