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# Participatory Integrated Climate Services for Agriculture (PICSA): Field Manual

A step-by-step guide to using PICSA  
with farmers

Walker  
INSTITUTE



RESEARCH PROGRAM ON  
Climate Change,  
Agriculture and  
Food Security





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## Field Manual: A step-by-step guide to using PICSA with farmers

### Introduction

Smallholder farmers are key to food security in sub-Saharan Africa where two thirds of the population depend on small-scale, rain-fed farming as their main source of food and income. Critical farming and household decisions depend upon the weather, for example, how much rain falls, the length and start date of the rainfall season and the timing of dry spells. Such aspects of the weather vary considerably from year to year.

The Participatory Integrated Climate Services for Agriculture (PICSA) approach aims to facilitate farmers to make informed decisions based on accurate, location specific, climate and weather information; locally relevant crop, livestock and livelihood options; and with the use of participatory tools to aid their decision making.

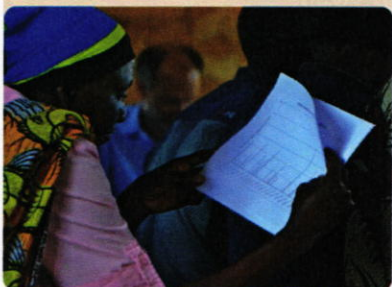
Considering farming and livelihood options in the context of climate is crucial for making good decisions. A farmer in Matumba village in central Tanzania expressed this notion perfectly when he said, *"We should select crops that look like the climate"*.

The PICSA approach has been designed with field staff in mind, and aims to support you to do your job better by providing you with improved resources and information.

This field manual is a step by step guide to working through the PICSA approach with farmer groups. It is primarily for the use of facilitators (e.g. NGO and extension field staff who have received training in the use of the PICSA approach). The PICSA approach is divided into twelve steps to be carried out with groups of farmers. Due to the location specific nature of PICSA there are a number of preparatory activities that need to be completed before field staff are trained in the approach. The details of these activities can be found in the document 'Preparing for PICSA' on the PICSA website (<http://www.walker-institute.ac.uk/research/PICSA>).

### The key components of PICSA

1. Providing and considering climate and weather information with farmers – including historical records and forecasts



2. The joint analysis of information on crop, livelihood and livestock options and their risks, by field staff and farmers



3. A set of participatory tools to enable farmers to use this information in planning and decision making for their circumstances





## *How to use this field manual*

In this field manual the activities are broken down into clear and logical steps. Each step builds on what has been covered in the previous steps. The first steps focus on what farmers are doing now and how climate and weather influence this. The following steps then enable you to help farmers to use a range of sources of climate, weather, crop, livestock and livelihood information for their planning and decision making.

This process can be divided into 12 steps (see below and the activity flowchart on page 7):

- Step A: What does the farmer currently do?
- Step B: Is the climate changing?
- Step C: What are the opportunities and risks?
- Step D: What are the options for the farmer?
- Step E: Options by context.
- Step F: Compare different options and plan.
- Step G: The farmer decides.
- Step H: Seasonal forecast.
- Step I: Identify and select possible responses to the forecast.
- Step J: Short-term forecasts and warnings.
- Step K: Identify and select possible responses to short-term forecasts and warnings.
- Step L: Learn from experience and improve process

Each step has a set of activities that you, as the facilitator, implement with a group of farmers through a series of meetings. The activities for each step will be explained in more detail in the associated activity sheets throughout this field manual. The names of the activity sheets correspond to the step they belong to, e.g. Step A, activity sheets A1 and A2. Steps B, D, H and J require location specific information, which is provided in the appendices<sup>1</sup>.

One of your first duties as a facilitator will be to decide on a timetable for the meetings. When planning your timetable you need to consider at what time of year each step needs to take place. Ideally, steps A to G need to happen at least 8 to 12 weeks before the rainy season starts. Steps H & I need to be implemented when the seasonal forecast is available. Steps J and K should take place just before and during the growing season and Step L at the end of the season. If you already hold regular meetings with farmers then many of these activities can be included in the existing meetings.

A possible timetable for the meetings is:

- Meeting 1 (3 hours): Steps A and B (well before the rainy season)
- Meeting 2 (3 hours): Steps C to E (well before the rainy season)
- Meeting 3 (3 hours): Steps F and G (well before the rainy season)
- Meeting 4 (2 hours): Steps H and I (after the seasonal forecast)
- Meeting 5 (1 hour): Steps J and K (during the season)
- Meeting 6 (2 hours): Step L (after the season)

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<sup>1</sup> Location specific appendices need to be prepared in advance of training.

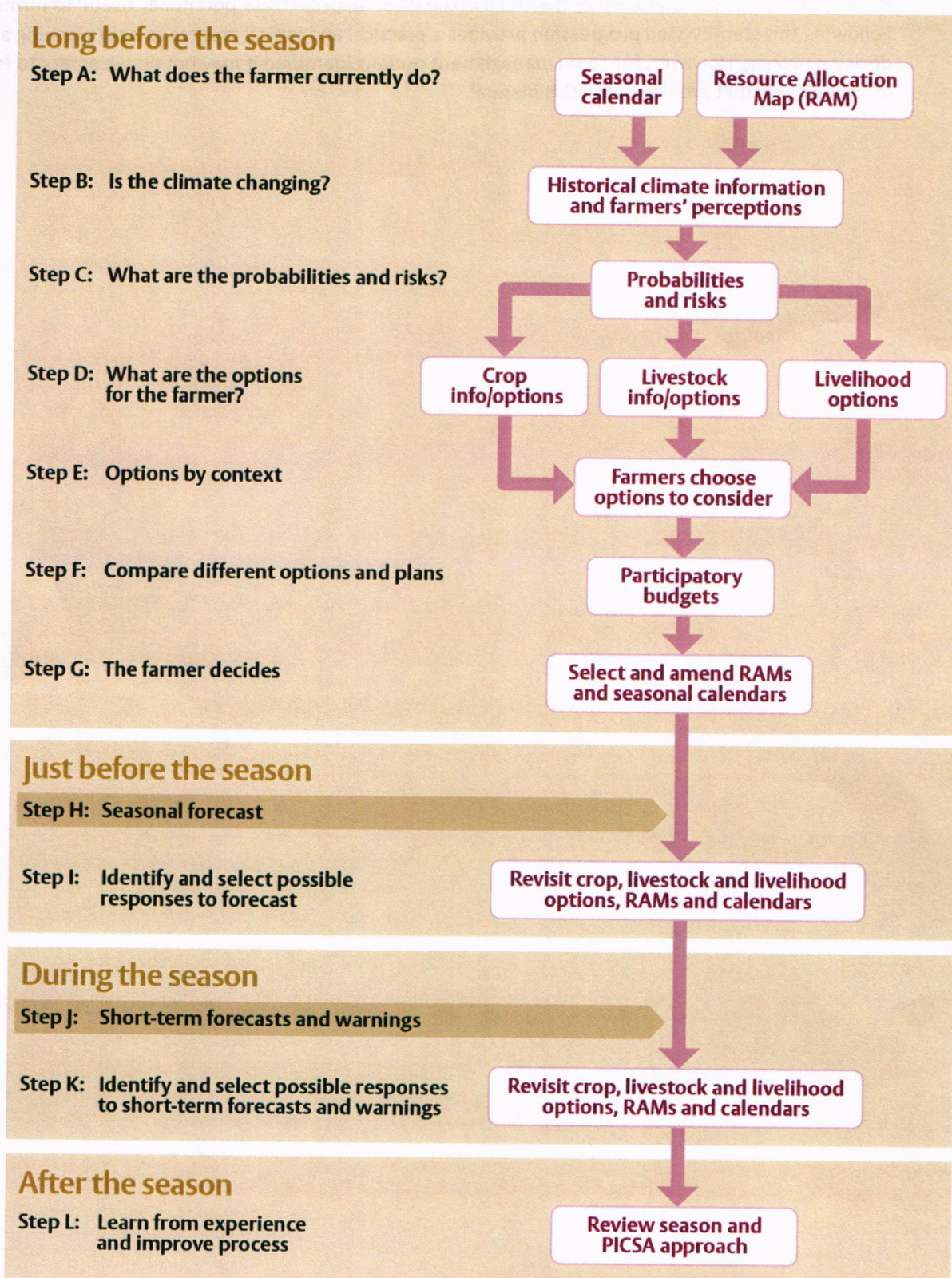
This is only a suggested timetable and should be adapted to meet farmers' needs. For example, Steps A to G could be split over 2 longer sessions if you and your groups prefer.

It is important to note that each of the steps in the PICA approach are potentially useful to farmers. Following this step-by-step progression provides a practical and logical process to help planning and decision making. However, for some management options identified it may not be necessary to follow all of the steps that are laid out in this manual.



## Activity Flow Chart

This activity flow chart provides an overview of the whole PICSA process.





### ***Tips for successful facilitation:***

As a facilitator it is important to always be thinking about your role, which is to enable shared analysis and learning by participants. As a facilitator you should:

- Be prepared

Make sure that you are familiar with the materials for the session and that you have a strong understanding of the related background materials. It is also useful to spend some time thinking about what questions the participants might ask, and how you would answer them.

- Define and discuss the structure and objective of the meeting

It is important that the group works together towards a common goal. Spend some time at the beginning of the meeting explaining the plan and intended outcomes of the session, and addressing any questions that the participants might have.

- Guide your group to do the work, but do not do the work for them

When you explain an activity it is often useful to provide an example. After introducing some examples, it is important to remember that in all participatory methods it is the participants (farmers) that complete the activities. The facilitator facilitates the process, supports the farmers and asks questions. For example, if the activity involves drawing diagrams then after providing an example to the farmers they should be doing their own drawing.

- Ensure easy understanding

When creating Seasonal Calendars, Livelihood Options Matrices or Participatory Budgets, try to use symbols instead of words.

- Ensure that all group members are heard

It is important that the opinions of all group members are taken into account. As a facilitator you will have to make sure this is happening by asking questions.

If a participant is being very quiet you could try occasionally asking them an easy or opinion based question ("e.g.: how do you feel about this?"). This can help to reduce their fear of answering wrongly and thus build up their confidence.

If you have a very dominant participant who talks too much, you can try pulling out interesting points from what they are saying to further the group discussion. To do this, thank them for bringing up the topic, rephrase the point you have chosen and ask the other group members for their thoughts on the topic.

- Bring a positive attitude

It is important to be friendly and honest with participants and to be respectful of participants' cultures, community standing and their level of knowledge.

- Manage your time well

Good time keeping is important to keep participants engaged and happy in the exercises that they are doing. Be clear at the beginning of the meeting how long you estimate the exercises will take; be realistic and stick to it.



- Respect the decisions of participants

In some of the exercises, farmers will be considering options and are likely to plan ahead for their own farms and livelihoods. Everyone is different – not just in terms of their resources like soil type, how rich or poor they are, or what opportunities they have – but also regarding what they want to achieve and how much risk they want to take. Your role is to support individuals to decide for themselves what they want to do and to respect their decisions.



Photo Cecilia Schubert (CCAFS)



## Step A - What does the farmer currently do?

By the end of this step, you as the facilitator together with the farmers should clearly understand the main activities that the farmers currently undertake; their timing and how climate and weather affects those activities. This will be the starting point from which the farmers can use climate and other information to make decisions.

Because this is the first step in PICSA make sure that you take the time to explain the overall PICSA process and discuss what you will be doing over the series of meetings that you have planned.

### *Aims of this step:*

1. To better understand what livelihood activities a household undertakes, what resources it has, how they use them and what they produce (using a Resource Allocation Map).
2. To understand what main activities a farmer has for different crops and/or livestock, the timing of these activities, and how they are affected by weather and climate (using a Seasonal Calendar).
3. To create a starting point from which to explore ways of using climate and other information.
4. To enable you as the facilitator to better understand the differences between farmers in the group regarding their activities and access to resources.

### *During this step you should facilitate farmers to:*

- Construct a Resource Allocation Map (see activity sheet A1).
- Construct a Seasonal Calendar (see activity sheet A2).





## Activity sheet A1 - How to construct a Resource Allocation Map

### What are Resource Allocation Maps used for?

A Resource Allocation Map is a participatory mapping tool that describes the main livelihood activities of a household, including the farm. The approach enables the farmer and you to understand the household's main uses and production of resources and how these may be affected by weather and climate.

In this step Resource Allocation Maps are used to describe the main livelihood activities and resource uses of the household for the next season. In steps G, I and K the farmers will revisit their Resource Allocation Maps to reconsider and revise their plans, taking the new climate and weather information into account.

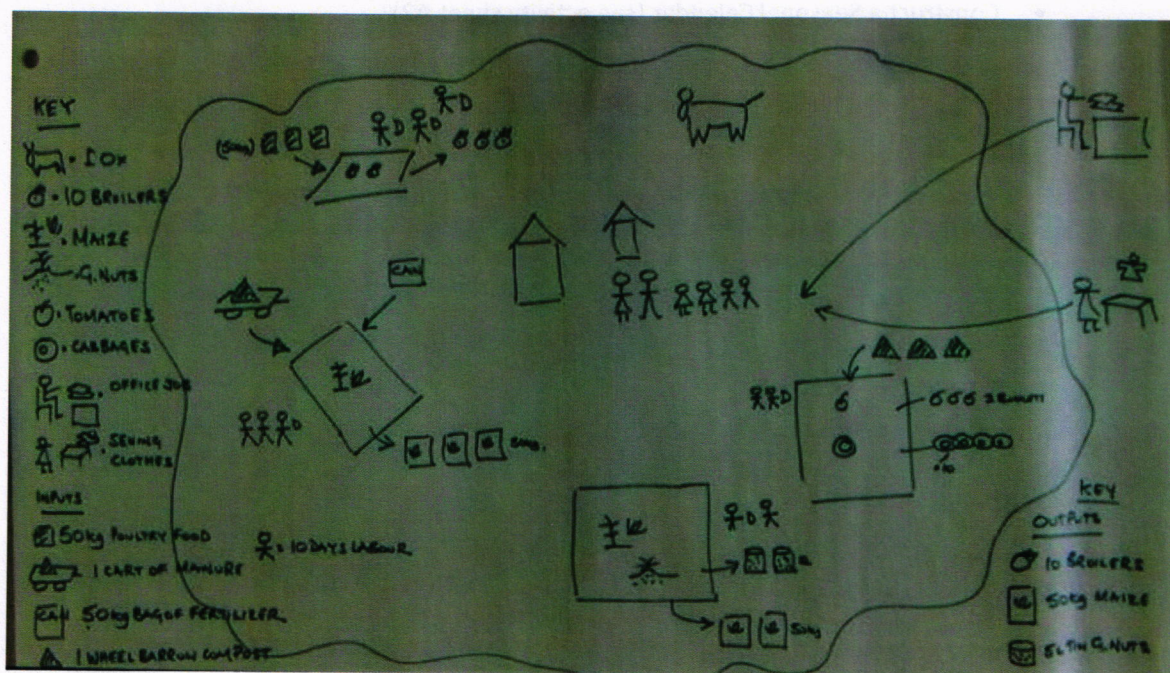
### Materials

You will need a flip chart and pens to draw the Resource Allocation Maps. Alternatively, they can be drawn on the ground using leaves, stones or other objects.

### Preparation

- Discuss what the purpose of drawing the Resource Allocation Maps is with the farmers.

### Example Resource Allocation Map





## Procedure

Resource Allocation Maps should show what the farmer is planning/expecting to do in the coming season<sup>2</sup>.

1. On your flip chart draw your example Resource Allocation Map with:

- A home and the number of people in it (number of adults, children and their gender).
- All of the household's fields, including vegetable gardens and fallow fields.
- What they are planning/expecting to grow on each of their fields and the size of the plot that they will use.
- Symbols depicting any resources that each of those plots/fields will require.
- Symbols depicting any outputs that the farmer expects from those plots/fields.
- The livestock that they keep on and around their farm, the type and the number.
- Symbols depicting any resources that the livestock will require.
- Symbols depicting any outputs that the farmer expects from her/his livestock.
- Symbols depicting any off-farm work or remittances that bring income for the household.
- A key which helps to identify the information on the map.

**Note:** you may wish to prepare the example in advance and then talk the farmers through the process.

2. Now split the farmers into pairs or small groups to draw their own individual map for their own farms. Each farmer should draw their own map but by being in a pair or small group the farmers can help each other with the task.
3. Once the map has been finished, review each of the maps with the farmers to ensure that they are happy with the representation and the mix of enterprises that they have drawn. Clarify anything that appears to be unclear.

**Note:** if you have a large group or are short on time you could select a few examples to go through as a group, instead of looking at all of them.

4. Ask the farmers to keep their copy of their Resource Allocation Map as they will be referring back to it throughout the PICSA approach.

**Note:** Resource Allocation Maps produced are likely to be quite different for different households, depending on how wealthy they are, gender of household heads, position in the community etc. It is important that as facilitators that we appreciate this. Different households are likely to respond to the same threats, shocks and opportunities in different ways.

<sup>2</sup> Resource Allocation Maps can be useful in a number of other applications, including: looking back into last season, comparing different categories of farmer (e.g. male and female) and exploring how farmers could change their mix of activities.



## Activity sheet A2 - How to construct a Seasonal Calendar

### What are Seasonal Calendars used for?

In this field manual we use Seasonal Calendars to enable farmers to explore:

- a) the timing of the main activities (crop, livestock and livelihood) that they carry out on their farms,
- b) how these are influenced by weather and climate, and
- c) how extra information on the weather and climate could help.

In addition, Seasonal Calendars are used by farmers to provide a rough plan for what they intend to do in the next season.

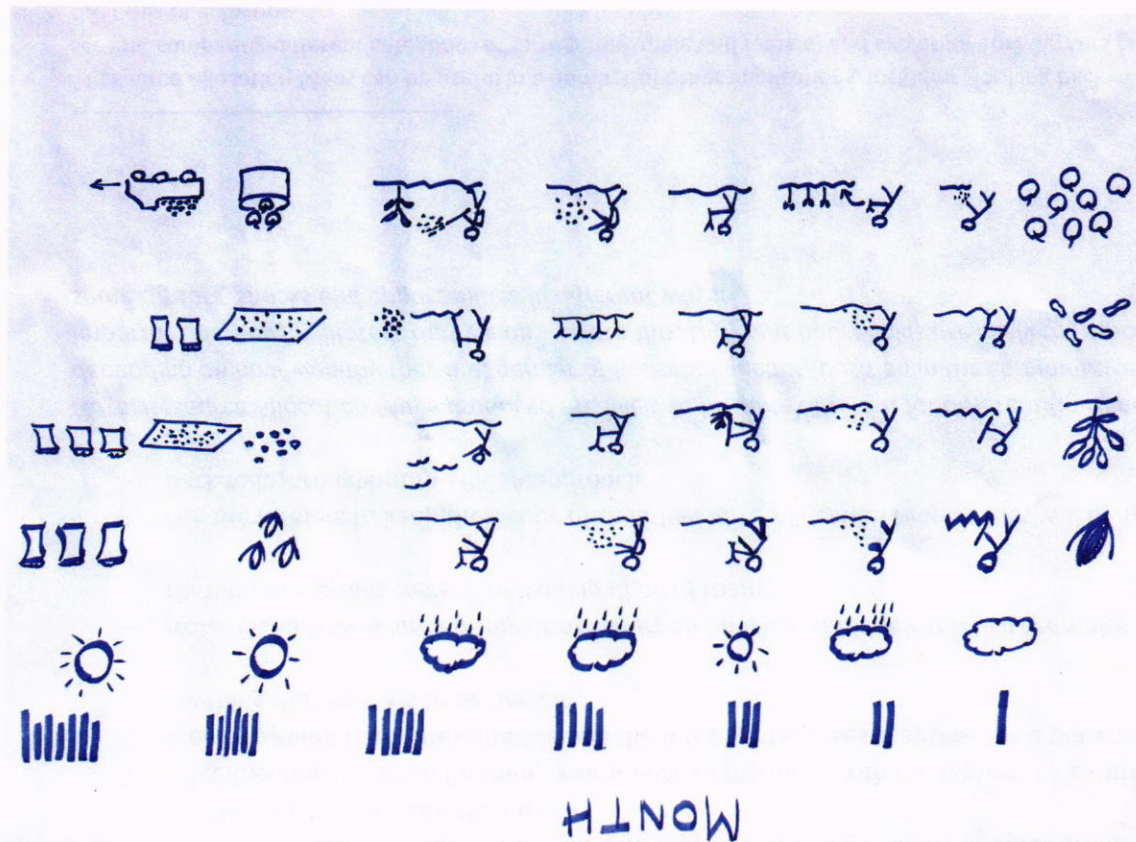
### Materials

You will need a flip chart and pens to draw the Seasonal Calendar. Alternatively, it can be drawn on the ground using leaves, stones or other objects.

### Preparation

- Discuss the purpose of drawing the Seasonal Calendar with the farmers.

### Example Seasonal Calendar





## Procedure

1. On your flip chart draw your example Seasonal Calendar:
  - Draw a line at the top of the flipchart to show time and mark smaller time periods that the participants are familiar with (e.g. local names for months or parts of seasons) on it. Make sure that there are enough time periods to cover the whole crop cycle.
  - Draw rows on the left margin of the flipchart (as shown in the example); enough rows for all of the main crops grown on the farm. Put one crop on each row.
  - Then, for each crop, draw a line from when the first activity for that crop happens (e.g. land preparation) to when the last activity for the crop happens (e.g. harvesting).
  - Underneath the crop line, define when each main activity (e.g. planting, weeding...) is done with an activity line and a symbol.
  - On top of the crop line, indicate whether and how these activities may be affected by the weather and/or climate.

**Note:** you may wish to prepare the example in advance and then talk the farmers through the process.

You can follow the same procedure for livestock. However, some livestock may be kept by farmers all the time (e.g. grazing cattle) and may not have a clear start and end point. In such cases, draw the Seasonal Calendar for a year and show when the main activities happen and how they are influenced by weather or climate.

If the calendar is going to be used to look at the details of crop management, you should give each crop more space, by putting each activity on a separate row or draw a separate calendar for each crop.

2. Once you have finished drawing/explaining your example Seasonal Calendar, split the farmers into pairs/small groups to draw their own individual calendars for their own farms. Ask them to draw the Seasonal Calendar to show what they think they will be doing in the coming season. Each farmer should draw their own Seasonal Calendars (for crops and livestock) but being in a pair or a small group means that the farmers can help each other with the task.
3. After farmers have drawn their Seasonal Calendars, ask them to identify and mark on them:
  - Which specific activities and their timing are particularly influenced by the weather. These may be big things like whether to grow a crop, or more specific ones like when to plant or whether to weed.
  - What aspects of the weather influence each of the activities?
4. Ask some farmers to share some of their Seasonal Calendars and what they have put as 'answers' to number 3 above. You can conclude this activity by sharing that the rest of the training in PICSA aims to a) provide farmers with some of this weather and climate information b) explore together farming and livelihood choices and detailed management options suited to the local climate and weather.
5. Ask the farmers to keep their copy of their Seasonal Calendar as they will be referring back to it throughout the PICSA approach.



## **Step B – Is the climate changing? Farmers' perceptions and historical records**

By the end of this step, farmers should have an understanding of how the climate is changing and how it varies.

### ***Aims of this step:***

- To provide farmers with historical climate information so that they can use it to consider what has been happening to the climate.
- To analyse the historical climate information and compare it with the farmers' perceptions of change.
- If there are differences between the historical climate graphs and farmers' perceptions to:
  - a) explore with farmers the possible reasons for these differences, and
  - b) discuss whether this means that there are useful changes that can be made to crop, livestock or livelihood activities to address other drivers of change e.g. reduced soil fertility.
- To decide with the farmers which characteristics of the climate they should focus on when planning their crops, livestock and livelihood activities.

### ***During this step you should facilitate farmers to:***

- Understand where historical climate information comes from (see activity sheet B1).
- Understand and interpret climate graphs showing annual rainfall totals, start and end of season, season length, dry spells and temperature (see activity sheet B2); and what the implications are for crop, livestock and livelihood activities.
- Understand how climate graphs can be useful for planning for the season ahead.