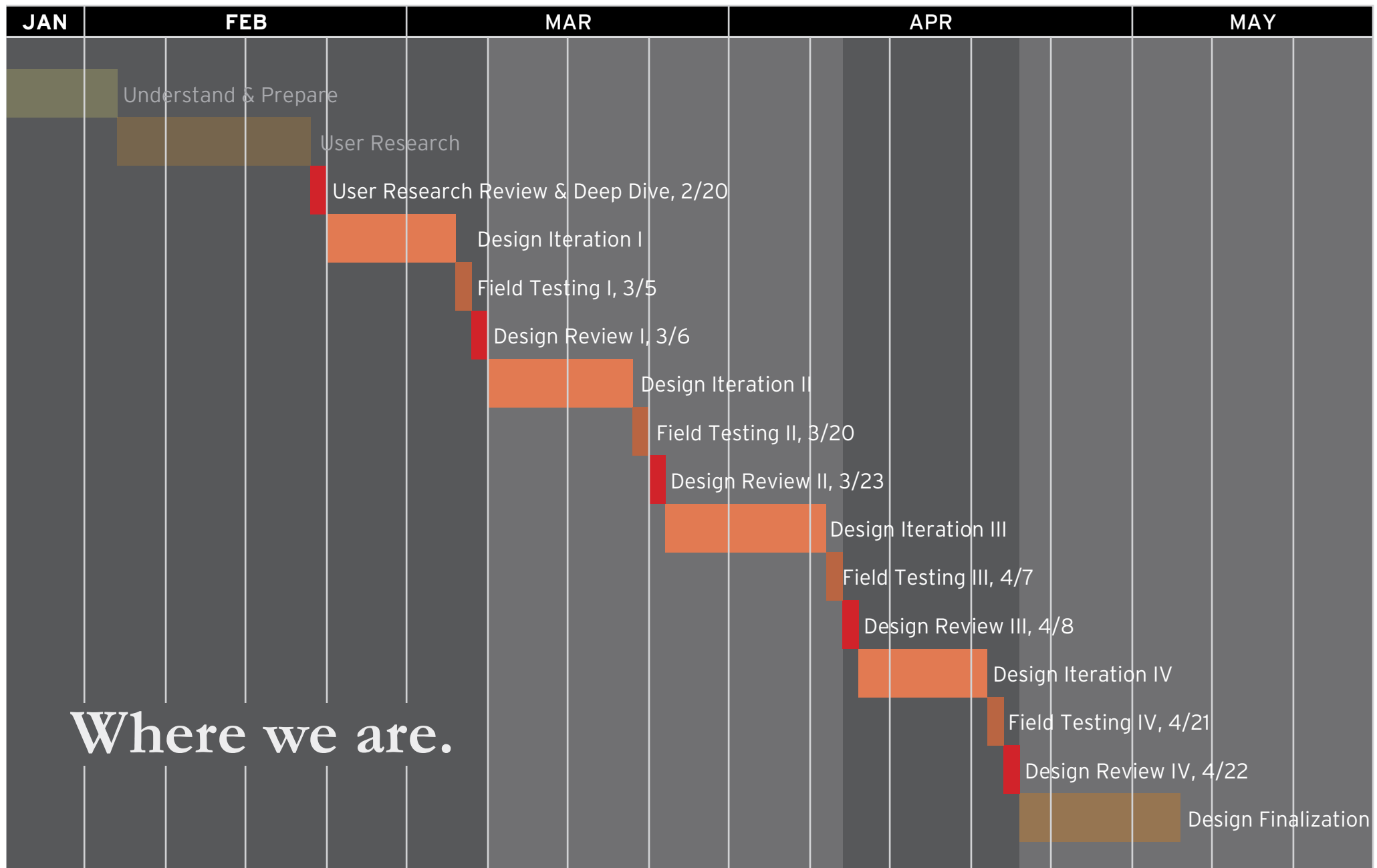




User Research Report

Design Project: Sanitation Marketing Pilot Project



Today's Agenda.

0830 - 1030	Insights Presentation.
1030 - 1045	Brainstorming Introduction.
1045 - 1200	Brainstorm 1.
1200 - 1315	Lunch.
1315 - 1330	Prototyping Introduction.
1330 - 1430	Prototyping 1.
1430 - 1500	Share 1.
1500 - 1630	Brainstorm 2 & Prototype 2
1630 - 1700	Share 2.
1700 -	Drinks.

Today's Agenda.

- 0830 - 1030 Insights Presentation.
- Our Goals.
 - Latrine Primer.
 - Research Overview.
 - Initial Observations.
 - Villager Journey.
 - Framework for CLTS and Sanitation Marketing.
 - Initial Design Principles & Assumptions.

Our Goals.

Insights Presentation.

- Our Goals.
- Latrine Primer.
- Research Overview.
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Project Goal.

Design of a suite of latrines that will enable and encourage all rural Cambodians, regardless of income, to address their sanitation needs and desires.

Today's Goal.

To review what the core team learned in the field and transition from research to idea generation.

Latrine Primer.

Insights Presentation.

- Our Goals.
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Latrine Options.

I. Pit Latrine

1. Simple
2. Ventilated

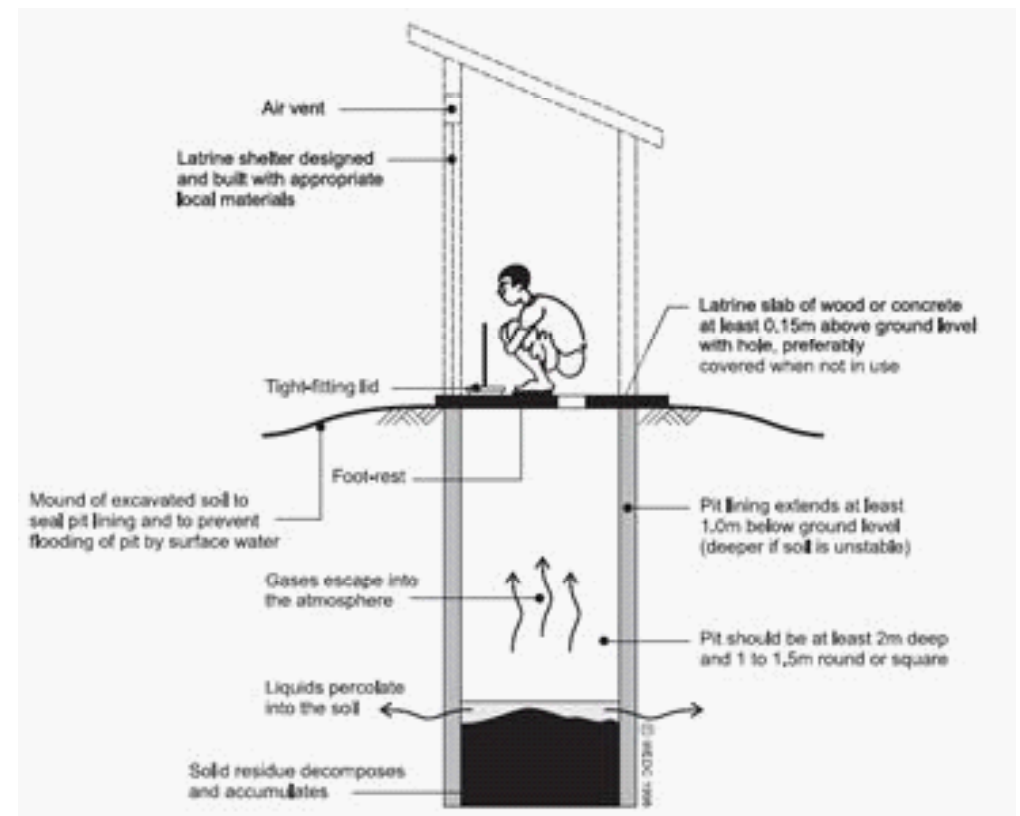
II. Compost Latrine

1. Removable Bucket
2. Storage Chamber

III. Pour-Flush Latrine

1. Septic Tank
2. Storage Tank

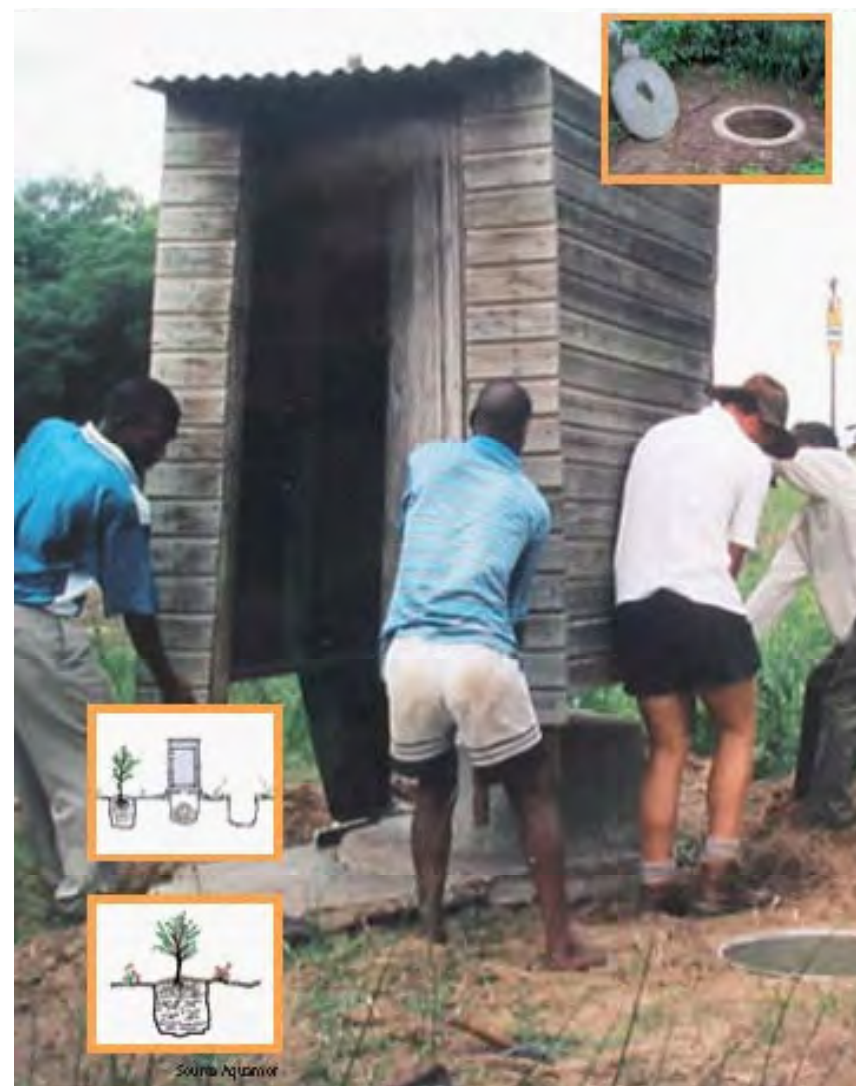
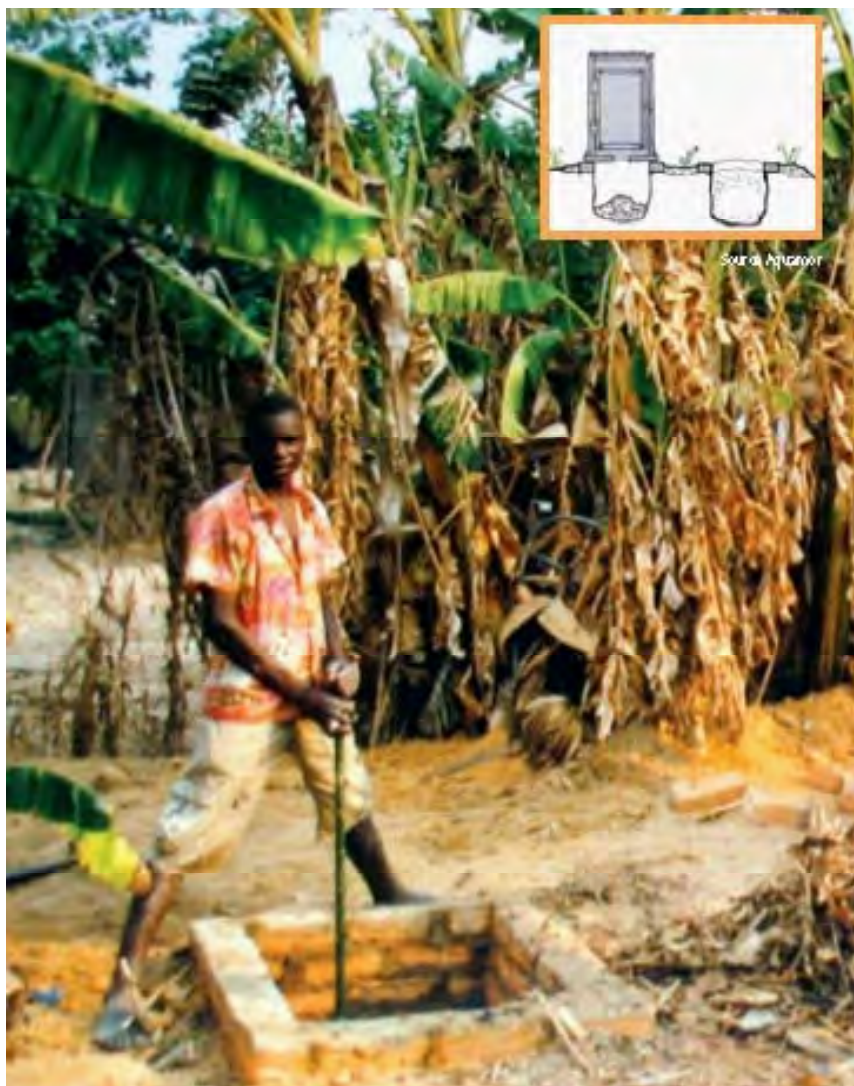
Pit Latrine: Simple



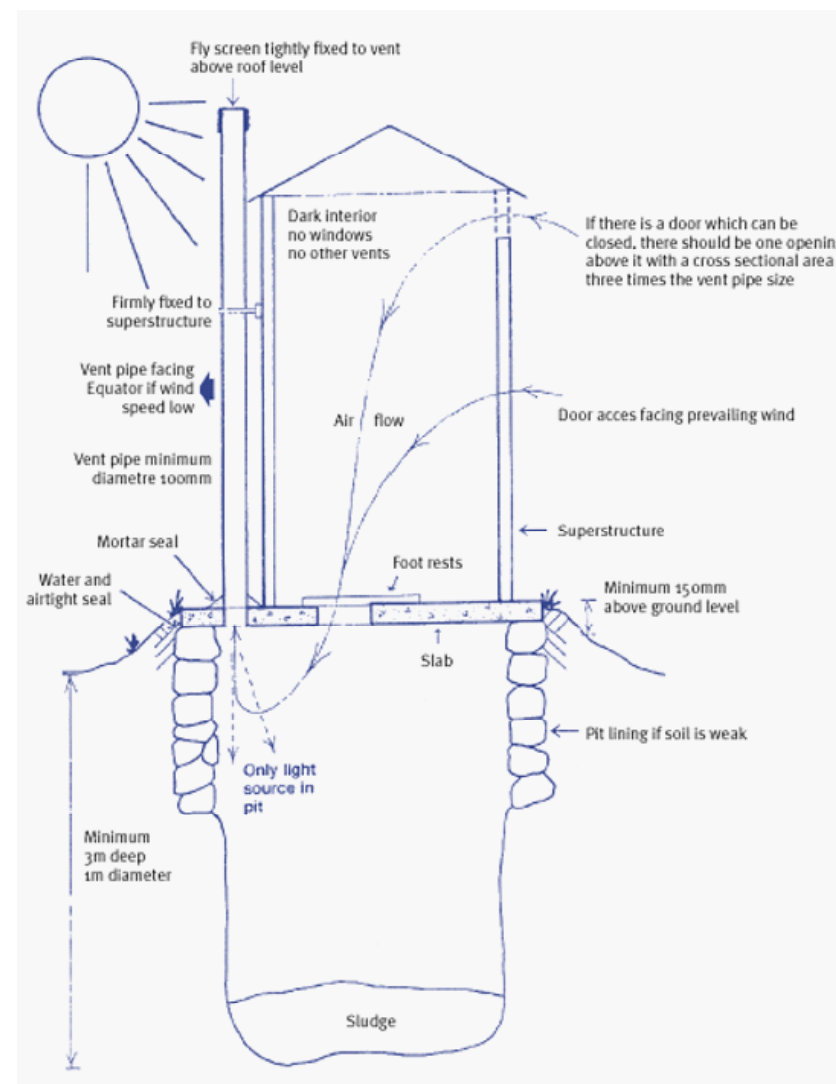
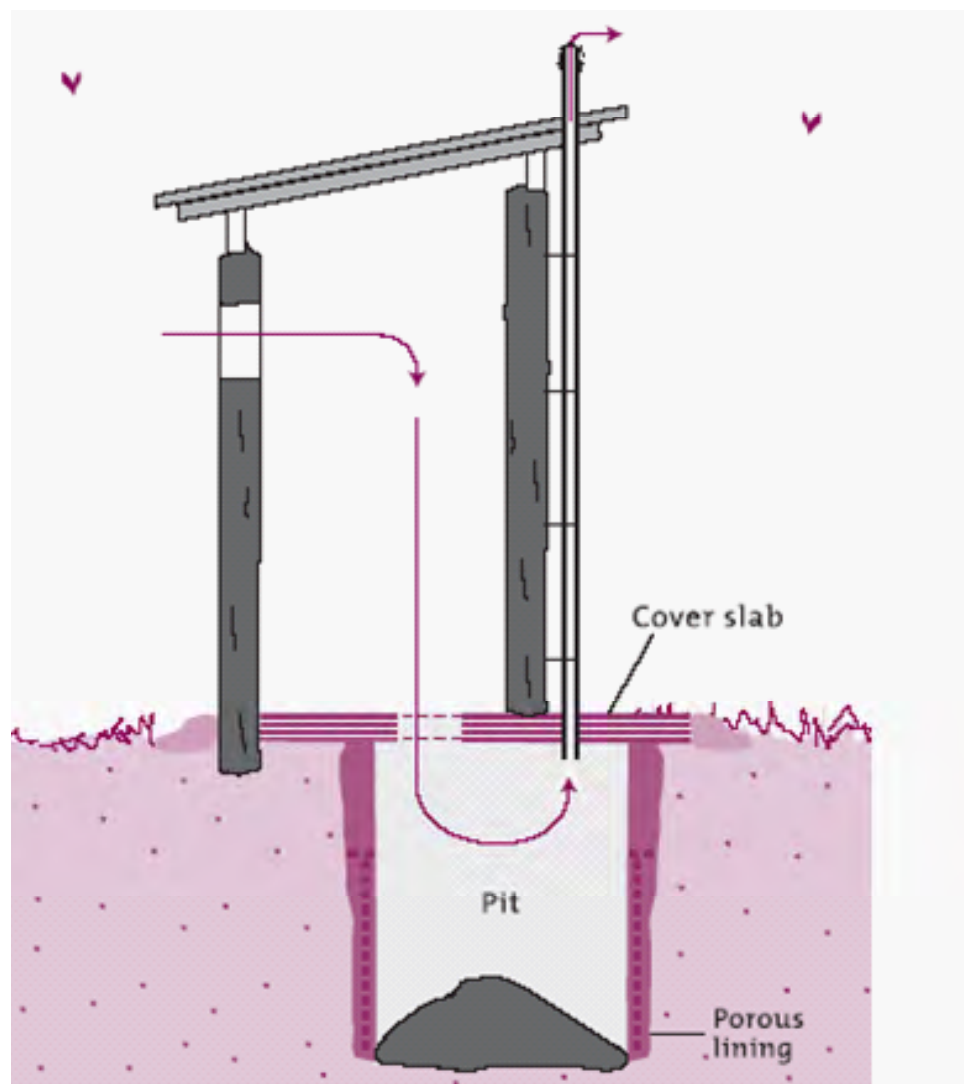
Pit Latrine: Simple



Pit Latrine: Simple



Pit Latrine: Ventilated



Pit Latrine: Ventilated



Pit Latrine: Ventilated



Compost Latrine: Removable Bucket



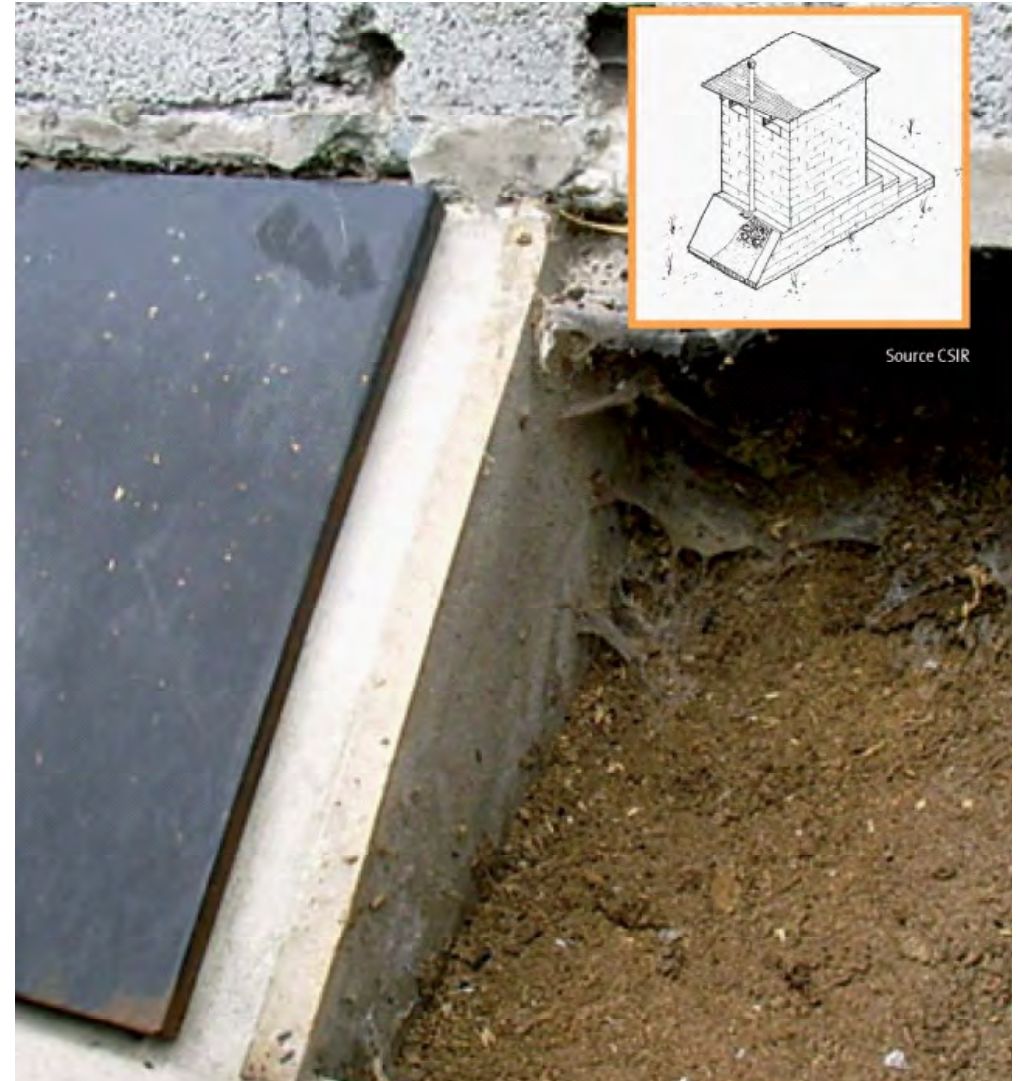
Compost Latrine: Removable Bucket



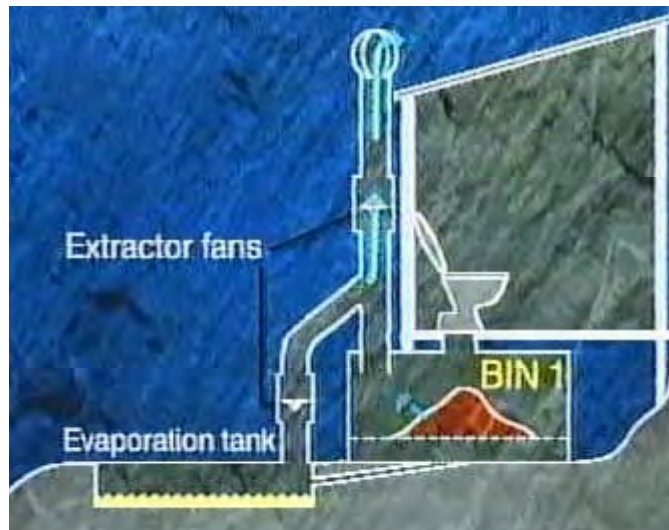
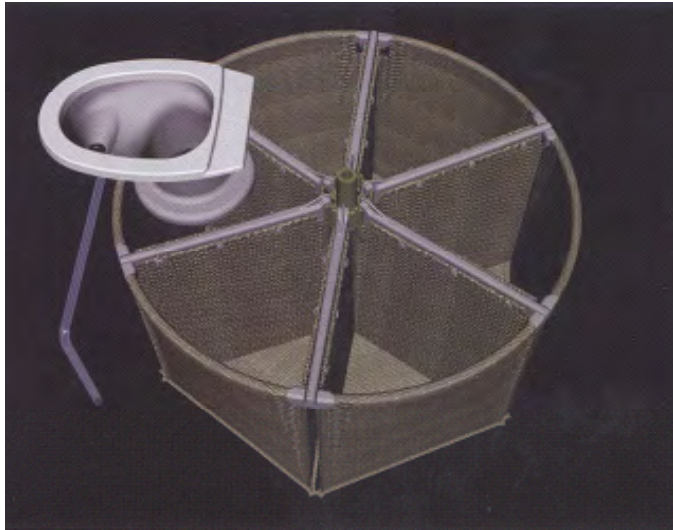
Compost Latrine: Storage Chamber



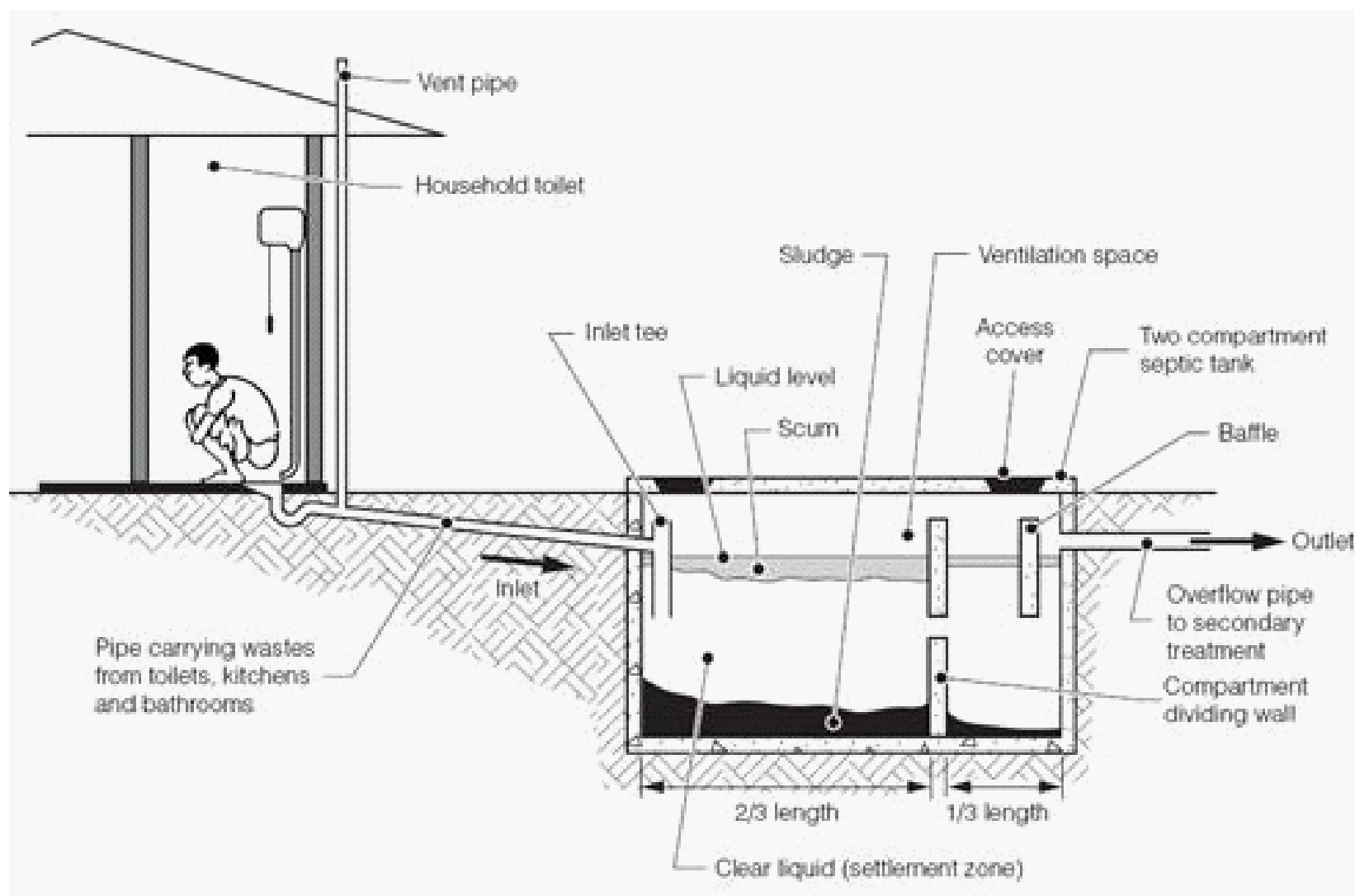
Compost Latrine: Storage Chamber



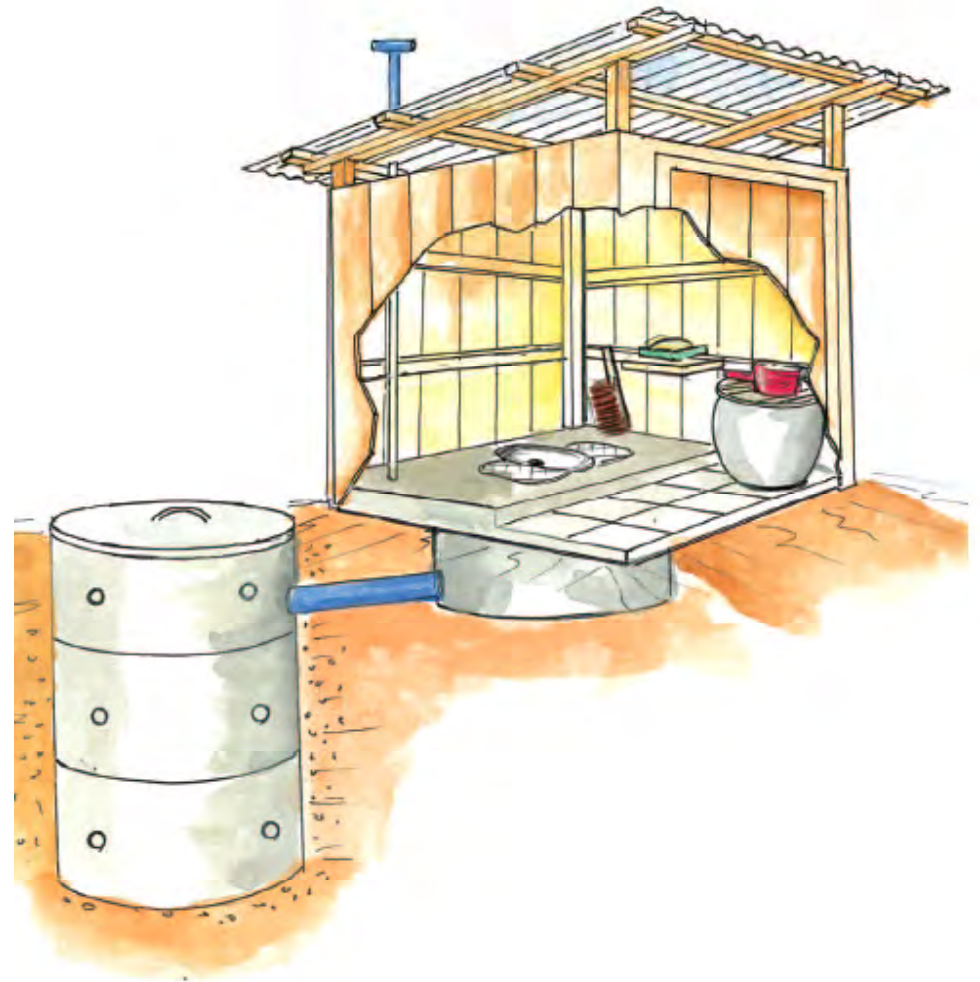
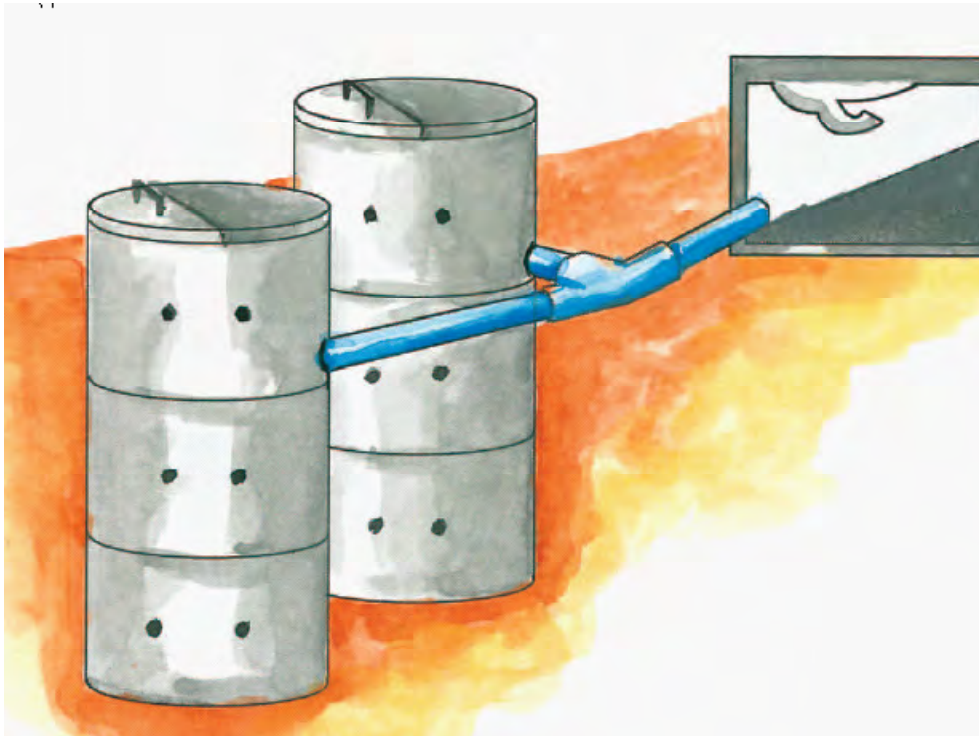
Compost Latrine: Storage Chamber



Pour-Flush Latrine: Septic Tank



Pour-Flush Latrine: Tank Storage



Pour-Flush Latrine: Tank Storage



Pour-Flush Latrine: Tank Storage



Pour-Flush Latrine: Tank Storage



Research Overview.

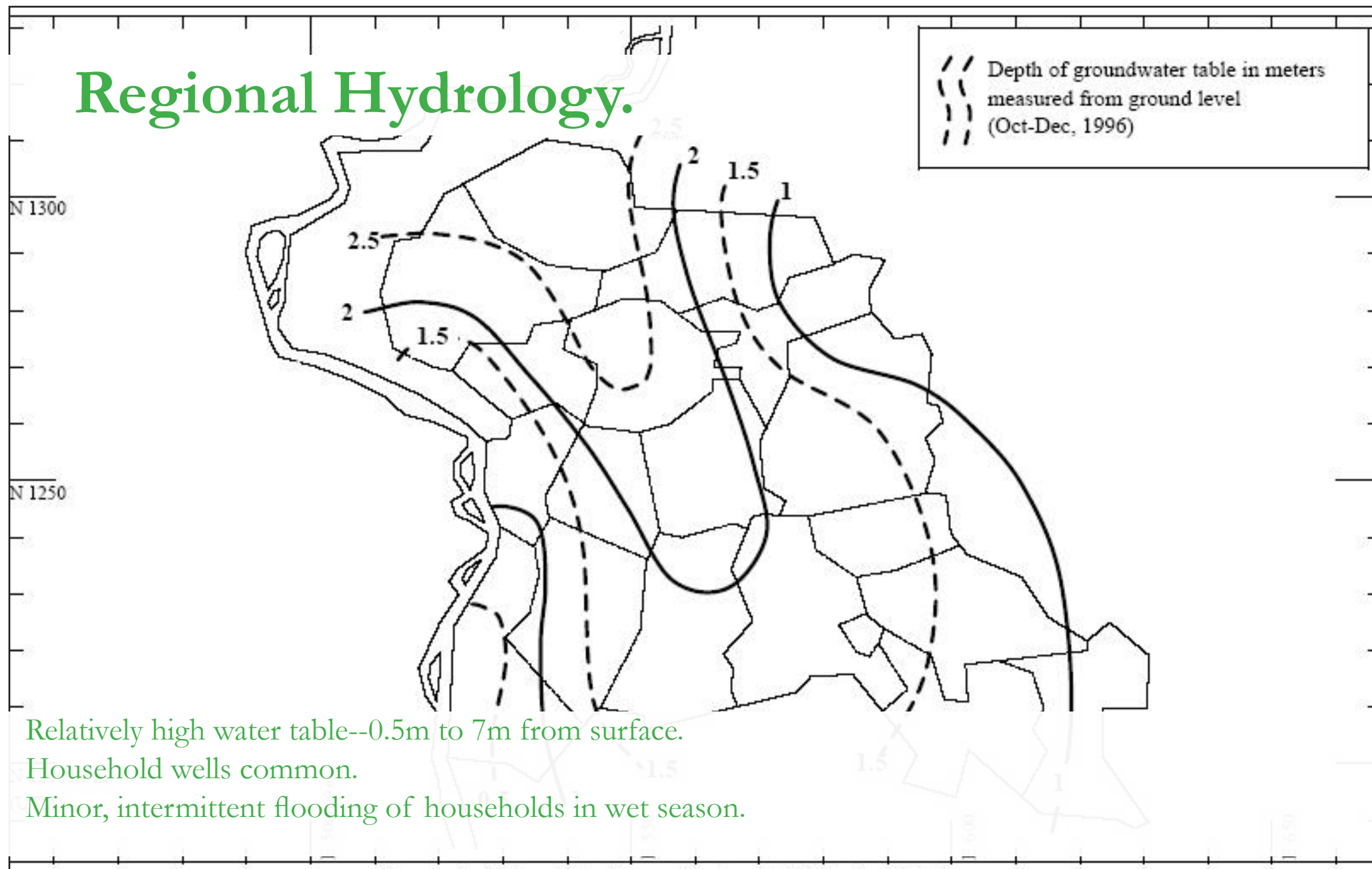
Insights Presentation.

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Study Regions.



Regional Hydrology.



Relatively high water table--0.5m to 7m from surface.

Household wells common.

Minor, intermittent flooding of households in wet season.

People We Met.



masons



ring producers



retailers



villagers



Latrines We Saw.



open defecation



dry pit



trapless pour-flush



basic pour-flush



ideal pour-flush



Methods We Used.



one-on-one interviews



informed choice cards



Initial Observations.

Insights Presentation.

- Our Goals.
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- Villager Journey.
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- Initial Design Principles & Assumptions.
- Latrine Imagery.

Villagers



It's not about health and sanitation...

"Having a latrine is good for our daughter."

The decision to build a latrine is mostly driven by issues of convenience, privacy, safety (for women) and wanting to provide for guests. Additionally, children who have emigrated to Phnom Penh or work in a factory with latrines often motivate their parents to build a latrine and may help finance the latrine.

The field is better than a dry latrine.

"I'd rather open defecate than use a dry latrine."

"I only use my dry pit latrine during rainy season, and I still use open defecation during dry season where I feel better than using a simple latrine."

Dry latrines cause a lot of problems that are more intensely experienced than when practicing open defecation: the sight of feces, dirtiness, bad smell close to the house, maggots and flies, chickens and pigs getting into feces and then walking around house and messy overflows and difficulty of use during the wet season.

Latrine legacy of Pol Pot.

"I don't want a simple latrine as it usually smells badly as I experienced using it during Pol Pot regime."



There is a strong linkage between dry latrines and the Pol Pot regime. Most heads of household lived under the Khmer Rouge and have very negative memories of having to use dry pits and having to use the waste as a fertilizer.

Dry = Temporary = Undesirable.

"If build temporary, will be temporary forever."



Dry pit latrines are viewed as a temporary solution. They last 6 months to 2 years before they need to be rebuilt. There is a very strong preference for building things once and building things that will last.

Wet is essential.



Dry latrines are viewed as traditional, wet latrines as modern. Everyone wants a wet latrine and many people will not bother constructing any latrine until they can invest in a wet latrine. Even though people realize that a dry latrine can be built for less than a dollar cash outlay (for nails), they do not build them.

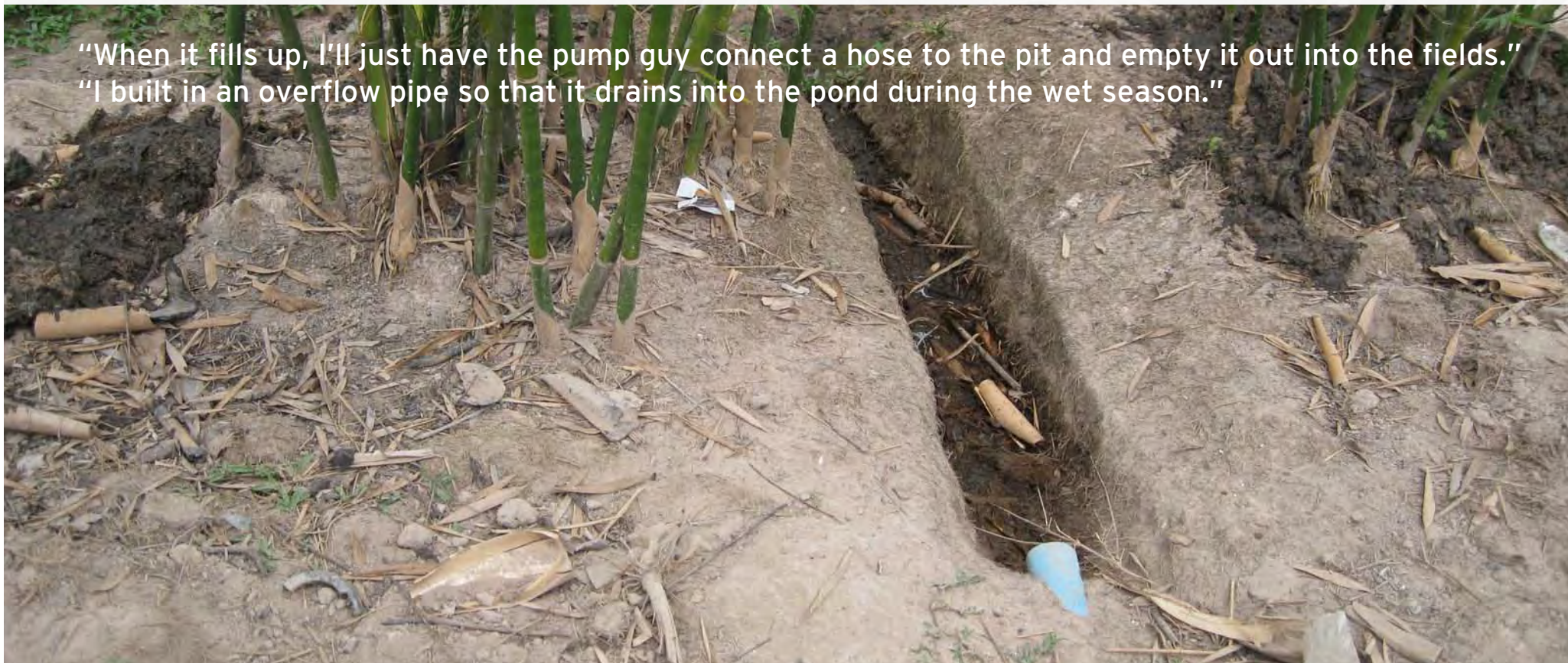
Wet defined by water not by a trap.



Many of the benefits of a wet latrine don't require a water trap--not seeing feces, having a clean surface, cleaning one's self with water on site, not seeing bugs, less smell. Homemade, PVC pipe wet latrines are being used with great satisfaction and seemingly without recognition that they're trapless.

Missing the fundamentals.

"When it fills up, I'll just have the pump guy connect a hose to the pit and empty it out into the fields."
"I built in an overflow pipe so that it drains into the pond during the wet season."



Many latrine owners and latrine builders don't understand the critical health role of a latrine in isolating the waste. Design errors lock in future failures. Misunderstandings lead to unhealthy behaviors.

Low-cost wet?

"You can't build a wet latrine for less than 200USD."



Most villagers struggled to imagine a low-cost wet latrine. A 20USD wet latrine was unfathomable. Something less than 200USD was even mostly unimaginable. Even if thought possible, it would assuredly be temporary and would have to be rebuilt later.

Khmer and concrete.



Villagers love concrete. The wealthiest people in villages have concrete houses. Those with traditional wooden houses aspire to concrete pads and rooms on the ground floor. It is clean. It is permanent. It is desirable.

The Dream Latrine.

"Build once, last forever."



Most, if not all, villagers aspire to a concrete latrine primarily defined by a concrete superstructure with space for bathing, large water basins, tile and a ceramic pan. What's below ground is less important. Those without expect this type of latrine to cost between 300 and 500 USD.

Multi-step house.



Houses are built in stages, and it is common for people to think about them, save for them and build them as distinct units. First the wooden second story structure. Then a concrete slab underneath. Then a series of concrete rooms that are added in stages. Materials are often purchased years ahead of using them.

One-step latrine.



Latrines are built all at once, and people to think about them, save for them and build them as a single complete unit. Everything is built at once, typically in 2-5 days. Once built, the latrine undergoes little improvement or upgrading.

My house and my latrine.



At lower income levels, a latrine is viewed as separate item and separate investment from house. At higher income levels, the latrine is integrated in the house and becomes part of the house mindset and investment. Some villagers aspire to this integrated bathroom--it is viewed as more permanent than an external latrine.

New income, new houses.

"I consider an improvement of my house base on the money from my daughter who is working in the garment factory"

A significant number of villagers built new houses in the last 2-5 years, mostly financed by children working in garment factories and by the sale of farmland to developers. With less land and factory jobs lost, many families are now cash poor and rice poor. Accumulating cash to build a latrine will be increasingly difficult.

Save and spend.



The patience to save money and invest is remarkable. Villagers will save for a lifetime to build a house and may save 3-6 years to build a latrine.



150 to 300.

Inflation has struck Cambodia. Prices for concrete and brick went up 2-3X in the last two years. The amounts people have been paying for ideal latrines are 2-3X what's quoted in the IDE demand survey. Commodity prices may be down now, but in people's minds they're still imagining \$300-500 latrines.



I know of credit.

Villagers were aware of three sources of credit: 1. No interest, short-term credit from shopkeepers-- “30% down, balance in two weeks.”; 2. High interest, easily-accessed, small amount, no collateral credit from rich villagers; and 3. Medium interest, paperwork-intensive, large-amount, collateral-based credit from MFIs.

But not for this.

"How would I make any money to pay the loan back?"
"The amount is too much." "The payments would be too high." "There would be so much interest."

Villagers had no appetite for using interest-bearing credit for the purchase of a house or a latrine. Credit was reserved for income-generating purchases and for food or health emergencies. The only exceptions were short-term zero interest loans from retailers and ring producers.

Ring Producers



Bigger is better.

"I produce and display more product than other producers/competitors to attract more clients."



The physical expanse of a ring producer's store is the most significant visible sign of the success of the business. It shows a lot of land in possession and the ability to hold a lot of inventory. In this case, bigger is better. This is mirrored in the retailer environment as well.

Differentiated?



The only two expressed methods of differentiation were having more product on display (thus requiring more land) and charging less or equal than the competition. Product offerings were identical. Product quality identical. Branding and advertising non-existent.

Villagers are the customers.



Ring producers (and retailers) predominantly sell their product to villagers. The notion of a contractor that handles labor and material acquisition is absent.

Sold in sets.



Ring producers typically sell latrine sets: rings together with a slab/pan combo.

Mold making.



Rings and slabs can only be as good as the molds they're made from. In most cases (particularly for cylindrical sections), molds are purchased from a mold-making shop. Simple adaptations and planar sections are more likely to be handled on site.



If one, then ten.

Having a single mold for a given concrete shape is not highly valuable. One can't produce enough pieces. If a ring producer invests in a new shape (and they have willingness to do so) they typically buy multiple molds to have the capability to produce at volume.

Masons





It's all about bricks, mortar and tools.

Knowledge of working with cement mortar and the simple handtools to work with them are the mason's unique offering. It's also how they make money. Building a slab or pit from bricks is more profitable to a mason than dropping in precast rings and installing a precast slab.



Labor, design advice and a list.

Masons rarely act as general contractors--managing the design, material acquisition and build of a latrine. Instead, they provide some upfront design advice, a materials list and labor. The whole process can stretch into years as a family saves money to purchase materials and pay for the labor.

Sole operator.



Masons do not typically have relationships with ring producers or retailers. They do not recommend specific shops and they do not do the shopping. The materials that they request are available from any shop.

Building the ideal.



When a villager engages a mason, it's typically in order to build an ideal latrine. These are expensive projects with anywhere from 30-100USD in mason labor charges. There was no evidence of mason engagement in the building of simpler, lower-cost latrines.

My work is my business card.



Masons rely on their previous work to act as a testament to their skill and as an advertisement for their work. When other villagers ask a latrine owner about their nice concrete latrine, the mason can get a referral.

Err in their ways.



Though experts in construction, masons are not always experts in sanitary latrine design. The latrines they build often are designed to overflow into fields or ditches during wet season and may decrease the positive health impact of building latrines.

Retailers

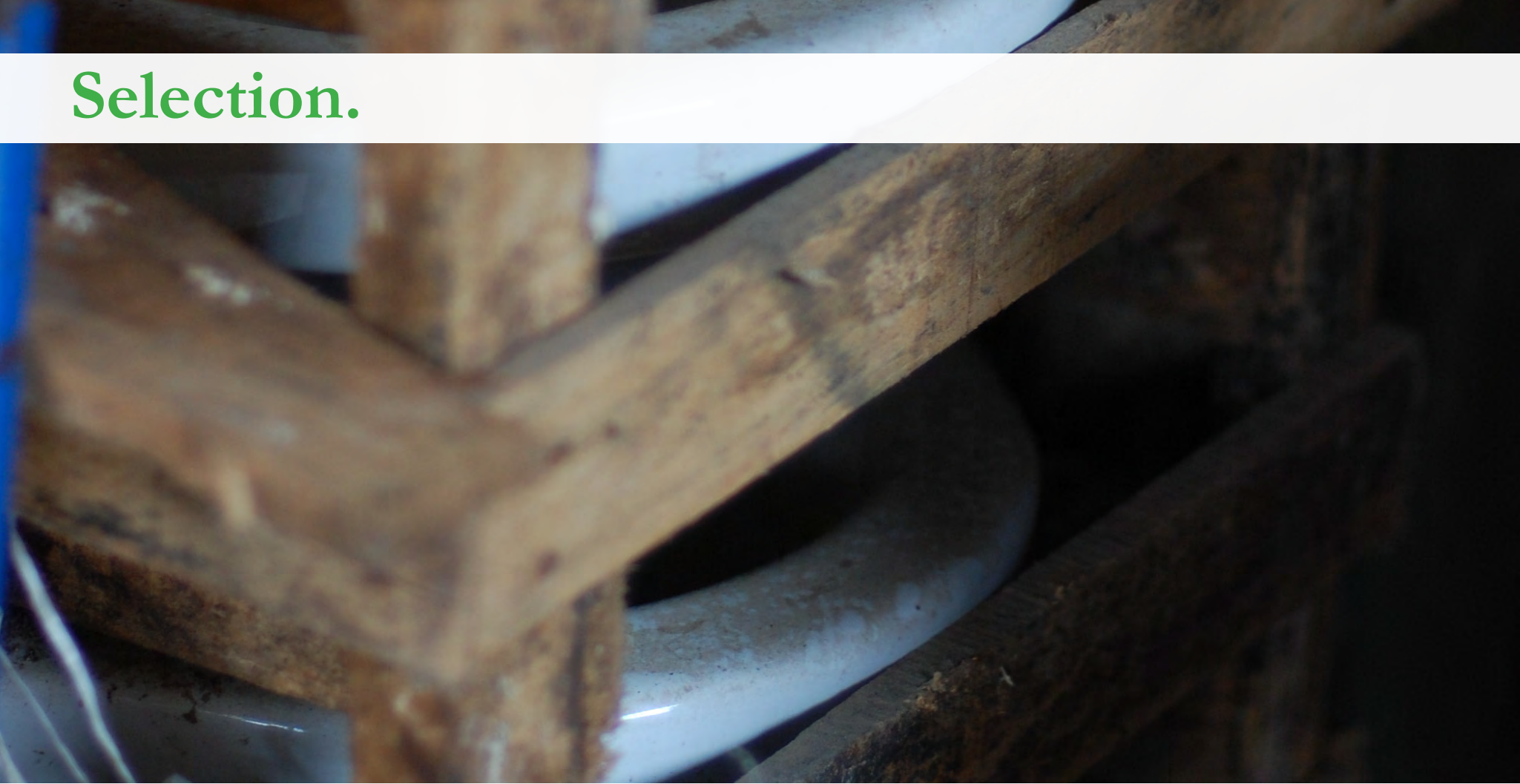




Brick money.



Bricks are the big money in latrine sales. When customers are shopping on price, they compare brick prices and will often choose a retailer based on the brick quote. Though retailers make money on bricks, they often raise prices on the subsequent items (e.g., cement, pan) to recoup money from the brick discounting.



Selection.

Since latrine sales rarely exceed 30% of retail income, retailers must closely manage the latrine-specific inventory they stock. There are Thai, Chinese and Vietnamese porcelain pans available at three respective price points (~\$13, ~\$10, ~\$8) and different qualities. To the consumer, they're mostly indistinguishable.

Sourcing.



All imported or mass-manufactured components sold in the retail environment come via a distributor. Typically this distributor delivers to the stores. Any latrine components of this kind must make it into this channel.

Calling card.

សោម ប៊ុនចិន
លក់គ្រឿងសំណង់គ្រប់ប្រភេទ និង ប្រព័ន្ធប្រោសស្រព
ដោយជំនាក់ទឹក (ផ្ទៃម)

ផ្សារស្វាយជ្រំ ឃុំតាសួស
ស្រុកស្វាយជ្រំ ខេត្តស្វាយរៀង
Tel: 011 204 832

វិក័យបត្រ
RECEIPT

ថ្ងៃទី.....ខែ.....ឆ្នាំ ២០០.....

ល.រ	រាយនាមទំនិញ	ចំនួន	តំលៃរាយ	តំលៃសរុប
1	ទឹកស្រា 1.9			
2	ទឹកស្រា 1.9			

Branding, advertising and differentiation are nearly non-existent. Branded receipts seem to be the sole exception. Competitive advantage rests quoting lower prices and selling to people who are friends and acquaintances.

Handwritten notes on a piece of paper, likely a receipt or ledger, showing calculations and amounts in Indian Rupees (₹).

Top section (faint, possibly crossed out or written over):

- 110000
- 112500
- 98000

Bottom section (clearer):

- 950 = 90000
- 920 2 2 = 3000
- 1 = 6000
- 27 1 2 = 8000
- 100 20 2 = 141500
- 100 = 141500

A box at the bottom right contains the number: 000000b

Creditor. . .



Retailers (and ring producers) will readily issue zero-interest credit to customers. Friends always. And sometimes for others who live close by--it is easier to chase them down. There is always some money put down and the balance is often paid back quickly. If they didn't issee credit, they would expect a lot fewer sales.

... and reluctant debtor.



Retailers will also take loans in order to purchase inventory that will be sold shortly. They would much prefer, however, to only pay their distributors once they've sold an item. . . The IDE drip irrigation system seems to be highly regarded in this aspect.

Transport.



Retailers (and ring producers) often bake transport fees into their sales prices. At certain volumes (e.g., >2000 bricks sold), the transport may be free. Often there is a discount if transport is handled by the customer. Transport can add 5-30% to the cost of an item, depending on weight, distance and road condition.

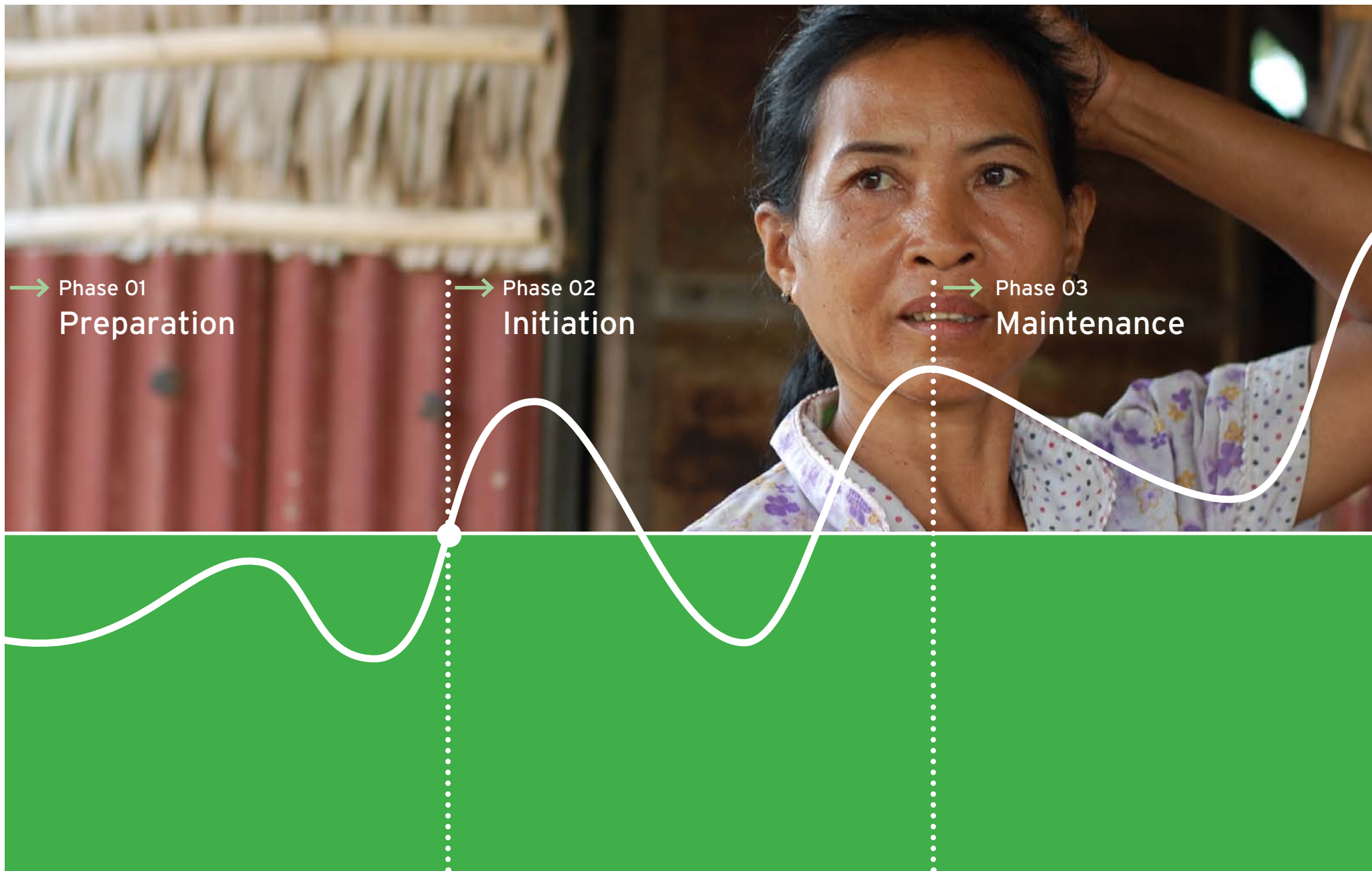
Villager Journey.

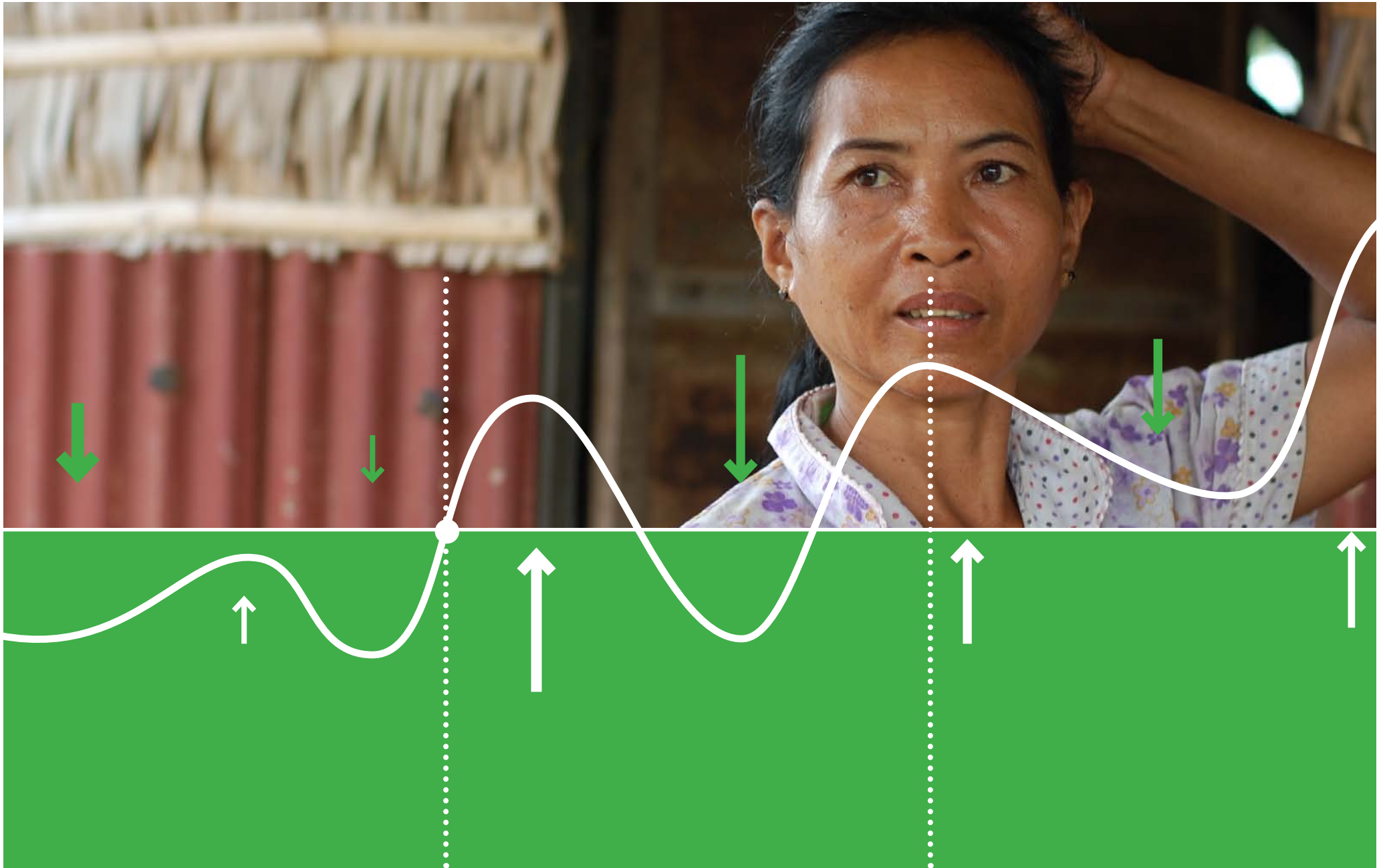
Insights Presentation.

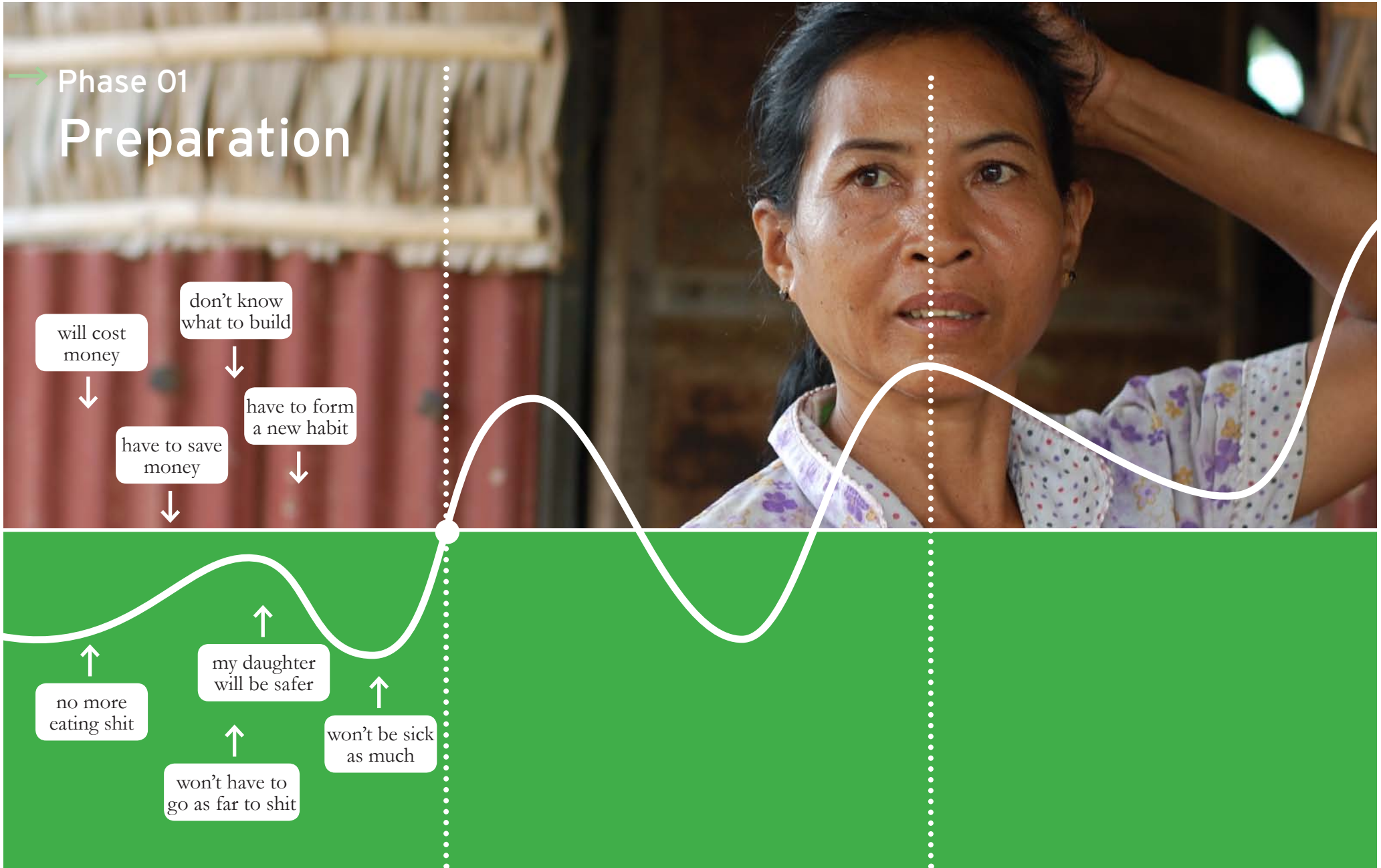
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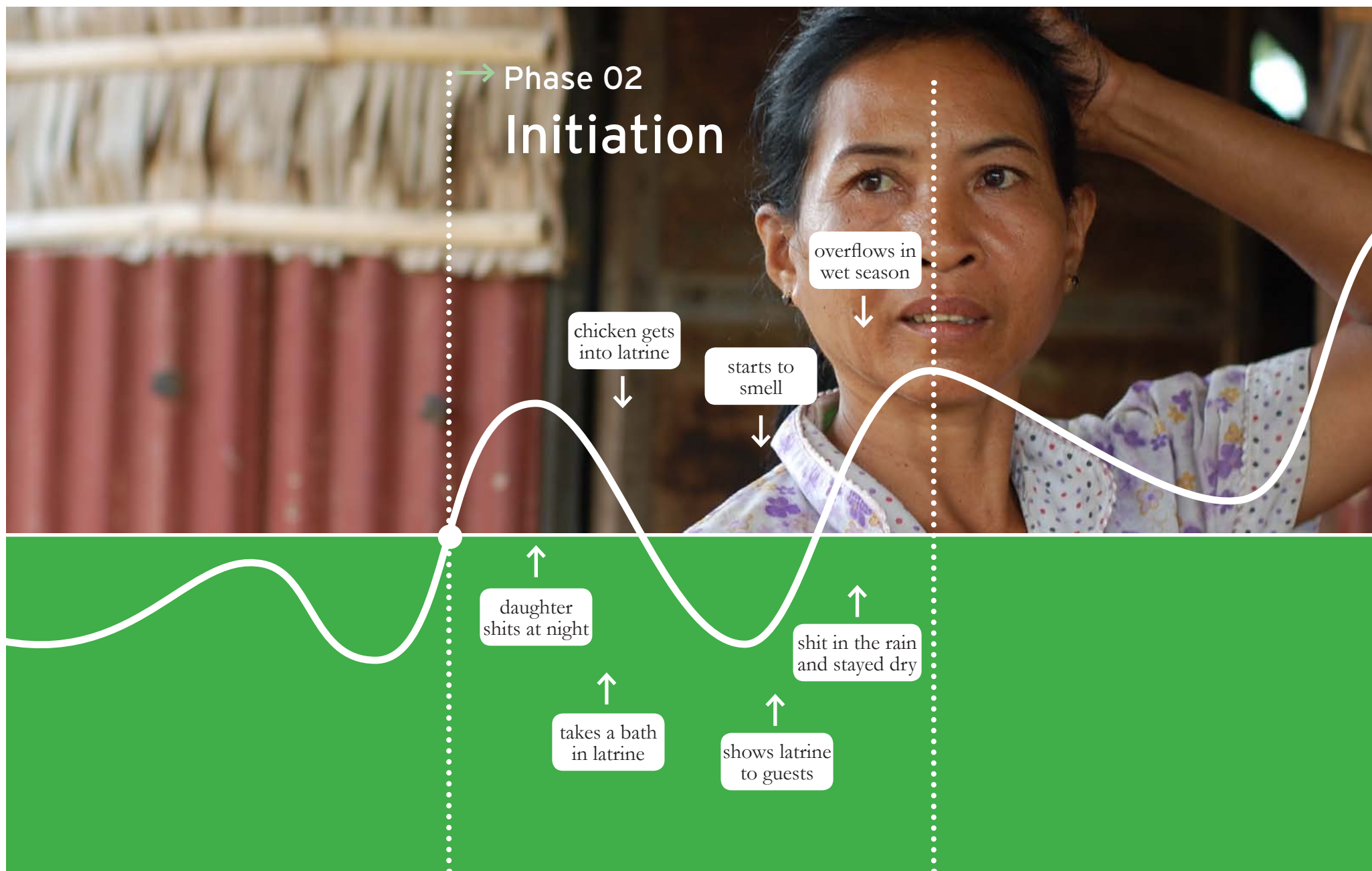
LATRINE BUILDING THRESHHOLD

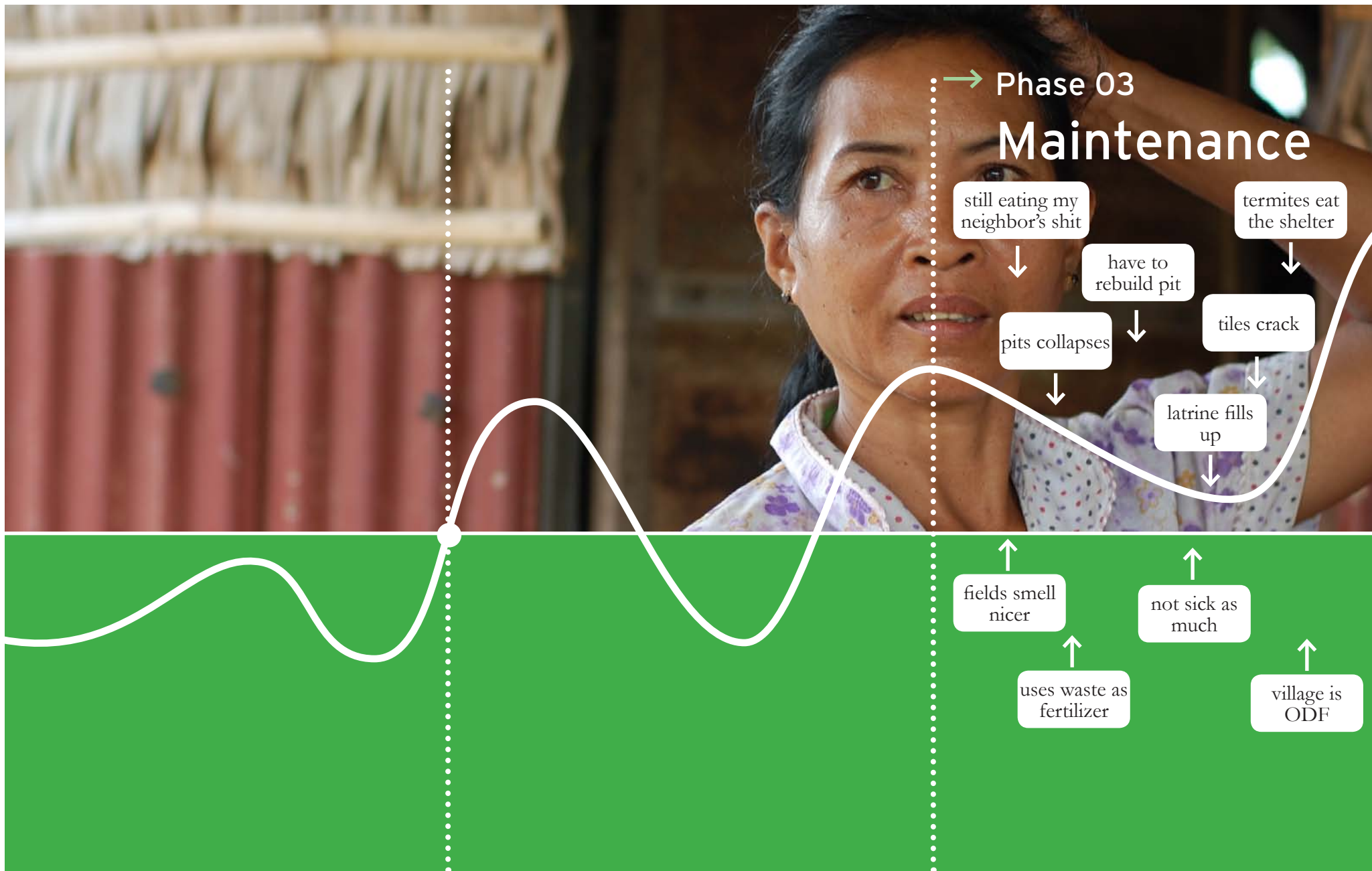






Phase 02 Initiation

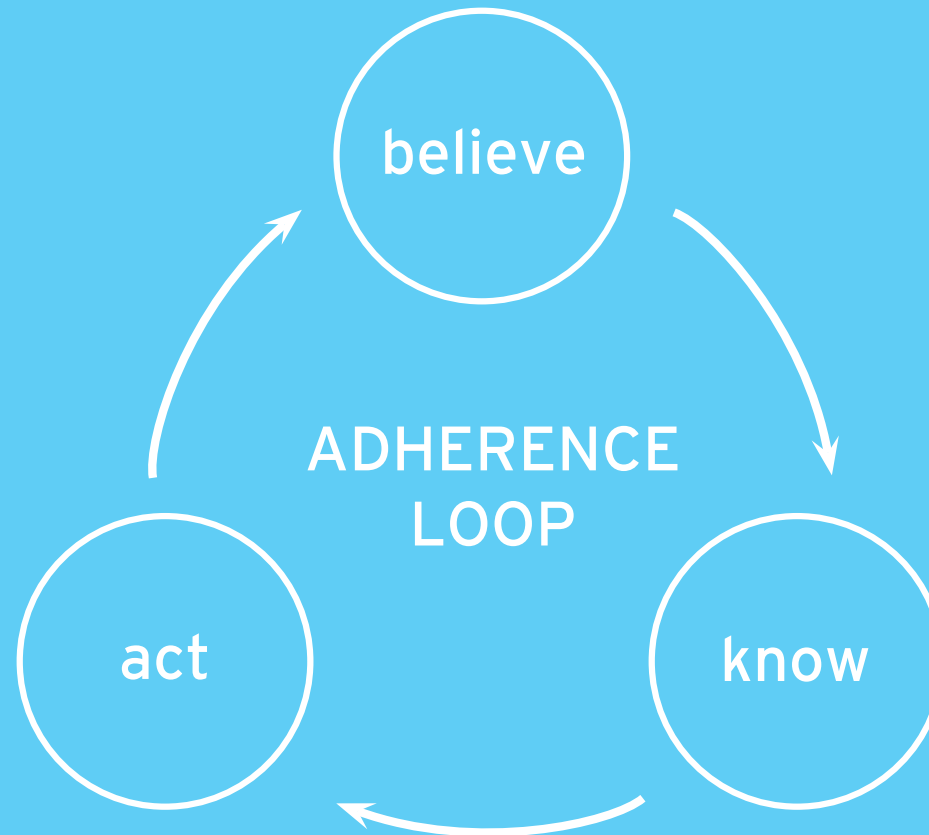




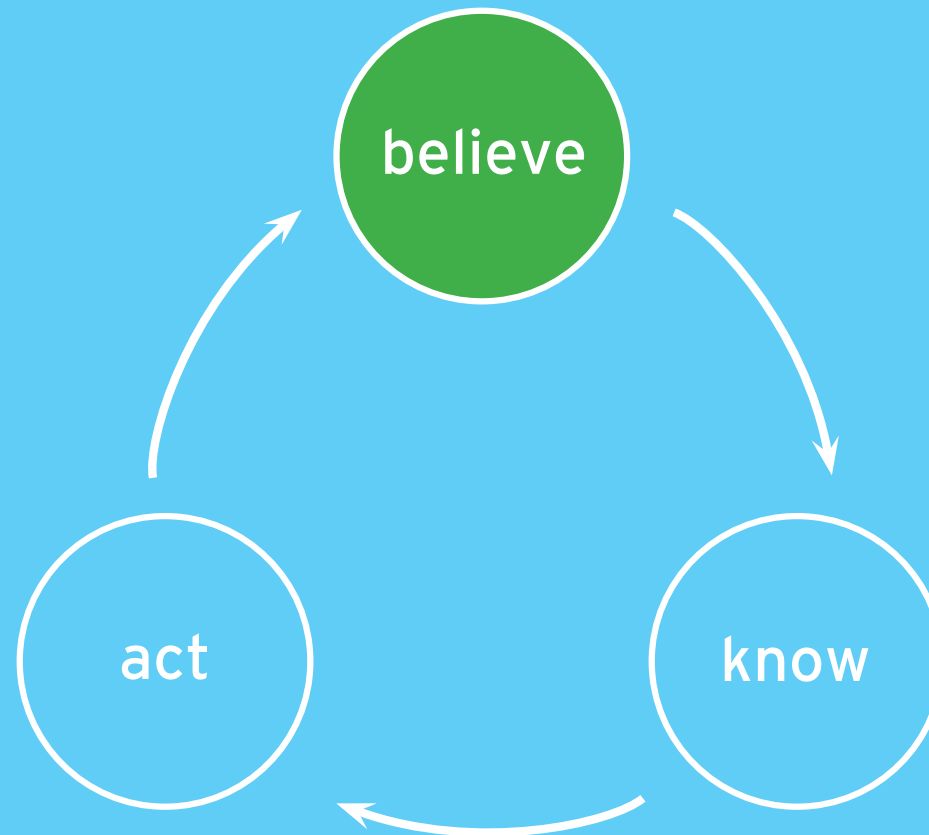
Framework for CLTS and Sanitation Marketing.

Insights Presentation.

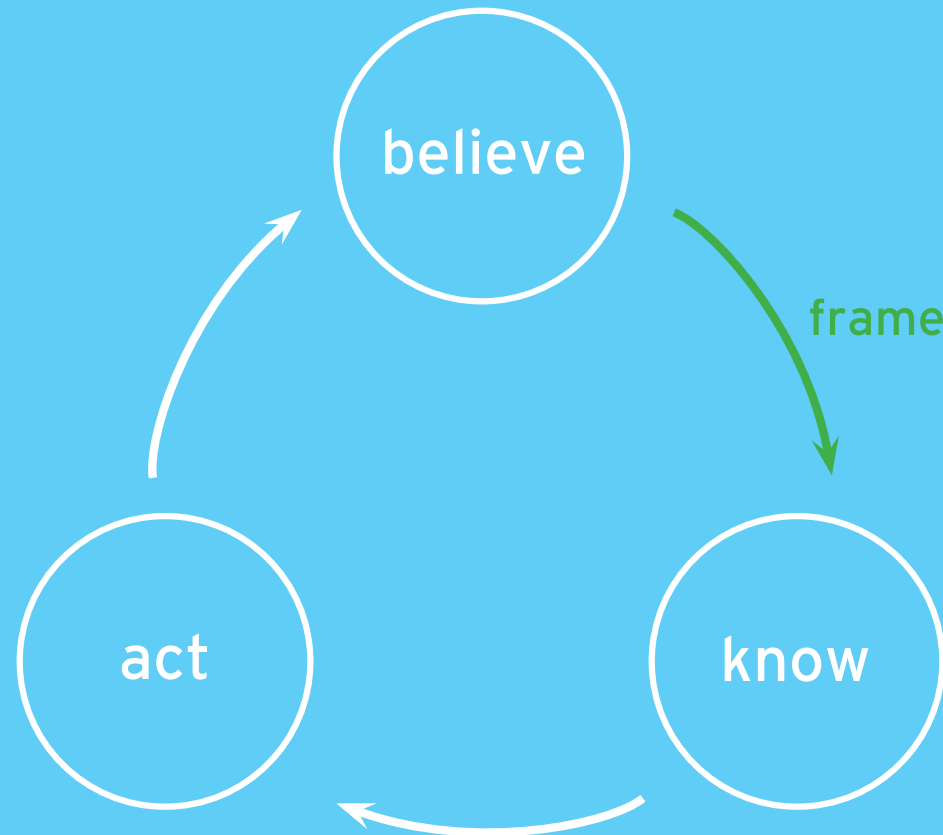
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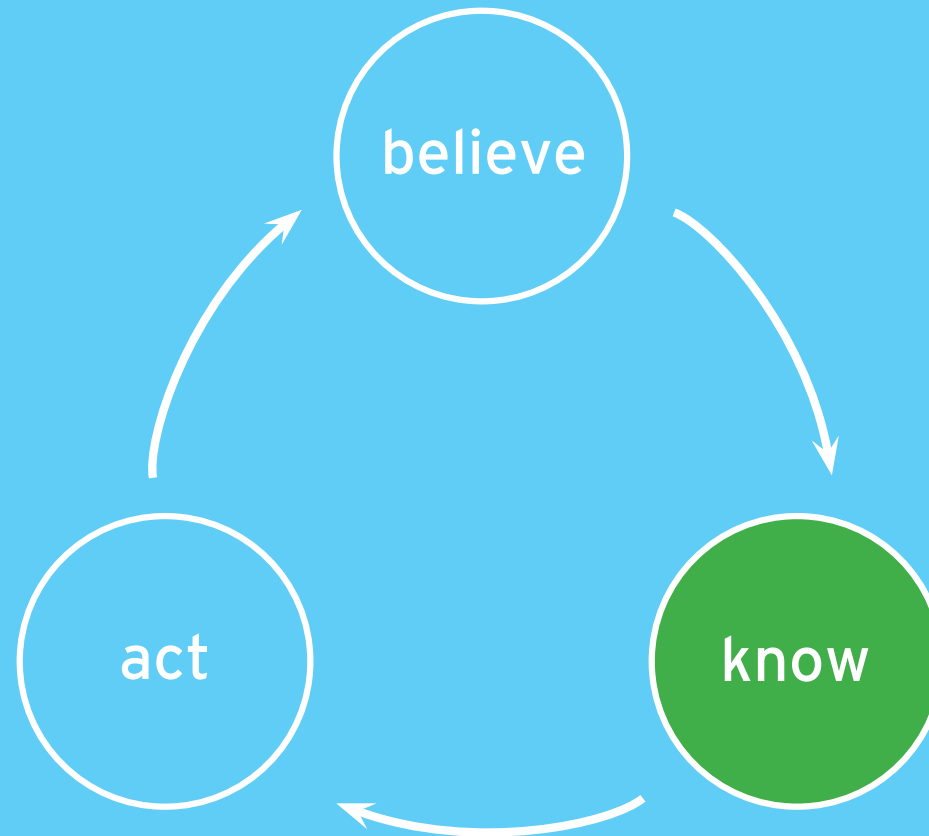
The Adherence framework illustrates opportunities to enable everyone to believe in latrines, to know how to build, use and maintain them and to be able to act on that knowledge. Breaking the loop will lead to failure to use latrines properly or at all.



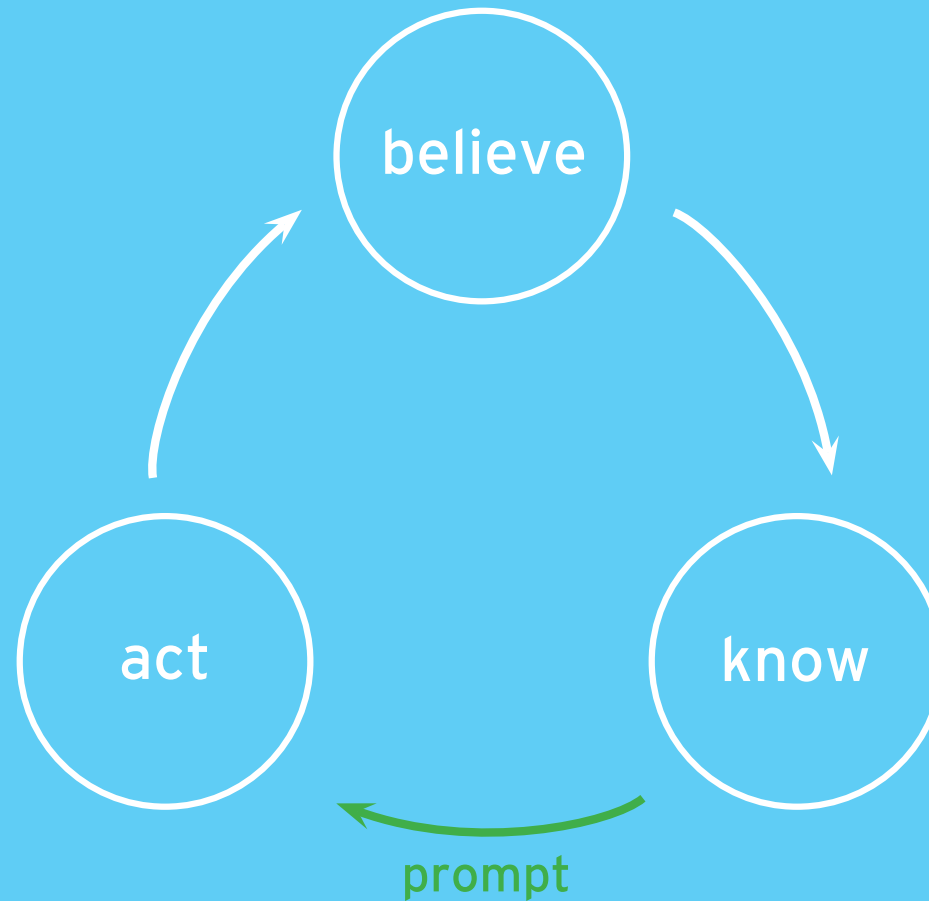
Villagers need to believe that open defecation is a problem and that a latrine can solve that problem. They need to believe in their ability to build, use and maintain a latrine.



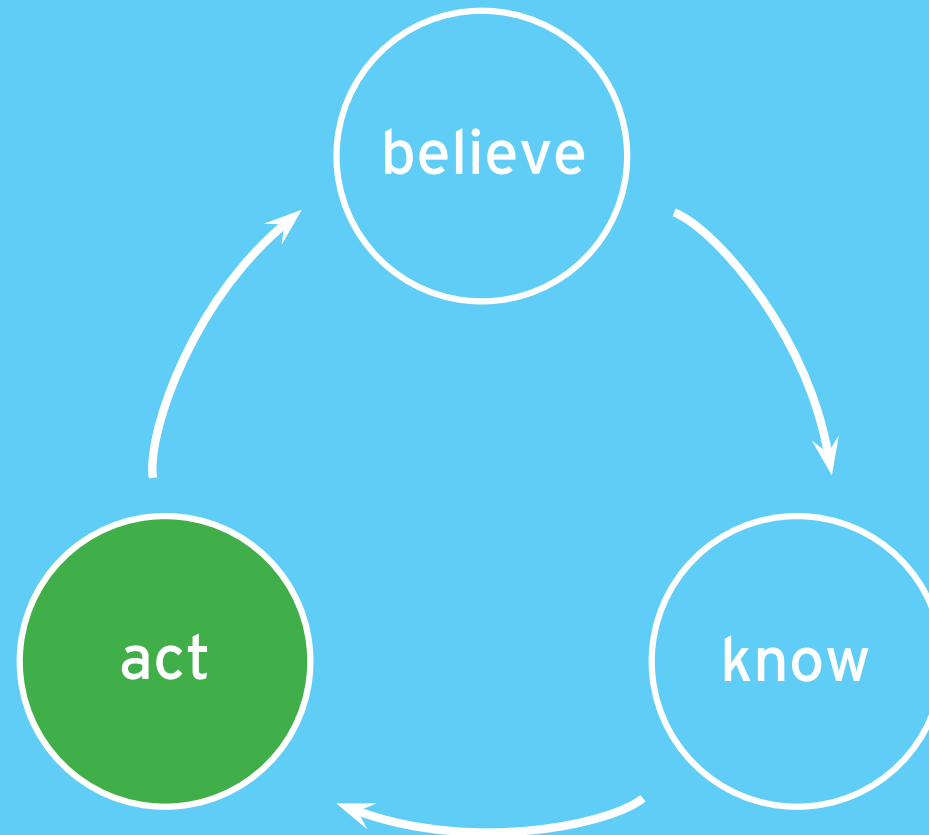
Villagers need to build a mental model of proper sanitation and the effect of latrines. They need to understand the consequences of not having a latrine. And they need to establish a balance between the costs of owning and using a latrine and competing goals and needs.



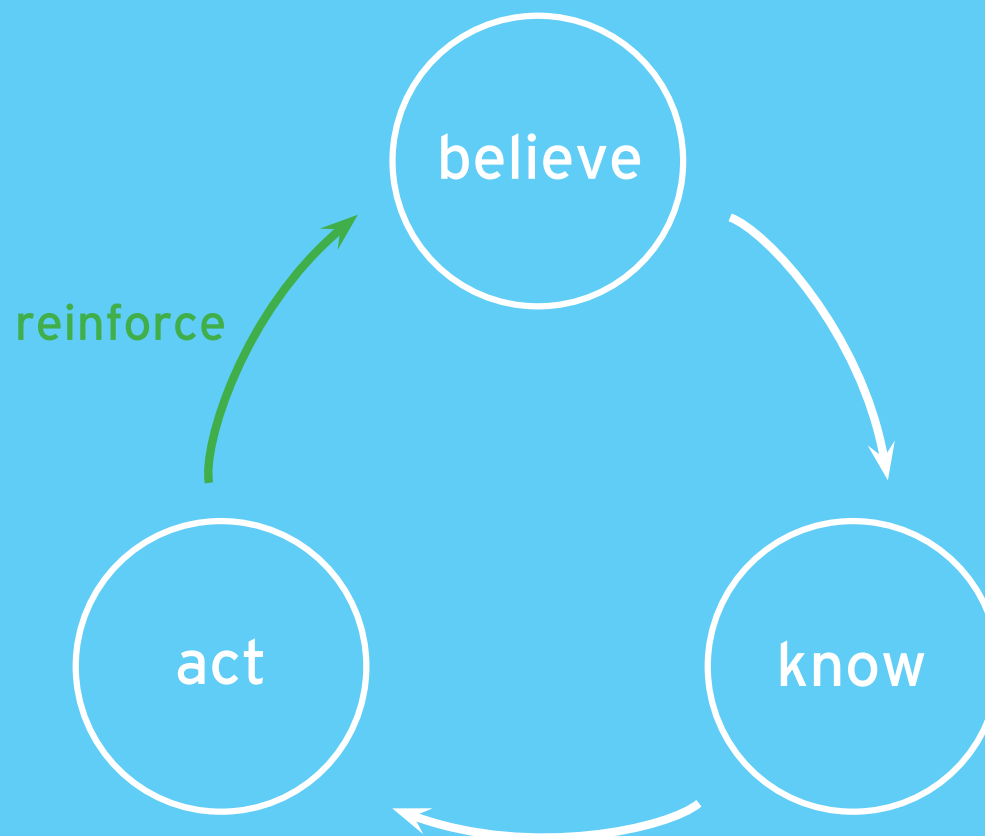
Villagers need to know what to do (build a latrine, use a latrine, empty a latrine), how to do it and when to do it. Clear instructions are needed. Expected outcomes should be understood.



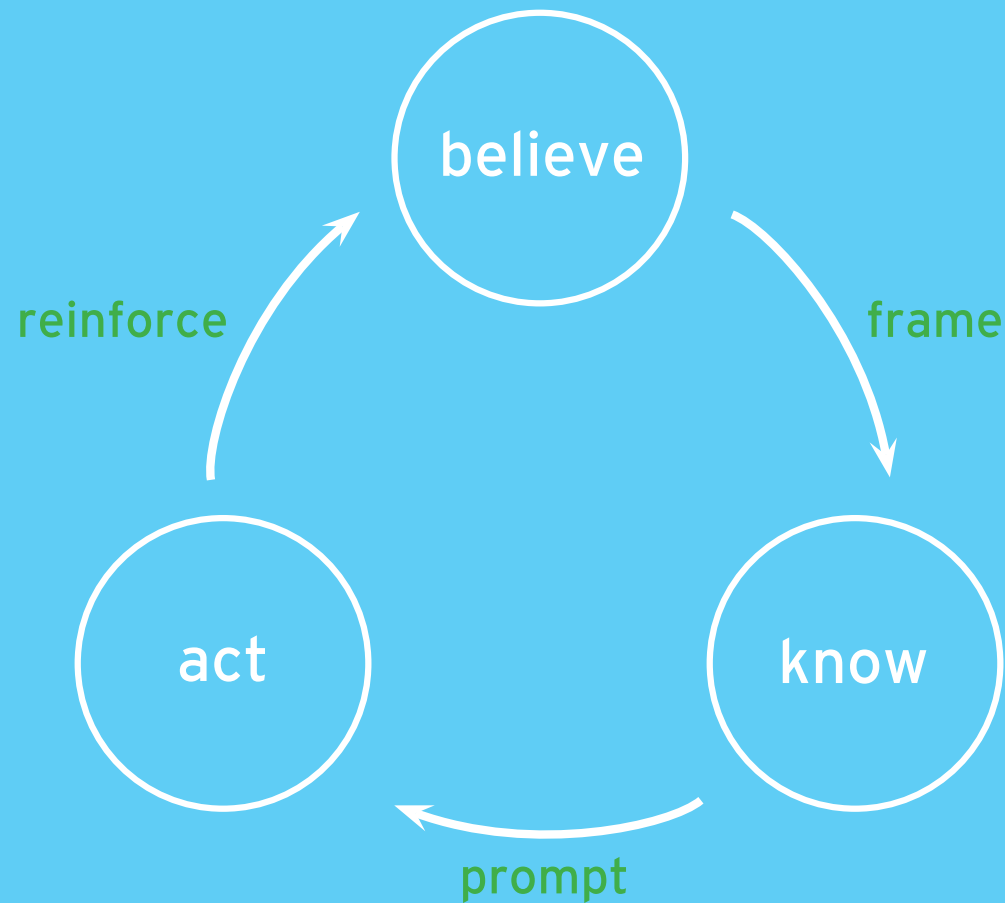
Knowing is often not enough. Villagers need to be reminded to build a latrine, to use their latrine, to upgrade their latrine or to empty their latrine. Much time may pass between developing a belief in latrines and having the resources to act, so reminders are needed.



Prompting, based on establish belief and knowledge, leads to the decision to act. But reminders are not enough. Villagers must have physical, cognitive, emotional and financial ability to build, use and maintain a latrine.



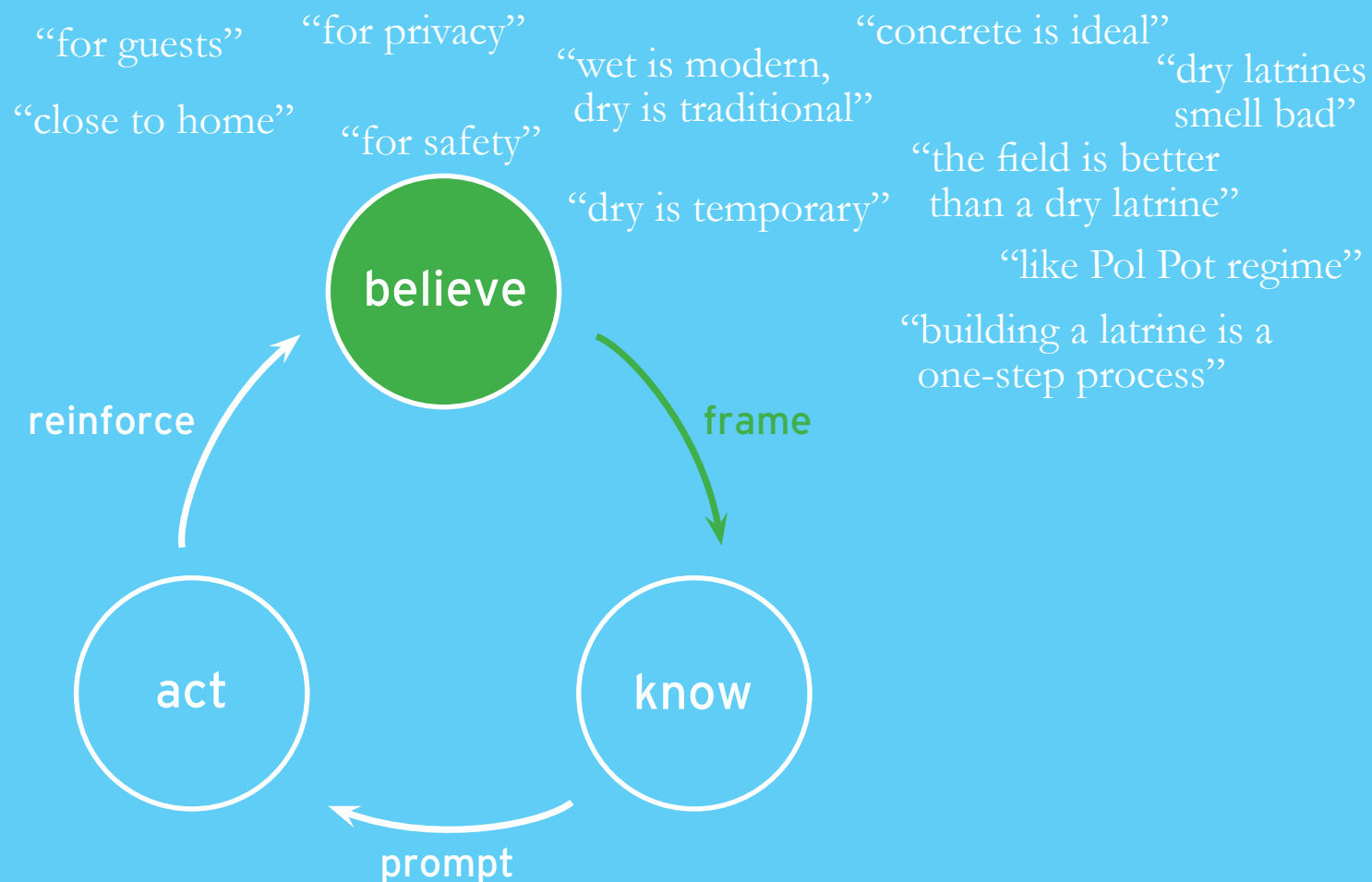
Latrine building and usage should provide feedback to reinforce belief: that open defecation is a problem and that a latrine is a good solution to the problem.



When applied in more detail to open defecation, latrines and CLTS, issues become apparent at all stages of the villager journey. . .



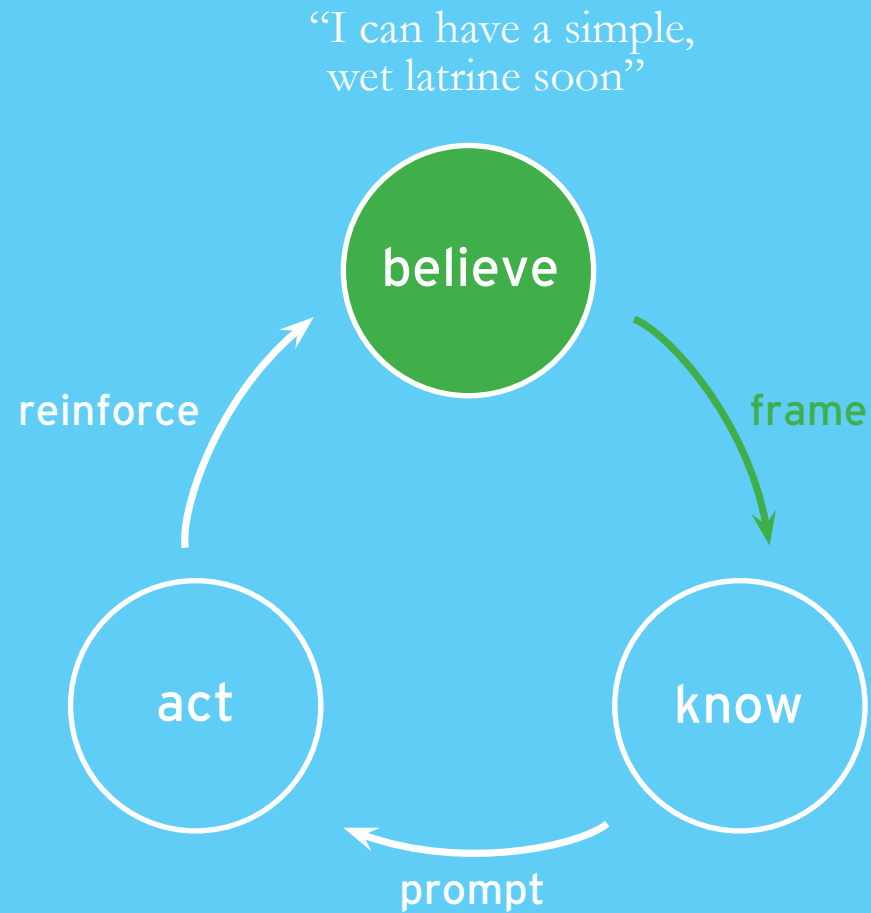
Existing beliefs and framing. . .



CLTS effect. . .



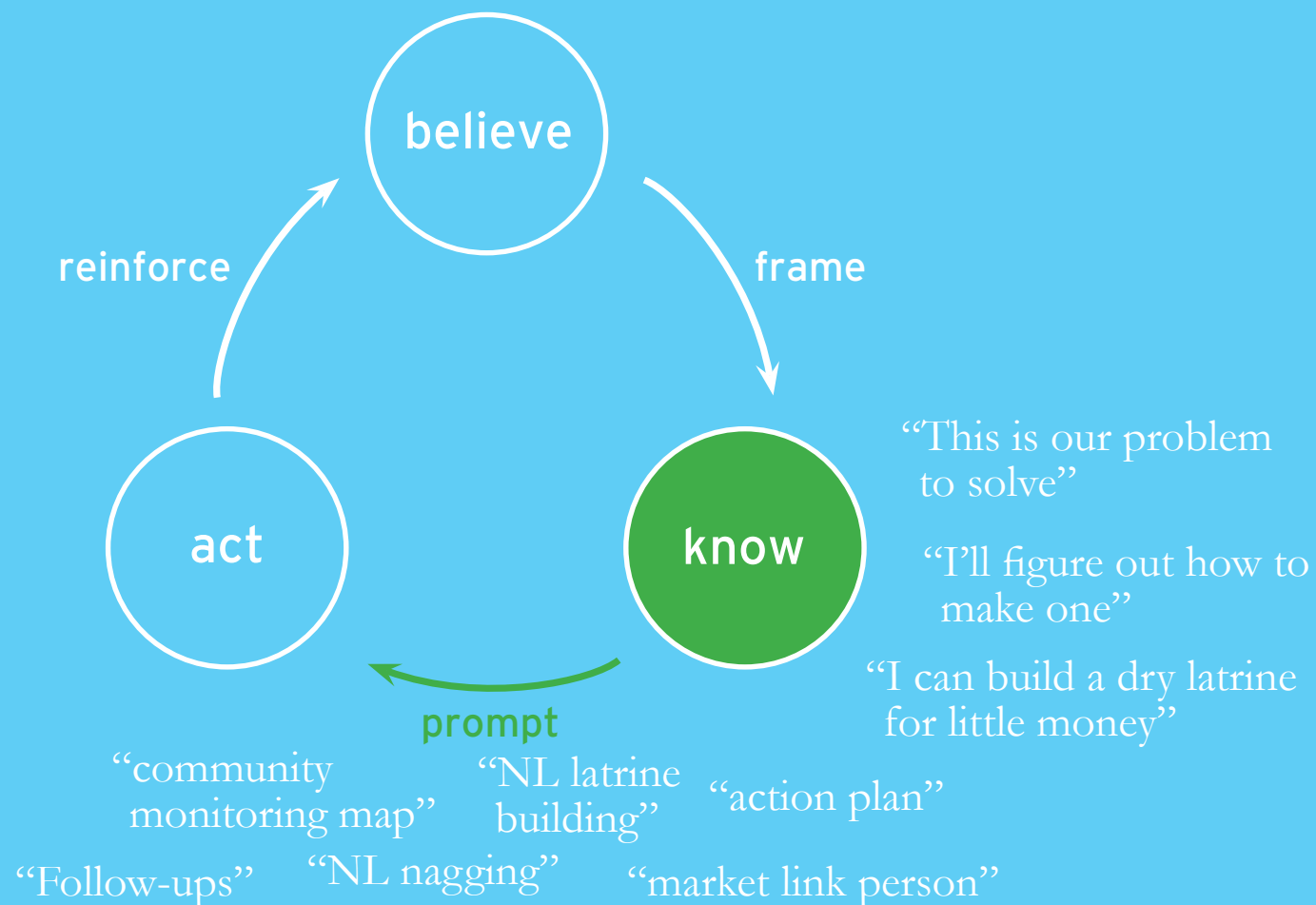
Potential IDE effect. . .



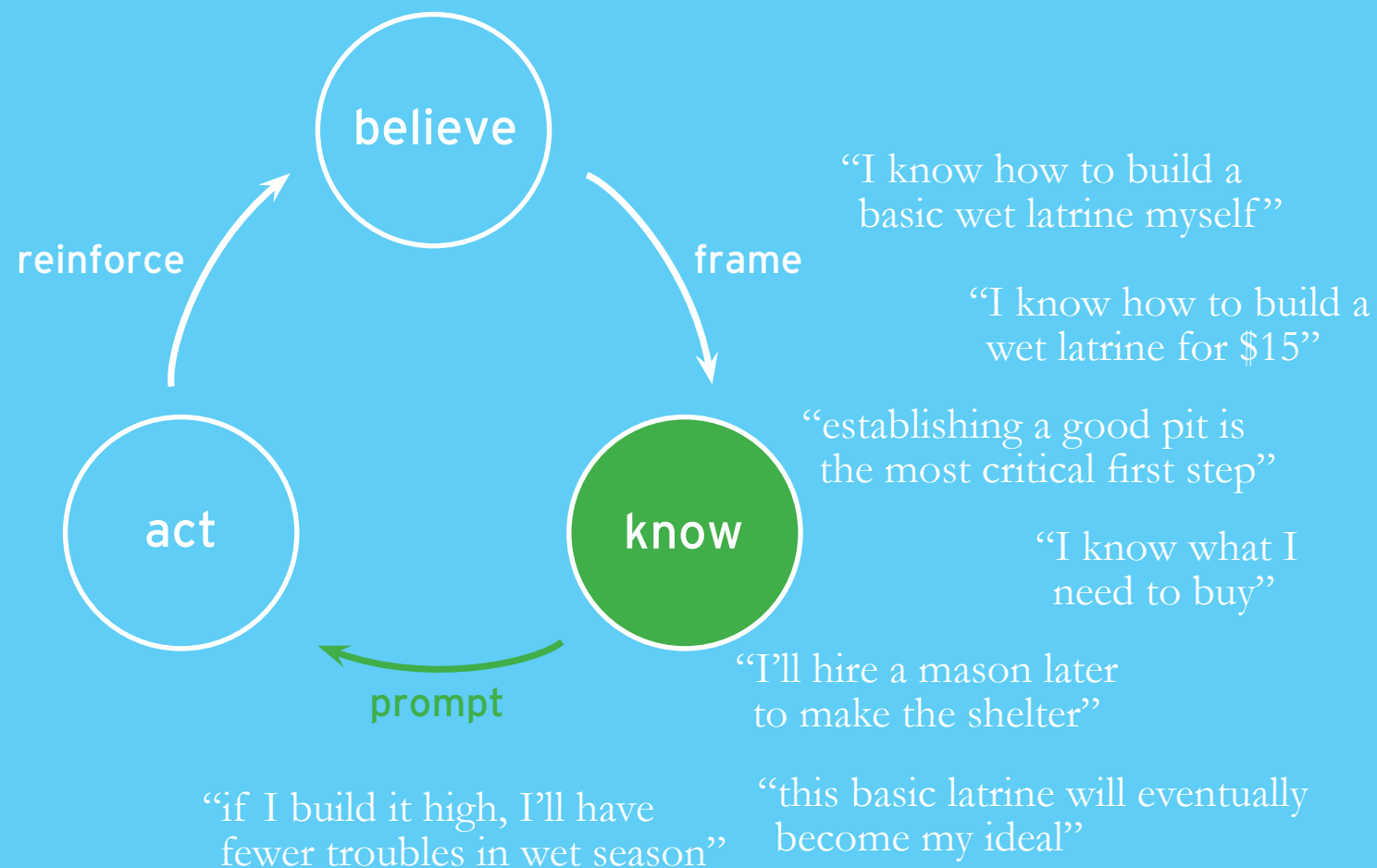
Existing knowledge and prompts. . .



CLTS effect. . .



Potential IDE effect. . .



Existing actions and reinforcements. . .

“smell is awful”

“my kids use it”

“pit collapsed”

“my guests can use it”

“chickens got in it”

“I can take a bath in it”

“so many insects”

“I’ve had this cheap latrine for 8 years.”

“daughter is safer”

reinforce

“it’s closer to home”

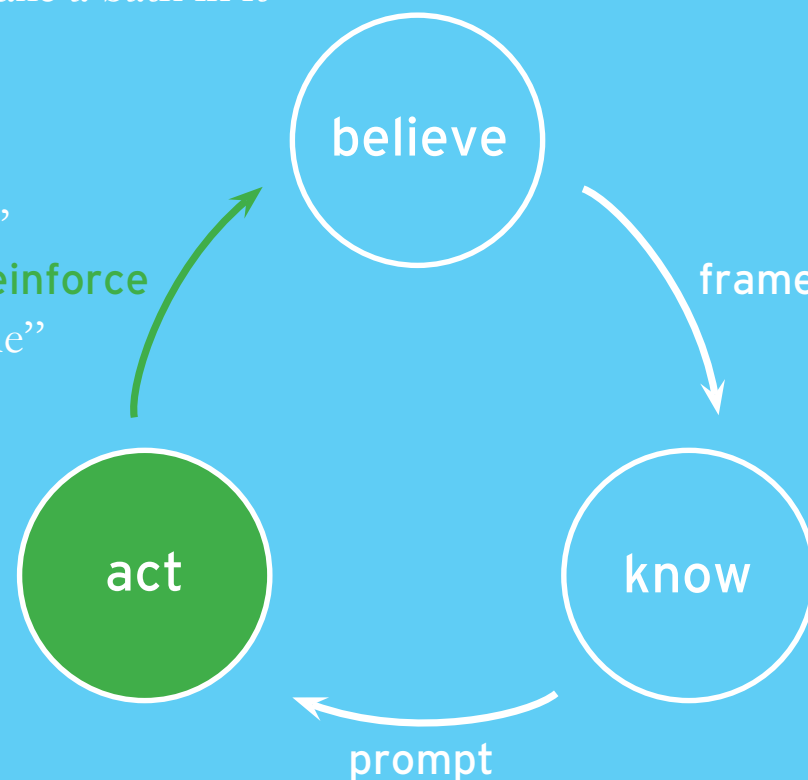
“pit overflowed”

“built a dry pit latrine”

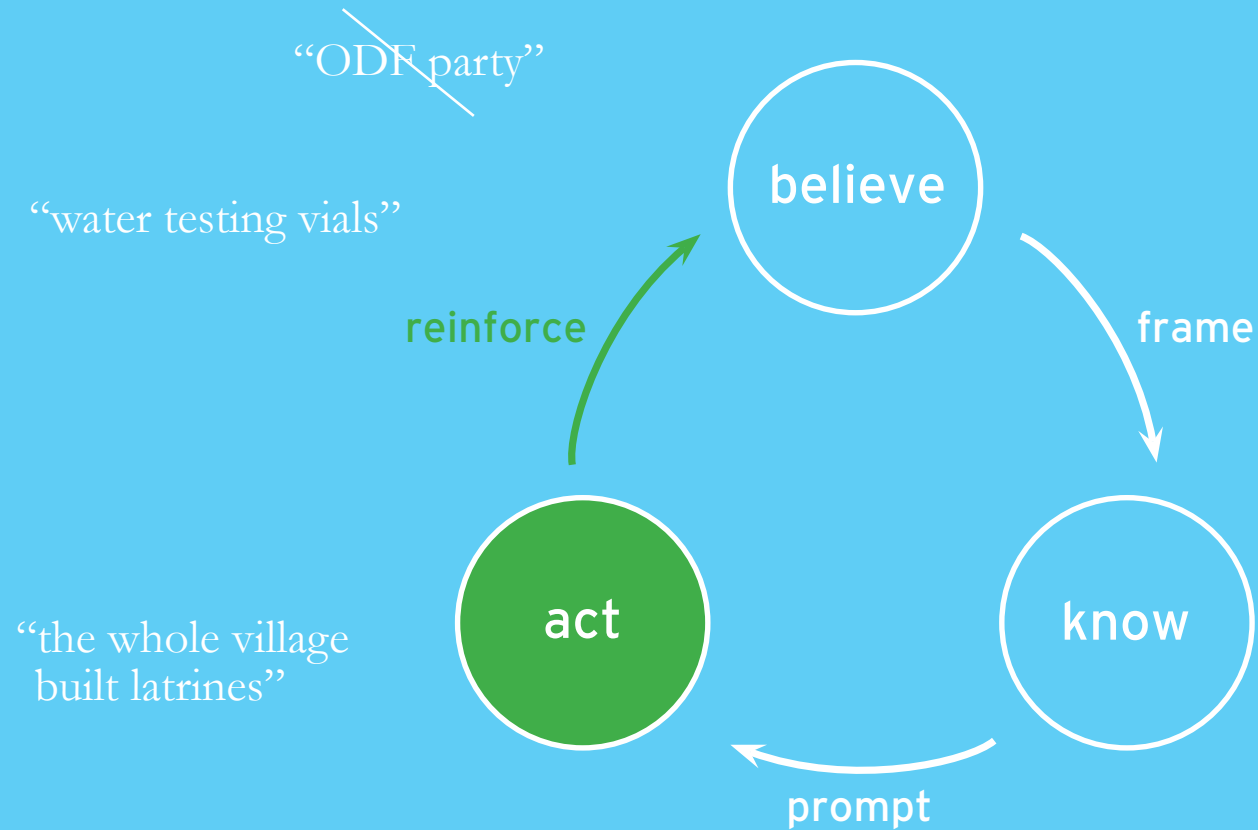
“spent \$1 on my latrine”

“built a concrete latrine”

“spent \$500 on my latrine”



CLTS effect. . .



Potential IDE effect. . .

“doesn’t smell”

“have my ideal latrine!”

“don’t redig pit”

“my kids use it”

“chickens stay out”

“my guests can use it”

“no insects”

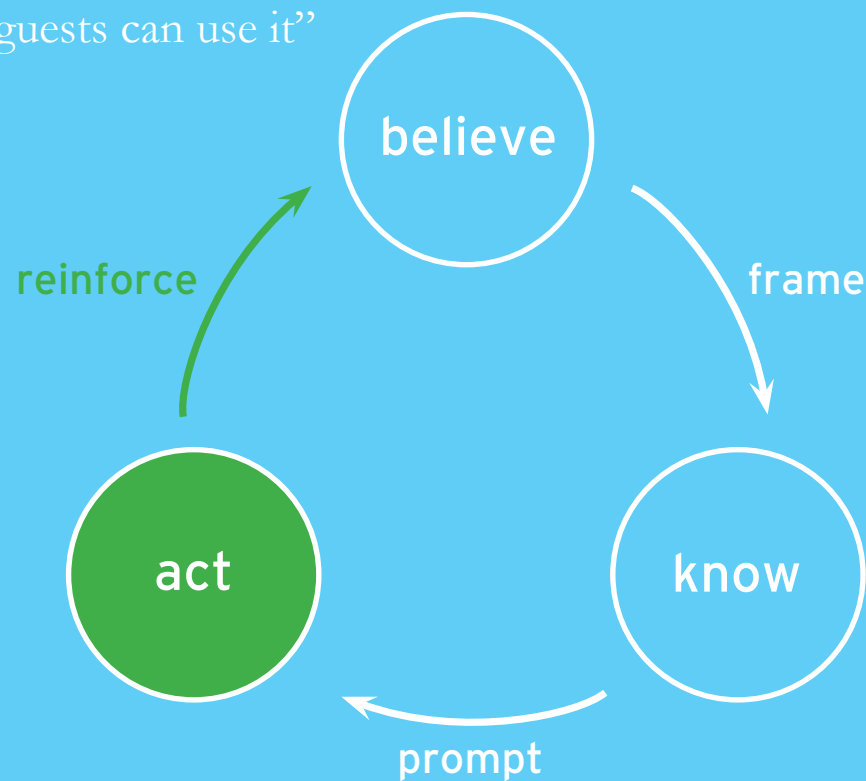
“added a door this year”

“built brick walls this year”

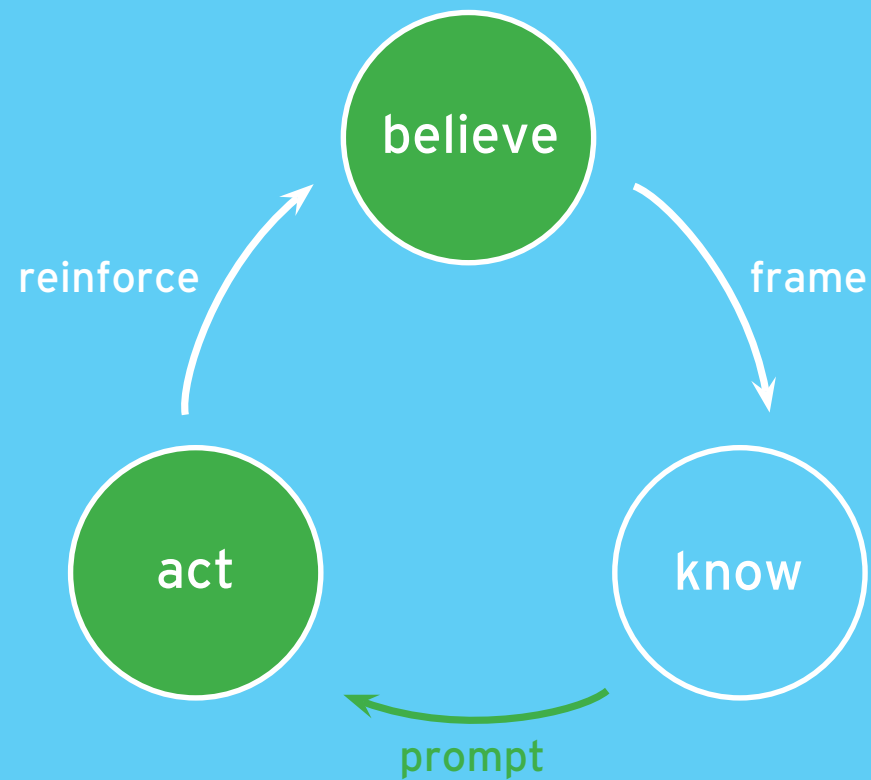
“the whole village built wet latrines”

“added a second pit this year”

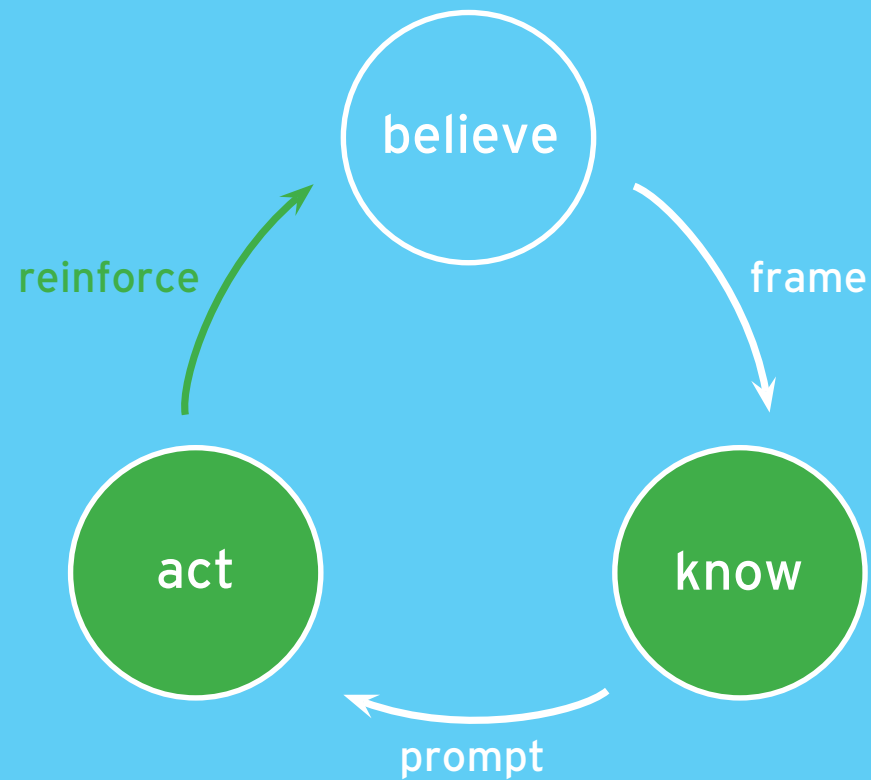
“built a wet latrine by myself”



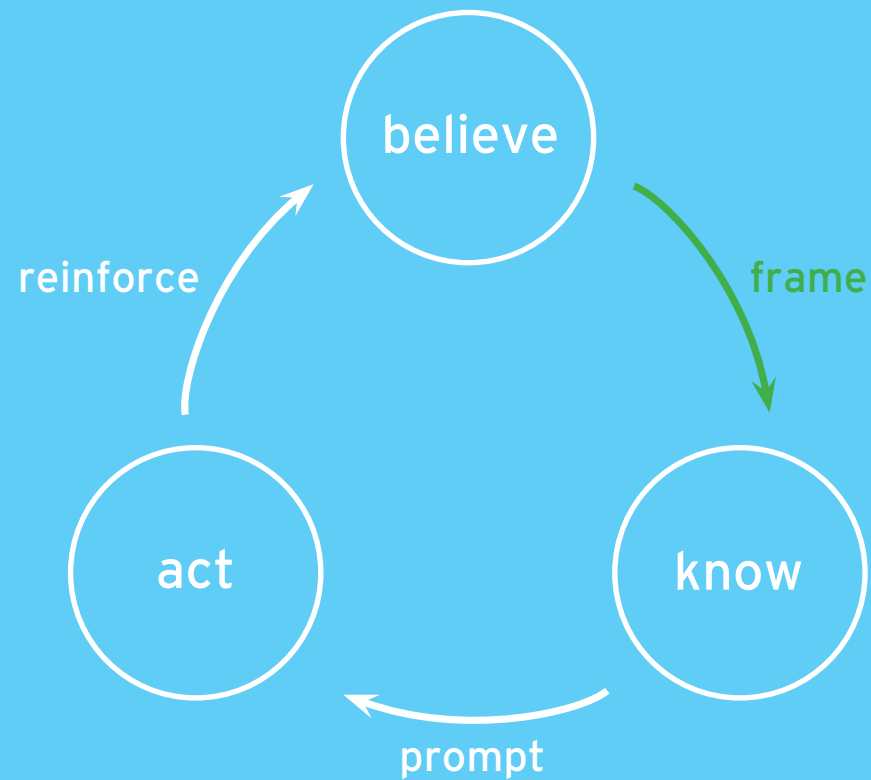
CLTS strengths. . .



IDE improvements. . .



Still missing. . .



Initial Design Principles & Assumptions.

Insights Presentation.

- Our Goals.
- Latrine Primer.
- Research Overview.
- Initial Observations.
- Villager Journey.
- Framework for CLTS and Sanitation Marketing.
- Initial Design Principles & Assumptions.

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Questions? Comments?

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