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# Promoting Safe Child Faeces Management in Solomon Islands

## Findings Report from Formative Research in Isabel and Guadalcanal Provinces



**Full research title:** Promoting Safe Child Faeces Management: Behaviour change interventions that leverage local ways-of-knowing and address inequitable WASH gender norms in Solomon Islands

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## ACRONYMS AND ABBREVIATIONS

<b>AR</b>	Associate researcher
<b>CFM</b>	Child faeces management
<b>CLTS</b>	Community-led Total Sanitation
<b>CSO</b>	Civil society organisations
<b>FGD</b>	Focus group discussion
<b>HH</b>	Household
<b>JICA</b>	Japan International Cooperation Agency
<b>JMP</b>	Joint Monitoring Programme for Water Supply and Sanitation
<b>KII</b>	Key informant interview
<b>LLEE</b>	Live & Learn Environmental Education
<b>MHMS</b>	Ministry of Health and Medical Services
<b>NGO</b>	Non-governmental organisation
<b>NOD</b>	No open defecation
<b>RWASH</b>	Rural Water, Sanitation and Hygiene (of the MHMS of Solomon Islands)
<b>SIG</b>	Solomon Islands Government
<b>SINU</b>	Solomon Islands National University
<b>OD</b>	Open defecation
<b>VRA</b>	Village research assistant
<b>WASH</b>	Water, sanitation and hygiene
<b>WHO</b>	World Health Organisation
<b>WSP</b>	Water and Sanitation Program

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# 1. INTRODUCTION

## 1.1. Child Faeces Management in Solomon Islands

The lack of safe infant and child (under 5 years old) faeces management (CFM) is a critical issue in Solomon Islands, as it is in many countries (WSP, 2015). Unsafe CFM, or the failure to separate and contain the faeces of young children, causes significant health risks to Solomon Islanders because of a confluence of situational factors. These include overall inadequate water, sanitation and hygiene (WASH), including low rates of access to safe sanitation facilities, varying knowledge and beliefs around the safety of the faeces of children, and the higher potential for transmission of pathogens from faeces to children because of their playing behaviours in their environment, which brings them in contact with contaminated surfaces and objects.

A complicating factor for improving child faeces management is that it is likely that women and older children, usually siblings, have primary responsibility for childcare activities. As such, an improvement in CFM practices could further increase the burden of work and responsibility on women and children. However, challenging entrenched gender norms is a long and slow process and, in some contexts, can create a risk to women and children of harmful male backlash if not done safely. Severe backlash – rejection by men that the responsibility for safe CFM should be shared with them and which results in abuse could be exhibited by some men, who may reject modernisation of gender roles and associated changes in the dynamics of interpersonal power.

Recent advances globally in designing behaviour change intentions for sanitation and hygiene have replaced or complemented educational approaches with a systematic consideration of technological, psychosocial and contextual determinants. But the lack of consideration of epistemologies, or local-ways-of-knowing, and the missed opportunity to disrupt gender inequitable CFM roles through CFM interventions, has been criticised (Cavill et al., 2018; Zakiya, 2014).

The Solomon Islands Government (SIG) is committed to improving sanitation across all rural areas and implementing demand-based approaches, particularly Community-Led Total Sanitation (CLTS). At present, the Solomon Islands CLTS approach does not explicitly address CFM, and there is an opportunity to incorporate a CFM component or implement a subsequent intervention that complements CLTS to address CFM explicitly.

The safety of CFM is particularly relevant in the Solomon Islands because:

- Diarrhoea is a leading cause of childhood mortality, causing ~25% of childhood deaths,
- Child malnutrition and stunting affects 33% of children, and
- 80% of the population live in rural areas, where there is 80% open-defecation, and only 16% have a handwashing facility with soap (Government of Solomon Islands, 2015).

The National Sanitation Plan (Government of Solomon Islands, 2017) and community engagement guidelines outline the approach to improve sanitation and hygiene. However, they do not currently address CFM despite young children comprising 15% of the population (Government of Solomon Islands 2009). There are no locally relevant communication materials for CFM.

## 1.2. Defining “safe child faeces management”

There are multiple definitions of what constitutes safe child faeces management, with some definitions focusing on the end disposal site of the faeces and others focusing on the whole process of managing faeces, including cleaning and handwashing.

### 1.2.1. Definitions focusing on end disposal

#### WHO/UNICEF Joint Monitoring Program

*“Appropriate methods for disposal of child stools include the child using an improved latrine or the caretaker putting or rinsing stools into an improved latrine. Disposal with solid waste is only appropriate if solid waste is stored, collected and disposed of in a sanitary manner” (WHO/UNICEF, 2018).*

The WHO/UNICEF Joint Monitoring Programme for Water Supply and Sanitation (JMP) also stated that unsanitary practices include disposing of faeces into a drain or ditch, disposing with rubbish, or leaving stools out in the open (WHO/UNICEF, 2006).

#### World Bank Water and Sanitation Program (WSP)

*“The safest way to dispose of a child’s faeces is to help the child use a toilet or latrine or, for very young children, to put or rinse their faeces into a toilet or latrine [...] – these disposal methods are referred to as “safe,” whether the faeces are deposited into an unimproved or an improved toilet or latrine. Other methods are considered ‘unsafe’” (WSP 2015).*

### 1.2.2. Definition focusing on the process

Other definitions include a set of steps in the CFM process. The following sequence of steps has been proposed to constitute safe CFM (Miller-Petrie, Voigt, McLennan, Cairncross, & Jenkins, 2016):

1. Safe containment of child faeces through the use of a latrine, or diaper, nappy or potty
2. Transport the faeces by use of a tool that avoids direct contact with caretaker’s hands
3. Disposal of faeces into a latrine, and contaminated disposable materials (e.g., nappy, toilet paper) adequately treated or disposed of.
4. Cleaning of tools and equipment, and wastewater disposed of in a latrine
5. Child cleaned with soap and wiping materials or wastewater disposed of in a latrine
6. Caretaker washes hands with soap after handling of faeces and contaminated tools

## 1.3. Objectives of formative research

- To document current CFM practices and the perceived advantages and disadvantages associated with them.
- To explore motives associated with safe (or safer) CFM and identify potential candidate motives for use in behaviour change communication.
- To describe the extent of knowledge about the potential role of child faeces in the transmission of infection.
- To describe the physical environment, socio-cultural environment, infrastructure and settings pertinent to CFM.
- To explore potential communication channels, including experience of CLTS interventions as well as village social structures and organisations.

## 1.4. The Evo-Eco model for behaviour change

The Evo-Eco model posits that brains evolved to provide adaptive behavioural responses to rapidly changing or complex environmental conditions (Aunger & Curtis, 2014) and that behaviour is a flexible and adaptive response to changes to these conditions. Once a target behaviour has been identified, the Evo-Eco model can be used to explore potential drivers of behaviour in a structured way.

The name ‘Evo-Eco’ is derived from its roots in evolutionary biology of behaviour and ecological psychology. It is comprised of three constituents: the **environment** (the setting which creates challenge or opportunity for the individual), the **brain** (which produces the subsequent response to the environment), and the **body** (which performs a behaviour via interaction with the environment). The brain sits within a body, the body within the environment. The model (Figure 1.1) represents the brain at the core (in blue), subdivided into the *executive*, *motivated*, and *reactive* brains; the body (in orange); and the environment (in green) subdivided into the *social*, *physical*, and *biological* environments. The grey bubbles represent further subdivisions of these categories.

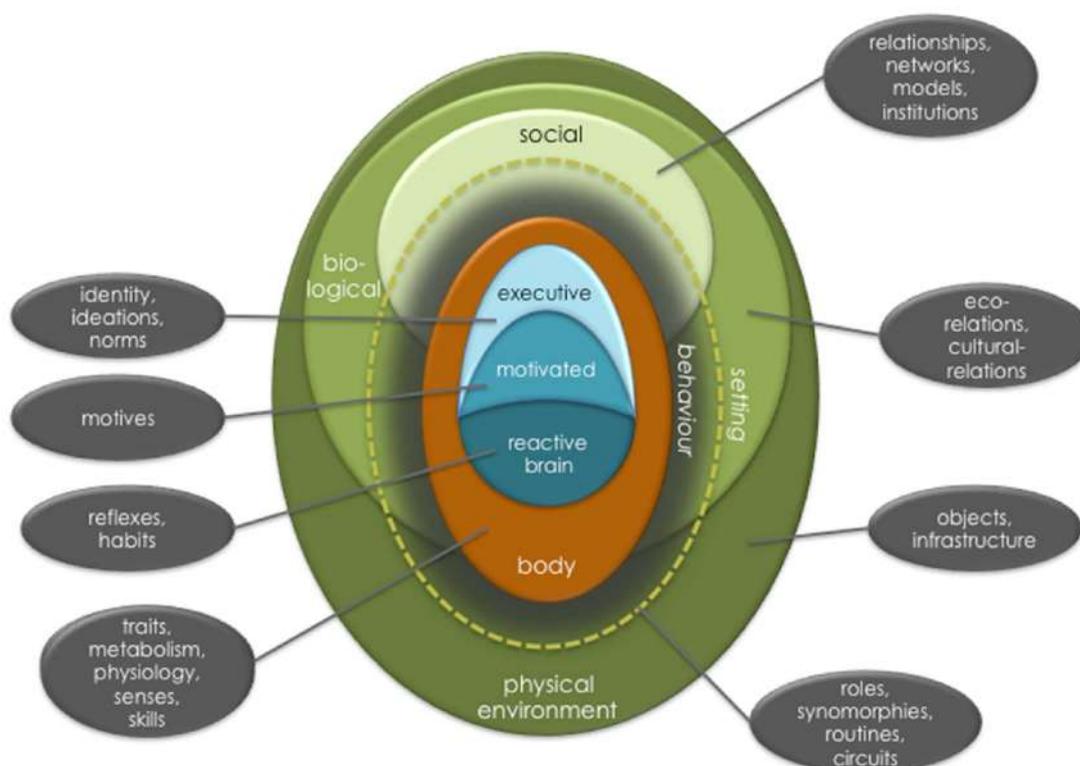


Figure 1.1: The Evo-Eco model. Source: Aunger and Curtis, 2014.

Aunger and Curtis explain that the Evo-Eco model is derived from research that has shown that:

***Enhancing knowledge or altering attitudes frequently have little effect upon behaviour; there is often a weak relationship between attitudes, knowledge, and behaviour.*** (Aunger & Curtis, 2014, p. 35).

#### 1.4.1. Interactions – brain, body, environment

The interactions between the three key components of the Evo-Eco model are also crucial to understanding how to achieve behaviour change. Because behaviour is short-lived, unlike brains/bodies/environments, it is represented in the Evo-Eco diagram by a dark cloud at the boundary of bodies and environments (Figure 1.1). It is characterised by dynamic interactions with the other model's other components since behaviour is not a linear cause-and-effect pathway (Aunger & Curtis, 2014).

Another feature of the model is a dotted oval outside the behaviour cloud, representing behaviour settings. They are considered one of the most crucial components of the Evo-Eco model, as it is where the components interact: “*settings are networks of constraints on how animals can behave in specific situations*” (Aunger & Curtis, 2014, p. 21). Habits occur and are reinforced in stable settings, where a behaviour is practised as part of a daily routine, carried out at the same time and place. In social settings, people performing the desired behaviour can help others adopt that behaviour – a form of socially reinforcing behaviour adoption.

### 1.4.2. Using the Evo-Eco model – the Behaviour Centred Design (BCD) approach

In the Behaviour-Centred Design approach (Aunger & Curtis, 2016), the concept of the behaviour’s ‘setting’ is explored further, in that each behaviour occurs in a different setting with a prescribed set of behaviours for those participating. Everyone entering that space is expected to adhere to these behaviours. The setting includes the *objectives, routines, roles, stage, infrastructure, props, competencies, and norms* (Curtis et al., 2019).

Influencing the behaviour setting includes the elements of *surprise, revaluation* and *performance* whose interactions, as described in the Evo-Eco model above, leads to the desired behaviour change.

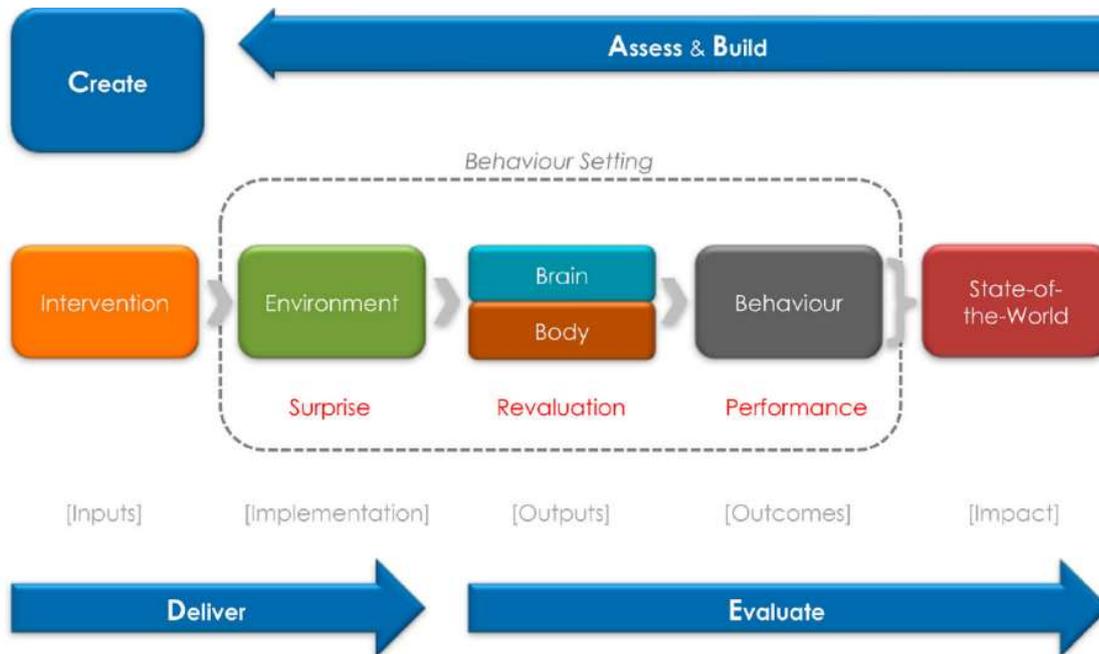


Figure 1.2: The Behaviour-Centred Design approach (Aunger & Curtis, 2016)

## 1.5. Local epistemologies and ways of knowing

Epistemology refers to a cultural group’s ways of thinking and of creating, reformulating, and theorizing about knowledge via traditional discourses and media of communication, anchoring the truth of the discourse in culture (Gegeo, 1994, 1998; Watson-Gegeo & Gegeo, 1999). Indigenous epistemology can be viewed as a form of *kastom*, along with culture, tradition, norms and modes of behaviour, and ways of thinking, doing, and creating (Gegeo & Watson-Gegeo, 2001). Indigenous epistemology does not mean just the content of traditional knowledge or *kastom*, but rather how knowledge is theorized (to think of or suggest ideas about what is possibly true or real), and how it is constructed, encoded, and passed on to others (Gegeo & Watson-Gegeo, 2001).

Applying this to the context of public health interventions that seek to influence human behaviours through providing information, this implies that how people receive, perceive, evaluate, and share such information influences how, and whether, they act upon that information. Further, how that information is treated is guided by cultural norms, and these are not static – they are changing with time, but these cultural norms may also apply differently to individuals as their status (e.g., martial, familial status) or characteristics (e.g., age, ability), changes.

## 2. METHODS

### 2.1. Study site

The study was carried out in rural areas of Solomon Islands, a nation that comprises nine provinces excluding the capital, Honiara. Solomon Islands has a total population of approximately 712,000 as of 2019 of which almost 75% are considered rural by the Solomon Islands National Statistics Office. Provinces are the largest sub-national administrative unit in Solomon Islands. A province usually constitutes an entire island (or multiple islands) and may be culturally distinct from other provinces.

Because any behaviour change interventions would be required to fit within the CLTS framework, we selected formative research villages from provinces where CLTS implementation had occurred previously. We reviewed the CLTS project database from the Solomon Islands Ministry of Health and Medical Services (MHMS)'s Rural Water, Sanitation and Hygiene (RWASH) Unit and as of March 2020 and found all provinces except for Honiara and Temotu had some villages that had been involved in CLTS.

Malaita, Isabel, Makira and Guadalcanal provinces had the highest number of NOD-declared villages of the nine provinces in Solomon Islands. Initially, due to logistics and travel time, Malaita, Isabel and Guadalcanal were selected to include provinces with known cultural differences. However, ethics approval for formative research in Malaita was not forthcoming within the research timeframe so formative research was restricted to Isabel and Guadalcanal provinces.

#### 2.1.1. Province Descriptions

##### *Isabel Province*

In the 2009 census, Isabel Province was projected to have a population of about 35,250 in 2020 (35% growth from 2009), with children aged between 0-4 years expected to comprise about 12% of the total (Government of Solomon Islands, 2009). Almost 96% of the population of Isabel lives in rural areas.

Isabel Province has the smallest average household size of the Solomon Islands, at 4.5 people (Government of Solomon Islands, 2015), with the highest human population densities located in the south eastern end of Santa Isabel Island. This area is also the only region of Isabel where inland communities exist. In Isabel province as of 2012-13, 90% of households owned their house compared to a national average of 84%.

The study sites for this formative research were located in the south-eastern end of the island, highlighted by the red box in Figure 2.1.

About 74% of the land in Isabel is held under customary land and sea tenure, which is based on matrilineal inheritance (Santa Isabel Provincial Development Plan 2011-2014). The main economic activities in Isabel are subsistence farming and logging, and currently, more than 60% of the Provincial budget is supported by the logging industry.

According to the RWASH Unit, as of March 2020, 36 villages in Isabel had received a CLTS intervention, most of which were implemented by the non-governmental organisation (NGO) Live & Learn Environmental Education (LLEE). According to data provided by RWASH, of the 36 villages, 16 had been verified and declared NOD, which means roughly a 44% success rate. The average time it took villages to reach NOD status since triggering was approximately 17 months (Rural WASH Unit, 2020); however, the plan or expectation is that villages would become NOD within 6 months (or about 180 days) of triggering (*private communications with LLEE, 2020*).



Figure 2.1: Location of study sites within Solomon Islands in Isabel and Guadalcanal provinces

### Guadalcanal Province

Guadalcanal Province was projected to have approximately 155,600 residents in 2020 (a 66% growth from 2009), with children aged between 0-4 years expected to represent about 13% of the total (Government of Solomon Islands, 2009). The capital of Solomon Islands, Honiara, is located in Guadalcanal, and so the province has a higher urban population than other provinces, at 16.5% in 2009. Household size in Guadalcanal is more aligned to the national statistics, at 5.3 people (Government of Solomon Islands, 2015). In Guadalcanal, 85% of households owned their house, though this proportion includes statistics for Honiara, where almost 25% of households have rental agreements.

The formative study sites in Guadalcanal were in west Guadalcanal, where many of the communities, including Bubumala, are relocated communities from the Weather Coast and Malaita (Amnesty International, 2000; Chung, 2015). The location of the village study sites in Guadalcanal is shown in Figure 2.1.

Guadalcanal Province has a high proportion of full-time students, mainly in Honiara (31% of those over 10 years), while the second most common economic activity is subsistence farming (Government of Solomon Islands, 2015).

According to RWASH, as of March 2020, 21 Guadalcanal villages had participated in CLTS programs, of which 4 had been declared NOD. Additionally, LLEE indicated that more villages had been declared NOD during 2020, including one of the villages selected for the formative research activities.

#### 2.1.2. Village selection

Villages were purposely selected based on the following criteria:

- Located in rural settings (as defined by Solomon Islands National Statistics Office).

- The villages had received a CLTS intervention.
- Similar population sizes with a minimum total household number over 20 if possible.
- More than five households known to have children under 5 years old.
- A mix of coastal and inland locations.
- Different levels of CLTS progress (i.e., verified and declared as NOD, and triggered, but not yet declared NOD).

In Isabel Province, three villages were selected in collaboration with LLEE staff, who had implemented most of the CLTS interventions in the Province and were familiar with the characteristics of all villages. In Guadalcanal Province, two villages were selected based on a review of the RWASH database and consultation with LLEE staff, who provided updated information on villages they had been active in during 2020.

The three study villages in Isabel were: Kolomamata, Baghovu and Salio, all located in the south-eastern part of Santa Isabel Island.

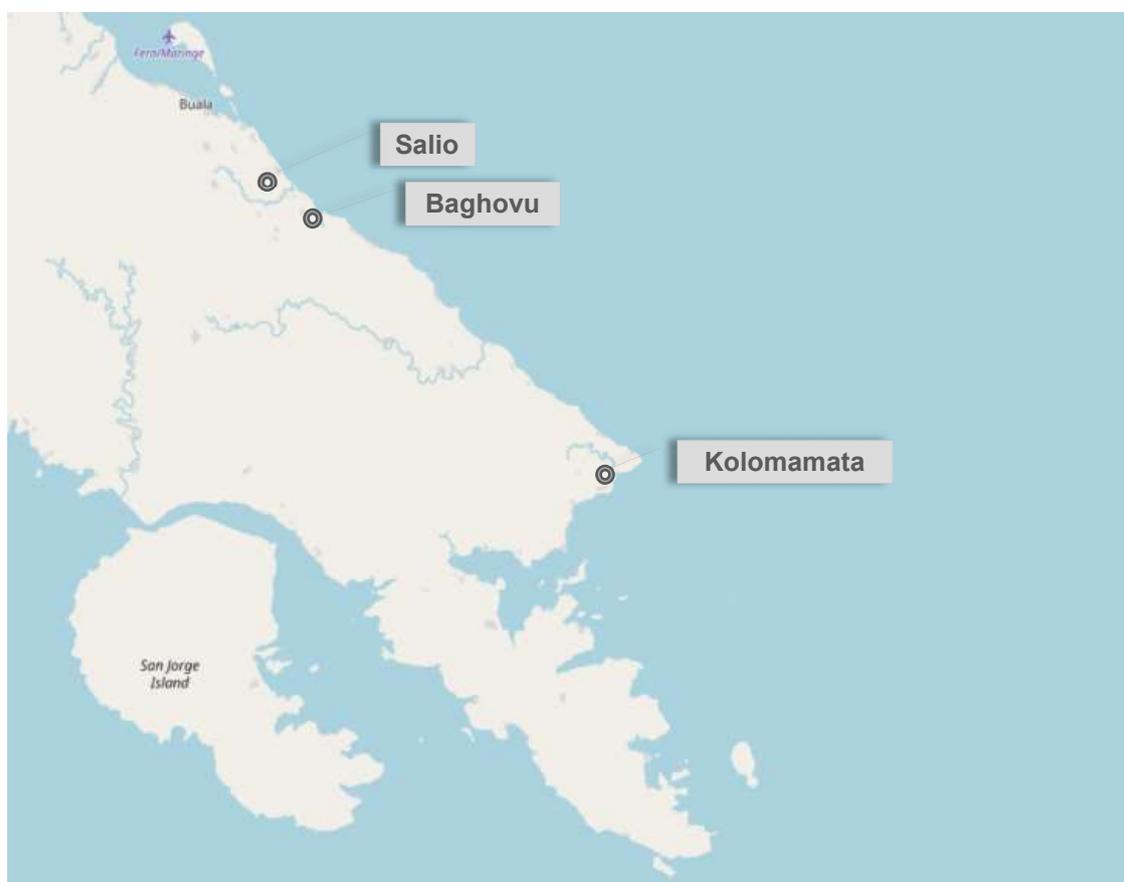


Figure 2.2: Location of study sites, south eastern Santa Isabel island

### Kolomamata

Kolomamata was founded in the 1980s, when two households (HH) moved here from Raja, a nearby coastal village, due to a dispute. The settlers bought the land using customary payment, and since then, the settlement has grown to 20 households. At the time of data collection, 14 of 20 houses were owned by families and the remaining 6 were owned by single men, who did not permanently reside in the village. Five households had a child aged 5 years or younger. Livelihoods were subsistence farming and fishing, selling betel nut and tobacco, raising chickens and pigs, and paid employment in the logging operation. The village had one small store, owned by the village chief, who brought supplies by boat from Honiara. There was no road, no phone network and no power grid in this village. Some households had a photovoltaic cell, mobile phones and battery-operated radios and torches.



Figure 2.3: Kolomamata village locations: (a) houses and river and (b) village church

### Baghovu

Baghovu was a village of about 45-49 households and nearly 250 people. About 20 HHs had children aged 5 or younger. At the time of data collection, there was a kindergarten in the village (Figure 2.4), which had a toilet for the schoolchildren, and it was the only toilet that was not owned by a household. Older children walked to primary school in a nearby village. There were three canteens and two district rest houses in the village, and one of the rest houses was used as the community meeting place. People had access to radios and mobile phones. The primary sources of income included marketing of cash crops and fishing.



Figure 2.4: Baghovu village locations: (a) kindergarten; (b) toilet outside kindergarten; (c) district rest house; and (d) church

### Salio

At the time of data collection, there were 53 HHs in Salio, and 11 of them had children under the age of 5. The main livelihoods were growing vegetables, sweet potatoes, copra, and betel nut, fishing and raising pigs. There was a church, village hall, and two canteens in the village (Figure 2.5). Diapers were available in one of the canteens. People had access to radios and mobile phones.



Figure 2.5: Salio village locations: (a) canteen; (b) church; and (c) village hall

The two villages in Guadalcanal province were Bubumala and Verakoukou, both located west of Honiara along the main road. Their locations are shown in Figure 2.6.

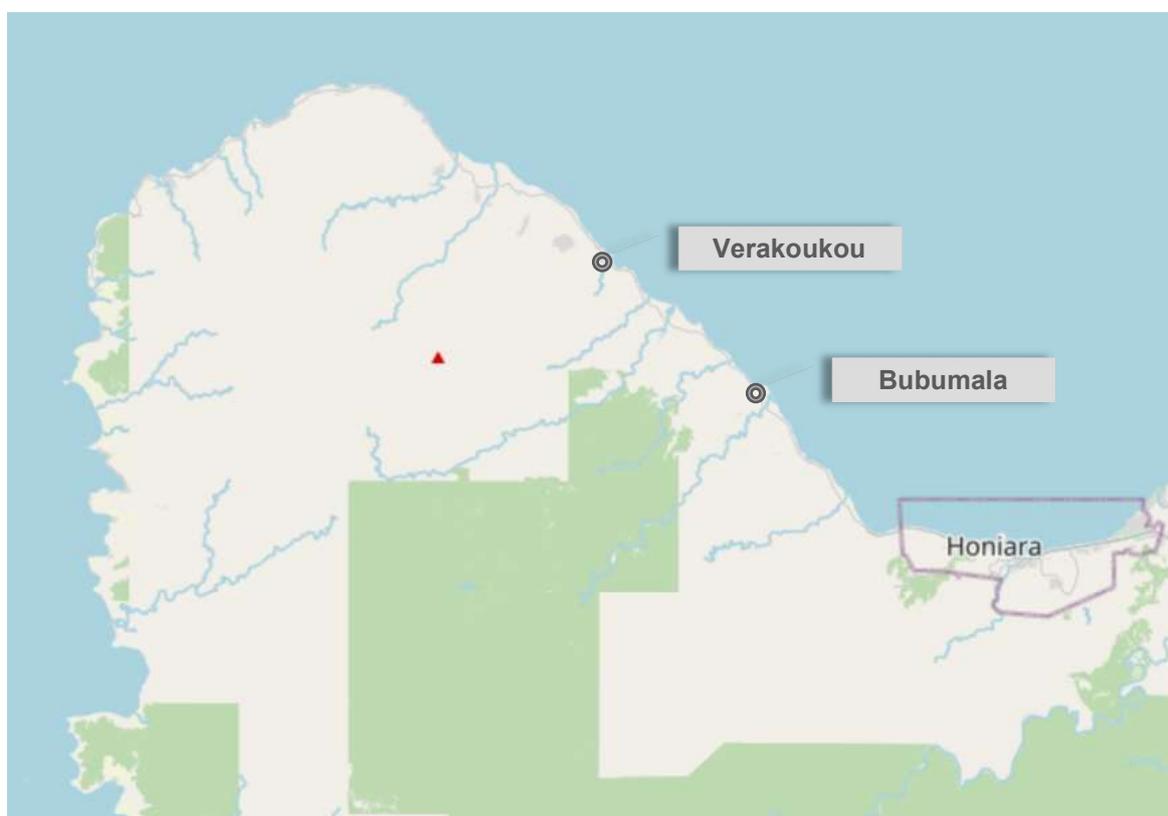


Figure 2.6: Location of study sites, north western Guadalcanal island

### Bubumala

Bubumala was settled in the early 1990s by people who had migrated from Malaita and the Weather Coast. The village was mostly abandoned during the period of violent internal conflict known as the Tension (1998 to 2003) and rebuilt following the establishment of peace when villagers returned to the area. At the time of data collection, there were 30 HHs in Bubumala, and 13 of them had children under the age of 5. The village has grown from 10 HHs to 30 HHs since 2016. The village is spread amongst elevated hills that face the sea (Figure 2.7), and the name Bubumala means seeing/looking (bubu) towards Malaita province (mala). The primary sources of income were the marketing of cash crops, mainly vegetables like cassava, potatoes, watermelons and beans. Four households had radios, and one household had a television, while only those community members with mobile phones had access to the internet. Mobile phone reception was available. There was a community noticeboard, a church and a community meeting house (Figure 2.7). There was no clinic, kindergarten or school in the village, and villagers usually went to Marara health clinic, which is approximately 7km from the Bubumala.



Figure 2.7: Bubumala locations: (a) community meeting house (b) village house (c) community noticeboard

### Verakoukou

Verakoukou was split into two distinct parts split by geography, Verakoukou Community, with nine HHs and 4 HHs with children under 5, and Verakoukou Neighbours, with seven HHs and four HHs with children under 5. Both parts came together under the same community structure, committees and chief. The primary sources of income were marketing of cash crops and fishing, and there was mobile reception in the village. A few HHs had a radio. The village had a kindergarten, but it was not operating at the time of data collection due to a lack of funds to pay teachers. There was a church and a community meeting place (Figure 2.8). The villagers used the Toba clinic for health issues, which was approximately 3km from Verakoukou.



Figure 2.8: Verakoukou locations: (a) church (b) community meeting place (c) CLTS NOD signboard

Table 2.1 shows a summary of characteristics of the five study villages.

Table 2.1: Key characteristics of study villages

	Kolomamata	Baghovu	Salio	Bubumala	Verakoukou
<b>Population</b>	~70	248	409	113	~150 (includes transient population)
<b># of HHs</b>	20 (14 are occupied by families)	49	53	30	16
<b>Average HH size</b>	4.5	5.06	7.7	3.8	9.4
<b># HHs with young children</b>	5	20	11	13	8
<b>Coastal or inland?</b>	Inland	Coastal	Inland	Inland	Coastal
<b>Distance from beach</b>	About 1-hour walk	N/A	~ 20 minutes' walk uphill from beach. Situated on a hill.	~ 30 minutes' walk uphill from beach. Situated on a hill	N/A
<b>Village zones/groups</b>	No zones	3	3	No zones	2

CLTS status	NOD (declared December 2019)	NOD (declared 2017)	Triggered (2017) but not NOD	NOD (declared October 2016)	NOD (declared Feb 2021)
CLTS details	Plan & LLEE CLTS intervention started in October 2019	Declared NOD in 2017 and verified in 2018. Participants reported 3 meetings done by LLEE	Triggered in 2017. Very little happened. Only 5 or 6 HHs built a toilet when triggered.	Red Cross intervention started in 2016. Then, only 10 HH in village, so not all HH now have toilets	LLEE commenced CLTS intervention in late 2019, finished in 2020.
No. of committees	4	10	8	3	2

## 2.2. Data collection

The design of data collection tools was informed by the Evo-Eco model and its associated Behaviour-Centred Design process. We were interested in exploring the influences of rational thought, motive, and habit, the physical and social environments, and the specific behaviour ‘setting’ of CFM.

Data collection was carried out across the two provinces in sequential rounds, allowing time for preliminary analysis and modification of data collection tools between rounds. Data in the three villages in Isabel were collected between February and March 2020. In Guadalcanal, data were collected in the two villages in February 2021.

Data were collected by two male and two female Associate Researchers (ARs) from the Solomon Islands National University (SINU) School of Public Health. In the first village (in Isabel province), they were accompanied by one researcher from the London School of Hygiene & Tropical Medicine and one from the International WaterCentre. The research team spent 4-5 days in each village.

In each village, a village research assistant (VRA) was recruited to provide logistical support, facilitate community engagement, identify participants, arrange meetings, and provide background information on the village. The ARs provided the VRAs with a training session on gender awareness and participant selection. The VRAs were remunerated for their time and support during data collection.

During the first round of formative data research, qualitative and semi-quantitative data were collected using four main types of tools:

1. Focus group discussions (FGDs) with mothers, fathers and grandmothers to explore:
  - a. Village mapping and child development
  - b. Daily routines and gender roles
  - c. Faeces disposal practices and motives for CFM
  - d. Potties trial
2. Key informant interviews (KIIs) with mothers, fathers, grandmothers and other community members to understand:
  - a. Beliefs, household decision-making, finances and information sources
  - b. Current CFM practices (through demonstration)
  - c. Social structures, touchpoints and communication channels
  - d. Committee structures and governance
  - e. CLTS implementation
3. WASH facilities spot checks of respondents’ households
4. Village background report

A review of the methods was conducted prior to conducting formative research in Guadalcanal Province, based on learnings and feedback from field researchers during the Isabel Province activities. Participation in focus group discussions tended to be restricted to or dominated by one or two individuals. This form of data collection was therefore dropped in favour of semi-structured interviews with mothers, fathers and grandmothers. Village

mapping and child development activities were also found to provide limited additional data and were therefore discontinued. Three additional activities were added (noted below). Thus, the revised data collection tools used in Guadalcanal province were:

1. Semi-structured key informant interviews (KIIs) with mothers, fathers, grandmothers and other community members to understand:
  - a. Current CFM practices (through demonstration)
  - b. Information sharing and ways of knowing (*new activity*)
  - c. Safe CFM behaviour trial (*new activity*)
  - d. Potties trial
  - e. Motives, norms and perceptions around CFM and gender (*new activity*)
  - f. Daily routines and gender roles
  - g. Social structures, touchpoints and communication channels
  - h. CLTS implementation (committee and household)
2. WASH facilities spot checks of respondents' households
3. Village background report

A total of 26 FGDs and 149 KIIs were conducted in the five villages (see Table 2.2). Table 2.3 and Table 2.4 shows a breakdown of KIIs and FGDs conducted in each village and the topics covered.

Table 2.2: Summary of total FGDs and KIIs conducted

Participants	Isabel		Guadalcanal	Total (activities)
	FGD	KII	KII	
Mothers	14	30	48	92
Fathers	8	16	19	43
Grandmothers	4	4	4	12
Key informants	0	19	9	28
<b>Total (activities)</b>	<b>26</b>	<b>69</b>	<b>80</b>	<b>175</b>

NB: Mothers, fathers, grandmothers and key informants participated in more than one FGD or KII, so numbers in this table are indicative of activities conducted and who participated, not the total number of participants.

### 2.3. Data recording and analysis

Written notes were taken during interviews and FGDs, comprising summaries of responses to key questions and illustrative verbatim quotes. Summary notes were transcribed by the ARs into analysis matrices following Richie and Spencer's Framework Analysis approach (2002) to allow data to be reviewed within and compared across cases. These matrices were used by 3 of the authors (DG-B, RS and AB) as the basis for an inductive thematic analysis based on themes derived from the constructs of the Evo-Eco model.

Table 2.3: Data collection activities conducted in each village during the first round of data collection in Isabel Province

Activity	Themes	Kolomamata				Baghovu				Salio				Subtotal				Total
		Mothers	Fathers	Grand-mothers	Key informants	Mothers	Fathers	Grand-mothers	Key informants	Mothers	Fathers	Grand-mothers	Key informants	Mothers	Fathers	Grand-mothers	Key informants	
FGD 1	Village mapping																	
	Child development milestones and aspirations			1		1				1				2		1		3
FGD 2	Daily routines																	
	Gender roles	1	1			2	1			2	1			5	3			8
FGD 3	Faeces disposal practices																	
	Motive mapping for CFM	1	1	1		2	2	1		2	2	1		5	5	3		13
FGD 4	Behaviour trial with potties					1				1				2				2
<b>Subtotal FGDs</b>		<b>2</b>	<b>2</b>	<b>2</b>	<b>0</b>	<b>6</b>	<b>3</b>	<b>1</b>	<b>0</b>	<b>6</b>	<b>3</b>	<b>1</b>	<b>0</b>	<b>14</b>	<b>8</b>	<b>4</b>	<b>0</b>	<b>26</b>
KII 1	Infant faeces knowledge and beliefs																	
	Household decision-making and finances	2	2	2		3	2	1		3	2	1		8	6	4		18
	Information sources																	
KII 2	CFM practices demonstration																	
	CFM norms	6	2			8	4			8	4			22	10			32
	WASH facilities spot checks																	
KII 3	Social structures, touchpoints and communication channels				1				1				1				3	3
KII 4	Follow-up with key informants about committees				1				4				4				9	9
KII 5	Follow-up with WASH committee / Live & Learn committee				2				2				1				5	5
KII 6	Interview with the village chief								1				1				2	2
<b>Subtotal KIIs</b>		<b>8</b>	<b>4</b>	<b>2</b>	<b>4</b>	<b>11</b>	<b>6</b>	<b>1</b>	<b>8</b>	<b>11</b>	<b>6</b>	<b>1</b>	<b>7</b>	<b>30</b>	<b>16</b>	<b>4</b>	<b>19</b>	<b>69</b>

Table 2.4: Data collection activities conducted in each village during the first round of data collection in Guadalcanal Province

Activity	Themes	Bubumala				Verakoukou				Subtotal				Total	
		Mothers	Fathers	Grand-mothers	Key informants	Mothers	Fathers	Grand-mothers	Key informants	Mothers	Fathers	Grand-mothers	Key informants		
KII 1	1. CFM practices (demonstration) and spot check observations	CFM Practices demonstration	11	5			9	5			20	10			30
		Facilities spot check													
		Follow-up questions for Doers/Non-doers													
		Past Practices													
KII 2	2. Information and norms interview	Information sharing and knowing	2		2			2		4		4		8	
		Norms													
KII 3	3. Behavioural trial - Safe CFM Practices	Initial interview and daily reminders	2			1				3				3	
		Post-trial interview													
KII 4	4. Behavioural trial - Potties	Initial interview and daily reminders	2			1				3				3	
		Post-trial interview													
KII 5	5. Doer/Non-doer Profiles	Asking about men	3	2			2			6	4			10	
		Asking about men and women													
KII 6	6. Common faeces disposal practices & motives for CFM	Common faeces disposal practices	4			2				6				6	
		Motive mapping for CFM (1) - Women													
KII 7	7. Gender roles	Gender roles (women)	3	3		3	2			6	5			11	
		Gender roles and Motive mapping for CFM (2) - Men													
KII 8	8. Household CLTS implementation				2				2				4	4	
KII 9	9. Interview with WASH / CLTS Committee				2				1				3	3	
KII 10	10. Interview with the village Chief				1				1				2	2	
	11. Village Background information and summary				1				1				2	2	
<b>Subtotal KIIs</b>		<b>27</b>	<b>10</b>	<b>2</b>	<b>6</b>	<b>21</b>	<b>9</b>	<b>2</b>	<b>5</b>	<b>48</b>	<b>19</b>	<b>4</b>	<b>11</b>	<b>82</b>	

## 2.4. Limitations

It is noted that some data used within this research is self-reported, and thus strong conclusions should not be drawn from one data point alone. However, the research methodology intentionally used several tools to address similar themes and questions, to allow researchers to triangulate responses and themes.

We intended to conduct this research across three provinces of known cultural diversity. However, ethics approval for formative research in Malaita was not forthcoming within the research timeframe so formative research was restricted to Isabel and Guadalcanal provinces. This also restricted the number of communities that were finally included in the study, resulting in a small sample size.

Nevertheless, the time spent in each village exploring behaviours as well as the diversity in CFM practices in our final sample does allow for the opportunity to explore motivations and rationalisations for behaviours demonstrated. The breadth and depth of the data has ultimately been sufficient to provide some productive insights and address the key research objectives.

## 2.5. Ethics approval

This research was conducted in compliance with the Australian National Statement on Ethical Conduct in Human Research and IWC's child protection policy. The project was granted ethical approval by:

- Solomon Islands Health Research and Ethics Review Board (SIHRERB) of the Ministry of Health & Medical Services (Ref No: HRE001/20)
- Griffith University Human Research Ethics Committee (Ref No: 2019/873)
- London School of Hygiene & Tropical Medicine (Ref No: 17978)

In addition, permission was obtained from community leaders from each village prior to site visits and data collection activities, and all participants provided informed verbal consent.

Research participants received no remuneration for their participation in the research activities. Two village research assistants were paid for their time and involvement in the work. In the four villages where potties were trialled, potties were given to trial participants at the end of the trial.

### 3. RESULTS

We begin this section with a description of current CFM practice. Following this, qualitative results are reported by Evo-Eco theme under the following thematic headings, Physical environment, Social Environment, Executive Brain, Motivated Brain, Reactive Brain and Behaviour Setting.

#### 3.1. Current CFM Practice

Recall through demonstrations of recent CFM practice included disposal from the ground to the latrines, or directly into the latrines if the child was old enough; from the ground into the river, or directly into the river; the sea; burying; and throwing in the garden, bush, or mangroves. In Guadalcanal, disposal of faeces in the garbage was also reported.

In Kolomamata, burying or disposal in the latrine were both reported as common practice by respondents in all Focus Group Discussions (FGDs). In Baghovu, only disposal in the latrine was reported by respondents in all FGDs, while in Salio, burying or throwing in the river were reported as the most common practices.

In communities where disposal in the latrine was reported as common, respondents said that this was the “proper” and “safe” way of disposing of faeces and that they liked this practice because it kept flies away and therefore prevented disease. However, they disliked that it required more work and effort (for example, having to carry water for pour-flush toilets) and that disposing of scooping materials that were used to carry the faeces from the defecation place to the toilet (such as cardboard, leaves, toilet paper) might cause toilet blockages.

Data from all villages representing the demonstrated and recalled final faeces disposal practices are shown in Figure 3.1. Based on caregivers self-reported behaviours, approximately 48% of CFM practices included a safe final disposal location.

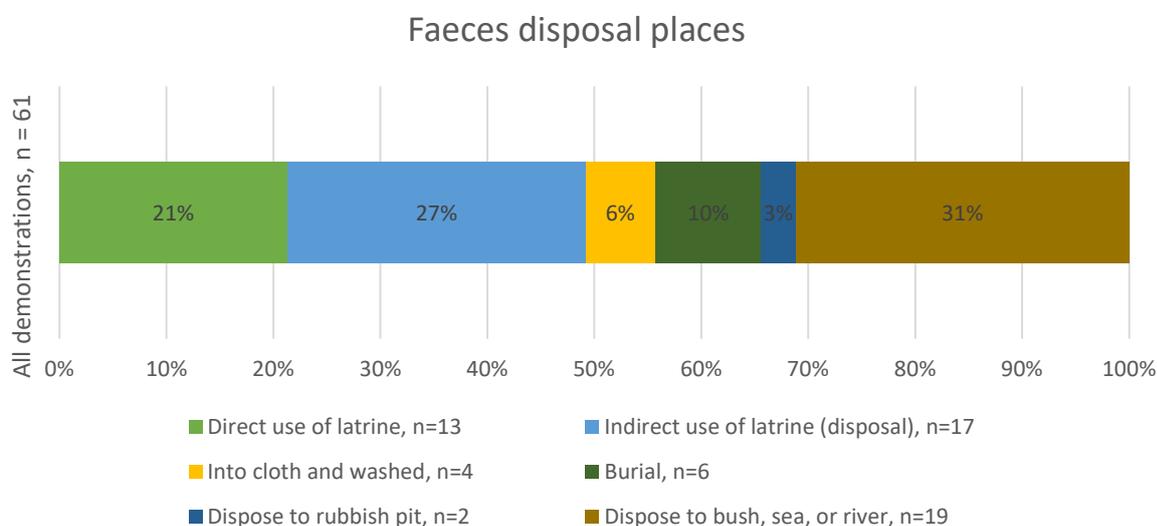


Figure 3.1: Disposal practices across all respondents

#### 3.2. Physical environment and infrastructure

Isabel and Guadalcanal provinces are characterised by high annual rainfall and flooding of the rivers and streams in the wet season (December to April). Temperature and humidity tend to be fairly consistent, and tropical cyclones can occur multiple times per year.

Kolomamata is an inland village with a small river running through it. At the time of visiting, there was no road. Salio is close to the coast, about 20 minutes' walk inland and uphill, and about a 1.5-hour walk from Buala (approximately 10 km). Two rivers run through the village. Baghovu is a coastal village. The nearest town is about 15 km away, and there were no roads for vehicles. People walked to nearby villages and used boats to go to Buala (with a frequency of 3-4 times a week).

Bubumala is slightly inland from the coast, spread over the hills looking down towards the main road to Honiara and the sea. The village is approximately 1.5 km from the main road and approximately 1.8km from the sea. A river runs approximately 500 m to the south of the village. Marara is the nearest town with a health clinic, and it is approximately 7 km from Bubumala. Verakoukou is a coastal community with two distinct areas; Verakoukou Community which is closer to the main road to Honiara, and Verakoukou Neighbours that are closer to the sea (along the shoreline). A river runs through the southern edge of Verakoukou, and a smaller stream runs through the northern edge of the village. Regular transport (vans and minibuses) ran along the main road to Honiara, and people in both Bubumala and Verakoukou use these services.

### 3.2.1. Water and sanitation situation

#### Sanitation

Researchers sought an estimate of sanitation coverage in KILs with chiefs and CLTS committees in each village (Table 3.1). Most toilets were constructed from wood though some cement flooring was observed in Baghovu, Salio, and Verakoukou. One toilet in Kolomamata was constructed specifically for children. In Bubumala, the toilets were reported by interview participants to be child-friendly for children older than 6 years.

There were no reported faecal sludge management systems or services available for any of the villages.

Table 3.1: Sanitation coverage and toilet type as reported by key informants during the data collection

	Kolomamata	Baghovu	Salio	Bubumala	Verakoukou
Reported sanitation coverage	100%	~90%	~10%	~50%	75%
Toilet types	Dry pit (majority) Pour flush	Dry pit Pour flush	Pour flush Dry pit	Dry pit	Pour flush, pedestal (one squat)

Note – these are self-reported coverage statistics across communities, and do not reflect household survey responses

**Kolomamata** had the highest reported toilet coverage across the study villages. All the houses that were visited in Kolomamata had at least one toilet (two HHs had two toilets). The majority were dry pit latrines, but some households had pour-flush (Figure 3.2) and pedestal toilets (introduced by another NGO prior to the LLEE CLTS intervention). Dry pits were disliked because of the smell and flies. They were generally constructed 20m or more from houses, often up hill and were not easy to reach when rain made the ground slippery.

It was reported that a previous project by JICA had promoted sanitation and hygiene. There were conflicting reports as to whether that project had promoted dry pits or pour-flush toilets. There were also reports that squat pans for the pour-flush toilets had come from a logging company site that had closed.

The dry pits that we observed had wooden floors and were fitted with drop-hole covers. The floors and superstructures appeared new and were reported to have been constructed over existing pits in response to the LLEE project.



Figure 3.2: Kolomamata toilets

**Baghovu** had a high reported toilet coverage throughout the village, though not 100%. Only four HHs were reported not to own a toilet and used the designated open defecation (OD) areas. The reported reasons for not having a toilet varied. One of the households had an old toilet, but they did not want to repair it. Another household had a grandmother who preferred OD in the river, so that was what the household did. And in other cases, household financial constraints and conflicting priorities led to prioritising spending money on other expenses.

In **Baghovu**, two HHs had more than one toilet. The most common toilet types were dry pits (squat) and pour-flush (with pedestals). It was reported that the Provincial Health Group had run a prior sanitation initiative, and an additional contributing factor to Baghovu’s high toilet coverage might be that one of the village residents used to work for the MHMS (now retired) and had been advocating the need for toilets. It was also reported that a nurse from this village had promoted toilet construction and use before the LLEE CLTS program was implemented. During the interviews, it was reported that two HHs that owned toilets did not use them and preferred to continue using the OD area. It was not determined why this was the case.

**Salio** had the lowest toilet coverage of the three Isabel villages, at only about 10% of households. It was reported that there were already some toilets in the village before CLTS programming, plus five or six more that built after triggering. Pour flush and dry pit toilets were observed (Figure 3.3). Pour-flush toilets were not built as a result of CLTS; they were promoted and financed by relatives who live in town after they had been exposed to improved sanitation in town. The CLTS program had been abandoned in this village (triggered in 2017), and it was not well understood what might have contributed to CLTS failing in this community. Respondents reported a strong preference for flush toilets and resistance to building dry pit latrines due to the belief that mosquitoes breed in them.



Figure 3.3: Salio toilets

**Bubumala** had expanded since the implementation of the CLTS program in 2016. There were 10 HH in the village at that time, and all 10 built and maintained household toilets. Following the program, some additional households had built toilets as the village grew. All toilets were reported as dry pit toilets, and this accorded with observations. A designated area for open defecation, segregated by gender, was used prior to the CLTS program and is still used for houses that do not have a toilet.



Figure 3.4: Bubumala toilets

In **Verakoukou**, out of 16 HHs in the village, 12 HHs had toilets, all of which were pour-flush, and the majority were pedestal. For households without toilets, particularly near the beach, open defecation was practised in a designated area or the sea. Verakoukou was the most recent village to participate in a CLTS program of all study villages, commencing in 2019 and completing in 2020 with LLEE. Most toilets in the village were built during this time.



Figure 3.5: Verakoukou toilets

Table 3.2 shows the types of toilets seen by associate researchers in a convenience sample of homes that were visited for interviews.

Table 3.2: Toilet characteristics across the villages in households visited by ARs for interviews

Toilet Type Observed	Kolomamata (n=8)	Baghovu (n=8)	Salio (n=10)	Bubumala (n=16)	Verakoukou (n=14)	All
Flush	0	0	0	0	0	0
Pour flush	1 (13%)	6 (75%)	1 (10%)	0	9 (64%)	17 (30%)
Dry pit	7 (88%)	2 (25%)	3 (30%)	14 (88%)	0	26 (46%)
No toilet	0	0	6 (60%)	2 (13%)	5 (36%)	13 (23%)

Our researchers observed issues with stability, functionality, cleanliness, or light in toilets (or a combination of issues, refer Table 3.3). Almost 15% of toilets across the villages were observed as partially or not functional at the time of data collection. The researchers frequently noted cleanliness and lack of light, particularly in Baghovu, Bubumala and Verakoukou. These issues could make it difficult or unsafe for children to access and use these toilets.

Table 3.3: Toilet quality issues noted by associate researchers

Toilet Issue Observed	Kolomamata (n=8)	Baghovu (n=8)	Salio (n=10)	Bubumala (n=16)	Verakoukou (n=14)
Floor unstable	2 (25%)	1 (13%)	1 (10%)	3 (19%)	0
Partially or non-functional	1 (13%)	4 (50%)	4 (40%)	5 (31%)	0
Somewhat or not clean	3 (38%)	5 (63%)	2 (20%)	10 (63%)	4 (29%)
Somewhat dark or dark	3 (38%)	3 (38%)	0	8 (50%)	7 (50%)
No toilet	0	0	6 (60%)	2 (13%)	5 (36%)

### Water supply

Every village was served by a water supply of some sort (Table 3.4). Water was plentiful, and most houses had a tap nearby. In Isabel, water was piped from reservoirs situated higher up the hillside behind the villages and piped to tap stands (Figure 3.6). It was common for neighbouring households to share a tap stand. In Guadalcanal, a combination of rainwater tanks, surface water (river) and groundwater (well with manual handpump) were reported for water use, with no shared tap stands in either village.

Table 3.4: Water supply systems as reported by key informants during the data collection

	Kolomamata	Baghovu	Salio	Bubumala	Verakoukou
Water supply systems	Gravity-fed; 10 shared tap stands	Gravity-fed; 38 shared tap stands	Gravity-fed; shared tap stands	Rainwater tanks	Underground wells accessed by manual handpump

An LLEE field worker reported that generally, there were no water problems in Isabel other than that the water systems were old, and with the pressures from climate change and population growth, the systems needed to be rehabilitated. There was no shortage of water, and people could access secondary water sources.

All study villages except Bubumala had access to rivers or stream. In Baghovu, the river was used in the past for laundry, but respondents said that this was no longer the case. In Salio, some households still practised open defecation in the river and avoided using the river for laundry. In Verakoukou, some households dispose of rubbish in the river and stream, although they still used the water for other uses.





Figure 3.6: Shared tap stands in (a) Kolomamata; (b) Baghovu; and (c) Salio; (d) community tanks in Bubumala, and (e) groundwater well with manual handpump

### Handwashing facility

During interviews, respondents in all villages except for Bubumala reported handwashing after handling faeces was not very common. In Bubumala, it was reported that this was usually done.

Table 3.5 shows the types of handwashing facilities seen by ARs in a convenience sample of homes that were visited for interviews. A mix of facility types was observed (Figure 3.7), with the most common across the study villages being directly at tapstands or tanks followed by containers with taps.

Table 3.5: Handwashing facilities observed by ARs at respondents’ homes during data collection

Handwashing Facility	Kolomamata (n=8)	Baghovu (n=8)	Salio (n=10)	Bubumala (n=16)	Verakoukou (n=14)
HWF with soap and water	0	2 (25%)	6 (60%)	6 (38%)	0
HWF with water	6 (75%)	6 (75%)	4 (40%)	4 (25%)	9 (64%)
No HWF	2 (25%)	0	0	6 (38%)	5 (36%)



Figure 3.7: Handwashing facilities in (a) Bubumala; and (b) Salio

## 3.3. Social environment

### 3.3.1. Role of the Chief

The chief is a long-term community role and holds power to decide what happens and what people do or do not do. Chiefs considered it essential to consider the whole community when making decisions, resolve disputes, and encourage community members to act together in their best interests.

*‘My role as a chief in the community is to ensure that the community must safe, healthy and lawful. Wanfala seing hem seh, sip mas garem capten en hem na bae captenim kos blo sip ia. Ev sip ia hem rek den problem ia bae lo capten ia na ia (One saying is this, a ship must*

*have captain, and his is the one who will captain the course. If the ship is wreck, then the problem will upon the captain)". – Chief, Bubumala village*

The chiefs took a particularly strong role in interactions with outsiders to the community; for example, they were the first point of contact for CLTS implementers. All the chiefs saw their ongoing support and involvement in the CLTS program as important for the program's success. The chiefs reported changes to their communities following the implementation of CLTS programming, including the designation of a "proper" place for their communities to defecate, the construction of toilets, and the general cleanliness of their communities.

*'As chief, I have the power to rule over the community. Meaning I always deal with the interest of the whole community, not the individual.'" – Chief, Verakoukou village*

### 3.3.2. Village committees

**Baghovu** had the highest number of committees, with 10. **Salio** had 8, **Kolomamata** had 4, **Bubumala** had 3, and **Verakoukou**, the smallest village, had 1 active committee. All villages except Verakoukou had a WASH committee (sometimes called the Live & Learn, Red Cross or CLTS committee), but in Isabel Province, these were reportedly very inactive. In all five villages, the most active committees were the church-based ones, especially the Mothers' Unions.

In Kolomamata, a church also served as a meeting place (Figure 2.3), and prayers took place every morning and evening, along with announcements. There was a church committee, a WASH/Live & Learn committee and a Mothers' Union. In Salio, the religious committees were the most active (Mothers' Union, Companion and Vestry committees). In Baghovu, the most active committees were the Mothers' Union and Mothers' Savings Club, whereas the WASH committee was one of the least active ones. The Red Cross committee in Bubumala was reported as very active, while the Church committee was active when church programs were occurring. In Verakoukou, the General Community Committee appointed one elder to be the focal point for the CLTS liaison, though the General Committee enacted wider implementation of the program.

### 3.3.3. Gender roles

A strong gender-based division of labour was evident in all communities.

Outside of the home, women's main reported task was working in their vegetable gardens. The morning was the primary time for work in the gardens to take advantage of cooler temperatures. Food preparation happened first thing in the morning, around midday and in the evening. Apart from food preparation, the main domestic chores were laundry and cleaning kitchen utensils, usually done in the middle of the day. There was little variation between days in the sequence of activities.

In focus groups, men and women identified fishing, hunting and repairing houses and canoes among the work activities done by men but not by women. Men and women identified a similar set of tasks that were 'women's work', with which men would rarely or never be involved. These activities included laundry, cleaning utensils, feeding children and CFM, cooking, shopping, and taking things to market. Male involvement in these activities was regarded as going against cultural norms and might lead to ridicule. Moreover, a perception was noted that such a man might be regarded as weak or his wife as lazy. Men regarded it as inappropriate for their wives to ask them to carry out these activities and reported that they might become angry or violent if this were to happen. However, it was also reported by both men and women that in the event of a woman being very busy, sick or unavoidably absent, a man might become involved in activities such as shopping, cooking or CFM that were necessary for the benefit of the children.

When commenting on the involvement of an imagined man (in the doer-non-doer exercise) both men and women suggested that male involvement in 'women's work' could be regarded as virtuous, showing a man to be caring about his wife and family and upholding Christian beliefs and values. It could indicate a hardworking man who takes on additional roles or a lazy man who takes on 'easy' work and leaves the harder work to his wife.

Gender roles in relation to CFM are discussed further in Section 3.8.5 below.

### 3.3.4. *Epistemology, sources of information and knowledge networks*

Culture and custom (*kastom*) were noted amongst most villages as having influence over CFM practices, particularly in the past. They were usually mentioned together but as discrete things.

*“During the time of (their) grandparents, they usually bury the child’s faeces in the ground. During those days culture or custom was strong, and people also had superstitious beliefs of people poisoning children by using their faeces therefore they would always dig a hole and bury” – Father, Salio village*

Trusted sources of information relating to childcare practices were mainly female relatives (mother, grandmother, sister). Healthcare professionals arose as trusted sources of information by both mothers and fathers, particularly regarding vaccination. In general, respondents indicated contact with nurses and health professionals occurred most often when residents went into a rural health clinic to access health care. In one village the rural nurse reportedly visited the less mobile and elderly residents once a month, and occasional community programs involving rural nurses were carried out in villages. Concerning sanitation, the LLEE CLTS project and its implementers, the chief and health professionals were considered trusted sources. Sharing information on childcare mainly was reported in the context of a mother giving instructions to relatives before leaving their child in someone else’s care.

Grandmothers, elder sisters, aunts and other mothers were all identified by mothers as sources of information on how to raise their babies. Nurses are also seen as trusted sources associated with education and fact. Respondents indicated that they trusted those who had the most experience, such as mature or elder women or experienced nurses. Knowledge was shared amongst mothers and female kin through informal “casual conversations”.

*“Before, culture is the only thing people learn from, no nurses; so mothers would sit with their daughters and share important knowledge regarding how to look after their babies and young children.” – Grandmother, Bubumala village*

Women reported that fathers learned how to raise children either from their wives (reported by mothers) or their mothers (reported by grandmothers). Experience and maturity were considered important qualities in a person as an information source if a father were to trust the information received.

Education, particularly the ability to read and access online or written information, was mentioned as a quality that increases a person’s ability to raise a child. This included information distributed through mobile phones (text messages and the internet), radio, and trainings conducted by health workers. Different levels of trust were attributed to different communications, one mother noted about the radio:

*“I only listen to it but I’m not sure if it is true or not” – Mother, Salio village*

Some people saw the changes in their community, particularly around sanitation and health, as a product of “civilization”, or western culture overlaying older customs and culture. Notwithstanding, most respondents saw the changes as positive, as they perceived that the changes helped communities be clean and healthy.

During FGDs, men suggested that village leaders, chiefs and women’s groups might be the most appropriate channels to promote male involvement in CFM and that role-modelling may be important.

## 3.4. Body

### 3.4.1. *Capabilities*

There was evidence that from age 3, children acquire the ability to use the household latrine, usually with assistance from caregivers. Notwithstanding, independent latrine use was more commonly reported for

children older than 4. As reported previously, many latrines were observed to be partially functional, unstable, low-lit, or unclean, which may have restricted or discouraged their use by children.

Figure 3.8 shows faeces disposal place reported by caregivers of children of different ages.

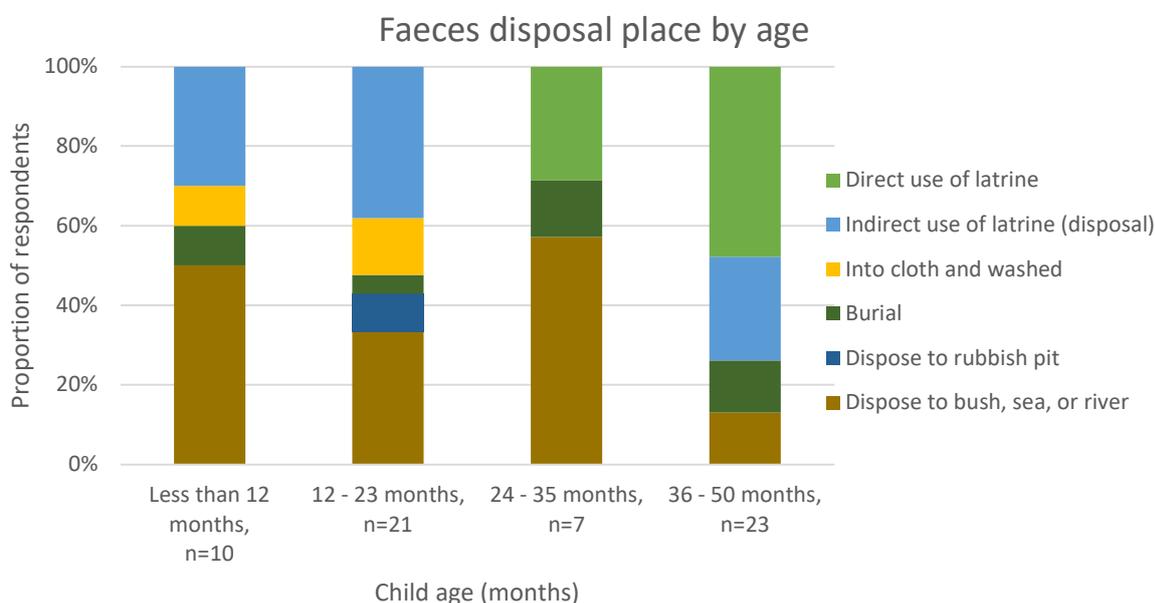


Figure 3.8: When respondents were asked to demonstrate their most recent CFM activity, they reported final disposal place for faeces. These responses were aggregated across the study villages and separated by the age of the child.

### 3.4.2. Senses

Mothers and fathers reported the smell and sight of faeces, and the sight of flies, to be a reason why they might move faeces from their domestic environment or clean their child after defecation. This appeared to be associated with feelings of disgust (discussed further in Section 3.6).

*“...sometime (I) just buried the faeces beside the house because (I) just want to get read of the smell and flies.” – Mother, Salio village*

Two respondents (both male) noted that they felt shame when others in the village could hear them using the latrine, and this was one reason why they avoided its use.

## 3.5. Executive brain

### 3.5.1. Planned behaviours and actions

#### Knowledge about child faeces and disease transmission

There was high awareness of the association between poor CFM practices and diarrhoeal disease and of the potential role for flies in transmission. Probably this was the result of hygiene promotion activities as part of CLTS activities and other government and NGO programs. The potential for faeces to cause diarrhoea and the potential for faecal-oral transmission, and the role of flies as vectors was commonly stated. Faeces were also recognised as potential transmitters of intestinal worms and were thought to cause several non-intestinal health conditions, including itchy skin, eye infections and upper respiratory tract infections. Some respondents attributed this knowledge to CLTS interventions.

Human faeces were thought by some respondents to become more harmful (and more disgusting) when coming from older children and adults. The two most common responses to when children’s faeces became

harmful were when they began eating solid foods including fish (around 6-12 months), and when they were 5-6 years old (no longer an infant or young child).

Respondents reported that faeces were not left lying around. This was to avoid bad smell and avoid flies and domestic animals contact with faeces and spread germs or contaminate food. Disposing of faeces in the bush or gardens was not common and was also associated with the risk of contact with faeces directly or through flies. Many respondents also reported that, for these reasons, faeces were not disposed of in garbage either.

*“Health comes first. If Mary throws the poo in the bush, it could bring flies to their home.” –  
Mother, Bubumala village*

### Protecting the latrine

For households with a flushing latrine, debris, leaves or grit caught when scooping and transporting faeces from the ground were perceived by some respondents as potentially damaging for the latrine, rendering that disposal method unsuitable. However, not all respondents agreed with this concern. Other study participants reported that the child had defecated on the ground and reported picking up the faeces and disposing of them in a pour-flush toilet. It appeared the choice ultimately depended on the scooping or transportation materials used to pick up the faeces. Toilet paper would be deposited in the pour-flush latrine, while leaves would not, demonstrating a link between the type of latrine and scooping materials of choice that indicates planning how to scoop and dispose of faeces in the latrine is a function of the toilet type.

## 3.6. Motivated brain

We used picture cards to explore associations between CFM and a set of 15 proposed human motives (Aunger, 2015 #22}. Plausible motives most commonly associated with safe CFM were **nurture** (to do what’s best for the child), **affiliation** (because that is what everyone in the village is doing), **status** (to avoid embarrassment if visitors come) and **disgust** (to avoid the sight and smell of faeces).

To be loved by one’s spouse was more often thought an implausible motive. There was variation across groups and individuals. Some stated that sight of poo was common and would not be a source of embarrassment. Some referred to the possibility of sanctions that they may be fined or reprimanded. By contrast, the motive of doing what is best for the child was always found plausible, though not every group identified this as the top motive.

**Nurture**, or doing what is best for the child, was frequently explained to prevent the child from becoming ill through contact with faeces or flies. Sometimes preventing diarrhoea was mentioned, as were upper respiratory tract symptoms. Not all respondents found baby poo disgusting, but some did. Some commented that they would not find the faeces of their baby disgusting. Almost all thought human faeces become disgusting or more disgusting as the children start to eat solid food or a wider variety of foods.

**Disgust**, the avoidance of contamination cues (the sight and smell of faeces) was a motive underlying the removal of faeces from the domestic environment. Faeces were not left lying around the house and yard. Several respondents reported not being disgusted by the faeces of their children or the faeces of young children. However, burying and disposing of in the sea were associated with perceived risk of contact with faeces, and disposing of in the sea, river or gardens were associated with the perceived possibility of faeces entering the food chain. Potentially, the disgust motive might be amplified to deter these practices. The smell of latrines and the presence of mosquitos (both likely disgust elicitors) were also disincentives for using them for CFM.

Disposal of faeces in the sea or river was liked because the faeces were quickly removed from the environment, did not smell and could not attract flies. However, respondents reported disadvantages as being potential contact during swimming or through eating fish or shrimps that had fed on faeces. It was also reported that faeces could end up back on the beach where they could smell and attract flies.

The removal of faeces from the domestic environment was also motivated by **affiliation** and **status**, whereby caregivers did not want their neighbours to think badly of them or that they were lazy with respect to domestic duties. When disposing of faeces to the bush, sea or river, in some cases caregivers were guided by affiliation to choose certain locations, because that's where most people did so. Other sanitation behaviours, such as the type of toilet the family owned, were also related to status, for instance household members in Salio demonstrated a clear preference for pour-flush toilets over dry pits because they were seen as more modern.

*“Others want to live up/being influenced to a clean setting like those in the cities”. –  
Grandmother, Bubumala village*

Men who engage in child faeces disposal may be seen as higher status, educated, enlightened and hardworking. However, a man who picks up children's faeces while his wife is present and apparently able to do so, may also be seen as weak and his wife as lazy or incompetent and this may be socially sanctioned through laughter, negative gossip, and loss of status.

Motives that respondents found plausible to specifically relate with male involvement in CFM were **nurture** and **disgust**. Love was regarded as the least believable motive; however, some respondents noted that a wife might be happy that her husband was involved in CFM.

### 3.7. Reactive brain

#### 3.7.1. Habit

Neither the time nor the place in which young children defecate was constant or predictable, making it harder for CFM practices to become habitual or semi-automated. Features of the setting increase the effort required for disposing of child faeces in a latrine and mitigate against habit formation in this regard.

Potties were not available in the villages, and we did not see examples of use. Potty trials were attempted in **Baghovu, Salio, Bubumala** and **Verakoukou**, although they were not implemented as planned and did not yield the expected information. Mothers selected for the trials reported having used the potties only once or twice, although it was intended for them to use them for at least the whole duration of fieldwork in the village, 5 days. The lack of continued use was due to children's fear of the potty, not knowing how to use it, and possibly because caregivers lacked time to teach them within those 5 days. Despite this result, they reported liking the potty because it was helpful and easy to use, especially at night or when it is raining, and access to the toilet might be more difficult.

Training children to use potties would require habit formation by children and rational planning by parents. The behaviour trials were too short to learn about the potty-training process. One mother commented:

*“The child might touch her poo after doing it in the potty. So, I have to be present all the time while she uses potty. [...] This morning my mother-in-law told me to teach my daughter to use the potty so that she knows how to use it and where to poo and she will continue following these practices as she grows up.” – Mother, Salio village*

### 3.8. Behaviour settings for child faeces management

The behaviour setting comprises the location of the behaviour, immediate elements of the physical and social environments, the people (actors), the roles they perform, the routines they follow, objects used (props), and associated behaviour norms. Elements of a behaviour setting may be modifiable to make a behaviour more or less likely.

CFM is relatively infrequent and unpredictable in timing, making it difficult to record using structured observation. Therefore, we asked respondents to recall and act out their most recent CFM activity as a demonstration, and we used these as the basis for recording features of the behaviour setting.

### 3.8.1. Routines

Structured recall and demonstration of CFM practices suggested that the objectives of the caregivers were to prevent the child from becoming contaminated with faeces (e.g., by handling them) and to prevent faecal contamination of the domestic environment. Their actions were to remove the child from the faeces and to remove the faeces from the environment. Actions included child defecation, faeces transport, faeces disposal, cleaning tools, cleaning child, and handwashing (see Figure 3.9). The actions, their order and the extent to which they constitute a predictable routine may be of interest for two reasons. Firstly, the actions themselves may be examined as risk or protective practices for diarrhoeal disease transmission. Secondly, a fixed sequence of actions, or routine, might have different implications for intervention than one which is flexible.



Figure 3.9: Child faeces management sequence of steps – idealised version

Actions were reasonably consistent, but their order showed flexibility. We only have data describing a single CFM event for each participant, and therefore do not know whether the sequence of action is consistent for individuals over time. However, it seems likely that the sequence was flexible and influenced by features of the setting, which vary. These include the defecation site, the age and behaviour of the child, the availability and convenience of transportation tools and cleaning materials and the presence of other actors such as guests.

At the transport and disposal routine steps, caregivers across the 5 villages demonstrated several different choices, some of which may be considered safe from a disease transmission perspective, some of which would be considered unsafe. Some caregivers did not include one or more steps. For instance, more than half of individual caregivers failed to mention handwashing of themselves or their child following a CFM event when demonstrating their routine. For children who defecated outside of the toilet or latrine, caregivers more often moved the faeces before they cleaned their child.

We grouped the demonstrated CFM routines into six categories based on the final disposal place and means of getting the faeces to that final disposal location. We described each routine type in terms of setting elements, including stage, routine, actors, infrastructure, and props (Table 3.6).

Table 3.6: Settings analysis of demonstrated CFM routine types.

Demonstrated routine type	Actor / role	Action sequence	Stage	Infrastructure and Props
Direct disposal in toilet	Child, 4 years old, male	Alerts mother	In the yard, within 4 m of house	Toilet - Pour flush, porcelain pedestal; cement and mud floor, no holes and stable; functional, somewhat clean and light; 4 metres from house; not shared
	Mother	Takes child to toilet		
	Child	Defecates	Toilet building, approx. 4m from house	
	Mother	Waits outside		
	Child	Alerts mother		
	Mother	Flushes toilet		
	Mother	Mother takes child to tap stand, washes child's bottom, and hands and own hands		

Demonstrated routine type	Actor / role	Action sequence	Stage	Infrastructure and Props
Indirect disposal in toilet	Mother	After dinner, mother takes child to room to defecate. Child has been trained this way		
	Child, 7 months old, female	Defecates on cloth nappy on ground	House	Cloth nappy
	Mother	Cleans child's bottom with nappy	Separated room from other children	
	Mother	Carries child to veranda and bathes her	Veranda of house	Warm water, bucket, soap
	Mother	Folds nappy and stores in a bucket in a designated corner of room		Cloth nappy, bucket
	Mother	Next morning, takes cloth to toilet and empties faeces to pit	Toilet building, approx. 7m from house	Dry pit.; wood squat; mud floor with holes and not stable; functional, not clean, light; 8 metres from house; toilet is shared with other HHs
	Mother	Washes cloth and bucket in river	River, approx. 60-70m from house	River, bucket, cloth and soap
Defecate in clothes or cloth and rinse out	Child, 1 year, 7 months	Defecates in clothes	In yard close to tap stand, 10m from house	
	Child	Alerts mother		
	Mother	Removes child's trousers		
	Mother	Carries child and trousers to tap stand	Tap stand	
	Mother	Washes child's bottom		Tap stand, soap
	Mother	Rinses trousers		
	Mother	Places trousers in bucket of water to wash later		Tap stand, bucket, trousers
Mother	Rinses ground where the child's faeces fell out of the trousers	In yard close to tap stand, 10m from house	Basin, water	
Burial	Child, 3 years old	Defecates	In yard 1m from house	
	Child	Alerts mother	In the kitchen	
	Mother	Gets shovel	From under house (or possibly in kitchen)	Shovel
		Digs hole	At place where child defecated	
	Mother	Buries faeces		
	Mother	Takes child to tap stand	Tap stand, 10m from house	
	Mother	Washes child's bottom		Water and soap
	Mother	Takes child back to house		
Mother	Dries child	In house	Towel	

Demonstrated routine type	Actor / role	Action sequence	Stage	Infrastructure and Props
Throw in the rubbish pit	Child, 1 year, 3 months,	Defecates on floor	House	
	Elder sibling	Alerts mother		
	Mother	Cleans the child with wet wipes		Wet wipes
	Mother	Picks up poo using wet wipes and puts it inside plastic bag		Wet wipes, plastic bag
	Mother	Takes faeces in plastic outside house and throws on rubbish site. Family does not have own toilet.	Rubbish site, behind and approx. 8m from the house	Plastic bag
	Mother + child	Mother takes child to water tank to wash the child's hands with soap.	Water tank, approx. 10m from house	Water, tank, soap
Throw to bush, river or sea.	Child, 1 year old, male	Defecates in yard near house	Yard, near to house	
	Father	Moves child away from place of defecation		
	Father	Gets cardboard		
	Father	Picks up faeces with cardboard		
	Father	Throws faeces and cardboard in mangrove behind the house	Mangroves behind house	
	Father	Carries child to tap stand	Tap stand	
	Father	Washes child's bottom		Soap and water
	Father	Washes hands		Soap and water

Table 3.7 summarises the demonstrated CFM routines, and the extent to which the steps reported varied between respondents.

Table 3.7: Consistency in routine steps for each type of CFM routine as reported by research participants

CFM Routine (sequence of steps)	Faeces disposal place					
	Direct use of latrine (n=13)	Indirect use of latrine (disposal) (n=17)	Into cloth and washed (n=4)	Burial (n=6)	Dispose to rubbish pit (n=2)	Dispose to bush, sea, or river (n=19)
Step 1 – Child defecates	100%					
Step 2 – Parent is alerted and assists	100%					
Step 3 – Faeces are moved/ transported using a tool	0%	100% <sup>1</sup>	100% <sup>1</sup>	83%	100% <sup>1</sup>	79%
Step 4 – Faeces are disposed of	100%	100%	75%	100%	100%	79% <sup>2</sup>
Step 5 – Child is cleaned	85%	100%	100%	100%	100%	100%
Step 6 – Tools are cleaned	0%	35%	75%	17%	0%	32%
Step 7 – Handwashing (child and caregiver)	77%	18%	0%	33%	100%	32%
How often are steps 3 and 5 reversed? (i.e., child is cleaned before faeces moved)	8%	29%	25%	0%	100%	26%

Notes:

1. Reported tool-type varied based primarily on convenience (i.e., what was available at time of CFM event)
2. In some instances, faeces were left on the beach or in a stream/river, i.e. not actively disposed of. However, these instances have been counted in the “Dispose to bush, sea or river” category.
3. Handwashing was not reported explicating by any respondent demonstrating a Type 3 routine, however it might be expected that the respondents considered their hands to be washed in concert with laundering the cloth.

### 3.8.2. Stage

Children’s defecation and CFM took place close to the house, usually within the area comprising the compound or yard associated with a house. Younger children sometimes defecated inside the house. Infants and young children were reported to defecate into nappies, clothes or the ground inside or outside the house, while some children aged 3 or older were reported to use the household toilet by themselves (Figure 3.10).

When defecation occurred *inside* a house, it was most likely to be a child less than 2 years of age, and the faeces were more likely to be transported using clothes or cloth nappies, followed by items of convenience (paper, cardboard, leaves, pieces of cloth). Conversely, when defecation occurred *outside* on the ground (but not directly into the latrine), the child was likely to be 2-5 years of age, and in particular, 2–3-year-old children were more likely to defecate outside on the ground than any other place. For outside defecation, the most commonly reported tool for transporting the faeces was a spade, followed by items of convenience (paper, cardboard, leaves). When defecation occurred directly into the toilet, subsequent steps of transporting the faeces and cleaning tools were not undertaken.

Household location, toilet location and perceived convenience may influence the CFM practices as convenience was reported to influence the choice of disposal site and method.

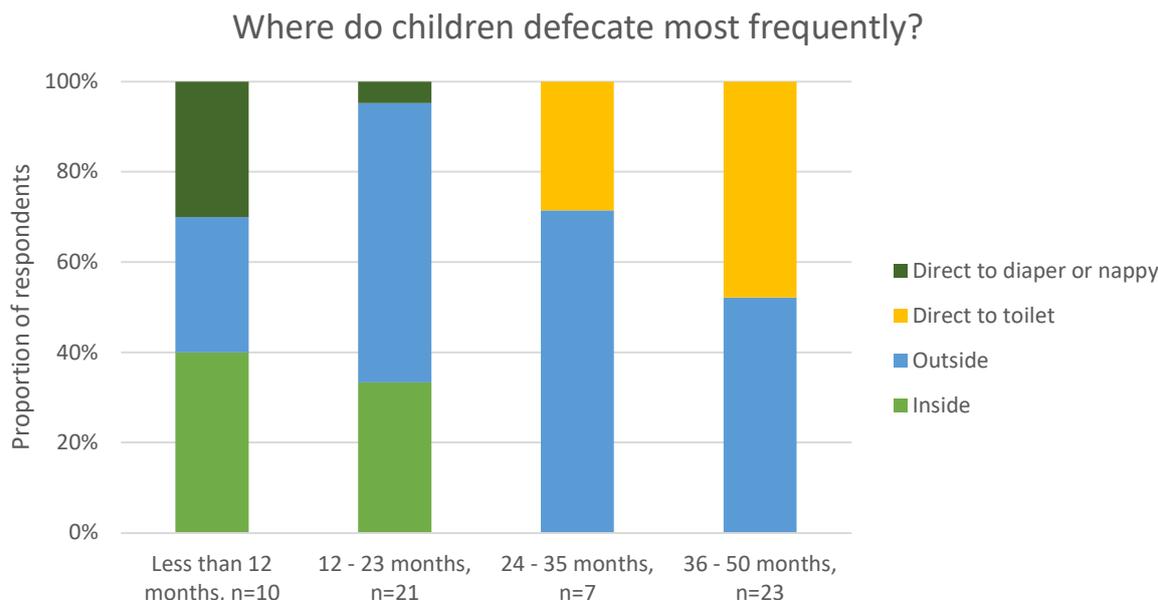


Figure 3.10: Location of defecation aggregated across all villages and separated by child’s age

### 3.8.3. Infrastructure

Convenience appeared to influence where caregivers disposed of faeces. The river and sea were perceived as convenient by respondents living nearby such environments, and some respondents cited the additional effort required to access a latrine or bring water for flushing as barriers to using latrines for CFM. Evidently, households without access to a latrine of their own did not use one for CFM.

*‘[disposal in the river is...] an easy practice.’ – Participant in mother’s group, Salio village*

*‘The toilet is far from the house.’ – Participant in mother’s group, Salio village*

*‘[it is] convenient and easy to throw [faeces] in the bush’ – Participant in fathers’ group, Salio village*

*“[We have] no proper place to dispose of the poo and the distance from the house to the shared toilet is far” – Mother, Bubumala village*

Most CFM demonstrations included the use of a handwashing facility, although half were without observable soap. Many respondents reported washing children and tools at shared tapstands or in streams or rivers.

### 3.8.4. Props

Props were used during the faeces transportation, cleaning children and handwashing steps, and included spades or shovels, organic materials like paper or leaves, buckets for storing soiled cloth and water, toilet paper, and soap for cleaning (Figure 3.11). Some caregivers reported that the location of props when their child defecated affected whether they were used or not, so if the spade was not in sight, some caregivers would not go searching for it but would use whatever props were convenient, and the household might often run out of soap or toilet paper, so they were not always used.

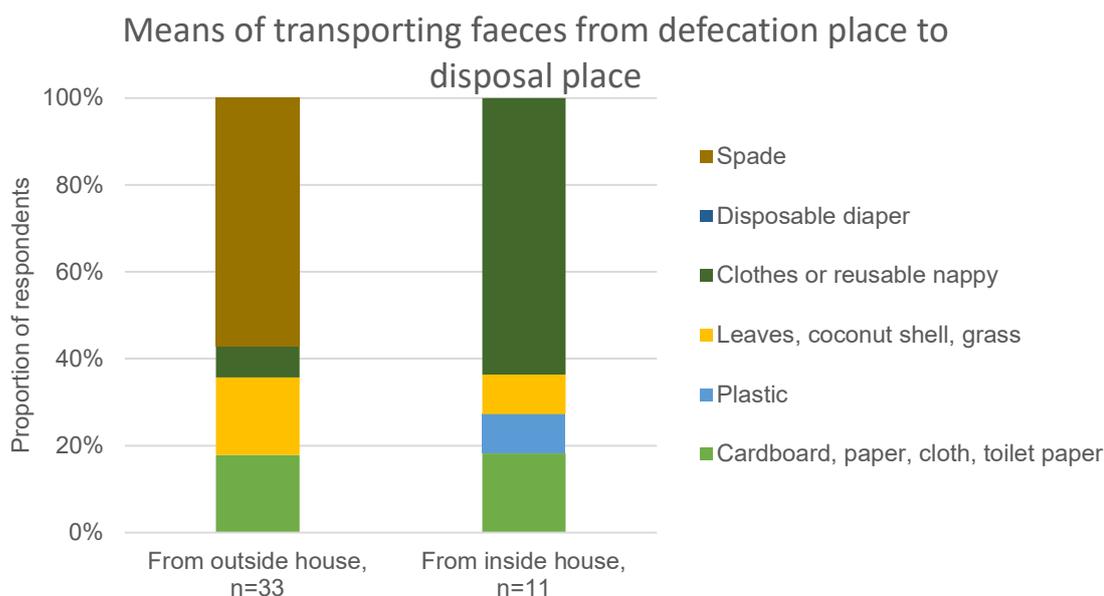


Figure 3.11: Tools used for faeces transport

### 3.8.5. Actors and roles

CFM is considered an element of childcare and always involves at least one child (who defecates) and one adult who acts to separate the child from the faeces, clean the child and dispose of the faeces. Sometimes a sibling is involved in alerting the adult to the fact that the child has defecated. Other actors who were reported included grandparents or other relatives who may be present during the event and the other caregiver (mother or father) who was not assisting in the CFM sequence.

### 3.8.6. CFM gender roles

Activities associated with child faeces management were seen as primarily the mothers responsibility. From the sample of parents, an approximately equivalent proportion of fathers and mothers reported final disposal into the toilet, although a higher proportion of fathers demonstration disposal in the bush, sea or river than women, who were more likely to manage nappies or diapers from young infants.

Some mothers reported that fathers would never do CFM activities and might get angry if their wife asked them to do so. Fathers reported that prior to the arrival of the church, they would not be involved in handling children’s faeces due to the belief that this could bring bad luck in fishing or hunting, but that now these beliefs no longer held and that fathers may play a role in CFM. Nevertheless, it was also reported that a man’s relatives might complain if they observed that he was involved in cleaning up children’s faeces if his wife were around and able to do it. It was also thought that people might gossip about a woman being lazy if her husband were to clean up the child’s faeces while she was around, as this is not a task for the head of the household.

One father discussed how he participated in CFM with his son, but not his daughters:

*“Just happened after I have my son. For my daughters, my wife always do that when they small not me. Why I am not much involved in cleaning child’s bottom because it’s a girl. but now because I have a son I always involved to do that because its a boy.” – Father, Verakoukou village*

Another took a stronger position:

*“I’d never try it. Usually its a woman’s role. “Nomata mi garem fest pikinini blo mi” (Even I have my first child), “mi no sa ve duim na sam ting ia” (I never do that). If I do that it will be a*

*disgrace for me. Make sure I never involved in or help with. Just never.” – Father, Bubumala village*

When asked about barriers for men becoming involved in CFM, a male participant reported:

*“Cultural norms. Men should not involve in any role that deals with child's faeces...[O]thers might talk about what [I] did but however, as a father, [I] care for [my] child and would just do it anyway”. – Father, Bubumala village*

Both mothers and fathers expressed the opinion that fathers should be more involved in CFM, and they were not, simply because it was not socially acceptable for a man to do this if his wife can do so. For some respondents, fathers being involved in CFM was associated with loss of respect and status of men as head of the house. However, fathers thought that their participation in CFM would be beneficial for their child, and they expressed willingness to practice CFM. Some also noted that male participation in CFM could be praiseworthy. A hypothetical man who participated in CFM was regarded positively by both men and women. This man was described as ‘good, clean, cooperative, willing, helpful, supportive, caring’ while a man who did not participate in CFM was described in opposite terms as ‘unsupportive, lazy, uncooperative’.

Men associated male participation in CFM with a hypothetical household that was cleaner, wealthier (larger house) and better organised because the sharing of labour helped facilitate these achievements. By contrast, female respondents suggested that lack of male participation in household tasks such as CFM would be associated with a more cooperative family to help compensate for the lack of participation by the husband/father. These respondents also suggested that male involvement in CFM could indicate failure by women in these households to perform their domestic duties adequately. Thus, they suggested that in the households where men were active in CFM, children may not be cared for properly, and the house may be untidy or unclean. A small number of respondents also raised concerns that the fathers would be less competent at cleaning and caring for their children, resulting in ill-health.

Male and female respondents associated male involvement in CFM with positive attributes of industrious cooperation. However, fathers saw this as additional labour, which could bring additional benefits to the household. In contrast, some mothers regarded male participation as only necessary to compensate for perceived shortcomings in the woman's activities as a mother and wife, possibly due to her engagement in economic activities.

There seemed no absolute taboo against male involvement in CFM so long as the context was such that it did not challenge male power or masculine identity and was not seen as condoning laziness. Choice and benefit to children were important. It would not be acceptable for a woman to ask her husband to carry out CFM. Notwithstanding, it would be acceptable for fathers to *choose* to be involved in CFM if it was perceived as necessary for their child's wellbeing or because his wife was unable to perform this task at the time. Fathers may also be less likely to carry out CFM in the presence of visitors when it was important to maintain the appearance of male authority. Education about health and disease was suggested as a powerful means of increasing the importance that men might attach to involvement in CFM.

A man who carries out ‘women’s work’ may be seen as weak or lazy and ridiculed. A woman who asks her husband to carry out ‘women’s work’ may be seen as disrespectful and lazy and might be physically or verbally abused. A man who *chooses* to carry out elements of ‘women’s work’ such as CFM, *for the benefit/health/safety of his child(ren)* may be seen as good, caring, hardworking, Christian and educated.

Female respondents suggested that mothers who practised safe CFM (disposal of faeces in a latrine) were ‘clean, caring, loving and educated’; their homes would be clean and their children well brought up and obedient. ‘Unsafe’ CFM practices were associated with a dirty domestic environment and uncooperative, disobedient children. Mothers who did not practice safe CFM were regarded as lazy, incompetent, irresponsible and ignorant.

### 3.8.7. *Faeces disposal norms*

Disposing faeces in latrines, burying and throwing in rivers were all reported as what people think should be done. Leaving faeces lying around might result in social sanctions such as gossiping about or being thought of poorly. There were differences between communities. In Kolomamata and Baghovu, many respondents said faeces should be disposed of in latrines, while in Salio, many people said in the river or bury.

Some women reported that their mothers and other household members were aware of how they disposed of child faeces. Some respondents also mentioned neighbours, but others reported that people were not aware of what others were doing.

The spouse, mother, mother-in-law, neighbours and the chief or elders were all mentioned as people whose opinion would be important if the respondent wanted to change their CFM practice. Mothers reported they primarily cared what their husband thought about their child faeces disposal practices because the husband was in charge of the household, and after that, in-laws (particularly mothers-in-law) and neighbours. It was important to mothers that people outside the home would not think of them as lazy or too busy to look after their family properly. The reported consequences of not being seen to do the “right” thing were mostly gossip and reputational damage within the community. However, most respondents said they were not concerned about the opinion of others.

*"Nobody's opinion would matter because I know I am doing the right thing."  
– Mother, Baghovu village*

The evidence did not suggest that disposal practice at home was strongly driven by norms but more likely by convenience. However, there was some evidence for a norm against having faeces lying around the yard and some evidence of a perceived possibility of sanctions or social ramifications for unsafe CFM in NOD communities.

The research findings suggested that injunctive norms exist for male involvement in CFM (though possibly contingent on women being occupied with other household tasks) and for safe disposal of child faeces. The responses also suggest that motives of nurture (caring for child), affiliation (cooperating with others), and disgust (an environment free from cues of contamination) are associated with these practices.

The reported effect of the LLEE intervention on CFM varied between villages. Some reported that practice had changed such that faeces were now disposed of in latrines. Others, that despite increased awareness of disposal in latrines as being good practice the poor quality or absence of latrines meant that faeces were still disposed of elsewhere.

It was reported that prior to Christianity, there was a belief that faeces left in the open could be used in witchcraft, and to avoid being a victim of witchcraft, people would opt for burying faeces. It was also reported that in the past, there was a belief that men should not handle children's faeces as this could bring bad luck in hunting or fishing. We did not find evidence that these beliefs persist to the present day.

### 3.8.8. *Fixed and variable elements of CFM behaviour settings*

The formative research data suggests that child faeces management in Solomon Islands villages occurs within settings with several fixed elements and some that vary over time. For most households, access to and distance from a toilet is generally fixed, although a significant change to infrastructure such as building a new latrine can occur, which may substantially change the CFM behaviour. *Roles* were relatively fixed; the responsibility of CFM in almost all cases falls to parents (with some assistance from other children or grandparents). Gender roles might also be considered relatively fixed in terms of the uneven distribution of CFM responsibilities to female caregivers and men's involvement primarily predicated by the mother being busy or absent. However, this appeared to be household-by-household.

Variable elements of the setting include the *stage*, in that child defecation may occur inside the house, outside the house in different locations, directly into a nappy or diaper, or directly into the toilet, and these different

stages influence the sequence of steps a caregiver may take when managing their child and their faeces. Similarly, the availability and location of particular *props* at the pertinent time appeared to influence the response, for example, whether a household has toilet paper or soap that could be used in the CFM routine. These **variants** (as termed by Curtis et al. 2019) may engage supplementary social norms (the presence of visitors to the home may cause a caregiver to prioritise “doing the right thing”), may influence motives (the presence of other children may require caregivers to differently prioritise health risks), or may result in caregivers taking a more convenient option as they participate with their CFM routine (if a child defecates far from a toilet but close to the river, the disposal point may change).

### 3.9. Experience with CLTS and sanitation promotion

#### 3.9.1. Description of CLTS activities in Isabel by LLEE facilitator

LLEE had three people working in Isabel Province: one CLTS facilitator, one WASH in Schools officer, and one person responsible for transport and logistics.

CLTS was facilitated by LLEE and RWASH, following a CLTS manual from RWASH. As reported by LLEE, the RWASH manual is a set of general guidelines for the implementing team, but they were not followed strictly. There was reported flexibility when implementing.

LLEE’s CLTS approach comprised the following steps:

1. Pre-triggering: The pre-triggering was a closed session held with the village leaders (church, chief, women’s leaders, others) to tell them that the team will be using the word “shit” and warn them that they will be asking people about this. The purpose is to seek approval from leaders and ask them to notify villagers that they would be asked about faeces.
2. Triggering (next day): 2-3 hours of activities: introduction of the CLTS approach, handwashing demonstration and building a tippy tap, ‘shit calculation’, ‘shit mapping’, children’s session (the head of school was asked to allow children to attend), community action plan developed to build toilets (where people raise hands and report which kinds of toilets they will build and by when). The team showed them the basics of a toilet to get started (and they did so by promoting dry pits).
3. Following day (optional): The team would start mobilising people to build their own toilets (especially if during the triggering meeting someone said they would start building their toilet the next day). Then after triggering, the team left and planned to return to the village for monitoring visits until they achieved NOD (which could take about 6 months, but sometimes longer).
4. First monitoring visit (the following week after triggering): begin monitoring if they were going to start building toilets immediately after triggering.
5. Fortnightly monitoring in all the villages for 6 months-1 year.

It was important that the facilitator in Isabel Province was somebody from the province. The facilitator would go from house to house, stay with people, and talk to them to build rapport. Facilitators worked in clusters of 5 villages, defined by RWASH, and facilitators stay in the field throughout the process.

The behaviour change content was based on discussion of the health impacts of poor sanitation and the role of flies in the transmission of diarrhoeal disease. CFM was not explicitly covered.

In **Kolomamata**, LLEE promoted dry pits through CLTS, but these were disliked because of smell and flies. Households with a water-based toilet refurbished their toilets during the campaign. In other CLTS villages, more dry pits were built through CLTS. In some villages, a mason was trained to make pedestals. Toilet pans were reported to be manufactured from fibreglass in Buala.

LLEE reported they had triggered 44 villages from 3 districts. Villages were all selected from the same ward in each district. The biggest of these community had 73 households, and the smallest had 6. The average CLTS community had around 30 households.

After triggering, some villages were dropped if they were not engaging fully or had a high water table.

As reported by LLEE field staff in Isabel, the CLTS intervention took a ‘tripod’ approach which rested on the involvement of the Church, Provincial government and village leadership (Church, Chair, Chief). All three put pressure on a community to become NOD. The ward member of parliament provided a letter of support for the work. As reported by community members, it appeared they built toilets because they were told to do so, not because the community was motivated to do it for themselves. Understanding the leadership structures and talking to village leaders is essential to understand how a CFM intervention can be implemented.

Triggering included health and hygiene awareness. If this were considered insufficient, then LLEE would do gender training. Gender training talked about how childcare is a joint responsibility, and if one partner is not there, the other should be able to do their work.

In most villages, sanitation coverage was low prior to the CLTS intervention, and dry pits were the most common form of sanitation found. They were also the type of sanitation promoted by CLTS, as the RWASH policy was that people should not wait for someone else to bring the materials and build the toilets for them, so people were encouraged to build a toilet with what they had and not to wait too long to do it, so most NOD villages had dry pits. Pour-flush was more common by the coast than inland, as coastal communities tended to have more money and be better connected.

Once a village was triggered, they were expected to build a toilet within 6 months.

As outlined in the RWASH CLTS Facilitator Manual, a village becomes NOD when it met these three requirements (Rural WASH Unit, 2016):

1. No signs of open defecation, and no reports of open defecation
2. Every household uses a complete latrine that is clean and stops flies and animals
3. Every household had a handwashing facility with water and soap (or soap alternative like ash, sand, akwa leaf) close to the latrine

According to LLEE, the household toilets could be shared toilets, depending on the nature of the household. For example, if 2 houses share a kitchen, they might also have a shared toilet. In some cases, HHs have 2 toilets.

The communities knew the criteria, and they were shown what was expected during the monitoring visits. Independent verification was done by RWASH and the Provincial Health Promotion Department

### 3.9.2. Residents’ perspectives on the CLTS program

Most households in Kolomamata were reported to have had sanitation before the LLEE CLTS project. All of the pour-flush toilets in the community pre-dated the project. Several respondents commented that the LLEE project was seen as a retrograde step because it promoted dry pits when some households already had pour-flush toilets and that people aspired to have pour-flush toilets.

There had been sanitation promotion in Baghovu prior to the LLEE project, and several households had pour-flush latrines. LLEE used a triggering exercise with faeces, flies and food to demonstrate the importance of safe faeces disposal. There were three meetings; triggering, planning, and final check to see what was built. The triggering meeting had good attendance from across the community. LLEE also spoke about the importance of CFM to avoid flies and smell. The Church, Chief and Chair were important in driving the process, as was the Mothers’ Union. There was a WASH committee in Baghovu.

Respondents in Salio reported that there had been no change since the LLEE intervention and that most people did not have latrines and could not afford them. Respondents reported that the promoted dry pits were not popular, and people did not want them, as they were believed to be breeding sites for mosquitoes. Also, the committee members who had attended the LLEE meetings did not carry out any further activities, so the intervention did not achieve much.

Household members in Guadalcanal were generally supportive of the CLTS program that had run in their villages. They considered it a “good, useful” program that had catalysed change within the community. Respondents presented the knowledge they had gained during the program, predominantly about cleanliness, open defecation, and the links between faeces, flies, and disease. There was some confusion between respondents on the exact details of the program. For instance, in Bubumala, one respondent understood there to be a structured fine system that accompanied rules about sanitation, while another respondent reported no explicit sanctions in Bubumala.

Household respondents associated the involvement of the chief and elders in the CLTS program with both getting the program started in the first place and the program’s overall success.

*"Also, the village chief told the villagers that if they don't want to follow what the community agreed upon then they are free to leave the village." - Resident, Bubumala village*

### 3.9.3. WASH Committee perspectives of CLTS

CLTS Committee members reported that the success of CLTS programs was contingent on the cooperation of the whole community. They noted that while the chiefs and elders decided first to become involved in CLTS, it was the responsibility of everyone to achieve success. Contrary to the National Policy, some respondents indicated that the provision of hardware (toilets, slabs, construction support, tanks) was provided as part of the program, and further, was an important part of supporting the community.

Only one respondent indicated CFM was discussed during the CLTS program. Others felt that caregivers' responsibility was to apply what they learned about adult defecation to their children’s behaviour.

### 3.10. Summary of findings

Following the Evo-Eco model, the main findings about determinants have been summarised in Table 3.8.

Table 3.8: Summary of findings

Evo-Eco components		Main findings
Behaviour	Current Practice	<ul style="list-style-type: none"> <li>In general, most parents moved the faeces following defecation, and cleaned the child. Some washed their hands, and some cleaned their tools.</li> <li>Almost half of respondents use the latrine as final disposal location, the remainder used the bush, sea, beach, river, burial, washing or other means of disposal.</li> <li>Defecation into cloth was more common for younger children, while open defecation (initially) was more common for more ambulatory children.</li> </ul>
Brain	Executive	<ul style="list-style-type: none"> <li>Link between faeces, flies and disease transmission is recognised</li> <li>After CLTS triggering, households are expected to construct latrine within 6 months</li> <li>People do not like putting grit, dirt, and sand into flush toilets over concerns of damage to the toilet</li> </ul>
	Motivated	<ul style="list-style-type: none"> <li><i>Nurture, status, disgust</i> and <i>affiliation</i> were reported as plausible motives for safe CFM. Less disgust reported for faeces of own child and younger children.</li> <li>Caregivers wanted to do the best for their children, by moving faeces, and cleaning their child (<i>nurture</i>)</li> <li>Faeces were unlikely to be left in the domestic environment to be touched by children (<i>nurture</i>) or seen by neighbours (<i>affiliation</i>)</li> <li>Flush toilets are aspirational, and dry pits are <i>low-status</i></li> <li>Children may have <i>fear</i> of poor quality toilets, parents wanting to avoid this fear because of <i>nurture</i> motives</li> <li>Child faeces are removed from the area around the house – desire to avoid smell and flies (<i>disgust</i>)</li> <li>Sea and river remove the sight and smell of faeces, but, with the sea, faeces might end up on or back on the beach (<i>disgust</i>)</li> <li>Faeces in the garden and sea were believed to risk contaminating fish or garden produce (<i>disgust</i>)</li> <li>Smell and mosquitos are barriers to using latrines for CFM (<i>disgust</i>)</li> <li>Men who engage in child faeces disposal may be seen as educated, enlightened and hardworking (<i>status</i>).</li> <li>However, a man who picks up children’s faeces while his wife is present and apparently able to do so, may also be seen as weak and his wife as lazy or incompetent (<i>status</i>)</li> </ul>
	Reactive	<ul style="list-style-type: none"> <li>Variability in timing and behaviour setting. CFM practices do not show strong features of automated behaviour or habit</li> </ul>
	Discounts	<ul style="list-style-type: none"> <li>Convenience plays an important role in the choice of child faeces disposal site. Those close to a river or the beach use those places.</li> <li>Disposal in the latrine requires more effort – carrying to the latrine, disposing of materials, bringing water for flushing</li> </ul>

Evo-Eco components		Main findings
Body	Capabilities	<ul style="list-style-type: none"> <li>Children can use the household toilet from age 3</li> </ul>
Setting	Stage	<ul style="list-style-type: none"> <li>Children defecate close to their house. Latrines within 20m of houses, but approach may be difficult depending on terrain and weather.</li> </ul>
	Infrastructure	<ul style="list-style-type: none"> <li>Flush toilets may not be able to handle faeces transportation materials (e.g., leaves, rags).</li> <li>There are concerns about grit in faeces being put into a flush toilet</li> <li>Toilets can be difficult to access (terrain and weather)</li> <li>Child-friendly toilets are rare, and functionality/cleanliness/light can be a barrier</li> </ul>
	Props	<ul style="list-style-type: none"> <li>CFM requires transportation materials or tool</li> </ul>
	Roles	<ul style="list-style-type: none"> <li>Mother is the primary caregiver.</li> <li>Fathers participate in child faeces management if the mother is not available.</li> <li>The presence of visitors or other relatives can influence people's behaviour.</li> </ul>
	Norms	<ul style="list-style-type: none"> <li>Strong gender division of labour. Social norm against male participation in CFM. The injunctive norm may be shifting.</li> </ul>
Environment	Physical	<ul style="list-style-type: none"> <li>Habitation surrounded by gardens, sea, water courses. Some areas are hilly and elevated, and some are flat and by the sea.</li> </ul>
	Social	<ul style="list-style-type: none"> <li>Small communities with variable levels of cohesion. Strong respected leadership (chief / church, chair)</li> </ul>

## 4. CONCLUSIONS AND RECOMMENDATIONS

### 4.1. What could safe CFM look like in Solomon Islands?

The formative research was conducted in villages that have previously engaged with CLTS programming. The research revealed existing CFM practices within villages, some safe, that could be further encouraged alongside CLTS. The research included different participants and respondents, including parents of children less than 5 years old, village leaders, and households with experience with CLTS.

Given that most caregiver respondents in the CFM routine demonstration and recall activities, as well as participants in FGDs, were able to explain their CFM routines as a sequence of steps, in this context, defining safe CFM as a process has advantages for influencing behaviour change and achieving improved health outcomes in communities. However, ultimately, the only “safe” CFM disposal practice accepted internationally is when faeces are disposed of in a latrine (Sahiledengle, 2020). Additional hygiene aspects, such as the handwashing, are normally included in broad CFM behavioural interventions, although intervention designers must consider target messages and where the most effective influence might occur. For this research project, the focus is on safe faeces disposal, with secondary messaging to address handwashing and other hygiene aspects.

Understanding the existing CFM processes allows the identification of safe CFM processes that leverage the strengths of existing practices, rather than trying to develop completely new CFM practices. A range of faeces management practices was demonstrated in rural villages during the research and differed whether the child was an infant (not ambulatory), or a young child (ambulatory). Infants often defecated into cloths and those cloths were washed or knocked into the bush or sometimes into a latrine. Young children often initially practised open defecation, and then caregivers commonly moved the faeces either to another location (bush, sea, river) or the latrine. This movement is often done with spades, sticks, or other materials, and then some caregivers practised hygiene behaviours such as washing hands. These practices are similar to studies of CFM from other locations, such as India, Cambodia and Peru (Bauza, Reese, Routray, & Clasen, 2019; Miller-Petrie et al., 2016; Yeager, Huttly, Bartolini, Rojas, & Lanata, 1999).

Since young children usually do not often defecate directly into a latrine, safe disposal of child faeces requires the faeces to be collected, transported, and ultimately disposed of in a latrine that effectively separates faeces from the environment, normally by parents (mothers and fathers) and occasionally by other caregivers or siblings. Household latrines are gradually increasing in number in Solomon Islands, in part as a result of the government-sponsored Community-Led Total Sanitation (CLTS) effort. However, safe CFM does not feature strongly in CLTS and unsafe disposal practices (in the sea, river, bush, gardens, or garbage) persist.

The age of the child had an impact on the types of CFM practices performed by caregivers, and there was evidence that from age 3, some children demonstrate the ability to use the household latrine, usually with assistance from caregivers. Children aged 2-5 years were most likely to defecate on the ground outside the house (OD), particularly for 2-3-year-old children. Morita, Godfrey, and George (2016) noted in their systematic review of the evidence of the effectiveness of safe CFM that studies showed the protective effects of safe CFM were greater for ambulatory children 2-3 years of age (Bain & Luyendijk, 2015; Haggerty, Muladi, Kirkwood, Ashworth, & Manunebo, 1994; Stanton & Clemens, 1987)

The practice of safe CFM in the study villages appeared to be influenced by the physical and social environment (ownership and convenience of latrine, norms within communities) and personal motives such as nurture (doing the best for their child), disgust (at uncontained faeces within the living environment) and affiliation (doing what others do). It emerged that positive injunctive norms, which reflect people's perceptions of which behaviours are approved or disapproved by others, do exist for male involvement in CFM (though

possibly contingent on women being unavailable to do it themselves because they are occupied with other household tasks), and they exist for safe disposal of child faeces within these rural villages.

The research findings suggest that caregivers want a convenient way to remove child faeces from the domestic environment to avoid the sight and smell of faeces, flies and the associations of contamination and to prevent the possibility of contact with faeces.

Latrines can prevent contact with and avoid the sight of faeces. The extent to which they prevent smell and flies depends on the quality of the latrine. However, latrines can be less convenient than other solutions if the child has defecated elsewhere and faeces must be collected and transported. Poorer quality latrines can be unpleasant to use.

There is an aspiration among households for good quality sanitation (meaning pour-flush) and some resistance to investing in dry pits which are regarded as inferior quality.

In terms of props and infrastructure, potties were reportedly liked, but use was not sustained even over the short period of the trial, possibly because of the effort needed to teach children to use them. Potties can be used to collect and transport faeces and prevent the problem of grit in faeces or faeces collection materials from getting into water-sealed pour-flush toilets where they may cause damage or blockages. However, it was also reported that emptying and cleaning the potty was disgusting and additional effort was required to empty the potty safely. We do not know that using potties would necessarily discourage the final disposal of faeces in the bush, river or sea, and there was insufficient evidence to determine how widespread is concern about grit from the ground getting into toilets when moving faeces from the ground directly to a latrine.

Change in sanitation practices through CLTS seemed to be top-down, driven by the authority of the village Chief, Church and Chair. CLTS does not have an impressive record in Solomon Islands. However, this research does not sufficiently explore whether this is due to a fundamental flaw in the approach, its implementation, or because the approach is relatively new and needs time to build capacity.

## 4.2. Behaviour change intervention

### 4.2.1. Behavioural levers

The overall goal of this research is related to the promotion of safe CFM in Solomon Islands, in particular safe child faeces disposal. Parents and caregivers of infants and young children have the greatest influence on the practice of safe CFM, and thus they are the focus of this research project. It is acknowledged that hygiene practices, including handwashing, are an important part of safe CFM, however, this behaviour change intervention will focus on disposal as a means of reducing the risk of uncontained faeces to children in their physical environments.

The formative research has shown there are several levers that could be employed to support behaviour change in safe faeces disposal as part of safe CFM. Some of these levers are discussed below.

#### *Knowledge and awareness gaps (executive behaviours)*

Gaps in knowledge and awareness were not identified as critical barriers to the adoptions of safe CFM practices, with many caregivers demonstrating awareness of linkages between sanitation and ill-health and some acknowledging CLTS programming as the source of this knowledge. However, two topics that emerged were, knowledge regarding the safety of infant and young children's faeces (in that some caregivers believed it was safer than adult faeces), and awareness of ways to transport faeces into a latrine without compromising the functioning of that latrine.

### *Social and psychological determinants (motivated behaviours)*

Four central motives were resolved from the formative research, that influenced the choices that caregivers made regarding CFM practices:

- **Nurture:** safe CFM is part of building a loving, caring relationship with your child, and that CFM practices should reflect doing what is best for them.
- **Disgust:** unsafe CFM results in contamination of the domestic environment, garden or sea (with associated aesthetic and odour experiences) and allows potential contact with faeces and contamination of food.
- **Affiliation:** unsafe CFM is antisocial because it contaminates common places and causes other people to be exposed to faeces
- **Status:** Some saw a clean and tidy home environment (through practicing CFM) to be an indicator of status (wealth and education). Perception that male participation in CFM could be a threat to status as head of household if it coincides with performing that behaviour while other family were around or their wife was able to do so.

### *Supporting safe CFM habits (reactive behaviours)*

The variable nature of CFM both in time (when a child defecates) and in location (where a child defecates) means it can be difficult to form habits that properly respond to each situation. However, caregivers can be encouraged and supported to choose safe CFM practices each time through consistent reminders and an accommodating physical and social environment. In this way, behaviours can become more habitual.

### *Removing barriers (changing the domestic setting)*

Some features of the domestic environment (or *setting*) where CFM takes place may discourage safe practice. These include latrines that are located inconveniently, latrines that are not suitable for young children to use, lack of stored water at the latrine for flushing (for water-based sanitation), lack of dedicated, convenient tools or materials for transporting faeces. Some options to modify the setting include:

- Encourage better quality latrines sited more conveniently (closer and better access) to houses.
- Provision of necessary tools for faeces transportation.
- Ensure soap is available at handwashing locations.

#### *4.2.2. Examples of behavioural change mechanisms*

Table 4.1: Possible modes of intervention to change CFM behaviours and promote safe practices

Setting Dimension	Behavioural lever	Example mechanism of influence
Routines	Facilitate habit formation	Promote/communicate a standard routine – to ensure that protective practices are included throughout the CFM process. Promote the idea of an ideal “safe” CFM process (faeces disposal in latrines). Promote handwashing with soap for all types of CFM.
	Motives – nurture, disgust, affiliation, and status	Link safe CFM to nurture motive (better for child’s health), and to time-savings (increased health = fewer trips to health clinic)
Stage	Motives – status, affiliation	Promote clean yards and clean communities

Setting Dimension	Behavioural lever	Example mechanism of influence
Infrastructure	Removing barriers (modifying the setting)	Toilets designed, located and maintained to be more child-friendly. Toilet convenience (distance from home) considered
	Knowledge and awareness	Encourage parents and caregivers to consider faeces transport methods that do not compromise latrine function.
Props	Removing barriers (modifying the setting)	What additional props would help the convenience? Is a spade needed? Toilet paper? Soap?
Roles	Motives – nurture	Highlight caregivers' roles in nurturing and providing for their child by following safe practices at every step in their CFM sequence
Competencies	Motives – nurture	"Toilets are for everyone" – highlight children >3yo direct toilet use.
	Knowledge and awareness	Ensure parents and caregivers have sufficient knowledge about the level of risk associated with infant and children's faeces, and that it is no safer than adult faeces.

#### 4.2.3. Communication channels and touchpoints

In Solomon Islands CLTS facilitators, usually from CSOs or government, visit communities several times, sometimes over consecutive days or over several weeks or months, to promote sanitation and latrine construction. They would have the opportunity and motivation to include messages on CFM. There appears to especially be opportunity to take advantage of the practice of follow-up visits by CLTS facilitators, which occur following the main triggering visits to reinforce key messages, and continue to motivate and support action. These are currently less structured, and anecdotally, CLTS facilitators would welcome some more structured activities to anchor those follow-up visits.

There are also multiple channels within villages. CLTS involves CLTS facilitators and village leadership identifying community facilitator(s) or champions who usually become the focal point during the programming. Villages tend to be small, have multiple levels of social cohesion, and have influential leadership by the Chief, the Chairperson and Elders council, and the Church. Almost all adults attend church regularly and most households will attend village meetings when convened. Village committees, when active, may be effective touchpoints for communities (church committee, water committee, health committee, village development committee). Such committees tend to be responsible for disseminating messages to individual households and hosting meetings or discussions on specific topics.

Nurses and other health professionals are considered trusted sources of information by both mothers and fathers. They are influential especially in the villages they reside, but for villages without a resident that happens to be a health worker, parents are most often in contact with health workers when they visit health clinics, such as during birth, or when children are ill. Occasional village visits by rural health nurses occur, particularly connected to community programs.

Successful behaviour change campaigns tend to use elements of surprise in their approach (Aunger & Curtis, 2016). Further, all communication materials need to be in accessible formats. Visual communication is favoured in Solomon Islands, particularly in areas where education levels vary. Many Solomon Islanders have mobile phones, but reception and internet connection are variable. Solomon Islands Pijin should be used for any key written messages and/or for verbal communication, though less favoured for more technical and detailed written communications.

### 4.3. Gender and CFM

This research, in Isabel and Guadalcanal provinces, suggests that CFM in families is primarily the responsibility of mothers and that strong gender roles in the division of household labour is present in rural villages, which is consistent with previous studies (see below). However, many fathers demonstrated their involvement in CFM and offered limited resistance to the idea of men being involved in CFM, albeit mainly when the mother was busy or absent. It may be the case that such attitudes have been influenced by previous engagement with outsider actors such as CSOs, particularly through WASH-related gender training activities, such as delivered by Plan Solomon Islands with Live and Learn. Alternatively, it may be in part attributable to expanding levels of education, church influence, and communication with the 'outside' environment (for example, relatives or promotions from urbanised areas of the country).

Work by Oxfam in Malaita and Temotu provinces (Homan, Honda, Leung, Fulu, & Fisher, 2019) confirmed the existence of strict gender roles and the risk of verbal or physical abuse for women who were regarded as transgressing these, such as by being perceived as not performing domestic chores adequately. Some respondents in that study regarded violence in this context as justifiable.

These findings have implications for CFM interventions in the Solomon Islands. It is important to recognise that household actions to improve the safety of CFM might increase domestic workload and that this additional burden would likely fall on women. The perceived failure of female caregivers to carry out additional tasks could carry the risk of GBV perpetrated by male relatives. In addition, attempts to actively involve fathers in these tasks, either by the children's mothers or by outsiders such as CSOs, could risk harmful backlash to those women, from males or other family or community members.

Notwithstanding this evidence from other studies, the formative research did not indicate widespread or active opposition to messages supporting fathers' involvement in CFM, nor to questions seeking to understand their involvement. Indeed, mothers and fathers across the study group supported greater involvement from fathers, provided it involved their choice to participate, it did not challenge male power or masculine identity, and any such messaging was not seen as suggesting mothers should alternatively be relaxing while fathers too on safe CFM.

In the context of this seemingly low risk, a safe CFM intervention that promotes active participation of parents – both mothers and fathers, would offer an opportunity to improve gender inequalities relating to all CFM. However, the risk of harmful backlash is most relevant at the household level and can vary between households and villages. Thus, promotion of parents' participation in CFM with clear intentions of fathers also participating, should only proceed following prior engagement with the village members on gender issues, and with the recommendation of those facilitators that have developed an awareness about potential gender-related risks in each village setting.

Implementing CLTS that contains the safe CFM messaging should be preceded by gender awareness training, and proceed when the risk of harmful backlash is perceived as low.

It is also important to note that this formative research was conducted only in two of Solomon Islands nine provinces, and there are significant social, cultural and historical distinctions between the provinces. The gender-related risks of promoting fathers' participation in CFM in other provinces should not be assumed to be similar to the findings here – some careful assessments of those risks before proceeding in this way are required.

### 4.4. Implications of local epistemologies

It is acknowledged that the data presented herein was conceptualised, conducted and interpreted using an Anglo-European / Global North theoretical and methodological framework. Nonetheless, reflections on the

indigenous epistemologies shared by parents and members in the villages studied are important to inform this opportunity to improve CFM practices in Solomon Islands.

The most trusted source of information and knowledge relating to the care of children, CFM, health and sanitation in villages was consistently identified as family and relatives, usually older and related women. Importantly, such persons have lived experience of raising families, are fellow village members and hold common understandings of culture and custom (though the practice of such may vary amongst individuals).

The next most trusted were health professionals, particularly rural nurses, who have credibility gained from their role, education and training, and long-term relationships with communities. More project-based community outsiders, such as NGO staff implementing CLTS programs, were trusted for some forms of information due to their expertise. However, they also had to demonstrate skill before their knowledge was trusted.

These findings align with work by the Kwara'ae cultural group who, while from Malaita Province and so living with culture, *kastom* and knowledge systems that are different from other areas of Solomon Islands, describe village/clan *kastom* (*falafala 'uaua/na'o*, 'culture earlier than now'), *falafala 'ua'ua/na'o'na'o*, culture that changes from generation to generation, and *falafala faolo/fi'l dao*, culture introduced or imposed from the outside (REF). Our formative research was conducted in Isabel and Guadalcanal province, so differences in local epistemologies are expected, however, parallels are apparent.

Concerning a communications-based behaviour intervention, such as that discussed here, thinking of these trusted sources narrowly as a communications channel - imparting information, to be taken up and used as determined by the recipient (parents of young children) under-represents the influence of such people. These trusted people are active participants in developing and sharing the family's or community's ways of thinking about information, of forming knowledge – and importantly here, of reformulating and theorising about new knowledge and anchoring this truth, or reality, in culture (Gegeo, 1994, 1998; Watson-Gegeo & Gegeo, 1999). Communication-based behavioural interventions that recognise the importance of the groups' (family, clan, village) role in building knowledge and determining what do to with that 'truth' – how and when to act on it and share it should be more effective than simply identifying pathways upon which information can be transferred.

#### 4.5. Next Steps

The Behaviour-centred design approach has five steps: Assess, Build, Create, Deliver and Evaluate. The formative research activities were conducted to **assess** the determinants of CFM behaviours and **build** an evidence base regarding the practices, ways of knowing, motivations and behavioural settings for mothers and fathers of children younger than five years of age in rural communities in Solomon Islands. From this understanding, our next steps will seek to distil these findings into a Theory of Change, and create, deliver, and evaluate an intervention addressing safe CFM in Solomon Islands.

## 5. REFERENCES

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