Rapid prototyping for inclusive insurance:
Testing customer challenges and gaining early insights on feasibility

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Prototyping and the purpose of this guide

Inclusive insurance schemes aim to bring the benefits of risk transfer to excluded or underserved markets.[1] In order to do this effectively, they must be customer-centric and meet the SUAVE standard – Simple, Understood, Accessible, Valuable and Efficient.[2] Prototyping is an essential part of the development process for a SUAVE scheme; insurance product designers and their implementing partners must engage in prototyping with target clients, as well as with aggregators, delivery channels and other stakeholders.

This critical step can be carried out using a variety of different methods and should take place at more than one point in the development process. Whatever method is used, prototyping aims to gather direct feedback on the solution and the wider insurance scheme, incorporate changes before pilot testing, and make any additional adjustments before the official roll-out.

This guide presents one method – the rapid prototyping process for inclusive insurance implementation. Its focus is to ensure that donors and their implementing partners understand the importance of prototyping and plan for it at a high level in project design and implementation processes.

Typically, in new markets, the prototyping exercise should be carried out by a technical service provider in cooperation with one or more local insurers. Prototyping can be applicable for all types of inclusive insurance, including agricultural and climate risk insurance, and also other microinsurance products, such as personal insurance. Though not within the scope of this guide, inclusive insurance prototyping must be preceded by a comprehensive market assessment to understand the supply, distribution, enabling environment and, most importantly, the demand for the scheme being tested (see "When to prototype").

An agricultural microinsurance case study is presented on page 6. It highlights several benefits of the rapid prototyping process, including creating an environment that goes beyond the "boardroom" so that inter-departmental teams can collectively and quickly explore concepts, identifying critical issues early on and generating genuine buy-in across different departments within insurance companies.

TIPS FOR GOVERNMENTS AND DEVELOPMENT ACTORS

It is important to plan for prototyping appropriately during the design and implementation phases of project insurance activities. This involves providing budget and resources during project design and planning, including prototyping as a requirement for a technical service provider, and giving enough time and flexibility during implementation to allow for this important phase of development and testing.

1/ Encompassing all insurance schemes aimed at excluded or underserved markets, the term "inclusive insurance" includes microinsurance and agricultural and climate risk insurance for poor farmers. "Microinsurance" refers to inclusive insurance that is specifically designed for and accessed by low-income populations. For more details on the terminology, see: Issues Paper on Conduct of Business in Inclusive Insurance (IAIS, 2015), Issues in Regulation and Supervision of Microinsurance (IAIS, 2007) and Proportionate Regulatory Frameworks in Inclusive Insurance: Lessons from a Decade of Microinsurance Regulation (A2ii, 2016).

2/ SUAVE is a concept developed by the MicroInsurance Centre at Milliman (MIC@M). See the SUAVE Checklist for Microinsurance Products (2012) for more details.

MicroInsurance Centre at Milliman

PARM PLATFORM FOR AGRICULTURAL RISK MANAGEMENT

Sida

TIPS FOR GOVERNMENTS AND DEVELOPMENT ACTORS

For success in prototyping, clear testing objectives need to be defined within the prototyping process and this requires input and direction from the government or development actors responsible.

Rapid prototyping and inclusive insurance

In the context of inclusive insurance, rapid prototyping typically involves testing a scheme that is to be piloted. The testing process can take many forms and vary in its focus. The following elements can be tested with end-clients and other stakeholders:

> "Rapid prototyping" is user testing of a proposed solution – in a variety of forms of simple, tangible mock-ups – performed in a fast and inexpensive manner.

- **Insurance product features, coverage and conditions**, for example, set out in a printed sheet that can be used to test target customer understanding and willingness and ability to pay.

- **Marketing materials** that have gone through the graphic design process and can undergo testing of alternative versions.

- **Membership models** (for example, subscription-based) that can be used to test willingness to enrol via a particular channel or method.

- **Operational processes**, such as enrolment, sales, premium collection and claims settlement, captured in customer journey maps and diagrams to test the accessibility and efficiency of processes.

- **Sales pitches** transcribed in call scripts and tested via role play to assess customer understanding and willingness to enrol and purchase.

3/ See Rikke Friis Dam and Teo Yu Siang, "Design Thinking: Get Started with Prototyping", https://www.interaction-design.org/literature/article/design-thinking-get-started-with-prototyping (Interaction Design Foundation, 2020).

Non-insurance risk management components may be included, such as credit, agricultural inputs, extension advice and weather or production information.

The five W's of rapid prototyping: what, why, when, who, where

1. What is rapid prototyping?

The Interaction Design Foundation defines a prototype as a simple experimental model of a proposed scheme used to test ideas and validate assumptions and other aspects of its conceptualization in a fast and inexpensive manner.[3] Within the context of inclusive insurance, rapid prototyping uses quick and unrefined mock-ups of a proposed scheme, with a focus on receiving feedback early in the development process. It is not typically carried out with a scheme that is built and refined for launch.

Prerequisites for rapid prototyping

The project team or technical partner will have a clear concept for the proposed scheme before a rapid prototyping exercise is undertaken. They will have arrived at this prototyping step through an assessment phase in which demand, supply, distribution and the enabling environment have been analysed and synthesized.

It is important to define the objectives of the prototype testing clearly at the outset in order to ensure the right mix of elements, sequence and focus. Furthermore, the appropriate decision makers and implementation personnel need to be involved in this co-creation process to ensure that the inclusive insurance scheme reaches the pilot stage. This is explained in more detail below.
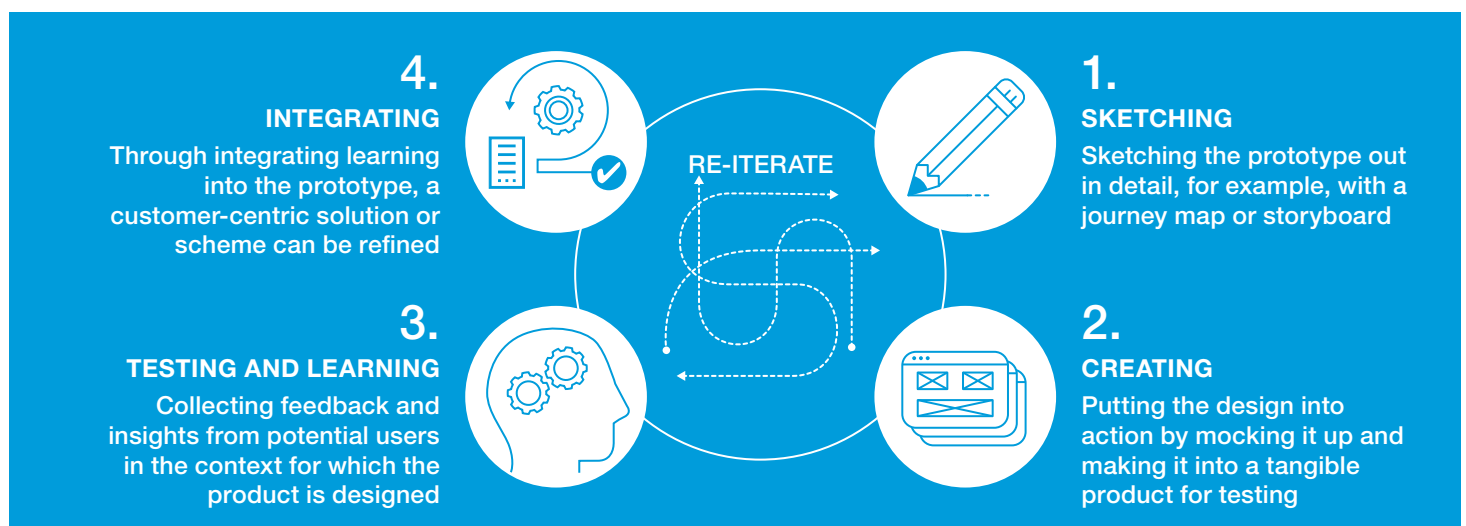
The four stages of the prototyping cycle

A typical cycle for rapid prototyping has four stages (see figure 1). It starts with (1) **sketching** the details of the prototype (or proposed scheme), which leads to (2) **creating** a mock-up for testing with real potential clients in order to integrate lessons learned into an effective scheme. Stages 1 and 2 can be performed for various elements mentioned previously, such as product

FIGURE 1 PROTOTYPING CYCLE IN FOUR STAGES

4. INTEGRATING
Through integrating learning into the prototype, a customer-centric solution or scheme can be refined

3. TESTING AND LEARNING
Collecting feedback and insights from potential users in the context for which the product is designed

RE-ITERATE

1. SKETCHING
Sketching the prototype out in detail, for example, with a journey map or storyboard

2. CREATING
Putting the design into action by mocking it up and making it into a tangible product for testing

features and coverage, marketing materials and operational processes. It is important to note that the prototyping cycle is neither linear nor sequential. Stage 3 **testing and learning** is an iterative process, potentially conducted in parallel when designers use feedback and continue to test and learn from clients (and implementing partners) as they improve and refine the proposed scheme. Finally, stage 4 involves **integrating** and refining the scheme so that the majority of the essential design improvements have been captured for the pilot launch.

The rapid prototyping mindset

Rapid prototyping involves three key human-centred design (HCD) mindsets: (1) be customer-centric; (2) create; (3) embrace failure through re-iterations.

Be customer-centric. This is key to creating successful SUAVE solutions. The philosophy of HCD and prototyping empowers designers to address the needs of those who experience the problem (which, in the case of inclusive insurance, especially microinsurance, is a protection gap).

Create it – learning by doing. The objective of prototyping is to make the idea tangible and place it in the hands of the people the solution is looking to serve. Most of the target clients of inclusive insurance, especially microinsurance, have never used such schemes before and may need additional support during this stage.

Embrace failure through re-iterations. Failure is an inherent part of building effective inclusive insurance solutions. Re-iterations of proposed solutions allow designers to receive feedback and incorporate changes early on, before rolling out and investing in costly implementation at full scale.

2. Why prototype?

According to the manual *Microinsurance product development for microfinance providers*, prototypes have many benefits. They:

– Are relatively small and manageable;

– Are relatively cheap (and much cheaper than correcting problems on a large scale);

– Provide real-world feedback on assumptions and designs (as well as potential ways to correct mistakes);

– Do not have enough scale to seriously damage future potential for microinsurance if there is a significant error in prototype design.[4]

Rapid prototyping is a quick way of testing a scheme early on, receiving feedback from customers and other implementing partners as appropriate, and making changes before investing in further building and formalization (see figure 2). Furthermore, through co-creating the inclusive insurance product and other scheme elements as a team, key stakeholders can quickly be aligned on the proposal.

3. When to prototype?

Prototyping takes place within the insurance scheme development process. Prior to prototyping, the development team need to have an adequate understanding of the landscape in which the insurance prototype will be created. They must first perform market research on supply (that is, risk carrier, distribution, data); on demand; and on the enabling environment. They must gather customer insights and develop a clearly defined customer profile, with a well-understood problem, need or challenge generated from potential customers. They must analyse and synthesize this information and create a proposed solution to the problem, including a high-level customer journey map (or initial product design). (See figure 3 for details of this process developed for microinsurance

One of the world's greatest innovators and inventor of the electric light bulb, Thomas Edison, once said: "I have not failed. I've just found 10,000 ways that won't work."

"If a picture is worth a thousand words, then a prototype is worth a thousand meetings." IDEO.org

4/ Michael J. McCord, Microinsurance Product Development for Microfinance Providers, http://www.microinsurancecentre.org/resources/documents/operations/microinsurance-product-development-for-microfinance-providers.html (IFAD, 2012).
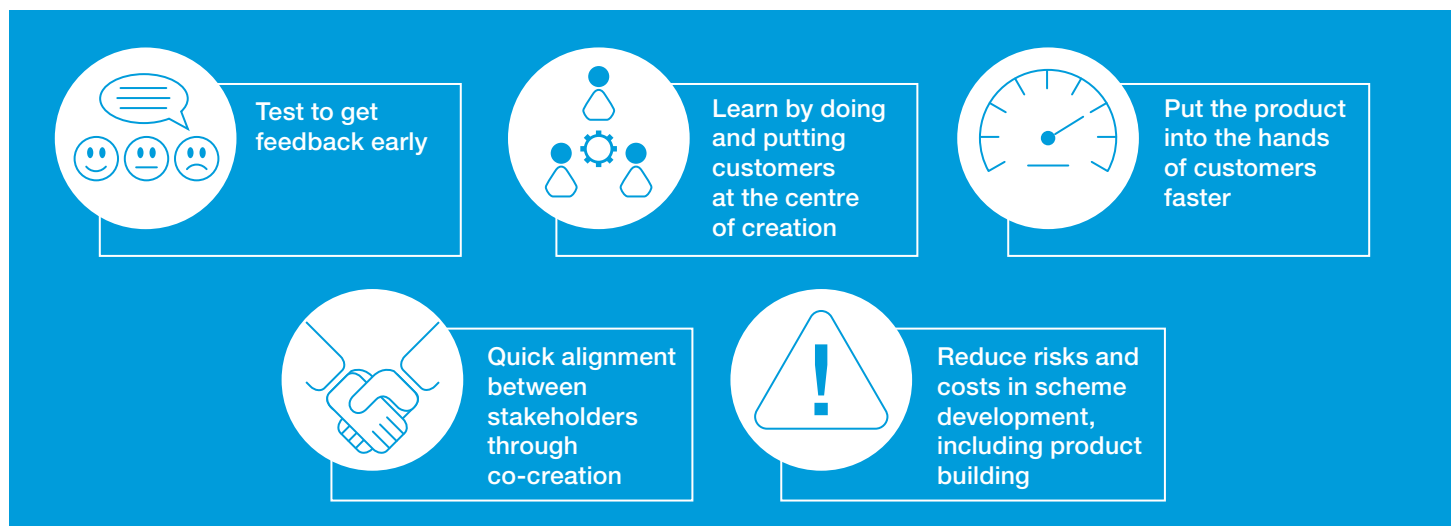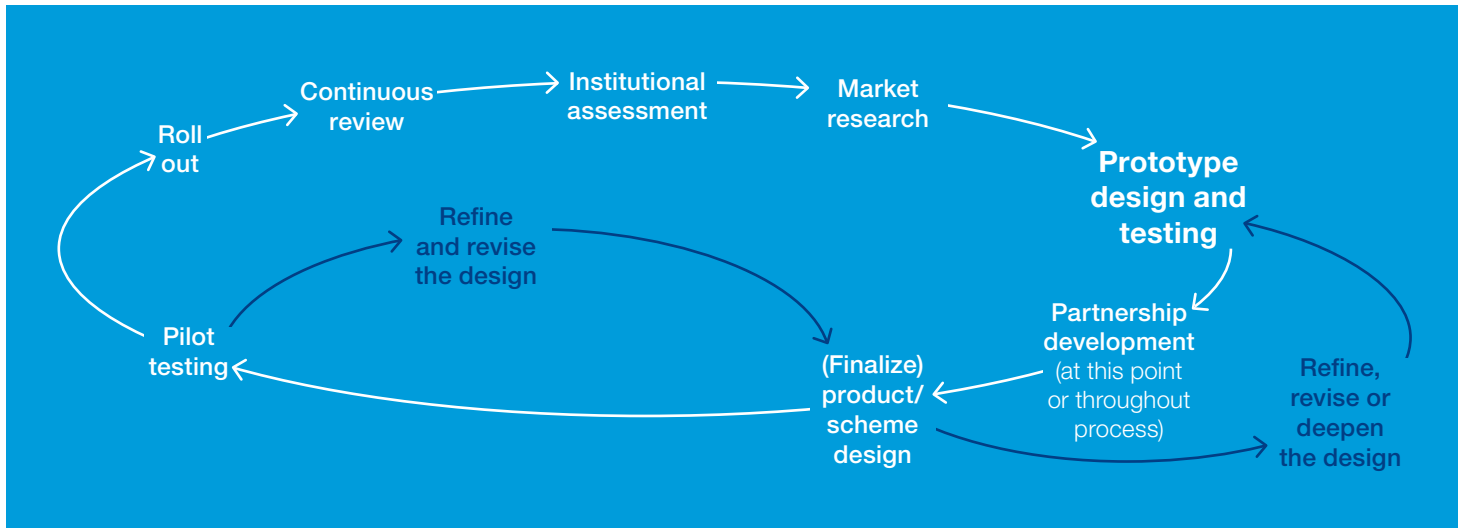
FIGURE 2 WHY CARRY OUT RAPID PROTOTYPING?

Test to get feedback early

Learn by doing and putting customers at the centre of creation

Put the product into the hands of customers faster

Quick alignment between stakeholders through co-creation

Reduce risks and costs in scheme development, including product building

FIGURE 3 MICROINSURANCE SCHEME DEVELOPMENT PROCESS

but also applicable to other types of inclusive insurance.)

Prototyping is an iterative process within product and scheme development. It is likely that the lessons learned from prototyping will necessitate another round of product design to refine, redesign or sharpen the details. Indeed, there may be multiple rounds of prototyping, providing data for adjustments to product design and other scheme elements, before the scheme is finalized and the pilot testing can begin. Prototyping should also be repeated during the pilot stage to continuously refine the product and scheme. As shown in figure 1, prototyping is not one discrete step but is integrated throughout the inclusive insurance development process. Note also that even if upfront prototyping has been carried out and the scheme's pilot is successful, some issues only become visible over time. For this reason, the "continuous review" step in figure 3, in which the insurer and implementing partners closely monitor the scheme's performance and adapt as necessary, is crucial.

4. Who should be involved in prototyping?

Prototyping is a powerful tool that ensures a common vision across users and stakeholders on the scheme that is being created. Google Ventures and others recommend that a multistakeholder team with no more than seven members (a typical group size being four to seven people) conduct prototyping to ensure the greatest value and optimal dynamics during this co-creation process.

Figure 4 shows the key personnel who should be involved in an inclusive insurance prototyping team, ideally throughout all stages of the process. This will ensure greater ownership of the scheme and timely feedback from all personnel involved. If decision makers cannot participate throughout the entire process, they should be present at stages in which
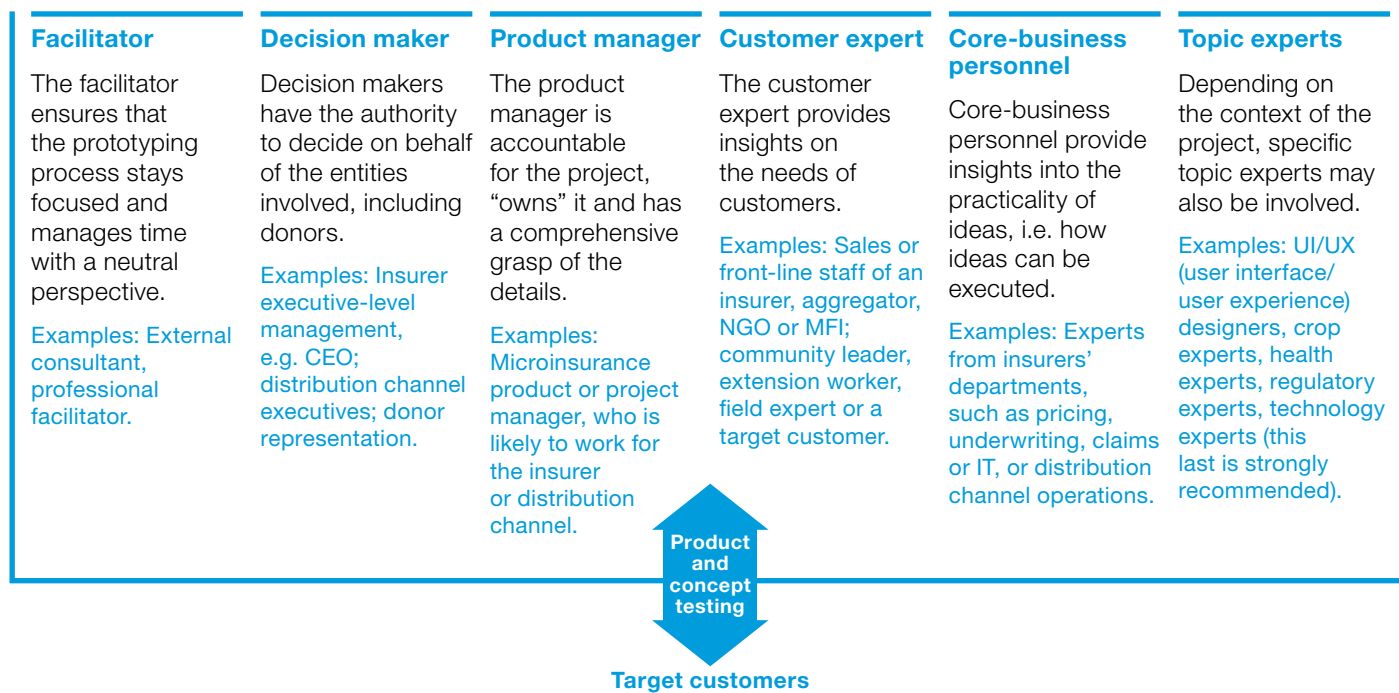
key decisions are made. This will typically be stages 1 (sketching) and 2 (creating).

During stage 3 (testing and learning), smaller teams of two or three people will take the prototype to the target customers, the intended "real users" of the inclusive insurance solution. This is recommended so as not to overwhelm customers with a large group, especially if individual interviews are being conducted. Other members of the team could be consulted at a later stage, if necessary. User experience recording tools can be utilized to capture the customer testing field experience and share it with the larger prototyping team.

TIPS FOR GOVERNMENTS AND DEVELOPMENT ACTORS FOR PREPARATIONS AND STAGES 1 AND 2 – SKETCHING AND CREATING

– Where donors or government entities are involved in making key decisions relating to product execution (and the rapid prototyping is part of a project or national scheme), it is important to be involved from stage 1, or at a minimum to be briefed on the prototyping process. Alternatively, a representative should participate in the sketching and creating stages and contribute to decision-making and ensure alignment with project or policy objectives.

– It is helpful for someone involved in the sketching and creating stages in particular to have HCD experience. Donors may want to consider including this skill in the terms of reference for a facilitator or consultant.

FIGURE 4 PROTOTYPING TEAM ROLES AND THE ORGANIZATIONS INVOLVED

Facilitator	Decision maker	Product manager	Customer expert	Core-business personnel	Topic experts
The facilitator ensures that the prototyping process stays focused and manages time with a neutral perspective.	Decision makers have the authority to decide on behalf of the entities involved, including donors.	The product manager is accountable for the project, "owns" it and has a comprehensive grasp of the details.	The customer expert provides insights on the needs of customers.	Core-business personnel provide insights into the practicality of ideas, i.e. how ideas can be executed.	Depending on the context of the project, specific topic experts may also be involved.
Examples: External consultant, professional facilitator.	Examples: Insurer executive-level management, e.g. CEO; distribution channel executives; donor representation.	Examples: Microinsurance product or project manager, who is likely to work for the insurer or distribution channel.	Examples: Sales or front-line staff of an insurer, aggregator, NGO or MFI; community leader, extension worker, field expert or a target customer.	Examples: Experts from insurers' departments, such as pricing, underwriting, claims or IT, or distribution channel operations.	Examples: UI/UX (user interface/ user experience) designers, crop experts, health experts, regulatory experts, technology experts (this last is strongly recommended).

Product and concept testing

Target customers

The number of target customers will depend on the testing objectives and methods, among other factors, but as the testing is typically qualitative in nature and intended to be rapid, a large number of target clients is not required. Where clients from a specific homogeneous segment are giving feedback on a nearly final, detailed product design and other scheme elements, as few as five may be enough. A general rule of thumb is to stop testing when feedback starts to be largely similar and repetitive.

After testing, the lessons learned need to be incorporated into the product and scheme design in stage 4 (integration). This means discussing feedback with the original sketching and creation team, and having product designers modify the prototype before testing again.

5. Where to do prototyping?
Find a conducive group setting for stages 1, 2 and 4. Ideally, the multi-stakeholder team described above should come together to complete stages 1 and 2. This is best done in a space provided by one of the key stakeholders (insurer, distribution channel, aggregator or funder) or in a neutral location that is close to the target market, to allow for an easy transition to stage 3 (testing). The group should be free of distractions. Blank walls or white boards should be available so that the prototyping team can easily brainstorm and come up with ideas using post-it notes, posters and markers. Alternatively (though this is not ideal), this could be carried out remotely or virtually with the right ideation tools and technology in place (such as virtual whiteboards, videoconferencing software, reliable internet connectivity). A group setting may be required again during stage 4 (integration) if the

testing team decide to present results and do some additional sketching and creating with the original, full prototyping team.

Meet your customers where they are for stage 3. While prototypes do not have to be perfect, for stage 3 (testing and learning), the objective is to replicate the environment in which the proposed inclusive insurance scheme will reach clients. Considering key elements such as people, space and timing, the prototype testing should take place where the target audience live, work and lead their daily lives. To truly understand customer needs, one needs to empathize with them and experience where they live; well-planned fieldwork is a powerful way of providing designers with a glimpse into potential customers' lives. Sociocultural aspects, particularly gender (including women's demand for and access to the scheme proposed), must be kept in focus throughout the prototyping process, and this is especially important during stage 3.

TIPS FOR DONORS
There is no better way to understand the lives and needs of the beneficiaries than by first-hand experience. Donors should consider supporting top management and other key staff from insurance companies and distribution channels to participate in some aspect of the fieldwork and prototype testing during stage 3.

Case study: Agricultural microinsurance for smallholder farmers in South Shaanxi, China

Introduction and context of the proposed insurance scheme

This prototyping initiative is part of IFAD's grant-funded project "Managing Risks for Rural Development: Promoting Microinsurance Innovations" (MRRD), which is currently being implemented by the MicroInsurance Centre at Milliman (MIC@M) in China, Ethiopia and Georgia. The overall project goals are to increase resilience, strengthen capacity to manage risks, and improve the livelihoods of poor rural households who depend on on-farm and off-farm income. In China, the MRRD project collaborates with the IFAD-supported Sustaining Poverty Reduction through Agribusiness Development in South Shaanxi Project (SPRAD-SS) implemented by the Government of China through its Foreign Loan Project Management Office of Shaanxi Province.
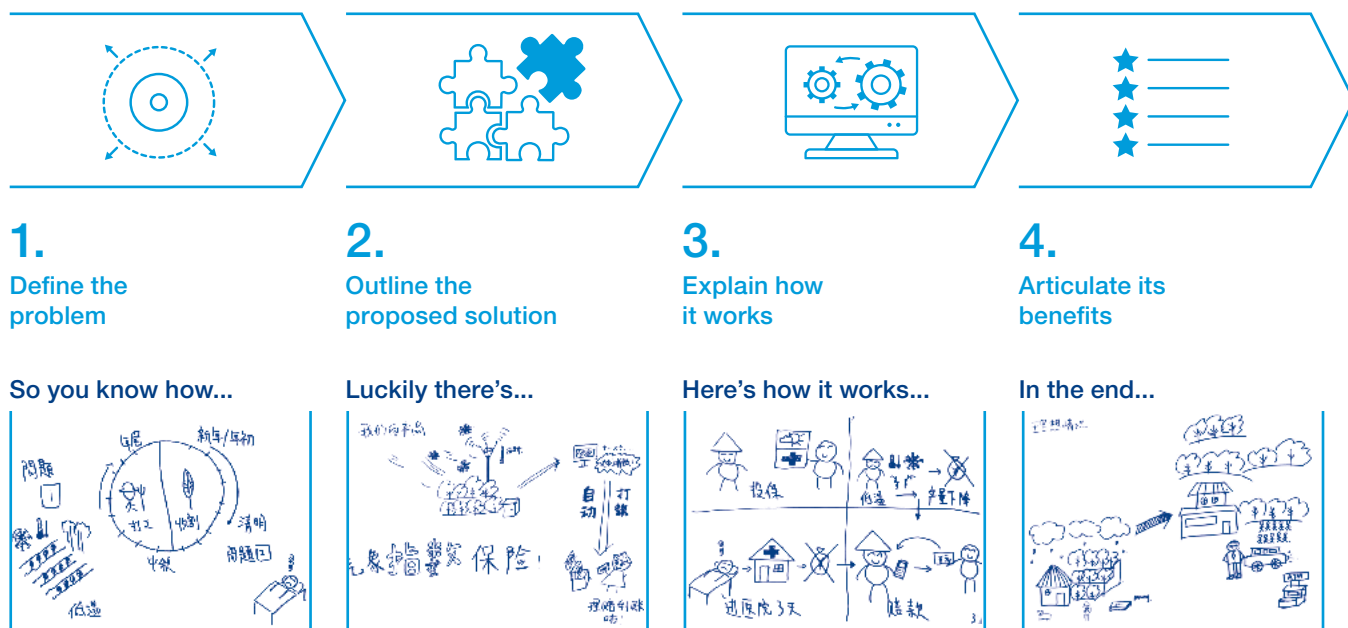
Prerequisites for prototyping

Prior to prototyping a microinsurance solution, the MIC@M carried out comprehensive market research and country mapping. This covered the supply and distribution of microinsurance, and the enabling environment and demand. It included field research with small-scale tea farmers, in partnership with Northwest A&F University (NWAFU). Together with behaviour change lab 17 Triggers and NWAFU, the MIC@M then conducted an ideation workshop with MRRD's insurer partner in China, Groupama AVIC (see figure 5).. Based on the research conducted, discussions were held to agree on the customer challenges that the group would attempt to resolve. With a diverse team across different departments of the insurance company, the prototyping team brainstormed on creative product and scheme ideas.

Rapid prototyping workshop with the insurer – sketching and creating (stages 1 and 2)

The prototyping team realized that they had several high-level product ideas incorporating non-insurance risk management components to reduce and mitigate some of the risk, which had the potential to solve various issues for the farmers. However, the team needed initial feedback from farmers before they invested more time and resources in further developing a scheme and product. The initial design team, which included the various partner organizations, was pared down to key team members to embark on prototyping (including the product manager and designer, innovation analyst, agricultural insurance team manager, actuary, sales agent, microinsurance specialist and field researchers). During a workshop with the MIC@M and 17 Triggers, they elaborated different product ideas. For each idea they developed a pitch test, using pen and paper and following the four key elements (see figure 6). According to 17 Triggers, "A pitch test is a rapid prototype of an idea," which builds an initial idea into four key parts: problem, solution, how and why.[5]

5/ Learn more: Rathi Mani-Kandt, "Pitch Tests" [video], https://www.youtube.com/watch?v=QTg46DX1918&t=6s (17 Triggers and UCD in Sanitation, 2018).

FIGURE 5 BEFORE PROTOTYPING BEGINS: AN IDEATION WORKSHOP IN ACTION

FIGURE 6 PITCH TEST KEY ELEMENTS

1.
Define the problem

So you know how...

2.
Outline the proposed solution

Luckily there's...

3.
Explain how it works

Here's how it works...

4.
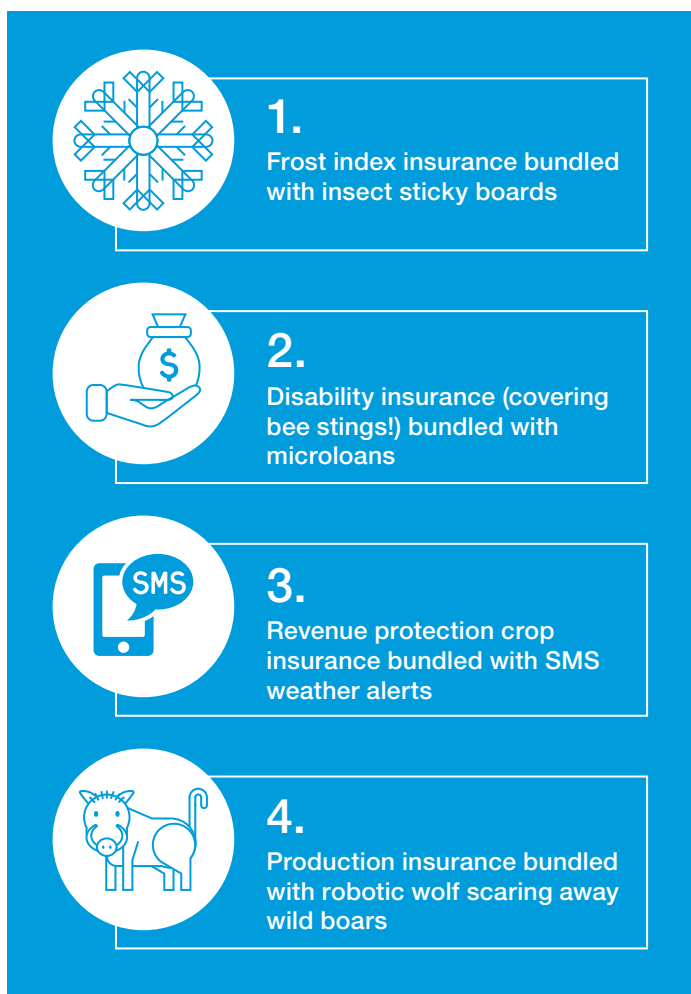Articulate its benefits

In the end...

Prototype testing and learning (stage 3)

Armed with the four pitch tests (see figure 7), the team worked in smaller groups. Over two days, they met with 5 cooperative managers and 15 small-scale farmers in Mianxian, Hanzhong prefecture, to get their feedback.

By testing the proposed solutions with the intended customers and distribution points, the prototyping team were able to gather concrete ideas at an early stage of development and before creating a finalized product. The definition of the problem and assumptions about the farmers' needs were validated, and lessons were learned about their willingness to pay.

By physically meeting with potential customers in the villages, the prototyping team were also able to identify appropriate risk reduction and mitigation measures to embed with the insurance coverage offered by each product. The MIC@M uses this holistic approach in order to provide more effective risk management through risk control. Primarily preventative in nature, the aim of these value-added services is to create a holistic solution to managing risk.

FIGURE 7 PROTOTYPE IDEAS TESTED

1.
Frost index insurance bundled with insect sticky boards

2.
Disability insurance (covering bee stings!) bundled with microloans

3.
Revenue protection crop insurance bundled with SMS weather alerts

4.
Production insurance bundled with robotic wolf scaring away wild boars

Integrating and re-iterating (repeating the cycle) (stage 4)

Based on feedback from farmers during the testing, Groupama AVIC and the MIC@M went on to design the details of a frost index insurance product, which was one of the ideas pitched. After developing more specific coverage and customer journey details, the MIC@M created a prototype in a "sales pitch" format. They conducted an additional round of prototype testing by deploying the sales pitch in focus groups, and in a one-on-one interview discussion format with 44 additional farmers. They used marketing material mock-ups that explained the benefits and depicted how the frost index insurance product worked (see figure 8).

Positive outcomes

In a market primarily driven by state incentives, the team within the insurer Groupama AVIC, which included other experts from various fields, benefited by learning to ideate creatively across interstate teams and by testing ideas with end-customers. Giving the team access to diverse capabilities within the company made new enhanced product ideas possible through collaboration. Rapid prototyping also allowed the insurer to explore and realize product concepts quickly as a team, reducing time to market, promoting faster scheme development cycles and lowering concept-to-launch lead times. This enabled senior managers to go beyond discussions in the boardroom and receive early customer feedback. Many crucial issues were brought to light early on, including the sales, actuarial and agricultural product management departments' inability to support development because of unanswered questions associated with the objectives and target end-clients. Pricing also became more straightforward because greater clarity had been gained on the distribution channel and scheme set-up. Most importantly, through co-creating and prototyping as a team, and drawing on a range of resource persons, this approach generated genuine buy-in across the different departments involved within the insurer.

FIGURE 8 MARKETING MATERIAL MOCK-UPS FOR THE FROST INDEX INSURANCE IDEA USED DURING INTEGRATING AND RE-ITERATING PHASES