mAgri Design Toolkit
User-centered design for mobile agriculture
The GSMA represents the interests of mobile operators worldwide, uniting nearly 800 operators with more than 250 companies in the broader mobile ecosystem, including handset and device makers, software companies, equipment providers and Internet companies, as well as organizations in adjacent industry sectors. The GSMA also produces industry-leading events such as Mobile World Congress, Mobile World Congress Shanghai, and the Mobile 360 Series conferences.

For more information, please visit the GSMA corporate website at www.gsma.com. Follow the GSMA on Twitter: @GSMA.

GSMA’s mAgri Program catalyzes scalable, commercial mobile services that improve the productivity and incomes of smallholder farmers and benefit the agriculture sector in emerging markets. The mAgri Program is in a unique position to bring together mobile operators, the agricultural organizations and the development community to foster sustainable and scalable mobile services that improve the livelihoods of smallholder farmers. This report is part of the mNutrition initiative, launched by the GSMA in 2014 in partnership with the UK Government’s Department for International Development (DFID).

For more information, please visit the GSMA M4D website at http://www.gsma.com/mobilefordevelopment. Follow us on Twitter: @GSMAm4d

frog

frog is a global design and strategy firm. We transform businesses at scale by creating systems of brand, product and service that deliver a distinctly better experience. We strive to touch hearts and move markets. Our passion is to transform ideas into realities. We partner with clients to anticipate the future, evolve organizations and advance the human experience.


For more information, please visit the frog website at www.frogdesign.com. Follow frog on Twitter: @frogdesign.
The mAgri Design Toolkit is a collection of instructions, tools, and stories to help develop mobile agriculture products by applying a user-centered design approach.

The mAgri Design Toolkit is one of the outcomes of a two-year initiative led by the GSMA mAgri Program. From 2014 GSMA worked closely with six mobile network operators (MNOs) — Airtel Malawi, Dialog Sri Lanka, Grameenphone in Bangladesh, Ooredoo Myanmar, Telenor Pakistan, and Vodafone Ghana — to develop and launch life-changing mobile agriculture services.

The MNO-led services target smallholder farmers with a focus on providing agriculture information and advisory services, as well as nutrition-sensitive agricultural information and tips, and in some cases mobile financial services.

The GSMA mAgri Program partnered with frog to bring the user-centered design approach into the product development process, to better connect the mAgri services with the needs of farmers and other key actors in the ecosystem. frog has been coaching UX experts within each of the MNOs, working closely with them to establish and practice user-centered design methods tailored to the mobile agriculture context and needs. All the tools provided as part of the mAgri Design Toolkit have been tested, proven, and refined multiple times on the ground before being included in this collection.

The design toolkit is intended as an instrument to provide operational guidance to the development and implementation of mAgri services. Designing services around the needs of the rural user is critical to the success of mAgri services. Besides service design, MNOs and value-added-services (VAS) providers must form partnerships with ecosystem players, including agriculture content providers. They must also identify the best-suited technology delivery channels for their target markets, and then implement viable marketing strategies, including both above-the-line (ATL) and below-the-line (BTL) marketing. All of these elements are intertwined with user design and are critical to a viable and sustainable mAgri business model.

Please see the appendix for the suggested GSMA resources that should be used alongside this toolkit.
User-centered design helps MNOs and VAS providers to understand what farmers really need, thereby increasing the chances of launching successful mAgri services.

Many mAgri services that have launched in emerging markets have suffered from low user adoption, despite coming from leading mobile network operators and value-added service (VAS) providers. The rural segment is highly price sensitive, requiring service providers to consider highly competitive pricing and freemium models. Reaching scale is therefore critical in order to derive commercial benefits.

Tackling these challenges can be daunting for any service provider, but the size of the agricultural sector and the number of people who rely on farming for their livelihood in emerging markets, means that service providers can’t ignore the opportunity to deliver services to this largely under-served segment. GSMA mAgri estimates the labor force in agriculture to be 552 million, and agricultural workers with a mobile phone to be close to 200 million in Sub-Saharan Africa and South Asia in 2015.

I feel adopting a user-centered design process is a must when you develop mobile products for a segment such as farmers. It gave me the confidence that we have got the basic elements of the product right in order for it to be accepted by the users. We are continuously sharing our learning with fellow product teams in Dialog to help them understand the user better.

Inas Jenabdeen, product manager, Dialog
WHY IT IS IMPORTANT

By integrating a deep understanding of the user when designing or adapting an mAgri product, service providers can drive successful innovation in the mAgri sector and generate services that can be commercialized faster and become more widely adopted.

The user-centered design approach helps mAgri service providers get a much better understanding of this customer segment and their ecosystem, and then design appropriate products and services that meet the real needs and challenges of the customer. This approach is not typically followed by many MNOs or VAS providers, which has resulted in several poorly designed products that do not meet the demand and have gained little traction with farmers.

The user-centered design approach puts farmers and their experience at the center of the product and service design, and is grounded on a continuous and structured interaction with end users. This approach helps to translate the solid understanding of users who are into a product and value proposition, and ensures that all aspects of the service — from the overall experience to each detailed feature — are verified with target users.

The work that frog Design has been doing to support key actors to design products and services for smallholder farmers is really revolutionary and has certainly changed the way I think about serving the rural poor, even after 20 years of experience. Frog’s meaningful and compelling client-centric insights are helping field staff, management and boards of directors to design for and meet the needs of smallholders, making sense of how technology can have a human face and be impactful, while being sustainable.

Leesa Shrader, AgriFin Accelerate program director, Mercy Corps

While exploring a complex value chain like agriculture, we believe that the GSMA mAgri Toolkit can effectively translate user-centered design into sustainable social impact.

Muhammad Farooq Shaikh, director digital services, Telenor Pakistan

By integrating a deep understanding of the user when designing or adapting an mAgri product, service providers can drive successful innovation in the mAgri sector and generate services that can be commercialized faster and become more widely adopted.
PRODUCT DEVELOPMENT CYCLE

- Concept Development
- Concept Realization
- Execution & Scaling
- Maintain
- Plan
- Learn
- Create
- Develop
- Launch
The mAgri Design Toolkit displays a process together with a set of methods and tools to integrate user-centered design at any stage of the product development cycle.

The mAgri user-centered design process focuses on engaging the farmer at any stage of the product development, from the early moment of identifying the opportunities and generating concepts, to the advanced stages of product realization, execution, and scaling.

We can distinguish five moments in the user-centered design process, and map those against specific phases of the product development cycle.

1) The plan, learn, and create steps focus on building a foundational understanding of farmers and their ecosystem, preparing the team for field research (plan), gathering insights from users (learn), and transforming the data collected into opportunities and service ideas (create). The create step represents the transition from concept development to realization, dictating design and strategic decisions.

2) The develop stage looks at ways to extend the interaction with users during concept realization by providing tools and methods that allow the team to continuously evaluate the service idea, value proposition, and detailed features. The feedback collected is then used as input to refine the product execution and strategies.

3) After launch, the maintain phase evolves the tools and methods used during product realization to look at new design iterations and extensions of the product based on the actual user experience. The maintain phase also loops back into the planning phase, setting the stage for new cycles of research and idea generation.

It is important to note that this mAgri Design Toolkit does not cover other aspects that are critical to making an mAgri product successful (e.g., getting C-level buy-in). Please see the appendix for the suggested GSMA resources that should be used alongside this toolkit.
### Phases

<table>
<thead>
<tr>
<th>Phases</th>
<th>Objectives</th>
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</thead>
<tbody>
<tr>
<td><strong>PLAN</strong></td>
<td>To apply a user-centered process, you need to first align on team setup, existing knowledge, and assumptions. Discuss the overall goal for your mAgri service and how to set up user research to ensure that farmers’ voices and their ecosystem are integrated into the mAgri service.</td>
</tr>
<tr>
<td><strong>LEARN</strong></td>
<td>To create meaningful products, you need to be closer to user, market, and context of use. This understanding starts with going out in the field, asking the right questions, and testing hypotheses with farmers to guide you throughout the design process.</td>
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<tr>
<td><strong>CREATE</strong></td>
<td>To develop a mAgri concept that is deeply rooted in insights captured in the field, you need to analyze the information collected, and identify the right opportunities for your mAgri service, considering all the diverse voices of the farmers and their ecosystem.</td>
</tr>
<tr>
<td><strong>DEVELOP</strong></td>
<td>To shift from concept to realization, you need to prioritize features and plan how to create value, deliver, and capture it over time. While the product starts to take shape, organize additional validation sessions with the user to make sure you are going in the right direction.</td>
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<tr>
<td><strong>MAINTAIN</strong></td>
<td>The launch is only the beginning of the journey, not the goal. When the product launches, you need to continuously gather feedback from farmers and the ecosystem to refine and improve the product, looking at all the aspects that shape the final user experience.</td>
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# Tools

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How the Design Toolkit can help you come up with a new service idea.

If you have not yet developed an mAgri service, or the product you have in the market has not been successful, the user-centered design process can help to build a deep understanding of farmers and the complex system of cultural, societal, financial dynamics they are part of. The learnings collected in the field become the foundation for your team to generate ideas for new mAgri services or to redesign the existing ones, giving the opportunity to always verify any design or strategic decisions against user insights.

**RECOMMENDED TOOLS:**
- Organization Readiness, Success Criteria,
- Ecosystem Mapping, Recruiting Criteria,
- Research Plan, Discussion Guide, In-Depth Interview, Intercept Interview, Research Insights,
- User Archetypes, Customer Journey, Value Proposition, Minimum Viable Product

How the Design Toolkit can help refine the product you are developing.

If you are developing a new mAgri service and you are unsure how it will be perceived in the market and generate adoption, the user-centered design process can help verify and adjust the product design and strategy before launch. You can test the mAgri service idea by creating rough prototypes of the service, evaluating the value proposition and prioritizing certain features with farmers, assessing the distribution strategy with all the actors in the ecosystem, and integrating your lessons into the product development process.

**RECOMMENDED TOOLS:**
- Ecosystem Mapping, Recruiting Criteria,
- User Validation Plan, Discussion Guide,
- In-Depth Interview, Card Sorting, Low-Fidelity Prototypes, Trust Circle, Farming Life Cycle,
- Content Planning, Agent Training, Go-To-Market Strategy, Customer Journey Issues
Following a user-centered design approach does not guarantee a successful product; other factors need to be in place to get the desired outcome.

**IT IS IMPORTANT TO CONSIDER THESE FACTORS WHEN YOU ADOPT A USER-CENTRED DESIGN APPROACH FOR YOUR mAgri SERVICE:**

1. **INTERNAL BUY-IN**
   Make sure you have the buy-in and support from the right people in your organization. mAgri products that don’t have C-level visibility and support often struggle.

2. **MARKET SIZE ASSESSMENT AND BUSINESS CASE**
   Conduct a market sizing assessment and develop a business case for your mAgri service. This will be critical to get C-level and organizational buy-in.

3. **BUDGET**
   Secure budget for the research and design process. After reading the toolkit, work out the budget required to do all the activities relevant for your stage of product development.

4. **PARTNERS**
   Find the right partners to work with. MNOs and other mobile service providers need to partner with organizations that can bring the agriculture knowledge and support the research.
How to read the toolkit:

SECTION COVER
Each section opens with a description of the product development phase and a summary of the tools suggested for preparation, activities, and outcomes of the phase.

TOOL DESCRIPTION & INSTRUCTIONS
Each tool is described with indication of time, materials, complexity, and resources needs (on the left side) and detailed instructions (on the right side).

STORIES FROM THE FIELD
Some of the tools include real stories from the field that help put a specific tool into context and provide additional suggestions on how to apply it.

TOOL TEMPLATE
When needed, a blank worksheet or template is also provided: you can easily print out the worksheets you need and start practicing!
PLAN

ALIGN ON THE OVERALL GOAL FOR YOUR mAgrí SERVICE AND SET UP THE USER RESEARCH TO ENSURE FARMERS’ VOICES AND THEIR ECOSYSTEM ARE INTEGRATED INTO THE mAgrí SERVICE. REMEMBER TO CHECK BACK OFTEN ON THE GOAL AND RESEARCH, AS YOU CAN KEEP ITERATING ON THESE WHEN YOU LEARN MORE ABOUT WHAT FARMERS WANT AND NEED.

PREPARATION
Make sure you have the right resources in place

ORGANIZATION READINESS
TEAM SETUP
COLLABORATION TOOLS

ACTIVITIES
Align on your goals and understanding of the mAgrí service

SUCCESS CRITERIA
MISSION COUNTDOWN
HYPOTHESIS GENERATION
ECOSYSTEM MAPPING

OUTCOMES
Setup qualitative research with farmers and their ecosystem

RECRUITING CRITERIA
RESEARCH PLAN
Make sure you have the right resources in place

- ORGANIZATION READINESS
- TEAM SETUP
- COLLABORATION TOOLS
Organization Readiness

PLAN / PREPARATION

As user-centered design is not a “business as usual” process for many MNOs and VAS providers, it’s important to assess your organization’s ability to follow the approach and identify areas that require more resources or attention. Some key areas which MNOs may find new or unusual include the increased interaction with end users, intensity of collaboration with internal and external teams, and the iterative approach to product development.

MAKE SURE THE RIGHT SETUP AND RESOURCES ARE IN PLACE BY ASSESSING THE INTERNAL ENABLERS AND BLOCKERS BEFORE STARTING THIS PROCESS.

TIME
90 minutes workshop session

MATERIALS
- Post-it notes
- Blank paper
- Pens

COMPLEXITY
High: good understanding of the organization

PARTICIPANTS
- Project Manager
- UX lead
- Technology
- Marketing
- Content
ORGANIZE A MEETING
Set up an internal meeting with representatives from all the structures working in the organization (e.g., tech team, marketing team, content team, user experience designers, product managers, partners, etc.) to explain the user-centered approach and collect all their input about organization readiness.

IDENTIFY THE INTERNAL ENABLERS & BLOCKERS
Take 10 minutes individually to reflect on the existing enablers: what are the internal factors that could facilitate the adoption of a user-centered design approach (e.g., “We just hired a UX expert”)? Write each of them on a Post-it and then share with the team. Repeat the same process to identify the blockers: what are the internal factors that could be an obstacle to the development of a product based on a user-centered design approach (e.g., “The tech team works in isolation”)? Write each blocker on a Post-it and then share with the team.

THINK OF ACTIONS THAT CAN IMPROVE READINESS
Discuss the clusters of enablers and blockers that emerged, qualifying the readiness of the organization to adopt a user-centered design methodology. Find solutions to solve any potential issues.

ENSURE C-LEVEL BUY-IN IS SECURED
If getting C-level buy-in didn’t come up in the enablers and blockers exercise, ensure there is a plan to secure the C-level buy-in for the project. Define who is your C-level sponsor and plan for how to brief and involve him or her throughout the project.
Team Setup

To get the most out of following a user-centered design approach, the make up of the product team may need to be different from the norm. Establish a team with people from different departments (e.g., marketing, business intelligence) and partner organizations (e.g., content partners, vendors).

UNDERSTAND WHAT THE TEAM MEMBERS’ SKILLS AND MOTIVATIONS ARE AND IDENTIFY ANY GAPS IN EXPERTISE.

TIME
30-60 minutes workshop exercise

MATERIALS
• Worksheet
• Pens
• Tape

COMPLEXITY
Low: basic collaborative skills

PARTICIPANTS
• Project manager
• UX lead
• Technology
• Marketing
• Content
REFLECT ON YOUR PERSONAL SKILLS AND MOTIVATIONS
Each person fills out a Team Setup worksheet (or writes on a blank piece of paper) describing his or her working style, personal goals for the project, the skills he or she might use, and individual development goals and needs outside of the project.

SHARE WITH THE TEAM
Once everyone has completed the Team Setup worksheet, team members can read their answers aloud to the group. Listen carefully to the goals and opinions of each participant and seek ways to help members meet their goals throughout the program.

IDENTIFY EXPERTISE AND GAPS
Openly discuss the skills that emerged to assess the team’s expertise and any potential gaps. Team members can work all together in front of a whiteboard or a blank piece of paper. List all the expertise of the team and the gaps, and then discuss team roles and ways to address any gaps.

KEEP YOUR TEAM NORMS ON THE WALL
Together, shape team norms for working and collaboration that reflect the alignment on individual skills plus team expertise and gaps. Record the team norms on a large piece of paper and stick it to the wall of your project room, to reference while working together.
We started by analyzing a high-level product road map and listing all the internal teams that were relevant at each stage of the road map. For example, we recognized that in the development phase the tech team would have been key, while in the go-to-market phase the marketing team would have become more important.

Based on that analysis, when we set up the first team for the initial phases of field research, we tried to form a core team with representatives from all the functions (UX, marketing, and technology), but we didn’t manage to have them involved. We thought it was fine, because we could have involved them later in the process. However, this actually turned out to be a problem.

We now have to keep sharing the user perspective and suggest changes to the materials that marketing proposes based on the insights we have on farmers. This consumes a lot of our energy, as we must fill a gap that could have been easily avoided by having them participate in the field research.

It is important to engage all the functions in research, so that everyone on the team understands the needs of farmers.
It’s important to get the core team together starting from the initial stage, especially research. In particular, people from the marketing department are key, as they create the materials targeted for farmers.

I am now trying my best to get other teams joining us in the field.

[Inas, Dialog product manager]

**TEAM SETUP: DIALOG EXAMPLE**

![Team Setup Diagram](image)

*It’s totally worth it to go the extra mile to get everyone participating during all stages of the product cycle.*
TEAM SETUP WORKSHEET
Reflect on your personal skills and motivations

01 MY PERSONALITY

Extrovert? Introvert? Systems thinking or details first? Structured or spontaneous?

02 MY GOALS

What do you want to learn from this project?

03 IN MY OPINION...

What do you feel is most important for the success of this project?
Reflect on your personal skills and motivations

MY PERSONALITY

IN MY OPINION...

Extrovert? Introvert? Systems thinking or details first? Structured or spontaneous?

What do you feel is most important for the success of this project?

MY GOALS MY SKILLS

What do you want to learn from this project? What skills do you wish to apply during this project?
Collaboration Tools

**PLAN / PREPARATION**

Coordinating the product development across a team that is made up of different organizations and departments requires effective collaboration tools.

**DEFINE TOOLS AND PROCEDURES TO SUPPORT THE INTERNAL COLLABORATION AND A CONTINUOUS SOCIALIZATION OF PROJECT MATERIALS.**

**TIME**
1-day setup and then continuous usage

**MATERIALS**
- Confluence
- (or) Basecamp
- (or) Tumblr
- (or) email

**COMPLEXITY**
Low: define rules and adapt an existing platform

**PARTICIPANTS**
- All team members (internal and external)
- One platform admin
DEFINE YOUR COLLABORATION OBJECTIVES
Understand the internal needs and expectations of project collaboration in terms of information exchanged, frequency of use, types of users (restricted versus extended team), and support of remote communication.

CHECK EXISTING TOOLS
Evaluate alternative solutions based on the identified needs. You can go from advanced collaboration applications — such as Confluence or Basecamp — to platforms that better support one-to-many exchanges — such as Tumblr or WordPress blogs.

CUSTOMIZE A PLATFORM TO YOUR NEEDS
Once you have picked the tool that best fits your goals, make it your own by structuring it around specific rules and workflows. Customize the visual, as well as the navigation and categorization, to facilitate its use by others.

USE IT!
Before sharing the tool with everybody, add existing content as a way to show how to use it and to engage people both in reading and uploading materials and in using the platform for information exchange. This is particularly important if your collaboration tool is a blog.

IF YOU ARE WORKING WITH EXTERNAL PARTIES, INVITE THEM TO USE YOUR COLLABORATION PLATFORM TO EASE COMMUNICATION

SETTING UP A PLATFORM DOESN’T MEAN THAT EVERYBODY WILL IMMEDIATELY USE IT. BE PATIENT AND SEND REMINDERS!
PLAN

ACTIVITIES
Align on your goals and understanding of the mAgri service

SUCCESS CRITERIA

MISSION COUNTDOWN

HYPOTHESIS GENERATION

ECOSYSTEM MAPPING
Success Criteria

PLAN / PREPARATION

Getting the whole team, including the C-level, to agree on the goals for the product (both for business and user impact) is an important first step in defining the key performance indicators (KPIs) for the product.

ALIGN ON A SHARED SET OF GOALS FOR THE PROJECT THAT CONSIDERS BOTH BUSINESS OBJECTIVES AND FARMER-IMPACT OBJECTIVES.
WHAT ARE YOU TRYING TO ACHIEVE?
Have each participant write down his or her top three business objectives and top three farmer-impact objectives for the mAgri service. Use different Post-it note colors for business and user objectives.

SHARE WITH THE TEAM
Each participant comes to the front of the room and shares his or her top three farmer-impact and top three business objectives with the team. Have participants add their Post-it notes to a large sheet of paper (create two separate columns, one for each category).

VOTE ON THE SUCCESS CRITERIA
Give each person three votes to apply across all the success criteria for both business and farmer impact objectives. The individual votes let everybody express his or her own preferences and generate alignment on what the most relevant criteria are.

FINALIZE YOUR LIST OF SUCCESS CRITERIA
As a team, create a well-defined, prioritized list under each category (objectives and success criteria). Hang both lists in the team room and ensure the success criteria are used later as an evaluation tool (success metrics) for the mAgri concepts.
During the workshop, we gathered key representatives across different functions in the room to brainstorm around the success criteria of the project. This was the first time we had everyone discuss their goals for the project.

We had a lively discussion and debate about the success criteria. We thought that everyone would easily agree on the business goals, but it was surprising to see that everyone had different goals for both the business and user success metrics.

This was an important exercise to align across the different business units at Vodafone and share our assumptions about the program.

A suggestion about voting:
Make sure that each business unit has an equal number of votes. Don't just give a voting dot; assign proportional voting to balance the relevance of the criteria across the different structures of the organization.
The voting results were surprising. People really cared about the farmer-impact results, and not just the commercial ones. Realizing that helped set the tone for the project.

[Vodafone, product manager]

**PRODUCT SUCCESS CRITERIA:** VODAFONE GHANA EXAMPLE

1. INCREASED REVENUE
2. BRAND VISIBILITY AND AFFINITY
3. GROWTH OF ACTIVE RURAL CUSTOMERS MONTH BY MONTH
4. INCREASED FARMER PRODUCTIVITY AND INCOME
5. ACCESSIBLE AND USABLE INFORMATION
6. A FOCUS ON GENDER
<table>
<thead>
<tr>
<th>Business Objective</th>
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<tbody>
<tr>
<td>Increase rural market share, penetration</td>
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<tr>
<td>Improve human-centered design capabilities</td>
</tr>
<tr>
<td>Become knowledge leader of mAgri</td>
</tr>
<tr>
<td>Improve outcome focus (monitoring &amp; evaluation)</td>
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<tr>
<td>Increase number of repeat users in rural areas</td>
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<tr>
<td>Pay revenue touch points per rural user</td>
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<tr>
<td>Increase rural Valley Agricultural Software (VAS) usage</td>
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<tr>
<td>Become a leader in mAgri product</td>
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<tr>
<td>Drive higher adoption of core service in rural areas</td>
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<tr>
<td>Reduce cost of servicing customers</td>
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<tr>
<td>Increase brand loyalty in rural areas</td>
</tr>
<tr>
<td>Increase level of innovation inside the organization</td>
</tr>
<tr>
<td>Increase active users in rural areas</td>
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<td>Competitive differentiation (with local or global brands)</td>
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## Farmer-Impact Objectives Examples

Use the following cards to start the discussion around farmer-impact objectives.

<table>
<thead>
<tr>
<th>Farmer-Impact Objective</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Improve farmer health</td>
<td>Reduce crop wastage</td>
<td>Reduce price volatility</td>
<td>Improve overall flow of information for farmers</td>
<td>Improve usability of mAgri information</td>
</tr>
<tr>
<td>Improve farmer, agri-business &amp; government relationship</td>
<td>Increase farmer income</td>
<td>Improve farmer nutrition</td>
<td>Improve farmer control over farm</td>
<td>Improve farmer education level</td>
</tr>
<tr>
<td>Improve farmer relationship with community</td>
<td>Provide better access to information (agri- or nonagri-related)</td>
<td>Women and maternal health improvement</td>
<td>Improve access to finance (loans)</td>
<td>Add your own farmer-impact objective</td>
</tr>
</tbody>
</table>
CREATE A MEMORABLE STATEMENT THAT REPRESENTS THE SHARED GOALS FOR THE PRODUCT AND CAN BE SHARED ACROSS THE BUSINESS AND PARTNERS.

**TIME**
45 minutes workshop exercise

**MATERIALS**
- Worksheet
- Markers

**COMPLEXITY**
Low: basic collaboration skills

**ROLES**
- Project manager
- UX lead
- Technology
- Marketing
- Content
WHAT IS THE PROJECT GOAL?
Begin this activity with an existing mission statement or goal document. Divide the team into small groups (three to four people each) and give them an existing statement defining the project goal. Explain the dynamics of the exercise and encourage “stealing” good ideas from the other groups.

REDUCE THE GOAL STATEMENT TO 16 WORDS
In the first 16 minutes, each group discusses the goal and shares perspectives on the challenges they may encounter. Reduce the mission statement to 16 words and write it on the worksheet or paper, focusing on what is most relevant when describing the overall objective.

REDUCE IT AGAIN, AND AGAIN
Over the next 8 minutes, teams reduce their mission statements to 8 words, further refining the essence of the mission. After another 2-minute read-out, teams reduce their mission statement to 4 words. They have only 4 minutes this time.

SELECT THE MOST EFFECTIVE STATEMENT
In the final 10 minutes, discuss the statements and the focal areas that emerged through reducing them step by step. Select the statement that best expresses your mission; it should be complete enough to provide meaning and essential enough to be memorable.

EXAMPLE:
OUR MISSION IS TO USE MOBILE TECHNOLOGY TO TRANSFORM FARMING
**MISSION COUNTDOWN WORKSHEET**

Quickly iterate and refine your mission statement into a memorable phrase

### 01 WRITE A MISSION STATEMENT OF NO MORE THAN 16 WORDS

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### 02 REVISE YOUR MISSION STATEMENT TO NO MORE THAN 8 WORDS

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### 03 REVISE YOUR MISSION STATEMENT TO NO MORE THAN 4 WORDS

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REVISE YOUR MISSION STATEMENT TO NO MORE THAN 4 WORDS

MISSION COUNTDOWN WORKSHEET

Quickly iterate and refine your mission statement into a memorable phrase

WRITE A MISSION STATEMENT OF NO MORE THAN 16 WORDS

OUR MISSION IS TO:

IN ORDER TO:

FOR:

REVISE YOUR MISSION STATEMENT TO NO MORE THAN 8 WORDS

OUR MISSION IS TO:

IN ORDER TO:

FOR:
IDENTIFY THE ASSUMPTIONS AND HYPOTHESES THAT YOUR TEAM HAS ABOUT FARMERS’ NEEDS. THESE MUST BE TESTED AND VALIDATED DURING THE RESEARCH.

**TIME**
30 minutes workshop exercise

**MATERIALS**
- Worksheet
- Post-it notes
- Pens

**COMPLEXITY**
Medium: good envisioning and strategic skills

**PARTICIPANTS**
- Project manager
- UX lead
- Technology
- Marketing
- Content
IDENTIFY UNMET USER NEEDS
Review any previous data gathered (if available) and write down key assumptions about unmet needs that you think farmers have. For example, “Farmers don’t have access to accurate price information.”

IDENTIFY REASONS FOR FARMERS’ NEEDS
Write down why you think farmers have these unmet needs. For example, “Farmers don’t have access to accurate prices because radio information is for the whole country and not specific to their village.”

USE THE HYPOTHESIS TO BUILD THE RESEARCH
Discuss with the team how you want to test these hypotheses during field research. This usually gives a good starting point to write the discussion guide used to interview farmers.
HYPOTHESIS GENERATION WORKSHEET

01 ASSUMPTIONS
WHAT ARE KEY ASSUMPTIONS ABOUT FARMERS’ NEEDS TODAY?
E.g., farmers don’t have access to accurate pricing information because radio information is for the whole country and not specific to a village level.

02 MOTIVATIONS
WHAT ARE KEY REASONS BEHIND THOSE NEEDS?
E.g., what are different ways you get pricing information today?
Is getting accurate market price information important to you?

03 KEY QUESTIONS
CIRCLE A FEW HYPOTHESES TO TEST THROUGH RESEARCH
HYPOTHESIS GENERATION

WORKSHEET

Identify key assumptions and hypothesis about farmers' needs

E.g., farmers don't have access to accurate pricing information

01 ASSUMPTIONS

WHAT ARE KEY FARMER NEEDS FOR mAgri TODAY?

E.g., farmers don't have access to price because radio information is for the whole country and not accurate on a village level

02 MOTIVATIONS

WHAT ARE KEY REASONS BEHIND THOSE NEEDS?

E.g., what are different ways you get pricing information? Is getting accurate market prices important to you?

03 KEY QUESTIONS

CIRCLE A FEW HYPOTHESES TO TEST THROUGH RESEARCH
TIP: SPLIT THE WIFE AND HUSBAND ROLES IN THE MAP. DON’T CONSIDER THEM AS A SINGLE ENTITY, SINCE THEY MAY HAVE DIFFERENT TASKS, NEEDS, AND RELATIONSHIPS WITH THE OTHER ACTORS IN THE ECOSYSTEM.

IDENTIFY ALL THE ACTORS WHO HAVE AN INFLUENCE ON THE FARMER, TO FULLY UNDERSTAND THE STAKEHOLDERS WHO MUST BE CONSIDERED AS YOU DESIGN THE PRODUCT AND PLAN THE RESEARCH.

Ecosystem Mapping

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**Time**: 30 minutes workshop exercise

**Materials**:
- Blank paper
- Ecosystem cards
- Pens

**Complexity**: High: good understanding of systemic dynamics

**Participants**:
- Project manager
- UX lead
- Technology
- Marketing
- Content
LIST ALL THE COMPONENTS
The ecosystem map is primarily organized around actors and touch points. List all the elements involved in the existing service delivery and prepare a simple card for each. You can use Post-its of different colors to represent actors and touch points.

DRAW CONNECTIONS
Place the cards on a board and start creating the connections. Connections can be based on exchanges of money, information, resources, values, etc. Draw different types of lines to describe the different types of relationships.

HIGHLIGHT GAPS AND PAIN POINTS
Use a Post-it of a different color to identify elements you don't have enough information about or pain points in the system. This lets you know what kinds of information need to be further explored and verified during the field research.

RECOMMENDATION: REMEMBER TO DISCUSS HOW YOU THINK YOUR ORGANIZATION FITS INTO THE OVERALL ECOSYSTEM

FIRST DRAFT!
Review the entire map to verify its completeness. You can use it as a starting point to identify research target participants during the planning phase, map your insights during the field research, and finally communicate your learnings afterward.
At the very beginning, we were absolutely convinced that Airtel could take the product directly to the farmers through the conventional go-to-market strategies that have been applied to many other products. The assumption was that different sources of information would have reached the different types of farmers, covering a good range of the spectrum.

At that point, we did the ecosystem mapping exercise to understand a bit better the different players involved and get ready for the research.

We used a set of cards, named with different population groups and roles in the society. We mapped their connections and importance for the farmers, who represent our target market.

During the mapping activity, we identified the links between the different players in the ecosystem and reflected on how they influence each other either economically or in the decision process.

The ecosystem map helped reveal who farmers trust for information and key influencers to engage in the mAgri service.

AEDOs* and lead farmer networks are the primary change agents but lack resources. [UX team, research insight]
Through the exercise, we identified that other farmers play a critical role in sharing information. We then tested this in the field, and found that the lead farmers are actually the most trusted source of information. This insight completely changed our go-to-market (GTM) strategy. Instead of using Airtel agents, we decided to rely on lead farmers to promote the product.

In conclusion, the insights about the ecosystem made the role of the lead farmers strategic in the GTM definition.

**The exercise gave us a bigger picture about how complex the agriculture system is.** [Airtel, product manager]

**It was interesting to investigate what role mobile operators have on farmers’ lives. We realized that we didn’t know much about it.**
ECOSYSTEM CARDS

Use the ecosystem cards as input for the ecosystem mapping exercise.
OUTCOMES
Setup qualitative research with farmers and their ecosystem

RECRUITING CRITERIA

RESEARCH PLAN
Recruiting Criteria

Based on your initial understanding of the ecosystem — the different stakeholders who influence the farmer — define the criteria for the research participants.

**Time**
1+ day to setup the recruiting criteria

**Materials**
- Ecosystem map
- Text edit tool

**Complexity**
High: good planning skills

**Roles**
Research team (define a research team by picking one or two representatives from each area)

TIP: SELECT A GOOD SPLIT OF WOMEN AND MEN, DO NOT FOCUS ON ONE GENDER.
DEFINE THE RESEARCH TARGET
Think of your market space and the actors included in the ecosystem map. **Identify the categories of users and stakeholders that you need to include in the research sessions.** Remember that all the intermediate roles are as important as the final users; try to cover the entire spectrum.

DETAIL THE KEY PARAMETERS FOR SELECTION
Focus on one group of users each time and describe the key factors to select research participants. Concentrate on the elements that are relevant with respect to your research goal. Parameters can include geographical position, age, family size, level of income, etc.

TURN THE RECRUITING CRITERIA INTO A QUESTIONNAIRE
**Transform the parameters into questions** that could be asked to any potential candidate for the research. This lets you understand if he or she is a good fit. The document that contains this survey is called the recruiting screener.

FINALIZE A PLAN
Select enough participants to meet your interview target in terms of number (how many) and type (groups). The number of participants needs to be estimated in correlation with the project timeline and the days available to prepare, run, and synthesize the field research (usually two in-depth interviews with farmers in a day).

START BUILDING TRUST WITH THE FARMERS DURING THE SCREENING PROCESS. **EXPLAIN AT LEAST THE RESEARCH OBJECTIVE AND HOW MANY PEOPLE WILL BE PARTICIPATING**
The starting point was identifying the criteria that were relevant for our research purpose and selecting farmers based on their ethnographic and demographic profiles. The assumption was that we could reach a diversified set of people just through our internal and personal contacts. We asked for the support of our “Customer Experience Lab” vendor, who had footprints across all urban and rural cities in Pakistan, and we tried to leverage individual connections.

Our initial assumption was that we could recruit a good variety through our direct or indirect connections. We soon realized that it was impossible.

We should have had a much higher level of on-ground penetration to be able to get the diverse ethnographic and demographic profiles that we had in mind.

We ended up moving to the field location, interviewing the recruited participants as planned, and then asking them to point us to other individuals based on the mission profiles in our list.
Another important learning for us was that we shouldn’t limit the scope of the research and only interview farmers.

We didn’t originally include middlemen in the recruiting criteria, because we assumed that they wouldn’t be fully trusted by farmers for accurate information.

During the field research, we visited a fruit market and passed by the rate-setting process between the farmer and middleman. This was really eye opening for us, because we saw that the middleman was providing a lot of really useful information to the farmers.

We started talking to a few more middlemen. We quickly learned that most of them want farmers to succeed, because if farmers do well then it helps their own business, too.

For our next user research, we made the recruiting criteria much broader. We included many types of people, so we would get the full picture.

We adopted the snowball recruiting technique, leveraging our presence to reach more participants.

Our hypothesis changed radically after the intercept interviews at the market. [Kashif, Telenor UX expert]
OUTLINE A PLAN THAT ENABLES YOU TO STRUCTURE THE FIELD ACTIVITIES BY DEFINING RESEARCH TIMELINE, PARTICIPANTS, AND METHODOLOGIES.

TIME
90 minutes workshop session

MATERIALS
• Worksheet
• Text edit tool

COMPLEXITY
High: good planning skills

ROLES
Research team (define a research team by picking one or two representative from each area)
STATE THE RESEARCH OBJECTIVE

Define and prioritize specific research objectives. These should be high-level question areas (e.g., “Evaluate how farmers trust the information they receive”). Usually three to four objectives with no more than one to two subquestions each are a good scope for a focused research session.

IDENTIFY YOUR TARGET PARTICIPANTS

Discuss the type of participants you will seek to interview. Identify farmers as well as key ecosystem players who you want to interview (e.g., input shops, middlemen, NGOs). Also consider the locations of interviews, to have a spread of different crops and income.

DEFINE INTERVIEW METHODS AND TOOLS

Discuss the interview methods and pacing. Consider different interview methodologies, such as 2-hour in-depth interviews, short intercepts, market visits, expert interviews, and contextual immersion.

DISCUSS WHO SHOULD GO INTO THE FIELD: TRY TO HAVE A MIX OF GENDER, AGE, AND LANGUAGE SKILLS

DEFINE THE SCHEDULE OF THE INTERVIEWS

Organize the schedule for field research. When setting up the schedule, consider finding times during farm market days and avoid key harvest times when farmers are most busy. Make sure to include days for rest and synthesis in the schedule.
**RESEARCH PLAN OUTLINE**
Plan how to conduct field research

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**01 RESEARCH OBJECTIVE**
What is the specific area you need to investigate?

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**02 RESEARCH PARTICIPANTS**
What are the target participants? (Define role, location, quantity)

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**03 RESEARCH METHODOLOGIES**
Select and describe the methodologies you would like to use

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**04 TIME PLAN**

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RESEARCH PLAN

OUTLINE

Plan how to conduct field research

01 RESEARCH OBJECTIVE

Select and describe the methodologies you would like to use

02 RESEARCH PARTICIPANTS

What are the target participants? (Define role, location, quantity)

03 RESEARCH METHODOLOGIES

04 TIME PLAN

8 a.m. 12 p.m. 8 p.m.

DAY 01  DAY 02  DAY 03  DAY 04  DAY 05  DAY 07  DAY 08
To apply a user-centered process, you need to first align on team setup, existing knowledge, and assumptions. Discuss the overall goal for your mAgri service and how to set up user research to ensure that farmers’ voices and their ecosystem are integrated into the mAgri service.

To create meaningful products, you need to be closer to user, market, and context of use. This understanding starts with going out in the field, asking the right questions, and testing hypotheses with farmers to guide you throughout the design process.

To develop a mAgri concept that is deeply rooted in insights captured in the field, you need to analyze the information collected, and identify the right opportunities for your mAgri service, considering all the diverse voices of the farmers and their ecosystem.

To shift from concept to realization, you need to prioritize features and plan how to create value, deliver, and capture it over time. While the product starts to take shape, organize additional validation sessions with the user to make sure you are going in the right direction.

The launch is only the beginning of the journey, not the goal. When the product launches, you need to continuously gather feedback from farmers and the ecosystem to refine and improve the product, looking at all the aspects that shape the final user experience.
Further reading on Agri VAS

MARKET OPPORTUNITY AND BUSINESS CASE

**Agricultural value-added services (Agri VAS): market opportunity and emerging business models (2015)**
Estimates the size of the potential Agri VAS market in South Asia and Sub-Saharan Africa and presents an in-depth analysis of the business models in the market today.

**Agricultural machine-to-machine (M2M): a platform for expansion (2015)**
GSMA investigates the opportunity for mobile operators in the Agricultural M2M space.

TECHNOLOGY

**Guidelines for agricultural call centers (2014)**
Lays out a step-by-step process for establishing an agricultural call center.

**Agri VAS functional requirements and best practice: SMS & IVR (2014)**
Outlines the different types of Agri services that can be delivered with SMS and IVR, common pitfalls, and best practices.
CONTENT

**Mobile market information for Agri VAS operators: a quick start guide (2013)**
Applying the concept of market information systems to mobile delivery service channels.

**Guidelines for creating agricultural VAS content (2013)**
A guide to understanding the scale and scope of different agricultural content requirements and a step-by-step process to deliver against them.

PRODUCT & MARKETING

**Women in Agriculture: a toolkit for mobile services practitioners (2014)**
Outlines the case and considerations for designing an Agri service “through a gender lens.”

**Mobile user analytics: a case study in mAgri (2014)**
This guest study from the M4D Impact team discusses the value of user analytics for improving mobile agriculture services.
AGRI VAS

**Agricultural Value Added Services (Agri VAS): Market Entry Toolkit (2011)**
This comprehensive document explores the opportunities for Agricultural VAS and covers emerging best practices on marketing, service design, and business modeling.

mAgr CASE STUDIES

Outlining progress and best practices in mobile agriculture services.

**Vodafone Turkey Farmers’ Club (2015)**
An Agri-VAS and bundled service

**Airtel Green SIM (2015)**
An Agri-VAS service in India

**mFarmer case studies** and deep dive analyses of Tigo Kilimo, Airtel Kilimo, Orange’s Sènèkèla and Handygo’s mKisan services, co-funded by the mAgri team under the mFarmer initiative (2014-15)

**Micro-insurance in mobile agriculture (2015)**
Analysis of ACRE, a Kenyan micro-insurance product for farmers

**mKilimo (2011)**
An agricultural call center funded by the mAgri Program
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