HCD

HUMAN CENTERED DESIGN

AN INTRODUCTION

THIS TOOLKIT WAS MADE FOR YOU.

It contains the elements to Human-Centered Design, a process used for decades to create new solutions for multi-national corporations. This process has created ideas such as the HeartStart defibrillator, Cleanwell natural antibacterial products, and the Blood Donor System for the Red Cross—innovations that have enhanced the lives of millions of people.

Now Human-Centered Design can help you enhance the lives of smallholder farmers. This process has been specially-adapted for organizations like yours that work with farmers in Africa, Asia, and Latin America.

Human-Centered Design (HCD) will help you **hear** the needs of smallholder farmers in new ways, **create** innovative solutions to meet these needs, and **deliver** solutions with financial sustainability in mind.

LET'S GET STARTED.

CONTENTS OF
THIS TOOLKIT

H

The Hear booklet will guide you through the process of preparing for research with smallholder farmers using HCD methodology.

Field Guide, which contains worksheets that will help you to prepare for and conduct field research with farmers. Along with the Aspirations Cards, this is all you will need to take to the field with you.

C

The Create booklet will help you analyze your data and turn that data into concrete solutions.

D

The Deliver booklet will give you the tools to catapult solutions from ideas and prototypes to plans that can be implemented.

WHY?
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WHY?

> ❝ ❞
>
> Using HCD, we got more information than we expected
>
> **—IDE Zambia**
>
> HCD surprised us because even people who didn't know a lot about the topic were able to create so many solutions
>
> **—IDE Vietnam**

WHY DO HUMAN CENTERED DESIGN?

» Because it can help your organization **connect better with smallholder farmers.**

» Because it can **transform data into actionable ideas.**

» Because it can help you **see new opportunities.**

» Because it can help to **increase the speed and effectiveness of creating new solutions.**
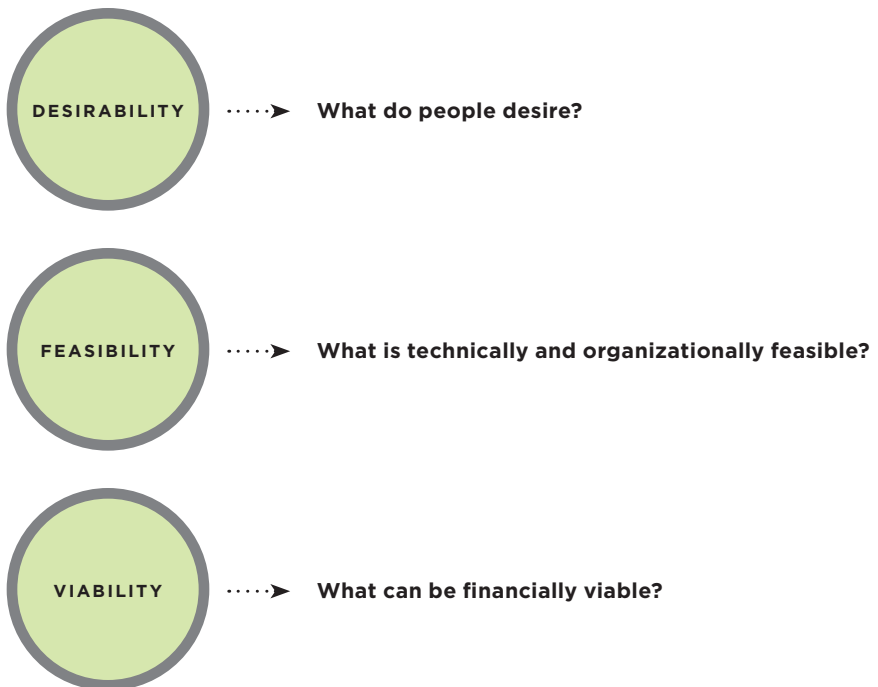
WHY A TOOLKIT?

» **Because the farmers are the experts.** They are the ones who know best what the right solutions are. This kit doesn't offer solutions. Instead, it offers techniques, methods, tips, and worksheets to guide you through a process that gives voice to farmers and allows their desires to guide the creation and implemention of solutions.

» **Because only you know how to best use it.** Human-Centered Design is a process broken into a set of tools. This is so that you can pick and choose which techniques work best for your context and your situation. Use it alone or along with PRISM, value chain analysis, PRA, triangulation, participatory co-design, or other methods you use in your organization to imagine and implement new ideas.

THE 3 LENSES OF
HUMAN-CENTERED DESIGN

Human-Centered Design (HCD) is a process and a set of techniques used to create new solutions for the world. When we say solutions, we mean products, services, environments, organizations, and modes of interaction.

The reason this process is called "human-centered" is because it starts with the people we are designing for. The starting point of the HCD process is to examine the needs, dreams, and behaviors of the people we want to affect with our solutions. We seek to listen to and understand what they want. We call this the Desirability lens. It is the lens through which we view the world through the entire design process.

Once we have identified the universe of what is Desirable, we begin to view our solutions through the lenses of Feasibility and Viability. We carefully bring these lenses in at the later phases of the process.

DESIRABILITY ·····▶ **What do people desire?**

FEASIBILITY ·····▶ **What is technically and organizationally feasible?**

VIABILITY ·····▶ **What can be financially viable?**

**The solutions that emerge through Human-Centered Design should
hit the overlap of these 3 lenses; they need to be Desirable, Feasible,
and Viable.**

Start Here

DESIRABILITY

FEASIBILITY

VIABILITY
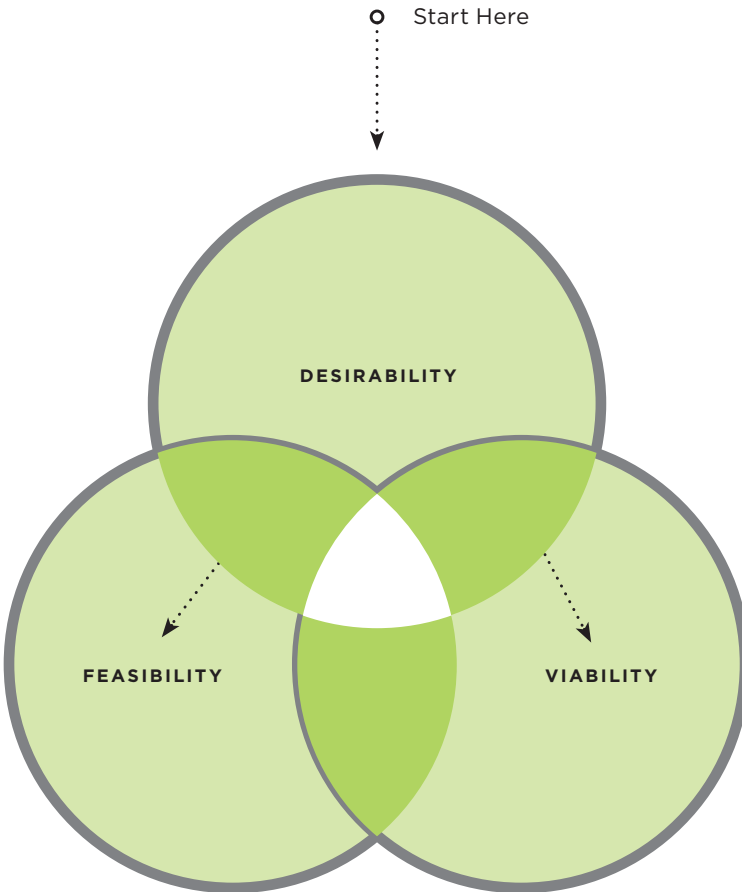
THE HCD PROCESS

The process of Human-Centered Design starts with a specific Design Challenge and goes through three main phases: Hear, Create, and Deliver.

HEAR

During the Hear phase, your Design Team will collect stories and inspiration from people. You will prepare for and conduct field research.

CREATE

In the Create phase, your Design Team will work together in a workshop format to translate what you heard from people into frameworks, opportunities, solutions, and prototypes. During this phase you will move together from concrete to more abstract thinking in identifying themes and opportunities and back to the concrete with solutions and prototypes.
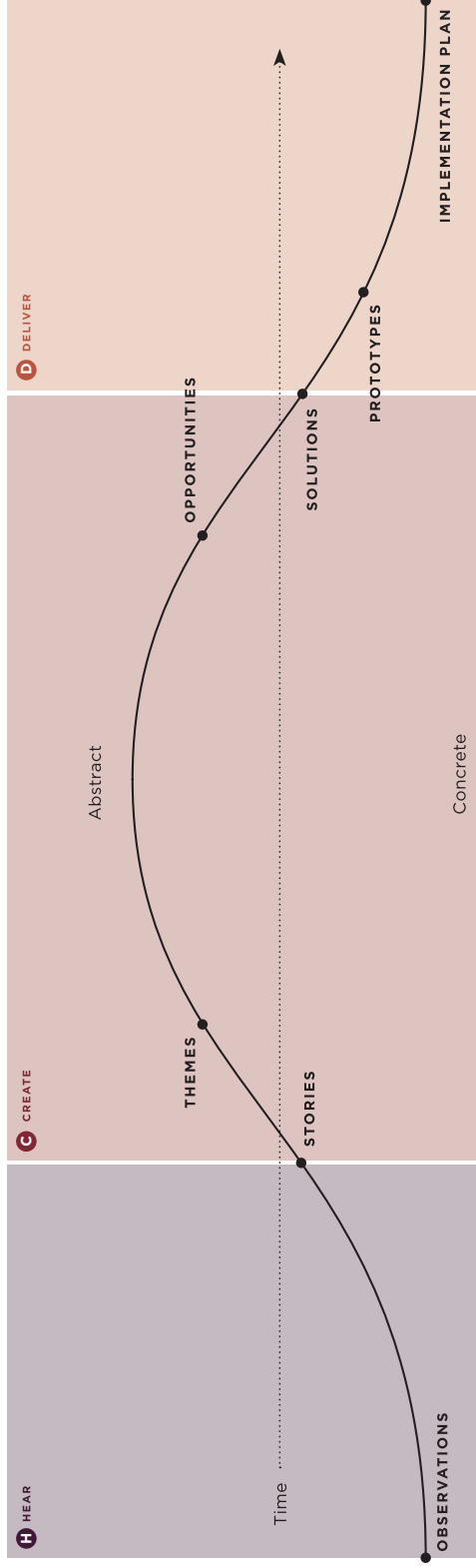
DELIVER

The Deliver phase will begin to realize your solutions through rapid revenue and cost modeling, capability assessment, and implementation planning. This will help you launch new solutions into the world.

To recall these phases, simply remember H-C-D.

H HEAR

C CREATE

D DELIVER

OBSERVATIONS

STORIES

THEMES

OPPORTUNITIES

SOLUTIONS

PROTOTYPES

IMPLEMENTATION PLAN

Time

Abstract

Concrete

HOW TO USE
THIS TOOLKIT

This toolkit will guide you through a design process based on HCD methodology. Using this toolkit on its own will yield great solutions. However, HCD is also very flexible and can complement or be supplemented by various other approaches. Methods such as Participatory Rural Appraisal (PRA), Subsector/Value Chain Analysis, Triangulation, and Co-design Workshops can all be incorporated into the HCD methodology provided here. For example, your Design Challenge may necessitate knowing about the mapping of village resources. If a team member is familiar with a PRA method effective for gathering this kind of information, it should absolutely be incorporated into the process.

So be creative and rigorous in choosing and mixing your methods – the best outcomes might come from the most unexpected combinations!

USE THIS
HOW TO

TIP

There is a separate "facilitator" version of the Hear, Create, Deliver booklets. If you are the facilitator, use the notes provided to you in the margins as rough instructions of how to move your team forward through the innovation process. Please add any additional instructions, methods, or techniques you feel would be relevant to your design challenge.

WATCH OUT

The facilitator must user her/his power wisely. The facilitator is a role to lead the team through the process; this person can certainly contribute to the content of the ideas, but should not use his/her power to sway decisions.

INNO VATION

THE INFRASTRUCTURE OF INNOVATION

By completing thousands of innovation and design challenges, IDEO has learned a few rules for creating an environment to facilitate innovation. See if any of these can be applied to your organization.

Multi-Disciplinary Teams
The challenges you face are very complex and are likely to have been explored by predecessors. You will have a higher likelihood of success at solving such complex, difficult, and already-examined problems by intentionally assembling the right team of people. This team will work best if it consists of a core group of 3-8 individuals, one of whom is the facilitator. By mixing different disciplinary and educational backgrounds, you will have a better chance of coming up with unexpected solutions when these people approach problems from different points of view.

Dedicated Spaces
Having a separate project space allows the team to be constantly inspired by imagery from the field, immersed in their post-it notes, and able to track the progress of the project. If possible, find a dedicated space for your design team to focus on the challenge.

Finite Timeframes
Many people notice that they work best with deadlines and concrete timelines. Likewise, an innovation project with a beginning, middle, and end is more likely to keep the team motivated and focused on moving forward.

TIP

To ensure that there is a balanced gender perspective, involve female staff in all phases of this process.

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SCENARIOS OF USE

The following Scenarios of Use help to outline how you might find yourself using this toolkit for innovation. The first two scenarios utilize the principle of finite timeframes to frame the entire challenge, while the latter two demonstrate how small sections of the toolkit can be used to provide motivation, concrete goals, and a path to getting unstuck in longer-term programs.

SCENARIO 1:
THE WEEK-LONG DEEP DIVE

This mode of engagement forces the design team to work quickly to gather and analyze data, then move rapidly to solutions, prototypes and plans. The one-week timeframe is a familiar timeframe that is long enough to gain good understanding, yet short enough to allow a stressed organization to put limited resources against a challenge. This format is good for early-phase learning and for spurring new thinking.

Use When You:
» Need to learn about a new area or challenge quickly.
» Need to kick-start thinking about a long-standing intractable problem.
» Want to refresh the thinking of the staff.

Pull Out and Use:
» All sections of the Toolkit in sequence.

TIP

Know the limitations of your data and your early prototypes when doing a Week-Long Deep Dive. If validity is necessary without much time for research, use secondary data to triangulate your findings. Build a plan for iterating early prototypes for future refinement.

02

SCENARIO 2:
THE SEVERAL-MONTH DEEP DIVE

A longer Deep Dive can last several weeks to several months. This mode of use enables a deeper, more nuanced understanding and theorization of a complex challenge or problem. With a longer time frame, more locations can be examined and more stakeholders in the value chain can become participants in the process.

Use When You:
» Need to design robust solutions because the funds for implementation are available.
» Have the resources to allocate on thinking through multi-faceted challenge.
» Need to engage many actors in the process, such as partners, value chain stakeholders, funders, etc.

Pull Out and Use:
» All sections of the Toolkit, allowing the nature of the Challenge to dictate the appropriate timeframes for each Phase.

TIP

When you have more time for a Deep Dive, it may be tempting to spend the vast majority of time doing more research. Pay attention and notice when you are hitting decreasing returns and stop the research when you are learning little new information. Remember—in the early stages, you are doing research to understand the problem and inspire the team. There will be time to validate later.

03
03
03

SCENARIO 3:
ACTIVATING ALREADY-EXISTING KNOWLEDGE

Often organizations have a great deal of research and already-existing information but are unable to translate all that information into actionable solutions. In this case, the processes outlined in Create and Deliver can help your team transform what you know into things you can start doing.

Use When You:
» Have a lot of data and you don't quite know what to do with it.
» Have been hearing interesting stories from the field staff and want to see if those stories can yield new opportunities or solutions.
» Have a robust research methodology that you like better than the one in this toolkit.

Pull Out and Use:
» Create

» Deliver

TIP

Even if you have the information captured in a different form (in Word documents, for example), take the time to translate that information through the Story Sharing methods outlined in the first part of the Create booklet.

04

SCENARIO 4:
COMPLEMENTING LONG-TERM ACTIVITES

Many HCD methods are applicable at different times to the challenges your organization will face in Technology Adaptation, Monitoring & Evaluation, etc. We hope that you will find some of the techniques useful in infusing the spirit of innovation in your day-to-day activities, even when there is no explicit Design Challenge at hand. Pick and choose your methods as you wish to help complement your daily work.

Use When You:
» Want a new technique to add to your work routines.

» See a method in this toolkit that you find applicable to the daily challenges you face.

» Can't set aside the resources for an HCD project, but want to infuse the spirit of Human-Centered Design in your everyday work.

Pull Out and Use:
» Any pieces of your choosing.

TIP

For example, if you're working on adapting an existing technology and have already-existing information about the context you want to adapt to, use Steps 3, 4, 5, and 6 in the Create book to guide you through several iterations of opportunity identification, brainstorming, prototyping, and user feedback.

On the other hand, if you are looking for help in gathering data for M&E reporting, use the exercises in the Field Guide to supplement your current activities.

THANK YOU.

ACKNOWLEDGEMENTS

HUMAN-CENTERED DESIGN IN ACTION:
A STORY FROM IDEO ABOUT CREATING THE SHIMANO COASTING PLATFORM

Design Challenge:
Create a bicycle platform to encourage non-bicyclists to start riding again.

HEAR

The design team went to locations throughout the United States to interview customers as well as supply chain actors such as retailers and original equipment manufacturers. They conducted home studies with people to understand how they spend their free time, and to see if they currently have unused bikes sitting in storage. They also spent time with people in their communities, in parks and on the streets, to understand the landscape that encouraged or discouraged bicycle riding. Projective techniques such as creating visual collages of impressions of biking were utilized: participants were presented with dozens of image stickers representing different aspects of biking to prompt conversation. Try-it-yourself experiences were also a main part of the Hear phase. In addition, the team spoke with bicycle retailers, spent time in independent bicycle retail stores and interviewed bicycle manufacturers.

CREATE

The designers uncovered a system of barriers that prevents Americans from riding bicycles. These include:

» Highly technical bicycle offerings. The current adult bicycle products were extremely technical and difficult to understand. Because of their complexity, many quality bicycles were over $500, a price point too high for the casual rider.

» Alien retail environments. Bike shops tend to be filled with complex terminology and staffed by biking geeks wearing spandex, an environment that is strange and overwhelming to the biking non-expert.

» Unsafe riding terrain. Most American cities and towns, traversed by large highways and roads without bicycle lanes or shoulders, are inhospitable to bicyclists.

By seeing the larger system of barriers and constraints, the team developed a strategy for addressing each one of these issues with the right partners.

DELIVER

The team created a new product platform, training, internet service, and government lobbying strategy to deliver a better bicycle riding experience. They called this experience "Coasting."

A better, cheaper bicycle design.
Coasting bikes are designed for casual riding. The bikes are simple, comfortable, affordable, and easy to use.

Product platform.
The desired experience requires a completely new and innovative feature set that includes an automatic transmission with no external gear shifts or chains for the customer to deal with.

The purchasing experience.
This is a problem for recreational bikers. The design team created a comprehensive communications plan, training, and in-store merchandising program to retailers to better engage with customers.

Having a safe place to ride.
The strategy depends on a local and national lobbying effort for improved bike lanes, bike-friendly regulations, and bike-friendly environments. A website was created with a directory of safe places to ride and invites riders to contribute new routes.

For market validation, Shimano product management independently examined a group of non-cyclists as test riders. Over the course of two years, they collected data confirming that Shimano's Coasting Group was headed in the right direction for non-cyclists. Trek, the first manufacturing partner for the Coasting platform, began selling the new bicycles in 2007. In that first year, it became Trek's number one seller by volume.