

Info Note

Access and use of weather and climate information by women and men farmers

Rwanda Climate Services for Agriculture qualitative evaluation preliminary findings

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Key messages

- A qualitative study examined the influence of climate service interventions and gender on access to and use of information to manage risk.
- Project interventions make available communication channels based on interactive radio programming and engagement with Farmer Promoters.
- Farmer Promoters and other person-to-person exchange may be a significant channel for weather and climate information for women.
- Capacity-building can contribute to enhanced use of weather and climate information in livelihood decision-making for women and men, women particularly.

The Rwanda Climate Services for Agriculture project has sought to build capacity of the country's national institutions to provide climate information tailored to the needs of the agriculture sector, deliver climate services to farmers across Rwanda's 30 districts, and help them to effectively use the information to manage climate risk. Project interventions include: training Farmer Promoters, who are part of Rwanda's national agricultural extension service, to guide farmers in the Participatory Integrated Climate Services for Agriculture (PICSA) process (Dorward et al., 2015); and organizing farmers into Radio Listeners' Clubs that meet weekly to participate in climate services radio programs and discuss management responses.

Study design

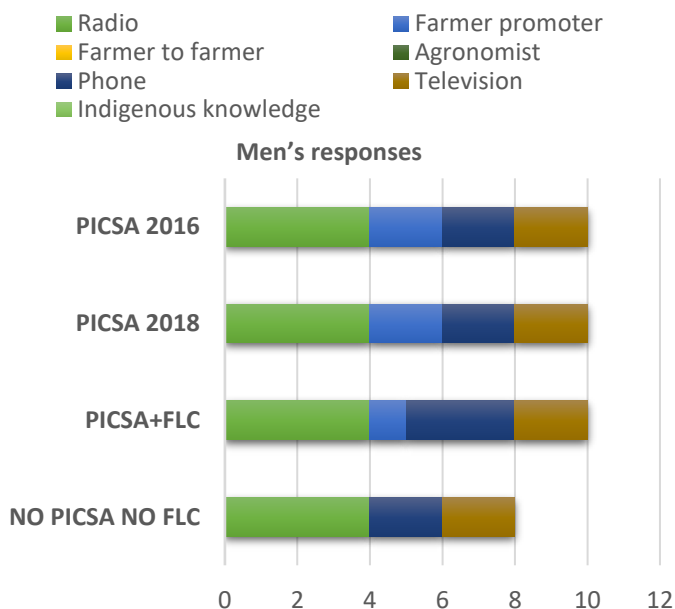
In October 2019 a qualitative evaluation was carried out to complement the project's quantitative end-line survey. In particular, the qualitative evaluation sought to assess

how the project promoted access to weather and climate information, and how it contributed to farmers' use of weather and climate information in their livelihoods decision-making. With an interest in assessing gender differences, the study followed a gender-sensitive research design. The study used focus group discussions and key informant interviews to collect information and farmers' perspectives about access to and use of weather and climate information.

In order to analyze the influence of project interventions, the study sampled farmers representing the following "treatment" categories: i) participation in PICSA in year 1 (2016); ii) participation in PICSA in year 3 (2018). Considering that Farmer Listeners' Clubs began in year 3 of the project, a third sample pertained to iii) farmers who participated in PICSA since years 1-3 and currently participate in a Listeners' Club. A fourth control sample iv) consisted of farmers who were not trained in PICSA and do not participate in Listeners' Clubs. One men's group and one women's group were sampled per treatment category, resulting in eight focus groups per each of four agro-ecological zones, and thirty-two total for the study.

Access

"Weather" refers to the state of the atmosphere at any given time, and daily forecasts for up to 1-2 weeks into the future. "Climate" refers to statistics of weather such as long-term averages, the probability distribution around the average, any long-term trends, and forecasts at seasonal or longer lead times. Because differences in frequency of use and complexity suggest different communication channels, we analyzed responses separately for weather and for climate information.



to farmer exchange more frequently than women who had not participated directly in either intervention.

When asked about channels used for accessing *climate* information, men tended to note phone-related channels less than they had for weather, and no women's groups mentioned them (Figure 2). Men's focus groups across treatments reported using radio most frequently. Farmer Promoters were the second most frequently reported channel for accessing climate information by men's groups. Male farmer focus groups also identified television, sector level agronomists, and meetings/village councils.

Similarly, women's groups across all treatments reported radio or Farmer Promoters most frequently as a channel used for accessing climate information (Figure 2).

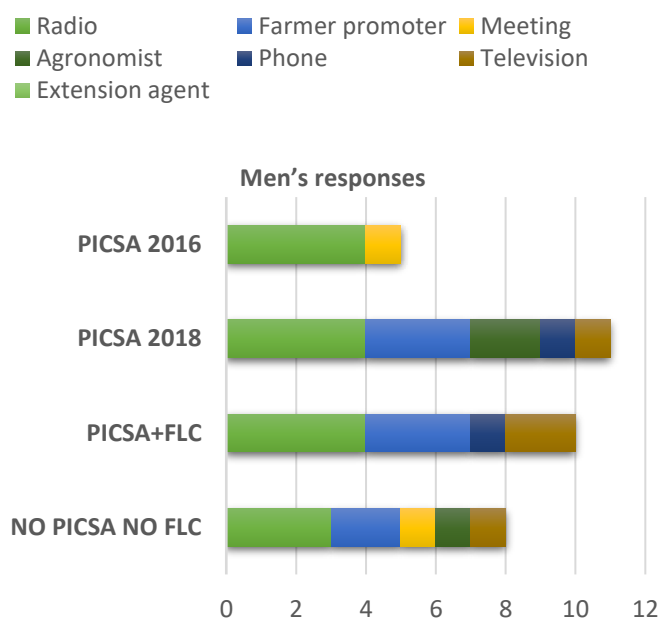
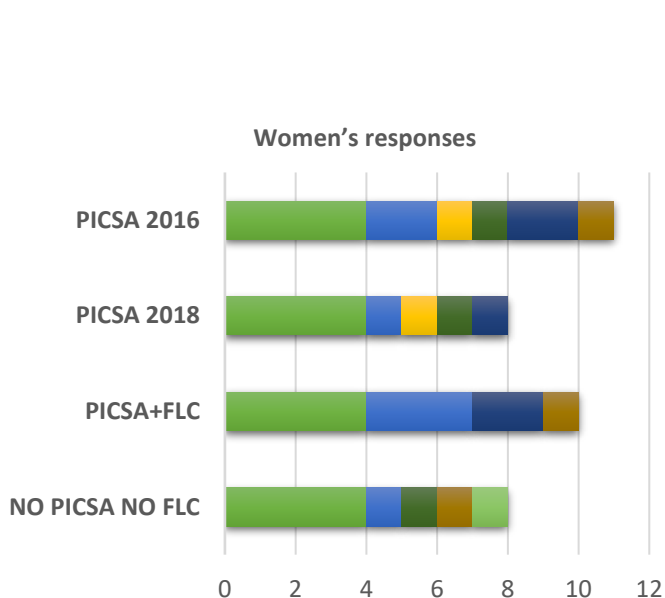
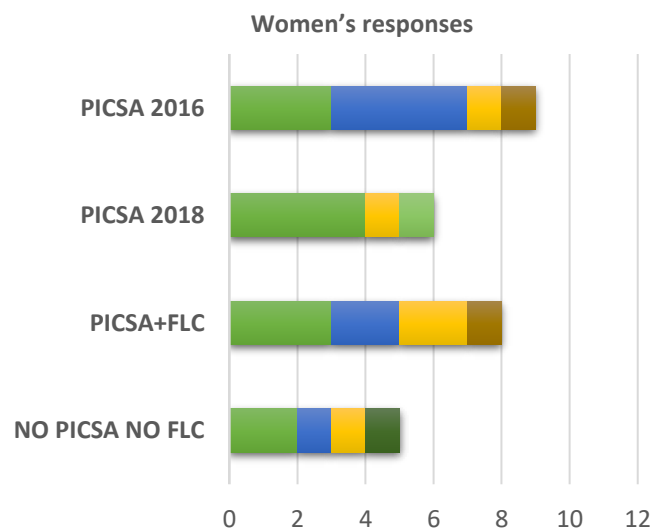


Figure 1. Channels for accessing weather information, per men's and women's focus groups

When asked what channels they used to receive *weather* information, male and female groups across all treatments most frequently identified radio (Figure 1). Farmers in the male focus groups also noted using phone channels, such as SMS and Interactive Voice Response, and television. Slightly less frequently, all male groups who had participated in PICTSA or in Farmer Listeners' Clubs reported receiving weather information through Farmer Promoters. In comparison, women's groups across all treatments reported using Farmer Promoters as a channel for weather information. Additionally, women's groups who had not participated in PICTSA or in Farmer Listeners' Clubs did not report using phone-related channels. Those channels reported less frequently by women included television, sector agronomists, and farmer-to-farmer communication. Women who participated in PICTSA or Farmer Listeners' Clubs reported using Farmer Promoters or Farmer Promoters and farmer

Figure 2. Channels for accessing climate information, per men's and women's focus groups



Less frequently, women’s focus groups identified meetings, across treatments. Channels noted minimally included television, sector agronomists, and agricultural extension agents.

Use

Figure 3 presents the types of climate-sensitive decisions women’s and men’s groups reported making over recent seasons. It is important to note that only those decisions that were identified by more than three men’s and three women’s focus groups are presented, and not all of the decisions reported are displayed. Concerning women’s responses, those who did not participate in PICSA or in Farmer Listeners’ Clubs identified less types of decisions, in comparison to the other treatment groups. For example, only women who participated in PICSA or in Farmer Listeners’ Clubs reported using climate information for decisions related to variety and crop selection. Women across all treatment groups identified using climate information for decisions related to fodder management, although women who did not participate in PICSA or in Farmer Listeners’ Clubs reported it significantly less in comparison to the other groups.

In contrast to women’s responses, men’s focus group responses do not show as much of a distinction between those who did not participate in PICSA or Farmer Listeners’ Clubs and the other treatment groups. Those farmers who did not participate in PICSA or in Farmer Listeners’ Clubs report having made a similar total amount of climate-sensitive decisions, in comparison to the other treatment groups; however, they use climate information for decisions related to crop selection and fodder management slightly less than farmers who participated in PICSA or in Farmer Listeners’ Clubs.

Furthermore, results in Figure 3 show that men might report using climate and weather information for decisions related to pesticide application and land preparation more than women. This can be due to women’s and men’s gender-differentiated farm roles and responsibilities.

Concerning the types of climate information used for the decisions discussed, women’s groups tended to note that information on total rainfall amount informed variety and crop selection. Two PICSA-trained women’s groups also noted that they used information on start of the season and length of the season for variety selection. Furthermore, total rainfall amount and predictions of dry season were used to inform decisions on fodder management. Total rainfall amount, length of season and to a slightly lesser extent, start of the season were identified for informing timely planting. Additionally, information on total rainfall amount was used for decisions on erosion control and pesticide application. Groups who had not participated in PICSA or in Farmer Listeners’ Clubs did not report using information related to

length of season or dry season predictions. Women identified minimally information related to winds, end of season, and weather for informing other types of decisions.

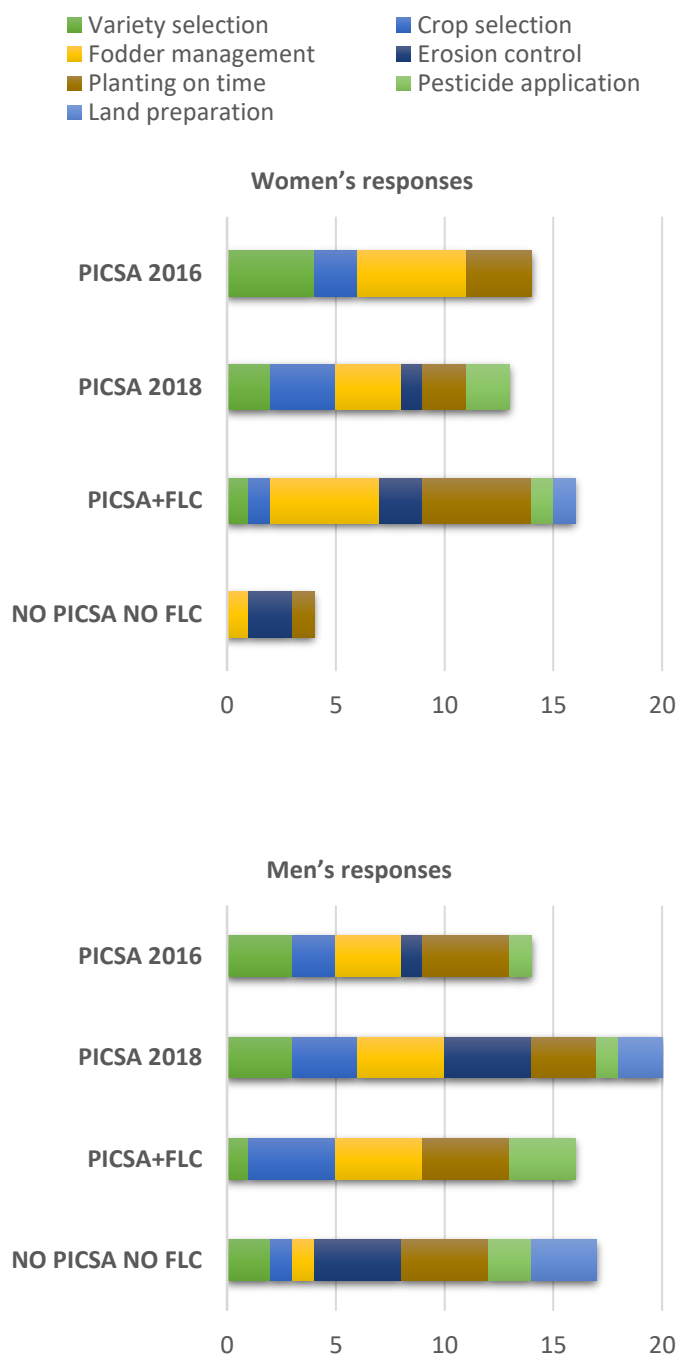


Figure 3. Climate-sensitive decisions made, per women’s and men’s focus groups

In comparison, men’s groups tended to report using total rainfall amount, length of season, and start of season, often in combination, for decisions on variety and crop selection and erosion control. Total rainfall amount and length of season were used to inform decisions on fodder management. Information on start of season and to a lesser extent, length of season and total rainfall amount, were used to inform planting on time. Total rainfall amount, length of season and weather information were used to inform pesticide application. Additionally, men’s

groups tended to note that information on start of the season was used to inform land preparation.

Conclusions

These preliminary results suggest that farmers who have been exposed to the Rwanda Climate Services for Agriculture interventions are accessing weather and climate information via multiple channels. Regardless of gender, farmers identified radio as the most frequently used channel. While this result holds for both weather and climate information, radio appears to be more important for information at a weather time scale. Farmer Promoters – the focus of significant investment in training and capacity development – were identified as an important communication channel for women and men, in particular at a climate time scale. Furthermore, results suggest that Farmer Promoters and other person-to-person communication channels are particularly important for women.

Findings also suggest that, while women and men farmers are using weather and climate information extensively to manage risk, women farmers who participated in PICSA trainings or Farmer Listeners' Clubs are using it more significantly than women who did not participate directly in the interventions. This difference is more substantial for women than for men, suggesting that the project has been addressing a significant gender gap in capacity building. Men who participated in PICSA or in Farmer Listeners' Clubs are using climate information for crop selection and fodder management more than those who did not.

The full analysis of results from the qualitative evaluation will further assess trends and differences in access and use across treatment categories and analyze how women and men have benefited from climate sensitive decision-making, as a result of project interventions.

Further reading

- Gumucio T, Hansen J, Huyer S, van Huysen T. 2019. "Gender-responsive rural climate services: a review of the literature." *Climate and Development*, 1-14.

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- Coulibaly JY, Birachi EA, Kagabo DM, Mutua M. 2017. Climate services for agriculture in Rwanda: Baseline survey report. *CCAFS Working Paper* no. 202. Wageningen, Netherlands: CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS).
- Dorward P, Clarkson G, Stern R. 2015. Participatory Integrated Climate Services for Agriculture (PICSA): Field Manual. Walker Institute, University of Reading.

This brief summarizes initial findings from a qualitative evaluation of the Rwanda Climate Services for Agriculture project undertaken by researchers from the International Center for Tropical Agriculture and the International Research Institute for Climate and Society. The work was made possible by the generous support of the American people through the United States Agency for International Development (USAID) Rwanda Mission. The opinions expressed herein are those of the authors and do not necessarily reflect the views of USAID or the United States Government.

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