Chapter II. Analysis of the survey

A regional survey was undertaken to gather input from the production units, i.e., the family farming producers in LAC, for the identification of current uses, needs and expectations in terms of digital solutions. It was conducted within the framework of the collective action on inclusive digital transformation of agriculture facilitated by GFAR and implemented in LAC by FORAGRO, in conjunction with IICA and COPROFAM, with international partners AgGateway and GODAN.

The instrument for collecting this input was an online survey distributed by various digital media, through email, social platforms, and chat tools. Although this medium had the limitation of requiring connectivity, the invitation was channelled through COPROFAM and other farmer organizations to ensure that family farmers were reached. In addition, the invitation was disseminated through the regional platforms of FORAGRO and AgGateway Latin America, as well as the global GFAR channels.

A. General characteristics

With respect to the survey, 365 responses were obtained, of which 167 were from women and 198 from men. They are distributed by regions as follows: 5 from the Caribbean, 22 from Central America and Mexico, 285 from the Southern Cone and 53 from the Andean Region.

Sixty-two percent of respondents identify themselves as family farmers and 28% as members of a family farming unit (Figure 4). This means that 90% of the people surveyed are engaged in family farming. 50% of the people who responded are leaders or representatives of family farming organizations, irrespective of the fact that they can also be producers, since this question was multiple choice. The remaining 10% are self-qualified as leaders or representatives, only.

Most of the answers were obtained from people with some affiliation to COPROFAM (312 of 365 responses), who managed to distribute the questionnaire among their associated population. For this reason, the majority of responses are from people in the Southern Cone.

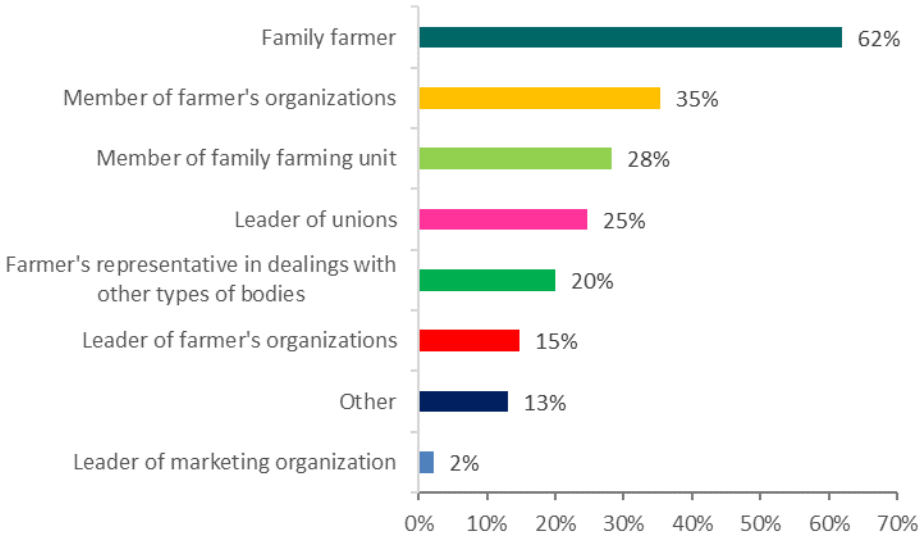

Figure 4. Role of the person responding to the survey.

Only 33% of the answers correspond to people under 40 years of age, with the predominant range being those aged 40 to 60 years, and there were 18% of people over 60 years of age (Figure 5). Age is very relevant for digital strategies, due to the age gap in the management of these tools.

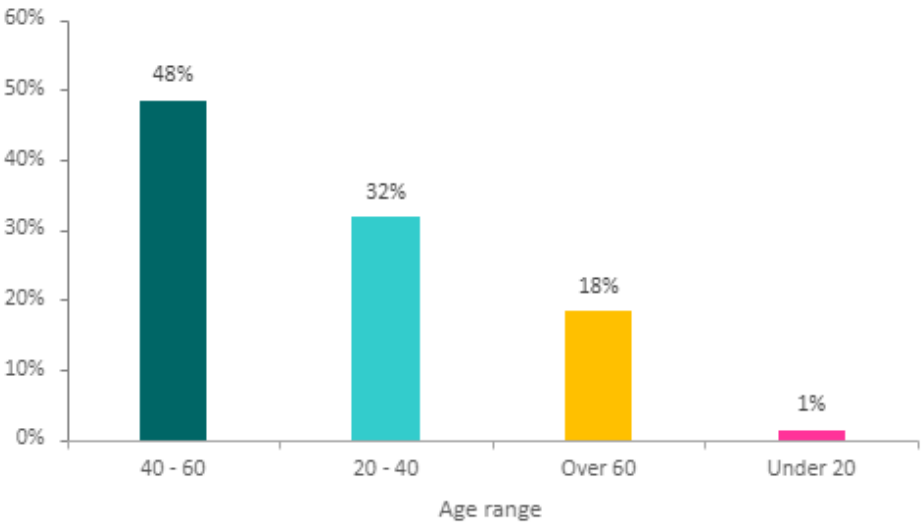

Figure 5. Age of the person responding to the survey.

B. Use of digital tools for agriculture

The population surveyed primarily has access to electronic devices. Almost 80% have a computer and 75% have smartphones (Figure 6). The rest have access to basic cell phones (about 25%). There is also an indication that 15% use other devices including geo-locators and tablets; drones are sometimes mentioned.

The fact that the population surveyed has access to high-end devices is also a logical consequence of the medium used for the survey, but this statement cannot be generalized to family farming producers in the region.

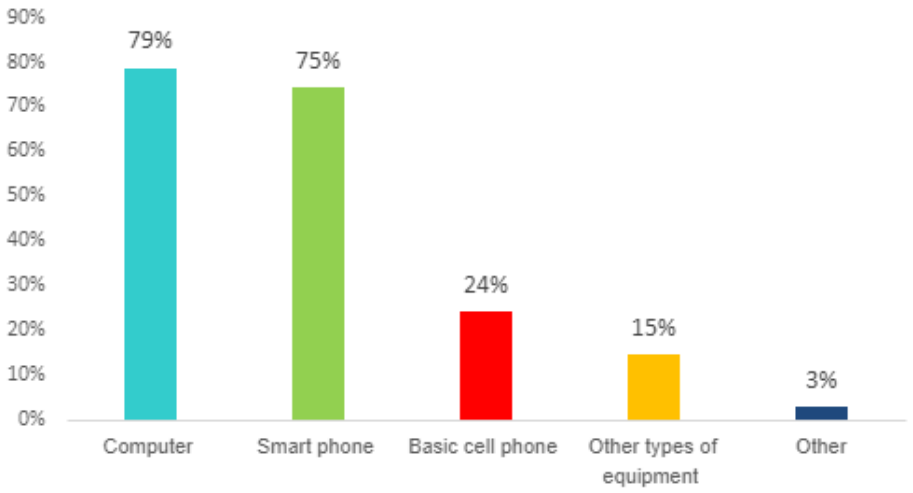

Figure 6. Devices used by the respondent.

Regarding the availability of devices, generalizations cannot be made, since within survey data there is an important variation between men and women according to the regions from which answers arose (Figure 7).

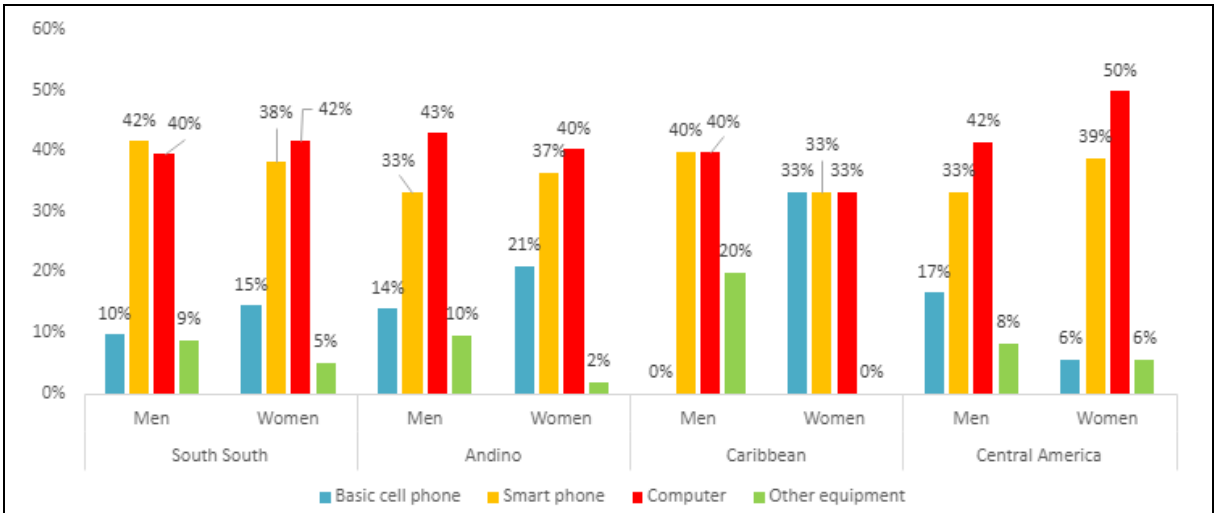

Figure 7. Device availability by gender and region.

Moreover, it is clear that the people who answered the survey have access to the Internet. The quality of connectivity stands out as one of the main problems for people in the agriculture sector, especially for those who live in rural territories. When asked about the main obstacles to accessing quality connectivity, those related to signal quality and high costs are mentioned first (Figure 8). Additionally, they point out those related to the skills and knowledge needed for taking better advantage of digital technologies.

Significant connectivity (access to the Internet with appropriate devices, quality and permanent signal as well as accessing any information from a variety of places) continues to be a central problem in rural territories.

Work in IDA must take into account this condition and consider innovative solutions for Latin American rural areas that are not dependent on traditional telecommunications companies, such as their own community networks, public-private partnerships, and access to the resources of solidarity funds, among others.

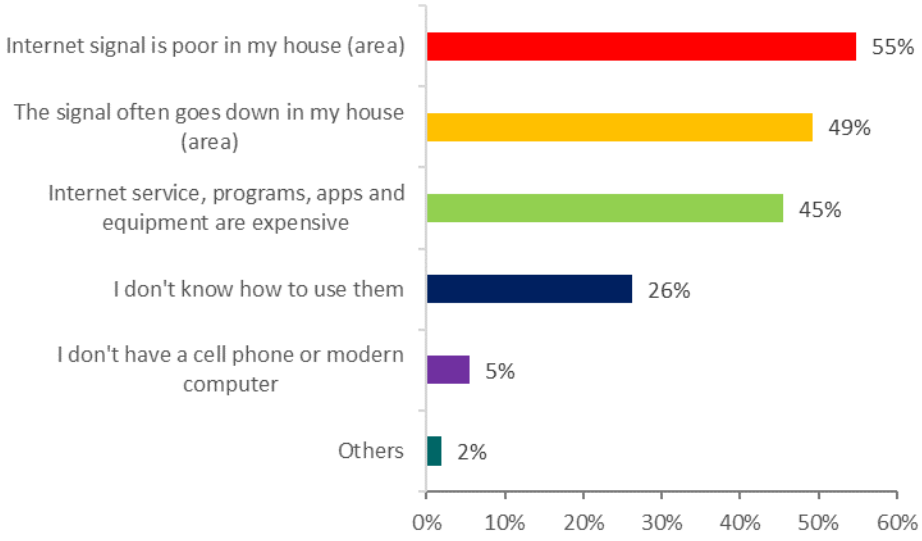

Figure 8. Difficulties in accessing the Internet.

It is important to note that 56% of connectivity is provided by international telecommunications companies, while the remaining 44% is served through local companies (Figure 9). This provides room for negotiation to develop digital agriculture projects together with these companies, and to influence connectivity expansions to reduce the digital divide. This is particularly true in the case of small local cooperative companies, community networks and others (14%) which, based on prior experience, are willing to create connectivity projects aimed at achieving social, economic and environmental impacts in the territories where they operate. This route could be explored in the process of building any inclusive project.

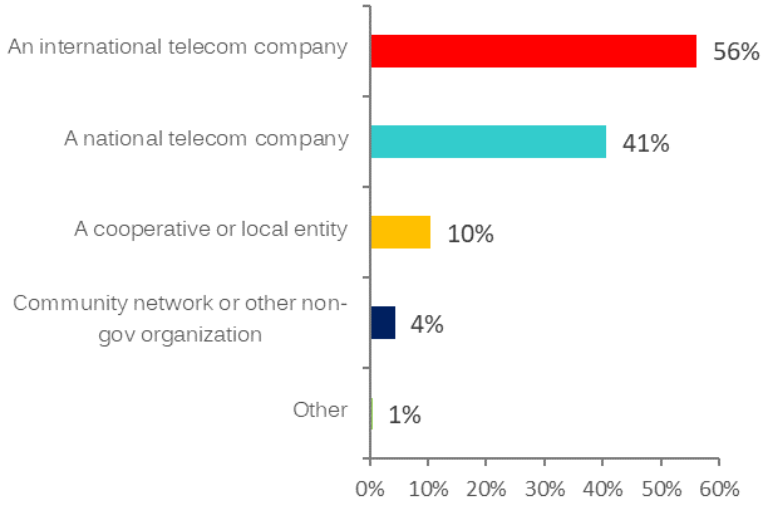

Figure 9. Company that offers the telecommunications service.

There are tools such as Whatsapp and email (Figure 10) that are used by almost all the people surveyed, followed by platforms for meetings, social media, and browsers. In the analysis by gender, it can be noted that women use these tools up to 10 percentage points less, which is understandable since they have less access to smart devices.

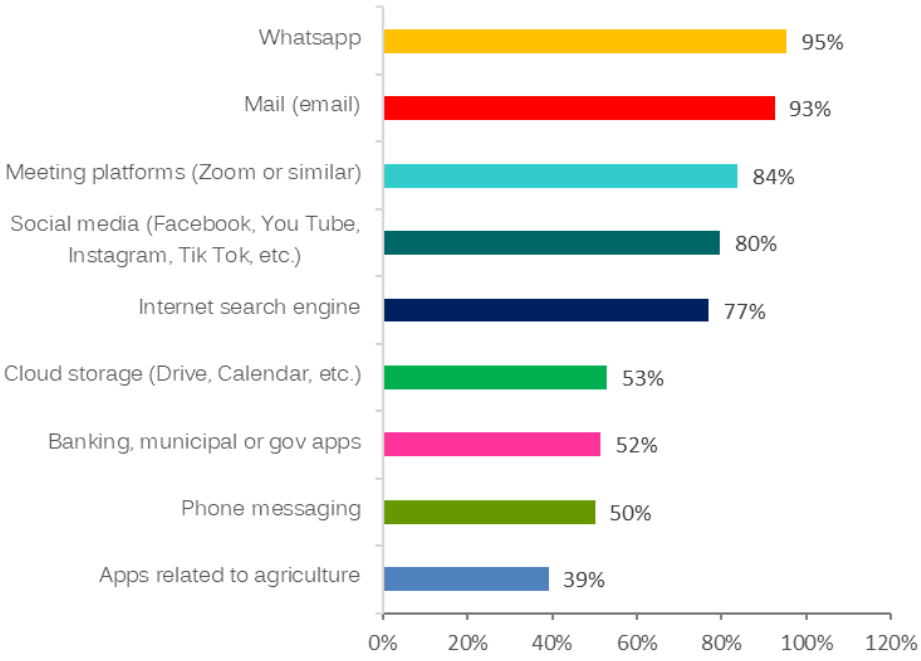

Figure 10. Digital tools used by the persons surveyed.

One notable aspect of the answers to this question is that only 39% of the people surveyed make use of applications related to agriculture, and that this option is the least selected, despite the fact that a large majority of people identify themselves as producers. To delve deeper into the uses of digital technologies, the survey asked about the purposes for which these digital tools are used (Figure 11).

In the first instance, digital technologies are used to obtain general information, followed by use for family communication. Digital technologies are also used for online meetings and trainings. Marketing ranks last: only 32% of the people surveyed use digital tools for promotion and sale of their products.

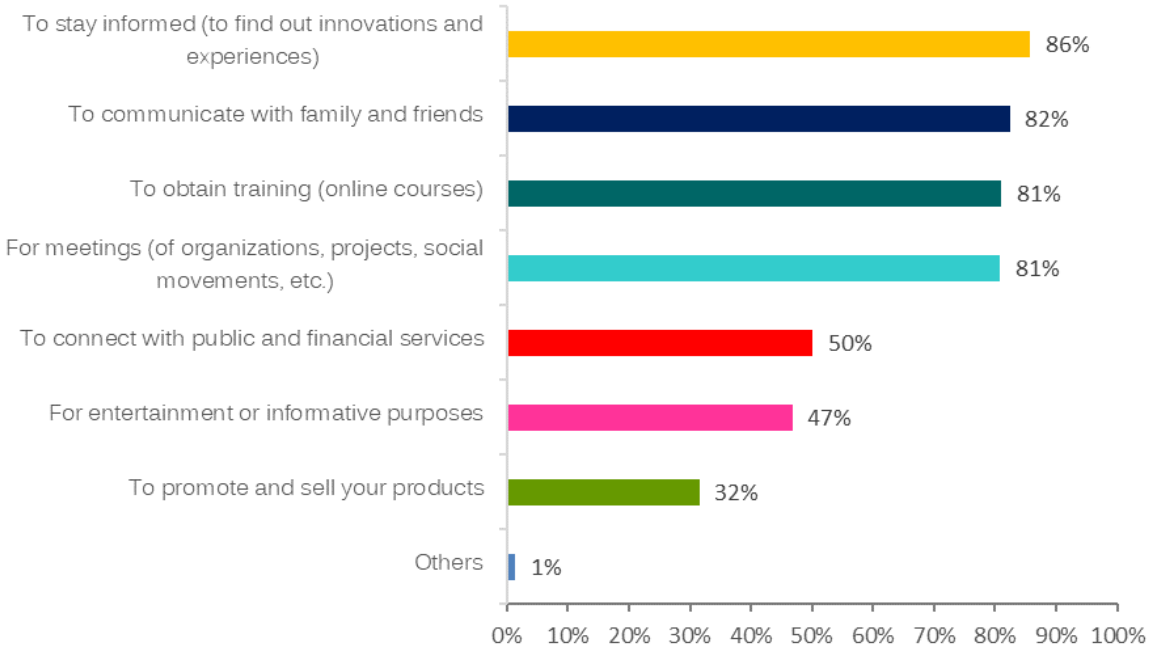

Figure 11. General uses of digital technologies.

As can be seen in Figure 12, men have more diverse uses of digital technologies than women. Women only surpass men in the use of digital technologies for the sale of products.

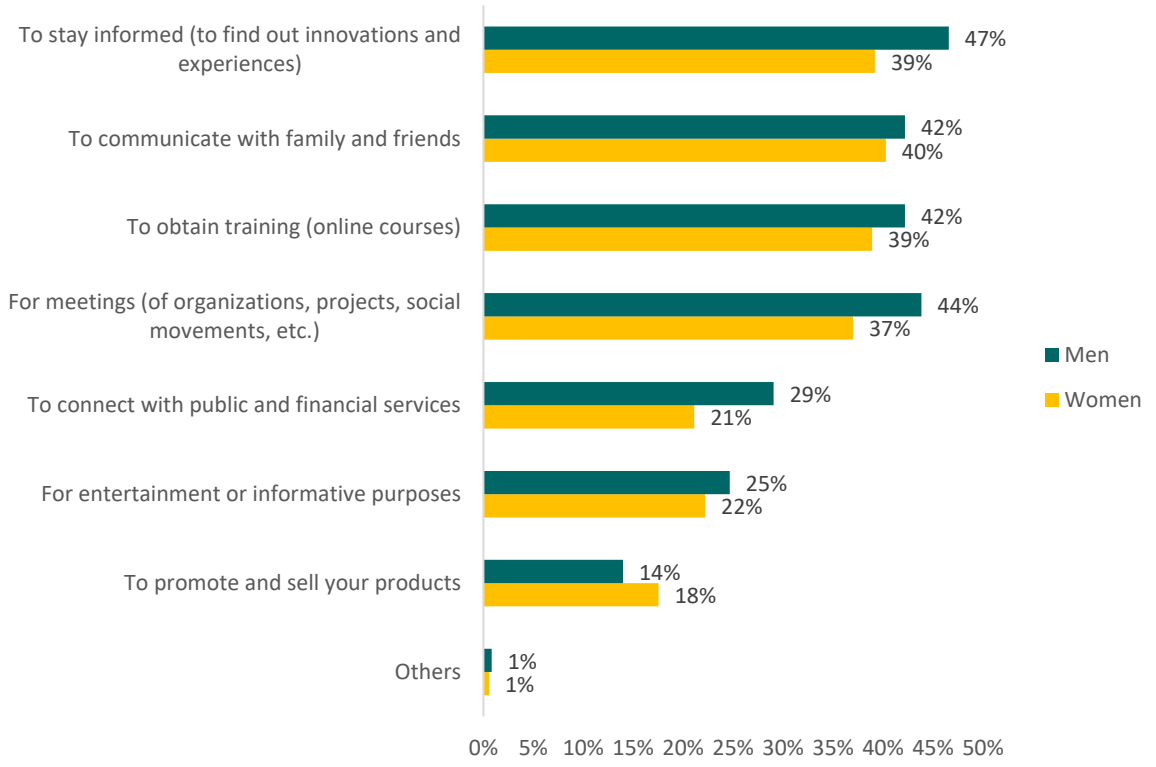

Figure 12. General uses of digital technologies by gender.

When asked specifically about the uses of digital technologies in agriculture, a little more than 50% of the people surveyed use digital tools for agricultural extension or advisory services (Figure 13), from public institutions in the first instance, followed by those from the private sector (Figure 14). Some support is also received by digital means from social organizations, but to a lesser extent.

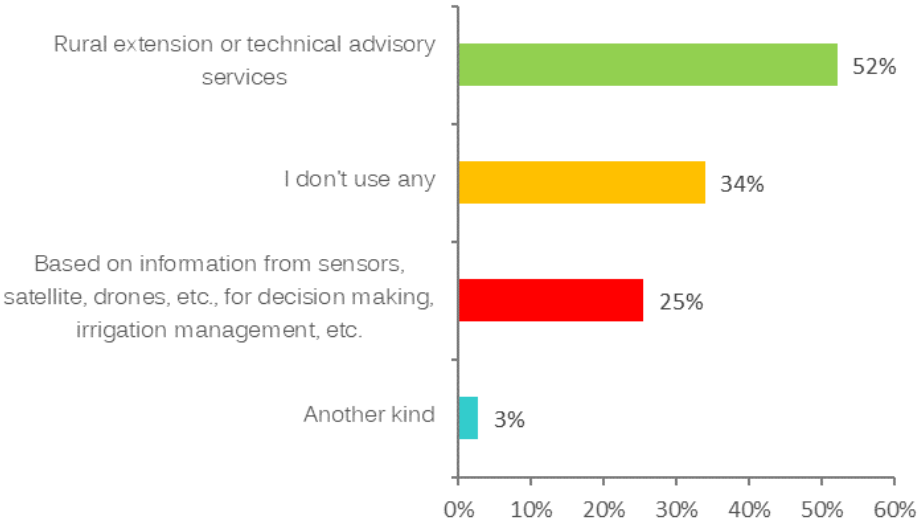

Figure 13. Uses of digital technologies in agriculture.

For the purposes of this project, it is noteworthy that a quarter of the population that uses data generated by digital devices such as sensors, drones and geo-locators in their decision making.

In both of these questions, it is important to note that 30% of the people surveyed do not use digital tools for agricultural advice.

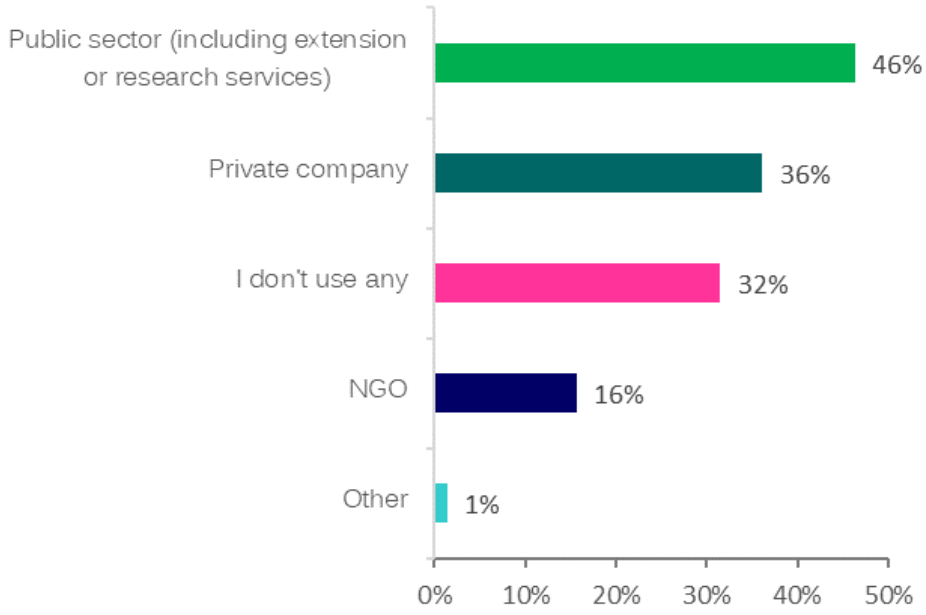

Figure 14. Providers of agricultural advisory services with digital technologies.

The following questions explore, in greater detail, the usefulness of information consulted via digital media. Twenty-eight percent (28%) of the people responding to the survey have no difficulty with the information they manage to access (Figure 15).

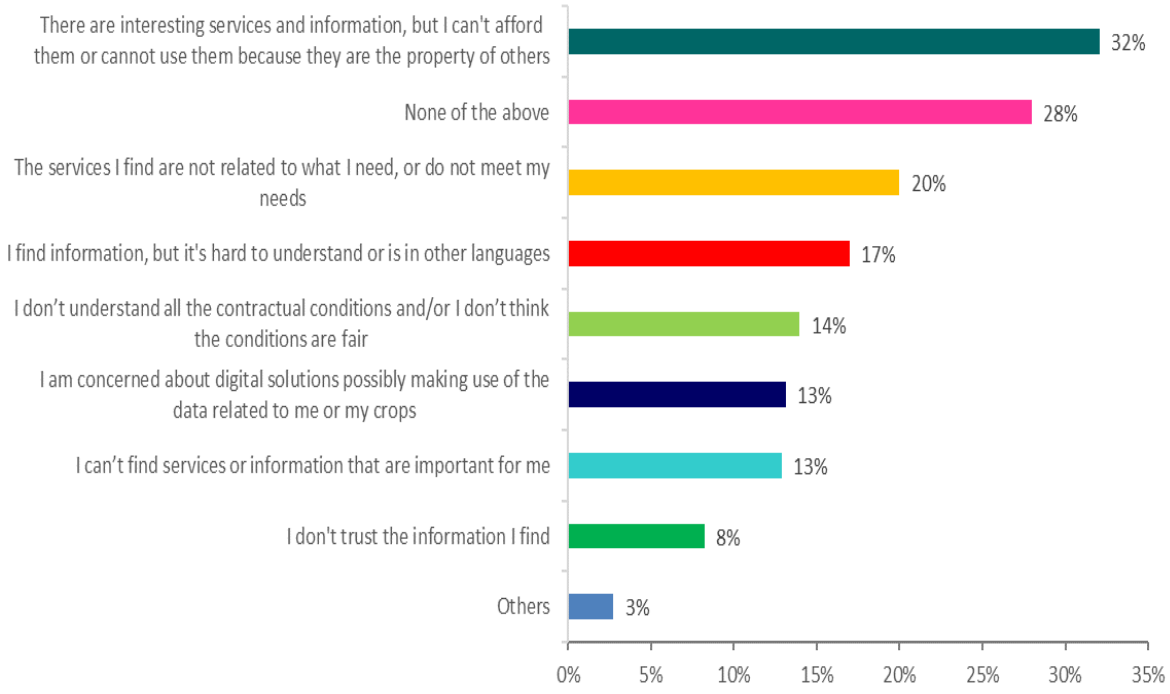

Figure 15. Usefulness of information on the Internet for family farming.

The rest of the answers in Figure 15 can provide useful guidance for aspects that should be considered in any IDA action. For example, useful information can be found but cannot be accessed because it is closed or under copyright, and often has access costs. Answers also mention information that has not been adjusted to the needs or to the language of the people surveyed, thus making it difficult for it to be used in agricultural practice.

It is also important to pay attention to aspects such as trust in information and data, conditions for use that are either incomprehensible, or not read, and concern for the handling of personal and production data generated from the use of applications, devices and information.

Comparison of the current uses of digital technologies (Figure 16) with the desired uses for agriculture (Figure 17) can also offer clues about any aspects that can be strengthened.

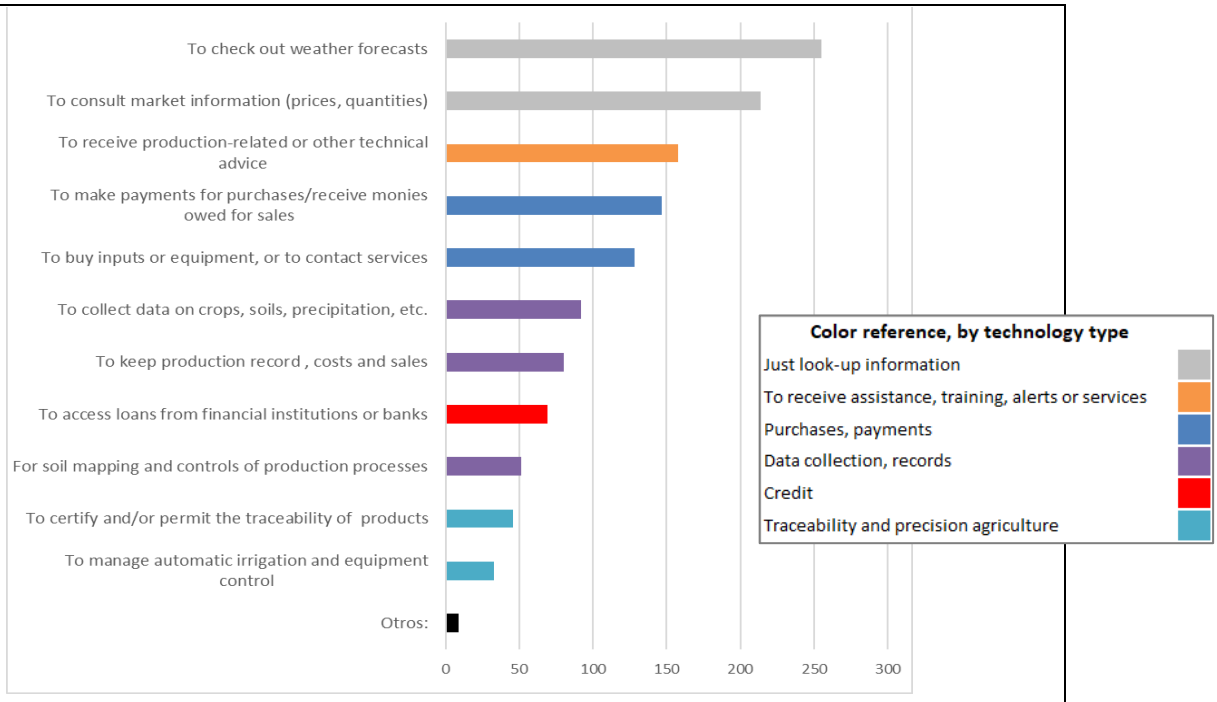

Figure 16. Current uses of digital technologies.
(number of positive responses in the sample of 365)

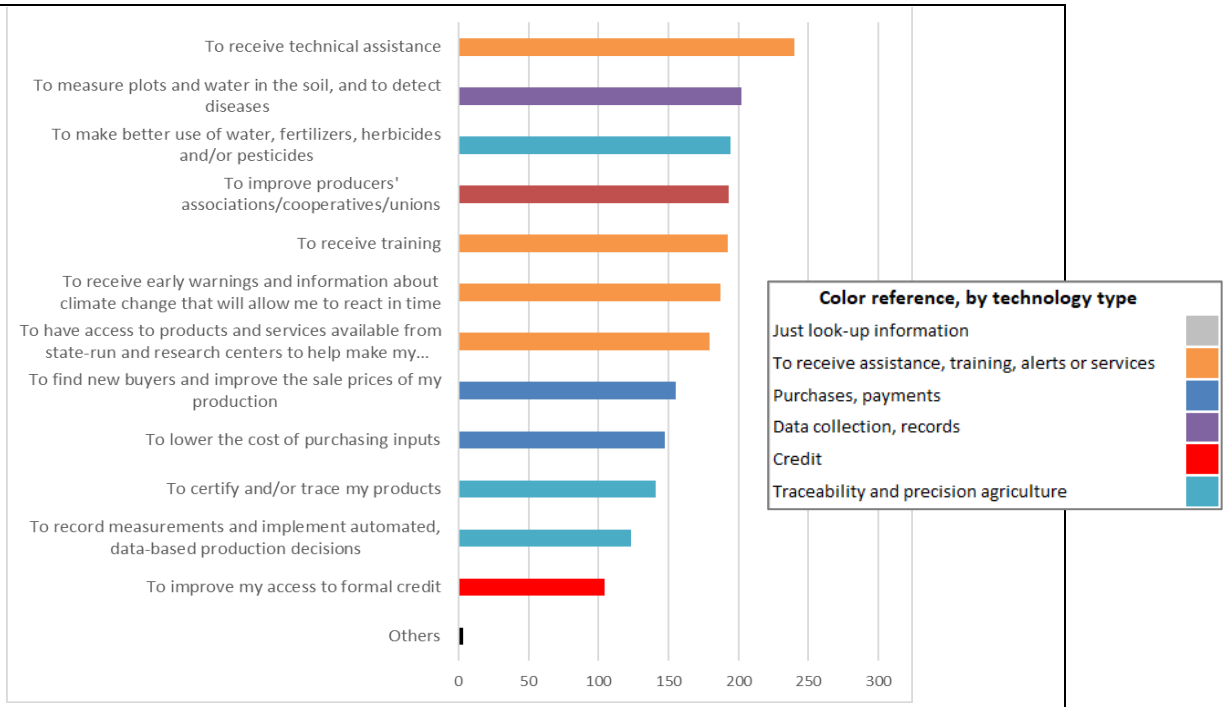

Figure 17. Expected uses of digital technologies.
(number of positive responses in the sample of 365)

Current uses of digital technologies are mainly concentrated in the more traditional support for agriculture:

a. Consult weather forecasts and market information.
b. Technical assistance.
c. Online payments and collections as well as access to public services.

Expected uses are more focused on other opportunities presented by digital agriculture:

a. For receiving training and technical advice.
b. Climate-smart agriculture based on measurements of water, soils, climate, agricultural practices and their adaptation to climate variability.
c. For risk management based on early warnings.
d. To reduce input costs and have greater production efficiency.
e. To expand and make marketing more efficient.

Again, it is important to note that women make less use of digital tools for agriculture than men (Figure 18). The gender approach should be a key element in any IDA project that is developed.

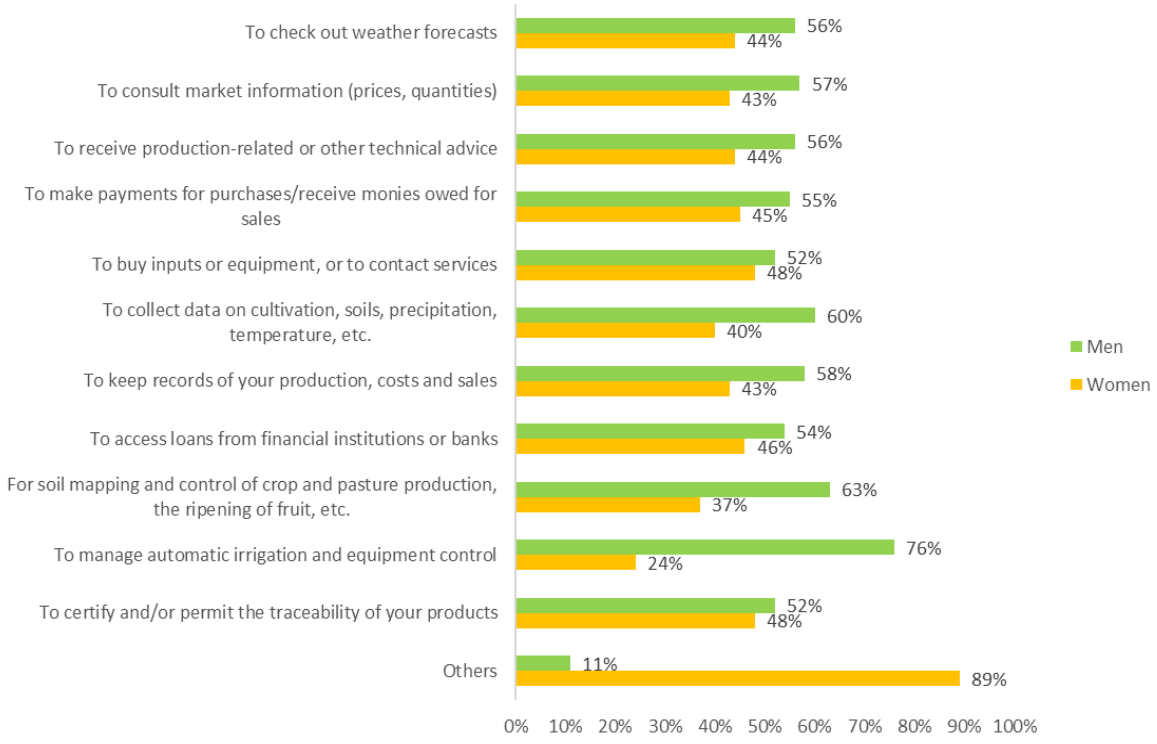

Figure 18. Differences in current use of digital technologies by gender.

An important element of this analysis relates to young people who become key persons in assisting their elders with consultation on digital tools (Figure 19). A digital agriculture program must take

into account this specificity and take advantage of the interest in digital tools to strengthen the generational change in agriculture in the region.

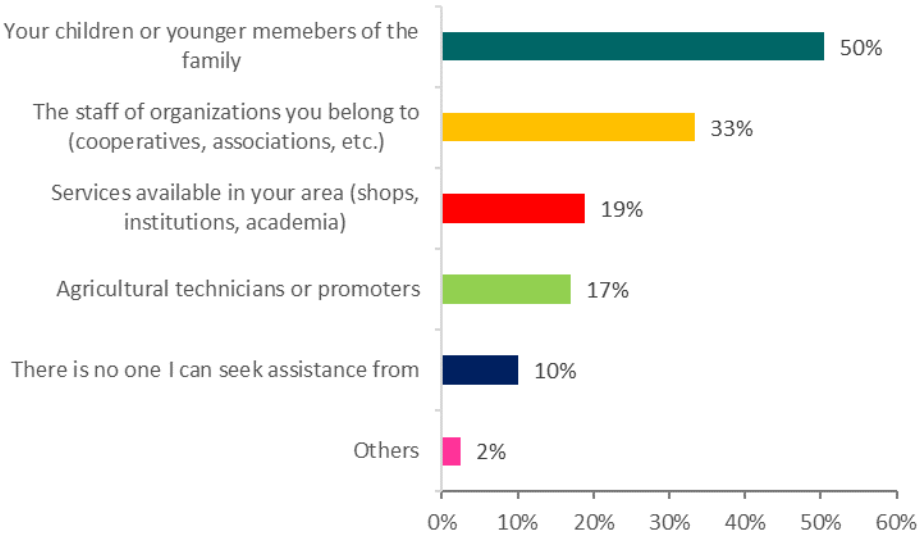

Figure 19. To whom you turn in case of doubt.

As can be seen in Figure 19, local organizations are also key actors as resources for consultation and strengthening of knowledge about digital technologies for farmers.

From the results of this survey, some key elements can be extracted for IDA actions in LAC. In order to use these results correctly, it is necessary to indicate that the framework of the exercise is as follows:

a. It is a survey that was answered by 365 people.
b. A significant majority of responses are from South America and especially from the Southern Cone. This limits diversity for broader analysis.
c. A large majority of the answers come from people associated with COPROFAM, which was the institution that was successful in generating interest in the survey.
d. The survey was answered by people who have access to digital technologies, given that it was sent out in digital format.