

**HANDBOOK FOR
COMMUNITY
AGROMETEOROLOGICAL
PARTICIPATORY
EXTENSION SERVICE
(CAPES)**

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by

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List of Abbreviation

CABLAC	Capacity Building, Learning and Activity Centre, Mujika, Monze, Zambia
CAPEs	Community Agrometeorological Participatory Extension Service
CCAA	Climate Change for Adaptation Africa
CFU	Conservation Farming Unit, Zambia
CIDP	Community Information Dissemination Plan
CO	Camp Officer, Department of Agriculture and Corporative, Zambia
D	Livestock Diseases as limiting factor
DACO	District Agriculture Coordinating Officer, Department of Agriculture and Corporative, Zambia
DC	District Commissioners of Monze, Provincial Administration, Zambian
ER	Erratic Rainfall as limiting factor
IDRC	International Development Research Centre, Canada
LDP	Lack of animal Draft Power as limiting factor
LSF	Low Soil Fertility as limiting factor
LW	Lack of Water as limiting factor
NGOs	Non Government Organizations
P	Poverty
PM&E	Participatory Monitoring and Evaluation
PRA	Participatory Rural Appraisal
PT	Planting at Wrong Times
SDA	Seventh Day Adventists

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*Prospard (l) and Durton (r)
at Bulimo village 2009 field day*

This handbook is dedicated to Prospard Gondwe who inspired the authors in the field, a co-researcher on IDRC/CCAA project and PhD student with Durton at UFS from 2007-2010 unfortunately he couldn't make it because he "passed on".

This handbook should therefore remind users and beneficiaries that there are people like Prospard God used to better their livelihood.

Introduction

The climate change challenges in developmental sectors including that of agriculture in Africa have reached levels where individual livelihoods have been seriously affected. However many efforts being rendered especially in most African countries have not borne the expected food security benefits. This has called for rethinking of strategies to use for improvement of adaptation adoption. From about the mid-1980s the participatory approaches in addressing community concerns have been preferred more than the traditional top-down approaches. Participatory Rural Appraisal (PRA) was introduced which emphasized ownership, planning, management and analysis of data by rural people, with the role of outsiders being mainly that of facilitation. PRA has been defined as *“a growing family of approaches and methods to enable local people to plan, act, monitor and evaluate”*. The suitability of the PRA to promote sustainable agriculture productivity especially amongst smallholder farmers requires further development.

The Community Agrometeorological Participatory Extension Service (CAPES) has been developed using the participatory techniques and the need for agrometeorological services. The main aim is to promote sustainable agriculture productivity. The IDRC/CCAA project that was conducted in both Zambia and Zimbabwe from 2007-2010, aimed at studying the possibility of developing an effective Community Agrometeorological Participatory Extension Service strategy where attempts were needed to develop agriculture adaptation interventions with the participation of farmers. This was aimed at making agriculture more sustainable by using the available climate forecasts.

Section 1: Purpose and Overview of this Guide

1.1. Purpose of this guide

The aim of this guide is to build the capacity of the agrometeorological extension officers in using Community Agrometeorological Participatory Extension Service strategies. After a formal training the new agrometeorological officers, will still need additional guidance in the field. This guide is meant as their reference. Other extension officers wishing to use this Community Agrometeorological Participatory Extension Service guide could also find it helpful.

1.2. The overview of the guide

This guide is divided into five sections.

Chapter 1: Describes the purpose of this guide and for whom it is meant.

Chapter 2: Discusses aspects of community agrometeorological participatory methods and their relevance.

Chapter 3: Discusses the management qualities for Community Agrometeorological Participatory Extension Service.

Chapter 4: Guidelines for starting up a Community Agrometeorological Participatory Extension Service.

Chapter 5: Approaches used in the Community Agrometeorological Participatory Extension Service.

Appendices: The appendices provide a reference to the guide.

Section 2: Introduction to Community agrometeorological participatory Approach

2.1. What is the participatory approach?

Participation is involvement or making a contribution in undertaking an assignment. Contributions in this case are mainly from those involved in the assignment. An approach is a way of getting close or there (The Free Dictionary). So participatory approach is therefore the ways people are involved in making their contributions.

Agrometeorology combines the two sciences of agriculture and meteorology for sustainable agricultural productivity using weather and climate information. When improved agricultural productivity is approached by way of stakeholders implementing agrometeorological activities it is called a community agrometeorological participatory move. It is the way a community is involved in or contributes to their own agrometeorological programmes. Agrometeorological programmes also have developmental stages such as designing and implementation. A number of considerations such as skills, knowledge, experience and commitments are made during participation. The community may lack agrometeorological or agricultural expertise in their agrometeorological programmes and may require external skills and supports. This also means a sustainable community agrometeorological participatory programme would involve stakeholders and partners from outside that community. The stakeholders share and control the agrometeorological development programme by taking part in all the stages.

2.2. Who are the participants in the participatory approach?

Often participation is taken to mean only for the community as they get involved in a community project, however this notion requires clarifying. Building on the understanding that contributions are mainly for those whom the assignment is meant for, we can confidently say participation is not only for the community that is directly affected, but also for those indirectly affected. The effect of climate change and climate variability in reducing food security of a community for example, does not only affect that community alone, but a country as a whole. Government and NGOs involvement in an agrometeorological project in a community does not mean they should **only** be facilitators or observers since they are also affected in one way or another. In other words, though they do not live in that particular community they are stakeholders and must contribute accordingly. It should be appreciated that a stakeholder can be chosen to be a facilitator of a community agrometeorological participatory programme. It will then require that he or she must undertake the role of facilitator. It must be appreciated that contributions will differ for participants at each agrometeorological developmental stage. However when considering full project participation, segregation should not be made on who has contributed what or more at which stage but rather whether everyone had played the required role.

2.3. Why participatory approach?

Donors and higher learning institutions may notice the food insecurity situation in the world or a country during their monitoring and may want to undertake programmes to address the situation. Previously some programmes were developed without much consultation with the community involved. Many of those programmes in the end had little or no impact at all on community whom they were designed for, because the activities ended at the end of the programme funding. One of the lessons learnt in these previous efforts was the need for community involvement at all stages of the programme with a view of attaining sustainability. It was discovered that programmes that involved the community members and all stakeholders were more successful and sustainable over a longer period of time. Hence, this is the reason for the participatory approach. In participatory approaches, the community more easily adopted ownership of the projects because they had been involved at all levels from formulation to implementation and evaluation. The community by participating gained skills and experience in project management which ultimately supported their individual economical development.

Participatory approaches' working with both genders improves collection of data on community needs and cultural issues. It also helps to solve and manage conflicts in development projects. The inclusion of monitoring and evaluation into agrometeorological projects lead to better project management and a

possibility of quick corrective measures being taken. No one individual may be able to address the problem alone, but they could be easily managed as a team of stakeholders. A community, as in the Mujika case, may be able to identify a problem, know the solution to it but lacked the know-how for managing it and therefore needed the involvement of the agrometeorologist for guidance and knowledge dispensation.

The affected communities, by identifying the problems and possible solutions for every notable identified problem were the best change agents for initiating, planning, designing and implementing a Community Agrometeorological Participatory Extension Service strategy. The agrometeorologist, agricultural personnel and other agents outside the local community may also be called in as externals to play their specific roles in the agrometeorological programmes. In the community, external agents will also share their knowledge about in project planning and management as well as help with problems identification and analysis.

2.4. Advantages and disadvantages of participatory approaches

No matter how good an approach may be, it will have some advantages and disadvantages. Documenting the advantages and disadvantages would help future users and the community to better understand and know how best to use participation approaches.

The following are some of the advantages of participatory approaches:-

1. The local communities identify their own problems and the causes;
2. They also identify the opportunities available for solving those problems;
3. Data collection in community is improved and thus also project design;
4. The community plan and design the agrometeorological projects to address problems;
5. The community identifies external developmental supporting agents and institutions for the sake of project sustainability;
6. Community's participation in the agrometeorological projects is enhanced;
7. The success of the project is achievable;
8. Project ownership and adoption of options is more viable;
9. Community contributions to the project are possible;
10. The monitoring and evaluation of the project is improved;
11. Project continuity is possible.

There are also some disadvantages that should be borne in mind when undertaking participatory approaches. The following are some of them:-

1. Participation is not a solution to all community concerns as some perceive.
2. It can take longer for the community and other stakeholders to develop the operational drive needed to manage a participatory project. But if the agrometeorological project has to be

sustainable, patience is needed with all participants.

3. Often there are negative assumptions that there are two groups: key players and observers. This notion requires correcting.
4. It is sometimes assumed that agrometeorological projects are for the agrometeorologists alone. Efforts to bring about understanding of real purpose should be made.

2.5. Participatory structure

An example of a participatory process with seven steps for a community agrometeorological participation extension service is given. Each step is briefly described below:

STEP 1: Starting a programme: This step considers the idea of a Community Agrometeorological Participatory Extension Service (CAPES). It also considers who else may be involved and how they will participate.

STEP 2: Data Collection and Problem Identification: This step uses various approaches and activities in discovering the real limiting factors and gaps. A number of problems may be identified in the process.

STEP 3: Organization of Problems and Opportunities: This will involve prioritizing identified problems. The ensuing analysis should be in a manner that will provide the extent of the problem, impacts and other associated effects as well as opportunities to address them.

STEP 4: Creation of Community Information Dissemination Plan (CIDP): This will involve the creation of a CIDP by participants. Using the opportunities presented and identifying the necessary actions to be undertaken, the stakeholders will also identify who will undertake each assignment and give the time frame for action. The available or developed climatic information or that gained from learning by doing will be disseminated.

STEP 5. Formation of the Community Agrometeorological Participatory Extension Service Team (CAPES Team): While participating institutions will be identified in the CIDP, it will require that a special committee of individuals from these institutions agree to participate in the day to day project management. This is the body that will, on behalf of the larger community, be tasked with the day to day management of the Community Agrometeorological Participatory Extension Service (CAPES) to a certain community and shall be called the Community Agrometeorological Participatory Extension Service Team (CAPES Team).

STEP 6: Implementation: The CIDP will require implementing through the involvement of the larger community under the leadership of the CAPES Team.

STEP 7: Monitoring and Evaluation: All the developmental stages of the agrometeorological programme require monitoring and evaluating. The developments are monitored by the community as they unfold with timely and appropriate corrections made as the need may arise.

STEP 8: Exit of Development Team and Takeover by Operational Team: During the development stage it would be required to check whether one achieved what was intended. Since it would be a continuous learning process, planning for a continuous operational phase would then be required while building on lessons from the previous engagements. The developmental team by community regulation exit and a new operational team are put in place.

Table 1: The eight part structure of community agrometeorological participation extension

STEP 1: Starting a programme
STEP 2: Data Collection and Problem Identification
STEP 3: Organization of problems and opportunities
STEP 4: Creation of Community Information Dissemination Plan (CIDP)
STEP 5: Formation of the Community Agrometeorological Participatory Extension Service Strategy
STEP 6: Implementation
STEP 7: Monitoring and Evaluation
STEP 8: Exit of development team and take over by operational team

This approach views the community as being at the centre of improving their own livelihood. This is a good approach where a community begins by identifying its own problems. However, to do so the community investigates the extent of the problem, supported by available data on the problem, so as to understand it in all contexts including the causes. Then the opportunities must be identified as solutions and or adaptations, by brainstorming ideas to address opportunities and to design a management strategy, so as to make it easier to improve their situation. The effectiveness of the CAPES however has to be tested through the implementation of the CIDP, where the community is involved in its monitoring and evaluation. This data collection process concludes with a postmortem and initiates planning for the next operational phase to address the further climatic challenges.

Section 3: Implementing CAPES

To implement this guide there are three important aspects one needs to consider. These are self preparation, being a good facilitator and knowing the tools you will use.

3.1. Self preparation

To be a successful facilitator of participatory programmes you must start with yourself by being adequately prepared. You have to be prepared at all times as it is essential that you have the required materials. You will need to have a good understanding of the methods you will use, how you will do it and the reasons to use it. Planning on how best you will approach a community is equally vital while ensuring all the tools to be used are available. Use of local examples, where possible, in your tools is encouraged as this will build your integrity with the community. You should remember the objective is to ensure that your community or audience is benefiting fully from the interaction. The self preparation stage is essential especially for new facilitators. Rehearsing the process and trying your tools before-

hand would be a good idea.

3.2. Being a facilitator

The successful implementation of this guide will depend on how well you handle your facilitator roles. You may be facilitating an agrometeorological programme in a community where you are a direct stakeholder. It is hence essential to learn the basics of participatory facilitation. In a participatory project the role of each stakeholder is considered as equal to that of the other players. As a result, it is necessary as a facilitator to put or consider yourself as one of the community members for whom the project is intended.

There are some basic factors you should know as a facilitator pertaining to the community and yourself.

As a facilitator you should realize your role is as follows:-

1. Facilitating a process and not managing it. Apart from providing guidance to the participation process, you will also have to ensure that:-
 - all the participants / community should understand the purpose of the Community Agrometeorological Participatory Extension Service that is to be established and that the project is theirs and for their own benefit;
 - everybody must participate or take part in the exploration and identification of problems, analysis and identification of possible adaptations of interventions or solutions;
 - all should also take part in the identification of the possible plans for action;
 - community should know that the Community Agrometeorological Participatory Extension Service requires their full involvement during implementation for it to succeed;
 - Out spoken persons should be placed in a group, that is likely to accommodate his/her ideas in discussion that is only if you are dividing a large group into smaller groups.

- 2 Guiding the process of problem solving is not:
 - a guide to solving a particular problem;
 - providing information to a community before you are asked to do so;
 - correcting or changing group decisions whether right or wrong in your eyes but helping the group in the participation process;
 - to assume group competence or incompetence in addressing the subject at hand.

Working as a facilitator is not a simple process, as it demands certain skills to achieve a viable result.

Some of these skills will be expanded and explained in the following sections.

3.2.1. Managing difficult participants

Not all the meetings you will facilitate will be easy ones. Situations with some difficult participants will be common and if not handled properly could lead to poor participation or even closure of a meeting.

Examples of certain individuals and how they can be handled:-

- ✚ Those who could be indifferent to the whole idea or process
 - You may talk to him/her privately or talk with one of the local leaders to discuss the situation;
 - Request him/her to allow others to have their opinion tabled and also hear;
 - May give the individual a special task during the meeting;
 - It would be advisable to place such a one in an appropriate group with a strong leader if you separate into smaller groups.
- ✚ More vocal participants not allowing others to talk
 - Ask specific people to answer questions and contribute to the discussion;
 - Openly encourage everybody to participate freely.
 - Discuss politely and privately with such a one to request them to give others a chance to participate as well.
- ✚ Gender balance
 - Some traditions require segregate of men and women and may not allow women to freely participate in public meetings;
 - Split the group into separate sub-groups that of men and women while tactfully trying to explain benefits of teamwork. Gender analysis tools explaining the various roles of men and women could be helpful at this stage.
- ✚ Less talkative or shy people
 - Some people, for a variety of reasons, may feel uneasy or afraid to participate in a large group, so make each and every one feel at easy and accepted.
 - It is recommended to divide the group into smaller subgroups.
 - Your judgments in doing this should be taken with care to allocate them in groups where they will be able to more easily participate.
 - Perhaps go round the groups and ask each to introduce themselves.

3.2.2. Recording or documenting outcomes

A variety of tools and materials should be used in keeping the records of the community agrometeorological participatory developmental process. This is not mainly aimed for you as a facilitator or change agent but for the larger community who have different educational levels. Not all community members are able to read the written notes of the proceedings but can learn from a video or photos for example. While it may be impossible to keep all records in say pictures, it is necessary to preserve as near as possible a complete record of the developmental process for reference purposes. These may be in a book format or documentary which tells the story of the developments of the Community Agrometeorological Participatory Extension Services. It is advisable to store theses copies of records in different places as accidents such as a fire could destroy the infrastructure if only one copy is stored and could lead to the loss of all the records of information.

Although as a facilitator you may be taking records of the development process, it is advisable to have at least two community volunteers to be doing the same. This will help increase the base for recording information as no two people will ever record a story in the same manner and from the same perspective. Your documentation should include all things, even on those aspects which at the time you think you will not require further information.

3.3. Creating an appropriate participatory atmosphere

In cases where the atmosphere may be rather difficult and not very conducive for a participatory process, it is the duty of the facilitator to engender a free atmosphere where all can contribute.

- You may begin by using some funny icebreaker exercises to break the tension and set the people at ease.
- After the usual protocol of starting a public meeting, you can ask the participants to agree on meeting norms (dos and don'ts).
- If the group is large and you have to break into smaller groups, ensure where possible groups of not more than 20 people each are formed though a smaller number can work better.
- Allow each group to take full control of their own meeting so that they are free to ask for clarification where ever necessary.
- Ensure there is full participation of all members in each group where mutual respect for each others' view is practiced. It is important to emphasize this point at the beginning and one must ensure it is practiced in all groups.
- The group may ask you questions although it appears they already have the answers. Ask for their views on the same matter and they will realize they have the answers and may not bother you again later.
- Ensure that the whole process is not boring but that you spice it with some relaxing exercises.
- Do not allow an activity to take more than one hour as participants will loose concentration and interest.
- When groups are working in sessions do not make private notes alone but everybody must be aware of what you are recording if you have to record any submissions.
- Do not use exercises with too much writing by participants as some may not be literate enough to do so. If there is much writing to be done by participants, ensure first that all participants are able to read and write or work in pairs with one who is literate.

3.3.1. Facilitator as a guide

Your main objective is to guide the community towards defining their own outcomes through a participatory process. You must therefore develop this skill, of not directing them but guiding them by using open ended participatory tools. In the participatory process they will debate and analyze until they arrive at the solution. Your patience will probably be tested during the process.

3.3.2. Be a good listener

It is important to remember, that you will be working in a community that you do not understand very well, nor do you understand their survival strategies or their adaptation to the environment. To effectively facilitate, you will have to develop an attitude of being a good listener. Regardless of your level of education, the older people may be wiser than you and the younger ones more energetic and vibrant. Listening to them will help to meet their objectives more effectively.

3.3.3. Giving instructions

You may only give instructions at the start of the exercise regarding the methodology or approaches or tools to use, so as to address their problems. You will need to explain clearly in a step by step format so that participants can easily follow the exercise. You will have to be focused to only tell them how they do it and not what to do. You must explain the purpose of the activity, and how long they have to work on each item. Since the whole idea is to come up with their own outcome, it will be necessary to be flexible all the time when they start addressing the concerns, so as to come to a conclusion. Be precise and brief in your instructions and allow for questions if any further clarification may be needed.

3.4. Materials to be used

In cases where participatory engagements may have to do with writing or drawing, you will have to be adequately prepare the necessary tools and materials. You should ensure to have sufficient materials, such as flip charts, large markers or coloured pens, writing pens, pencils, writing pads, Bostick (sticky patty), scissors, plain papers, coloured stickers, drawing pins etc, for all participants and groups, even preferably have surplus materials. You may include any other material you may know from experience is necessary when working with the community. You will need to be well organized to avoid embarrassment. Having additional material is advisable as some of your materials may not perform as expected during the meeting.

3.4.1 Applying your tools

It is important to ensure that the materials and tools you have organized will be relevant to the community in mind and that you are also familiar with these tools. It is better to consider using tools that you are familiar with, than totally new ones that you are not, as you may be embarrassed during the process. You will have to be careful if you use a video or digital camera during the process as some participants may misunderstand your interventions. Cameras and videos can only be used after introducing their purpose and how they will benefit the community if they are used. Cartoons may also be relevant in the dissemination of information but would require your finding a suitable artist, if you are not able to draw them yourself. Cartoons could be helpful in explaining community activities and their

reactions to disseminated climatic information.

Section 4: Managing the Process by Steps

This section discusses the step by step process you must take as a facilitator when working with a community from initiating a PAE programme, through to the participatory monitoring and evaluation (PM&E) of the CIDP. There are seven steps shown below which should be followed. Detailed information for each step including materials and tools to be used at each level are included. The seven-step diagramme showing Community Agrometeorological Participatory Extension Service is in Table 1.

4.1. STEP 1: Starting a programme

Starting a programme is as important as its purpose. It is therefore important to ensure special care that you start the way you want to proceed throughout the programme to the end.

4.1.1. Community selection

Purpose: The purpose of this activity is to select a specific community or communities in which the Community Agrometeorological Participatory Extension Service can be undertaken.

Time: 1 to 2 hours

Participants: The District Agriculture Coordinating Officer (DACO), and / or initiator and yourself.

The food insecurity in most of Africa's communities especially under climate change scenarios may force a community, individuals, local leader or others to approach your office for agrometeorological services. Your own position may equally cause you to consider an agrometeorological extension service with a particular community that is not effectively supported at present. Whatever the case may be, you will end up with an option of choosing a community to work in. This would lead you to travel to the chosen area to meet with the relevant administrative officers. You will need to meet the local agriculture personnel and perhaps other people to assist you in selecting the specific communities. This is essential because you will need their introduction and support while serving in those communities. You must also ensure to introduce your intentions to the district commissioner (DC) or the local government administrator or traditional leaders in that area. They will provide you with a better understanding of managing the project in that area.

4.1.2. Project introduction

This stage links you to the local leadership of the project area and is done through a meeting of selected individuals.

Purpose: The purpose of this activity is to have an initial visit to the project area and better understand the potential of the project. The other is to introduce the project to community leaders and get their reactions, support and buy-in.

Time: 1 to 1 hour 30 minutes

Participants: Village Headmen or Headwomen of the targeted community, agricultural extension officer / agricultural camp officer(s), the DACO as your referral and yourself as agrometeorologist.

Ask the DACO to link you to the specific communities where you can make appointment to meet with the respective village Headmen or Headwomen. On the selected day, ensure to arrive on time for the meeting. Remember modern furniture is rare in most rural areas of most developing countries, so you must be ready to find yourself an appropriate place to sit which may even be on the ground as you wait for the meeting. If a seat is provided you should kindly accept and use it. However do not be frustrated when you realize that the meeting does not start on time. In some communities, time management is seen from a different perspective, but despite this, there is a good chance that they will still come to attend the meeting. Even when everyone has come they will still want to spend time to get to know you and learn about your personal details in an informal manner before the start of the meeting. So you will have to exercise patience. This is important for both parties as they start to assess whether they can trust you or not, while from the beginning you also must make an effort to prove to them, beyond any doubt, that you have good intentions. You will have to dress modestly as some communities can be offended by some dress codes. You must not try to change your image but just be yourself, unless you have a hidden agenda. If you cannot speak the local language, try to learn a word or two beforehand especially that used when greeting the elders. You will create a good feeling in them that you have a strong desire to work with them and this could help them to more easily welcome you to their community.

The designated person will then call the meeting to order. After the DACO has introduced you and your intentions, they will allow you an opportunity to provide details of your proposal. Remind them you are there to help them in uplifting and development of the people using available resources including that which you may be able to access. Remember to ask them for feedback and to give their opinion of your proposal, while you listen attentively. When the local leadership accepts your idea, they may openly tell you and inform you of how they feel it can benefit the community at large. You can then all discuss the launching of the project to the larger community and where it can be held. They will also assist you in identifying other stakeholders whom they feel could be part of the project according to the roles they play. Develop and note or record the stakeholders list immediately it is introduced. You will have to arrange for a full stakeholders meeting and provide detailed project information. Delegated community members and representatives of the stakeholders' organizations are now called the "Team" and must

be tasked with the role of implementing and managing the community agrometeorological participatory process.

4.1.3. Launching

This step provides an opportunity for the larger community to learn and approve of the proposed community agrometeorological participatory process.

Purpose: The purpose is to introduce the proposed Community Agrometeorological Participatory Extension Services programme to all members of the broader community to receive their response, and to prepare them for physical engagements and involvement that will follow.

Time: 2-3 hours depending on the size of community and number of dignitaries attending the occasion.

Participants: All the community members including those from neighbouring areas should be invited and are welcome to attend.

Material: Depending on the size of the group, you may need a large banner if it is a very large gathering and brochures in the community's preferred language, if some of the community members are literate. A public address system would be useful for very large gatherings. A flip chart may be used for smaller gatherings. Refreshments may be required thereafter.

At this stage, you will start to feel whether the project would be able to run or not depending on how the local leadership is involved in the launching exercise. Therefore try to ensure that the community starts to understand that they are managing their own programme as the benefits are for themselves. Ensure the invitations are widely distributed and sufficient time is allowed for people to prepare for the public meeting. This is important since you will be preparing the farmers for some other involvement thereafter. They therefore need to be present, so as to fully understand what their roles will be in the community agrometeorological participatory process.

Ensure protocol is observed and honour given to whom it is supposed to be given. Acknowledge everyone and show them you are happy with their attendance and response and that you look forward to working with them. Some dignitaries get offended when they are not recognized and thereafter may not fully support your efforts in the area. You need everyone's support therefore do your best to ensure they are brought on board.

Be eloquent and as clear as possible when introducing the proposal. Emphasis that the local leaders also agree that the project is trying to address their situation. Remind the community that they will be the key players while you will play the role of a facilitator and that the project would depend mainly on the available resources including that which you may be able to leverage. You will have to explain the

community's role in the community agrometeorological participatory process. Ensure that they fully understand their roles as it will greatly help in influencing their level of participation and commitment. Allow for questions and discussion where possible to ensure everybody is satisfied. Remember to ask what the community view is of the proposed Community Agrometeorological Participatory Extension Service strategy. If agreeable, which in most cases they will, because it will have been designed to address their concerns, thank them for their interest and encourage them to ensure the project succeeds by their full participation throughout all stages. If they happen to refuse, enquire as to what they feel was wrong with the idea. Quickly investigate and see whether their recommendations are feasible or not and can be incorporated. This will help you improve on the project if it has to be considered for application elsewhere or make necessary amendments if requested. You may further enquire whether they could approve of it after their concerns or adjustments were addressed. If you have to consider the recommendations, do it together with the leadership team in the community's view and provide an immediate response thereafter. This will increase community confidence in you, community teamwork and that the process remains a participatory one. Conclude by informing the people of the expected schedule of activities, such as data collection, following their acceptance of the project.

4.2 STEP 2: Data collection

This step engages you directly with a particular community in the participatory data collection. You need to collect field data which include spatial, time related and social data. Let's assume you decided to collect data village by village, from the selected villages then arrange separate meetings in each of these villages, which will be easier to manage than a very large group of farmers from all villages which may be complicated and cumbersome. You will have to start the data collection process in one village and probably complete before moving to the next selected village. A smaller single village population will enable you to more easily manage the data collection process.

Purpose: To enable both the community and yourself, to full understand the community's social and climatic historical background that is influencing their behaviour and livelihood.

Time: One to two days. This is dependent of the size of the community and number of groups involved in this step, and the amount of information to be collected as well as the true commitment of the people.

Participants: All the members present at the selected village which includes children.

Materials: You may need some of the following materials: - Flip charts, large board markers, coloured pens, writing pens, pencils, writing pads, Bostick (sticky patty), scissors, plain paper, coloured stickers and drawing pins etc.

4.2.1.2. Transect walk

Purpose: To walk a transect through the village to confirm the details provided by community members on the sketch map and it will also help to identify any additional information.

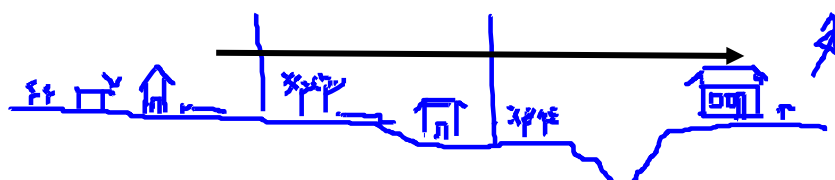
Time: 45 minutes to 1 hour

Participants: The facilitator and three to four community members identified during the meeting.

Materials: Stationary, pens and form for entering the specific details as identified

The identified members will accompany you on a transect walk. It is advisable to rather walk than drive through the village area. Ask your team to start your transect from one corner and walk along a diagonal to the opposite corner. Try to record all identified details along the way as reflected on the transect example for Malomo village (Table 2). Interview a number of people you meet along the way regarding what you have seen and related issues. After the transect, draw a detailed cross section segment by segment showing a summary of the physical features (type of vegetation, buildings, developments etc) identified along the way. Transects will provide and confirm information recorded earlier on the community sketch map; identify other details particularly natural resources and transport routes and other community useful places like schools etc together with a summary of problems and opportunities available to the community.

Table 2: Transect through Malomo village, Mujika area in Monze district conducted on 4th September, 2007.



Crops	<i>Nil</i>	<i>Vegetables</i>	<i>Vegetables</i>
Soil	<i>Sandy loamy</i>	<i>Sandy loamy</i>	<i>Sandy loamy</i>
Vegetation	<i>Natural bushes</i>	<i>Roofing grass, Muunga</i>	<i>Bananas, sisal, Acacia, roofing grass</i>
Water	<i>Wells (2)</i>	<i>Wells (3)</i>	<i>Swamps, well</i>
Social	<i>Few permanent buildings, grave yard</i>	<i>Grocery, few permanent roofed houses,</i>	<i>Football ground, CARBLAC school, few permanent roofing building</i>
Problems	<i>Animal disease, Lack of clean drinking water, Poor crop yield,</i>	<i>Poor crop yield, low soil fertility, animal draft power</i>	<i>Livestock disease, low food production, erratic rainfall</i>
Opportunities	<i>Boreholes, Use of legumes, fencing farms & dipping animals, old fuel filling station</i>	<i>Grazing grounds, use of legumes,</i>	<i>Grazing grounds, Building of weir / Damming of stream, Irrigation</i>

4.2.2. Time related data

Your attention now will be on collecting information about conditions and how the people perceive that they have changed over time. There are at least three time related data sources you can collect including historical time lines, trends, seasonal calendars and daily time lines. In order for the historical data to be meaningful, you want to have as many older generation present as possible, so that they can give detailed memories from their own childhood situation or circumstances.

4.2.2.1. Historical time lines

Purpose: To record community historical background and what they considered as major events.

Time: 45 minutes

Participants: All the members present of the selected village especially the elderly

Materials: Large markers of different colours and flip charts paper

Ask the community, while working as one group, to provide their historical trend lines. Provide a format for documenting the details. A table with two columns, one for years on the left and another for events on the right would do. While the members are providing the details one or two members may be alternating in writing the details on the provided flip chart. As a facilitator you will continue guiding the data collection through the use of probing questions regarding settlements, diseases, floods, droughts, famine, political or church events etc, to continue encouraging all members to participate. This is necessary so as to widen their search for what they considered as important occasions that may have contributed to their current attitudes. Understanding their history will help you to search for appropriate options of presenting the desired information as some communities may get offended with presentations in certain formats or jokes because of their historical backgrounds. Ask the group to identify someone to present their historical timeline to plenary session. An example of the historical timeline for Malomo is shown as Table 3.

Table 3: Example of a historical time line for Malomo village, Mujika area, Monze district

YEAR	EVENT
1910	The Malomo village established by Seventh Day Adventist (SDA) missionaries under the first headman Philip Malomo
1918	Smallpox breakout in the village
1927	Smallpox breakout in the village again
1930	Savory, a white commercial farmer introduces clothes to the Malomo villagers.
1942	Death of the first headman
1944	First adult education established where both the adults and young pupils could learn together in the same class
1946	The second headman installed
1947	Hunger befalls the village
1952	Disappearance of the wild animals in the area
1953	The first Malomo Seventh Day Adventists (SDA) church built
1956	Break out of polio and whooping cough in the village
1958	Floods engulf the village
1966	The first borehole for water supply was dug
1969	Measles epidemic in the village
1973	Corridor disease breakout and herds of cattle wiped out
1975	The first Malomo community school established and death of the second headman, Dingilizwe Malomo
1976	Job Malomo installed as the third headman of the village
1987	Nkalanga health post established
1988	Outbreak of Corridor disease in the village
1990	Hunger befalls the village
1994	Chicken disease broke out
1995	Hunger befalls the village and yellow maize brought as relief
2001	Death of the third headman
2002	Drought and hunger befalls the village
2003	The fourth headman installed. The first community based organization called Capacity Building, Learning and Activity Center (CABLAC) formed.
2005	CABLAC erects its first building in the village
2006	Occurrence of floods in the village

4.2.2.2 Trend lines

You may need to collect trend information on rainfall, population, soil fertility and crop production or other trends of important information over time.

4.2.2.2.1 Rainfall

Purpose: To record the community's perception of rainfall occurrence

Time: 45 minutes

Participants: All the members of the selected present village which includes all generations

Materials: Large markers of different colours and flip chart paper

Using the same community agrometeorological participatory approach and with the community still working in groups, ask the participants to mention the rainfall performance starting from the earliest year any one of them can remember to date. Since they do not have the actual values encourage members to indicate whether the rainfall was low, medium or high. If a particular year was considered high, they should indicate for how long that particular situation had continued. Encourage the participants to be alternating responsibility to document the details on the flip chart. The participatory principle encourages teamwork and handing over the pen. The rainfall trend analysis will improve and provide a visual view of farmer perception of rainfall occurrence. An example of the rainfall trend for Nkabika is shown in Figure 2.

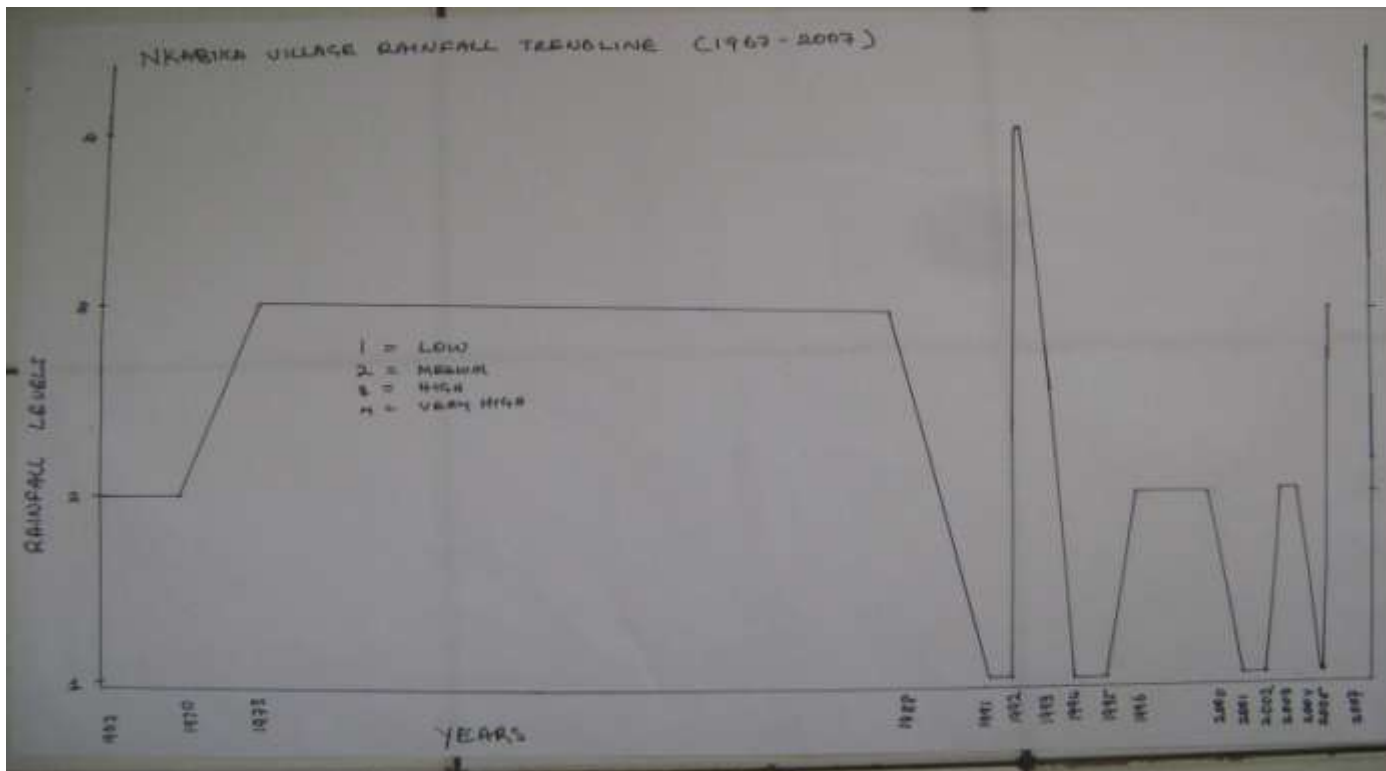


Figure 2. Rainfall trend line for Nkabika village created on 4th September, 2007 by group of farmers

4.2.2.2 Population

Purpose: To document the people's perception of the total number of people in the community

Time: 30 minutes

Participants: All the members of the selected village which includes children and the elderly

Materials: Large markers of different colours and flip chart papers

In their same group ask the community to now indicate the population changed over the same period used for rainfall to date. Similar categories of low, medium and high should be used to describe the community population trend. Reasons for changes if any should be given. This information will help you when analyzing relationships between crop production and other elements such as soil fertility. An example of the population trend line for Malomo is shown Figure 3.

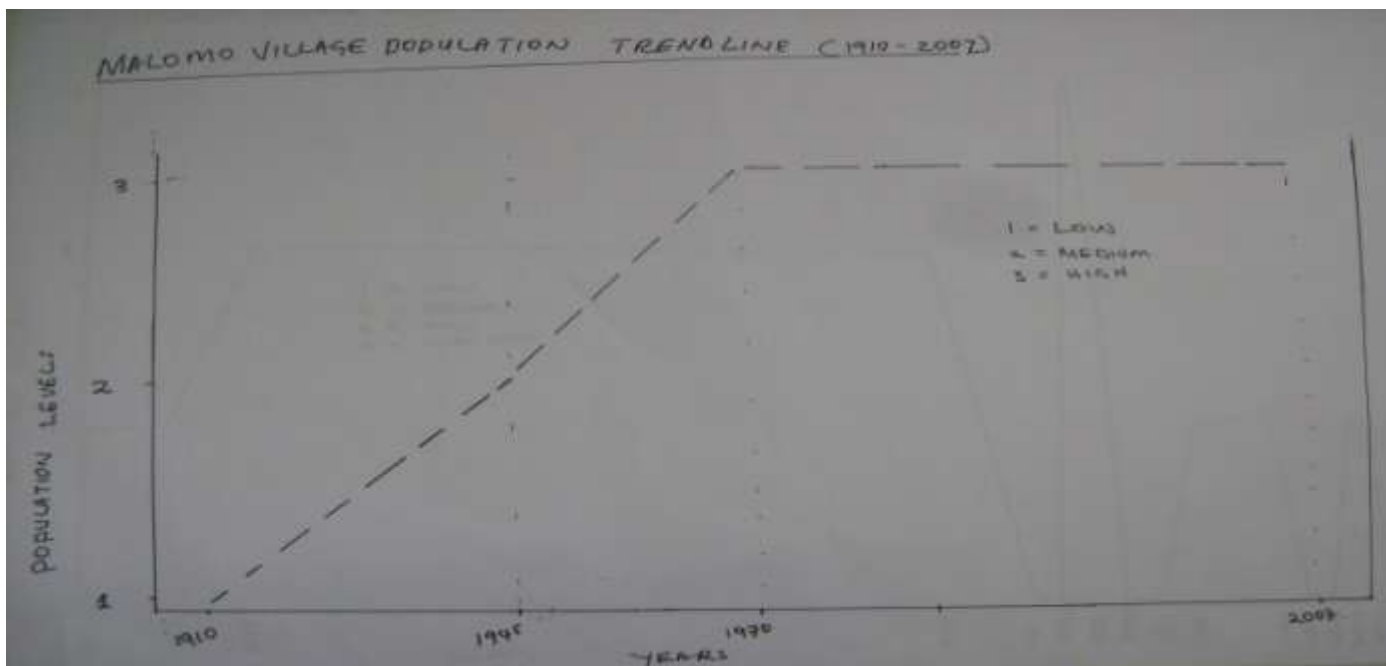


Figure 3: Malomo village population trend line (1910-2007) created on 7th September, 2007 by group of farmers

4.2.2.3 Soil fertility

Purpose: To record the people's opinion about the trend in the soil fertility.

Time: 30 minutes

Participants: All the members present of the selected village which includes children and elderly

Materials: Large markers of different colours and flip chart papers

Ask the community to draw trend line for the way they understand the soil and its fertility changes over time just as they did for population. This should be much easier now as they have gained experience on making trends. Keep ensuring the participatory spirit is continuing. Encourage the community not to worry about the exact detail of the exact year(s) for transitions since that is not the main purpose but to record the trends. They should also try to provide reasons for soil fertility changes if any can be identified. This will help you understand the possible contribution soil fertility has made to food productivity. An example of soil fertility trend line for Nkabika village is given in Figure 4.

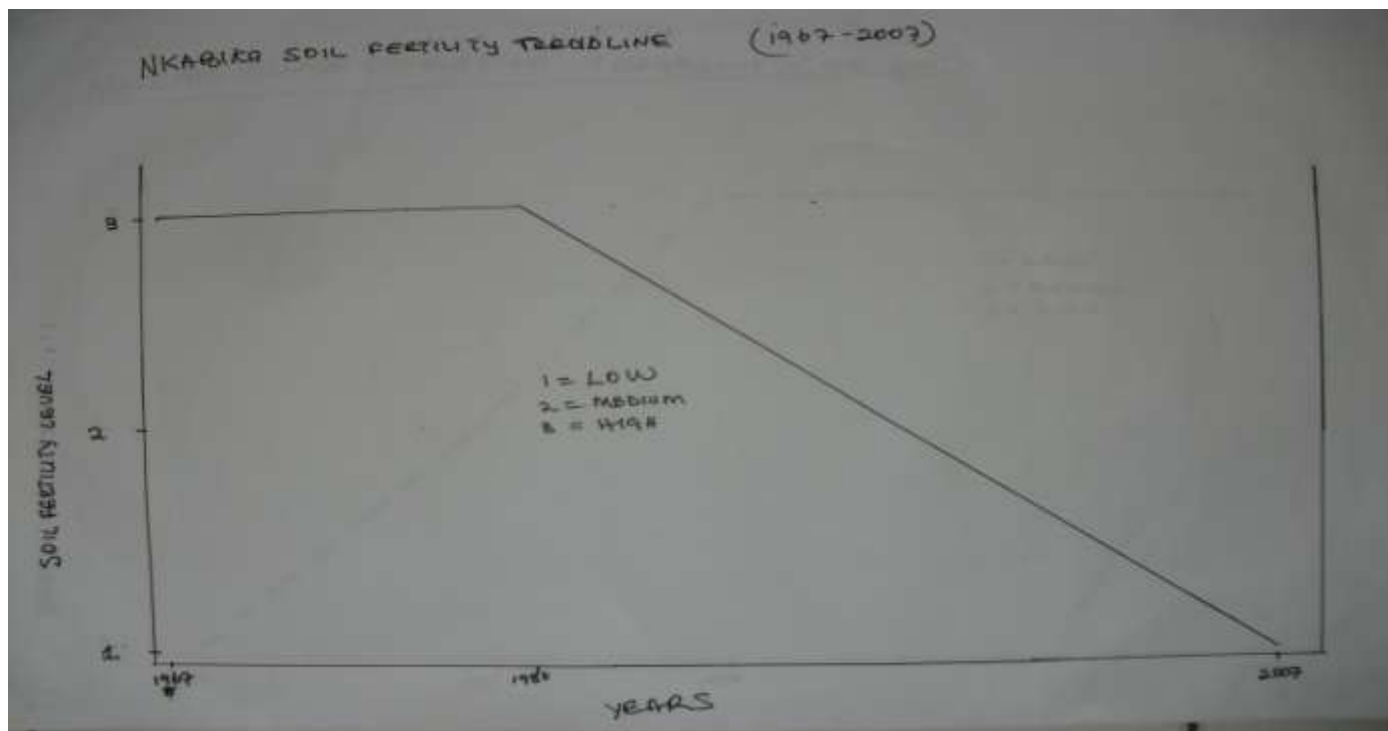


Figure 4. Community perception of soil fertility trend line for Nkabika village (1967-2007) created on 4th September, 2007 by group of farmers

4.2.2.2.4 Crop productivity

Purpose: To document the trend in the crop productivity according to the opinion of the community.

Time: 30 minutes

Participants: All the members present of the selected village which including elderly and children

Materials: Large markers of different colours and flip chart papers

Continuing in the same groups, they should be asked to provide detailed trends of crop productivity. The information will help you to gain a better full understanding of the community perception of crop production. An example of the crop productivity trend line for Nkabika is given below in Figure 5.

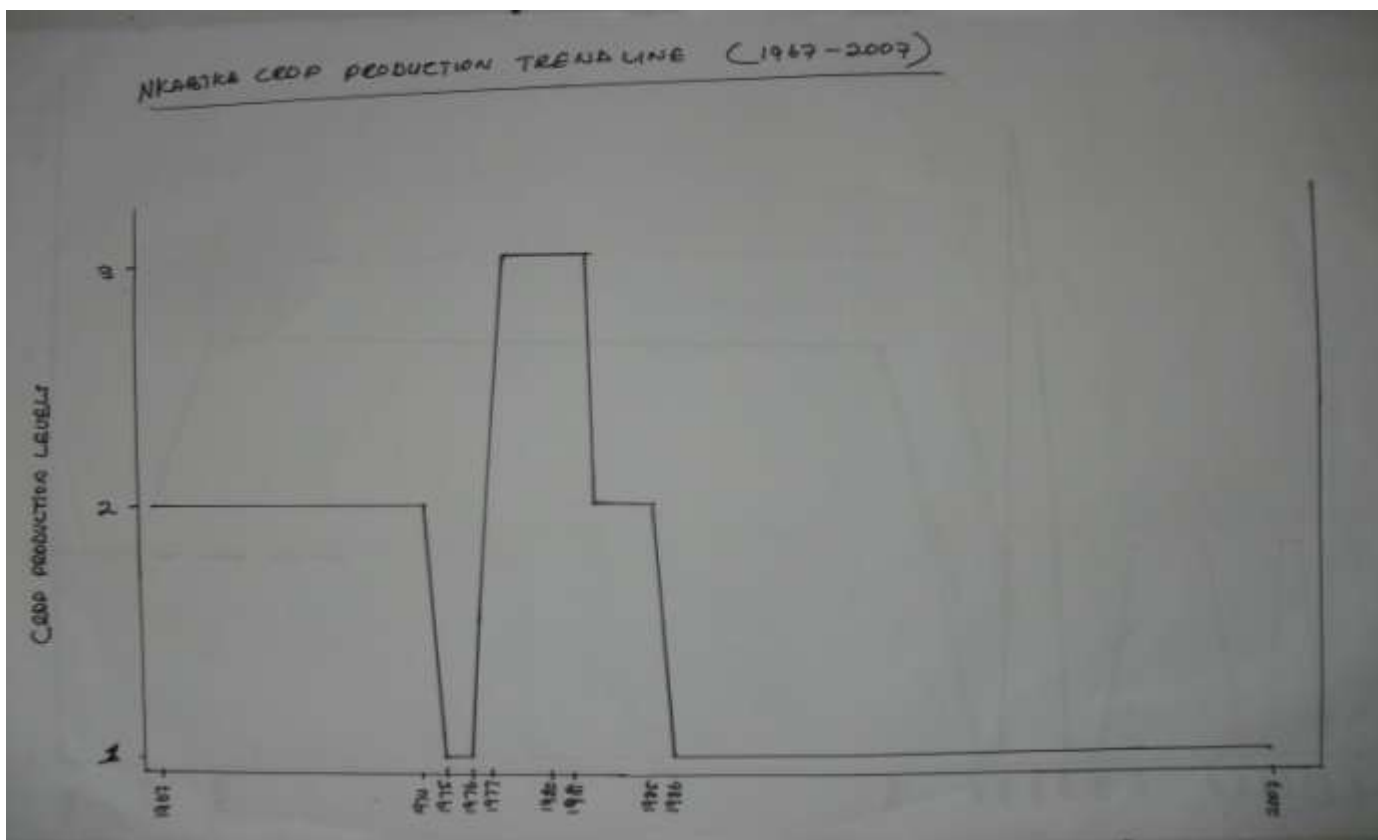


Figure 5. Community perception of crop production trends for Nkabika (1967-2007) according to the community view on 4th September, 2007.

4.2.2.2.5 Seasonal calendar

Purpose: To record what activities are undertaken by farmers, at what time of the year and by whom?

Time: 45 minutes

Participants: All the members present of the selected village which including elderly and children

Materials: Large markers of different colours and flip chart papers

Begin as usual by explaining what a “seasonal crop calendar” is required to show, what it is for and how to fill in the required details. An example of a seasonal calendar for Nkabika in Table 4.

Table 4. Example of a seasonal crop calendar for Nkabika village

Activity	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Rainfall												
Maize	land prep (♀+♂)	land prep (♀+♂)	planting +weeding (♀+♂)	planting+ weeding (♀+♂)				harvesting (♀+♂)				land prep (♀+♂)
Groundnuts	land prep (♀)	land prep (♀)	planting (♀)	weeding (♀)			harvesting (♀)					
Sweet potatoes			land prep (♀+♂)	planting (♀)	planting + weeding (♀)	weeding (♀)			harvesting (♀)			
Cowpeas			land prep (♀+♂)	planting (♀+♂)	weeding (♀+♂)			harvesting (♀+♂)	harvesting (♀+♂)			
Cotton	land prep (♀+♂)	land prep (♀+♂)	planting+ weeding (♀+♂)	weeding (♀+♂)	weeding (♀+♂)		harvesting (♀+♂)	harvesting (♀+♂)	harvesting (♀+♂)			
Sunflower	land prep (♀+♂)	land prep (♀+♂)	land prep (♀+♂)	planting (♀+♂)				harvesting (♀+♂)				
Labour availability	high	Low	low	Low	Low	medium	medium	low	low	Med	High	high
Labour demand	Low	medium	high	High	medium	low	medium	high	high	High	Low	low
Food availability	medium	low	low	Low	Low	medium	High	high	high	High	med	Med
Diseases	coughing diarrhea Malaria bilharzia	malaria (low prevalent)	malaria (low prevalent)	malaria (medium prevalent)	malaria (medium prevalent)	malaria (high prevalent)	Malaria (high prevalent)				sore eyes	cough ing + sore eyes

The left side of the matrix is for the crops and activities while the top right is for the period in months. When farmers fill the matrix in, they provide information or write the details of activities in the corresponding box for activities against a specific month and crops. The crops entered in the activities column should be those that are routinely grown by them. For the labour availability, labour demand, food availability and disease rows, participants should indicate low, medium or high in the corresponding box. The information will help in the even distribution of assignments for the Community Agrometeorological Participatory Extension Service; otherwise some people may end up being overburdened with work without this information. Knowing for example when farmers undertake their planting activities would help you determine when the climatic information is needed so as to maximize crop production.

4.2.3 Social data

Under this section you will have to collect information on institutional analysis, farm sketches, gender daily calendars and household interviews.

4.2.3.1 Institutional analysis

Purpose: To record what other institutions are working in the community, their roles and influence on the community.

Time: 15 minutes

Participants: All the members present of the selected village which including elderly and children

Materials: Large markers of different colours and flip chart papers

While still working together, ask the participants to identify other institutions working in their area. Using the large markers provided they should first write them down and then show using shapes (e.g. circles or squares etc) in the order and size of influence in the community. The one with the most influence should be given the largest circle. It is important to know which other organizations are working in the community, their influence as well as availability to develop the Community Agrometeorological Participatory Extension Service strategy. An example of an institutional analysis for Nkabika village is shown as Figure 6.

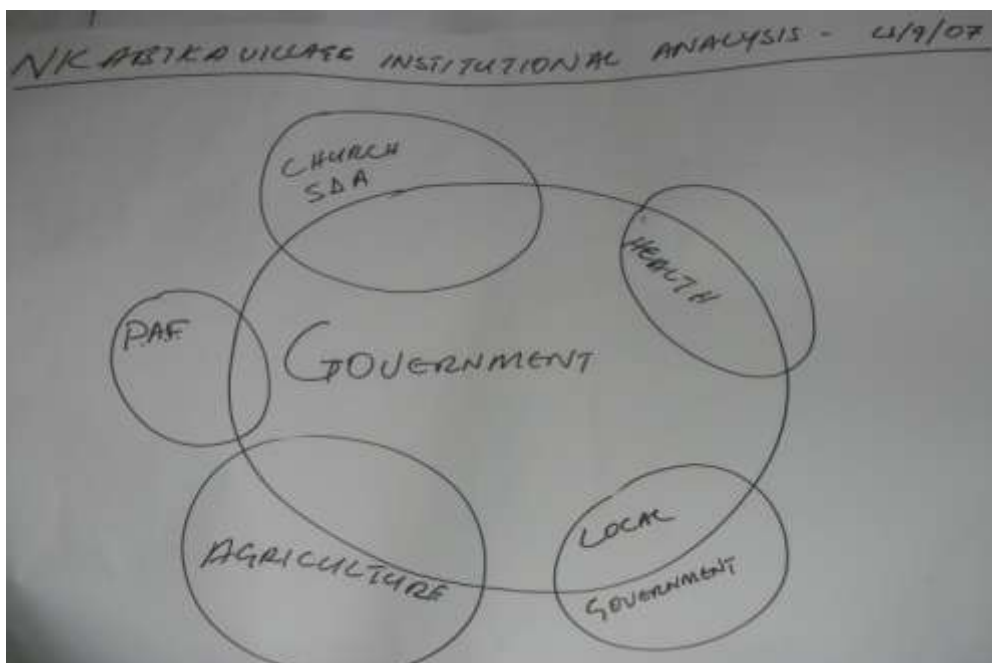


Figure 6. Example of an institutional diagram for Bulimo village as drawn by farmers on 4th September, 2007

4.2.3.2 Farm sketches

Purpose: To identify resources available to the individual farmers and how much of their land is allocated for what purposes.

Time: 30 minutes

Participants: All the members present of the selected village

Materials: Large markers of different colours and plain A4 papers

Request each participant to draw individual farm sketches indicating available resources, land utilization and infrastructure. The participants who cannot draw will have to be assisted by others. This is intended to give them a better understanding of their own individual available resources from a visual point of view. It will also give you an opportunity to understand the extent to which resources are being used by farmers. An example of a farm sketch by Mosley Hamabuyu of Malomo village is shown Figure 7.



Figure 7. Example of farm sketch by Mosley Hamabuyu, Malomo village, Mujika Monze district drawn on 7th September, 2007

4.2.3.3 Gender daily calendar

Purpose: To record the gender specific daily time line in a family household.

Time: 20 minutes

Participants: All the members present of the selected village which including elderly and children and balanced gender.

Materials: Large markers of different colours and flip charts

Separating in two groups of men alone and women alone is advisable for this exercise in the African context. This will create a more conducive atmosphere especially for women who are usually overlooked by the men folks. Ask them to indicate what they do from the time they wake up until retiring to bed. When the two groups have completed their assignments, ask them to present their calendars in plenary. This will help you and the community to know who does which work on an hourly basis throughout the day in a family and know how the roles in the participatory process may develop. An example of a gender specific daily calendar for Nkabika village is shown Table 5.

Table 5. Gender specific daily calendar for Nkabika village prepared on 4th September, 2007 and recorded

Time	Male Daily Calendar	Female Daily Calendar
0500 am		<i>Wakes up, works in personal field digging or weeding</i>
0600 am	<i>Wakes up and goes to the field</i>	
0700 am	<i>Working in the field</i>	<i>Cleans the yard/house, prepares food for the family</i>
0800 am		<i>Working in the main field</i>
1030 am		<i>Collects firewood and returns home to prepare lunch</i>
1100 am		<i>Prepares lunch</i>
1300 pm	<i>Lunch break at the field and continues working later</i>	<i>Takes lunch to the field</i>
1530 pm		<i>Retires from field cleans pots and plates, fetches relish for the evening.</i>
1600 pm	<i>Retires from the field and goes for meetings and/or social gatherings</i>	<i>Prepares supper</i>
1700 pm	<i>Rests and waits for dinner</i>	
1900 pm	<i>Eats supper</i>	<i>Serves supper to the family</i>
2000 pm		<i>Cleans plates, tells stories to children around the fire, weaves baskets etc</i>
2130 pm	<i>Private family meetings</i>	<i>Private family meetings</i>
2200 pm	<i>Retires to bed</i>	<i>Retires to bed</i>

4.2.3.4 Household interviews for triangulation of PRA information

Purpose: To understand the household conditions as they relate to the community general view and discover salient issues which may not have been captured during the public meetings.

Time: 30 to 45 minutes per household

Participants: All the members of the selected homestead

Materials: Questionnaire, pen and paper for recording the information provided

With the guidance of the local people, the team will go to selected individual homesteads to conduct semi-structured interviews using a guide questionnaire. You will need someone from the community to support and introduce you further in case the family being visited does still not know you or your project. He/she will translate for you in case you cannot speak the local language. Your questionnaire should already have been prepared but learn to be flexible in its use so as to capture more information. The semi-structured interview will provide you with information on household conditions that relate to the community general view. This data will be used to report and corroborate with the other information collected during the public meetings. This triangulation method helps to provide a fuller picture of the situation by combining information collected with different techniques.

4.3 STEP 3: Organization of problems and opportunities

The interactive engagements between community members or groups and the agrometeorologist(s) or team should continue but this time considering community problems and opportunities. This will finally lead to the formation of the community information dissemination plan (CIDP) once the data is organized.

Purpose: To check back and validate the large community data comprehensively into what can easily be accessed and ranked.

Time: 45 minutes to 1 hour

Participants: All the members present from the selected village including elderly and children

Materials: Large markers of different colours and flip chart papers

While working as one group, ask the community to first identify all their problems, then their causes, as well as coping strategies and then opportunities available for addressing these problems. In identifying the problems, the community may be required to undertake a systematic investigation into the extent of the problem. This may involve collecting available data on the problem so as to understand the extent as well as the causes. The problems may be grouped into sectors such as disease, soils, rainfall etc. The community should for each problem then identify the perceived causes, coping strategies and opportunities available. The matrix is a suitable system to collect this data, as one can brainstorm the problems and list them on the left hand side, then address the causes and coping strategies adjacent and specific to each of the problems. In this way, one can return to a section of the matrix if the discussion returns to a problem already addressed. An example developed for Nkabika village is given in Table 6.

4.3.1 Ranking of problems in order of priority

Purpose: To help the community identify which problem to start addressing given the available resources before them.

Time: 30 minutes

Participants: All the members present from the selected village

Materials: Large markers of different colours and flip charts papers

After identification of the problems, the community is advised to reduce them to only six or seven most important ones. With this list at hand, the community would now engage in the ranking of problems using a pairwise ranking matrix. This weighs each problem against another, to come up with the most pressing one. When this is completed you must count the number of times a particular problem was considered more pressing than the other. The one with the highest number of votes will be ranked as their number one problem. An example of the pair-wise ranking matrix for Nkabika is given in Table 7.

Table 6. Problems identified by Nkabika village community in Mujika, Monze made on 4th September, 2007 with 32 present.

Problems	Possible causes	Coping strategies	Opportunities
Lack of animal draft power	Cattle diseases Cattle theft Grabbing of animals from owners by relatives after the husband's death	Conservation agriculture using basins. Seeking employment Selling labour in turn of having your field ploughed Hiring animals from farmers with animals.	Cattle dipping and restocking, Increased police patrol in the area. Community awareness on property grabbing
Poverty	No capital Lack of markets Low prices for their produce. Laziness	Selling of produce Growing vegetables Doing some piecework. Selling Chibwantu (Sweet beer) Keeping poultry Selling goats Selling doormats	Access to money Lending institutions Learning skills
Lack of water	Lack of boreholes and reservoirs Deforestation Low rainfall	Digging of wells/boreholes Planting vetiver grass to control runoff Make basins for water harvesting	Build more water reservoirs Government to sink more boreholes Afforestation
Planting at wrong times	Ignorance	Encouraging each other to attend agriculture meetings	Awareness of climatic information
Low soil fertility	Monocropping Too much use of fertilizers Soil erosion Lack of manure usage Poor soil management	Crop rotations Plant green manures use of kraal manure Use of compost manure planting of vetiver grass and contour banding	Encourage conservation farming
Erratic rainfall	Deforestation Over grazing Erosion	Use of basins and potholing Contour banding	Afforestation Build water reservoirs Contour banding
Livestock diseases	Lack of cattle dip tanks Goats sleeping on wet surfaces Poor water quality Lack of paddocks.	Dipping the animals Building improved goat housing De-worming of the goats Supply good quality water.	Build more dip tanks Build more water points in the village More veterinary services

Organization of problems and opportunities is necessary for ranking purposes and formation of the Community Information Dissemination Plan (CIDP) after the identification of the most pressing problems and coping strategies for each problem.

Table 7. Problems matrix and their ranking for Nkabika village done on 4th September, 2007

Problems	LDP	P	LW	PT	LSF	ER	LD	Total	Rank
Lack of animal draft power (LDP)		P	LW	PT	LDP	ER	LD	1	5
Poverty (P)			P	PT	LSF	ER	LD	2	4
Lack of Water (LW)				LW	LW	ER	LW	4	2
Planting at wrong times (PT)					LSF	ER	PT	3	3
Low soil fertility (LSF)						ER	LSF	3	3
Erratic rainfall (ER)							ER	6	1
Livestock diseases (LD)								2	4

This will help the community identify their number one and most pressing problem, from which they can know which problem to consider addressing first.

4.3.2 Ranking of opportunities

Both the Agrometeorologist and the community have a chance to assess the identified opportunities in light of the pressings needs.

Purpose: This will help both community and the Agrometeorologist to know which projects have a priority to be started, given limited resources.

Time: 30 minutes

Participants: All the members present from the selected village

Materials: Large markers of different colours and flip chart papers

Working in the same groups, ask the community to rank the identified opportunities in light of the problems rating. Advise them to consider the project's cost effectiveness, sustainability, productivity etc. When looking at the cost, the community should look at whether it is affordable or not, while on sustainability how easy it is to maintain even without external support. On productivity they should consider the benefits arising from the project. This will help the community to get the maximum benefit from projects when project implementation follows.

The pairwise matrix could again be used for ranking the opportunities as for the problems. The analysis will lay a foundation for developing a community information dissemination plan. It will also help the community know whether their number one opportunity addresses their number one problem or not.

4.4 STEP 4: Creation of Community Information Dissemination Plan (CIDP)

The community information dissemination plan should include details for addressing the highlighted opportunity, dissemination modes to be used, required information, the provider, start date of programme and facilitator. The community should again be reminded this plan was theirs and that its implementation lies in their own efforts. The continued reminder is aimed at making farmers fully appreciate the project was really theirs and that success depends upon their involvement.

Purpose: To develop an operational strategy for addressing their problems via the opportunities within the limitations of the resources.

Time: 1 hour

Participants: All the members present from the selected village including elderly and children

Materials: Large markers of different colours and flip chart papers

The community should brainstorm ideas addressing the identified opportunities as well as the available dissemination modes. Community should also consider suitability and effectiveness of ideas in meeting the intended objectives. The team should also try to identify a provider of that information, when the activities can start as well as an appropriate facilitator of the particular activities. This is essential for a systematic and sustainable Community Agrometeorological Participatory Extension Service strategy. It is also a basis for the monitoring of its implementation. An example of a community information dissemination plan for Nkabika village is shown below in Table 8.

Table 8. Nkabika Community Information Dissemination Plan (CIDP) made on 4th September, 2007

Opportunity	Dissemination mode	Information needed	Provided by	Start date	Facilitator	Follow up comments
Awareness of climatic information	Farmer to farmer Agriculture extension Local Agro meteorological extension services vernacular radio Farmer weekly meetings	Agricultural practices	Ministry of Agriculture & Meteorology	September	Agrometeorologist	
		Seed variety for SCF				
		Seasonal forecast	Meteorology	September	Agrometeorologist	
		Other crop varieties that can be planted	CFU Agriculture	September	Camp officer	
		Adding nutrients to soil. Appropriate tillage practices	CFU Agriculture	September	Agrometeorologist & CFU	
		Seasonal preparations	Meteorology	September	Agrometeorologist	
		Planting opportunities	Meteorology	September	Agrometeorologist	
Farmer's view	Mujika Community	September	Community			

Nkabika village is one of the villages in Mujika where the IDRC project developed a Community Information Dissemination Plan. The others are Bulimo and Malomo villages. They addressed the same opportunity of awareness of climatic information as they all had identified the same number one problem of erratic rainfall.

4.5 STEP 5: Formation of the Community Agrometeorological Participatory Extension Service Team (CAPES Team)

While participating institutions can be identified in the CIDP, it will require that a special committee of individuals from these institutions together with farmer representatives be identified for the day to day management of the agrometeorological project. This body shall be called the Community Agrometeorological Participatory Extension Service Team (CAPES Team).

Purpose: To transfer coordinating authority to a steering committee for a systematic management and monitoring of the Community Agrometeorological Participatory Extension Service strategy and to manage the community information dissemination plan.

Time: 20 minutes

Participants: All the members present from the selected village

Materials: Large markers of different colours and flip chart papers

You will have to ask the community to identify individuals from the community and stakeholders and institutions who will be tasked with the role of spearheading the CAPES strategy. It is better to allow community members to take the leadership role while you and others from other institutions could be chosen as members if they so wish. As an Agrometeorologist you don't belong to any particular community but to all communities. This means your commitments can already be too high to take the leadership role in any particular local community. The general feeling that institutions usually play supporting roles only in a participatory engagement is not totally correct for CAPES. You are involved as an Agrometeorologist because you are the main source of climatic information affected directly or indirectly. Hence your involvement is not helping or supporting anybody but working as a team member. As an Agrometeorologist you are therefore a facilitator as well as a stakeholder in this case. The normal portfolios of chairperson, secretary and treasurer (should it involve money) could be used. After formation, the CAPES team should be commissioned to undertake its activities by the local community leadership.

4.6 STEP 6: Implementation of CAPES

Since the community agrometeorological participatory engagement is not meant as an academic exercise of only creating a CIDP but to address the community problems, it will have to be implemented to get the overall benefits. This will be through community involvement under the leadership of the CAPES Team. At this stage each stakeholder should perform specific tasks as expected following the CIDP. This stage will be addressing the overall community problem for improved food security and livelihoods. This is the most active part of CAPES where farmers will be implementing the strategy. This process continues in the community's life as long as it is necessary since community livelihood cannot change overnight. Implementation is important for addressing and testing the suitability of the strategy in addressing climatic related community problems.

4.6.1 Information dissemination

Farmers will participate in the dissemination of climatic information using the multi-disciplinary climatic information dissemination modes such as vernacular radio, radio listening clubs, farmer to farmer, public small and large group meetings, field experiments, field days etc. Farmer participation makes the CAPES special because after receiving climatic information in training they engage in information dissemination using different dissemination modes compelling one another to effective participation and utilization of climatic information. The ultimate result is that of an improved livelihood.

4.6.2 Experiment: mother-baby field trials

The current SCF smallholder farmers will make decisions and select crop management options that will fit the season. These choices will then be tested using the mother-baby field trials so as to find their suitability in such a season. Selected or volunteer farmers will manage the baby trials at various locations on their farms while the mother field trial is replicated and will be managed by the researcher. Opportunities such a field day held at the mother field for sharing the gained knowledge from these trials should be accorded at appropriate time. Lessons learnt will improve on future farmers' decisions given the forecast.

4.6.3 Training

Farmers will require training in the use of climate information and may be also for, the crop modelling exercise where after the presentation of the current SCF farmers shall make decisions based on the forecast which they may test during the season.

4.6.4 *Field and home visits*

The increased interaction with climatic information between researchers and community will be promoted by field and home visits where farmers will receive additional extension service regarding understanding of climatic information and timely on-spot field corrections when ever error would be identified. This will enhance future farmer decision making for improved crop productivity.

4.6.5 *Farmer to farmer dissemination of information*

This is the most widely used form of climatic information dissemination by farmers within community. It takes place almost at every time and place given the opportunity. Because climatic information is shared by their fellow farmers that are credible, other farmers easily accept and adopt climatic information.

4.7 STEP 7: Monitoring and Evaluation:

A monitoring process should be in place. It will allow the activities to be monitored on a regular basis and the progress towards the goal evaluated. Thus when progress is not as expected, corrections and remedial actions can take place in a timely fashion. The well planned process should involve a lot more people than those found in the CAPES Team. The implementation of the CAPES strategy would improve if the implementers were also aware that a special and independent group of project evaluators had been be formed. This monitoring will keep the CIDP in track.

Starting from a well analyzed baseline and given the community's full understanding of the project purpose, monitoring and evaluating the process could be much easier. The monitoring and evaluating team members must however agree on how the work will be done. Monitoring and evaluation questions with some indicators to answer may be used.

4.8 STEP 8: Postmortem

Purpose: To document the successes and failures of the CAPES strengths and weaknesses; and plan for the next phase of action.

Time: 2 to 3 hours

Participants: All monitoring and evaluation committee members, and committees, local leadership, policy makers and Agrometeorologist

Materials: Large markers of different colours, flip chart papers, notebooks and writing pens

The strategy for operational PAE engagements must again be in place. This will raise the need for a review and planning meeting to consider lessons, successes and failures of the previous CAPES engagement and make plans for the new challenges. This would allow for improvements in the services provision and attainment of the intended objectives given the similar circumstances as well as reduce the impacts of climate change under different scenarios. Members present at the postmortem meeting, that could be considered as the review and planning committee members, should effectively plan for every situation. Their input was likely to determine the quality of service rendered in the CAPES for the following period of engagements as well as the degree of climate change impact on community. The planning and review committee meeting should always take place to conclude the end the current engagements and prepare for the next phase of the CAPES engagement.