Participant observation – Practical guide for practitioners

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Introduction

Many organisations and individuals facilitate participatory activities with farmers and communities. We can learn a lot from observing the process of those activities. This practical guide to Participant Observation (PO) shows how to do that. In 2021, CCRP (now CRFS) ran a workshop on using observational methods to learn about Farmer Research Networks (FRNs). This guide was assembled from ideas emerging from that workshop together with other resources from the literature on PO.

PO methods allow us to understand many practical aspects of participatory work, such as the way in which meetings with farmers are facilitated, and hence make them more effective. The new understanding can lead to changes in project activities and Theories of Change (ToCs). At the same time, the knowledge generated through observational methods can contribute to developing an understanding of farmers' behaviour that can have value beyond the project and hence become a global research output.

As a practical example, consider learning about farmer engagement during FRN meetings, training events and farm visits. In this case, PO could help determine:

- who is/is not participating,
- what demographic and socio-economic factors are associated with participation,
- what actions promote and hinder participation.

Through the systematic collection and reflective analysis of the information generated from PO, it is possible to improve farmer engagement levels by adapting and adjusting the actions taken to make them more effective. At the same time, the lessons learnt from PO can contribute to creating useful knowledge that can be employed within other FRNs or activities.

PO emphasizes the importance of learning from multiple perspectives within a practical context. Using PO can help gain awareness of different outlooks and people's interactions, their behaviours, activities and relationships, together with understanding the physical, social, cultural, and economic contexts in which participants live (Mack et al., 2005). Through the use of PO, for instance, it is possible to evaluate whether (or not) FRNs projects are working in the way their ToC implies.

In the case of FRNs, for PO to be effective it is important to plan observations together with FRN activities. Additionally, the FRN principles (see 'FRN principles for participant observation' in Annex 1) can provide a frame of reference in shaping how PO is planned and carried out, with consideration for the principles of diversity and inclusion.

PO is not a casual exercise but requires skills, planning, some resources and commitment to doing a careful job. The sections below explain in more detail what PO is, how to conduct it and why using it can be beneficial for practitioners. The guide also includes a brief section on how to organise and analyse data from PO.

1) What is Participant Observation?

Participant Observation (PO) is about learning how people do specific things by being directly involved with their activities as they take place while, at the same time, observing them.

You can use PO during almost any activity, such as a meeting, training event, collective work in the field, or a visit. It can even be used during online activities, such as the activity within WhatsApp groups, though the scope of observing is less than in physical face-to-face events. PO means learning from observing activities that would be going on anyway, even if you were not observing them to learn.

Using PO as a learning and research method is more than just participating in the activity. It means:

1. Being systematic – observing with a purpose, recording information, analysing it carefully and reflecting on what you observe.
2. Being aware and explicit about your subjectivity and addressing potential biases (see section 6.1 on Observer bias).

For PO, the observer is part of the activity: they are a participant (P) and observer (O). This contrasts with alternative research approaches which attempt to remove the observer's involvement and influence (e.g., non-participant or covert observation).

An observer's participation can occur by contributing to the activities observed, asking questions and engaging in conversations to varying degrees as any other participant would do. At the same time, though, the observer tries not to influence how activities take place or participants' opinions and behaviours as a result of observing them. However, there may be some inevitable effects as participants are aware that they are being observed while they are carrying out activities.

Purpose of the guide:

1) Provide a tool to support project teams involved in various activities with farmers and communities, including FRNs, learn from those activities.
2) Use PO to make projects more effective (local result) and, perhaps, to understand aspects of more general value (global result).
3) Help participants to learn more from the activity by systemically observing and recording what is happening.
4) Contribute learning from PO, which can then be combined with other sources of information, such as follow up interviews or other investigations through other research approaches and tools.

2) Why use Participant Observation?

Participant Observation (PO) can be used to add insight to our understanding of the dynamics within a particular farmer group or community, by observing their actions and interactions during various activities with a view to using the learnings from observations to improve them.

PO is a useful tool to identify and help explain differences between what people say they do, and what they actually do. For instance, sometimes challenging aspects of activities are not easily shared in spoken interactions, or people are not aware of their implicit motivations, and can instead be observed in practice.

PO can be useful to learn about:

- power dynamics within groups (e.g., who speaks more or less and with whom, whether there are gender/age/social status divides);
- reactions to pieces of information shared (e.g., debate, avoidance, withdrawal, expressing disagreement, cheering, body language);
- priorities (e.g., topics that farmers want to talk about such as prices);
- organisational arrangements (e.g., where leaders sit compared to where other participants sit);
- cultural customs and values (e.g., for whom is it acceptable to speak? who will speak based on age/gender/etc.? who gets elected to be the group's chairperson? who can plant certain crops at what time? what is acceptable for people with specific social roles, such as widows, to do?);
- successes and challenges (e.g., field visits, contradictions versus alignment of descriptions and what you can observe).

Why does learning about these points matter? Because it can:

- ❖ Provide insights into their impacts on practices and inform future actions;
- ❖ Teach us whether the format of the activities is effective (e.g., whether joint learning is taking place as opposed to a 'lecturing' approach);
- ❖ Reveal the unspoken interests of farmers, and suggest new ways to do things in future activities (e.g., literate farmers may initially help illiterate ones understand written feedback, but it may be burdensome in the long term, so other ways to support learning among illiterate farmers need to be found);
- ❖ Reveal change of a group over time in relation to knowledge, attitude and practices and what factors caused or contributed to that change.
- ❖ Provide contextual insights to complement results from quantitative studies.

While engaging in activities, the observer can pay attention to people's body language and the ways people interact within the group, such as joking and laughing with each other. At the same time, observing group members' behaviour patterns can help identify their values and customs (CCRP, 2019). In this way, PO offers the opportunity to provide an 'insider' viewpoint on how and why things happen in a specific way, through the lens of group members (Jorgensen, 1989). Within an FRN context, PO constitutes part of a process of co-creating knowledge and the research agenda together with participants.

PO also makes it possible to obtain information from farmer-participants which may not be revealed in structured interviews. It can facilitate co-learning and ownership of the research activities among farmers and other stakeholders who work together as a team.

PO can be unobtrusive. It takes place during an activity that would be happening anyway without the PO and should cause no disruption to that activity. In this way it is different from

much other social research, which depends on specific data collection interactions such as interviews or group discussions.

Participant Observation is useful for:

- practitioners working with farmers and communities;
- learning in order to (i) improve the effectiveness of actions, (ii) contribute to knowledge;
- learning through participation, observation, and reflection;
- systematizing learning.

3) How to conduct Participant Observation?

This section of the guide will cover more practical aspects of conducting PO. These include deciding 'who observes', 'what to observe' and 'when to observe'. Furthermore, a final sub-section is dedicated to steps to taking notes effectively during and after conducting observations. Core elements when carrying out PO are the ability to build trustworthy, flexible and respectful relationships between the researcher and participants, and to interact using a shared language, which refers not only to the local language but also to the language (i.e., code) used within specific groups. These aspects, however, are not exclusive to PO and they coincide with the requirements of the nature of the relationships among stakeholders within participatory activities.

When planning and conducting PO, bear in mind the types and number of resources needed. These may include time and energy, a notebook, a pen or pencil (and spare ones!), a laptop, sometimes a phone or camera when including video recordings, chargers, adequate and comfortable shoes and clothes based on local climate and weather, and drinking water.

It is important to clarify expectations among all stakeholders involved by communicating how the learning from observations will be used, and how it will affect them. For instance, results from observations can be communicated as feedback to farmers, other stakeholders, colleagues and communities of practice (CoPs).

PO should also be combined with other methods (e.g., interviews, focus groups and quantitative research methods) as they can mutually improve each other. On the one hand, the meaning of an observation may not be immediately clear and directly asking participants for clarifications may help the observer interpret it (remember to find the right time to ask questions without disrupting activities, see section 3.1.3 on What not to do). On the other hand, data gathered through other collection methods may be better interpreted with understandings gained through observations (Mack et al., 2005).

3.1) Who will observe?

When planning PO activities within a structured group, such as an FRN, it is important to decide who will conduct the observations (and record related data) and what their skills are (including whether they need specific training or they will be learning by doing). The observers

can be local practitioners such as FRN group members and/or practitioners from NGOs collaborating with the community and other local stakeholders who take part in the activities. More than one person in a team can conduct observations to capture events from multiple angles. Different field notes from several observers can then be combined to provide a comprehensive picture. If pairs or teams conduct observations, it is sensible to do so in the least intrusive way (Mack et al., 2005). Furthermore, it is important to consider gender issues when deciding who will carry out the observation activities and who will process data from observations (and how). This can be done, for instance, by ensuring that there are equal numbers of men and women recording and analysing data from observations and that their voices are equally taken into account in the process.

Questions may arise about why local practitioners (as opposed to external researchers) will be doing PO and how it could benefit them. Some motivations include:

a) They are well-equipped to bring to light the needs, strengths and weaknesses of farmer communities when conducting PO, hence they already are 'insiders' to the local context;
b) Another advantage of being 'insiders' is that other community members are more likely to be naturally more open and sincere when sharing information with them than with external researchers ('outsiders');
c) The results of PO are more likely to be relevant to their CoP: "Information about a community collected by a participant observer can ensure that planning and decision making incorporates community needs and opinions, and will therefore be more acceptable and more useful to the community" (Department of Sustainability and Environment, 2005, p.62).

For instance, a CCRP project in Kenya trained farmers participating in an event to also be the participant observers, giving observations from a farmer perspective, rather than the more usual researcher perspective.

It is not, however, advisable for a facilitator to also be doing PO (although of course they are participating and observing). First, they cannot do both jobs at the same time; and second, the facilitator is part of what is being observed and therefore does not have the critical distance to be able to do high-quality observing.

It is worth considering that while involving community members in PO activities can help them be more invested in the results as well as the advantages listed above, there are times when using external researchers can be useful to observe aspects that may be taken for granted or are not visible to insiders. Moreover, there can be instances when it can be too burdensome for community members to conduct PO. In these cases, having an external observer or having more than one observer may help obtain a better balance.

3.1.1) Key Skills of a Participant Observer

What makes a good participant observer? The answer is a combination of technical and personal skills.

The skills of a good participant observer include the ability to:

- Have an eye for detail while at the same time keeping sight of the bigger picture
- Listen carefully to what is being said, the tone of voice used and the emotions of participants
- Respond thoughtfully in a dialogue, without judgment, by using open body language, empathic facial expressions and repeating back what you understood was said, avoiding interpretation
- Self-awareness of one's own role, biases and reactions as a participant and observer
- Propensity for noticing human behaviour and social interactions.

3.1.2) Personal Qualities of a Participant Observer

On a personal level, a participant observer needs:

- Patience
- Curiosity
- Open-mindedness and a non-judgemental attitude
- Flexibility, and the ability to quickly and easily adjust to what is required in the context
- A sense of humour to help establish positive and genuine relationships with participants
- Honesty and willingness to help others and join in activities in order to build trust-based relationships.

3.1.3) What not to do

When conducting PO it is important to avoid some common mistakes. These include:

- Unawareness of the degree of 'participation' that is needed in a given situation. Participating in activities can help build a positive relationship with research participants and gain access to 'insider' information and perspectives. However, by becoming too involved in the processes that you want to observe there can be a risk of influencing people's behaviours and interfering too much with their practices.
- Interrupting ongoing activities to ask questions. It is better to make notes of any questions you have about people's actions or words and ask them after the main activity has finished.
- Being indiscreet, for example by dressing inappropriately for the context or speaking in a way that makes you stand out, which could influence the group's behaviour and dynamics.
- Stating your personal opinion or judgement too strongly in view of your additional role as an observer—other than being a participant in the activity—and your potential influence on the group's power dynamics. Doing this can affect people's reactions and, thus, the quality and validity of the data collected.
- Attributing meaning to people's reactions, expressions or behaviours. This can lead to misinterpretation. Clarifying meanings with participants can help make sure that interpretations are accurate.

What to observe:
For example, when observing that women do not speak during meetings and it is mostly men who do, understanding why that happens and how to intervene in that aspect would make FRNs more participatory and inclusive. One could observe subtleties related to when women speak and what are the differences in those situations (e.g., later into the event, in small groups, when they are asked to, when the talk is about children or certain crops, when some people are absent).

3.2) What to observe?

Within FRNs and other CoPs, a useful starting point for deciding what should be observed would be to define the observation objectives as a team, negotiating differing priorities. To do so, it can be helpful to:

i. Revisit the project's ToC, outcomes and evaluation questions. For example, a guiding question could be 'what is the most important thing that we want to find out?' and then refer to an evaluation question linked to a planned activity and related to an expected change in knowledge and skills, attitudes and behaviours. Another example would be paying attention to things that may make a difference, in order to feed back into the research cycle and

improve the process (e.g., women's participation in activities and interactions among themselves and with men). It can also help to look at the research objectives and think about what needs to be changed to work towards achieving them. Doing that can help decide what needs to be observed by thinking whether answering the questions that emerge is useful to make FRNs become more effective;

ii. Align the observation activity with the FRN principles (e.g., how farmers are learning together; what type of information is being shared and by whom, such as farmers or facilitators; whether there are side conversations among specific categories of people). The FRN principles can be used as a theoretical framework for analysis (see 'FRN principles for participant observation with questions' in Annex 2 for some questions for exploration);

iii. Devise a checklist containing the elements to observe.

For example, the overall question might be what changes are taking place. This list of elements to observe would be:

Changes in practices:

- ✓ something new when visiting a farm
- ✓ something surprising or contrary to what people are saying
- ✓ which management options work better

Changes in attitudes

- ✓ whether or not farmers are interested in the results
- ✓ how farmers react when they receive results
- ✓ whether farmers ask questions

Changes in interactions and knowledge exchange among stakeholders

- ✓ how different facilitators and/or organisations interact with farmers
- ✓ what approaches NGOs use
- ✓ what the social dynamics surrounding NGO staff and farmers are
- ✓ how collaborations among various actors take place
- ✓ who contributes knowledge
- ✓ who contributes resources
- ✓ who makes decisions
- ✓ who benefits from decisions made

Particularly challenging questions are those related to how to measure changes in mindset[1], which are not as easy to observe as changes in practices. Changes in mindsets occur as part of a process and, to understand the process, it can be helpful to observe who interacts with whom and what are the reactions to those interactions. It is important to observe all actors involved, not only those who provide knowledge but also those who receive it and their responses.

PO can help identify specific aspects that contribute to or inhibit change. For instance, during an interview participants may state that they would be very keen to undertake some practices. However, PO may reveal that they lack access to the resources needed to enable them to engage in said practices. PO can often be combined with quantitative results to provide

[1] Mindset refers to what is internal (i.e., how you perceive the world around you) and attitude refers to the external manifestation of that (i.e., how you act as a consequence of what you know and of how you perceive things). Therefore, while attitudes can be observed by looking at people's actions, mindsets are less easily visible.

contextual meaning behind the data. There is a need to formulate questions to guide the exploration through PO. Below is a list of useful guiding points:

i) Asking yourself HOW questions to guide the focus of observations can be useful to explore how things are happening and understand processes better (e.g., how do different groups of farmers interact or react during a meeting?)
ii) Observing farmers' actions and interactions (with awareness of power relations), for instance, in dynamics between group members and leaders and considering: 'Do leaders support and facilitate ideas proposed by other group members? Do they sabotage them? What are the relationships with local NGOs and community-based organisations (CBOs)? What are the relationships at the village and inter-village level? What is the nature of networks (kin networks, other networks)?
iii) Observing how stakeholders create knowledge together. For instance, you can consider questions such as: who identifies and decides the topic for knowledge co-production? How does the process occur? Is it democratic? What is the level of engagement of different stakeholders? Who benefits from the process and outcomes of knowledge co-creation?
iv) Paying attention to events that may seem outside of the pre-arranged focus and which could shed light on relevant issues (e.g., an unplanned interaction between group members during a lunch break where they exchange information on challenges related to FRN activity planning and implementation)
v) Observing with the understanding that all viewpoints count equally within a group and that no one is considered to be better qualified (see Section 6.1 on observer bias)
vi) Observing how network activities are planned. Who makes decisions about activities? Who takes part and in what capacity?

3.3) When to observe?

It is important to identify good opportunities for observing. In the context of FRNs, consider:

a. During meetings with farmers
b. During field visits
c. During training
d. During exchange meetings
e. During 'spontaneous opportunities' that may arise as you are in the community interacting with people. It may be helpful to carry a notebook and a pen/pencil to avoid relying completely on memory (Mack et al., 2005).

3.4) Note-taking

Note-taking is a fundamental part of conducting PO. Notes are the data that help answer the questions you are investigating. Observational notes are simultaneously an exercise of data collection, processing and analysis as our attention is caught by specific things that we want to record because they may be relevant to our questions and focus of interest.

Elements to look for and write down in field notes may include:

- Surroundings (e.g., buildings, different spaces, location of fields, layout of the community and so on)
- What people look like and wear – if we think this may be relevant (e.g., are different categories of people dressed differently?)
- Non-verbal and body language (e.g., facial expressions, turn-taking in conversations, who is talking and who is not)
- Informal conversations (e.g., what is being discussed, who is involved, what is the atmosphere)

- Local events based on their relevance to the questions we want to answer (e.g., cultural, religious, market days – such as if it is a market day and people rushed the meeting because they wanted to go to the market)
- Daily activities
- Cultural practices that are relevant to the questions we want to answer (e.g., starting an activity with a prayer)

Remember to:

❖ Describe behaviours (exactly what a person is doing) and not attribute meaning to them until later (e.g., boredom, disagreement, anger, frustration, etc.)

❖ Give concrete descriptive details about a person (articles of clothing, items, etc.) not an adjective that requires interpretation (poor, dishevelled, etc.)

❖ Describe the physical environment in objective terms (colours, objects, etc.) avoiding personal impressions (bright, warm, welcoming, etc.)

Carry out a more in-depth analysis that includes interpretation of the aspects recorded in observational notes at a later stage when, for instance, you will identify the main themes that emerge from the data in relation to the questions you investigated (See Section 4 on Organising Data/Data Analysis).

When taking notes, the following list includes core steps to develop effective field notes:

- Begin each entry with the date, time, place, and type of event.
    - Record the number of people taking part in an activity or present in a specific space.
- Use a template when observing a meeting (see Annex 3 for the template provided in the FRN observation Protocol by CCRP -now CRFS).
- Take quick, brief notes by using abbreviations, acronyms and jottings to note what is happening and being said as soon as things happen can help ensure the quality of data (Emerson et al., 1995). Using keywords and short phrases that will trigger your memory when you expand on notes later is more feasible than trying to record every occurrence and verbal interaction in detail while it is happening.
- Allocate time to reflect on your notes daily[2], on what worked well and what can be improved and to develop them into thick descriptions (i.e., a descriptive narrative with contextual details that help you interpret situations and behaviours) (Geertz, 1973). When participating in activities all day long or attending events at night, you may complete this step the following day. Thick descriptions can be recorded

What should be recorded in field notes:

"Field notes should include an account of events, how people behaved and reacted, what was said in conversation, where people were positioned in relationship to one another, their comings and goings, physical gestures, your subjective responses to what you observed, and all other details and observations necessary to make the story of the participant observation experience complete." (Mack et al., 2005, p.21)

[2] Some questions to identify useful information to enter in reflective notes can be: What surprised me?; What interested me?; What disturbed me?; If I did the observation again, what would I pay attention to?. These are included in Fitzpatrick, Ian . (2019b). *Field notes: a rapid guide*. Statistics for Sustainable Development, Reading, UK.

either by hand in the notebook or by typing them on a computer. It is good practice to regularly type hand-written notes on a computer and store them securely using a protected password (Mack et al., 2005).

- Record instances that may seem obvious (and are related to the questions you are exploring), but can turn out to be useful pieces of information later on.
- Label pictures and link them to the notes.
- Use visual tools such as maps (e.g., of the observation site) and diagrams (e.g., kinship and organizational charts) to represent information about places, participants, how they are organised and their relationships (Mack et al., 2005).
- Use triangulation techniques, by checking facts through feedback from participants or consultation of relevant documents.
- Share data from observations with the research team to improve the interpretations and their credibility.

3.5) Video observations

Video observations can be made in several ways, for example: participatory videos, videography, secondary video data, video interviews, video elicitations and video-based fieldwork (Jewitt, 2012). This section provides a concise overview of participatory videos and video interviews and focus groups as they can be relevant tools to carry out observations with farmers and CoPs when unable to be present in person, such as in the case of the limitations posed by Covid-19. For an extended exploration of the uses of photography (including videos) see Fitzpatrick (2019c).

Participatory videos entail providing participants with video-recording devices (or simply using the cameras on their phones) -and, if needed, training- for them to record their experiences first-hand. Examples within FRNs would be the video recording of training events, farmers' meetings and trials. Observations of these video recordings can focus on patterns of interaction, facial expressions, body language and relevant elements from the surroundings appearing in the video. The recorded videos can also be used to generate discussions based on those observations.

Video interviews and focus groups offer the opportunity to have immediate responses to questions and comments like in face-to-face interactions. When conducting synchronous online video focus groups, it can be helpful to pay attention to specific aspects such as:

- unique ideas
- relevant and off-topic comments
- statements of agreement/disagreement
- group dynamics
- more or less-talkative participants (Lobe and Morgan, 2021).

Challenges of online video interviews and focus groups relate to reduced access to the internet or a fluctuating connection which can adversely affect the quality of the interactions and of the data generated from them. Furthermore, individuals or groups who lack access to the required technology or who feel uncomfortable with video interactions may be excluded. Other constraints of these approaches relate to the partiality of the picture that can be provided through video due to the limited view of the camera (Jewitt, 2012). Like for in-person observations, a choice is always made with regard to including some elements and excluding others, based on our focus of interest. Additionally, issues related to confidentiality can emerge when, for instance, an uninvited person is physically present in the same space as the

participant and could have an influence on them (Saarijärvi and Bratt, 2021). Another concern relates to the influence that the presence of the camera can have on participants' behaviours and, thus, on the data produced. Acknowledging and analysing the impacts of the camera on the participants can help retain data validity (Jewitt, 2012).

4) Organising Data/ Data Analysis

When organising data generated from Participant Observation (PO) it is crucial to have a safe data storage system -usually on a laptop and protected by a password- where observations are labelled by type, dates, locations and name.

To analyse and interpret observational data, Thematic Analysis can be useful. Specifically, in the first stage of data analysis, data can be sorted by using a coding system. Codes can be assigned to portions of text from fieldnotes or interview transcripts to describe their content (colour-coding can help visually identify portions of text with similar or related content). At a later stage, the relationships and patterns among codes can be organized into larger themes. Once main themes and their relationships are identified, the portions of text pertaining to each theme can be cut and pasted from field notes under headings (it is important to include the date, location and names). Themes can usually be identified by considering what is important to people/participants, the way in which things are working, emerging issues, and lessons learnt. A useful exercise to help develop themes and clarify their relationships can be to use fieldnotes to develop cards that contain key information that can be later sorted out. It is also possible to use a software for the analysis of qualitative data (e.g., ATLAS.ti, NVivo and Taguette). Finally, determining themes and their relationships is useful in order to create a written narrative of the meaningful lessons and insights gained from observations through an iterative process of reading, analysis and reflection (Fitzpatrick, 2019a).

When reviewing themes and producing a written account of data interpretation, it can be useful to use the FRN principles (see 'FRN principles for participant observation' in Annex 1) as a theoretical framework for analysis. This would be useful when the intended audience is the FRN group, who can then discuss the results and adapt their actions.

The box below is an example of a thick description from a field day observation activity as part of a CCRP – now CRFS- CoP meeting in East Africa in 2016 (for the purpose of anonymisation, in this example people's names have been replaced by capital letters X, Y, W, J, K).

Field day

During the discussion after the field day, participants were actively hypothesizing based on observation and curiosity, collectively interpreting and creating knowledge, using different kinds of data and knowledge, and planning future research based on that analysis. In doing so, they were sharpening their shared practice of "quality research".

Figure 3 shows a spike in participation by women on Thursday, the field day, it was also observed that there was a higher participation of students and Ethiopians, so this format was pulling in different types of actors that didn't seem as comfortable in a formal environment. The conversation was kicked off by X, a senior researcher who is one of the thought "pullers" in the CoP and works in Ethiopia. She started with a strong statement that included an observation, hypothesis and research agenda (what, so what, now what):

> "*[I saw that one]can get up to 100 suckers on an individual plant, however, I did the calculation and no farmer has the area to transplant so many suckers, so there is something going on in the selection process. I am certain this is not random. Did you notice that not all [the enset] had the same color midriff? I know that the center part has medicinal properties, women use it to control fertility. This is a researchable question, understanding who and why does selection."*

In this observation, X is masterfully combining "scientific" ways of thinking (calculations, genetics), to local ways of knowing (uses, gender dynamics, diversity). This statement was followed by a short back and forth between CCRP members and Ethiopian members about diversity and uses of enset, the flow was broken by an Ethiopian PI saying *"so there should be a tissue culture."* To which Y replied *"Why?"* This exchange stands out because it felt like the PI was trying to show off his ***scientific knowledge a bit, without really showing off his scientific thinking***, something that had also happened the day before in the seminar and he had been chastised by the CCRP for it. Y proved a subtle corrective to automatically going to the most sophisticated tool.

Another notable part of the field day discussion was around an observation that many people made about the incredible labor intensiveness of enset production and processing, many were wondering if it was worth it and suggesting cost/benefit analysis and mechanization. Z, a student who had a rough day of critique on his research quality the day before, was the first to pipe up in a confident voice with an alternative interpretation, *"[the labor requirements] were not a problem for the farmers, we brought our problems to the farmers".* This was followed by many comments by the RT/LT (Y, W, J, K) that supported that view and talked about the resilience and cultural importance of the crop, including how it brought people together. One participant responded to W's information that farmers give enset a gender based on their use characteristics, not biology, with *"I didn't know that".* The next day one of the Ugandan economists who has been part of 7 CoP meetings reported back on the field day and emphasized that you can't just do a cost/ benefit analysis, there are cultural benefits that can't be monetized. This collective learning experience shows how knowledge is both shared (information from those who have worked with enset before) and created, all those pieces started coming together into a larger, more vibrant understanding of the system (creating knowledge), and also, how to do systems research in general (creating capacity) (Nicklin, 2016).

5) Ethical issues

When carrying out Participant Observation (PO), there are ethical issues specific to the local context and people that one needs to be aware of. Knowledge of the local context and people is essential in order to address them in the most appropriate way.

Conflicts of interest

- Be aware of who may have something to gain or lose from taking part in observations. An observer should be as neutral as possible, without any incentive to influence the findings.

Power relations

- There may be embedded power relations between observers and participants as well as among different participants, such as those related to gender. In this case, as a participant observer, trade-offs need to be sensibly established between respecting local values and cultures and encouraging more equal relationships. Similarly, one needs to be aware of one's own position, as well as the positioning of different community members in relation to the rest of the community when interacting with them. This entails the ability to adapt to local social norms such as addressing certain categories of people accordingly, in order to be seen as being neutral and avoid being associated with authorities or people in positions of power, which could cause participants to feel uncomfortable.

Consent

- In order to ensure consent, all participants must be informed about the purpose of the research and have agreed to take part in the observations and interviews (including less-structured conversations). In the context of FRNs - with many different members coming and going, some members having limited literacy, and the potential that some people are uncomfortable having to sign a form - it is not feasible or appropriate to expect all participants to sign a consent form each time PO is being done. Instead, consent should be considered an ongoing process, and the observer's role and the purpose of the study should be regularly reiterated to the participants (Schensul et al., 2013). Doing so will also help build trust with the participants and avoid causing them to feel like they are being 'spied on'.

Anonymity

- When obtaining consent from participants commit to avoiding sharing identifying information such as personal names and addresses in any reports or communications outside their local group. It is also important not to be disruptive and to respect people's privacy as you participate in activities (Mack et al., 2005).

Sharing findings

- Findings from observations need to be shared with community members and in meetings involving external participants, again without revealing any personal details.

6) Challenges

The nature of Participant Observation (PO) entails being involved in multiple human interactions while carrying out observations and participating in activities. Therefore, PO can present some challenges, such as:

- Tensions between 'insider/outsider' perspectives and the challenge of making the familiar strange (especially for locals as observers). Sometimes, being very familiar with an environment makes it challenging to maintain a fresh eye and see daily occurrences as novel aspects that can inform the research questions. Ways to address this challenge include regularly returning to the question to be answered or the focus of exploration to remind oneself of 'what to look out for', or asking someone who is not as close to the context/community/project to conduct the observations.
- Unexpected situations. If an activity does not unfold as planned, make adjustments to your notes template, and decide quickly what you need to observe. It may also be useful to record people's reactions to the change in plans and how they are dealt with.
- More reserved or shy farmers. Try to create a comfortable and safe atmosphere for them to open up, but also be patient and respect their personality. Note who shares/does not share easily and under what circumstances.
- Important information that is not shared through open interactions but can be inferred by observing what is not being said. Note what you observe, without interpreting, and see if you can understand the 'meaning behind silences' during the analysis and interpretation phase, using other sources of information.
- Difficulty in systematically collecting data. It is not easy to take notes while participating and observing, and relying on memory has serious limitations and can result in inaccuracies (Mack et al., 2005).

6.1 Observer bias

An almost assured difficulty that occurs when conducting PO relates to observer bias, as the observer is also the data collection instrument. The American Psychological Association (APA) defines it as 'any expectations, beliefs, or personal preferences of a researcher that unintentionally influence his or her recordings during an observational study'[3]. Ways to address and minimize unconscious bias are:

1. Becoming aware and being honest about what set of values and theoretical orientations influence your own outlook towards things and people observed. By acknowledging these, you can more easily limit bias.
2. Conducting a process of structured and systematic data generation can help counter bias.
3. Employing triangulation techniques (i.e., using multiple data collection methods) and involving multiple observers can help reduce bias by comparing the data collected to check whether or not they converge (Schensul and LeCompte, 2013). When having several observers, it is also important to train them all in order for them to collect and record observational data in the same way.

Employing the three strategies outlined above can help limit the influence of observer bias on the data generated from observations.

7) Limitations

Employing Participant Observation (PO) as a data collection method presents some limitations. Firstly, it is time- and energy-consuming, especially for practitioners who need to learn by doing and develop skills and insights in the process. Secondly, there is an inherent (and unavoidable) bias in reporting and interpreting data. This limitation can be tackled by separating descriptive (i.e., 'objective') notes from interpretive (i.e., 'subjective') ones (see section 3.4 on note-taking) (Mack et al., 2005). Lastly, there is the question of generalisability.

[3] APA Dictionary of Psychology, https://dictionary.apa.org/observer-bias, accessed on 10th March 2023.

Unlike quantitative approaches, PO -as a qualitative method- is not necessarily expected to produce findings that are generalisable to a large population (Leung, 2015). The purpose of employing PO as a method is to obtain rich and context-relevant results that can help improve issues emerging in specific circumstances. However, there is the possibility for PO's findings to be relevant to other contexts and CoPs that share similar features to the ones studied. This property of qualitative research has been defined in the literature through the concepts of transferability and proximal similarity and it can improve PO's generalisability. Transferability entails that the thick descriptions obtained from qualitative findings in one setting can be relevant to another setting. This is especially the case when researchers develop theoretical perspectives from contextual features which can be applied in another context in order to interpret local occurrences (Polit and Beck, 2010).

Links to other resources

Collaborative Crop Research Program. (2019). *FRN observation Protocol*, The McKnight Foundation.

Collaborative Crop Research Program (CCRP). (2019). *Participatory Observation and Ethnography*, in *Social Science Research Methods and Approaches for Research and Development Work with Farmers*, The McKnight Foundation, https://www.ccrp.org/wp-content/uploads/2019/05/social_science_methods_guide_1_0.pdf, accessed on 06.10.22

Department of Sustainability and Environment. (2005). *Effective Engagement: building relationships with community and other stakeholders. Book 3 the engagement toolkit*, The Community Engagement Network, accessed on 06.10.22 at https://www.betterevaluation.org/sites/default/files/effective%20engagement%20book%203.pdf

Emerson, R. M., Fretz, R. I., & Shaw, L. L. (1995). *Writing ethnographic fieldnotes*. Chicago: University of Chicago Press.

Fitzpatrick, Ian. (2019a). Análisis de datos cualitativos. Statistics for Sustainable Development, Webinar, available online at https://stats4sd.org/resources/webinar-analisis-de-datos-cualitativos_2019-07-08_14:36:27, accessed on 11.07.2023.

Fitzpatrick, Ian .(2019b). *Field notes: a rapid guide*. Statistics for Sustainable Development, Reading, UK.

Fitzpatrick, Ian. (2019c). *Using Photography in Research*. Statistics for Sustainable Development, Reading, UK, available online at https://stats4sd.org/resources/using-photography-in-research_2019-10-16_10:28:28, accessed on 11.07.2023.

Geertz, Clifford (1973). *Thick Description: Towards an Interpretive Theory of Culture. In The Interpretation of Cultures*. Basic Books.

Jewitt, C. (2012). An introduction to using video for research. National Centre for Research Methods Working paper, MODE node, Institute of Education, London, https://eprints.ncrm.ac.uk/id/eprint/2259/4/NCRM_workingpaper_0312.pdf, accessed on 16.02.23.

Jorgensen, D. (1989). *Participant observation: A methodology for human studies*. Newbury, CA: Sage.

Leung, L. (2015). Validity, reliability, and generalizability in qualitative research. Journal of Family Medicine and Primary Care, July 2015, Volume 4, Issue 3, DOI: 10.4103/2249-4863.161306, accessed on 17.07.23.

Lobe, L. & Morgan, D. L. (2021). Assessing the effectiveness of video-based interviewing: a systematic comparison of video-conferencing based dyadic interviews and focus groups, *International Journal of Social Research Methodology*, 24:3, 301-312, DOI: 10.1080/13645579.2020.1785763

Mack, N. & Woodsong, Cynthia & Macqueen, Kathleen & Guest, Greg & Namey, Emily. (2005). *Qualitative Research Methods: A Data Collector's Field Guide*, https://guides.library.duke.edu/ld.php?content_id=11691400, accessed on 24.10.22.

Nicklin C. (2016). *Integrated Monitoring, Evaluation and Planning (IMEP) Report EAf CoP8, May, 2016*, Collaborative Crop Research Program, The McKnight Foundation.

Richardson M., Coe R., Descheemaeker K., Haussmann B., Wellard K., Moore M., Cady J. M., Gubbels P., Tchuwa F., Nelson R. P. Y. & R. (2021): Farmer research networks in principle and practice, *International Journal of Agricultural Sustainability*, DOI: 10.1080/14735903.2021.1930954.

Polit DF, Beck CT. Generalization in quantitative and qualitative research: myths and strategies. *Int J Nurs Stud.* 2010 Nov;47(11):1451-8. doi: 10.1016/j.ijnurstu.2010.06.004. Epub 2010 Jul 3. PMID: 20598692, accessed on 25.07.2023.

Saarijärvi, M., Bratt, E. (2021). When face-to-face interviews are not possible: tips and tricks for video, telephone, online chat, and email interviews in qualitative research, *European Journal of Cardiovascular Nursing*, Volume 20, Issue 4, April 2021, Pages 392–396, https://doi.org/10.1093/eurjcn/zvab038, accessed on 17.02.2023.

Schensul, & LeCompte, M. D. (2013). *Essential ethnographic methods : a mixed methods approach*, (2nd ed.). AltaMira Press.

Annex 1

FRN principles (revised)

1. Diverse farmers participate in the whole research process.

1.1 Farmers co-create the research agenda.

1.2 Farmers are engaged throughout the research process.

1.3 Farmers from marginalized groups have meaningful representation in the network.

1.4 Farmers strengthen their capacity to learn together.

2. Research is rigorous, democratized, and useful, focused on AEI knowledge creation that provides practical benefits to farmers based on their social and biophysical context.

2.1 Research effectively addresses farmers' problems and opportunities and is continually adapted based on reflection on experiences by FRN members

2.2 Co-developed research plans are formalized through an agreement of all parties that covers principles, rules of engagement, and responsibilities

2.3 Research is based on sound, appropriate, and participatory designs and protocols.

2.4 Relevant local, indigenous, and farmer knowledges are fully integrated into research.

3. Networks are collaborative and facilitate learning and knowledge sharing

3.1 Networks support learning and knowledge sharing among all members.

3.2 Networks are made up of connections among differently positioned actors and encourage the flow of learning throughout the network.

3.3. Networks facilitate learning and knowledge sharing among farmer groups and within communities.

3.4 Network members engage in iterative reflection and planning to guide network activities.

Annex 2

FRN principles

Some draft questions that could be explored through participant observation

1. Diverse farmers participate in the whole research process.

a. Which farmers are participating?
    a. Gender: Women, men
    b. Age groups (youth, elders, etc.)
    c. Marital and other social status (widows, unmarried, sons/daughters, etc.)
    d. Socio-economic markers (could be land size or other wealth/poverty indicators)
    e. Different communities or locally meaningful geographic areas
b. In what ways are they participating?
    a. Attending meeting, making comments, asking questions (and what kinds of questions?) etc.

1.1 Farmers co-create the research agenda.

c. How does this happen?
    a. What is the process? Who leads this? How is it facilitated?
d. What are the social dynamics surrounding this?
    a. e.g. between researchers—farmers—NGO staff—extension/field staff—others…
e. How are competing ideas negotiated?

1.2 Farmers are engaged throughout the research process.

f. In what ways are they engaged, in which stages?
    a. Agenda setting, developing data collection tools, data collection, analysis, interpretation, decision-making for next steps…

1.3 Farmers from marginalized groups have meaningful representation in the network.

g. Who would be considered marginalized?
    a. What are the signs? How do we see this?
h. In what ways are they represented?
    a. Are they present physically? Does someone speak on their behalf? Did they nominate/elect someone? Who is that person (characteristics)?

1.4 Farmers strengthen their capacity to learn together.

i. What information is shared? What topics?
j. What conversations are taking place (that may share learning)?
    a. Who is talking? Who is asking questions? (categories of people)
    b. Is the learning filtered by researchers or extension agents? Is it shared directly between farmers?
k. How is the "learning" happening? (by observing in the field, through discussions, etc.)
l. Who is learning? How can we see this?
    a. Could be seen during formal activities, in informal conversations, by observing people's agricultural practices, or other.
    b. Are there signs that learning is being shared outside the FRN members (with other community members, in kin networks)?

2. Research is rigorous, democratized, and useful, focused on AEI knowledge creation that provides practical benefits to farmers based on their social and biophysical context.

a. How do farmers talk about the practical benefits of research?

    a. What do they see as useful?
b. How do researchers talk about this?
    a. What are their perspectives on high quality research?
c. What can you observe about the social and biophysical context?
    a. Biophysical context: community layout and geography, soil types, altitude, vegetation, landscape…
    b. Social context: ethnic groups, language, infrastructures (wealth-poverty indicators), farming practices, food traditions…
d. What can you observe about the practical benefits?
    a. Who appears to be benefiting? All farmers, certain types of production, certain categories of farmers (socio-economic conditions), certain geographic or biophysical contexts…?

2.1 Research effectively addresses farmers' problems and opportunities and is continually adapted based on reflection on experiences by FRN members

e. Which problems and opportunities are being addressed?
    a. And how were those identified and prioritized?
f. What adaptations are made?
    a. And who makes them, following what conversations or events…?
g. What processes are used to gather the experiences and perspectives of farmer members?

2.2 Co-developed research plans are formalized through an agreement of all parties that covers principles, rules of engagement, and responsibilities

h. What are those agreements? Are they verbal or written? Were they the product of group discussion? Or presented by leaders?

2.3 Research is based on sound, appropriate, and participatory designs and protocols.

i. Observe what those designs and protocols are.

2.4 Relevant local, indigenous, and farmer knowledges are fully integrated into research.

j. Are local, indigenous and farmer knowledges shared? Or not?
    a. What can you observe about people's reactions to sharing this? (do farmers seem comfortable, reluctant, etc?)
k. In what ways are local forms of knowledge shared?
    a. Example: by showing, by describing, by referring to another person, in a group or individually, etc.
    b. By whom? (elders/other age groups, gender categories, certain ethnic groups, etc…)
l. How do different actors react to /receive this information?
    a. Is there discussion, debate, silence, laughter…?
m. In what ways are these forms of knowledge integrated into the research?

3. Networks are collaborative and facilitate learning and knowledge sharing

a. What is the network made up of? Which stakeholder groups, organizations, or others?
b. How many people? How many farmer groups? How many individuals?
c. How do they collaborate? What can you observe through conversations or activities?

3.1 Networks support learning and knowledge sharing among all members.

d. How do network members interact?
e. What knowledge sharing activities and opportunities exist?
f. What do they share? (information, data, stories, news, updates, instructions, etc.)

3.2 Networks are made up of connections among differently positioned actors and encourage the flow of learning throughout the network.

g. Who is present during activities (what categories of people)? Who has access to information? Through what means?

3.3. Networks facilitate learning and knowledge sharing among farmer groups and within communities.

h. What activities for learning and knowledge sharing can you observe within communities and farmer groups?
i. How are these organized?
j. Who is present (all community members, specific groups, etc.)?

3.4 Network members engage in iterative reflection and planning to guide network activities.

k. What form does reflection and planning take? Who is involved? What is the process?

Annex 3[4]

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Appendix A: Observation tool format This is meant as a guideline that can be adapted to different circumstances. The left side is what the observer would actually use, the middle is a justification for the purposes of the protocol, and the right column includes some abbreviated examples that aren't meant to limit the scope of what the observer can note, but provide some guidance on level of detail. This is where people should expand on their notes.

Guiding areas:	**Corresponding principal that will help in the interpretation:**	**Short examples of expanded notes**
Name of observer(s):	This will be important to locate the observer, their subjectivities and be transparent about power issues related to principle 1.	
Date:	To be able to look at change over time	
Event or visit:	To think about how the context might affect participation and discuss ownership.	*FRN field day where 8 different farmer groups, each from a different community, presented innovations at different stands from 9 am to 2 pm and then a group lunch. The event was paid for with project funds (lunch, tents, travel) and organized by the lead NGO, but the farmers organized their stands and invited the participants.*
Participants: Here names can be listed, and/or counts based gender, age and other relevant information should be noted such as ethnicity, wealth, ruralness, and/or importance of agriculture. It would be good to reflect or ask who isn't there that they or you think should be and why	Principle 1; 1.3; 3.2 Principle 3; 3.2	*There were 85 participants, most of them were men over 50 from village A. There was a group of older women also from that village. Everyone was indigenous except for 8, all from the same community. There were 2 representatives from one village, they were expecting many more but it was a holiday there. In the community where the event was held there were many young women who were working in fields and not coming to the field day, when I stopped to ask one if she is coming to the field day she said she hadn't heard about it, when I told her what it was about she remembered that her father-in-law will be there and will tell her about it, she is too busy with the animals and washing today. There were two extension workers, both indigenous. There was a cluster of 4*

[4] This document was created by Claire Nicklin, Regional Representative of The Andes region, The McKnight Foundation, Global Collaboration for Resilient Food Systems (CRFS) -former Collaborative Crop Research Program (CCRP).

		young men (around 22 years old) who seemed to know each other but were from different communities and they each had smart phones. *It seems like the farmers who attended were the most proactive or connected farmers from their community.*
General participant dynamics: who is talking more, who is talking less? What are the levels of interest you are noticing? Are there side conversations? What language (s) are being used if that's important. What kind of non-verbal communication are you noticing? What seem to be different motivations for people being there? Are there examples of different people feeling comfortable/ trust? Or are some uncomfortable, who are these people?	Principles 1; 1.2; 1.3 Principle 2.2 Principle 3; 3.2	*One woman said she really liked the stands on the field days, but not really the research and monitoring, she does the latter so she will be invited to the field days.* *In general, there were a lot of questions from the farmers to other farmers, each stand took 30 minutes. There was also a lot of joking around and socializing, but mostly divided between the 2 farmer organizations that were there. The extension workers seemed very close to people in the first farmer organization named XX.* *The women tended to congregate among themselves and sort of process the presentation in real time in whispers. A group of 3 ladies were commenting on how great the q'ila q'ila seed was because worms don't attack it. They also were commenting among themselves that "it's good to exchange seed, we should do it with quinoa and potato, it really produces results"* *Another group of 4 elderly women were sitting together on the dirt on the edge of a presentation chatting to each other in Ayamara about using stars to predict the weather (the topic of the stand they were near). They were drawing things in the sand to explain to each other what they were hearing.*
Content-related participant dynamics: Who is saying what? Who is bringing up new ideas, who is questioning ideas, who is asking clarifying questions, who is providing information? (can do frequency counts, transcribe exchanges, provide some detailed examples)	Principe 1.1 Principle 2; 2.1; 2.2; 2.4	*A kind of outsider in the community, he lives there but is also high up in the dairy buying cooperative -- his clothes were completely different and much more "extension worker" than everyone else. He asked a series of questions after a farmer (Gualberto) presented on all the quinoa varieties he conserves. The dairy/outsider guy said all this research is well and good but now they are all used to making money after the quinoa boom, and they need to figure out what is the one variety that will perform well so that everyone can grow it. The response from one yapuchiri was that they aren't just interested in income but also the food security of the entire community. The other replied more along the*

		lines of the importance of diversity for resilience and how one variety can fail, and they should be proud and conserve their knowledge. The same 2 yapuchiris were also sharing tips on irrigation and tractor use.
How is research and learning happening? by whom? Are some people are using recipes? Repeating back what a researcher might want to hear? Are some people expressing underlying mechanisms? Are differences across contexts being discussed? Are there moments that it is clear that farmers have or probably will use the technologies being developed? Describe specific exchanges and examples.	Principle 2; 2.3; 2.4	*At one stand a farmer presented about the living barriers his community plants every 40 meters and have T'hola bushes and some grasses. Another farmer commented where he lives there are no t'ola bushes, but he has trees marking the borders, then different farmers talked about which fields with different kinds of borders were good at helping with wind erosion. The extension worker said in experiments they did at the research station it was important to have 3 rows of bushes to make sure wind didn't get through and that the bushes were at least 50 cm high. A farmer said if the plants were interspersed it is OK to have just two rows, but one row should be pasto lloron which spreads low to stop the wind. There was a vigorous discussion about if and when 2 rows existed. Most of the discussion was between older male farmers and the extension worker, but a woman mentioned she burned all the living barriers where she lives because the rats live in them and eat the seeds when she plants them. Another farmer shared how we covers the seeds after planting so the rats can't get to them right away.*
Networks: Are outside knowledge or people invoked? Are people mentioning others that they have spoken with about the research, or knowledge that came from someone outside the group or being shared with others? Describe.	Principle 3; 3.3	*One talked about bioles that he was using that the quinoa association taught him how to make at a training event. For some (around half) this was new and interesting, they asked him questions about recipes and use and listened intently, another third seemed to be part of the same association and already knew that information. The rest didn't hear him.* *The 4 young men with smart phones were taking a lot of pictures and videos, when I asked them why and what they were doing with them, they showed me that they were on a WhatsApp group with other young quinoa farmers who are all part of the evangelical church (n=63 members) and they share information about quinoa and church meetings.* *One stand was run by 4 woman who were using pH strips to test soil and drinking water pH. They were very confident and autonomous in*

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		their presentation. They had learned the technique and gotten the strips from a lead farmer who had attended a Soil Kit workshop.