



# Workshop report: Participatory Integrated Climate Services for Agriculture (PICSA) Intermediary Training Muhanga, Rwanda

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**July 2016**

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# Participatory Integrated Climate Services for Agriculture (PICSA) Intermediary Training

**Muhanga, Rwanda, July 2016**

Workshop Report

CGIAR Research Program on Climate Change,  
Agriculture and Food Security (CCAFS)

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## Abstract

The Rwanda Climate Services for Agriculture project is a four-year initiative (2016-2019) that seeks to transform Rwanda's rural farming communities and national economy through improved climate risk management. This report presents the outputs of a five-day training workshop in Muhanga, Rwanda on the use of the Participatory Integrated Climate Services for Agriculture (PICSA) approach to help farmers make climate informed decisions. This training brought together farmer promoters, Social Economic Development Officers (SEDOs), as well as Sector Agronomists from the four pilot districts in Rwanda. The training workshop aimed to initiate the process of PICSA implementation starting by training lead farmers who will train farmers in the use of the PICSA approach. The report includes the process of the training workshop, presentations, and the evaluation by participants.

### Keywords

Intermediary training workshop; Climate Services; PICSA; Seasonal Forecast; Rwanda



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## Contents

Introduction.....	9
Programme and participants .....	9
Workshop training sessions .....	10
Long before the season.....	11
Just before the season: the seasonal forecast.....	14
During the season: short term forecasts.....	15
Field day: practice with farmers .....	15
Reflection on field day and planning for PICSA roll out.....	16
Conclusions.....	17
Appendix 1: Workshop Programme .....	18
Appendix 2: Participant List .....	20
Appendix 3: Feedback from participants.....	23

## Acronyms

CCAFS	CGIAR Research Program on Climate Change, Agriculture and Food Security
CIAT	International Center for Tropical Agriculture
DERN	Programme pour le Développement Rural du Nord
EPR	Eglise Presbyterienne au Rwanda
MINAGRI	Rwanda Ministry of Agriculture
NGO	Nongovernmental organization
OTP	Organisation pour le Travail et le Progrès
PICSA	Participatory Integrated Climate Services for Agriculture
RAB	Rwanda Agriculture Board
RCSA	Rwanda Climate Services for Agriculture
RDO	Rwanda Development Organization
SEDO	Social Economic Development Officer

## Introduction

The Rwanda Climate Services for Agriculture (RCSA) project is a four-year initiative which aims to benefit thousands of farmers across Rwanda. A component of this involves agricultural extension staff, development non-governmental organizations (NGOs) and other intermediaries using the Participatory Integrated Climate Services for Agriculture (PICSA) approach to integrate climate services into their ongoing work with farming communities in the 30 districts that exist in Rwanda. This training workshop aimed to develop the skills of a set of intermediaries from the four pilot districts. A total of 48 farmer promoters, 12 Social Economic Development Officers (SEDOs) and 12 sector agronomists were trained. These intermediaries have existing farmer groups with which they interact and provide training to regularly. Trained intermediaries will train farmers directly following this training.

The training was facilitated by staff from the University of Reading who have developed and implemented PICSA in several countries. The training was conducted by PICSA expert trainers from different private and public organizations, such as Rwanda Meteorology Agency (Météo Rwanda) and Rwanda Agriculture Board (RAB) staff who had been trained during the previous PICSA specialist intermediary training and showed the potential to train others, and International Center for Tropical Agriculture (CIAT) - Rwanda staff who are running the RCSA project.

## Programme and participants

The workshop was formally opened and closed by the Project Coordinator of the Rwanda Climate Services for Agriculture project, Dr. Desire Kagabo. The training spanned over the course of five days. The full workshop programme is provided in Appendix 1. The training covered in detail each of the steps in PICSA that field staff undertake with farmers. Sessions included explanation and background, followed by hands-on practice of each step, feedback, and reflection. Day four was spent at the Muyira Sector location of Nyanza District where participants worked with groups of farmers to gain experience in using the methods they had

been trained. On the final day participants identified and developed plans for key follow up activities and to prepare for implementation.

A total of 63 participants (33% of whom were women) attended the training. Participants were from pilot districts Kayanza, Burera, Ngororero, and Nyanza. From each district, three sectors that are close to a meteorological station were selected: Rwinkwavu, Murama, and Kabare from Kayanza District; Kinoni, Gahunga, and Rugarama from Burera District; Kabaya, Matyazo, and Hindiro from Ngororero District; and Busoro, Kibilizi, and Muyira from Nyanza District. From each sector, four farmer promoters, one SEDO and the sector agronomist were invited to attend the training. A full list of participants is provided in Appendix 2.

## Workshop training sessions

The first day of the training program began with two presentations. The first presentation from CIAT staff introduced participants to the PICSA approach and outlined the aims and overview of the training week. The second presentation from Météo Rwanda was an overview of the concepts of climate, climate variability and climate change.

The first exercise of the workshop split the participants into groups based upon their respective sectors to consider the current farming and livelihoods in their locations. This involved groups drawing a resource allocation map (Fig. 1) to depict a typical farmer in their location.



Figure 1. A farmer promoter explains a resource allocation map drawn by her group representing a typical farmer in Matyazo Sector of Ngororero District, Rwanda

## *Long before the season*

### Locally specific historical climate information

For this session Météo Rwanda gave a brief presentation on historical climate information, covering how it is collected, how it is recorded, and how it is analyzed. The presentation was followed by the distribution of packs of graphs containing locally specific historical climate information including on total seasonal rainfall, dates of start and end of seasons, seasons' lengths, numbers of rain days, and occurrences of extreme events. Participants were asked to reflect on what has happened to the climate of their location, how this compares to their perceptions, and whether it agrees with what they say about climate in their locations. Participants were asked to respond to the following questions and report back in a plenary session:

- Looking at the graphs, are we seeing evidence of climate variability?
- Looking at the graphs, can we see evidence of climate change?
- Does what the graphs show agree with what farmers are saying about the climate?

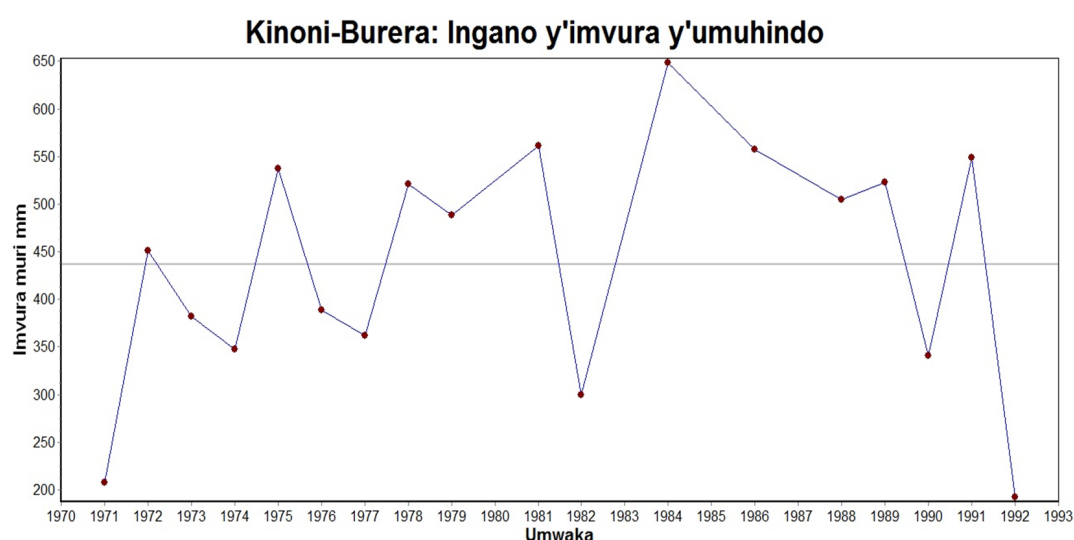


Figure 2. Example of graph showing the seasonal rainfall amount at Kinoni station, Northern Rwanda

### Calculating probabilities and risks and assessing crop, livestock and livelihood options

The second day's training consisted of different exercises on the use of historical climate graphs to work out probabilities; identifying and selecting suitable crops, varieties, and crop practices; crop management; and livestock and livelihood options. In breakout groups,

participants were shown how to use the historical graphs to work out probabilities by looking at:

- How to calculate the probability of receiving a given amount of rainfall in their locations
- How to calculate the probability of different start dates for the season
- How to calculate the probability of a season being a specified length

Participants were provided with blank probability of exceedance tables to fill in for each of the above. They were asked to consider these probabilities along with key crop characteristics for the main crops—especially planting dates, number of days to maturity, and water requirement—to discuss suitable varieties and planting dates.

The training then covered the next step in the PICSA process: exploring existing and new crop, livestock and livelihood options that may be suitable for the participants' local climate and weather. In their same groups, participants were asked to practice an exercise for farmers and facilitators to consider options. They were asked to draw and identify farmers' options and consider for each option: who could do the activity/practice of choice, what are the benefits and who would benefit, the performance of the mentioned practice on a low/medium/high rainfall seasons, levels of investments required, the length of time before farmers would begin to see benefits, and any specific risks that come with the option.

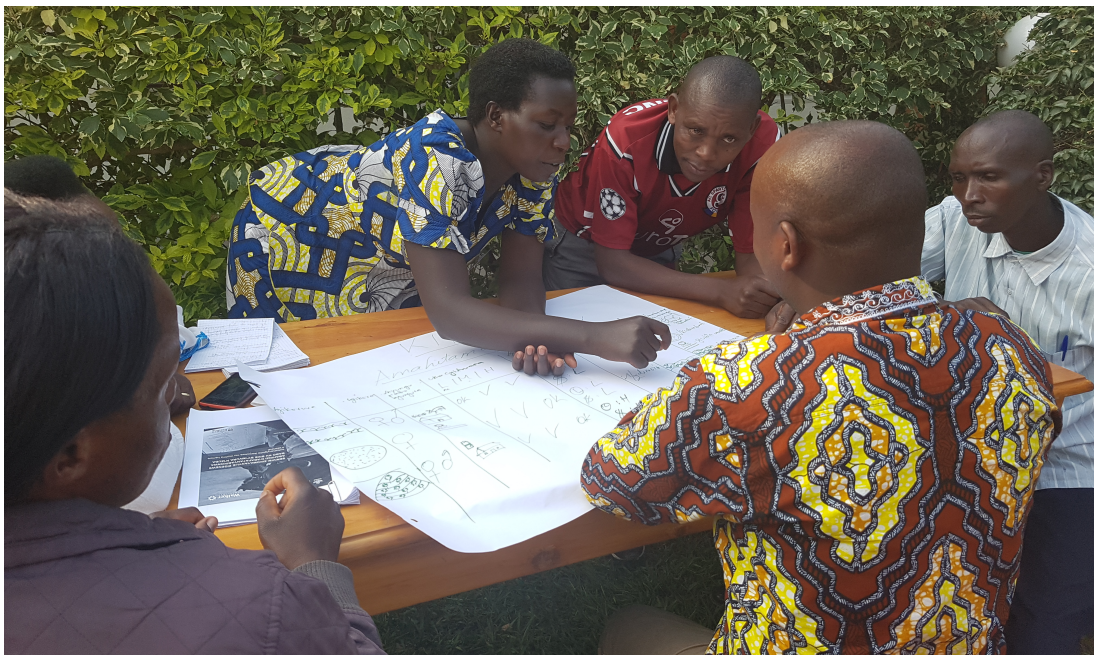


Figure 3: A SEDO and her group identifying different options for a farmer in Kinoni Sector



After identifying the crops, livestock, and livelihood options suitable for their specific locations, the next step is to facilitate farmers to consider their options based upon their individual circumstances, such as wealth and resources, and choose which option to plan and consider in more detail.

### **Comparing and contrasting different options using participatory budgets**

The third day mainly focused on the planning for the selected crops, livestock, and livelihood options; enabling implementation; receiving the seasonal forecast; and revisiting the resource allocation maps for the farmer to mark selected options and activities. Here, the participants' responsibility would be to help farmers adjust their plans according to the received forecast.

Participants were again led through a series of presentations that helped them understand the use and importance of the participatory budgets; tips on how and why to enable implementation; and what is the seasonal forecast, how it is prepared, why it is important, and how to use it with farmers.

This session started with a brief explanation of the participatory budget (Fig. 4). Participants then returned to their groups to draw a participatory budget for the selected options in the previous step. The session continued with understanding the importance of enabling implementation. Once a farmer has made their choice in the previous steps, it is important that they are able to source the required inputs, training, capital, etc. necessary to implement keeping in mind that with the right resources, farmers' chances of success are greatly increased.

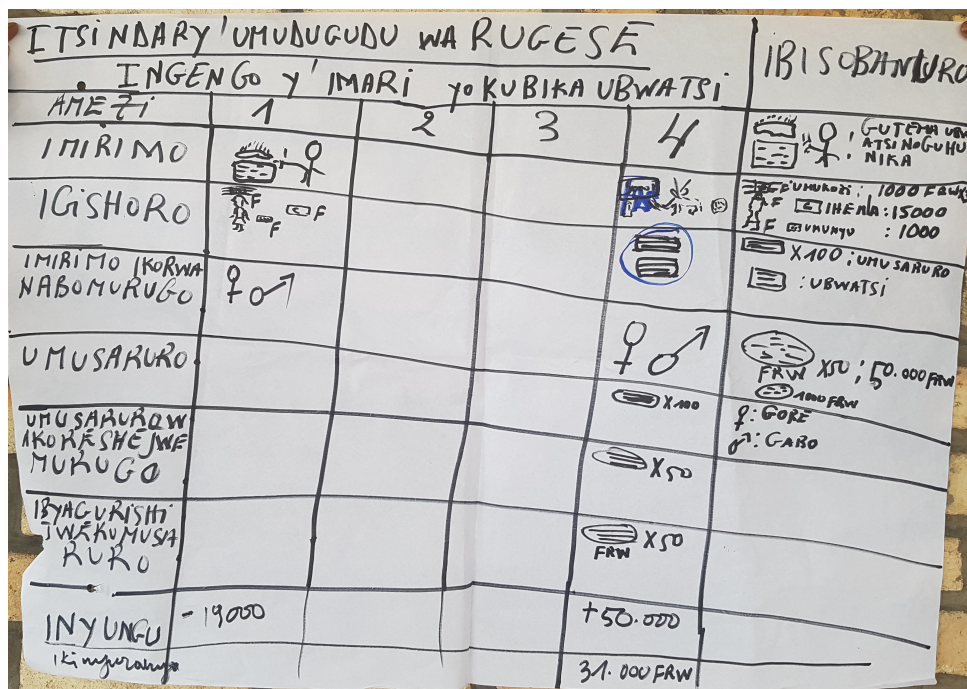


Figure 4: A participatory budget drawn by a participant for a farmer in the South

## Just before the season: the seasonal forecast

Météo Rwanda gave a series of presentations about the seasonal forecast in Rwanda, including how the forecast is developed, examples of forecast results, and how the forecast is disseminated by Météo Rwanda. This was an opportunity to explain to participants how the RCSA project together with Météo Rwanda are planning a new way of communicating the downscaled seasonal forecast using probability of exceedance (Fig. 5).

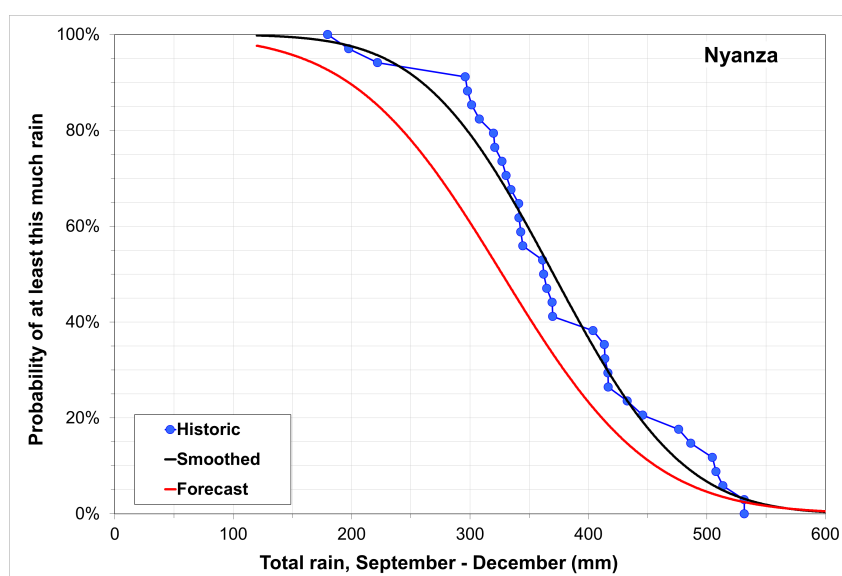


Figure 5: Probability of exceedance graph

Participants were provided with probability of exceedance tables for a number of example seasonal forecasts to compare with the tables they had created earlier based on historical data. This activity allowed them to consider the impact on the decisions that they had made in their groups throughout the week, and identify whether and how they would adjust these (e.g. choice of crops and varieties).

### **During the season: short term forecasts**

Météo Rwanda gave a presentation explaining the short-term forecasts and how they are developed and disseminated. Participants were given a toll-free number to send feedbacks to Météo Rwanda and ask questions/clarifications as necessary.

After all the presentations, the remainder of the day was spent preparing for the field day.

### **Field day: practice with farmers**

The field day was designed to help the participants gain experience in the process working with farmers, see farmers' reactions, and gain confidence in implementing the PICSA approach. The field day took place in Muyira Sector of Nyanza District, in the Southern part of Rwanda, where historical information had been printed for use with farmers.

The RCSA Project Coordinator, Dr. Desire Kagabo, introduced what the project does and why Muyira Sector had been selected to be visited. In their groups, farmers tried to describe the crops they grow and if not what livestock or livelihood activity they do. The intermediaries-in-training remained in their same groups and were paired with a group of farmers to run through some of the key PICSA steps. A total of 77 farmers from Muyira Sector were present during the field day.

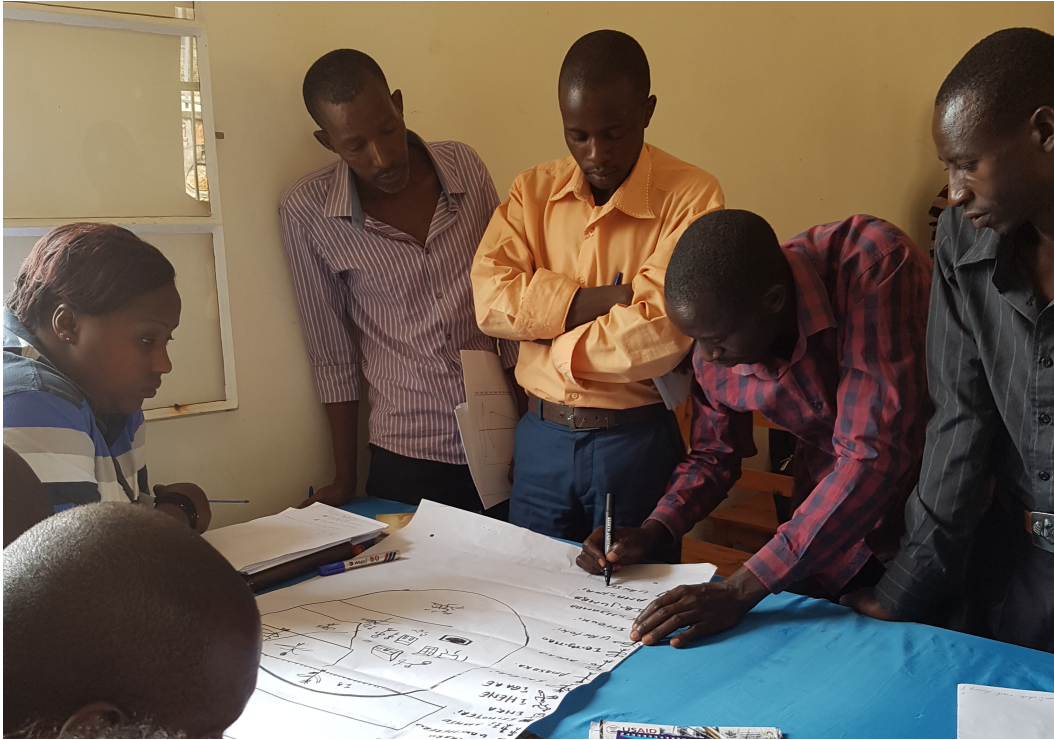


Figure 6: A farmer drawing the map of his household (resource allocation map)

## Reflection on field day and planning for PICSA roll out

The last day of the training was spent reflecting on the field day, planning for implementation of PICSA, and planning for further trainings in participants' farmer groups.

During the last day of the workshop, a timetable of activities to prepare for and implement PICSA in Rwanda ahead of Season A was developed and discussed. Each participant completed a work plan sheet and shared it with the project team for follow up. At the end, participants also completed a questionnaire (Appendix 3) to provide feedback for the training team. The results of this feedback were very positive. Before concluding the training workshop, farmer promoters were provided with materials that they can use for trainings such as flip charts, marker pens, print outs of historical information graphs and crop probabilities, reporting and feedback forms to complete every time they meet their respective group of farmers, and template forms for capturing information of farmers who attended the trainings.

## Conclusions

This intermediary training workshop aimed to develop the skills of a set of intermediaries from the four pilot districts in Rwanda: Kayonza, Burera, Ngororero, and Nyanza. The training week was very successful with positive feedback from participants (Appendix 3). There was full engagement from all participants, both trainees and expert trainers, throughout the course. General feedback from the participants and the farmers they worked with on the field day indicated good understanding of the PICSA approach and willingness to use the approach as a new and very useful tool in their lives. Farmers that participated on the field day reported that the content was very relevant and useful. The participants were eager to take the new knowledge back to their usual farmer groups to begin implementation of PICSA approach.

## Appendix 1: Workshop Programme

DAY 1	Time	Topic	Step
9.00	30	Registration	
	5	Introduction and welcome	
	10	Logistics	
	10	Expectations	
	20	Ice-breaker	
Break - 10.15-10.45 incl. group photo			
	15	Course aims and outline	
	20	An overview of climate services and the PICSA approach	
	40	What are climate, climate variability and change	
	60	Current farming & livelihoods in your location (using RAMs for crops and livestock) (Exercise)	A
Lunch - 1.00-2.00			
	30	Current farming & livelihoods in your location (using RAMs for crops and livestock) (Exercise)	A
	25	Historical climate information (what is it, where is it from, who collects it and how, and how is it produced)	B
	10	Historical Climate information for your area 1: explanation of graphs	B
	30	Historical Climate Information 2: What has happened to the climate, what does this mean + what are the potential causes (Exercise)	B
Tea - 3.35-3.50			
	30	Historical Climate Information 2: What has happened to the climate, what does this mean + what are the potential causes (Exercise)	B
	45	Using historical climate graphs to work out probabilities and introducing the use of probability of exceedance (Exercise)	C
	5	Review of day	
DAY 2 START 9.00			
	10	Recap from day 1 and timetable for day 2	
	30	Using historical climate graphs to work out probabilities and introducing the use of probability of exceedance (Exercise)	
	45	Identifying and selecting suitable crops and varieties (exercise)	
Break - 10.25-10.40			
	15	Crop management, livestock and livelihood options - intro	D
	1hr 45	Crop management, livestock and livelihood options (including probabilities, livelihood options table, RAMs) - exercise	D
Lunch - 12.40-1.40			
	20	Farmers as decision makers & the role of facilitators What are 'options by context'	E
	15	Exploring/planning for selected crops, livestock & livelihood options (Participatory Budgets) - PBs - Introduction	F
	1hr30	Exploring/planning for selected crops, livestock & livelihood options (PBs, RAMs) - PBs - Exercise	

Tea - 3.45-4.00			
	30	The farmer decides - revisiting RAMs and seasonal calendars	G
	30	Enabling implementation (the role of seed supplies, markets, savings clubs and crop insurance etc)	G
DAY 3 START 9.00			
	10	Recap from day 2	
	20	Downscaled seasonal forecast: What is CPT and how is it used to produce the seasonal forecast? Background and plans in the project.	H
	1h15	Preparing to adjust plans Communicating and using the downscaled seasonal forecast. Building on probability of exceedance (from day 2) for communication of forecasts. Interpreting examples of improved seasonal forecasts (Explanation and exercise).	I
Break - 10.45-11.15			
	30	Short term forecasts, severe weather warnings & updates to the SCF - how and when are they produced and communicated - what do Météo Rwanda provide currently? Radio, SMS etc...	J
	1hr	Interpreting short-term forecasts and warnings (exercise) Using examples of what farmers already receive - how might these forecasts be useful for farmers?	K
Lunch - 12.45-1.45			
	15	Recap of process and main components	
	30	Planning for field day	
	15	Tips for facilitation	
	45	Prepare materials and practice exercises for field day	
Tea - 3.30-3.45			
	1 hr 15	nfrnds demonstration of the use of mobile phones for climate services information	
DAY 4 START 8.00			
		Field day	
DAY 5 START 8.30			
	1hr	Reflection, feedback, lessons learned	L
	20	Recap on PICSA and key components	
BREAK 9.50-10.20			
	1.25hr	Practical planning for implementation	
	1hr	Planning support for participants during implementation and enable learning, reflection, sharing and reporting	
	45	Monitoring and evaluation	L
	30	Course evaluation	
	20	Certificates and close	
Lunch and close - 2.20			

## Appendix 2: Participant List

	Name	Institution/position	Gender
1	Habimana Bonavanture	Farmer Promoter Rwinkwavu Sector / Kayonza District	Male
2	Sebazungu Alexandre	Farmer Promoter Kabare Sector / Kayonza District	Male
3	Mukanyirigira Beatrice	Farmer Promoter Rwinkwavu Sector / Kayonza District	Female
4	Habimana Eriyeri	Kabare Sector Farmer Promoter/ Kayonza District	Male
5	Nahimana Fabien	Farmer Promoter Kabare Sector / Kayonza District	Male
6	Nkeshimana Etienne	Farmer Promoter Murama Sector / Kayonza District	Male
7	Habineza Joseph	Farmer Promoter Murama Sector / Kayonza District	Male
8	Kavakure Emmanuel	Farmer Promoter Murama Sector / Kayonza District	Male
9	Mukeshimana Esperance	Farmer Promoter Murama Sector / Kayonza District	Female
10	Nteziryayo Emmanuel	Farmer Promoter Rugarama Sector / Burera District	Male
11	Hategemimana Jean Claude	Farmer Promoter Rugarama Sector / Burera District	Male
12	Mbonizana Trifoniya	Farmer Promoter Rugarama Sector / Burera District	Female
13	Dusabemariya Donatille	Rugarama Sector Farmer Promoter / Burera District	Female
14	Tuyisenge Angelique	SEDO Rugarama Sector / Burera District	Female
15	Mutuyimana Rachel	Farmer Promoter Kinoni Sector / Burera District	Female
16	Mukeshimana immaculee	Farmer Promoter Burera District	Female
17	Mukandayisenga Chantal	Farmer Promoter Rwinkwavu Sector / Kayonza District	Female
18	Dusabirema Janvier	SEDO Kinoni sector / Burera District	Female
19	Niyibizi Callixte	Farmer Promoter Kinoni Sector / Burera District	Male
20	Rwendeye Herve	CIAT Facilitator	Male
21	Nsabimana Euphrasie	Farmer Promoter Gahunga Sector / Burera District	Female
22	Mukansenga Solange	SEDO Gahunga Sector / Burera District	Female
23	Ugirimpuhwe Triphonie	Gahunga sector Agronomist / Burera District	Female
24	Uzamukunda Josephine	Farmer Promoter Gahunga Sector / Burera District	Female
25	Mukaruzigana Lucie	Farmer promoter Rwinkwavu Sector / Kayonza District	Female



26	Bizimana Augustin	Kabare Sector / Kayanza District	Male
27	Munyanganizi Joseph	Farmer Promoter Gahunga Sector / Burera District	Male
28	Demukarasi J. Pierre	Farmer Promoter Kinoni Sector / Burera District	Male
29	Ryarugaba Evariste	Farmer Promoter Gahunga Sector / Burera District	Male
30	Nzitabimfura Vedaste	Burera District Agronomiste	Male
31	Twajamahoro Evode	Burera District Agronomist	Male
32	Niyitegeka J M V	Météo Rwanda	Male
33	Gahigi Aimable	RAB / Research Assistant	Male
34	Gakwavu Thomas	RAB / Research Technician	Male
35	Florentine Mukarubayiza	Radio Huguka	Female
36	Kabirigi Michel	RAB/ Research Technician	Male
37	Gloriose Nsengiyumva	CIAT	Female
38	Peter Dorward	University of Reading	Male
39	Divine Bora	CIAT	Female
40	Bizimungu Fulgence	Matyazo Sector Agronomist / Ngororero district	Male
41	Gakuru Laurent	SEDO Matyazo Sector / Ngororero District	Male
42	Uwizeyimana Straton	Farmer Promoter Ngororero District	Male
43	Uwimana Marie Goreth	Farmer Promoter ngororero District	Female
44	Nshimiyimana Anastase	Farmer promoter Ngororero District	Male
45	Munyankumburwa Fabien	Farmer Promoter Ngororero District	Male
4	Munyempotore J. Damascene	Farmer promoter Ngororero District	Male
47	Nzeyimana Said	Farmer Promoter Ngororero District	Male
48	Nyiransabimana Martha	Farmer Promoter Ngororero District	Female
49	Nzabandeba Jean D'Amour	Farmer Promoter Ngororero District	Male
50	Ndikubwimana Fulgence	Kabaya Sector Agronomist / Ngororero District	Male
51	Nkamirabadashaka J. Chrysostome	SEDO Kabaya Sector/ Ngororero District	Male
52	Mukamana Blandine	Météo Rwanda	Female
53	Uwimana Jean Bosco	RAB / research Technician	Male
54	Dusengimana Jacques	Muyira Sector Agronomist / Nyanza District	Male
55	Bayingana Fidele	Busoro Sector Agronomist / Nyanza District	Male
56	Uwambajimana Beatha	SEDO Ngororero	Female
57	Biziyaremye Tharcisse	Farmer Promoter Nyanza	Male
58	Habimana Anastase	Farmer Promoter Ngororero District	Male
59	Nyirabuhoro Providence	Farmer Promoter Ngororero District	Female
60	Rukwaya E. Israel	Ngororero District Agronomist	Male
61	Mukarutabana Beata	Busoro Sector Farmer Promoter/ nyanza District	Female
62	Siborurema J. Damascene	Ngororero District Farmer Promoter	Male
63	Mutaganda Fabien	Busoro Sector Farmer Promoter / Nyanza District	Male
64	Nishyirembere J M V	Busoro Sector Farmer Promoter / Nyanza District	Male
65	Nsabimana Emmanuel	Muyira Sector Farmer Promoter / Nyanza district	Male

66	Sibomana Pascal	Muyira Sector Farmer Promoter / Nyanza District	Male
67	Kabalisa Wellars	Muyira Sector Farmer Promoter / Nyanza District	Male
68	Mukashyaka Chantal	Muyira Sector Farmer Promoter / Nyanza District	Female
69	Mugabonake J. Pierre	Farmer Promoter Ngororero District	Male
70	Nsabimana J. Pierre	Kibirizi Sector Farmer Promoter / Nyanza District	Male
71	Karangwa Cassien	Kibirizi Sector Farmer Promoter / Nyanza District	Male
72	Gakuba Emmanuel	Kibirizi Sector Farmer promoter / Nyanza District	Male
73	Nyirahabimana Safia	Kibirizi Sector Farmer Promoter / Nyanza District	Female
74	Ntegerejimana Vincent	SEDO kibirizi sector / Nyanza District	Male
75	Mugunga Mathieu Mbat	Météo Rwanda	Male
76	Vuguziga Floribert	Météo Rwanda	Male
77	Yvonne Uwase M.	CIAT	Female
78	Ndayisaba P. Celestin	RAB/ Research Technician	Male
79	Desire Kagabo	CIAT	Male
80	Graham Clarkson	University of Reading	Male

## Appendix 3: Feedback from participants

### Evaluation of the course

Evaluation	Scores				
	1 = very bad	2 = bad	3 = medium	4 = good	5 = very good
I learned a lot from the PICSA course	0	0	2	8	44
I now know more about the weather and climate in my location than I did before the course	0	0	0	8	46
I am now able to understand the difference between climate change and climate variability	0	0	2	2	50
I am now able to use information on the climate in my decision making for farming	0	2	2	8	42
I am now able to train my fellow farmers so that they better understand climate and weather in their locations	0	0	6	8	40

### The best part of the workshop

The best part of the workshop	Frequency
Gained ideas in agriculture	1
Decision on crops to grow based on weather information	2
Analysis of what the household has (who does not know where he is coming from, may not know the destination)	1
Knowledge on climate change and variability	7
Resource allocation map	14
All parts	9
Calculating the amounts of rainfall from historical data	1
Steps B and E	1
Learning about weather forecasting	5
Participatory budgeting by farmers with decisions in mind	1
Historical weather information	4
Analyzing the climate conditions from our locality	1
Focus on decision making	1
Step A	1
Atmospheric sciences	2
Comparison of crop water requirement and rainfall data	1
Steps E and F	2
Step F	1
Understanding seasons	1
Step C	2
Steps B and C	1
Steps C and D	1

Steps A and B	1
Total	61

## Needed improvement

What should be improved?	Frequency
Nothing	2
Increase the time allocated to practical courses	1
Increase the time for trainings	9
Break after lunch time	3
Add time for sports	1
Start early in the morning in order to avoid finish late in the night	5
Include local leaders in the training	2
Use the varieties found in the region on teaching material	5