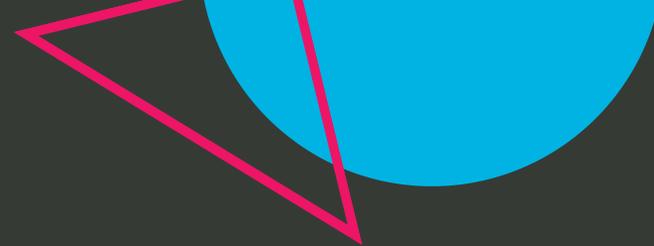


DESIGN THINKING TOOLKIT

Global 
Changemakers





Have you ever seen a problem and wondered what solutions could be found for it?

In this toolkit, you will find instructions to apply a methodology that will allow you to find solutions, to create, to innovate, to empathise and to work with diverse teams: Design Thinking.

As you learn about it and apply it as a tool, we invite you to keep your heart and mind open to new possibilities and ways of tackling a problem. You might be surprised about where your creativity can take you!

Kindly,
Sam, Shruthi and Yasmin
on behalf of the Global Changemakers Team

TOOLKIT OUTLINE

03 Instructions on how to use this toolkit

05 Introduction to Design Thinking

13 Step 1: Problem Framing

22 Step 2: Empathising

26 Step 3: Ideating

38 Step 4: Prototyping

44 Step 5: Testing

To write or draw on this PDF, go to smallpdf.com/edit-pdf

Please consider your environmental footprint before printing this document.

HOW TO USE THIS TOOLKIT

In this toolkit, you should expect to find the following icons:



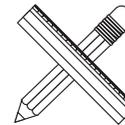
Explanation

This is where you'll find descriptions and complements on the topics. They might consist of simple explanations or suggested readings to guide your learning and experiential process.



Example

When you see this icon, you'll find examples about the given topic. They will help illustrate it and give you guidance on how to apply a given concept.



Activity

This icon signals an activity, a chance to practice a given concept.

In order to best use this toolkit, look for the icons above! Read out explanations, connect them to the examples and perform the activities.

USING THIS TOOLKIT AS A TEAM

If you'd like to use this toolkit with your team, here are some tips!



Give everyone a voice

Use facilitation techniques to make sure everyone has a voice in the process:

- Make the agenda visible and clear every time you meet;
- Keep track of everyone who wants to speak;
- Prioritize people who haven't spoken yet;
- Use different hand signals for topics discussed (e.g. raising your hand for a new idea and raising a finger to complement an idea);
- Prepare the room ahead so it's comfortable for everyone.



Use voting techniques

You might need to choose ideas to go further in the process. Some voting techniques that can be used are:

- Majority voting with one vote for each;
- Several votes for each ("dot-voting");
- Feedback frame (ranking preferences on a scale of 0-5).



Use sticky notes

Use colourful sticky notes to record ideas, cluster them and vote on them. They will allow everyone to express their thoughts and make the process more visual and clear.



Read more in:
<https://www.seedsforchange.org.uk/resources>

WHAT IS DESIGN THINKING?

The video below explains the Design Thinking methodology and its respective steps, which go from identifying problems to creating effective solutions.





A design methodology that provides a solution-based approach to solving problems. It's extremely useful in tackling complex problems that are ill-defined or unknown, by understanding the human needs involved, by re-framing the problem in human-centric ways, by creating many ideas in brainstorming sessions, and by adopting a hands-on approach in prototyping and testing.

- Interaction Design Foundation



Read more in:
<https://www.interaction-design.org/literature/topics/design-thinking>

WHY USE DESIGN THINKING?



Learn a creative process to solve problems and new ways to tackle a problem;



Empathise with the people affected directed by those problems;

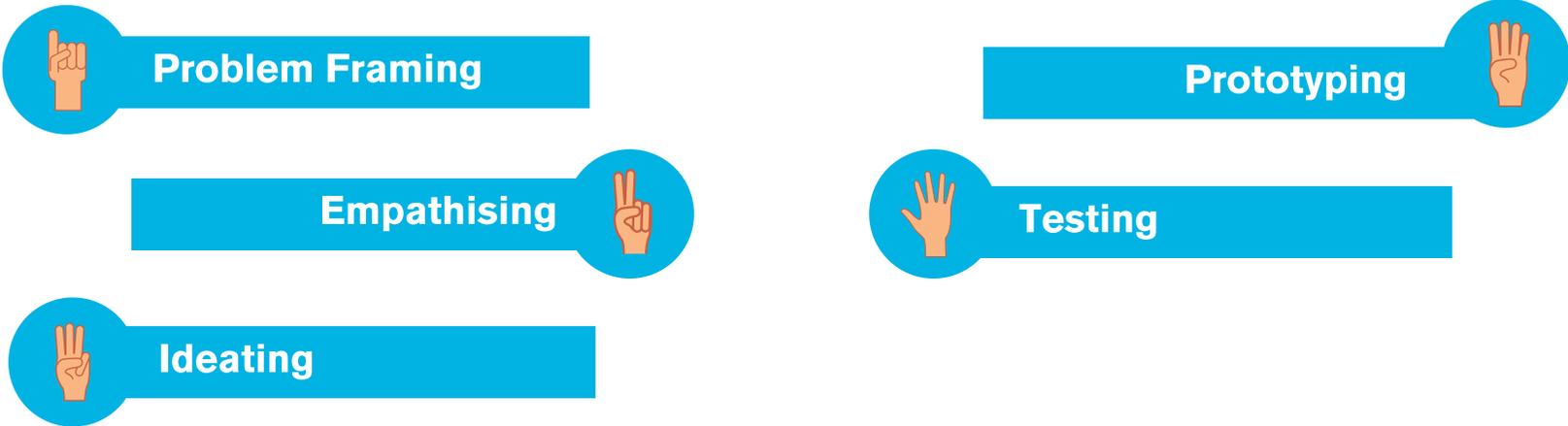


Accommodate ideas from a diverse group of people;



Be able to iterate and adapt your idea as many times as needed.

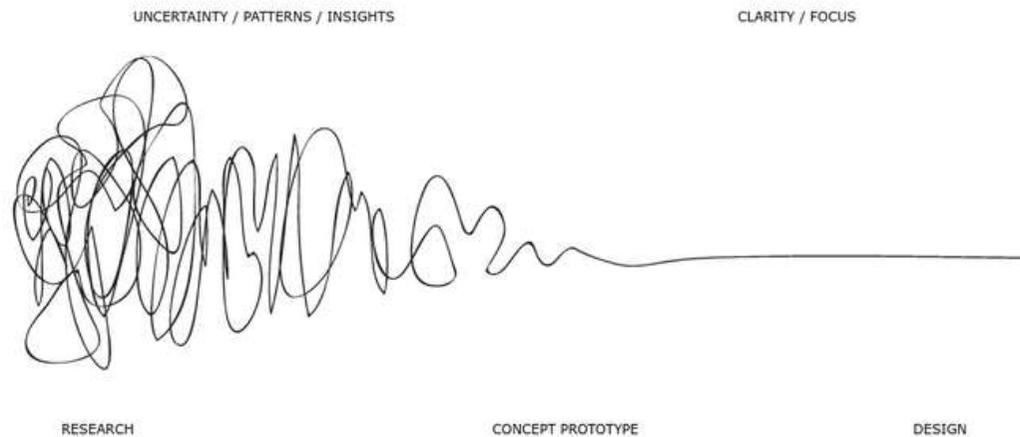
5 STEPS OF DESIGN THINKING



These are the main 5 steps of Design Thinking. As linear as the process may sound, these steps may actually take place several times. When applying this method, designers usually iterate multiple times before they reach a final product.

As a result, failing is a big part of the Design Thinking process. It's a chance to test all aspects of a prototype, and to reassess the ones that didn't work well. Reiterating may involve returning to the first phase (problem framing), generating new ideas or just fixing small parts of the prototype.

THE PROCESS



The Design Thinking process may sound confusing at first, as it goes deep in the problem before finding a working solution for it. It also opens a huge door for generating different ideas, insights and different ways of applying the same ideas. As prototypes are created and tested, the process becomes more clear and focused. As social entrepreneurs, it's important for us to trust the process and to learn at every step of it.

GUIDING PRINCIPLES



Investigate;

Go as deep as you can in the problem before starting to think of solutions for it.



Make it;

Researching and sketching is good, as far as it turns into something real. Bring your ideas to life.



Trust your creativity;

When creating ideas, go far, go big and go wild! Don't judge your ideas and trust your creative impulse to innovate.



Learn from failure;

It is very likely that you'll fail the first few times you try. After failing, debrief and assess what can be improved.



Empathise;

Never forget who is affected by the problem. They should always be at the center of your creative process.



Iterate, iterate, iterate;

Use your learnings to try again, and again, and again. Each time you try, you're closer to the solution you're looking for.



Embrace ambiguity;

Ideas may sound confusing and even contradictory at first. Accept them anyways. Clarity will come with time.



Keep optimistic;

Keep believing that you and your team can do it. Failing and trying again is part of the process. Approach it with lightness and intentionality.



FALL IN LOVE WITH THE PROBLEM, NOT THE SOLUTION.

Finding an effective solution takes time and persistence. With that in mind, rather than clinging to your idea itself, be open to adapting it in a way that will tackle the problem effectively.

Step 1



PROBLEM FRAMING



The first step of Design Thinking is to find and frame a problem to tackle. This step requires an investigative spirit, with an open mind and heart to what you will see and learn.





THE SUSTAINABLE DEVELOPMENT GOALS

The 2030 Agenda for Sustainable Development, adopted by all United Nations Member States in 2015, provides a **shared blueprint for peace and prosperity for people and the planet**, now and into the future.

At its heart are the **17 Sustainable Development Goals (SDGs)**, which are an urgent call for action by all countries - developed and developing - in a global partnership.



Read more in:
<https://sustainabledevelopment.un.org/>



THE SUSTAINABLE DEVELOPMENT GOALS





Going back to the previous page, look at the Sustainable Development Goals once again and identify the ones that need the most attention in your community at the moment. What problems is that SDG associated with? What are the consequences or not reaching that goal?



SDG(s)	Associated problems	Consequences
SDG 3 and 6	Lack of access to sanitation in my neighborhood.	Diseases, lack of potable water, contaminations.

PRINCIPLES OF PROBLEM FRAMING

HUMAN-CENTERED

Investigate human needs, expectations and reactions.

GOES DEEP

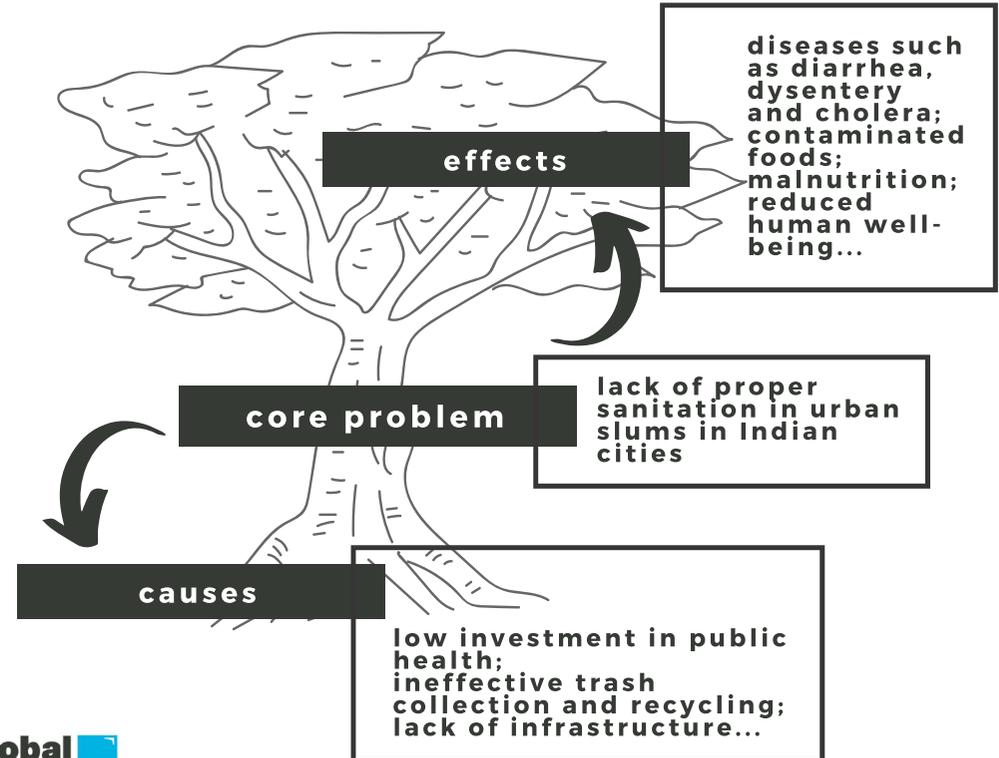
Look for root causes, and not only symptoms. Fall in love with the problem, not the solution.

CONTEXT-BASED

Put the problem into context, consider the "bigger issues".

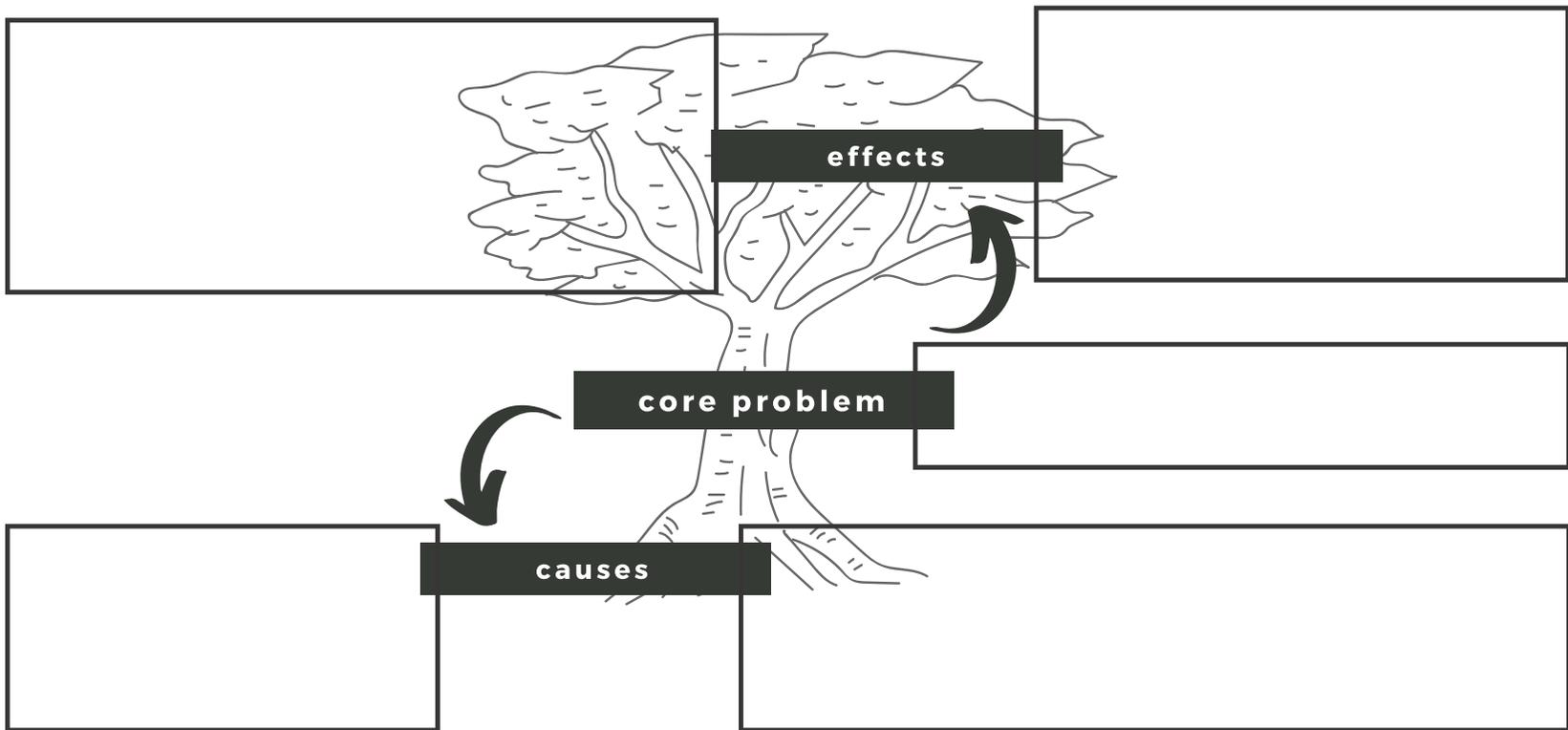


One way to frame a problem is by using a Problem Tree Framework:





Now, take the problem you'd like to investigate and build its Problem Tree Framework. If necessary, do extra research on the topic. Remember to go as deep as possible, to be specific and genuinely curious about the problem, its causes and effects.



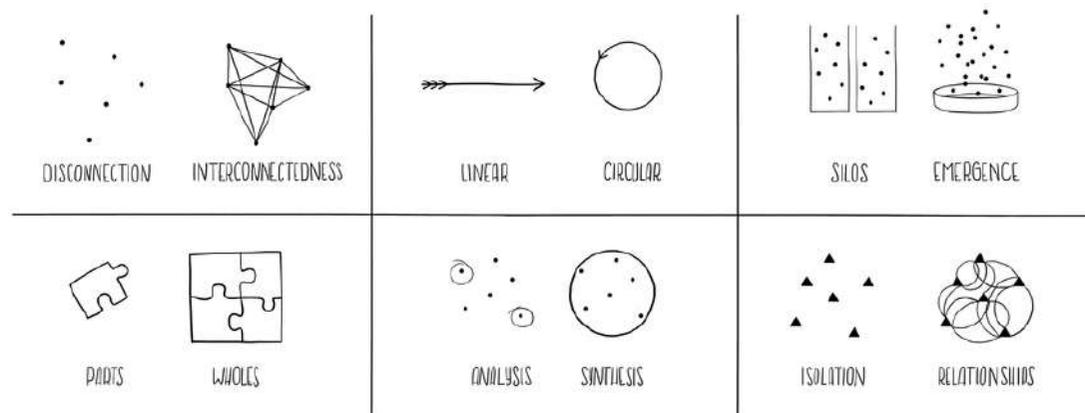


SYSTEMS THINKING

Thinking of problems as part of a larger system is very useful to better understand its causes and consequences. Systems thinking, therefore, is a way to place the problem and potential solutions in a deeper, interconnected and larger system.

Several methods could be used to think of systems rather than isolated phenomena.

TOOLS OF A SYSTEM THINKER

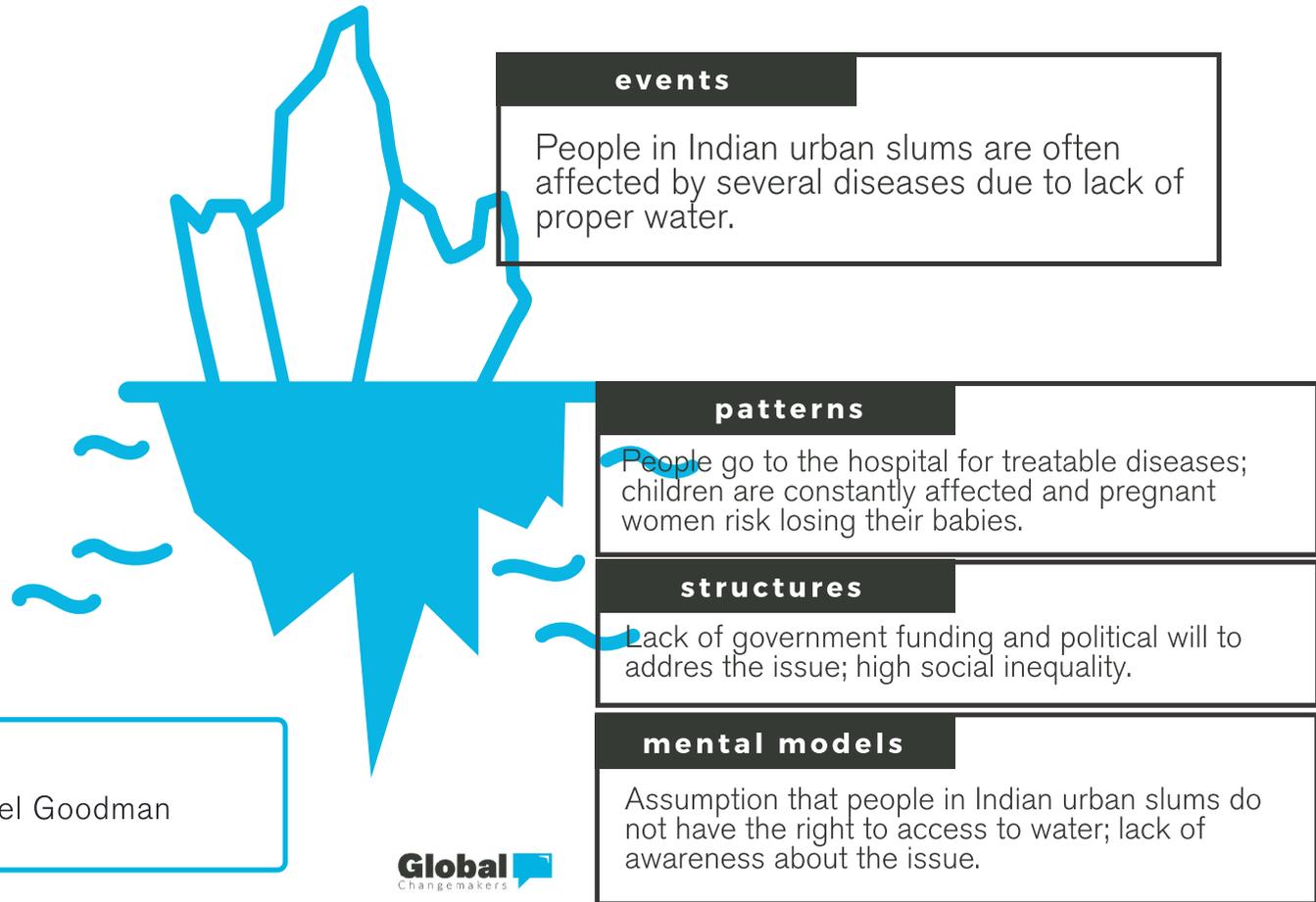


Read more in:
"Tools for Systems Thinkers: The 6
Fundamental Concepts of Systems Thinking",
Leyla Acaroglu

ICEBERG MODEL

One of the models used to represent a system is the Iceberg Model. It is used to identify the underlying structure, patterns and events that correspond to a given phenomenon.

Here is an example:

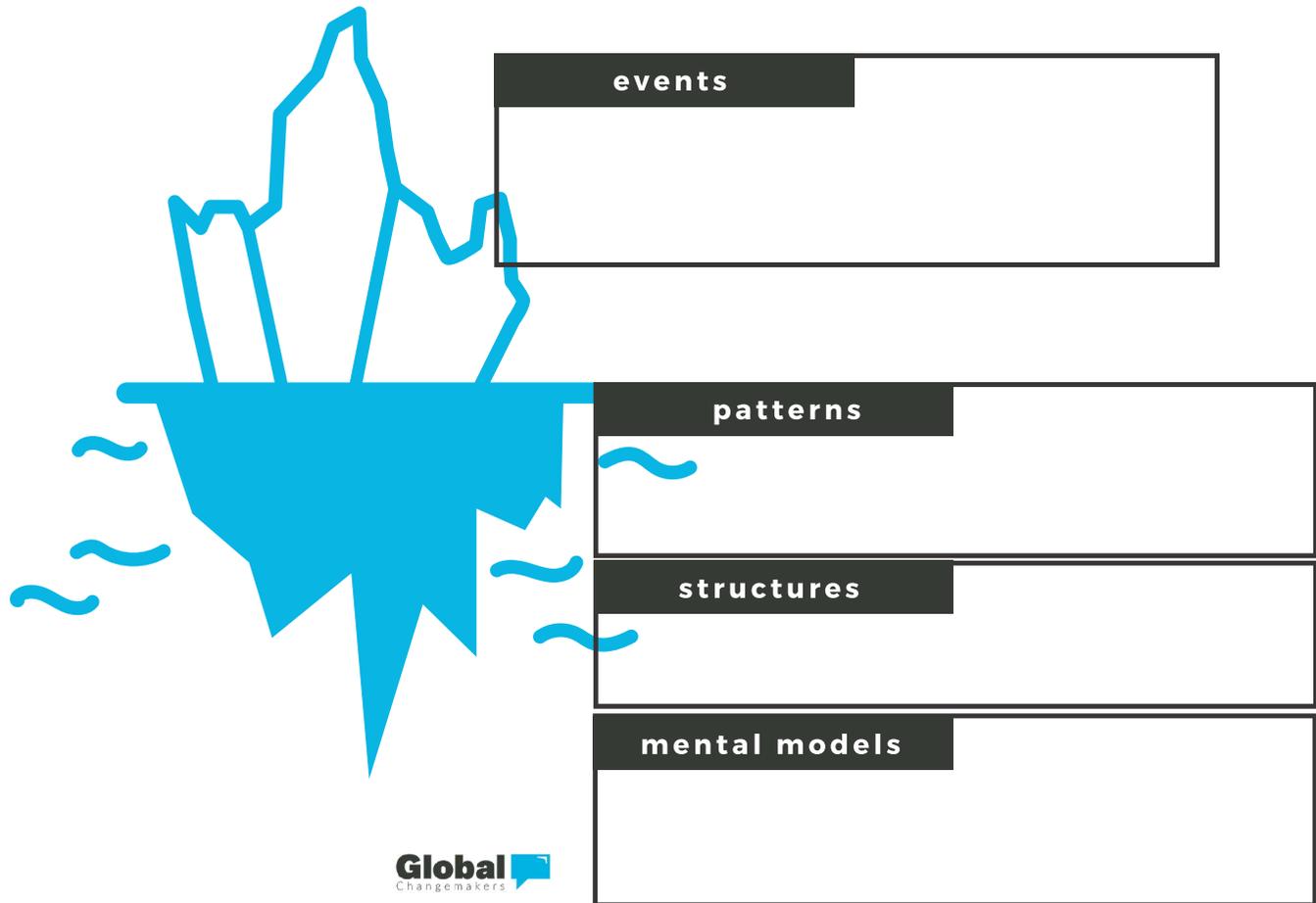


Read more in:
"The Iceberg Model", Michael Goodman



ICEBERG MODEL

Your turn! Fill out the iceberg with structure, patterns and events related to the problem you are working on.



Step 2



EMPATHISING



After investigating a problem to work on, we will empathise with the people who are directly affected by it. We will, so to speak, put a human face on the problem.



WHAT IS EMPATHY?



The origin of the word "empathy" dates back to the 1880s, when German psychologist Theodore Lipps coined the term "einfuhlung" ("in-feeling") to describe the emotional appreciation of another's feelings. Empathy is the process of understanding a person's subjective experience by being curious about their point of view and sharing their emotional state, while maintaining an observant status.

There are three types of empathy:



Cognitive Empathy

"I understand your point of view".



Emotional Empathy

"I feel what you feel."



Compassive Empathy

"I understand your point of view, feel what you feel and I'm ready to help meet your need."



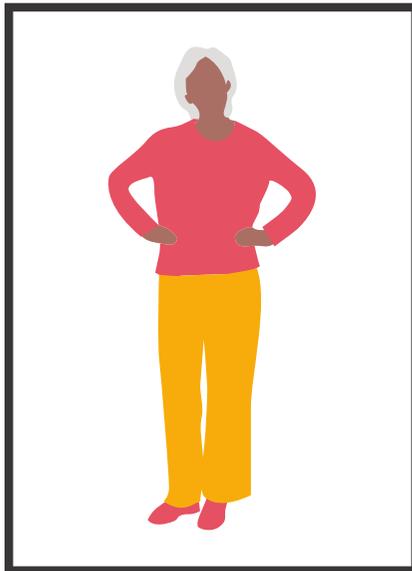
Why is it important to empathise before creating solutions?



Read more in: "Emotional Intelligence", Daniel Goleman and "Empathy and emotional intelligence", Ioannidou and Konstantikaki.



Example: Persona representing a group affected by the lack of sanitation in Indian slums.



This is Pryia. She is 40 years old and lives in a slum located in New Delhi, India. She lives with her husband and 4 children. Everyday, she wakes up at around 5:30am, cleans the house, prepares breakfast for her family and leaves for her job in downtown. After work, she picks up her children from a local public school and brings them home by bus. Her children are the most important people in her life, along with her sister and her husband. Her boss is her biggest role model and she also loves watching Bollywood films. One day, she wants to go to college and move with her family to a better neighborhood. The lack of sanitation affects her and her family because it affects their hygiene habits. Her children have had cholera several times in the past, which prevents them from studying and playing. Pryia wants to find clean water to give her family a better quality of life.



In order to empathise with the group affected by the problem you'd like to tackle, create a "user persona" (representation of the group that will benefit from your future solution). Answer to the questions bellow to do so.

Draw your user persona here.	What is his/her name?	What is his/her job?
	What is his/her age?	What are the most important people/things for him/her?
	Where does he/she live?	Who influences him/her?
	Who does he/she live with?	What are his/her dreams?
	What is her/her routine like?	How is he/she affected by the problem?

Step 3



IDEATION



After investigating the problem and empathising with those affected by it, it's finally time to think of possible solutions!

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Building a "How might we" statement



A "how might we" statement is a prompt to help us think of solutions for the problem. It should be specific and contain the following items:

- The user persona (the statement should clearly state who is affected by the problem);
- The pain point (the statement should clearly identify the problem);
- The intended impact (the statement should clearly show what outcomes you intend to have with your idea).



Example

How might we help **people in the Indian urban slums of New Delhi** to **fight the transmission of diseases like cholera, diarrhea and dysentery** by **improving their access to clean water and sanitation**?



Build your own "how might we" statement.

USER
PERSONA

1. Who are the people affected by your problem?

PAIN
POINT

2. How are they affected by the problem?

INTENDED
IMPACT

3. What is the impact you intend to create?



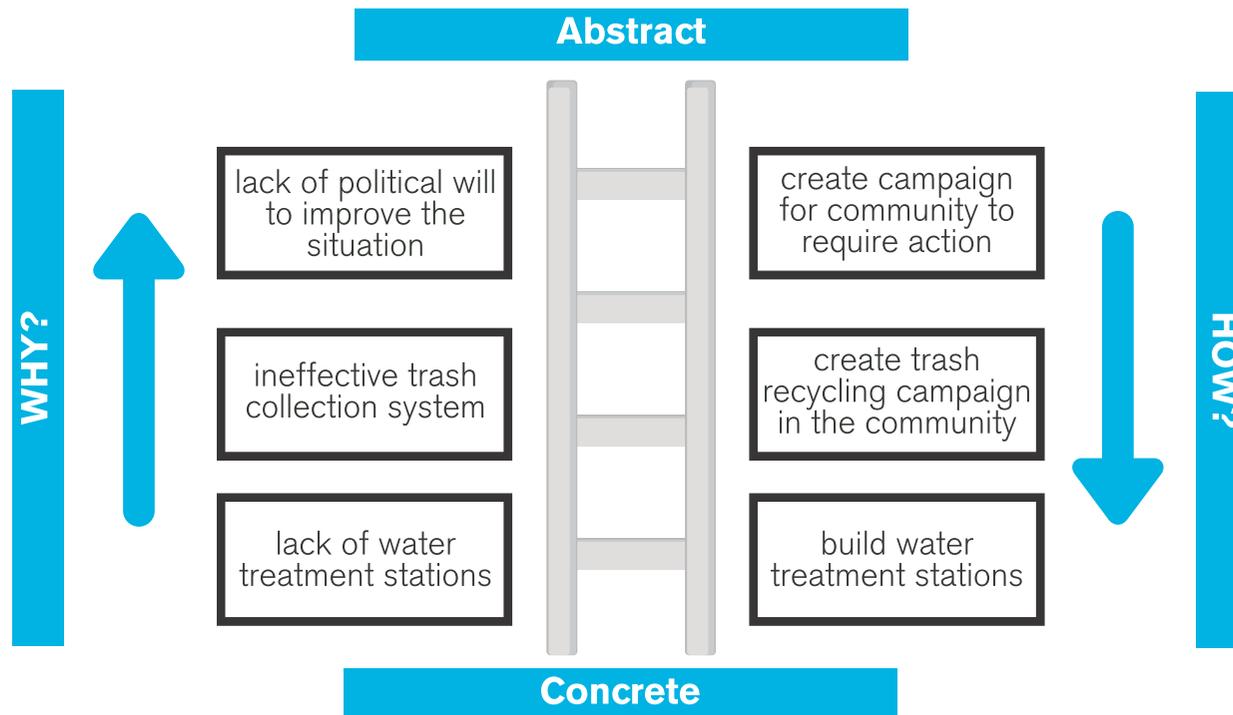
"HOW MIGHT WE"
STATEMENT



To elaborate on your "how might we" statement, use the **Abstraction Ladder**. It will help you connect the causes of the problem with possible solutions for it.

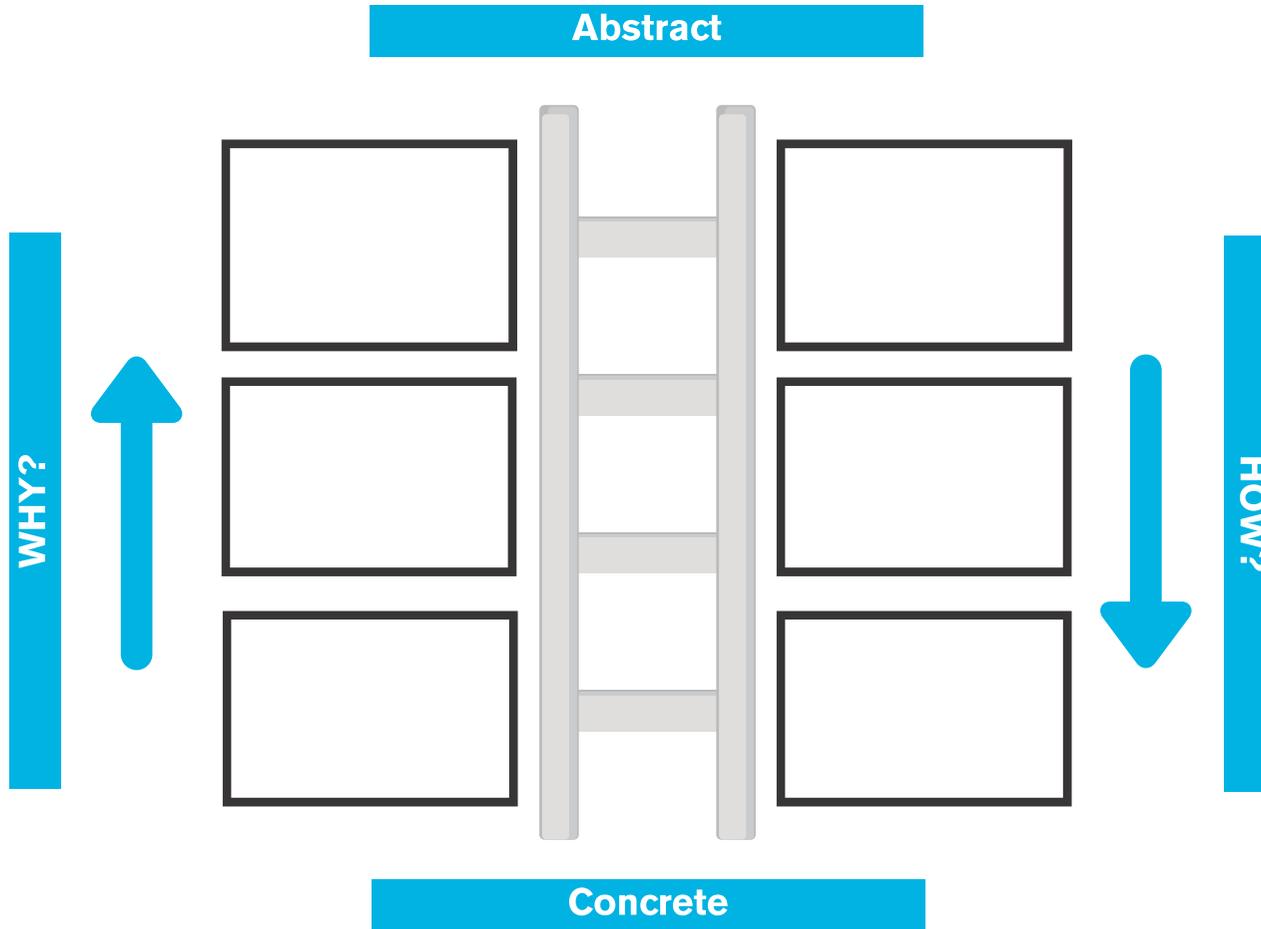
To fill it out:

- 1- Write the causes on the right side, ordering them from less to more complex;
- 2- Write the correspondent possible solutions on the the left side, from less to more concrete.





Your turn!



CREATING IDEAS

When creating ideas on how to tackle the problem you have identified, remember to:

- ✔ Defer judgement;
- ✔ Be visual;
- ✔ Encourage wild ideas.



"You can't use up creativity.
The more you use, the more you have."
- Maya Angelou

CATALYSTS AND CONSTRAINTS

Another way to ideate is to give yourself parameters to address your how might we statement. Consider:

- ✔ What could we do if we had 1 million dollars?
- ✔ What if I only had a week to do the project?
- ✔ Everything was on a boat?



Learn more in:
"Embrace the Shake", TED Talk by
Phil Hansen



Fail hard and fast with your ideas.
Nothing is too silly!

If you are working with a team, use the "Yes, and" policy:

- ✔ Never shoot an idea down, add to it.
- ✔ Practice this in rounds. Invite everyone to build on another idea.
- ✔ Use constraints to get variation and depth to ideas.

Another activity that can be done as a team is the **Crazy 8's Exercise**:

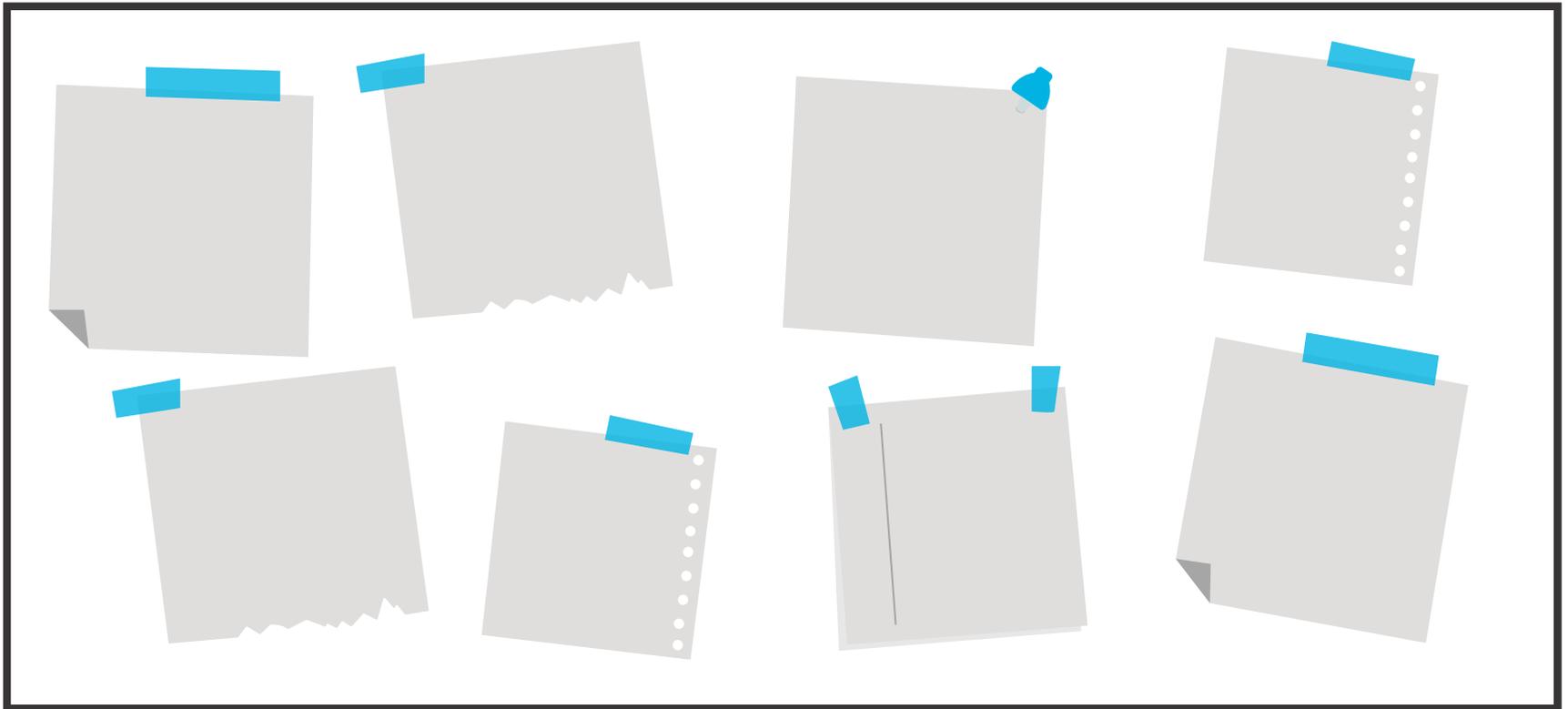
1. Take a piece of paper and fold it into eight sections;
2. Set the timer for eight minutes;
3. Each team member sketches one idea in each rectangle;
4. When the timer goes off, put your pens down;
5. Share your ideas as a team and build up on each others' ideas.



Try using sticky notes and coloured pens as a way to build on ideas in rounds.



This is your free space to generate ideas!



THE IMPACT GAP CANVAS



The Impact Gap Canvas is a useful tool to help you understand a problem, the ecosystem of current solutions, and your possibly entry points to add value to the solutions landscape.

To fill it out,

- 1 - Write the challenges related to the problem you'd like to solve on the right column;
- 2- Write the existing solutions on the left columns (they could include informal initiatives, NGOs, public policies, social enterprises, among others);
- 3- Address the "gaps" in existing solutions by creating ideas of how they could be filled.



Read more in:
"The Impact Canvas" at Tacking
Heropreneurship



THE IMPACT GAP CANVAS

CHALLENGES

What's happening, what's the impact of the challenge, and what's holding the challenge in place?

GAPS

What is missing that could close the gap between the challenge and the current solutions, where are opportunities for greater collective impact, and what are the key lessons learned?

EXISTING SOLUTIONS

What models are already being tried, what's working, what's not, and what resources are available?



After creating ideas, it's time to choose a few of them to move to the next phase. To do so, we will use the matrix below.

Choose an idea that has high impact and - if possible - needs low effort. Impact has to do with how much the idea can help you reach your goal. Effort has to do with how feasible it is to implement your idea.

	LOW EFFORT	HIGH EFFORT
HIGH IMPACT	GREAT GO FOR IT!	GOOD Can you reach the same impact with less effort?
LOW IMPACT	WEAK Can you increase your impact?	BAD Focus on other ideas.

Step 4



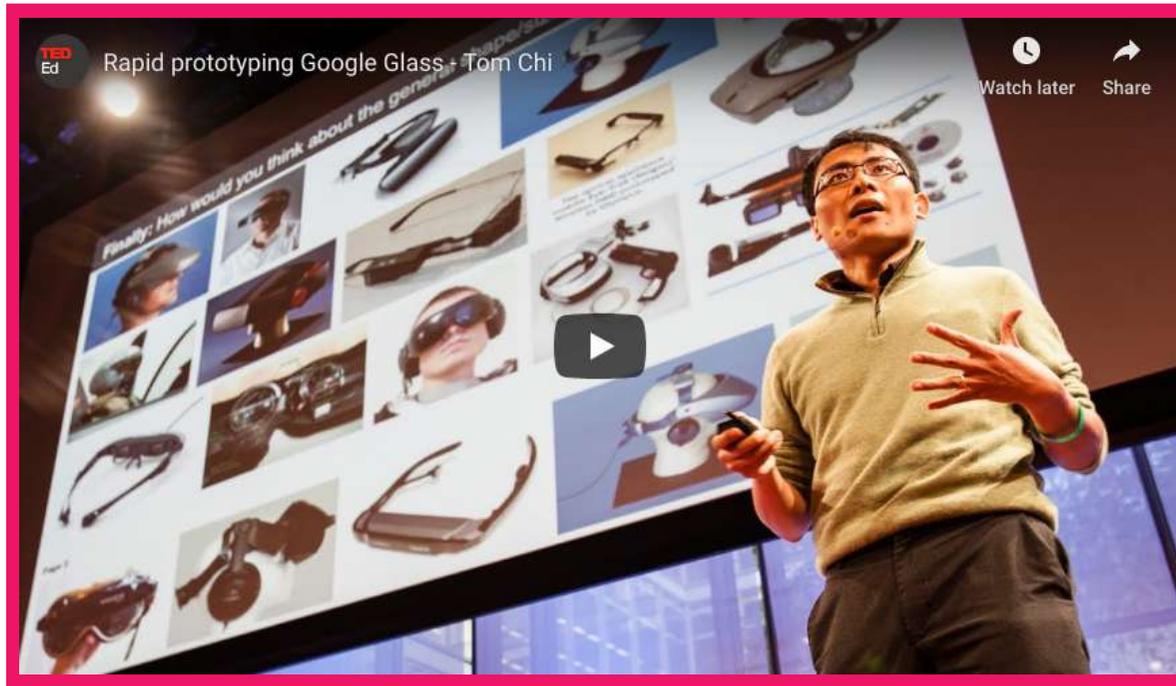
PROTOTYPING



After creating ideas, it's time to build them! Prototyping is about creating a simple version of your idea to assess what parts of it work well and what can be improved in a future version.

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This video shows an example of how Google has prototyped one of their products, the Google Glass. The simple yet practical aspects of it show that our ideas may be more accessible than we thought!



WHY DO WE PROTOTYPE?

- To fail quickly and cheaply;
- To test different possibilities;
- To start a conversation;
- To better visualize our idea, as a prototype is worth 1000 pictures!;
- To learn by doing.

We test different prototypes to find the best way to carry forward an idea.

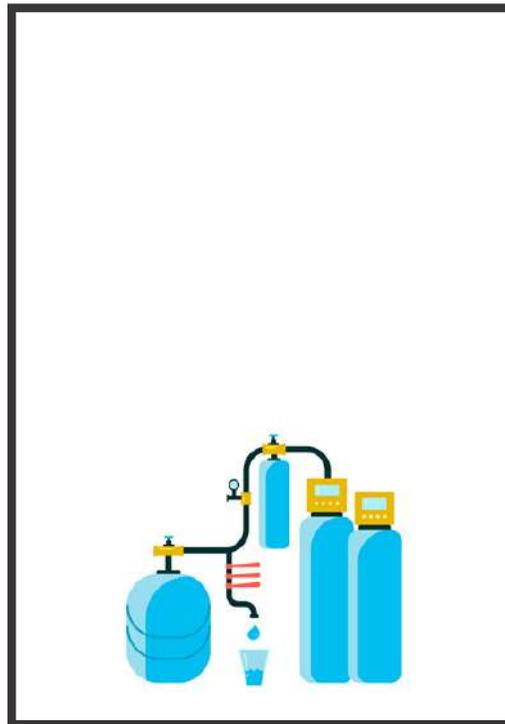


Example: A platform for creating safer drinking water

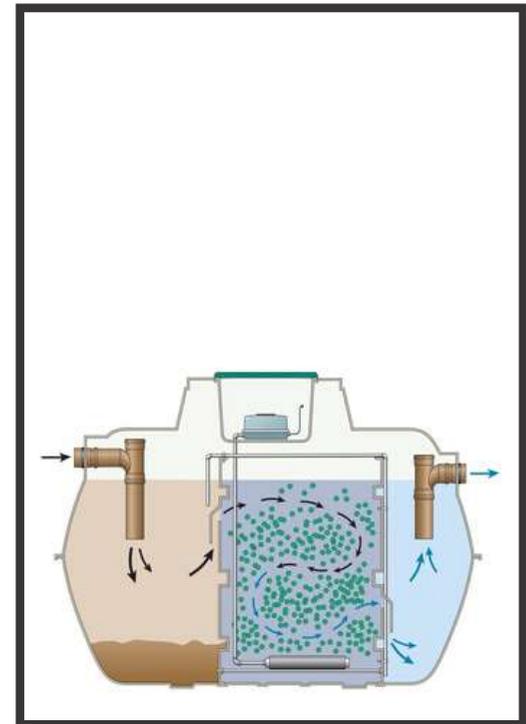
Protoype 1: Political lobby



2: Water purification filters



3: Sewage treatment system



HERE ARE SOME IDEAS ON HOW TO PROTOTYPE:

You can draw it and ask for feedback from people who would benefit from your idea.



Source: Mob Lab (Greenpeace Mexico at the Campaign Accelerator)

You can tell a story.



Source: Mob Lab (Greenpeace Mexico at the Campaign Accelerator)

You can role-play it.



Source: Top Secret Agency UK

You can build it.



Source: archdaily.com



How could you carry out your ideas? Here's some space to sketch out a few:

Idea 1:

A large, empty rectangular box with a black border, intended for sketching out the first idea.

Idea 2:

A large, empty rectangular box with a black border, intended for sketching out the second idea.

Idea 3:

A large, empty rectangular box with a black border, intended for sketching out the third idea.

Step 5



TESTING



Once you've build a few prototypes, it's time to test them! This is the last stage of Design Thinking and, of course, you can return to the previous stages after testing to reiterate your ideas.

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WHY DO WE TEST?

- To refine prototypes and solutions;
- To learn more about your audience and the problem.



HOW DO WE TEST?

- Creating experiences;
- Sharing, not selling;
- Failing, so we can learn and iterate.



Plan your testing using the questions below.

1. Which idea/prototype will you test?

4. What is your expected result?

2. Who are you testing it with?

5. What could go "wrong"?

3. How are you collecting users' feedback?

6. How will you apply your learnings into your idea?



HERE WE GO AGAIN!

Once you have reflected on your testing, prototype again based on what you learnt. Then test it again.

Design thinking means we are never quite finished, so this process of prototyping and testing can carrying on as you conintue to evolve your project.



"I haven't failed -- I've just found 10,000 that won't work."
Thomas Edison and the Invention of the Light Bulb.

OTHER RESOURCES

There are many more tools, resources and methodologies you can use to create effective projects!

Click on the boxes below to check them out:

**Disruptive Design
Methodology**

**GCM Project
Management Toolkit**

Design Sprint Kit

**Planet-Centered Design
Methodology**

Designkit.com

**Tacking
Heropreneurship**

**Sileaning
Repository Tools**



THANK YOU

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