

Monitoring Systems Change: Guide to involving Farmers and Communities

10 October 2025 – V1

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Compiled from ideas generated by members of CRFS¹ East and Southern Africa Community of Practice (CoP), the CRFS Regional Team and the cross-cutting Research Methods Support (RMS) project who took part in the series of online and field workshops on the topic from February to July 2022.

Summary

The McKnight Foundation's Global Collaboration for Resilient Food Systems (CRFS) agroecology projects aim to change the systems in which we work. The change we want to see is that systems move to a more integrated agroecological system and we observe changes in the social, economic and environmental dimensions of the system.

Monitoring the changes in these systems requires consideration of multiple dimensions of change, and their interactions. The framework and process for this can take different forms, depending on the objectives. While Lamanna et al., 2024 present a meta-framework, or general process, for holistic assessments of food and agricultural (agrifood) systems; and global frameworks, such as Regen10² provide the opportunity to compare systems across the globe; in this guide we focus on a process for monitoring systems change for the specific case of communities co-creating and monitoring the changes in their own system.

What we choose to measure about a system influences our understanding of the current state of the system, informs expectations about the future and hence the actions we take. If what we measure is used then it has an influence on the direction the system evolves. Conversely, if we choose not to measure some aspect of the system, and hence are ignorant about it, we cannot take action to influence and/or improve it, although other aspects of the system or external influences may do so. Hence, we need to think deeply about 'what we really care about' in system change, carefully choose the indicators to assess and track the change, and then ensure we have integrated and inclusive ways of assessing, sharing, and using the information. These should be based on the principles of empowering farmers and communities and co-developing tools and approaches.

This guide is designed to support the process of engaging with communities and others to co-develop the monitoring of systems changes within their landscapes. The process envisaged is based on focus group discussions (FGDs). It may be used by CRFS projects or others to guide

¹ In 2022, this was known as the Collaborative Crop Research Program (CCRP)

² <https://regen10.org/>

FGD discussions with communities for monitoring community or landscape system changes. It may be used at the start of a project, during a project or as a community activity independent from a specific project.

The guide was developed by CRFS participants through a series of interactions and joint learning on monitoring systems change. This included a face-to-face workshop in Kenya where CRFS projects, the E&S Africa regional team and the Research Methods Support (RMS) project developed and piloted a process for the co-development and negotiation of relevant systems change indicators, their measurement and data use by farmers, other stakeholders and their communities. This document provides pilot-tested suggestions in the form of a checklist for conducting focus group discussions (FGD) that are the core of this process.

While the checklist is designed to support FGDs, the structure, ideas and discussions could equally be applied to key informant interviews (KII) or other types of interaction with stakeholders. Similarly, although the terminology used refers to the FGD being conducted with farmers within their communities, it could be used with other stakeholders and other types of communities, for example, with a group of academic participants looking at systems change in agroecology education.

Finally, this guide focuses on monitoring a few system changes but should be used within a more comprehensive process for monitoring systems change. For example, the process in this guide may be used initially for communities to initiate monitoring but later be expanded to include more measurements and/or to extend the boundaries of the system being monitored. Similarly, monitoring systems change fits within a process of managing systems change, which is likely to include other steps, including visioning, diagnosing, assessing interventions etc. after a community have decided what changes they want to see in their system.

Background and Scope

This section sets out a brief explanation of the key ideas used and the context in which we apply them.

What are systems?

A system is a group of two or more related parts (sometimes referred to as elements or components) that interact over time to form a whole that has a purpose or function (Betley et al., 2021). Agroecological systems are complex with multiple related parts and interactions (

Table 1).

Table 1: Characteristics of an agroecological system

Systems have:	Examples:
Purposes - Purposes determine the way we define and look at a system	• Provide food. • Provide food and conserve natural resources. • Provide food, conserve natural resources and equitable rural livelihoods.
Components - Components could be: i. Agents (people doing things) ii. Stocks or stores – these are the components of a system that can be measured. These could be: tangible (water, trees, ...) or intangible (knowledge, power, happiness, one's wellbeing, ...) iii. Rules and institutions - In a system, these components must depend on each other and interact	• Fields, farmers, crops, soil, forests, streams • Families, women, children... • FRNs, extension agents, local government • Traders, consumers, buyers, markets, standards • Policies on land, seed, subsidies • Universities, curricula, students, research
Interactions or influences - Interactions and influences connect components	• Flows e.g. nutrients, money, biomass, • Influences e.g. information, decisions, power
Boundaries - To understand a system, you have to set boundaries: - o Inside: what you seek to understand, influence and change. - o Outside: context, sources and sinks which are not your focus. - Boundaries can be geographical but also a set of the population or be based on processes - Boundaries can be vertical	• Inside: rules of farmer organization vs Outside: national laws and policies • Inside: farm economy Outside: national economy • Inside: a specific watershed Outside: the land beyond • Inside: smallholder farmers with cattle and less than 5ha Outside: the rest of the population • Inside: processes of crop production Outside: processes of livestock and other production
Scales - Scale of a system describes the 'size' or granularity of components. - Every system operates at many scales – but you can only study a few. - Some claim you need to understand scales one above and below the scale you focus on changing.	• Plant • Field • Farm • Landscape • Territory • District • Country
Multiple perspective - The way one person sees a system will be different from the way someone else views it	Farmer, soil scientist, ministry of agriculture will have different perspectives on purpose and other aspects of a system.

Systems change

Systems can change in many ways. Drivers of change may be from outside or internal and they may be due to deliberate interventions by someone or be unplanned. Changes may simply be part of the dynamic of the system – for example, soil may get degraded as a farming system continues over years. The changes, and drivers of these, contribute to synergies and trade-offs that emerge over time.

We expect systems to evolve and change as a consequence of actions by agents; the people engaged with the system. Agroecology ideas and principles shape our actions as agents in the system as well as shaping the purpose and functions we expect from the system.

Our projects set out to change systems, aiming to make them more agroecological with a goal of having more resilient food systems. We use various methods to work with farmers and communities to decide the changes they wish to bring about, choose entry points, pathways and actions. At the same time, there are other drivers of change in those systems and further systems changes, beyond the scope of the project, that farmers and others are interested in and care about.

Monitoring systems change

Why is it important to monitor systems change? And how do we monitor systems change?

1. What we choose to measure influences both our thinking about system change and the way in which the system evolves.

If the data are used then it is likely to influence the direction the system evolves, influencing those measures but not others we did not consider. For example, if you measure crop production *and use the data* you can expect the cropping system to move towards higher production. The data we are using may show, for example, where production is low and when a change in practice leads to higher production. We use these data to identify where there is potential to increase production and what sort of actions might achieve that. Slowly, the crop production will increase. But what is happening with other aspects of the system? Other important system components, such as soil health and human health may be getting worse. This also happens at national and international scales with, for example, the choice to measure progress in a country by its GDP (Stiglitz, 2020). This then leads to agronomists and economists focusing on crop yield and farm profit, and our agricultural systems move towards maximising yield and profit at the cost of other social and environmental consequences.

Similarly, what we measure influences our thinking and knowledge about how the system is changing. We need to ensure that we have a logical combination of measures to identify systems change, and these should focus on what we really care about, progress towards more agroecological and resilient food systems. These measures should cover multiple aspects of the system change (economic, social and environmental) for us to understand the system change as a whole. Using the previous example, if we only measure aspects related to changes in crop production we may miss other changes e.g. biodiversity, soil health, food security and income, etc.

2. **Data from systems monitoring can inform choices for action, and not only be a response to action.** Measurement and use of system performance data can point to areas in which change needs to take place, prompting an action research cycle. But we are can only act on aspects of the system that we have measured and are aware of.

These reasons are internal to the systems in question. They provide reasons why the farmers and communities that are part of that system should want to monitor what is happening. There might be additional external reasons. For example, local authorities administer their rural development budget based on the needs identified by communities, so they may want to measure what is happening in a specific location.

The second reason above requires data to be collected and used in an organised and transparent way. Farmers often report that they know what is going on in their farm or landscape so measurement and recording are not necessary. However, the collective action needed for groups to intervene in system change is strongly supported by having data that has been negotiated and agreed by that group.

Involving people in measurement

Agroecology is based on principles that include agency and empowerment of the people involved. These principles should be used to design approaches to measurement of systems change. The co-development and negotiation are the basis for defining the system and changes to monitor, the approach to measure the indicators, and the collection and use of the data.

If there are external data needs in addition to the co-developed internal needs, don't expect community members to be involved in collecting that data.

System change and the CRFS context

Farmer Research Networks (FRNs) and other CRFS projects aim to help food and agriculture systems move towards being more agroecological. For each landscape and community where a project works, we can ask questions: "Is a systemic change to a more integrated agroecological system happening? Are we seeing changes in the social, economic, and environmental dimensions of the system?". These are not questions that can be answered by simply tracking the changes in use of agroecological practices, or by measuring changes in some conventional key indicators such as yield, productivity, income, or nutrition. Hence the ideas and process described in this document should be relevant to answering these types of questions across our projects.

CRFS project teams work in many ways and each project has a unique way of engaging with farmers and communities, a unique history and pathway, and have a unique coalition of partners. Hence, the ideas in this document may be used at different stages and in different ways. They could be:

- Part of initial project planning with a community,
- A tool used by a long-term project that is moving from problem to system approaches,
- Embedded within a project's landscape approach to agroecological transformation,
- Included as part of training in agroecology,
- Introduced to farmer organisations who choose to use them,
- Etc.

Link between Monitoring & Evaluation Plans, Theories of Change, and Monitoring Systems Change

CRFS projects all have theories of change (ToCs), monitoring and evaluation (M&E) plans and evaluation questions. What is the connection between those, and the ideas described in this document?

- They might be the same! But thinking of the system and system change might provide further ideas to projects and communities of questions to answer and what to measure.
- Thinking about the system and system change might suggest aspects we should track in addition to those in our M&E plan.
- The measurements that emerge from this process might not be for now (for example, they will be measured later) or for the current project team (for example, a project may need to link up with new partners to measure change).

More generally, the ideas in this guide do not have to be limited to 'a project'. A community, people in a location or local organization, could choose to monitor part of their system independently from a project.

The differences between an M&E Plan and the ideas here for measuring system change through co-development of indicators and a measurement plan is summarised in Table 2.

Table 2: Difference between M&E Plan and Monitoring System Change Indicators

Differences	M&E Plan	Measuring System Change
Focus	Project interventions	Core system performance we care about
Purpose	Project progress	How the system is changing
Users	Project team, Donor, Community	Community, Policymakers, Project team
Timescale	Project time	Long-term
Attribution / Contribution	Project	Project and multiple stakeholders

Framework for monitoring systems change

A framework provides a set of assumptions, concepts, values and practices that constitute the way of viewing the specific reality (Binder et al., 2013). Every framework has a purpose, and the purpose of a Monitoring System Change framework is to track how systems are changing and determine measures to be put in place. To choose an appropriate framework we considered using: 1) a common framework (e.g. FAO's TAPE), 2) existing frameworks (Alaoui et al., 2022; Binder et al., 2013) or 3) developing or adapting a new framework (Lamanna et al., 2024).

The framework and process for monitoring systems change can take different forms, depending on the objectives. Lamanna et al., 2024 present a meta-framework for holistic assessments of food and agricultural (agrifood) systems. They summarise variation in these objectives between characterisation and performance and variation in the tools used for the assessments, from differing scales or different stages of a value chain to the use of quantitative or qualitative data and the level of participation or co-creation with stakeholders. The authors provide a guiding framework for the design of a holistic system assessment and metrics.

Another global framework is Regen10³, who propose monitoring of indicators at both farm and landscape level. However, not all frameworks assess at farm, community or landscape level, many are beyond the capacity of most communities to implement and some are externally defined rather than co-created.

For this guide we focus on implementing monitoring systems change for the specific case of communities monitoring systems change themselves, at farm, community and landscape level. The framework used to support this process is shown in Figure 1.

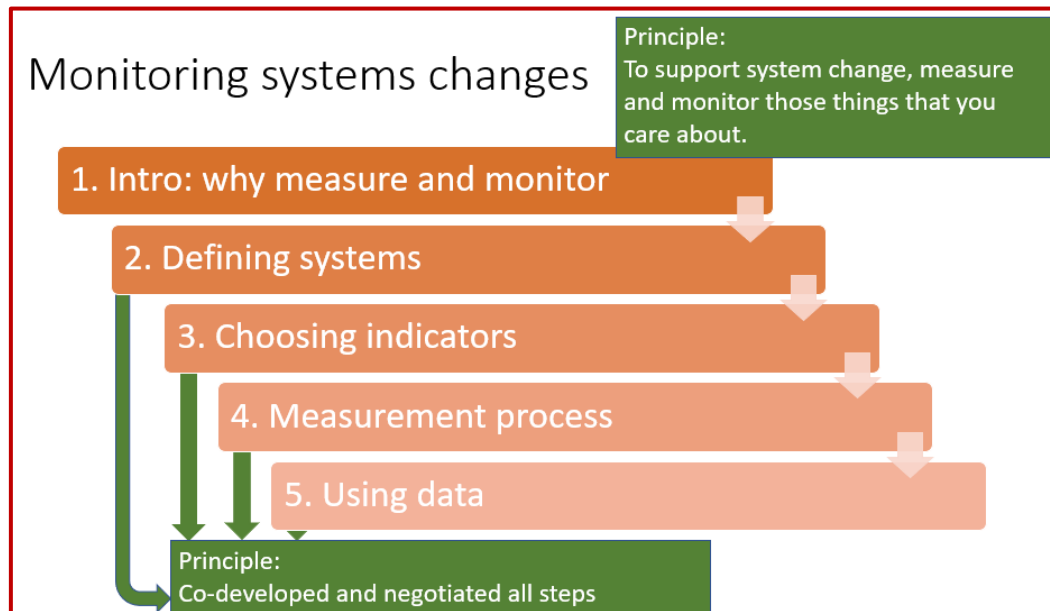


Figure 1: Framework for monitoring system changes

Using the framework with groups and communities means:

- Choosing a suitable point during engagement with communities to develop the monitoring plan
- Organising focus group discussions (FGDs)
- Using the **The Checklist** to conduct those discussions that take groups through the steps in Figure 1.

How to use the checklist

- This checklist was developed to help CRFS colleagues apply the process in focus group discussions (FGD) aimed at negotiating systems change indicators, measurement and data use with farmers and communities. Note that the communities may be 'farming communities' or any other for example, an academic community.
- Although the checklist is defined in a sequence of steps, we have highlighted where the sequence of these discussions might change or be changed by others using the tool.

³ <https://regen10.org/>

- We highly recommend piloting testing the tool in your own context and adapting it further.
- The checklist is designed to be used for a 2 to 3-hour FGD. However, our learning is that this was challenging, and also likely you can only obtain a single indicator for a single change from this process. Suggestions for how to adapt the FGD include:
 - Have a whole day process but with health breaks.
 - Set the scene in a general plenary, clearly explaining objective and scope of your activity then break into smaller discussion groups.
 - Split the process into multiple FGD (e.g. Steps 0 – 2, 3 – 5, 6 – 7)
 - With large FGD (> 12 participants), consider splitting them after Step 3 to focus on different changes or the same change but from different perspectives.
 - Have a plenary FGD, which covers Steps 0 – 3 and then follow-up with a smaller group of interested participants for Steps 4 – 7
- Ensure you are clear on the objective and scope of your activity and adjust the design of the FGD to cover this. For example, if you want to ensure you have changes and indicators across specific aspects of the system (e.g. environmental, social and economic), ensure the format and structure is appropriate to capture multiple changes and indicators.
- Using tools during the FGD to document the discussions (e.g. with flipcharts) will help both the transparency and flow of the discussions (e.g. the participants can see how / why certain choices or decisions were made, they can see that their perspectives have been heard, can be referred to as reminders later in the discussion, etc.)

Principles to aid dialogue

Some principles may also be put in place to guide the dialogue with farmers including:

1. FRN principles (see Appendix 1)
2. Principles of participatory research (see Appendix 2)

The Checklist

Overall Sequence

Step 0: Introduction to the FGD and what we want to jointly achieve.

- Focus on the objectives for the FGD and the co-learning we jointly want to achieve. The potential benefits to the participants from this co-learning should be included.
- Introduce some of the key aspects such as 'data' and why it might be important to collect, and the logic for the overall discussion. This is important as Step 1 and 2 are broad so it may be difficult for both facilitators and participants to remember or be able to focus on where we're trying to get to.
- In this initial step, there may be discussions with the FGD coordinators beforehand on the language of the FGD, some terminology clarifications, which sessions to do in plenary vs. smaller groups etc.

Step 1: Identify past, present and future changes in the 'system' and why it may be important to measure systems change.

- This session may start with discussions on what changes they observe in their 'context' (could be community, environment etc.).
- As we haven't yet described what the system is (see Notes on the overall sequence) prompting from the facilitator may be needed to cover different aspects of the system

Step 2: Identify what the system and its key components are.

- This step synthesises the changes and discussion from Step 1 around the concept of the system, its components and the interactions among them.

Step 3: Select one (or more) change(s) that is important to focus on for the remainder of the process.

- From Step 1 lists of changes and Step 2 how these changes are aspects of the overall system the participants are then guided to prioritise one (or more) changes which, by consensus, they want to focus on for the remainder of the discussion.
- Remind participants of what this selection means – that we're going to look at how (and why) we might be able to measure this change.

Step 4: Who is this change important for? And Why?

- Using the prioritized change(s) identified in Step 3, ask participants to consider for whom this change may be important/affecting and why?
- These people or groups may have been mentioned in Steps 1 and 2.
- Through the discussion it should become clear why different people and groups might want to measure this change, but also might want to know for different reasons and use the data differently.

Step 5: Identify how we will know the change has happened? (i.e. indicator(s))

- Now we've identified the change(s) to look at (Step 3), who it is important for and why (Step 4) we can start to look at "how would we know the change is happening? And how much is it happening – are things getting better / worse?"
- The 'indicators' will often be different for different stakeholders ('who' wants to know about the change)

Step 6: Agree on how we will measure it? (what sort of data, who measures, how often, where,...)

- For each of the indicators identified in Step 5, discuss in more detail how we would measure these indicators, what sort of data do we need etc.

Step 7: Discuss how the data will be used and shared?

- The data may be used differently by different stakeholders. The participants in the FGD may discuss how they, and different community members, would use the data.
- The data may also need to be presented and shared differently (e.g. community committees may want individual data but when sharing with local governments they want to summarise information).

Experience Note

Step 1 and 2 during pilot-testing were the most difficult to achieve. We reversed these steps, from the original process design, based on our learning but recognize that it is vital for the FGD facilitators to also be able to inter-connect the topics (systems, changes, data) in a way that the participants can best relate to. Therefore, during pilot-testing users of this checklist should focus on how best to introduce each of the topics.

Detailed suggestions for each Step

Table 3: Suggestions and recommendations for each step in the process

Step	Suggestions / Recommendations
Step 0: Introduction to the FGD and what we want to jointly achieve	● How to decide on a language to use ○ Preference is to use local language throughout the FGD. ○ Discuss beforehand what language is most appropriate ○ Keep live-translation requirements to a minimum and discuss whether translation will be conducted in parallel or there will be specific pauses while translation is done. ● Make clear the purpose for the activity ○ There is a need to be clear on the value of the field exercise to the farmers. Researchers, of course, can benefit from field testing and trying out a method. Farmers will possibly gain from future engagements with the project, but this needs to be well explained at the start of the dialogue i.e. during the introduction. ○ The purpose and potential use of measurement/data should come earlier to help communities to understand the logic of the process and appreciate the process. ● How to introduce key topics in the dialogue ○ Consider starting the discussion on historical aspects of their context (i.e. the system) which is likely to prompt discussion on changes they've observed. However, this can also take time, it could alternatively be an earlier exercise conducted prior to the FGD (e.g. transect walk within community). ○ Talk about data. For example, explain what is jointly understood by 'data and its importance', why it might be important for the participants to collect and record 'data'. Try to make less reference to the term 'data' instead use locally understood terminology e.g. documenting 'understanding' or 'observations' or use examples like how school cards are used as evidence about a child's performance in school. ○ Link recording of data to what changes they observe happening in their context. ● Provide relevant examples to help people understand all the various steps in the discussion.
Step 1: Identify what changes are happening in the	● How to 'identify changes' ○ If you have not already introduced the 'system' topic, talk about this as changes identified in their community and prompt aspects

Step	Suggestions / Recommendations
'system' and why it may be important to measure systems change	that cover the various dimensions of a system (see example in Appendix 3). - o Discussion of the changes may also help to bring out connections between them and therefore the components of the system (see Step 2). - o Experience sharing by facilitators may stimulate thinking about change especially social change - o Document changes as they are provided, to aid transparency and Step 3 (see Appendix 3). - o Give time to cluster the changes which may then help the Step 2 and Step 3 discussion.
Step 2: Identify what the systems and their key components are	• How to define 'systems' - o Use discussion of changes identified in Step 1 to discuss systems (influences, one change causes another, etc.). It may help to relate the changes identified earlier to these system components. - o Use localised examples to illustrate systems
Step 3: Select change(s) (or thematic area) that is important to focus on for the process	• How to choose how many and which 'changes' to work on - o Decision making process can be done through group consensus, ranking or other transparent processes. ▪ If many change(s) are prioritised consider a process to reduce this to a manageable number for this activity (in our experience for a 2 to 3-hour FGD only 1 is possible). For example, you could find linkages/interactions between the changes to identify which one influences the other most and thus being most important (i.e. pair-wise ranking) - o If the change(s) prioritized is of interest to only one sub-group, what do you do with the rest of the group? Possible options include: ▪ Split the group into subgroups focusing on different change(s) ▪ Hold later discussions with sub-groups to go through Steps 4 – 7 for each change.
Step 4: Who is this change important for? And Why?	• How to identify 'who important for' - o Start discussion by suggesting and listing different categories of potential stakeholders (e.g. men, women, children, community leaders, local government etc.), and then ask how they are affected by the change. - o Use a table to aid transparency and to facilitate Step 5 (see Appendix 3: Sample FGD Plan) • Discussion may include if the importance for these stakeholders is in terms of measuring it OR the importance of the change. For example, a community knows they have fewer meals per day this year than last year. It is not important to the community to measure something they just

Step	Suggestions / Recommendations
	know but showing these ‘data’ to local government may highlight broader challenges and contribute to their decisions-making around food security.
Step 5: Identify how we will know the change has happened? [i.e. indicator(s)]	● Language for describing indicators: ○ Use language (to describe indicators) that participants (farmers or communities) understand e.g. ‘How would you know that change is happening?’ ○ Using the question, “What can we see or ‘feel’ to know that change is happening?” will help in bringing out indicators. ● Selection of indicators to work on: ○ Let the participants prioritise the indicators. ○ If using prioritisation, make sure the reason is clear (we can’t do everything!). ○ Discuss the interaction between indicators.
Step 6: Agree on how will we measure it? [what sort of data, who measures, how often, where...]	● Facilitating ‘how to measure data’: ○ Facilitator may need to explain the difference between indicators and measurements. ○ Facilitator might choose examples that are simple to understand. For example, using practical comparisons e.g. aspects of measuring black soil vs red soil to trigger how measurements are done. ○ Give time for researchers’ input into the indicator measurements. ○ Remember the process involves negotiation and co-development but does not imply that all indicators will be measured by the same people. For example, an outcome might be farmers asking researchers to measure something on their behalf. ● To manage time, the facilitator could select a smaller group to go into more details for Step 6 (e.g. who measures, how often, where, etc.) and Step 7. This could be done on the same day or a different day depending on the time spent for Steps 0 to 5. However, one must consider carefully how they will select a smaller group for such a discussion.
Step 7: Discuss how the data will be used and shared?	● How to describe ‘use of data collected’ ○ Give examples of how potential communities can use the data by suggesting potential users of the information including farmers or communities involved in the dialogue. ○ FGD facilitation team could show how they will use the data not just the farmers or communities. ○ Facilitator to emphasize the scope for the ‘who’ – may refer back to the list generated in Step 4

General recommendations for conducting these FGD with farmers

- Facilitation
 - Good preparation is needed by facilitator.
 - Facilitator should have skills to help community to capture a wider perspective.
 - Translation needs to be accurate with the right choice of words.
 - Share facilitation roles with communities.
 - Concurrent capturing of information on flip charts visible to everyone,
 - Use energizers to build rapport.
 - Creativity to ensure active participation.
 - Share experiences to encourage two-way interaction between team and farmers.
 - Discussing future changes needs to be embedded in process of envisioning desired futures.
 - Consider using other methods in addition to FGDs e.g. community mapping of agricultural, environmental, and social aspects.
- Importance of understanding the community
 - Good planning and understanding of community are necessary.
 - Need to understand community and project culture e.g. preference for consensus decision making due to history of FRN, culture of selecting participants in FGDs e.g. selecting specific leaders only, preference for sitting arrangements, etc.
 - Engage farmers and other local actors in envisioning the future changes.
- Managing gender and power dynamics
 - Consider group composition e.g. include men & women.
 - Consider separate groups if the facilitator thinks views of a certain gender or age group would be suppressed by others or observes differing levels of participation in the discussion. For example, in step 1 and 3, separate groups may help to generate diversity in the changes identified and lessen influence of power dynamics in reaching group consensus on key change(s) of interest.
- Time moderation to ensure discussion ends within the agreed time.
- Venue should inspire interactions and free from interruptions.

Unresolved issues about the process

The workshop showed that negotiating measurement of systems change with communities or farmer groups is feasible and potentially very useful. However, despite the progress made in designing and testing the process, there are issues and questions that we remained with, to help projects to pilot and use the tool in their own context.

These include:

- 1) There is likely to be interest in (and interactions between) multiple dimensions of change. Indeed, it is necessary to look at multiple dimensions of change for the reasons explained earlier in this document.

However, we might end up measuring far less than we really care about because of insufficient capacity and/or resources. It is only realistic to measure one or a few with a single round of this

checklist. We might prioritise, because of urgency, data related to threats or opportunities in order to understand and respond accordingly. There is also a danger that we might fall into the trap of there being negative changes on things that matter but these are not observed because data are not collected.

What we choose to measure must be systematic. If we choose only what we care about then we still need to understand the aspects these measures directly interact with. Farmers or stakeholders within a system rarely want to monitor single aspects, but rather might 'care about' integrated ones like improved access to safe food and water, improved health, improved access to energy, being able to pay school fees and hospital bills, good housing, improved ease of movement and transportation, good relations with their neighbours and authority, secure property ownership etc. Reducing these to single measures, e.g., GDP, yield, profit etc., can lead us to fall back into previous narrow thinking about measures of systems change.

2) Some questions take time for farmers to understand or contextualise.

For example, 'How will you use / share the information?' For this, farmers are likely to refer to the usage of the information by the group members or leadership only. The recommendations highlighted in Table 3 can provide some ways of tackling this.

3) How much time to spend looking at historical change?

Histories of change in any location are important parts of context and need to be understood. There are tools for doing this systematically. However, engaging in this runs the risk of asking farmers and communities to spend yet more time on reflection and information sharing, rather than getting on with actions that will help them, both within the FGD and beyond.

4) How much time to spend looking at community visions for the future?

Asking farmers and communities about what changes they envision in the future may help them to prioritise what is needed, but it could also raise expectations. Can we talk about future changes without a full process of envisioning?

5) When conducting a FGD as part of a CRFS ongoing project how to focus beyond the project interventions?

As we were pilot testing in communities who were already involved in one of our CRFS projects, it was observed that most discussions in Steps 1 and 2 in the dialogue were biased towards changes brought by project interventions. In this type of context, how do we ensure discussion focuses on system change beyond the project intervention?

6) How do we ensure views from all members of a community (e.g. farming and non-farming, vulnerable, men and women, young and old etc.) are heard?

Invitations to the FGD may only include more senior members of communities, or in our pilot-testing experience only members of the FRN. How can we bring the views of people who are not likely to be invited to FGD (e.g. non-FRN members) into the system change dialogue?

Development of the guide

The checklist described in this guide was co-developed during a face-to-face field workshop in Kenya. A 5-day workshop was held, whose main objectives were to:

- 1) Co-develop, test and evaluate a process for negotiating systems change indicators, measurement and data use with farmers and communities (so projects could use collective ideas and experience to develop concepts and tools that can be used in all their projects)
- 2) Provide practical experience in using such a process (as preparation for projects to use the methods in their own work)

To achieve the objectives above, workshop participants engaged in a series of activities which involved group work to design a process of facilitating dialogue on monitoring systems changes, field visits to understand the context of the communities the host project (Drylands Farmer Research Network (FRN) project) was involved with and seeing the biophysical aspects of the system they live in, piloting the tool with farmers in these communities, reflecting and revising the process and tool. This series of activities is what led to the development of the checklist, and lessons have been summarised to aid further improvements of the guide.

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Appendix 1: Farmer Research Networks – 1st Principle

1. Farmers who represent the social and biophysical diversity of their communities participate in the whole research process
1.1 Farmer groups set research priorities and influence the research agenda
1.2 Farmer groups and organizations are engaged throughout the research process, from diagnosis, design, implementation, analysis, and communication
1.3 Efforts are made to include resource-limited and otherwise marginalized groups

Appendix 2: Principles of Participatory Research

Principle	Description/example
Working in a team	helps piece together different pieces of data, different skills, views
Skilled facilitation	Needed especially when working with groups
Understanding context	history/background of the community/organisation
Different sources of information	geographical locations (roadside bias), people within the community (gender, age, wealth, status)
Being clear about expectations	Making clear the expectations for all parties involved
Respect	Consider local values and customs, “acceptable behaviour” e.g. dress, body language, eating
Language	communication and recording in the local language provide the best information vs. translation within the team
Working with people’s availability	agreeing time for activities
Power dynamics	Consider power dynamics within the researched, research team; research-researchers
Give and take process	exchanges are involved, all parties need to see benefits

Appendix 3: Sample FGD Plan

Event: FGD on monitoring system changes (Time planned: 3 hours)

Materials: Flipchart, markers, masking tape and cards, stones

Practicalities:

Activity	Name of responsible member from facilitation team
Introduction and purpose	
Facilitation	
Translating – preferably direct from local language to common language (Swahili/English)	
Time keeping	
Recording	
Photography	
Thanking	
Observing	

PURPOSE: To develop a way of facilitating dialogue with farmers on measuring systems change and determine what to measure.

STEP 0: Introduction to the FGD and what we want to jointly achieve (20 min)

- Self-introductions
- Introducing the purpose of the meeting
 - Remember to clearly state the purpose of the FGD and manage farmer expectations.
 - Explain the purpose and potential use of measurement/data to help communities to understand the logic of the process and appreciate the process.

STEP 1: Identify what changes are happening in the ‘system’ and why it may be important to measure systems change (25 min)

- Question to ask: *“What are the changes that you have experienced in the past 5 to 10 years”*. Probe for the nature of change i.e. either rapid or slow, positive, or negative. All are acceptable changes. Reflect on the past and current.
- Question to ask: *“Any opportunities or challenges created?”*
- Using the systems components checklist (below) bring out aspects and probe any components which have not been captured in the changes mentioned.

A checklist to guide understanding and identification of systems components (Step 1 and/or 2)

Dimension of a system	Examples of components
Environmental + biophysical	Crops, forests, farms, soil, land, water, streams
Social-economic	food and nutrition, gender relations, health, education, markets, standards, traders, consumers
Institutional	Policies on land, seeds, subsidies; Organisations, rules, leadership; Universities, curricula, students, research Farmer groups
Social and cultural	Access to land, women, men and youth roles in the community

STEP 2: Identify what the systems and their key components are (15 mins)

- Facilitator to synthesise the changes highlighted in Step 1 into clusters (components) and explain these are aspects which interact and create the communities' overall context (i.e. system) in which they live.
- Provide examples of some of the interactions between the components from the changes highlighted, for example, how decreases in soil erosion have led to easy access to water and led to increase in yields from the fields.
- Collectively work out connections between identified changes. Consider using localized tools such as sticks to demonstrate interactions between systems' components and changes, or methods such as community mapping of agricultural, environmental, and social aspects.

STEP 3: Select one (or more) changes that is important to focus on for the remainder of the process (15 min)

- Split FGD into subgroups according to gender
- Question to ask in subgroups, *"What change do you think is/would be more beneficial than others?"* OR *"What change is most important to the community?"* (Farmers to rank the identified changes using stones or any appropriate method of their choice).
- Each sub-group prioritizes one change.
- Recombine groups and find connections between the subgroups' priority changes.
- Agree on one (or more) changes.

STEP 4: Who is this change important for? And Why? (15 min)

- List categories of stakeholders who benefit or are affected by the prioritized change. Probing question, "If the change happened/ is happening/will happen, who benefits or is affected? If the change does not happen, who will be affected?" (Probe for stakeholders in and beyond the community)
- Identify who might resist or enhance the change and include them in the list of stakeholders.

STEP 5: Identify how we will know the change has happened? [i.e. indicators] (25 min)

- Question to ask, “How will we know if change is happening/ has happened? What will show? (Give an example)” OR “What affects each of the people mentioned in Step 4, ‘how would you know there is a change to the mentioned?’”

STEP 6: How to track change - Agree how we will measure it? [what sort of data, who measures, how often, where...] (25 min)

- If not done during the FGD introduction, explain to the community what it means by ‘data’ (inform communities that data can be qualitative or quantitative) and remind them why it is important in tracking changes using localized examples. For example, how school cards are used as evidence about a child’s performance in school.
- For each indicator, use the table below to ask and document the responses for the questions: *What sort of data? Who measures? Where? How often?*

Table to identify what to measure and how

How will we know that change is happening / has happened? (i.e. Indicator)	How would we measure the change? (i.e. what sort of data?)	Who would be responsible for data collection and storage? (i.e. Who measures?)	Where would the data be collected?	How often would the data be collected?
e.g. (change – crop diversity)	Count (no. crops on farm)	Farmers	Household level	Seasonally
no. crops	Count (average per day; trend)	Farmers	Household level	Every 6 months
no. meals per day				
e.g. (change – land degradation)	Measure of yield or qualitative high(er) / low(er)	Village elders, farmers	Household level	Seasonally
crop yield	Pictures, no. shallow wells, depth of wells	Women		Dry season
water table			Community level	

STEP 7. Discuss how the data will be used and shared? (20 min)

- Use the table below to ask and document the responses for the questions: Who needs it? How do we make sure everyone has access to it? How will we use it? How will we share it? How will we keep it?

Table to track use and sharing of data

Who needs it? (i.e. data for who?)	How do we make sure everyone has access to it? (i.e. Formats)	How will we use it? (i.e. internal forum)	How will we share it? (i.e. external forum)	How will we keep it? (i.e. storage)
e.g. farmers	e.g. summary data in poster for community	e.g. mid-year review meetings	e.g. share posted with local administration	e.g. farmers keep them

Example of community engagement during FGD



Left: farmers and researchers in project community in a dialogue on monitoring systems change. Right: A farmer note-taker documenting the highlights of a discussion.