

**SAFE
AGUA
PERU**

About Safe Agua

Design Innovation w/the Base of the Pyramid:

“When used properly, nothing drives growth and eliminates poverty more effectively than water.” - Blue Planet Run

SAFE AGUA Peru is a trans-disciplinary studio for social innovation, with the aim to help families in Peru’s slums overcome water poverty. The project will begin with a ten-day intensive field research trip, where the team will work directly with families living without access to basic services, including running water and sanitation, in Cerro Verde, a 30,000-person slum perched on the hillsides surrounding Lima, Peru.

Driven by field research, teams will design innovative water solutions and create full-scale working prototypes, to be tested by the community, and implemented by Un Techo’s Innovation Center. SAFE AGUA Peru builds upon the 2009 SAFE AGUA Chile project, thanks to the support of a 2011 NCIIA Sustainable Vision Grant.

Educational Partnership for Social Change:

Centro de
Innovación

 *Un techo para mi País*

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designmatters

 Art Center College of Design

Design Challenge

Brief:

How can we work with families living in Peru's asentamientos to design & develop solutions, products & services for using, obtaining, containing & carrying water, in order to help break the cycle of poverty?

Design Goals:

- _ Scalable, sustainable solutions with potential for real world implementation
 - _ Radically affordable products & services for Base of the Pyramid
 - _ Solutions that address specific problems, with both quantitative impacts (illness reduction, water conservation, increased time for self-improvement, opportunities to generate income) and qualitative impacts (sense of dignity)
 - _ Solutions at the scales of: products for individuals & households; products, spaces and services for a small group of families (which can in turn benefit a larger group); services for many communities
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Consider:

- _ “Make sure your approach has positive measurable impacts that can be brought to scale. Make sure it can reach at least a million people and make their lives measurably better” – Paul Pollack
- _ “If we stop thinking of the poor as victims...and start recognizing them as resilient and creative entrepreneurs and value-conscious consumers, a whole new world of opportunity can open up. Four billion poor can be the engine of the next round of global trade and prosperity. They can be a source of innovations.” - C. K. Prahalad

Field Research

About these Cards:

This set of cards is a tool to help guide the SAFE AGUA field research phase. They outline initial topics, methodologies, quantitative & qualitative questions, and tips. They are intended as a generative starting point for gaining insights into another culture, rather than a prescriptive method.

Topics of Research Focus

Individual & Community:

Day In The Life
Aspirations / Limitations
Materials & Making
Maps & Networks

Specific Water Focus:

Obtain / Contain
Carry / Move
Use / Reuse Water

Goals of Field Research Phase:

- _ Seek the most powerful opportunities
- _ Identify important, relevant problems to address, that apply to 1000s of villages
- _ Empathy and deep connections with families we meet
- _ Understand and document people's dreams, needs, and constraints
- _ Gain understanding through: Participation and direct experience; qualitative and quantitative questions & analysis; listening to people's stories

Day in the Life



Catalog a day in the life of individuals and families, with special attention to the role water plays.

How can we best impact this area?

Day in the Life

Suggested Methodologies:

Sharing Everyday Life: Print & bring to Peru a 10-picture booklet with important events of your own life to share. Give inexpensive/disposable digital cameras to the family members to keep a camera journal of their daily life, considering water activities, mundane activities, and those that seem to be very important. Ask each family member to narrate the pictures.

Quantitative Questions:

Aim for measurable answers. Ask questions like: How much time do you spend working? How much do you earn? How much time do you spend with your family? How much do you spend on specific goods & services (shampoo, phone, etc)? How often do your kids get sick?

Qualitative Questions:

Based on the photographs and your observations, construct a story of the family members' daily life. What is the storyboard of their day? When you follow up, ask them questions about why certain daily events are important by holding individual or group conversations.

Keep in Mind:

People can change behavior when they are being observed. Be aware of moments when their words and actions are incongruent. Become genuinely interested in people's life and demonstrate sincere appreciation.

Aspirations / Limitations



What are people's goals and aspirations, and what keeps people from achieving them?

How can we best impact this area?

Aspirations / Limitations

Suggested Methodologies:

Collage or Card Sorting: Prepare a mini visual encyclopedia of images ahead of time & gather aspirational images in Peru. Ask participants to build a collage & to explain the meaning of their image choice and arrangement.

Draw your Past & Future: Ask participants to “draw the future you want?” Draw a path from the past, to now, to that future – with the steps and hurdles along the way.

Quantitative Questions:

How much money people make vs. how much money do they need to get by. Ask them to create an itemized list of expenses of their household comparing needs vs. wants.

Qualitative Questions:

Ask people what steps are they taking to achieve their dreams and goals. Find out what they believe are able to accomplish, at the individual and community level. Also explore what larger structures (policy, class issues) that might prevent them from achieving their goals. What could change, beyond the individual/community level that might allow them to achieve their desired future?

Keep in Mind:

There is a difference between short term and long-term aspirations. Gather direct, unfiltered quotes. Ask “why” 5 times, to get to the real why.

Materials & Making



What are the existing material realities, individual & local skillsets, and innovative solutions that people have created?

What are key resources and opportunities?

Materials & Making

Suggested Methodologies:

Materials & Colors mood board: collect visual and physical artifacts of the object culture and material reality of the community, to discover emotional connections & material values.

Skillsets & Innovations: ask people to show you things that they've made and the motivation behind making them: recreational, social, economical, etc. In particular be attuned to material innovations involving water.

Quantitative Questions:

Understand reasons for use of materials, containers & tools in terms of efficiency, size, material durability, flexibility, strength...

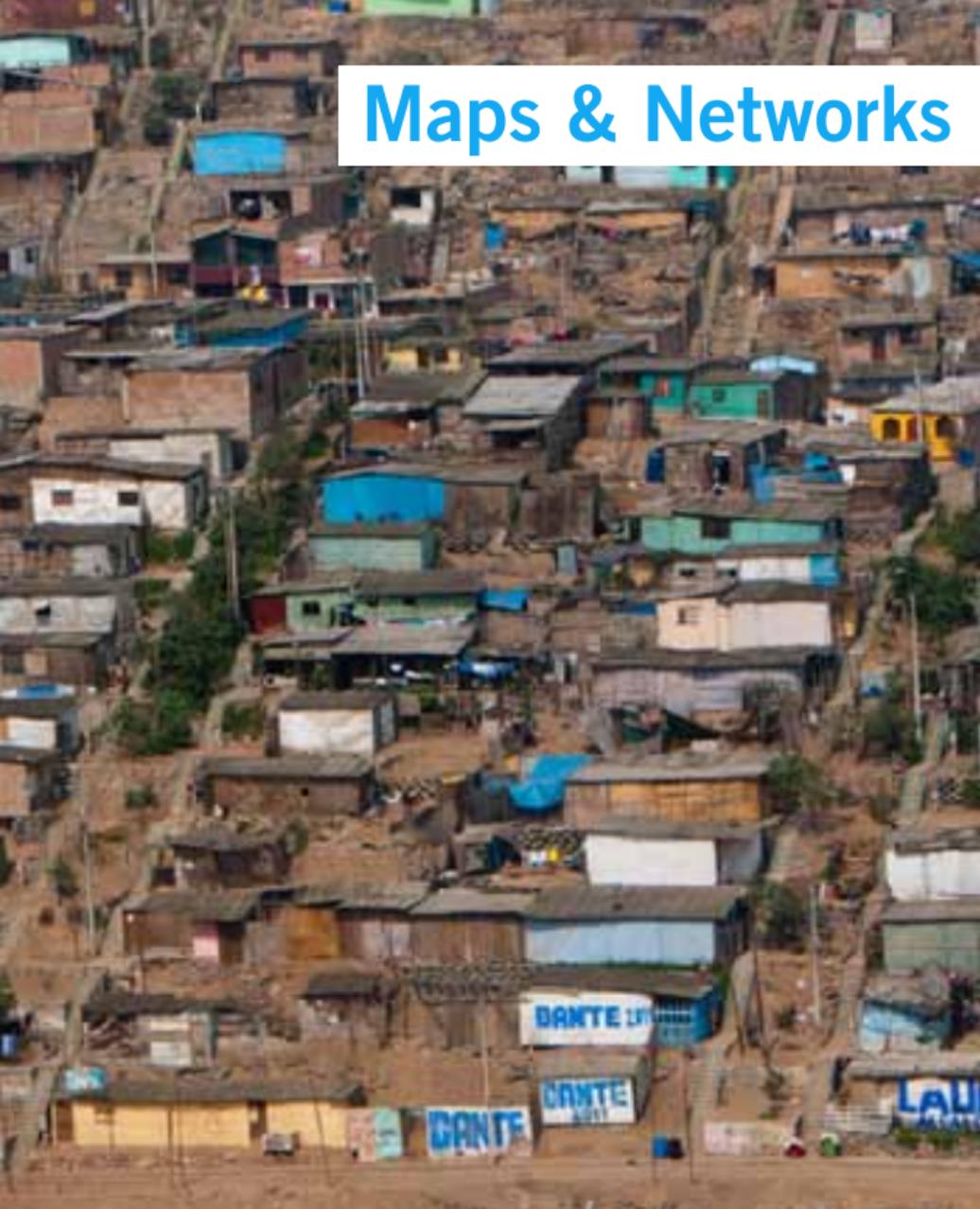
Qualitative Questions:

What are historical Peruvian making processes or traditions? Ask and observe what materials people consider valuable, not only because of their cost but also because of the functionality or value they provide. Ask people what objects are missing from their lives in order for them to perform daily tasks. Pay close attention to the functional needs in terms of materials, finishes, colors.

Keep in Mind:

The material object culture is a direct consequence of the physical environment and cultural interactions between people. How can existing local materials become resources? How can people's existing & new skillsets generate entrepreneurial opportunities?

Maps & Networks



Document the spatial organization of the home and neighborhood; and the social organization of water-related social networks?

What are key resources and opportunities?

Maps & Networks

Suggested Methodologies:

Map house & neighborhood: Create rich maps that show materials, facades & dimensions, as well as paths people take to perform water-related actions. Use plan, section & axon views.

Ideal Home Layout: Draw an overhead plan of the home, with all existing furniture, outhouse, water storage, etc. Ask the head of household to rearrange her current house, utilizing all the same furniture, and create her ideal configuration. Ask why...

Discover and document water-related social networks: record important relationships people go about when using water. Visualize the network dynamics with the family by creating temporary 3D sketches.

Quantitative Questions:

Measure your stride & pace out distances. Take flat-on façade/material photos with scale reference & stitch together panoramas. Ask: “how do you get there and how long does it take you”.

Qualitative Questions:

Beyond your observations, ask people who they rely on/interact with to collect, carry, store & use water, and why. Ask questions to illuminate how water use affects spatial & social practices.

Keep in Mind:

People's ideas of socializing may not obviously be related to water.

Obtain / Contain



How do people obtain, store and protect water and other objects, food & valuables?

How can we best impact this area?

Obtain / Contain

Suggested Methodologies:

Guided Tour: Ask people if you can accompany them on a guided tour of how they store & contain water, objects, food & valuables.

Trace Water to its Origin: Trace the water back from the truck, to point of origin, to initial source. Identify at which points along the way: contaminants are introduced; money exchanges hands; municipalities, companies & broader policies are involved.

Quantitative Questions:

Aim for measurable answers. Use questions like: “how much do you pay for water & how often,” “how far do travel to get water,” “how many trips do you make to and from water source,” “how many people do you interact with when obtaining your water,” “how often does the water truck come.”

Qualitative Questions:

How secure do people feel about the certainty of their water supply? Ask people how they feel about their social interactions to obtain water. Are there certain interactions they would rather avoid if they could and why?

Keep in Mind:

Consider differences between storing valuable vs. everyday objects. Also, families may not know if the water is potable or contaminated.

Move & Carry



How do people carry water and other objects?
What types of transportation do people use?
How can we best impact this area?

Move & Carry

Suggested Methodologies:

Flow Analysis: Document how people carry water (and any automated flows of water), and the paths the people & water take through all phases of use. Consider flows not only on a plan, but also up and down in section.

Storyboard of Water: Illustrate a storyboard from the perspective of a water drop as the main character. If water could tell its story, what would it say?

Quantitative Questions:

Count and document how many tools, pots & containers people use in order to perform each water-related chore. Measure all physical touch points of water in the community in terms of: quantity utilized, size and capacity of the containers, time spent, productivity levels when carrying and moving water, amount of water spilled due to mishandling, etc.

Qualitative Questions:

What emotional, physical & health impacts does carrying water have on individuals? What do people carry around daily? If they had to run out of their house in a fire, what would they take?

Keep in Mind:

How can minimizing carrying and moving water impact people's health and afford free time for self-improvement activities? Seek potential connections with community & recreational activities.

Use / Reuse Water



How do people use water for daily activities?

How is water re-used or discarded?

How can we best impact this area?

Use / Reuse Water

Suggested Methodologies:

Participate in water-related activities: With a family member, participate in daily chores (laundry, dishes, cooking, cleaning home, etc). Ask “teach me how you do laundry, etc?”

Create an action map of a water routine: select an important water routine (i.e. collecting water, cooking) and document the specific actions, capturing a great amount of detail. Take a video & draw a map of these actions.

Quantitative Questions:

Aim for measurable answers. Ask questions like: “how much water do you use in a day”, “how many times you take a shower during the week”, “how often do you wash clothes & how long does it take”, “where and how do you hang clothes to dry,” “how do you purify or boil water and for how long”

Qualitative Questions:

Ask where are potentialities and opportunities in this routine. What are alternative paths of action? Are there points in which a design solution might help support their action? Are there activities that people find undignified, embarrassing, or want to avoid being seen?

Keep in Mind:

Try to participate in daily chores, and also observe people going about their day without interfering. For touchy topics (i.e. shower, latrine) ask people to reenact the activity or pantomime the steps.