Human Centred Design

A FIT Case Study in Nepal

Insights from FIT-Funded SMO, iDE Canada

Context

In rural Nepal, roughly 80% of the population depends on agriculture for their livelihoods, of whom 70% are women. Gender inequalities in agriculture are particularly pronounced and, despite their crucial role in driving the sector, women are disadvantaged as producers in comparison to men. Within this context, vegetables are one of the few agricultural commodities that women control and from which they can derive their own income. Plant diseases and pests are among the most significant production challenges these farmers face; however the most common approach to combating pests and diseases is to apply harmful chemical pesticides. Contamination of vegetables by pesticide residue is a widely publicized problem in Nepal, and a growing number of health-conscious, middle-class consumers are interested in purchasing vegetables produced with little or no pesticide.

Supported by FIT, iDE tested an innovative solution aimed at increasing profits for women smallholder farmers by marketing vegetables produced using Integrated Pest Management (IPM) solutions. IPM is an environmentally sensitive cultivation method that reduces the prevalence of pests through a broad range of alternative approaches designed to minimize the use of chemical pesticides. In the project "Safer Farming for Nepali Women", IPM vegetables were tested as a differentiated product with a price premium in Kaski markets, in the Gandaki Province of Nepal. As part of this project, iDE used Human Centered Design (HCD), a method that gives customers and entrepreneurs a voice in the products and services they produce, adopt or buy, resulting in higher adoption rates and profitable business models since they participate in the co-creation of these innovative solutions.

Disclaimer: This resource includes photos of participants. FIT has refrained from identifying names of individuals and organisatio safety. FIT SMOs receive approval to share photos from the participants or those responsible for participants portrayed.

Overview of Human Centred Design

Human Centered Design consists of **3 phases**: Discover, Experiment and Deliver.
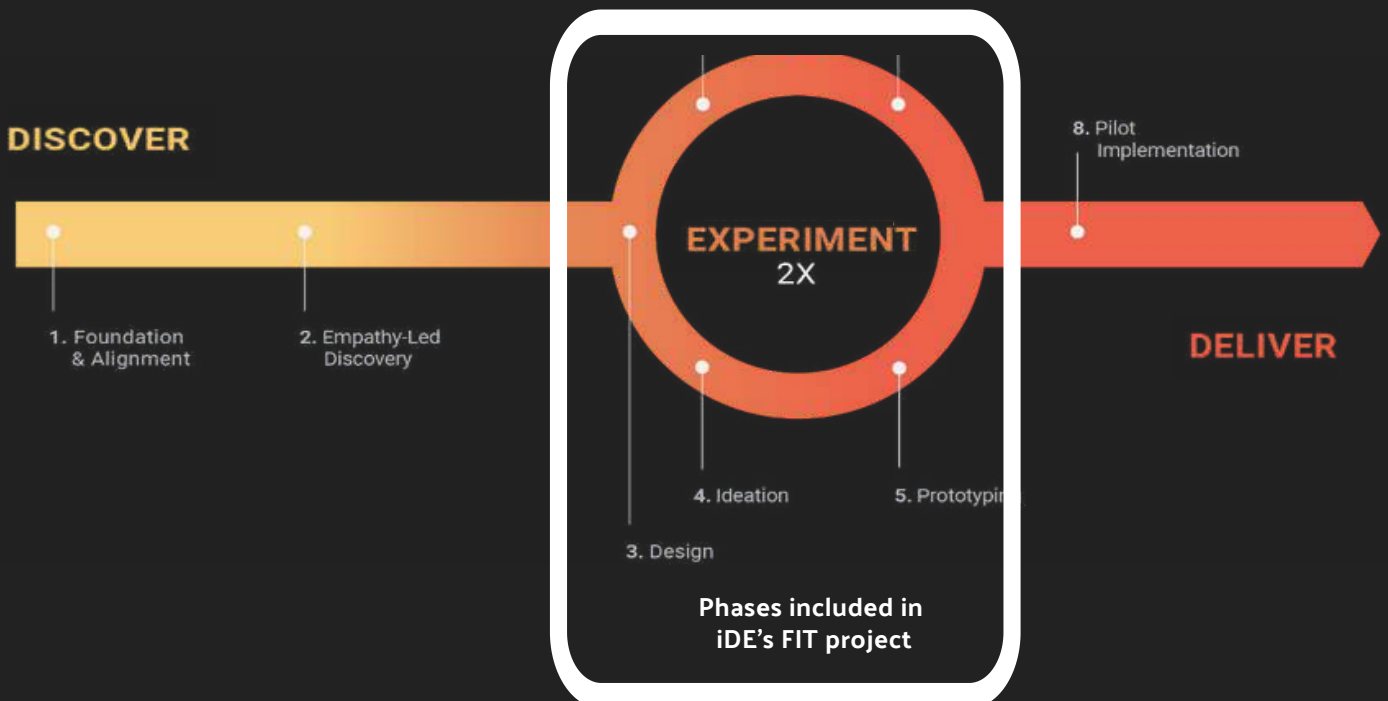
Discover ` 1 `

The Discover phase is about immersion in the lived experience of the audience of focus, with a goal to uncover needs of the people and to start testing early potential solutions. The goal in this phase is to engage closely with the audience of focus to gather specific insights and prioritize design principles and opportunities that form the framework for creating and experimenting with solution ideas later on.

Experiment ` 2 `

In the Experiment phase, the focus is on generating and testing solution ideas that address the needs of the audience of focus. The design principles and opportunities developed in the Discover phase are used to brainstorm, combine, and prioritize solution ideas that are tested through an iterative prototyping process (see the experiment loop in the diagram below). The goal in the experiment phase is to select and refine a solution that is ready to be piloted.

Deliver ` 3 `

The Deliver phase is about piloting (launching, introducing, rolling out, etc) the refined solution with the audience of focus. This includes starting small-scale to minimize risk and resource spending, while measuring the real-world performance of the idea, to understand how it can be further improved and eventually scaled.

DISCOVER

1. Foundation & Alignment
2. Empathy-Led Discovery

EXPERIMENT 2X

3. Design
4. Ideation
5. Prototyping

8. Pilot Implementation

DELIVER

Phases included in iDE's FIT project

Human Centred Design in Nepal

iDE applied HCD principles when working with women farmers in the "Safer Farming for Nepali Women" project. Given the short timeframe for the FIT project, the project supported the experiment phase only. The specific steps, and how these steps were completed for the "Safer Farming for Nepali Women" project and iDE's work with women farmers, are outlined in further detail below.
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Phase 1: Discover

Step 1: Foundation and Alignment

This stage lays the foundations for a successful project through assessing and clarifying project goals, expectations and outcomes both internally and externally.

The foundational work was completed with the iDE Nepal team prior to the start of the FIT project. This stage built on years of working with Nepali women in IPM production and agriculture collection centres, as well as with men and women in gender dynamics and decision-making, and included alignment on the overall goals of iDE's IPM work with women in Nepal. Leading up to the FIT funded project, the iDE team aligned around the expectations and high-level goals for this specific project.

Step 2: Empathy-Led Discovery

This stage immerses designers in the lived experience of the audience of focus with a respectful, open, curious, and empathetic mindset to explore and understand their values, motivations, challenges, and aspirations. The aim is to uncover the needs of the people, to get inspired by them and to start thinking of potential solutions. This stage involves early testing of initial ideas with the users. The goal is to uncover specific and actionable insights to root and inspire future solutions.

This step was completed prior to the start of the FIT project and was grounded inincluded discovery in various districts of Nepal, including iDE's almost 30 years of experience working with smallholder farmers in Nepal, including women farmers, and many local organizations that support them. iDE conducted an in-depth HCD study in Lele, Lalitpur district that focused on farmer's use of IPM and ways they preferred to learn about IPM, as well as a gender equality and social inclusion survey in Banke and Surkhet districts. This step also included discussion with local women farmers in Kaski district, women leaders of the collection centres in Kaski, and Farm Business Advisors (FBAs), private extension agents trained by iDE (more than a quarter of whom are women) who support these farmers with agronomic advice and access to quality inputs, including IPM products. This included interviews with women smallholder farmers and a range of market actors. Findings showed that women have similar concerns across the different districts in Nepal, and that despite women's stated desires to use IPM approaches, they felt market prices were too low for them to do this profitably.

Step 3: Design Priorities and Principles

This stage zooms in on specific insights and design opportunities that emerged from the previous stage. Along with project stakeholders, this includes prioritising and deciding on design opportunities and design principles to solve specific challenges identified previously. This step also includes refining the project strategy based on the insights from the previous stage.

This step was completed as part of preparing the plan for the FIT project, which was conceived in response to the concerns of local women farmers expressed by women leaders of the collection centres, and by Farm Business Advisors, private extension agents trained by iDE (more than a quarter of whom are women) who support these farmers with agronomic advice and access to quality inputs, including IPM . This step included holding brainstorming sessions with local government agriculture staff, members of collection centres, and local vegetable traders to discuss and prioritize current challenges and possible solutions.

Phase 2: Experiment

Step 4: Ideation

This stage is about brainstorming as many solution ideas as possible to address the priority design opportunities identified in the Design Priorities and Principles stage. After several rounds of brainstorming, designers work with stakeholders to prioritize, group, and refine solution ideas into more complete concepts that are ready to test. The design team selects/prioritizes final ideas, applying gender-transformative lenses and circular economy principles.

This phase was completed as part of finalizing the FIT project strategy and plans, and building on the brainstorming and discussion mentioned above. To design the FIT project, iDE consulted with focal persons at the collection centres to share about the project ideas and to gather feedback and suggestions. This consultation confirmed the project strategy and approach, and helped to refine the proposed solution and ensure that the project aligned with local cultural, political, economic, and environmental concerns.

Step 5: Rapid Prototyping

A prototype is a simple, scaled down, and inexpensive early version of the solution, or an element of the solution. Learning, iteration, and revision help to refine the understanding of user needs and preferences, and help prototypes graduate from lower resolution (low cost and low resource requirements) to higher resolution (higher cost and more resource-intensive) as they get closer to a final solution ready to scale.

In the FIT project this step included refining the sub-testing methodology to test different IPM vegetable marketing materials, strategies, and market prices. Prototypes of different marketing strategies were developed and tested with women farmers and existing vegetable sellers and traders. The iDE team also conducted a series of town halls with collection centres as well as market observation and key informant interviews with market focal persons, government, and project officials. Feedback and learnings were incorporated into the final marketing materials (including banners, brochures, and logos) that were used in the testing stage.

Step 6: Testing

This phase allows people to interact with the prototype as realistically as possible, and provides the opportunity to document their experience and evaluate the performance of the prototype in real-time. Documentation can include everything from behaviours, emotions, reactions, and verbal feedback to help measure performance and identify what needs to be improved for the next round of testing.

The FIT project testing included sub-tests for key crops throughout the year (cucurbits, tomatoes, and cauliflower). Each sub-test was conducted in local vegetable markets in Nepal with real customers, and measured the demand for IPM vegetables, which marketing materials were most effective, and to what extent customers were willing to pay a premium price for IPM vegetables.

Step 7: Measuring and Learning

At the conclusion of every round of testing, notes and observations are used to identify new insights, evaluate how the prototype performed according to the experimental metrics, and establish which elements need to be changed for subsequent testing and how they need to be changed. Prototype performance can also help to evaluate if additional research or brainstorming sessions are needed, what adjustments should be made for ongoing testing, or if a solution concept should be abandoned altogether.

In the FIT project, findings from each crop sub-test were recorded and analyzed. This included feedback from customers, sellers, traders, producers, and local government, as well as monitoring the purchasing behaviour of customers for each of the marketing materials tested in vegetable stalls. The findings from each sub-test helped to inform the next sub-test's approach and iterate the testing methodology. This included which markets to do the testing in, the number of stalls to use, how to ensure women could participate in selling, and the testing metrics to use (moving from quantity and sales revenue alone to also include rate of sale).

Step 8: Final Design

This phase is about synthesizing and analyzing the results of the testing, and then holding a shareback meeting to share results and gather feedback on the final prototypes tested. Based on the final feedback provided by the client and other stakeholders, the design team finalizes the design and identifies next steps.

In the FIT project this stage was completed after the final sub-test and stakeholder feedback was completed and all of the results were synthesized, analyzed, and described in the final project report. The findings from the FIT testing showed that customers prefer to purchase IPM vegetables and have high levels of trust in farmers, customers are willing to pay premium prices for IPM vegetables, and that the highest rate of sales were for stalls that used marketing materials that shared stories of farmers and explained what IPM is

Phase 3: Deliver

Step 9: Pilot Implementation

This stage pilots early-stage ideas in real market contexts. For a pilot to be successful using this approach, it requires previous user research, an innovation strategy, and validated solution concepts in order to define a minimum viable solution/product to roll out in a small-scale, low-risk market setting. This helps to gain more understanding about your customers'/adopters' interest in your solution before spending the time and money to develop all of its potential features.

iDE is starting this stage following the completion of the FIT project through internally funded programming. This includes rolling out the tested marketing materials in vegetable markets run by the local government, working with online vegetable markets to include IPM vegetables and the tested marketing materials, and continuing to share the findings and marketing materials with agriculture collection centres across the region.

Step 10: Pilot Reflection

This stage is the project after-action review to help assess the learnings from the pilot and decide the next steps in an informed manner. The aim is to understand how to improve on the previous process, methods, and workflows so that every subsequent project is an improvement over its predecessor.

Step 11: Adaptive Design Management

One-to-two years after the project/solution has been fully implemented, it's recommended that teams schedule an assessment to understand what is working, what is not working and re-design/re- adapt the solution to fit user needs.

iDE will continue to work with women farmers in Nepal following the FIT project and internally funded projects mentioned above, and will work toward an assessment of this work in future years.

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Integrating HCD within FIT-funded Testing

Implementing HCD within the context of FIT funding provided a number of lessons learned:

● FIT supported an important component of iDE's HCD work with women farmers and IPM vegetables in Nepal but could not support the entire HCD process given the time constraints for FIT projects and HCD's time-intensive and involved process. Longevity, continuity, and trust from external donors are important when implementing the HCD approach, especially as the process can take time, there are multiple iterations as learnings are adapted and integrated, and the outcomes are not necessarily known from the outset. Flexibility from external donors is also critical as the approach often results in divergence from originally planned project activities and budget line variances. This can be at odds with donor terms and conditions. If implementing HCD in a short-term project it may be necessary to complete some of the steps before and/or after the project timeframe. This requires long-term planning as well as internal financial and staff resources.

● Implementation of HCD requires a testing mindset. This is especially the case during the Experiment phase, which is not focused on achieving results/development outcomes at scale but rather is about testing and validating an approach that can scale and deliver development impacts in the future.

● The "Safer Farming for Nepali Women" project only included the HCD steps under the Experiment andphase and had a large focus on the testing step in particular. This phase doesn't necessarily align with a more typical Results Based Management approach that requires tracking outcomes and indicators in a Performance Measurement Framework and is focused on the level of impact over time. Instead, HCD and the Experiment phase in particular, are focused on testing an innovation by validating and iterating a product, service, or business model. This relies less on outcome indicators and more on project-specific data and metrics to support the iterative nature of HCD. For example, iDE tracked rate of sale of vegetables, customer purchasing frequency, and customer attitudes as part of the FIT testing.

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