

2020-21

Formative research report

Latrine construction

National Rural Water
Supply and Sanitation
Programme



upward
spiral

Mozambique



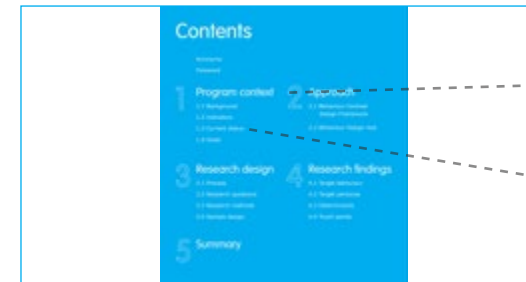
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Acronyms

BCD	Behaviour Centred Design
CEDES	Capacity Enhancement for Decentralised WASH Services
FCDO	Foreign, Commonwealth and Development Office
LSHTM	London School of Hygiene and Tropical Medicine
ODF	Open Defecation Free
PRONASAR	National Rural Water Supply and Sanitation Programme (PRONASAR in Portuguese)
SDGs	Sustainable Development Goals
WASH	Water, Sanitation and Hygiene

Credits

SNV and Upward Spiral, 'Formative research report', *Mozambique | Sanitation – Latrine construction | 2020-21*, The Hague, SNV, 2022.

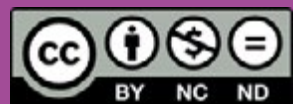
Authors: Zainabo Salvadaor, Timba Pedro, Balaji Gopalan and Nipa Desai

The views expressed in this document are those of the authors and do not necessarily reflect the view of SNV Netherlands Development Organisation, PHED, Water for Women Fund or Upward Spiral.

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About PRONASAR



PRONASAR is the Mozambican Government's National Rural Water Supply and Sanitation Programme. PRONASAR was founded in 2010 and to date approximately 21,300 water sources and 700,000 latrines have been built or rehabilitated under the programme.

About SNV



SNV is a not-for-profit international development organisation that makes a lasting difference in the lives of people living in poverty by helping them raise incomes and access basic services. We focus on three sectors and have a long-term, local presence in over 25 countries in Asia, Africa and Latin America. Our team of more than 1,300 staff is the backbone of SNV. For more information: www.snv.org

About FCDO



At FCDO (Foreign, Commonwealth and Development Office), we pursue our national interests and project the UK as a force for good in the world. We promote the interests of British citizens, safeguard the UK's security, defend our values, reduce poverty and tackle global challenges with our international partners. For more information visit the [website](#)

About Upward Spiral



Upward Spiral specialises in designing and delivering effective behaviour change interventions to create social impact at scale. It has worked extensively in the WASH sector across Asia and Africa. It is currently piloting the Behaviour Design Hub for SNV, a new model for program design for multinational foundations. Under the hub, program managers learn to design effective interventions through a 'learning by doing' approach.

[Contents](#)

Foreword



This project is part of the Behaviour Design Hub, an innovative approach to design behaviour change programmes simultaneously across countries. As part of the hub, five SNV Country Teams across Asia and Africa went through a 'learning by doing' process i.e., learning the Behaviour Centred Design framework, while designing the intervention.

We are happy to share with you our findings from the formative research on sanitation, conducted in three districts - Alto Molócue, Ile and Maganja da Costa - of Zambézia Province, Mozambique.

We faced several challenges in conducting this formative research in the first year of the Covid pandemic. We had to postpone the research more than once and even change the research location from Nampula to

Zambézia Province. However, with proper safety protocols, we were able to complete the field research by October 2020.

We hope this report offers insights for the design of sanitation programs in Mozambique and elsewhere. We would love to hear from you, if you want to clarify any of the perspectives presented in this report. Or wish to add some of your own.

We would like to thank the following people and organisations for their support:

The rural community in the districts of Alto Molócue, Ile and Maganja da Costa, for generously offering their time and perspectives, which are the foundation for this report.

Provincial Directorate of Public Works, Housing and Water Resources of Zambézia for helping organise the field research. Specifically, Mr. Fernando Maingue, for providing data on sanitation coverage in the province, and facilitating communication with the districts selected for field research.

Districts Government of Alto Molócue, Ile and Maganja da Costa specifically Arlindo Paulo Mario, Moises Albino Bernardo and Inacio Martinho (Government of Alto Molócue), Josefina Joao (Government of Maganja da Costa) and Deolinda Carlos Chilundzo (Governmento of Ile) for assisting with recruitment, translation and documentation.

UK (United Kingdom) Aid, for generously funding this project.

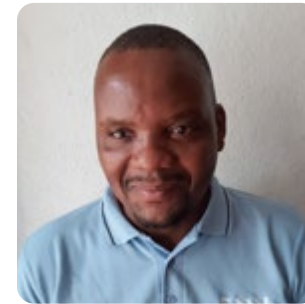
The London School of Hygiene and Tropical Medicine (LSHTM) for giving open access to the Behaviour Centred Design (BCD) framework.

Asahel Bush (CBM Australia) and Tshering Choden (SNV Bhutan), for guiding us in conducting research amongst Persons Living With Disability (PLWD).

Abilio Cuamba and David Afonso (SNV Mozambique) and Adam Biran (Consultant), for giving their inputs on research design and analysis.

Gabrielle Halcrow (SNV), for championing the Behaviour Design Hub pilot amongst the five participating countries.

Research team



Pedro Roberto Timba
SNV



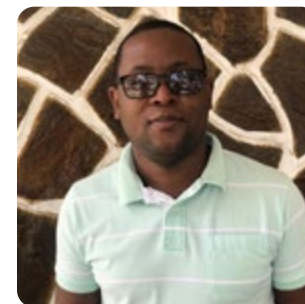
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Jose Pires
Provincial Water and
Sanitation Department
of Zambézia

Do write to us at ptimba@snv.org or bala@upwardspiral.in
Let's keep the sanitation conversation going!

Executive Summary

Programme context

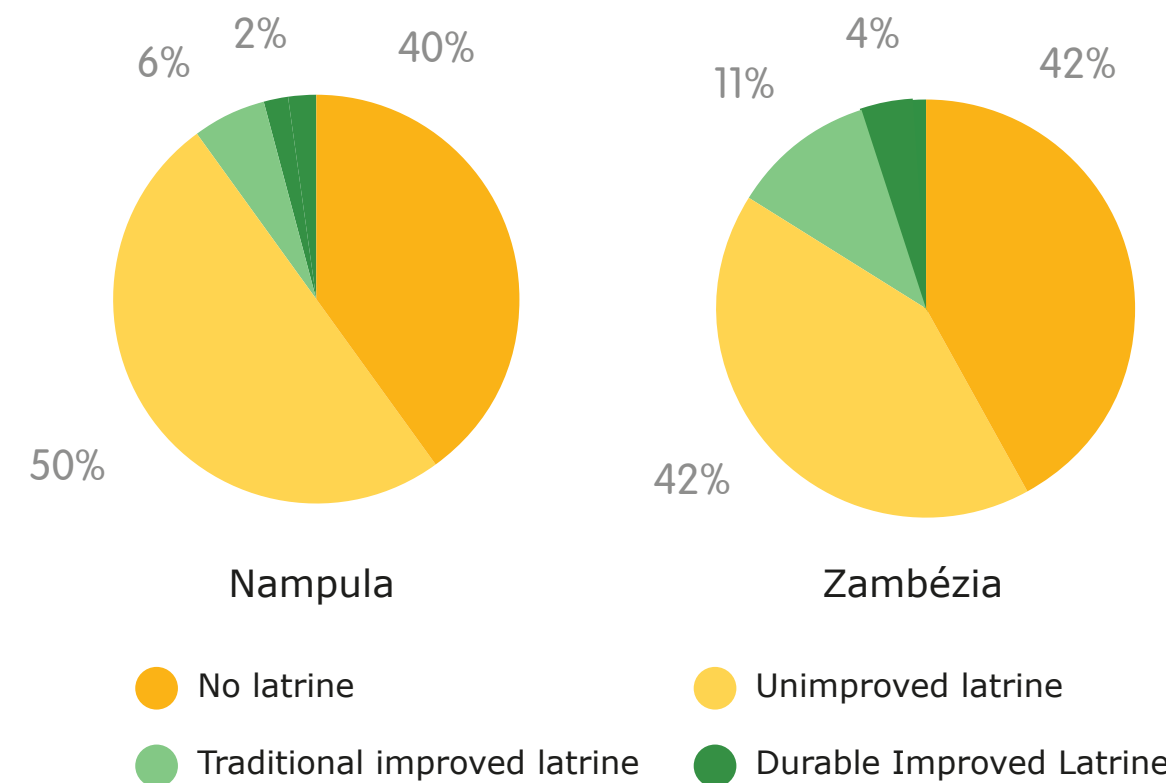
The CLTS (Community Led Total Sanitation) approach in Mozambique was successful in motivating households to build latrines. However, many of these latrines could not withstand the rains and collapsed over time. As a result, more than 50% of the communities declared ODF (Open Defecation Free) from 2016 to 2018 did not maintain their ODF status in 2019.¹ In both the project districts, Zambézia and Nampula, more than 40% households did not have latrines.² In this context, it becomes important to promote 'resilient' latrines i.e., latrines that can withstand the rains.

The CEDES (Capacity Enhancement for Decentralised WASH Services) programme's aim is to support the Government of Mozambique in achieving SDGs (Sustainable Development Goals). Specifically, in improving access to water supply, sanitation and hygiene services for rural communities. The programme covers 20 districts across two provinces, 10 each in Nampula and Zambézia. It is a result of the partnership between the Government of Mozambique and the British Government, through FCDO (Foreign, Commonwealth & Development Office).

¹National Water Supply and Rural Sanitation Program survey

Programme goals

In line with the Sustainable Development Goals (SDGs), Mozambique's vision is to become ODF by 2025. Currently, 42% households in Zambézia and 40% households in Nampula do not have a latrine. And 42% households in Zambézia and 50% households in Nampula have a unimproved latrine.² To realise the vision of ODF by 2025, these households with no latrine and unimproved latrine, need to build resilient latrines. Resilient latrines are built with materials that can withstand the rains such as bricks and sticks. In the indicators below, the improved and traditional improved latrines qualify as resilient latrines.



Note: Traditional Improved latrine is Mozambique government standard for an improved latrine built from local materials that will meet JMP Improved standard.

²Census 2017

Approach

Behaviour Centred Design

We used the Behaviour Centred Design (BCD) Framework, developed by Robert Aunger and Valerie Curtis of London School of Hygiene and Tropical Medicine. There are five steps in the BCD process: Assess (existing knowledge), Build (through formative research), Create (the intervention), Deliver (the intervention) and Evaluate (process and impact). This formative research report is an output at the end of the second step – Build.

Behaviour Design Hub

This project is part of the WASH Behaviour Design Hub comprising of five SNV country teams: Mozambique (Latrine construction), Tanzania (Solid Waste Management), Bangladesh (Faecal Sludge Management), Bhutan (Child Faeces Management) and Laos (Hand Washing With Soap). The objective of the hub is to design and deliver effective behaviour change interventions. And in the process, also enhance capacities of the programme teams.

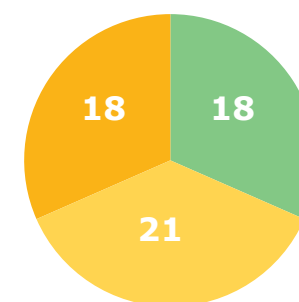
Research design

We used qualitative research methods such as Key Informant Interviews (KIIs), Focus Group Discussions (FGDs) and Rapid Site Observations (RSOs). The research was conducted in three districts in the Zambézia province: Alto Molócue, Ile and Maganja Da Costa. The districts were chosen based on coverage, soil type and ethnicity. Within each district, the households were chosen based on latrine ownership.

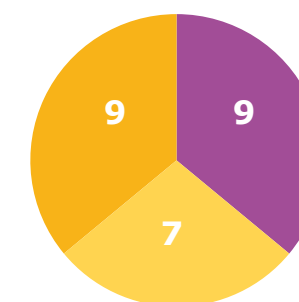
Geography

District	Coverage ³	Soil Type	Ethnicity
Alto Molócue	19.4%	Clayey and Rocky	E-Lomuwe
Ile	8.2%	Clayey and Rocky	E-Lomuwe
Maganja Da Costa	24.2%	Coastal and Sandy	Nharinga

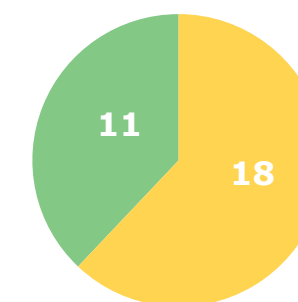
Latrine ownership



Key Informant Interview
Total: 57



Focus Group Discussion
Total: 25



Rapid Site Observation
Total: 29

● No Latrine
 ● Unimproved Latrine
 ● Improved Latrines
 ● Mixed

We ensured representation in terms of income, gender and persons living with disabilities. We also interviewed Government stakeholders, community leaders, service providers and media professionals. The research was conducted from September to October 2020.

³Government Sanitation Access Report, 2019

Target behaviour



Key finding

There is preference for resilient latrines in the target community. However, the type of latrine preferred varies based on availability of building materials and affordability.

Current latrines are not friendly for persons living with disability. They would prefer latrines that are easy to locate, access and use.

Recommendations

Promote different types of resilient latrines and help the community to choose the appropriate option.

Increase awareness of disability friendly latrine features and support in their construction.

Cost



Key finding

While resilient latrines are aspired for, the cost of construction is a barrier.

Recommendations

Bring down cost of construction by improving supply chain and training in latrine construction.

Motives



Key finding

Latrines are low on the list of priorities. However, there are strong motives for constructing unimproved latrines (disgust with open defecation and convenience of nearby latrine over faraway open defecation sites) and for constructing resilient latrines (saving time and effort from rebuilding unimproved latrines every year and pride in owning resilient latrines).

Recommendations

Promote the resilient latrine by highlighting its benefits – saving of time and effort and status.

Disgust and convenience can be used to build the campaign narrative.

Touch points



Key finding

Besides radio, the community has very limited access to mass and digital media.

Recommendations

Interpersonal communication will be a critical delivery channel to motivate the community.

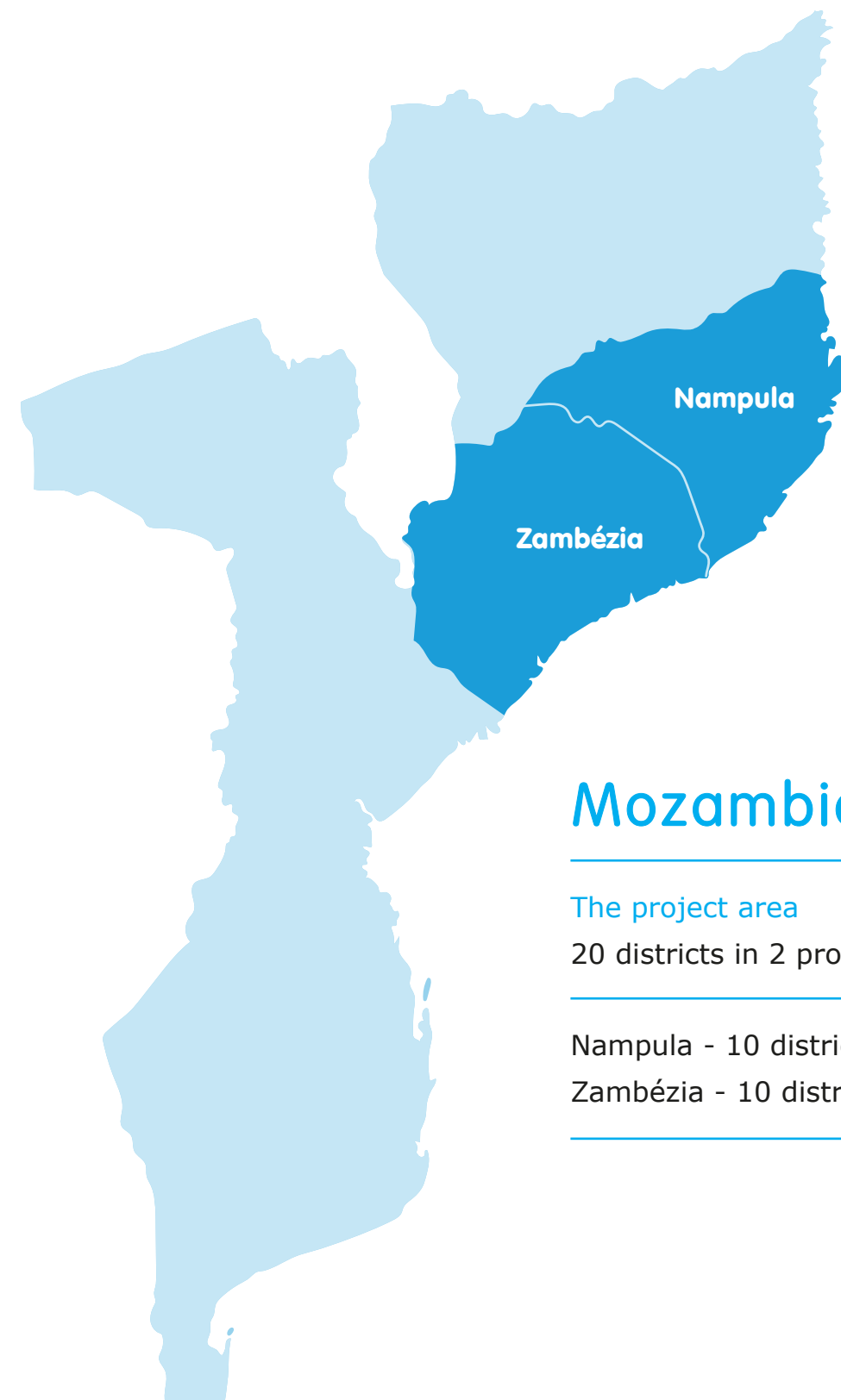
Programme context

- 1.1 Background
- 1.2 Indicators
- 1.3 Current status
- 1.4 Goals

1

Background

In 2015, the Government of Mozambique, SNV and the FCDO (Foreign, Commonwealth & Development Office) of the British Government signed an agreement for the CEDES Programme (Capacity Enhancement for Decentralised WASH Services), which builds capacities for the National Rural Water Supply and Sanitation Programme (PRONASAR) in the provinces of Nampula and Zambézia. This initiative aims to support the efforts of the Government of Mozambique in improving access to water supply, sanitation and hygiene services for rural communities. And thereby help achieve its targets for the Sustainable Development Goals (SDGs).



Mozambique

The project area

20 districts in 2 provinces

Nampula - 10 districts

Zambézia - 10 districts

Indicators



● No latrine

Have no toilet at home, practice open defecation.



● Unimproved latrine

Built with local materials, grass for walls and mud for floor, has no roof, simple earth slab that is hard to clean.

Note: Resilient latrines are built with materials that can withstand the rains such as bricks and sticks. In the indicators below, the improved and traditional improved latrines qualify as resilient latrines.



● Traditional Improved Latrine

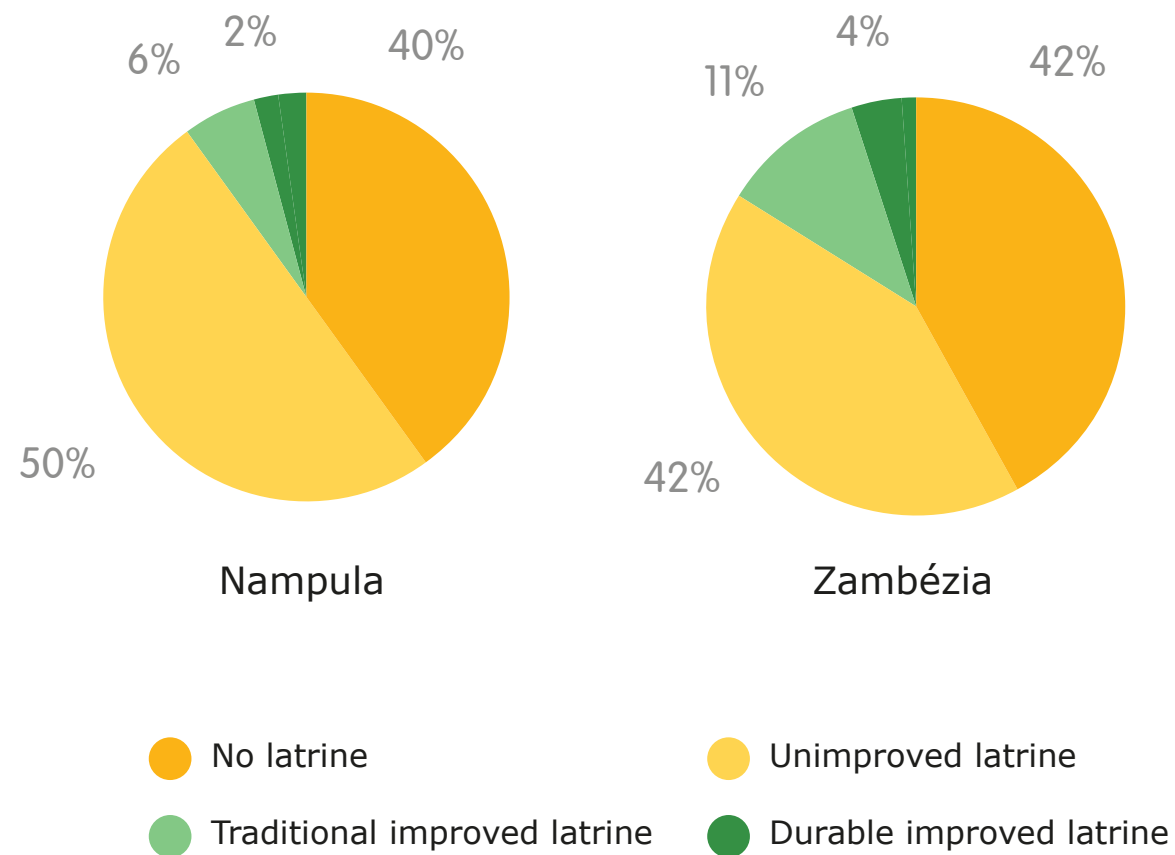
Built with local materials, sticks or mud bricks for walls, solid mud and stick slab that is easy to clean with squat hole cover, grass or bamboo for roof.



● Durable Improved Latrine

Built with brick and cement for walls, cement for floor, grass or zinc sheets for roof.

Current status



Note: Traditional Improved latrine is Mozambique government standard for an improved latrine built from local materials that will meet JMP Improved standard.

⁴Census 2017

⁵National Rural Water Supply and Sanitation Programme Survey.

Around 40% of the communities in both districts do not have a latrine, and still practise open defecation.⁴

More than 50% of the communities declared Open Defecation Free (ODF) from 2016 to 2018 did not maintain their ODF status in 2019.⁵ This is primarily due to the collapse of the constructed latrines. In the Community Led Total Sanitation (CLTS) campaigns, latrines of any type whatsoever was promoted.

In that sense, the programme challenge is to influence those without latrines to build latrines and those with Unimproved latrines to upgrade to resilient latrines.



Goals

Target behaviour

The target behaviour is the construction of resilient latrines, which could be durable improved latrines or traditional improved latrines. However, we needed to understand what type of latrines to promote in the rural context, as adoption could be influenced by factors such as affordability, accessibility to materials and soil type.

Desired status

Mozambique's vision is to become ODF by 2025, based on the SDGs. This would mean that those with no latrine and those with unimproved latrines will need to build resilient latrines i.e., Durable improved or traditional improved latrine.



Approach

- 2.1 Behaviour Centred Design framework
- 2.2 Behaviour Design Hub

2

Behaviour Centred Design (BCD)

We used the BCD framework, developed by Robert Aunger and Valerie Curtis from London School of Hygiene and Tropical Medicine. BCD is built on the latest insights from evolutionary and environmental psychology, marketing, and neuroscience. It has been applied successfully to behaviours ranging from handwashing, to oral rehydration, food hygiene, child and maternal nutrition, and post-operative exercise.



Links

[The BCD resources page](#) on the LSHTM website has many free resources that dive deeper into the the BCD framework, including the following:

[Behaviour Centred Design, towards an applied science of behaviour change](#)
Aunger and Curtis, Behaviour Centred Design - towards an applied science of behaviour change, Health psychology review, 2016

[The BCD manual](#)

[BCD - Formative research protocols](#)

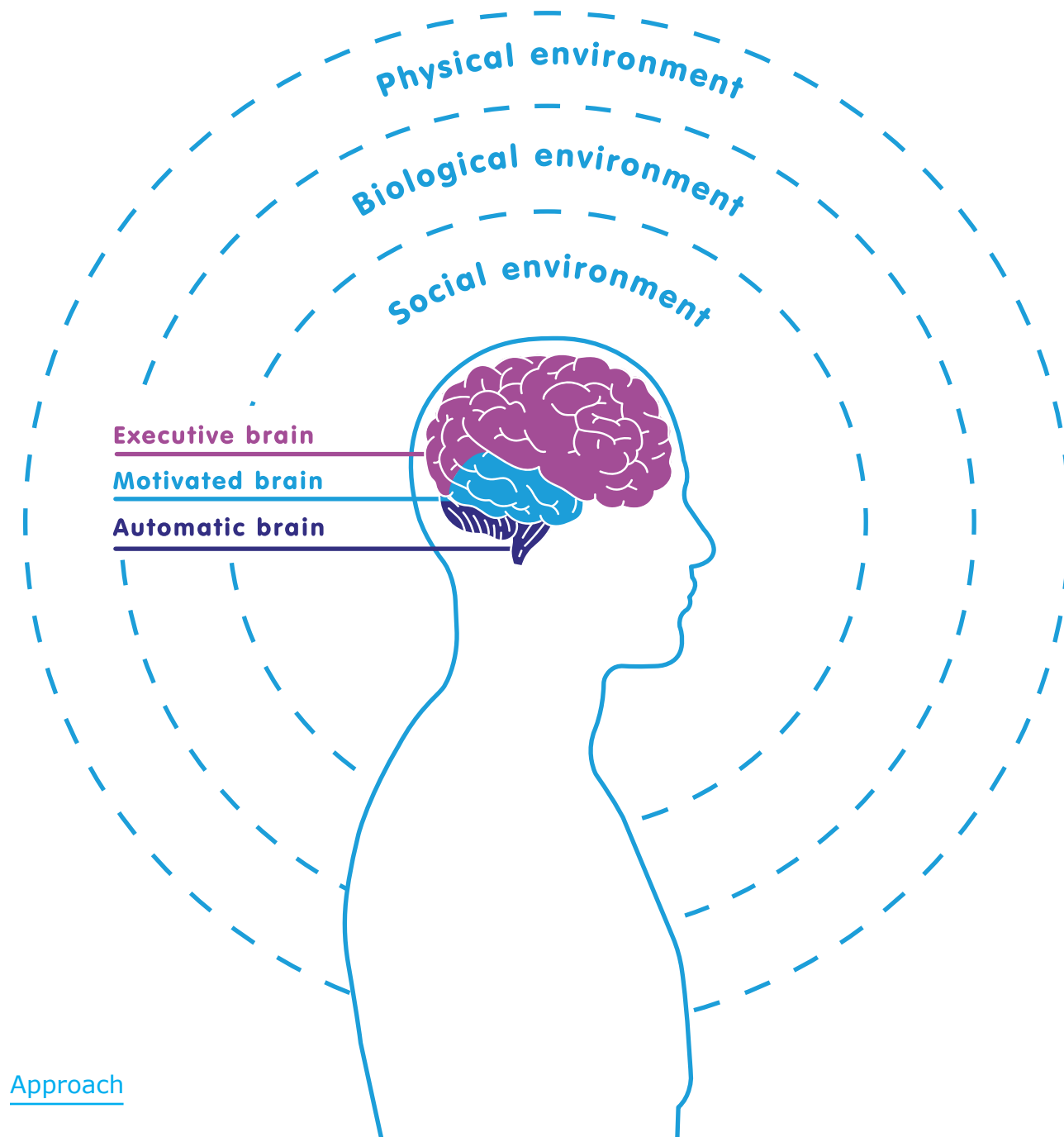
Books

[Gaining Control](#) Robert Aunger and Valerie Curtis

[Don't look, Don't touch](#) Valerie Curtis

[Reset](#) Robert Aunger

Behaviour determinants



BCD defines behaviour as a functional interaction between a body and its environment, designed to help an organism to get what it needs to survive and reproduce. At the individual level, the framework proposes roughly three regions in the human brain, related to three different types of behaviour:

Automatic brain

produces unconscious behaviours. These include reflexive behaviours such as flinching in response to contact with a flame and habitual behaviours such as driving a car.

Motivated brain

produces sub-conscious behaviours to achieve goals. One of the unique features of the BCD framework is that it has identified 15 fundamental, universal motives that drive all human behaviour.

Executive brain

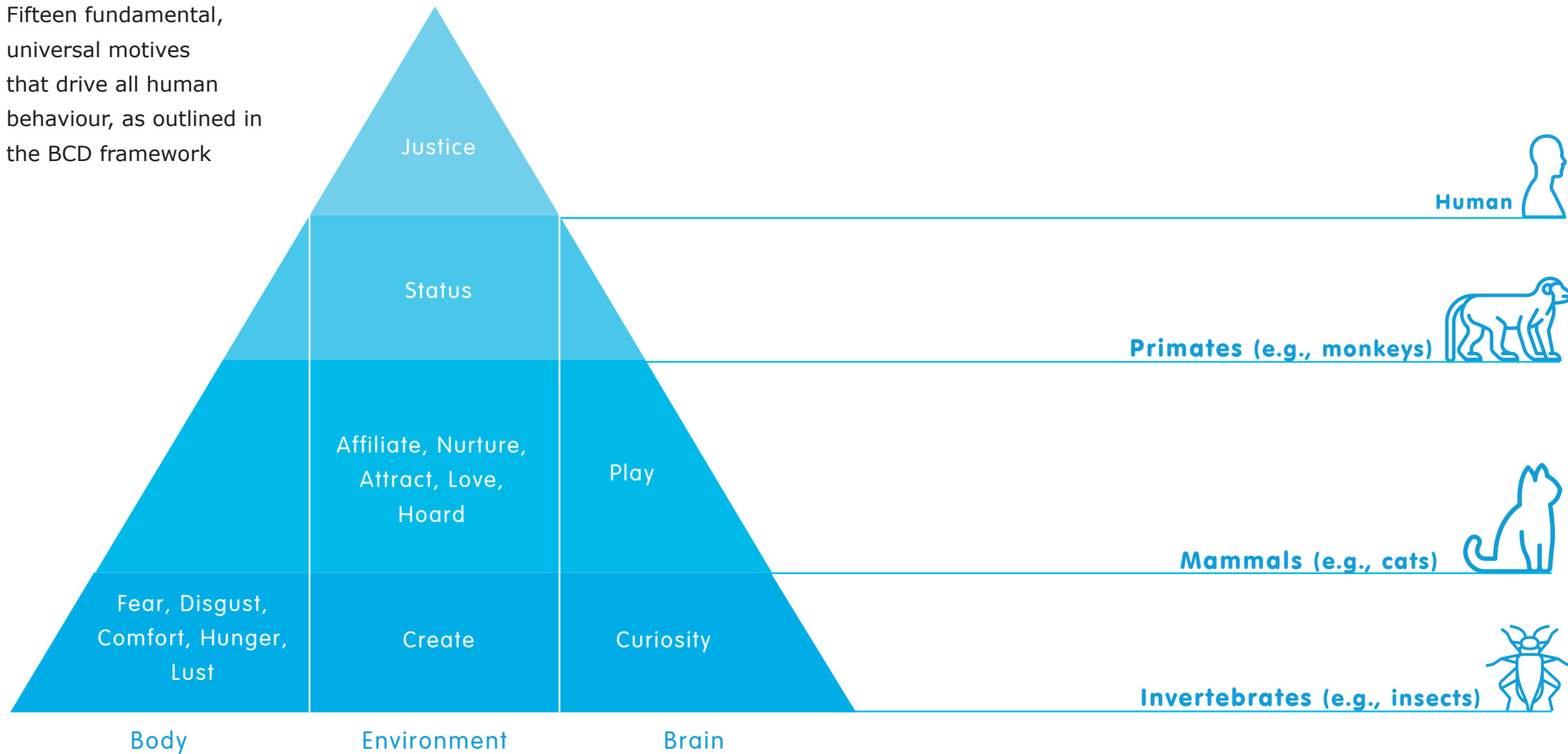
produces conscious behaviours. It chooses the behaviour to perform and also plans for the same. While most of the health messaging is targeted at this brain, most of the behaviours are produced in the automatic or the motivated brain.

Environment

It proposes three levels to the environment that an individual interacts with during the performance of the behaviour. The physical, the biological, and the social environment.

The motives pyramid

Fifteen fundamental, universal motives that drive all human behaviour, as outlined in the BCD framework



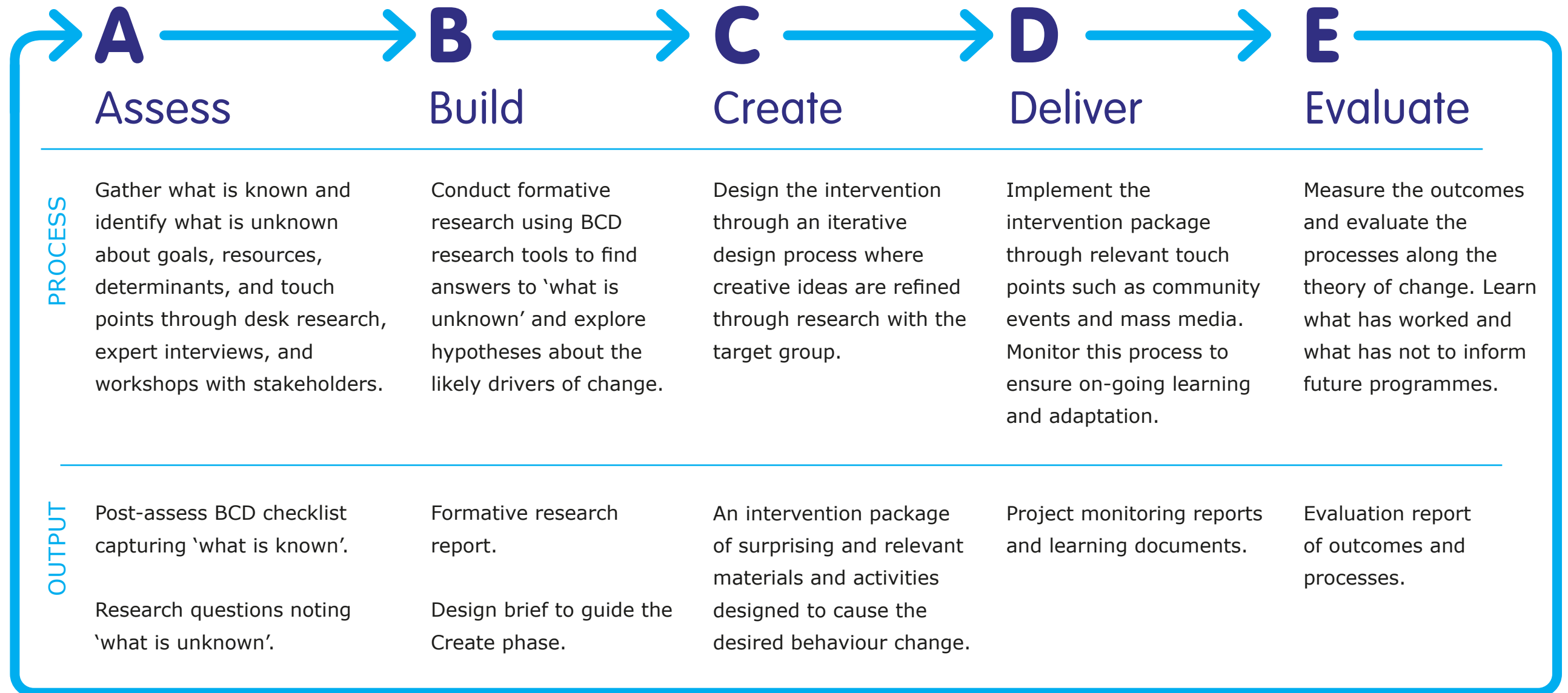
The aspect that is primarily modified by achieving a goal related to that motive

The stage of evolution at which these motives first evolved

The BCD process

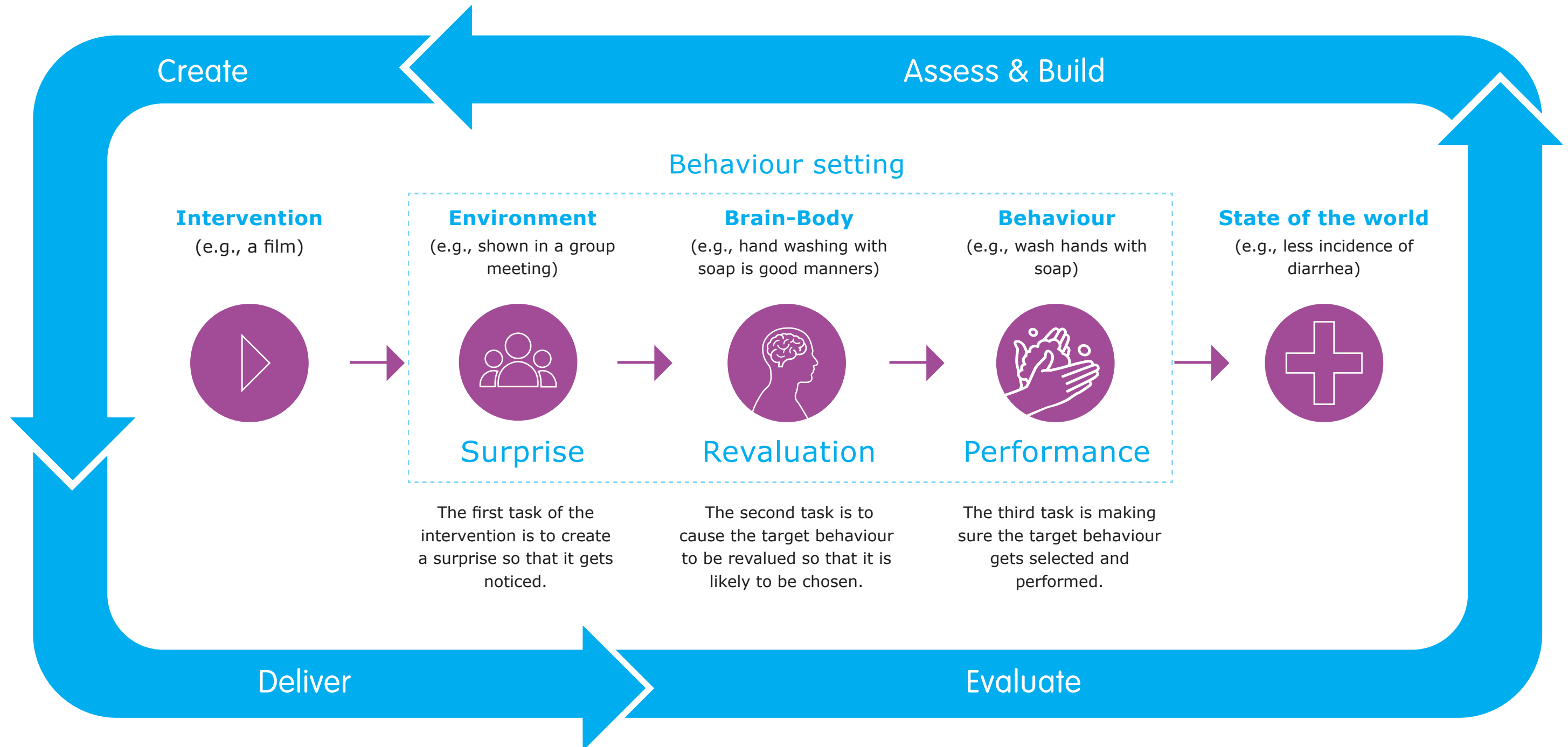
BCD provides a process for designing behaviour change interventions - ABCDE.

Each letter explains one of the key steps in the process as seen below.



Theory of change

During the Assess and Build phase of the project, we understand the causal links from the state of the world to behaviour to brain-body to environment. Based on this understanding, the intervention is created, delivered and evaluated.



The Behaviour Design Hub

This project is part of the WASH Behaviour Design Hub created by Upward Spiral for SNV. The Behaviour Design Hub proposes a new model of programme design and management for multi-national foundations that wish to create social impact on a global scale.

Its objective is to design and deliver effective behaviour change interventions and, in the process, also enhance capacities of the programme teams.



Effective Interventions

As it is rooted in the BCD framework, country teams can follow a robust design process and identify the behaviour determinants that help create effective interventions.



Cross-Country Learning

Country teams follow the same processes, which helps managers and country teams learn and work more effectively and efficiently with each other.



Experiential Learning

It takes a 'learning by doing' approach. By designing effective behaviour change interventions, country teams also learn the design process.



Optimisation of Resources

Experts are engaged by the group instead of individual teams, and tools are shared. Costs and efforts are optimised for everyone.

The Behaviour Design Hub (WASH-SNV)

It comprises five countries, with each country focused on one specific WASH behaviour.

SNV in Bhutan

Child Faeces Management

SNV in Bangladesh

Faecal Sludge Management

SNV in Lao PDR

Hand Washing With Soap

SNV in Tanzania

Solid Waste Management

SNV in Mozambique

Latrine Construction

Research design

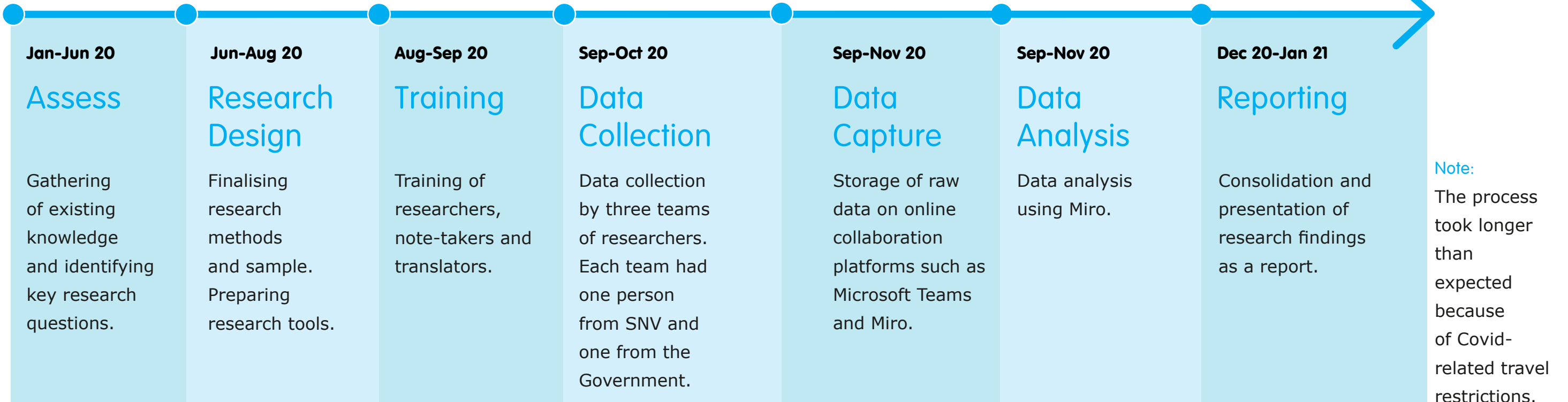
- 3.1 Process
- 3.2 Research questions
- 3.3 Research contexts and methods
- 3.4 Sample design

3

Process

Jan 2020

Jan 2021



Iterative Approach

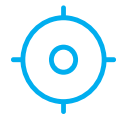
The iterative approach helps answer new questions that emerge during the formative research. And thereby, move closer to strategic insights. Based on analysis of data from District one, we modified the research for District two and three. For instance, we wanted to understand more about local materials used for construction as the cost of resilient latrine was found to be a barrier to construction.

Ethical Consent

The respondents listened to the purpose of the study and gave their signed consent for use of data collected, including photographs. All researchers read and signed the SNV Child Protection Policy.

Research questions

During the Assess phase, we identified the gaps in knowledge and organised them as key research questions. These formed the basis for designing the formative research.



Target

Behaviour

What type of resilient latrine we want to promote, that can withstand rains and floods and is suited to different geological conditions?

Person

Who are the target persons?



Brain

Motivated

What can motivate households to upgrade to or build resilient latrines?

Executive

What gaps in knowledge and skill influence households when choosing and building resilient latrines over unimproved latrines or open defecation?



Environment

Physical

Is there space for open defecation? For latrine construction?

Are materials for building resilient latrines available locally?

Social

What are the existing norms around latrine use and open defecation?

Is there a taboo around mixing of faeces, which comes in the way of building latrines at home?

What do we wish to change in the gender roles around latrine construction?

What social support do vulnerable people (widows, persons living with disabilities, elders, etc.) require to build their latrines?



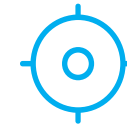
Touch Points

(e.g., Television)

What are the most effective and efficient touch points to reach our target person/s?



Specific to Persons Living With Disabilities



Target

Behavior

What type of latrines do we want to promote, that are friendly for persons living with disabilities?



Brain

Motivate

What can motivate households to build latrines that are friendly for persons living with disabilities?

Executive

What gaps in knowledge and skill influence households when choosing and building latrines that are friendly for persons living with disabilities?



Environment

Social

What social support do vulnerable people (widows, persons living with disabilities, elders, etc.) require to build their latrines?



Touch Points

(e.g., Television)

What are the most effective and efficient touch points to reach persons living with disabilities?

Research contexts



Focus Group Discussion (FGD) Held at a common location, separately with males and females.



Key Informant Interview (KII) Conducted as part of the household visits for specific target persons.



Rapid Site Observation Conducted as random visits to many households within a community.

Note: We had planned to conduct Rapid Ethnography. However, it was shelved due to Covid-related safety concerns.

Research methods

Formative research in BCD is different from that which is usually conducted in a number of ways - it is designed to carefully answer questions that will help us to construct a Theory of Change for behaviour. So, it focuses on behaviour and not so much on what people say

about their behaviour, as many of the drivers of behaviour are non-conscious and so cannot easily be explained by the people involved.

To know more, please refer to [BCD - Formative Research Protocols](#) document.

Site Observation



User Journey



Behaviour Demonstration



Researchers observe the site and then interact with the community member to know more about what was observed. This helps us understand aspects of the physical environment, reasons for choices and rewards.

Respondents narrate their experience of performing the target behaviour (e.g. latrine construction) as a story. This helps us understand the factors that influence different stages of the user journey.

Researchers observe the demonstration of the behaviour (e.g. washing hands) and then interact with the persons living with disabilities to know more about what was observed. This helps us understand routines, tools used and challenges to performing the behaviour.

Three Wishes



Motive Stories



User Imagery



Respondents get to make three wishes to improve their life or an aspect of their life (e.g. Childrens life). This helps us understand overall motives in life, not necessarily related to the behaviour.

Respondents react to stories that link motives to the target behaviours. This helps us understand motives specific to the target behaviour.

Respondents imagine the profiles of those who perform the target behaviour and those who do not. This helps us understand motives, social norms and sanctions related to the target behaviour.

Touch Point Mapping



Daily Routine



Product Concepts



Researchers map the different touchpoints to reach the target persons. This helps us understand access and nature of engagement with potential touchpoints.

Respondents narrate what they do during a normal day from the time they wake up to the time they go to sleep. This helps us understand daily routines in general and those related to the target behaviour in particular.

After exposing respondents to product and service ideas, researchers elicit reactions to them. This helps us understand target behaviour preferences, motives, knowledge, and willingness to pay.

Sample design

The sample was selected on the basis of 3 criteria:

1 Representation

We ensured that the sample had good representation in terms of soil condition, ethnicity, wealth quintiles, and gender.

2 Behaviour

We studied three behaviour segments: Those with no latrine, unimproved latrine and durable improved or traditional improved latrine.

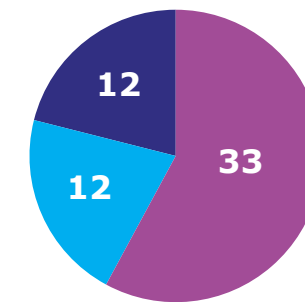
3 Inclusion

In keeping with the spirit of SNV's 'Leave no one behind' policy, we included the following segments in the sample: female headed households and persons living with disabilities.

Representation - Geography

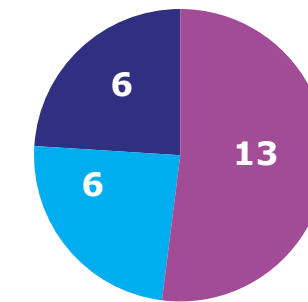
Within the Zambézia province, the districts were chosen based on latrine coverage, soil type and ethnicity.

District	Coverage ⁶	Soil Type	Ethnicity
Alto Molócue	19.4%	Clayey and Rocky	E-Lomuwe
Ile	8.2%	Clayey and Rocky	E-Lomuwe
Maganja Da Costa	24.2%	Coastal and Sandy	Nharinga



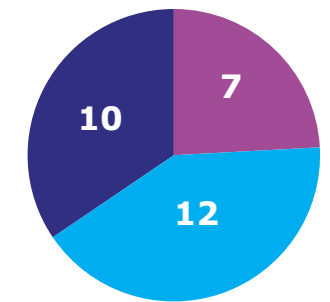
Key Informant Interview

Total: 57



Focus Group Discussion

Total: 25



Rapid Site Observation

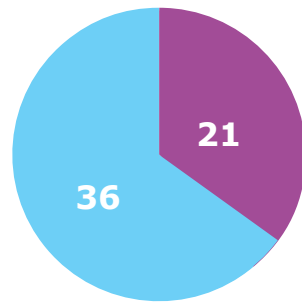
Total: 29

● Alto Molócue
 ● Ile
 ● Maganja Da Costa

⁶Government Sanitation Access Report, 2019.

Representation

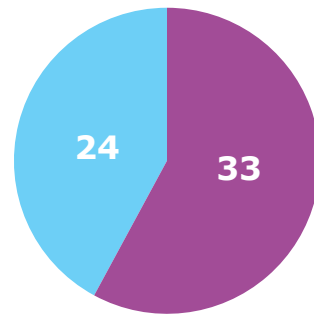
Income



Key Informant Interview
Total: 57

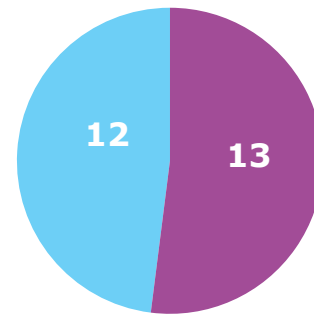
● Poor ● Rich

Gender



Key Informant Interview
Total: 57

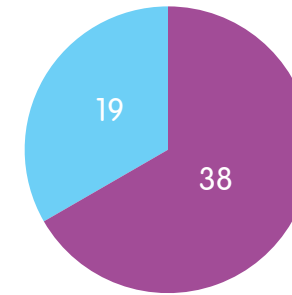
● Female ● Male



Focus Group Discussion
Total: 25

Inclusion

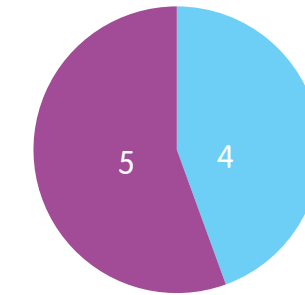
Head of household



Key Informant Interview
Total: 57

● Female-Headed Households
● Male-headed Households

Disability

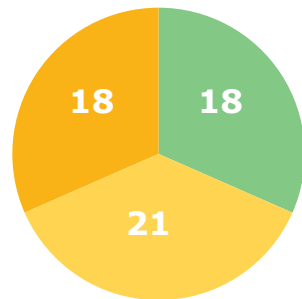


Key Informant Interview (persons living with disabilities)
Total: 9

● Difficulties with mobility
● Difficulties with vision

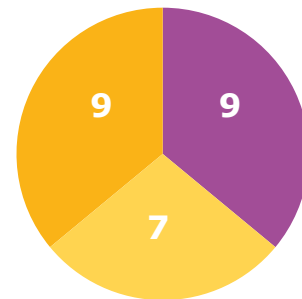
Note: Limited to certain disabilities due to the skills of the available researchers.

Behaviour: Latrine ownership

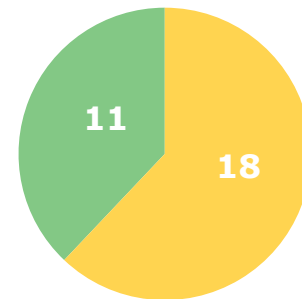


Key Informant Interview
Total: 57

● No Latrine ● Unimproved Latrine ● Improved Latrines ● Mixed



Focus Group Discussion
Total: 25



Rapid Site Observation
Total: 29

Others

	Focus Group Discussion	Key Informant Interview
District Government-Multisectoral team	3	-
Local/Community radio channels	-	2
Service providers/Masons	-	7
Community leaders/Chief of communities	-	9

Research findings

- 4.1 Target behaviour
- 4.2 Target personas
- 4.3 Determinants
- 4.4 Touch points



Target behaviour

At the end of the Assess phase, we were clear about the target behaviour - construction of resilient latrines i.e., latrines that can withstand heavy rains. However, we wanted to clarify the specific type of resilient latrine that we could promote in the rural community, based on factors such as affordability and availability of materials. We were also curious to know the type of toilet most suitable for persons living with disabilities.

Key research questions

What type of resilient latrine do we want to promote, that can withstand heavy rains and floods and is suited to different geological conditions?

What type of latrine do we want to promote, that is friendly for persons living with disabilities?





Finding

There is a strong
desire to own
resilient latrines.

When exposed to brick or bamboo latrines, respondents showed strong preference for them over unimproved latrines because of their durability.

'I prefer this latrine because it is a latrine for life, just build it and solve the latrine problem forever.'

 Unimproved latrine owner

 Maganja da Costa

← Concept shown to respondents during research

Finding

The type of resilient latrine preferred is different from person to person.

The preference for latrine type depends on affordability, effort required and accessibility to building materials.

The preferred latrine could also be made of different combinations of these options e.g., one could choose a stick latrine, but with cement flooring and zinc roof.

Mud-brick latrine

Mud bricks and adobe mud for the walls and floor, grass or zinc for roofs.



Stick latrine

Pau ferro (Iron wood), Bamboo and reed for the walls, Pau ferro (wood), reed, brick and mud for the floor, grass/reed for the roof



Brick latrine

Burnt bricks and cement for the walls and the floor, Zinc sheet for the roof





Gap between the roof and walls



Vents in the wall

Finding

Latrines smell bad,
and there is a
desire to get rid of
the bad smell.



'A latrine should not be close to where people eat, the smell is unpleasant.'

During site observations, we noticed several attempts from the latrine owners to reduce the bad smell emanating from the latrine.

 Resilient latrine owner

Many respondents were aware of water sealed latrine with septic tank and how it can solve the problem of bad smell. They wanted to build one, when they could afford to.

 Ile



Lid on the hole (also to avoid flies)



Throw ash in the hole

Finding

Women want latrines that are easy to clean.

The respondents, especially women, liked the concept of the cement floor as it seemed easy to clean. They were curious to know more about the cost and where they could buy it.

'I saw the latrine when I travelled to Maputo and I liked it because it has no smell and is easy to clean.'

 Unimproved latrine owner

 Ile

Concept shown to respondents during research 





Finding

There is a preference to build a bathroom along with the improved latrine.

During site observations, we saw that many latrines were built to also serve as a bathing space. So, the latrine space was larger, and the latrine hole was located at the corner, rather than the center.

Finding

Persons experiencing difficulty in movement prefer latrines that are easy to access and use.


Persons experiencing difficulty in movement struggle to access the latrine since it is usually located at a distance from their home. They also struggle to squat and get up. Therefore, they would prefer to have latrines that are closer to home. Those with wheelchairs preferred the concept of the ramp, and everyone liked the concept of the raised platform with a supporting frame.

Concept shown to respondents during research



Source: Compendium of accessible WASH technologies

'With a latrine adapted in this way, at least I avoid sitting on shit that I find around the hole.'

 Person living with disability

 Ile





Finding

Persons
experiencing
difficulty in vision
prefer latrines and
latrine features that
are easy to locate.

Persons experiencing difficulty in vision struggle to locate the latrine, the hole inside the latrine and tools for washing. They currently manage this with support from others but would like to do this on their own.


They liked the concept of having sticks as markers. In fact, one respondent had a similar structure made at home and was able to use the latrine on his own.


Concept shown to respondents during research



WaterAid/Stephen Segawa

'My daughter accompanies me to the latrine. When I get there, I have difficulties in locating the hole, I lean over and start to feel the floor until I find the hole.'

 Person living with disability

 Maganja da Costa

Target personas

Target personas bring together important facets of a target segment, such as life context, motives, and relationship with the target behaviour. Seeing them rolled into a single persona makes it easier for us to relate to target persons, when designing interventions.

Key research questions

Who are the target persons?



[Guilhermina Muripa](#) is 32 years old and lives in Mancone in Alto Molócue. She has two boys and a daughter. Her primary source of income is farming. What she makes from it is just enough for her to feed the family. In a good year, when she earns more, she spends it on improving her home, little by little.

Her dreams are all about her children. She hopes they study well, get good jobs and take care of her in her old age.

There is a spot for open defecation in her community, where she and her boys go. The same place is used by many families in the community and so there is a lot of poop lying around. It is more disgusting in the rains and she is worried she might step on someone else's poop. She also doesn't like cleaning herself with leaves and would rather clean with water.

[Research findings](#)

Her daughter, just four years old, defecates near home. Guilhermina collects the poo and buries it near their home. But sometimes, the chickens get to it before she can and bring it inside the house.

She would really like to have a latrine at home so that she and her children can defecate in peace. But, being a single mother, it is not easy for her to build a latrine on her own. She can collect the grass and build the walls, but she will need a man to dig the pit. She requested her nephew to help her with the pit, since she can't afford a mason. Hopefully, that should happen sooner than later.

It disgusting to see all this poop lying around.

[Guilhermina Muripa](#)





When the latrine collapses, I can rebuild it in just three days.

Joaquim Selemene Cantifula

Joaquim Selemene Cantifula is 38 years old, and he has four children. He lives in Nvinha in Maganja da Costa, an island district. His main source of income is fishing.

He would like to earn more than what he gets from fishing. For that, he wants to study further and get a job.

He believes that getting a good job is very important to do well in life. That is why he pushes his children to study well.

If he earns more money, he will be able to build a bigger home with more rooms to accommodate his growing family. He will also buy a motorcycle, so that he can travel to the city to sell fish. And

send his children to a good school, so that they have a bright future.

Joaquim has an unimproved latrine at home. He built it last year after the previous one collapsed. First the termites ate up the grass, and then came the rains. He has lost count of the number of latrines he has built after he got married, maybe this is the sixth one or maybe the seventh.

Since he has built many unimproved latrines, he can build it very fast. From collecting the grass, to digging the pit and building the walls, it just takes three days for him. So, his family doesn't have to go without a latrine for too long.

Bonefácio Sozinho is 47 years old. He lives in Muaine in Ile with his wife and two children. His main source of income is the farm. In the last few years, he has got better prices for his produce and income has improved.

He purchased a mobile phone, a bike and also solar panels. He also added a room to his house and renovated the kitchen. He would like to spend more on his house, get a better roof and plaster the walls. But that will have to wait. With both his children studying in the university, the expenses have gone up.

He has an unimproved latrine at home that everyone uses. This is the fourth latrine that he has built, and he is getting a little tired of rebuilding it every year. When he visited his friend in another community, he saw the brick latrine with cement flooring. He liked it very much.

If he were to build a brick latrine like that, then he wouldn't have to worry about the latrine for the rest of his life. But, building such a latrine will cost a lot, may be 10000 to 15000MZN. So, it will have to wait for now. He thinks that maybe he should start putting aside some savings, so that he can build the brick latrine in the next two or three years.

I will someday
build a really
strong, brick
latrine.

Bonefácio Sozinho





I would like to be able to use the toilet on my own.

Genito Francisco Sulate

Genito is 18 years old. He lives in Muresse in Alto Molócue, with his parents and two sisters. His legs were affected by polio, so he gets around in his wheelchair. After he completed his primary education, he dropped out of school as the secondary school is in another community and there was no transport available for him to go there.

He learnt to repair things like mobile phones and bikes. Now, people come to him from his community, to get things repaired. He feels happy that he is useful to others and that he is able to contribute to his family's income. He hopes to get married and lead a normal life like everyone else.

There is a brick latrine at his home. However, it is located a bit away from his home. It is not easy to get all the way there in his wheelchair. Half-way there, he has to get down and then his sister supports him to get to the latrine. Once inside, it is also difficult for him to squat and get up. Also, cleaning with water is difficult after defecation. He feels odd to ask his sister to help with that and manages somehow.

He wishes there were an easier way to get to the latrine and use it. He doesn't like bothering his sister time and again for this. He would like to be able to use the latrine on his own. But he and his sister don't know of any latrine that he can use on his own.

Determinants

We focus on presenting findings related to the determinants of behaviour change in this section. We have gathered insights, from the perspective of latrine construction, around four determinants:

4.3.1 Motivated brain

4.3.2 Executive brain

4.3.3 Physical environment

4.3.4 Social environment

Brain - Key research questions



Motivated

What can motivate households to upgrade to or build resilient latrines?

What can motivate households to build latrines that are friendly for persons living with disabilities?

Executive

What gaps in knowledge and skill influence households when choosing and building resilient latrines over unimproved latrines or open defecation?

What gaps in knowledge and skill influence households when choosing and building latrines that are friendly for persons living with disabilities?

Environment - Key research questions



Physical

Is there space for open defecation? For latrine construction?

Are materials for building resilient latrines available locally?

Social

What are the existing norms around latrine use and open defecation?

Is there a taboo around mixing of faeces, which comes in the way of building latrines at home?

What do we wish to change in the gender roles around latrine construction?

What social support do vulnerable people (widows, persons living with disabilities, elders, etc.) require, to build their latrines?

4.3.1 Motivated brain

Finding

Latrines are low on the ladder of priorities.

It is very common to see homes that are well-built, but latrines that are not. Clearly, the latrine is not seen to be part of or as important as one's home.

When they earn more money, most respondents have invested it in improving their homes, buying assets like motorcycles or more land for cultivation.

Home Vs. Toilet






Finding-Nuance

Latrines are low on the ladder of priorities.

There are vast open spaces and homes are quite distant from one another. This makes it easier to practice open defecation.


'There is a lot of forest and we usually defecate at the boundary of the land, looking for a discreet place with grass and trees so no one can see us.'

 No latrine

 Ile

Many families are faced with more pressing problems related to water, food and clothing. Open defecation is not seen as a pressing problem.

'I didn't build my latrine yet because I have many concerns at home and I am busy addressing those concerns: making coal to sell, getting money to buy food, clothes for my children'...

 No latrine


 Alto Molócue


Finding

Building a resilient latrine saves time and effort.

The unimproved latrine collapses frequently due to termites and rains. And therefore, one also needs to rebuild it frequently, a waste of one's time and effort. There is a feeling that if you build a resilient latrine, you can just forget about it and get on with your life.

'I built my latrine with brick walls and zinc sheeting so that I no longer have to worry about the latrine issue and focus on other family needs and dedicate myself to the work on the field.'

 Resilient latrine owner

 Alto Molócue



Finding-Nuance

Building a resilient latrine saves time and effort.



From above - the rains fall directly on the walls, since unimproved latrines do not have a roof. As a result, unimproved latrines collapse during the rainy season.

From below - the termites eat the walls of the latrine made with grass. As a result, the unimproved latrines collapse over time.

'It is difficult to cover the simple latrine, the structure does not allow it.'

'Before, I had a simple latrine with grass walls that were destroyed by termites and rain.'

 Unimproved latrine owner

 Ile

 Unimproved latrine owner

 Ile

← A collapsed unimproved latrine

Finding-Nuance


Building a resilient latrine saves time and effort.

Usually, those who built resilient latrines had built three to four unimproved latrines before that. They then realised that it makes better sense to build a latrine that lasts.

The motive story - 'the smart one' who saves time and effort by building a resilient latrine – resonated strongly with respondents.

Concept shown to respondents during research

'In 2010, I built the first latrine with grass walls that ended up collapsing due to rain and termites (murmuches). I renovated the latrine about three times using grass too. In 2019, I decided to organize bricks and build this current latrine.'

 Resilient latrine owner


 Alto Molócue



When exposed to more durable options such as bamboo or brick latrines, those with unimproved latrines realise how it would save time and effort for them.

'They built it like this because the owner of the house knows how to build a house, he wants to rest so he doesn't build it every year.'

 Unimproved latrine owner


 Alto Molócue


Finding

Building a resilient latrine enhances one's status in the community.

Those who built resilient latrines do feel pride of ownership. However, the latrine is currently tucked away, because of disgust with its bad smell.

'There is no comparison between the two latrines. This gives a good impression of the house.'

 Resilient latrine owner


 Alto Molócue

Finding-Nuance

Building a resilient latrine enhances one's status in the community.



'We are proud and happy to have a latrine like this. We are not ashamed to receive visitors.'

 Resilient latrine owner

 Alto Molócue

Receiving visitors well seems to be important, and offering them the best facilities is part of that. Respondents really liked the motive story about offering a good latrine to the guest.

User imagery

The image of someone with a resilient latrine is more aspirational compared to the one with unimproved or no latrine. Not just in terms of wealth, but also attitude.

Resilient latrine

Adult male
well-dressed
educated
has money
organised
open-minded
intelligent
good behaviours

Unimproved latrines

Single woman/elderly
poor
ignorant
lazy, disorganised
doesn't care about
others
doesn't want to
change

No latrine

Single woman/elderly
farmer
poor
lives in a small house
lazy or weak
rude
his children can badly
influence our children


The image of those with unimproved or no latrine is usually, 'single woman/elderly and poor' because of the cost and effort involved in building latrines. It is interesting to note that it is also a reflection of one's attitude, 'lazy' (because doesn't want to make the effort) or 'rude' (because doesn't care about others).

Finding

The experience of open defecation is disgusting.

During open defecation, one can see and smell faeces, also step upon them by mistake. Though the experience is disgusting, it triggers one to build any latrine and not necessarily an improved one.

'In the bush there are faeces everywhere, we need to be careful not to trample upon other's faeces.'

 Resilient latrine owner

 Alto Molócue

Finding-Nuance

The experience of open defecation is disgusting

When there is no latrine, children defecate nearby the home area. The smell, flies and chicken bringing the poop home is disgusting.

The experience of open defecation is more disgusting during the rainy season.


'I decided to build my latrine because my children shit around the house. It smelt bad and there were flies.'

 Unimproved latrine owner

 Alto Molócue

After defecation one cleans with the leaves available, which doesn't feel clean enough.

'When I had a latrine, I would put a bucket of water nearby and after defecating washed myself with water. In the bush I use leaves that don't clean as well as water.'

 No latrine

 Ile




4.3.1 Motivated brain

Finding

Not having a latrine at home causes inconvenience.

Walking to the defecation site is inconvenient at night, during emergencies and when suffering from diarrhoea.

'When I have to go or I have diarrhoea, if it is during the day, I usually run to the bush, but if it is at night, I usually go to shit behind the house and then cover the faeces with sand. I'm afraid to go to the bush at night, there are many snakes, and it gets dark.'

 No latrine

 Maganja da Costa

Children below five years of age usually defecate near the home. If there is a latrine at home, it is easier for the mother to throw the child's poop into the pit. In the absence of a latrine, she will have to dig, every time, to bury the faeces.

'Our children shit outside and then I drop the faeces with a hoe in the latrine... they still don't know how to use a latrine!'

 Unimproved latrine owner

 Alto Molócue




4.3.1 Motivated brain

Finding

The cost and effort required to build a resilient latrine is a barrier to its construction.

The unimproved latrine takes three to four days to build and costs nothing. In comparison, a resilient latrine usually costs between 5000-10000 MZN. And it takes anywhere between two weeks to six months to build. This comes in the way of it being considered as an option.

'It costs about 11000MZN and six months to organise all the material. We bought 1500 burned bricks at two MZN each, seven bags of cement at 520MZN each and three metallic sheets at 300MZN. We also bought two tubes. These tubes were bought far away, in the district of Mocuba and we had to pay for shipping too. We bought a door for 1000MZN and paid 1500MZN for labour to the mason.'

 Resilient latrine owner

 Ile




Finding-Nuance

The cost and effort required to build a resilient latrine is a barrier to its construction.

Those who build resilient latrines try to bring the cost down, by taking on some of the labour themselves and using locally available materials.

Even among those who have not built a resilient latrine, there is a clear idea of how much it would cost for materials and masons. The knowledge stems from the experience of building homes.

'I made bricks and paid 300 MZN to someone to dig the hole and built a latrine including a wall and roof.'

 Resilient latrine owner

 Alto Molócue



4.3.2 Executive Brain

Finding

One learns about latrines from others and through trial and error.

Therefore, one doesn't choose having considered the costs and benefits of different options.

However, exposure to different concepts makes one think actively about one's choices.

Grass roof? Or zinc roof?



Stick wall? Or brick wall?



Mud slab? Or cement slab?



Finding-Nuance

Exposure to different options helps make right choices.

Exposure to different concepts and discussions around its benefits makes those without latrines and those who own unimproved latrines, want to make different choices.

'I prefer this concept, which has a latrine better than my latrine and does not cost much to build, the material exists locally for free.'


 Unimproved latrine owner

 Ile

Persons living with disabilities and caregivers lack knowledge about solutions to their problems of access and use. If they knew, they might make a different choice.

'Crouching, for me, is a challenge and if I could have a latrine where I could sit, it would be better.'

 Persons living with disability

 Alto Molócue





Finding

The type of latrine one builds depends on locally available material.

Available materials vary from one place to another e.g., Pau ferro sticks and bamboo are easily available in Maganja da Costa, and therefore resilient latrines are built with them.



In some communities, the availability of cement slabs triggered the construction of improved latrines. Making building materials, especially the cement slabs, easily available could trigger latrine construction.

4.3.3 Physical environment

Finding

Space is neither a barrier for open defecation, nor for toilet construction.

There are spaces available for open defecation, not far away from home. However, children use spaces around home for defecation.



There is sufficient space available for construction of a latrine around one's home. When pits get filled, there is also enough space to build a second or third latrine.

4.3.4 Social environment

Finding

While building a resilient latrine is rare, it is also aspirational.

The perceived norm is that only some people in the community have resilient latrines. However, those who own resilient latrines are looked up to and it seems to be an emerging norm.

There are sanction, perhaps not openly expressed, against open defecation. Those who own latrines look down upon those who don't.

'Whoever builds an improved latrine is a hard-working person, likes to live well, is educated and has knowledge about diseases.'

 Unimproved latrine owner

 Alto Molócue



4.3.4 Social environment


Finding

There is no taboo about mixing of faeces

During the Assess process we heard that people in the rural community do not build latrines because of the taboo about mixing of faeces. However, we found that there is no such taboo in the communities visited in Zambézia Province. Instead, we found that some people in Maganja da Costa believe that if one leaves faeces in the open, others can use it to practice black magic.

'There is no taboo in mixing faeces in a latrine. But it is dangerous to expose faeces because of wizards. They can take faeces and bewitch people, causing damage to the owner. So, we always advice our children to bury the faeces.'

 Unimproved latrine owner

 Maganja da Costa



4.3.4 Social environment


Finding

Building a latrine is a man's job.

Women are involved in the decision to build latrines and support construction. However, both men and women perceive construction to be a male domain.


'Building a latrine is a role for a man. If we see a woman building a latrine herself, we feel sorry because it is a hard job for a woman.'

 Unimproved latrine owner

 Maganja da Costa

Building even an unimproved latrine requires support from men e.g., to dig the pit. To build an improved latrine, the female headed households require support, monetary and/or labour.

'The man is the one who usually builds latrines, it is hard work and many women do not have the strength to do so. Our biggest difficulty is to dig the hole.'

 No latrine

 Ile




Finding

Female-headed households and persons living with disabilities require support in latrine construction.

The persons living with disabilities and their caregivers would require technical assistance to build a latrine that is easy to access and use. Some might also require financial support.

'I don't know other types of latrines and I don't know which model will make it easier for me to use.'

 Persons living with disability

 Ile

Touch points

We specifically explored effective touch points to reach our target segments through Focus Group Discussions among men and women. We also explored effective ways to reach persons living with disabilities. We share here what we found about reach and engagement of different touch points.

Key research questions

What are the most effective and efficient touch points to reach our target person/s?

What are the most effective and efficient touch points to reach persons living with disabilities?



Mass media Radio

Reach

Most people in the community listen to the radio. They listen to the radio on their mobile phones or a radio device. Men seem to listen more, as they have more access to mobile phones.

Cost

Spot production cost (One minute): 1000MZN. Spot transmission cost: (One minute): 300MZN.

Engagement

Most people listen to radio in the afternoons, after returning from the farm. They listen to the news, educational messages and songs. The local radio station broadcasting in the local language is preferred.

They know some of the popular radio hosts by name. The radio is also used by some to send messages to their friends and family.

Digital Mobile phones

Reach

Many people in the community have basic mobile phones. Smartphones and access to the internet are almost non-existent. Men have greater access to phones as compared to women.

Engagement

The mobile phone is primarily used to make and receive calls, listen to the radio and as a flashlight in the night. Many have heard the voice messages from the Government related to the pandemic.



Interpersonal media

Public meetings

Reach

Community leader helps organise meetings. More men than women seem to attend such meetings. Public meetings are also held in the markets that are visited by all.

Engagement

Since public meetings are rarely held, people seem to look forward to such meetings.

Group meetings

Reach

There are different groups in the village, political, religious, financial, agriculture and for football. There was also one mention of sanitation and hygiene group.

Engagement

The frequency of the group meetings varied based on group type. The groups could be engaged for sanitation purposes e.g., an agriculture group distributed cement slabs to all its members.

Health centre

Reach

Both men and women visit the health centre, when someone falls sick at home or to accompany those from other families who are sick.

Engagement

They usually spend about two to three hours. They remember having seen educational posters and also heard health messages for malaria prevention and family planning.





Influencers

Celebrities

Some radio hosts, musicians and humourists seem to be quite popular. Endorsements from them could improve engagement with the campaign.

Community leaders

They seem to have access to everyone in the community and are influential figures. They could support the campaign in organising meetings and motivating the community.

Masons

Masons are often called in for construction of homes and improved latrines. Therefore, they can be a critical touch point to motivate and facilitate choices.



Persons living with disabilities

Radio

Most persons living with disabilities listen to radio regularly, since they spend most of their time at home.

Mobile phones

Some have basic mobile phones, while others don't.

Meetings

It is difficult for them to attend any meetings in the community, so they usually do not go for any meetings.

Health centre

They do visit the health centre sometimes.

Conclusions

5

Target behaviour



Key finding

When exposed to different latrine concepts, the respondents expressed a strong preference for resilient latrines. However, the type of resilient latrine preferred varied based on affordability and availability of building materials.

Recommendations

Promote different types of resilient latrines – mud-brick latrine, cement-brick latrine, stick latrine etc.
Facilitate the community to choose between different latrine types.

Target behaviour



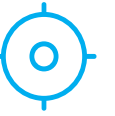
Key finding

Pit latrines have a bad smell and are located far away from home. During site observations, we noticed several innovations to reduce bad smell such as vent in the wall and ash put in the pit. However, not everyone in the community was aware of these features.

Recommendations

Increase awareness of latrine features that reduce bad smell.
There is scope for innovation to reduce bad smell in pit latrines.

Target behaviour



Key finding

When exposed to the concept of a cement slab, women preferred them because they thought it would be easier to clean. Some were willing to even save money to buy one. However cement slabs are not available to buy locally.

Recommendations

Improve production and supply chain for cement slabs so that they are easier to buy at the community level.

Target behaviour



Key finding

Current latrines are not easy to access or use for persons living with disability. Persons experiencing difficulty in movement prefer latrines that are easy to access and use. Persons experiencing vision impairment struggle to locate the toilet and the pit.

Recommendations

Increase awareness of features that make it easier to access and use latrines. Offer technical and financial support for construction.
Conduct research to understand the needs and solutions of persons living with other disabilities e.g., intellectual.

Motives



Key finding

The visible faeces and flies that one experiences during open defecation is disgusting. It gets worse during the rains. Having a toilet at home is also more convenient, especially during health emergencies such as diarrhoea.

Recommendations

While disgust and convenience are powerful motives for building unimproved latrines, they could still be used in creating the narrative for promoting resilient latrines.

Motives



Key finding

Latrines are low on the ladder of priorities, however there are benefits to investing in a resilient latrine. It saves time and effort in the long run as the unimproved latrine collapses frequently due to heavy rains and termites. Besides, having a resilient latrine enhances one's status in the community.

Recommendations

Promote the resilient latrine by highlighting its benefits in the long run, how it saves time and effort and enhances one's status in the community.

Cost



Key finding

While a resilient latrine is more durable, it is more expensive. This makes it less affordable. While a unimproved latrine is less expensive, it is also less durable. This makes it less desirable. More households will build resilient latrines if it cost less to build one.

Recommendations

Improve supply chain to make materials available at a cheaper cost e.g., low-cost concrete slabs.

Offer training to improve the skills in latrine construction and thereby bring down its cost e.g., brick making.

Knowledge



Key finding

One learns about latrines through trial and error. For instance, one may build a mud slab, face problems with holes made by rats and then build a brick or cement slab. Or one may build and rebuild a unimproved latrine for several years before realising it is a waste of time and effort.

Recommendations

Introduce community to different latrine types and features to accelerate their learning process.

Enable them to make the right trade-offs between benefits and costs.

Social norms



Key finding

Current social norms are in favour of constructing resilient latrines. Contrary to what we believed pre-research, there was no taboo around mixing of faeces. Also, those who own a latrine, especially a resilient one, are looked up to in the community.

Recommendations

Amplify the emerging, aspirational social norm about owning a resilient latrine.

Gender roles



Key finding

The building of a latrine is seen to be a man's job. If a woman were to start constructing a latrine, she is likely to be pitied or laughed at. While it has to do with gender roles, there is physical effort needed to build a latrine. A female headed household would require support in construction.

Recommendations

Provide assistance in finance or labour to female headed households. Break existing stereotypes by portraying women taking on the role of construction. Create and deliver a training program to help women construct toilets.

Touch points



Key finding

The community has very limited access to mass or digital media. Most people do not have access to television. While some of them have basic phones, a smartphone is virtually non-existent. However, they do listen to local radio stations regularly.

Recommendations

In the absence of a visual mass media and digital media, use interpersonal communication as a key touch point for delivering the intervention, with Radio playing a supportive role.

Annexure

Research tools

You can access all the research related documents in the links below:

[Research guides](#)

[Research tools](#)

