

AgriCoach evaluation: 3rd case study

Use of CropSelector and SeasonalOutlook and cultivation of new crops



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Summary

The 3rd case-study continues the track of the first two case studies of the AgriCoach. It focuses on the evaluation of the features of the C-version, the CropSelector and SeasonalOutlook, and the ability of farmers to cultivate a crop that is unfamiliar to them. 8 G50 groups were evaluated on the use of the AgriCoach and 30 farmers on the cultivation of new crops over seasons B.

CropSelector and SeasonalOutlook

The AgriCoach is appreciated by all farmers of the case study, either rated as very good (91%) or good (9%). The CropSelector and SeasonalOutlook are both used to influence crop choice (what, where, when). The CropSelector is valued by the groups, mainly to learn what crops grow well in their area, and to learn more about these crops. It is very relevant for the groups to know the suitable crops for a season and land type. The SeasonalOutlook is used to determine what crops to plant in the coming season, and to a lesser extent, to determine the planting date.

About half of the groups did actively use ALL the information that is offered in the C-version to its full extent (SeasonalOutlook CropSelector suitability and details). The other half of the groups focussed mainly on the B-version features (9-day forecast, calendar and movies) and use the new features to different extents. There are two observations that explain this:

- 1) The AgriCoach version C contains a comprehensive amount of information. It requests a time investment from the groups to consistently go through all of it, while the time for AgriCoach at weekly meetings is limited. Groups will prioritise what is most important to them. As features mainly influence crop choice, the information is most relevant before the start of the season, and is not a priority during the growing season.
- 2) The newer features, SeasonalOutlook & CropSelector, are less concrete and less directly applicable, it requires long-term and complexer thinking to make use of the information provided. On top of that, the consequences are more impactful.

Cultivating a new crop

Farmers are well able to grow a new crop with help of the AgriCoach. Farmers indicated it is not easy and is challenging. They need to learn the new information and apply all the recommended practices at the right moment. The majority of farmers were content with the results and were happy to have been able to grow a crop they did not know how to cultivate before.

The main lessons learned from the case study are followed up by AUXFIN:

- Development of Seed Marketplace Application to give access to improved varieties
- Creation of more information on Pests & Diseases and including video material
- Better and simplified Season Outlook data presentation
- Connecting to NutritionCoach for information on food preparation

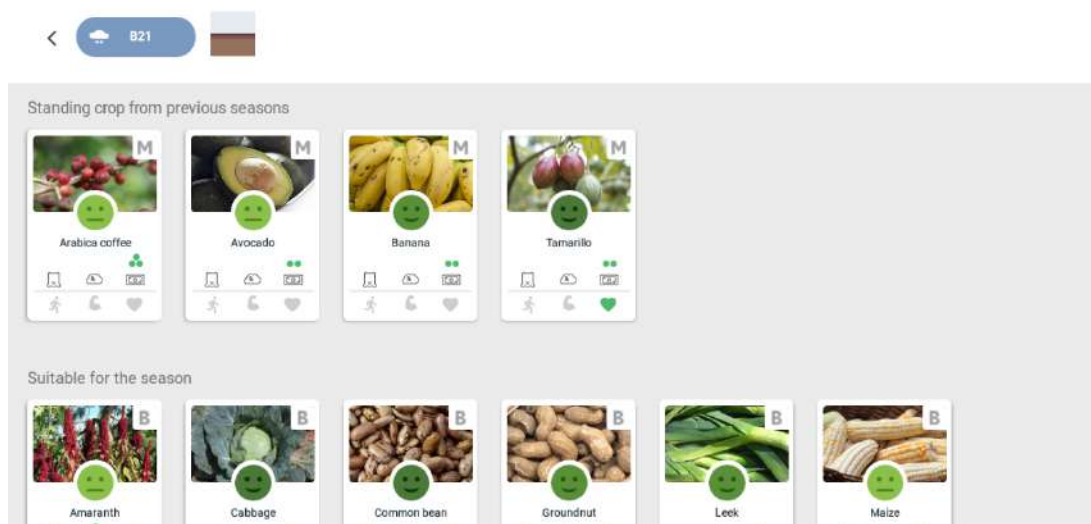
Introduction

The AgriCoach application has been developed as part of the GAP4A project, and the evaluation of the app has been ongoing since the start of the project. This includes two case-studies in 2020, that evaluated use, appreciation and impact of the app on a selected number of farmers. These first two case studies focussed on the 9-day weather forecast and the ActivityCalendar and BestPracticeMovies for potato and beans.


In September a new version of the application was launched with new features and more crops. This third case study evaluates the use and added value of the new features. It also evaluates how well farmers are able to cultivate a crop that they are unfamiliar with: tomato, soya and wheat.

The new features are:


- CropSelector: the CropSelector provides information to farmers on what to grow. It indicates what crops grow well depending on the location of the group (based on climate and temperature), when (season A,B, or C) and where (what grow area). The suitability is indicated in symbols.



For each crop additional information is provided in the crop details: general description, cultivation details, nutritional value, varieties and Pests & Disease information. With the addition of much more crops this information is now available for 27 crops.

<  Amaranth

General Suitability Cultivation Varieties Pest and diseases Crop calendar

Name: Amaranth 

Type:

Scientific Name: Amaranthus L.


Description

Amaranth is an annual herb, with a very short vegetative cycle. The stems are branched and can sometimes reach 1.5 to 2 m in height. The leaves of the crop are simple but with shapes that vary depending on the variety. The different varieties are distinguished from each other by the color of the stem and leaves. There are amaranth varieties with red leaves and stems, with green leaves and stems (the most cultivated form) then finally with green leaves and red stems. Amaranth generally has a high growth speed. Amaranth is a plant that grows at a temperature between 15 ° C and 22 ° C. The intense growth is observed at a temperature of 22 ° C. The grains form and mature at a temperature of around 27 ° C. The crop withstands high temperatures (30-35 ° C) but hardly tolerates drought.

Use

Human food: Amaranth is consumed both as a vegetable (leaves) and as a cereal (grains). The grains are cooked, baked or roasted and eaten as a cereal. The leaves are usually used fresh in salads, such as spinach. Or they are blanched, steamed, boiled or fried, and mixed with meat, fish, squash seeds, peanut oil or palm. Cooked amaranth leaves can be served as a side dish, as a soup, or as an ingredient in sauces and infant formula. Both the grains and the leaves are an important source of nutrients. The grains are higher in protein and oil than most other grains. The leaves are high in lipids; vitamins: A, B and C and mineral salts: calcium, potassium, phosphorus, iron, zinc, magnesium. The consumption of amaranth leaves in vegetable sauce is highly recommended for children, nursing mothers and people suffering from malnutrition.


- SeasonalOutlook: the SeasonalOutlook was added to the WeatherCentre providing information on the expected rainfall pattern during the upcoming growing season. It indicates when the rains are expected to start (Start of Season indicator) and a Monthly Outlook on the expected rainfall for the coming 5 months. It indicates for these months whether it is expected to be drier or wetter than normal in 5 classes..

 Weather

Seasonal outlook 9 day forecast

Currently the dry season is ongoing.

Coming months

08. August  This month is normally dry season and is also forecasted to have little precipitation.

- Addition of new crops: 27 crops are now included in AgriCoach (not all complete with movies). This allows farmers to start following AgriCoach for crops that they have not cultivated before.



Soya planting, weeding and drying

Method

The objectives of the third case study are to evaluate:

- 1) Use and added value of the CropSelector page in the AgriCoach
- 2) Use and added value of the SeasonalOutlook page in the AgriCoach
- 3) Ability of farmers to cultivate crops which are unfamiliar to them with help of AgriCoach (tomato, soya and wheat)

Set-up

The 8 evaluation groups that were also part of the second case study were selected also for the third case study. These groups were selected because this evaluation focuses on the more advanced features of the AgriCoach and these groups already are familiar with the other features of the AgriCoach. The groups are located in provinces Gitega, Kayanza and Karusi (see report case study 2 for details). Each group self selected 4 farmers that were interested to grow one of the new crops to choose from: tomato, soya and wheat. In total 30 farmers took part in the case study. Tomato, soya and wheat were selected because they are suitable in these provinces but seldomly cultivated in these areas. The groups were provided with enough seeds for the evaluation, because they had no access to these seeds themselves. The groups were instructed to use the AgriCoach and follow the ActivityCalendar to cultivate these crops throughout season A2020.

Evaluation activities

The use of AgriCoach by the group was monitored using a short monthly survey in JEANNE (chatbot of AUXFIN). This continuous survey was complemented by 2 rounds of in depth interviews. The first round was around harvest time (October-December 2020) when all group leaders were interviewed by the lead agronomist of AUXFIN. Additionally, some of the farmers' plots were visited to see the results of the cultivated new crops. In March, after the season, the M&E manager of AUXFIN visited the evaluation groups in Kayanza and Karusi to interview and internalize the farmer experience on the AgriCoach before writing this report.



Tomato planting, chemical fertilisation and harvest

Outcomes and insights

General AgriCoach use

The AgriCoach is appreciated by all farmers of the case study, either rated as very good (91%) or good (9%) (Figure 1). Most farmers consult it once a week (64%). A part of the farmers consult it every day (23%), and a small part consults less than one a week (5%) or not much at all (9%) (Figure 2).

Figure 1 and 2: appreciation of AgriCoach and consultation frequency of AgriCoach (JEANNE, 3 Feb.) .

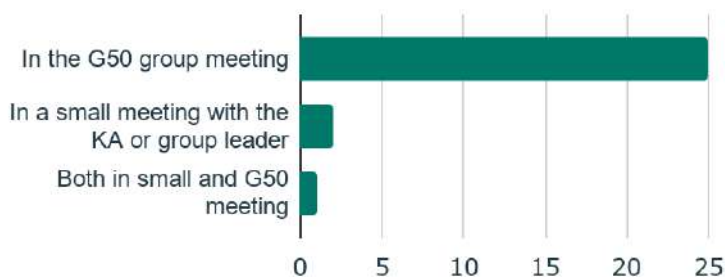


CropSelector

Use

Groups have used the CropSelector in the beginning of the growing season as well as during the growing season. The majority of groups shared the information in the weekly group meeting, some groups met outside the week meeting (Figure 3). Most groups spend 30 minutes on discussion information of the CropSelector during the group meeting. (JEANNE, 3 Feb.)

Figure 3: Location of discussion AgriCoach for the evaluation farmers (JEANNE, 3 Feb.)



The main motivation to use the CropSelector was to: 1) learn about suitable crops, 2) learn about different crops and 3) learn about Pest & Disease information. (Interviews March; JEANNE Sept).

Some groups indicate their emphasis at the weekly meeting is on the information in the CropSelector, but for others it is the calendar or another part. This is shown by neighbouring groups from Kayanza:

- *"During the group meeting, we talk mostly about information from cropselector, more than the calendar. We look at crops that are relevant for the season." (Interview Nyabikenke-gr2)*
- *We look at the information in the crop details, but focus mostly on the videos. We let the tablet go around. We also focus on where it shows what crops are suitable. Sometimes we read all the information in the crops. But we want to rush the video. With video we understand it quickly in the images it is easier for us. (Interview Nyabikenke-gr1)*

Suitability advice

The majority of group leaders and group members interviewed understood the different parts of the CropSelector suitability advice. They know the meaning of suitability symbols, differences between the grow areas (slope, valley e.d.) and seasons. (Interviews March; JEANNE Sept)

All groups emphasize the importance of taking the grow area in regard when deciding what crop to grow where. Therefore the information is very relevant. (Interviews March; JEANNE Sept). Groups find the suitability advice very useful and use it in the groups

- *A group leader from Karusi: I explain everything to them and we understand. We use it when we are practicing on their field. We discuss all the tabs. With the crop selector we know where to plant and when to plant. The CropSelector works well, the AgriCoach has never lied to us. (Kanyereza-gr1)*

Crop details

The added value of the crop suitability is clear, as all groups explain about it easily. For the crop details (crop cards) this is less clear. A part of the groups gives feedback on crop details evaluation questions that is convincing of the use and added value for them. They will for example answer how it is shared in the group, what part of it was most useful and what they learned. The other part of the groups are not well able to answer questions on it. Several reasons for this are noted:

- Groups have often mentioned they are much more interested in video material than text. Text is time consuming and also more difficult.
- The time for the weekly meeting and AgriCoach is limited and information in the calendar is prioritised. The calendar information is also more concrete and directly applicable.
- The crop detail information is only interesting when it shows new information about known crops or when groups are interested to learn about new crops. For familiar crops there is already knowledge about nutrition e.d. For new crops, not all groups have taken time to venture into learning new crops.
- Not all information is directly applicable, even though it is relevant. For example the information on varieties, with no access to seed producers farmers cannot apply the information. Group leader in Kayanza: *The information on varieties is not useful, because we have no means to apply this information. (Interview Nyabikenke-gr2)*

Out of the different tabs, the P&D information is most popular as mentioned by several groups.

- Group leader in Karusi: *We talk mostly about the information on diseases. It is information we normally don't have. We discuss what we can do in the first phases*

and if we need something for it, how can we go about it. It has created more awareness, because when we notice changes in the crop in terms of diseases. We call the extensions workers in the area in order to get help and phyto products. (Interviews Masake-gr1)

Added value and applicability

The combination of the CropSelector suitability information and crop details has several applications: Acquiring more knowledge about different crops, Influence in crop choice and Influence in grow area / season.

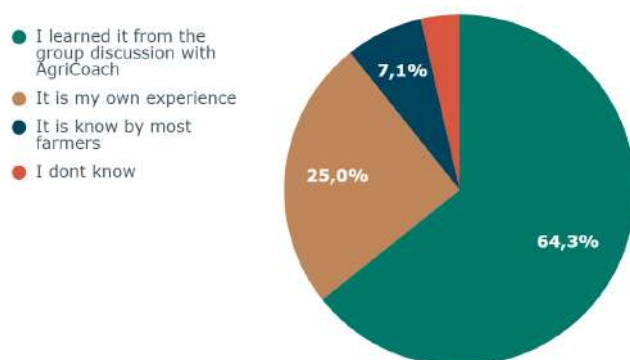
Influence of crop decision:

The CropSelector information has influenced the crop choice of farmers. Group mentions they are interested in growing other crops, now that they have seen it will be possible to grow them on their land. These new crops named are: peanuts, sunflower, pigeon peas, cassava, and yam. Some of the groups had already started growing them. (Interviews March; JEANNE Feb)

Also for the proposed crops tomato, soya and wheat, part of the farmers decided which three based on the AgriCoach (Figure 4). Of those farmers the majority indicates they had learned from AgriCoach that this crop is suitable for their land, and they wanted to test this out for themselves. As explained by some farmers:

- Two farmers: *"I want to make sure that where I am, it will produce"; "I want to see if it will produce in my field".* (JEANNE Feb)
- Group member in Karusi: *"I grew soya. I learned from AgriCoach my type of land was adjusted to soy more than tomato, other crops were risk full to grow. It was easy because it was detailed and together with the text it was easy to learn."* (Interview Rutoke-gr1).

Figure 4: Source of information to support crop decision



Most of the groups stayed focussed on the crops that they are familiar with, but learned the information on Pests & Diseases and the recommended practices taught in AgriCoach. These crops are: banana, rice, beans, maize and potatoes. (Interviews Mrt; JEANNE Feb)

Influence in grow area / season

Outside the crop decision and choosing new crops, the CropSelector influences the crop choice for where to plant the crops and in which season:

- Group leader in Karusi: *"We have used it especially for rice because we have seen it needs to grow with water."* (Interviews Masake-gr1)
- Group leader in Karusi: *"We choose the type of land according to the information we get and the information is current. We have seen that on high slopes we cannot really plant anything, so we just put trees there."* (Interviews Rutoke-gr1)
- Group leader in Kayanza: *"We learned avocados cannot be planted in the valley, or pineapples. Or Fruit trees or bananas and wheat."* (Interview Nyabikenke-gr2)

Limitations

However, the applicability of the suitability advice has limitations. Several groups mention that their possibility to apply the information on the different grow areas is limited.

- Group leader from Kurusi: *"We look at the type of land and suitability in the AgriCoach, but often we don't get to choose the right type because we only have land on hills."* (Interview Masake-gr1)

Due to this lack of possibilities several groups went against the advice of the AgriCoach, and planted crops on types of land that are not recommended. Two groups explained doing this and a negative outcome:

- Group leader in Kurusi: *"So we tried to plant peanuts but because of the slope it was washed away. [...] We used to grow peanuts before but did not really know how to grow it. In general we had a good experience, but the slope was a problem and also pests and diseases."* (Interview Masake-gr1)
- Key-Activator in Kayanza: *"The information in AC is accurate. We tried tomatoes in the valley, and now they learned it was a failure. But we did that because we had no space, it was not recommended by AgriCoach. But we have to decide where to put the crops because we have no choice. But AgriCoach was correct."* (Interview Nyabikenke-gr1)

Another limitation mentioned is there is no soil specification.

- Group leader in Karusi: *"Even between valleys we can see differences in soil types. And AgriCoach is not very detailed on that."* (Interview Masake-gr1)

For the Pests & Disease information, the information is relevant, but not always enough to solve a problem:

- Group leader in Kayanza: *"We talk a lot about the P&D information, this is relevant. But the problem with the P&D information is we don't know how to apply the information, as we don't have access to phytosanitary products. And also due to poverty cannot afford to buy inputs."* (Interview Nyabikenke-gr2)

Follow-up

AUXFIN is developing an online seed market to directly link the seed multipliers in Burundi to the G50 groups. This will make the variety information page relevant for the farmers. Currently smallholder farmers in Burundi can not access the improved seed market and seed multipliers are only providing seeds to the community of international NGOs.

AUXFIN is also searching for collaboration with CABI to get more Pest and Disease information. For the most important crops more video material on Pest and Disease is going to be produced.



Soya processing, maturity control and storage

Seasonal Outlook

Use

It was observed that farmers talk less and less easily about the use and added value of the Seasonal Outlook as about the 9-day forecast. This is probably because the 9-day forecast is more concrete and directly applicable for them. Some groups appreciated the Seasonal Outlook and used it as well. Other groups could not respond well to questions, or only partly. There was no clear reason found for this. There is no concrete insight in what percentage of groups used the Seasonal Outlook and to what extent.

All groups indicated that they read the text and that is clear to them. The graph is difficult, they cannot interpret it and don't look at it. This was also not intended, as the graph is additional to the symbols and text.

Start of Season indicator

A third of the groups used the Start of Season at the beginning of the season. They followed the indicator closely. When the AgriCoach switched from dry season to indicating change of rain season started, they started to consult the 9-day forecast closely.

The other groups that did not use the Start of Season as closely, did however use the 9-day forecast as their start of season decision making support. At the time they expected the rainy season would start, they consulted the 9-day forecast to decide either start with planting or to wait:

- Group leader from Karusi: *"If we see it will be a dry period we can tell the members to hold on and wait for rainy days. Now we are no longer wasting our seeds. Before we used to plant anyhow, without knowing if the weather would be good, seeds would get wasted without too much sun or for flooding. Now we don't waste seeds anymore."* (Masake-gr1)

The start of season indicator also raised awareness for the farmers that the season was about to start and they started the preparation before the season started.

The majority of groups used the Start of Season and/or 9-day forecast to help their decision making for planting.

Monthly Outlook

The farmers indicated that they see the main added value in the Monthly Outlook as information to support their crop selection for the season and used in that way:

- Group leader from Kayanza: *"We try to follow the monthly outlook and look at the information. [...] It is accurate. We followed the information closely when we started to plant maize. Because of that they planted earlier and they got a good yield. Others that did not did not get a good yield. [...] It also helps in crop selection. If it will be a dry season we will select other crops."* (Nyabikenke-Gr2)
- Group leader from Karusi: *"The Seasonal Outlook is important, to know ahead of time when it is going to rain. For tomatoes, we have the seasonal Outlook and that is how we knew it was going to be rainy. So we decided we were not going to plant tomatoes last season and waste the seeds on it. For others that planted in the rainy season it*

was a failure. [...] It helps because he knows when to plant and what kind of crops to avoid and what crops will grow well.” (Kanyereza-gr1).

- Group-leader in Gitega: “We knew that the season A will have a reduced rainfall. This information helped us to plant beans which were not used to be grown in season A due to heavy rain. Beans do not want waterlogged soil. Now we are happy that bean plots are doing well. We informed our neighbours who are not G50 members. Some of them believed our information and they also planted beans. Now they are asking us to register them in our group.”(Buhunja-Gr1)

Limitation

Not all groups know how to apply the information, and see the added value (yet). This is mainly reflected by some groups who were not well able to answer on the use and added value, but one group explained it as follows:

- Group leader from Kayanza: *We focus on the weekly forecast. Most of it was accurate. We find it more useful than the seasonal outlook. It is not accurate enough. It is kind of vague for us. If we could know it day by day it would be better.* (Nyabikenke-Gr1)

It is also mentioned by farmers they are not always able to apply the information of the Monthly Outlook.

- Group leader from Gitega: *“I know what the weather will be next month but I don't know what to do with the dry period. Irrigation is not possible on the hills”.* (Nyabikenke-Gr2)

A recommendation from one group is to indicate the start and expected end date of the rain season, to estimate the length of the rainy season. This can be used for crop selection.

Follow-up

The Monthly Outlook graph will be revised due to technical issues in the CHIRPS data. The Monthly Outlook graph initially showed the predicted monthly rainfall values based on the seasonal outlook and the observed rainfall values for the past season based on CHIRPS. However, the CHIRPS rainfall observations gets recalibrated after 1 month. In Burundi the preliminary values provide an extreme overestimation of the actual rainfall. As a result the observed rainfall of the previous month shown in our graph was always a lot more than the predicted value earlier and changes a lot after a month. This change is so extreme that the observation often moved from extremely wet to normal or even dry. To no longer confuse the farmer with the technical challenges of the CHIRPS rainfall observation system the revised version of the monthly outlook graph will only show the predicted values. The predictive values contain the information that is most relevant for the farmers.

Cultivating a new crop

Experience of farmers

The majority farmers that cultivated a crop they were unfamiliar with (tomato, soy or wheat) had a very good experience (79%). Farmers are content because they had a good harvest and were happy to learn cultivation practices for a new crop. Some had a negative or less positive experience (21%), caused by heavy rain or lack of manure. (Table 1)

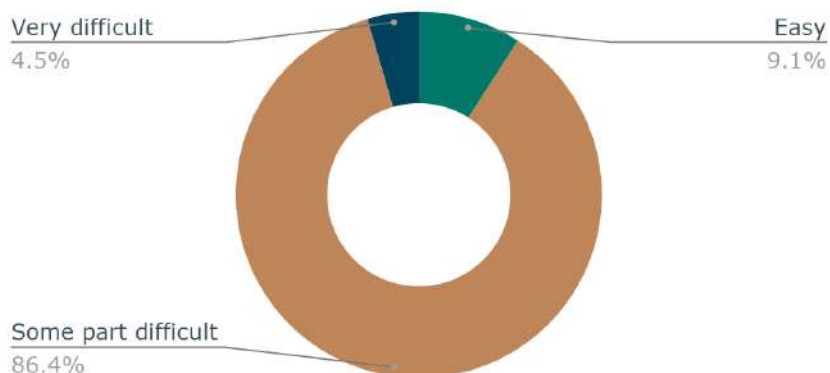
Table 1: Satisfaction with the new crop cultivation and explanation

Satisfaction	Explanation	Percentage
Very satisfied	Surprised with good harvest	26%
	New cultivation practices lead to good yields	21%
	Learning cultivation practices for new crops	21%
	Less inputs used but more harvest	11%
A little satisfied	Crop loss due to lack of manure	11%
	Crop loss due to heavy rain	5%
Not satisfied	Crop loss due to heavy rain and not yet accustomed to cultivation	5%

Most farmers did find some parts of the cultivation difficult (86%), a small part found it easy (9%) or very difficult (5%). The reasons described as what was most difficult are:

- The practice of applying (enough) chemical and compost fertiliser (8x)
- Learning practices of a crop that is completely new (5x)
- The follow up of all the practices is intense and requests effort (4x)
- Using the correct distances at planting (2x)
- To estimate whether the weather will be good (1x)
- Applying crop protection products (1x)

Figure 5: farmer experience on difficulty of cultivating the new crop



The experience was different for the crops. The majority of the wheat and soy farmers booked success on their plots. For tomatoes, the experience has been different, where not all farmers were content with the harvest results. Farmers reported destroyed crops due to heavy rains or flooding and Pests and Diseases (often related to heavy rainfall).

- Group leader from Karusi: *“We got tomato seeds and we tried it, but in the last months we got heavy rain and it made the tomatoes have some diseases. If we don’t have the stuff to fumigate it we lose it due to that.”* (Masake-gr1)

Farmers appreciate their experience with the new crops.

- Soya farmer from Kayanza: *“I chose soya because I had always wanted to grow it. I had learned in school it is a nutritious crop. Now with AgriCoach I knew how to grow it. If not, I would not have known what to do and just use the same practices as for beans. [...] I learned how to grow it in group meetings, where she watched movies and followed the calendar. The movies were easy, but I still watched all the movies many times.”* (Nyabikenke-gr1)
- Wheat farmer from Karusi: *Wheat was new to us, we were not used to it. Using AgriCoach the wheat yield really came out good. We also tried soya and it came out really good. Apart from issues that are inevitable in the land. We had rats that have been really bad eating our crops. They ate the wheat, but still I am confident for a good yield.* (Masake-gr1)

The most important reason for the crop choice was the nutritional value (82%) and secondary market prices (12%) (JEANNE Feb). Most wheat and soya farmers who have grown a new crop mention they will use the harvest to plant again next season. After that they will use one part to sell and one part to consume in the household.

Limitations

The cultivation of tomatoes has shown that the information on good practices is not enough to get a good yield. This crop is sensitive to Pests & Diseases, and farmers need additional solutions, like access to crop protection products.

Two farmers would appreciate information in the AgriCoach on how to cook these foods.

- Wheat farmer from Karusi explains as a joke: *I don’t even know the taste, I am afraid of it* (Masake-gr1).
- Soya farmer from Karusi: *I want to learn more about nutrition and how to cook food. You can have good yield but cannot know how to prepare it. Soya I don’t know how to prepare it. Wheat we will use as seeds. We will distribute in the group among the 25 so everybody can plant it. After that we will try to eat it.* (Kanyereza-gr1)

Follow up

Some information on the nutrition value of a crops and sometimes on the preparation can be found under the heading ‘use’ on the tab general information of the crop details pages in the AgriCoach. Currently AUXFIN is also developing the NutritionCoach. Food diversification, cooking and food preparation will be part of the learning materials in this coach. We will consider to enrich this material with lessons on how to cook specific crops or combinations of crops.

As indicated above, additional information and solutions for Pests & Diseases is being worked on in collaboration with CABI.

Long-term evaluation farmers

The groups that have been included in the case study have started to use AgriCoach in September 2019 or January 2020. At the time of this evaluation they have had a good year of experience.

Several groups explain the positive impact AgriCoach has had on them:

- Group leader from Karusi: *We want to thank the person who came up with AgriCoach, he is a genius. If ever we get approved as seed providers they want you to tell the person that came up with AgriCoach to come to the group because that person will get a reward. That person will be invited for a party at our group. We were empowered by AgriCoach. It has become our friend and our daily prayer.* (Kanyereza-gr1).
- Group leader from Karusi: *AgriCoach has changed a lot of things in the group. We can see the difference before and after using AgriCoach. Now we know how to use the good practices, we cultivate in lines and use less seeds than before. Even if I, the group-leader, am not around, the members know how to use spacing in their fields according to the movies they have seen. We know how much fertiliser is needed in one pocket. And after doing all of that we see that the yield we have is much better than what we used to have before.* (Masake-gr1)

The positive development comes also with new challenges: mainly the lack of market to sell products

- Group leader from Karusi: *We invest a lot in buying fertilisers. Sometimes we get a good yield, but we have to go to a small market where we lose because we cannot really get everything sold out. But the market is the problem of all crops. At the market the prices are very low compared to the investments. For example maize at the market 1kg is 680 BIF, but as sold as seeds 1400 BIF.* (Kanyereza-gr1).



Wheat hoeing, monitoring and processing

Discussion and conclusion

In this case-study we try to understand the user experience of some new features of the AgriCoach. However these features are part of a full and integrated concept (the AgriCoach). It was challenging to single out the exact influence of each of these features separately, as they do not stand alone and are not used in isolation. Therefore it is challenging to have a conversation with the farmers on these features in isolation. For example, often it was found that when asking about seasonal outlook, farmers responded with an answer on the 9-day forecast. Or when asking about the added value of CropSelector, farmers refer to the ActivityCalendar in their answer. For that reason it was often not possible to interpret the surveys unambiguously. Therefore this report is mainly based on a qualitative analysis and synthesis of the interviews supported by quantitative survey data where possible.

Use and added value CropSelector & SeasonalOutlook

- The AgriCoach is appreciated by all farmers of the case study, either rated as very good (91%) or good (9%).
- CropSelector: The CropSelector is valued by the groups, mainly to learn what crops grow well in their area, and to learn more about these crops. It is used to influence crop choice (what, where, when). It is very relevant for the groups to know the suitable crops for a season and land type.
- SeasonalOutlook: The SeasonalOutlook is not used by all groups. SeasonalOutlook is used to determine what crops to plant in the coming season, and to a lesser extent, to determine the planting date.

About half of the groups did actively use ALL the information that is offered in the C-version to its full extent (SeasonalOutlook CropSelector suitability and details). The other half of the groups focussed mainly on the B-version features (9-day forecast and calendar, movies) and use the new features to different extents. There are two observations that explain this:

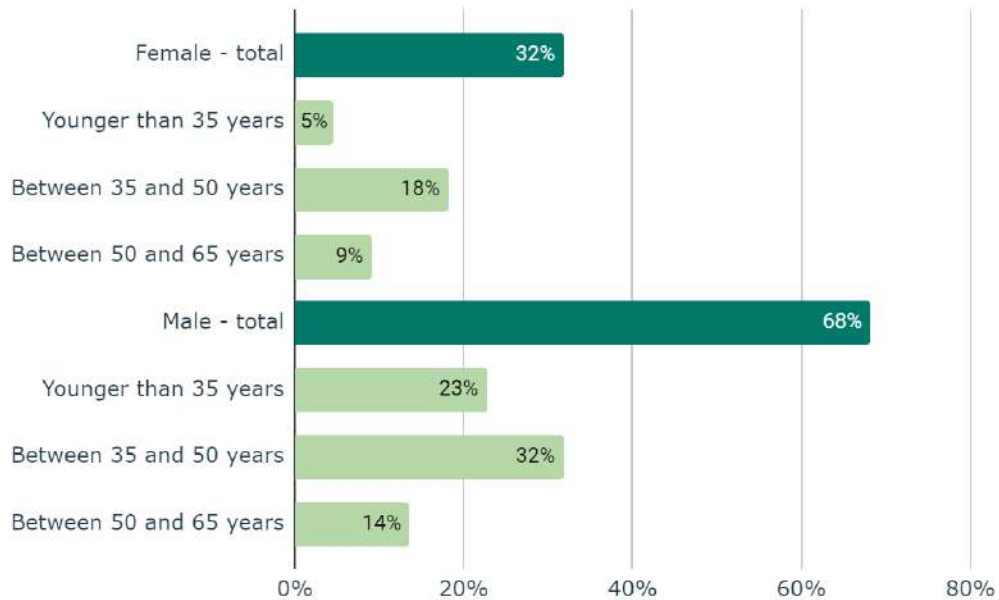
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- The newer features, SeasonalOutlook & CropSelector, are less concrete and less directly applicable, it requires long-term and complexer thinking to make use of the information provided. On top of that, the consequences are more impactful.

Cultivating a new crop

Farmers are well able to grow a new crop with help of the AgriCoach. Farmers indicated it is not easy and is challenging. They need to learn the new information and apply all the recommended practices at the right moment. The majority of farmers were content with the results and were happy to have been able to grow a crop they did not know how to cultivate before. For tomatoes, not all farmers had good results due to lack of access to crop protection products. The most challenging part was to learn the step of chemical and compost fertiliser applications. And farmers don't always know how to cook the foods.

Appendix: case study properties

30 farmers in Karusi, Kayanza and Gitega.



Crop and experience with cultivating this crop

Crop	Experience	Percentage
Wheat	Never cultivated before	29%
Tomato	Never cultivated before	24%
Tomato	Several times cultivated	6%
Soybean	Never cultivated before	12%
Soybean	Once cultivated	18%
Soybean	Several times cultivated	12%

Pictures from farmers field: wheat and soya



Pictures from interviews in Kayanza, Gitega and Karusi in March

