



## Gendered information channels for climate-smart agricultural practices: Evidence from India, Kenya, and Uganda

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### SUMMARY

Lack of access to information is an important barrier affecting women farmers' adoption of climate-smart agriculture (CSA) practices and technologies. To overcome this barrier, the use of information and communication technologies is increasingly being promoted. However, digital tools might widen, rather than reduce, gendered information gaps given women's lower use of mobile phones and mobile Internet as compared to men in sub-Saharan African and South Asia. This policy note summarizes data on information channels that women and men farmers use for CSA practices in Gujarat, India, parts of Kenya, and central Uganda. The results can be used by governments, nongovernmental organizations, and other actor groups interested in ensuring equity in access to information on CSA practices in low- and middle-income countries.

### INTRODUCTION

Adequate access to agricultural extension, including information on climate-smart agriculture (CSA), is important for agricultural development and promotion of climate resilience. Relevant information on production practices and climate can help farmers increase their productivity, income, and resilience to adverse shocks, such as climate extreme events. However, little information exists on the information sources and channels that women and men farmers rely on for CSA practices.

To increase the reach of agricultural extension, information and communication technologies (ICTs) – such as cellphones, Internet-based approaches, and extension videos – are increasingly being used. These tools received a further boost during the COVID-19

pandemic, when mobility constraints reduced access to face-to-face extension. ICTs have the potential to put low-cost, easily accessed information into the hands of many. Access to ICTs and appropriate targeting of messages nonetheless remain major challenges.

The “Reaching Smallholder Women with Information Services and Resilience Strategies to Respond to Climate Change” project collected intrahousehold data on information sources used for accessing CSA approaches in India, Kenya, and Uganda.

### INFORMATION CHANNELS IN INDIA

Table 1 presents data on channels used for accessing information on CSA practices across rural areas

of Gujarat, India, by members of the Self Employed Women's Association (SEWA) and their spouses. The most important sources are traditional forecasters, indigenous knowledge, and personal experience, used by 44 percent of women farmers and 39 percent of men farmers. This is followed by family members, who are an important source of information for 26 percent of women and 27 percent of men.

Women are slightly more likely to receive information on CSA from NGOs than men; this could be due to the respondents' linkage with SEWA. On the other hand, men were more likely to obtain information from agriservice providers, government extension services, TV, community meetings, their cellphones, and agricultural shows. However, most of these sources of information are used by few farmers.

## INFORMATION CHANNELS IN KENYA

The data presented in Table 2 show the aggregate results on information sources for CSA practices used by farmers in Busia, Laikipia, and Nakuru counties in Kenya. Overall, the differences between women and men farmers in terms of channels used to access information on CSA were small. The most important information channels are informal sources, including traditional forecasters, neighbors, and family members. Thus, actors interested in increasing awareness and knowledge of CSA practices should engage with these groups, possibly at the community level.

More formal sources of agricultural extension – such as agriservice providers, government extension, and community meetings or barazas – rank second in overall importance. These formal sources are more likely to be consulted by men than women. As an example, 15 percent of women farmers listed government extension as a source of information on CSA practices compared with 20 percent of men farmers.

Radio was listed by 12 percent of women and 17 percent of men farmers as a source of information on CSA practices, possibly due to radio programs that focus on conveying this information. Television, cellphones, and the Internet, on the other hand, were identified by very few farmers as go-to sources for CSA information. While mobile phone ownership and access is higher in Kenya

**TABLE 1 Channels used to access information on CSA by gender in rural Gujarat, India (percent)**

Information sources	Women (n=2632)	Men (n=1781)
Traditional forecasters/indigenous knowledge/own experience	44	39
Family members	26	27
Neighbors	7	6
Agriservice providers, seed companies, private input dealers	6	7
NGOs	4	2
Farmer organizations	3	3
TV	3	5
Government extension workers	2	4
Community meetings	1	2
Newspaper/bulletin	1	1
Cellphones	1	2
Agricultural shows	0	1

Source: Authors based on survey data.

Note: Data were collected during April to July 2022.

**TABLE 2 Channels used to access information on CSA by gender in rural Kenya (percent)**

Information sources	Women (n=716)	Men (n=442)
Traditional forecasters	74	72
Neighbors	39	37
Family members	32	28
Agriservice providers, seed companies	23	27
Government extension workers	15	20
Radio	12	17
Community meetings/barazas	10	11
Schools/teachers	10	16
Farmer organizations, co-ops, community-based organizations	9	12
NGOs	7	8
TV	3	3
Farmer field days/demonstrations	2	4
Religious groups	1	1
Newspaper/bulletins	1	2
Cellphones/Internet	1	1
Agricultural shows	1	3

Source: Authors based on survey data.

Note: Data were collected in February, 2020.

than in Uganda, farmers are currently unlikely to use this channel to learn about CSA practices.

## INFORMATION CHANNELS IN UGANDA

Table 3 presents the main channels women and men farmers rely on for CSA information in six districts of central Uganda. Overall, men are more likely to access formal channels for information on CSA. For example, 19 percent of women listed the government as a source for information on CSA, compared with 25 percent of men. Women farmers were also less likely to list NGOs, farmer organizations, and agricultural service providers as sources of information on CSA compared with men farmers. Unlike in India and Kenya, in Uganda agriser-vice providers are the most important source of information overall. Other important sources of information on CSA for both genders are community meetings and religious organizations.

**TABLE 3 Channels used to access information on CSA by gender in rural Uganda (percent)**

Information sources	Women (n=514)	Men (n=598)
<b>Agricultural service providers (inputs)</b>	31	39
<b>Community meetings</b>	25	28
<b>Religious organizations</b>	20	23
<b>Government</b>	19	25
<b>NGOs</b>	17	21
<b>Farmer organizations</b>	15	25
<b>Own experience/indigenous knowledge</b>	4	67
<b>Radio</b>	3	89
<b>Neighbors</b>	2	69
<b>Family members</b>	1	60
<b>TV</b>	1	24
<b>Farmer schools</b>	0.2	7
<b>Cellphones</b>	0.2	18
<b>Internet</b>	0	3
<b>Agricultural shows</b>	0	8
<b>Extension videos</b>	0	4

**Source:** Authors based on survey data.

**Note:** Data were collected in October and November 2021.

Some information channels are hardly used by women but are heavily accessed by men for information on CSA. For example, while 89 percent of men stated that they used radio for insights on CSA, only 3 percent of women did. Television is also hardly used by women (1 percent), while 24 percent of men reported using this channel for information on CSA practices. Men also listed family members and neighbors as an important source of information on CSA practices, but few women did. In addition, men farmers also identified their own experience and indigenous knowledge as key sources of CSA information.

In terms of ICT, 18 percent of male farmers use cellphones as a source of information for CSA approaches, compared with 0.2 percent of women farmers. While overall use of Internet is very low and Ugandan women do not appear to use the Internet at all for accessing information on CSA, 3 percent of men reported using it for information on CSA practices. This is likely linked to the gender gap in mobile phone ownership in Uganda, reported as 17 percent, and in mobile Internet (48 percent) (GSMA 2020). Due to the low use of cellphones and low Internet access, information on CSA practices provided through these digital tools is unlikely to reach women farmers.

## DIFFERENCES AND SIMILARITIES

Compared to Uganda and Kenya, few farmers in Gujarat, India, reported government organizations as a source of information on CSA practices. The differences between the two neighboring countries in sub-Saharan Africa are also significant: while women farmers in Uganda generally do not consider their social networks as a source of information on CSA practices, women farmers in Kenya use them at rates equal to those of their spouses. Family members are also an important source of CSA information in Gujarat.

The use of digital sources for accessing CSA information is extremely low in all three countries, especially among women farmers. Only men farmers in Uganda use cellphones as a source of CSA information to a significant extent. Thus, while digital tools are promising in terms of reach and lower cost compared with traditional face-to-face extension, they are currently not used to support the climate-resilience strategies of rural farmers.

## CONCLUDING COMMENTS

The data presented in this note show differences across genders and countries in information channels in use for CSA practices. The results suggest that information on CSA needs to be provided through locally appropriate channels. Moreover, digital sources are still emerging and are currently unlikely to reach large numbers of farmers, and even fewer women farmers.

It should be noted that some sources of information such as face-to-face extension visits, agricultural fairs, and demonstrations most likely suffered from impacts of the COVID-19 pandemic (data collection in India and Uganda was completed in July 2022 and November of 2021, respectively, while the Kenya survey was completed in February 2020).

Across all three countries, traditional and indigenous knowledge and personal experiences remain important sources of information for CSA practices. Government and other actor groups interested in increasing climate resilience in agriculture in the short to medium term should identify ways to work with these traditional sources of information.

## FOR FURTHER READING

GSMA. 2020. "Connected Women: The Mobile Gender Gap Report 2023." Accessed at: <https://www.gsma.com/mobilefordevelopment/wp-content/uploads/2020/05/GSMA-The-Mobile-Gender-Gap-Report-2020.pdf>



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