



**EVALUATING THE IMPACTS OF COVID-19
ON KNOWLEDGE EXCHANGE IN AGRICULTURE**

STAKEHOLDER WORKSHOP ANALYSIS

FINAL REPORT

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1 Introduction

A workshop was undertaken with a range of stakeholders representing a cross section of knowledge exchange (KE) organisations and activities in the Agricultural Knowledge and Innovation System (AKIS). The aim of the workshop was to explore the following overarching questions, with reference to the wider AKIS context:

- What has been the impact of COVID-19 on knowledge exchange activities?
- What are the opportunities for future knowledge exchange activities?

The analysis reported here complements that undertaken in an online survey and stakeholder interviews and forms part of the rapid appraisal methodology used in this research. Further details of the methodology can be found in Interview Analysis report.

The findings of this workshop will be used to inform the co-design of an online platform that allows the agricultural sector to collaborate and share knowledge.

2 Methods

A stakeholder analysis stage common to all methods (survey, workshop, interviews) was initially undertaken, this provided a sampling framework. Based on this, stakeholders were purposely selected to represent a cross section of knowledge exchange (KE) organisations and activities in the Agricultural Knowledge and Innovation System (AKIS). As the survey was oriented towards the farm community, this workshop aimed to represent the wider stakeholder perspectives.

The workshop was online and used the interactive Hopin platform. In total 39 participants attended, and there were seven break out groups facilitated by members of the project. Participants included representatives from England, Wales and Scotland associated with all mainstream agriculture sectors and the agri-environment, as follows:

- advisory services (private, independent and public)
- those with established support, knowledge exchange activities and initiatives (participatory approaches, monitor farms, demonstration farms) such as levy boards and grower organisations and NGOs
- agri-tech and design organisations
- agricultural scientists
- academics
- policy makers (Natural England and Defra)

Break out groups were arranged to ensure a cross section of participants in each. These were facilitated and used Google Jamboard to capture participants' views. These groups were tasked with discussing two key questions (for further details see Appendix):

- What has been the main impact/change in knowledge exchange activities since COVID-19?
- What would you like to see in the future for knowledge exchange activities?

They were also asked to consider the impact on future of the AKIS more widely. The plenary and break out group discussions were recorded and transcribed (with consent of individuals). The transcripts together with the Jamboards were analysed to look for common themes. These themes are

interconnected and relate to all the KE activities and their positioning in the wider AKIS. These themes which were first identified in the survey, were extended in this workshop and further developed in the accompanying interview analysis, are illustrated in Fig 1. The AKIS context and target audience characteristics and Adaptability, digital literacy & confidence themes were not widely discussed in the workshop.

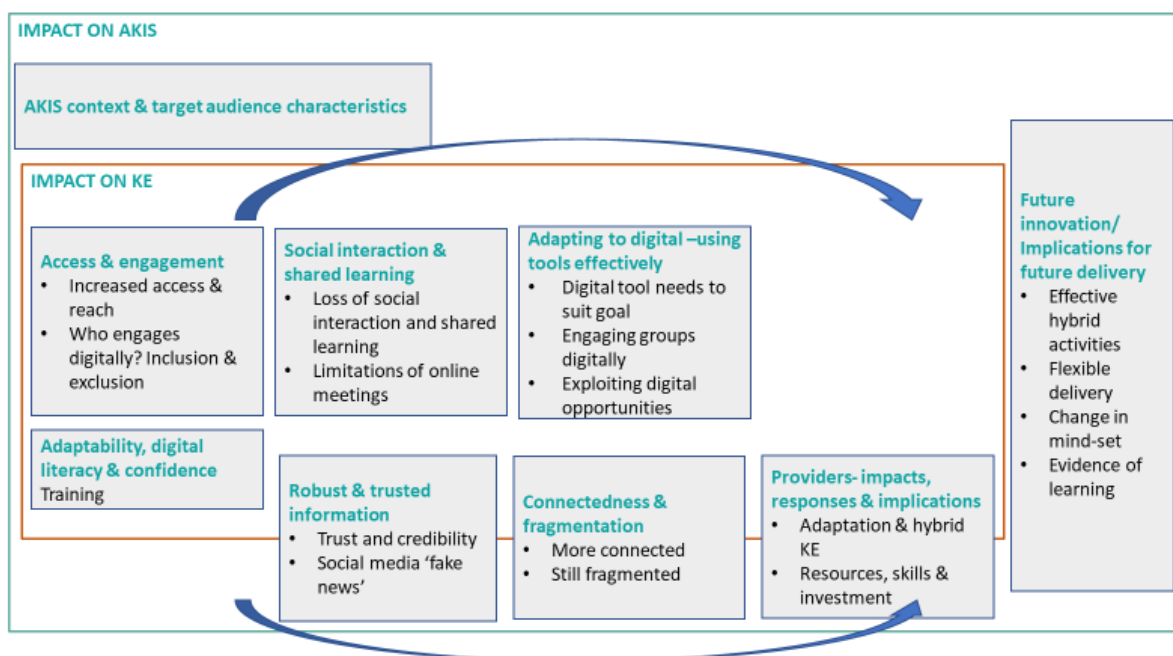


Fig 2: Key themes revealed in analysis

3 Access and engagement

Greater access and opening up knowledge

In line with survey analysis there was agreement that the increase in use of online KE following COVID-19 has increased access to information for the majority of farmers. Farmers find it convenient and save time in travelling. Overall the outcome was felt to be encouraging, both in terms of more numbers and greater diversity of people engaging.

There was also consensus that online events allow people to attend meetings and to view trials online who previously would not have travelled, so “Geography has been less of an issue”. Overall from a providers’ perspective, digital tools have increased people's availability to attend, and offered them the flexibility of being able to listen to recordings in their own time, the follow up with dialogue:

“So, one of the things I saw was my talks to farmers were recorded by agricultural organisations, and members were able to access the content later on, and then engage with me through email messages”.

However, although some participants felt that the preference is for people to attend live because “there's that kind of slightly more connected feeling” and they can ask questions.

The digital experience was generally thought to be positive and “people that have got into it and definitely really enjoyed it. Some people have watched a lot”. For some digital fatigue can creep in for others, although it was thought that for others they have not yet reached ‘peak webinar’.

There was agreement that online activities have opened up access to particular experts that would not have happened otherwise. The value of international experts’ knowledge was highlighted: “It (a virtual conference) was amazing compared to what we could have offered them with a live event”. This was thought beneficial as agriculture in the UK can sometimes be a “bit of an echo chamber”. International webinars from New Zealand, Canada, on, for example, pulse crops are now available so as one participant said “it has opened up for me in a lot more knowledge”

This opportunity to open up communication not just with the farmers, but others in the AKIS including educators, was emphasised.

Increased reach but depth of engagement questioned

Participants who provide information and advice agreed that numbers attending events online had significantly increased compared to face-to-face meetings. One person described a spring oats event which had 350 participants compared to 80 the year before; while the attendees for an agroecology organisation’s webinars over the last 12 months have been “far in excess of what they were expected”. This experience is repeated across the country, in Scotland for example:

“I think the overarching thing I've seen has been our numbers. So, at times, we could have had 20 or 30 coming to an event. We're now sometimes up to 200. So, I think the numbers who can engage have been hugely more, but we question about the depth of those engagement”

This caution about the depth of engagement was echoed by others who agree that, although they have had much bigger reach with online delivery, the quality is not the same. So there has been broad but shallow reach but the depth of learning actually happening online is questioned.

Regarding the sort of knowledge being shared, one participant from Scotland noted that farmers are signing up for “cross sector stuff- broader...a scope for stuff has been what I've seen rather than more focused things”.

Who engages digitally? Inclusion and exclusion

Digital engagement cannot be characterised by **sector**, more by individual preference according to participants, although there were differing views about sector responses. Participants (AHDB, Scotland) tended to agree that they had not noticed any sectors that have engaged more or less, as it was more to do with the different type of people, as “it comes down to individuals”. For example: “In Scotland, I've seen good engagement across a range of sectors using virtual approaches..... Even crofters in the north of Scotland, they are rapidly doing this”. The same comment was made in Wales for livestock farmers, that they are coping really well, with accessing things online not seeming to be a barrier.

There were a few comments, however, suggesting that arable farmers generally seemed to have responded better to the online sessions, whereas “ I think the livestock guys are maybe the ones being left behind slightly”. However, most participants acknowledged this is a generalisation and that even within arable, there are differences between larger farms and smaller farms. One participant referred to some evidence showing that potato growers are less responsive than arable:

“So for potatoes .. normally, we'd have the agronomist conference, and we found that the results of the survey showed that people that would come in person, the potatoes, agronomists and growers, they wouldn't engage online, whereas for cereals, oil seeds, they were more likely to engage”

Within communities, such as those interested in regenerative farming, there is reportedly good engagement across the community:

“People who are actually generating research we've got people doing on farm trials. We've got others who basically just want to share their experiences of their transition towards regenerative farming. So, all I would say all of them, seem to be equally as engaged”

There was agreement that professionals will definitely remain online and that there will be a lot of engagement from the R&D community and the knowledge exchange professionals. However, some participants expressed concern that there is limited involvement overall of the people who are the target of the exercise, namely the farming community.

Inclusion - reaching new people

The consensus was that diversity of people engaging has increased with online activities, attracting people who had not previously engaged with KE or would/could not attend meetings. This led some to question the characterisation of ‘hard to reach’:

“Next thing we found we've reached people that have never been to one of our meetings in person before. So, we've reached like a new group of people. I don't know if, if you it depends, I guess what we define is ‘hard to reach’ whether that's a technical hard, like as in technology, as in internet hard to reach online, or whether it's mindset hard to reach like there's some people that would probably never plan on coming to one of our meetings, but they've dialled into our webinars”

This opening up of opportunities for previously excluded people was also expressed in terms of different behaviours online, with the anonymity enabling people to be ‘keyboard warriors’ (allows a shy person to ask questions). In this respect the chat bar was described as very useful. Others noted the changing dynamics between different characters, with introverts and extroverts behaving differently online compared to face-to-face.

“I genuinely think people ask more questions on a zoom chat than they would in a room where you're asking to put their hand up, because it's a much less daunting prospect to type something in and send it”

However, one participant noted that those already engaged will derive most value:

“If you've got someone who's involved in KT and is very engaged, knows all the platforms and what you can do, they're probably maximising that value”.

Although ironically, it was thought that current activities might alienate those progressive farmers already getting knowledge online because the new approaches suited to new audiences could mean they lose the perception of exclusivity.

Exclusion -disengaged

Despite some increased attendance, participants also thought that online delivery can represent a barrier to attendance and consequently some people are excluded from engagement: “there'll be some people that wouldn't engage with an online delivery, that would come to a face-to-face meeting”. For example, analysis by an a KE provider in Wales found that traditional farmers are not engaging with digital:

“Here in Wales, we do have very traditional farmers that like to like to get that face-to-face engagement. And if they don't get the face-to-face, they're not interested in anything else”

From the provider's perspective therefore they have to continue with traditional formats as well as digital to suit all audiences. One commenter remarked that there is a group of farmers who are technophobes, who will just not engage on digital platforms, but “they're quite happy to come along to meetings. They will drive hours sometimes” and this was attributed to farmers being very isolated in their daily work and seeking social interaction. Concern was raised about losing touch with disengaged farmers:

“There's only a certain percent ..., you know, top third, and they've got the everything sorted ... it's digital all the way nearly. And then there's the other segment of the bottom.... It's that group that we've lost engagement with”.

Although they can usually be reached at markets and through traditional media such as magazines, it was felt that the impact of COVID would make it “impossible for them to catch up with the top third unless they're going to get digital”. Even advisers are thought not to speak to this bottom third (suppliers have the most contact with them). The question was raised of whether effort should be put into bringing these people into the ‘digital fold’ or whether there should be acceptance that there is going to be a percentage of farmers just not engaging in digital activity:

“I'm sure we'll be left with like, quite a substantial group of people that, you know, they don't want to talk to the algorithm as they want to talk to people, they don't want to engage online”

The implications of this for dialogue and feedback were raised: “Does that mean that some of the more sort of tech savvy and more common voices are now heard more often and more loudly?”

Although the survey identified access to broadband in rural areas as a key issue, this was not prominent in workshop discussions.

In conclusion although online has many positive aspects it was noted that “We just need to be mindful of the audience and how we're reaching them and portraying that information. And ensure it's doing more good than bad”.

4 Adaptability, digital literacy and confidence

There is positive engagement and a willingness to try out digital tools to gain access to events across a range of farmers, both small (e.g. crofters) and big. However, the groups agreed that there are evidently some farmers who lack confidence or digital skills. There are limited opportunities to get IT skills/training and many farmers are reluctant or do not want to do it unless they can sit down with somebody.

“We're aware that it's difficult to do online [ICT training] because you can't teach somebody how to switch a laptop on. ... there's like 80 to 90 people wanting to get on that course. ... They don't even want to do it over the phone. They want to do it sat down by somebody”

Although training funding might be available now, one person noted that “When training funding stops these people need to catch up somehow”. This theme is closely linked to the discussion of exclusion above. The need to upskill farmers is multi faceted, for example, training in the use of digital diaries to ensure they don't forget to attend meeting was mentioned.

5 Social Interaction

Loss of social interaction and shared learning

Participants agreed that there are elements of social interaction, particularly in field activities, that cannot be replicated online, specifically the peer to peer learning, sharing of experiences and the generation of new ideas, as these stakeholder (advisers) comments illustrate:

“It's very noticeable that in terms of our group meetings, ... the social interaction is very much missing. So, the peer to peer learning that goes on normally within these meetings, is stilted or are missing altogether”

“What's also missing, I think is that sort of, at an event, you'd have that peer to peer support and mentoring without it being false. And so, you know, a real event, you'd, you'd perhaps see a demonstration, or you'd finish a session, and then people would talk and say, ‘Well, at home, I've done this, and on our business, I've seen this, and the guy next door to me has done this...”

Interaction in face-to-face events is also thought to prompt ideas generation and this is missing online:

“You lack the sort of genuine ideas generation [in zoom meetings], you know, it often it's a lot more staged a lot more formal. And, but then sometimes the social media side of things can take over a bit of that if you like, and so yeah, so it's interesting, the kind of ecosystem of digital and can be quite different”.

Participants agreed that in a webinar or even in interactive online meeting, “you get a different discussion to that you would have in a field and a different sort of level of interaction, as in the field questions are being stimulated”. At meetings, growers share experiences about, for example, having a difficult season, and there is some comfort to hear that everybody else has had a similar experience:

“Yeah, it's that sort of interaction you sometimes get, which you can't get when you're attending a virtual meeting, because you don't share those personal things”

These group field event experiences are hard to replicate for a number reasons, according to the participants:

“In farming, seeing is believing. And your people adopt the things that they're told by people they trust. Without having the ability to hold live events to actually demonstrate activities, and to actually get people involved. It's difficult to communicate effectively”

This is seen to be problem with cereals and crops as a lot of knowledge exchange is based around trials or “physically going and looking at things and seeing the difference there with your eyes”. This is perceived to be a struggle to put online:

“How to do a trial site online video? It's difficult for the guys in crops who have a lot of trial sites. And although we've carried on obviously monitoring them, the opportunity [to see them in field] is gone”

Associated with this is the sensory experience of being in the field, for example, one participant described how he used to bring beetles along to show to farmers, as that is a powerful way of changing attitudes and getting interaction, which cannot be replicated online.

The depth of knowledge delivered online was also questioned, as a lot online activity was described as superficial:

“You can't dig down as easily if you're not face-to-face or on a farm or looking at something physically. I don't think it translates as well, for biodiversity as well, like trying to show like soil biodiversity on the screen. You have pretty pictures, but it doesn't compare to actually wriggling worms”

This was felt to be the case even if farmers are filming themselves in the fields, doing something practical like mob grazing or cover crops since “it's never as powerful as being on farm truly demonstrating the techniques”. However, this view was contested by one KE expert who said:

“But actually, when you ask the farmers and the agronomists, they probably disagree with us a little bit, I think, you know, they found it. They found it better, in some ways to be able to have, like you say, like their pictures and things. Because it's been online, we've been able to get pictures from the field from such a wide geographical area that people have been able to see, well, this is what it looks like, you know, in in one county, this is what it looks like in another county or you know, in a different part of the UK. So, I think probably trying to get down into the real detail of whether the practical learning has been impacted on I think it's sometimes based on our perception as well”.

Limitations of online meetings for social interaction

Online events have limitations with respect to fostering engagement and social interaction characterised by face-to-face activities. Participants pointed out that there is a risk with large online events become more top down than before because: “When you're online there is a strong possibility that there will be a presenter talking to the audience, and farmers who are in a webinar will be less inclined to chat and participate”.

In this respect it was noted that large online events do not attract questions as farmers are reluctant to ask about specific issues when there are lots of farmers that they do not know. There is also a risk of coming across badly, according to one person, if challenging topics are being discussed. In this sense it is hard to get debate going, especially for anything contentious.

Equally the participants agreed that a speaker finds it harder to read the room in online KE situations, for example: “When I present to a roomful of farmers, I can see their reactions, and it's easy to tailor my talk to their areas of interest but [online] It's hard to give visual cues to people in order that they can interrupt”.

Issues with networking were identified by a number of participants who noted that, although digital is good for finding out exactly who is at the meeting, it does not allow you to meet those who are marginal:

“I don't think I do as much networking, you know, with people who are sort of mildly tangentially related to what I'm doing, you know, if you go to a meeting, and there's lots of different people there, you'll meet people at random. I don't think I meet people at random. Not anymore”

Some people also felt that online networking platforms can be intrusive, unlike “when you're in person, because you kind of choose who you want to speak to”.

Issues were also raised about building a community/network from scratch. Whilst participants agreed that setting up activities is helped when the provider knows the farmers already, there are difficulties in setting up new networks or launching new initiatives:

“Well, I wouldn't say it's been easy at all. But the personal side of it has been made easier because we already knew the farmers that we were working with us the host farms. But where it's been more difficult is where we've been launching new initiatives with people that we maybe haven't got such a strong personal, like, personal professional relationship with them”.

“We've got a new monitor farm, I haven't done anything to start that monitor farm up in this virtual world, because I don't know if you can get that community in that sense, or, you know, build those networks, virtually”

Another interesting comment was made about how difficult it is to break through using online resources for newcomers who do not have strong networks and experience within the industry.

6 Adapting to digital - using digital tools effectively

Choice of digital tool - depends on what knowledge you want to convey

There was a consensus that the method or tool needs to be suited to the KE goal, the audience and the context:

“You can't lump it all in together. Because I think doing a webinar is quite different to doing a meeting for 10 people, that's quite different to doing a meeting for three people that's quite different for doing a meeting with people that don't know each other to an established group”

“And I think we're thinking about it, does it suit a podcast or a webinar or a three minute video or a news article?”

“I think you expect different things for different scenarios, don't you? You know, if you've come along to the spring open forum, ...well you know I learned something.... If you've come along to a business group or an agronomy group, ..., that's as much about the conversation, you know, when somebody might have set up my cover crop in this way and we ask 'have you ever tried that'?”

There was general agreement that online can work well with KT. This is the case with technical knowledge, or information about regulations, for example, that needs to be conveyed. This can be done replicating a face-to-face meeting but facilitation needs to be different, according to one participant:

“Knowledge transfer has worked really well in this kind of way. So as example, we did a spring oats forum, you know, where we'd normally have 75- 100 people in a room, we had a massive more reach on the webinar, it was on a technical event, one to many worked really well....we've run all of our arable business groups digitally. They've involved the prep in advance, and that but I still run the meeting, in some ways as we would if we were all sat around a table. And but it does need facilitating in a different way”

One comment was that for scientists “agriculture is about communicating numbers” (for example yield, fertilizer rates) so they need KT tools for this. Compliance and was another area where information could be delivered effectively on line:

“By video or webinar, you know, to the masses, and then followed up by an adviser's farm visit. These online KT events can be delivered to farmers who are sitting on their tractor and will be logged into the event”

Similarly, it was suggested that webinars could explain all about the ELMs framework but farmers will “need you on the farm for advice on what exactly they're going to apply for”.

Engaging groups digitally - enabling social interaction

Larger meetings

There are opportunities to enhance social interaction in larger online meetings by enabling networking and creating a good digital/remote social experience. There was a discussion about the best platforms to exchange and share content, and to improve networking and engagement. Participants agreed that some have limitations (e.g. GoToWebinar) and some allow more interaction (e.g. Hoppin).

Different platforms are thought to offer different levels of KE or KT as well. Having platforms where people are able to interact, with breakout rooms, etc, are more useful for KE than webinars where people are just listening. The choice of online platform has a large impact on the quality of interaction, and therefore quality of knowledge produced from the interaction. Examples were given of effective platforms:

“Where you actually feel like you're at an event. So we have like an exhibition space. You can direct chat with people, you can put meeting rooms, like meeting rooms with people”

“You know, you can't replicate and copy paste, that the level of networking or the anecdotal conversation you'd get on the coffee queue in a physical format. But you can do it in a different way...[when successful] you could almost feel the buzz in the chat”

Participants arranging large meetings commented that they are always looking for the ‘perfect platform’. However, it was noted that farmers get confused if platforms change for each event and that it is best to be consistent and keep it simple for farmers. There are also limitations mentioned with some platforms (security and GDPR).

According to some, the online social experience can be helped with a local gift/beer pack etc which breaks the ice at the beginning and provides that opportunity for everyone to have a chat over something they all had in common. The importance of the meeting manager was also highlighted and choosing someone who can effectively manage the online experience.

Smaller meetings

Whilst digital meetings tend to be big, there is survey evidence, according to one participant, that “it's not what growers want”. In response a participant said they were trying to change their approach to do regional level type meetings which are more targeted and have the added benefit of providing more relevant information as well. As one person said: “So it gives us an ability to reach people with more specific information in smaller groups, but then it takes a lot more of the organization's time, which is a challenge to get to”.

In smaller groups social interaction is easier to manage. There was also agreement that smaller meetings can be more effective in terms of knowledge exchange. Examples were given where small size business group size meetings (eight to 12-15 people) where knowledge exchange and peer to peer learning were described as definitely having taken place. There was consensus that a better experience can be had when people in a group, particularly farmers, know each other beforehand, this allows a more natural conversation. The importance of a different kind of facilitation was stressed:

“It comes down to facilitation– some people do not like formal (hand up) they know each other well, anyway. And that's a different kind of, you know, there's all those things, but actually, it's felt much more natural”

Facilitation skills were emphasised and some points about good online facilitation were noted - such as having time to introduce everyone around ‘the room’; having cameras on so people can see each other's faces; and good planning and rehearsal/preparation.

Adapting- exploiting digital opportunities

A number of examples were described of KE approaches which had adapted to the COVID restrictions, which have maintained interaction, some more effectively than others:

“I've been very impressed. I've seen and I've certainly kept the show going probably been doing more videos, we've been using WhatsApp.... So the groups of growers have been able to share and interact themselves. And that has worked extremely well for us”.

“I feel a lot of my connections have been maintained for the virtual world. And I am so pleased. I think we've effectively delivered over the last year, there's not much we haven't done. The level of engagement is different on different levels. We've had much bigger reach on areas that I wouldn't say we've been as effective as we have face-to-face, but I feel like we've maintained”

Little and often

The efficiency of online delivery and the ability to deliver bite size, targeted events with more emphasis on the key message was discussed. The demands on farmers' and other stakeholders' time (and the competition from other online events) has forced people to perhaps try a bit harder and try different things, s this participant explains:

“We need to do shorter sessions, doing different things...I think the presenters have become slicker, more professional, in that, short and sharp. So, this skill is in presenting a 10 minute or six minutes or 15 minutes, rather than somebody being given the latitude to stand up on their feet for an hour”.

One person described how they had adapted a two-day training and split that over three mornings. This brings opportunities: “because you can run a series of shorter sessions in a way that wasn't previously possible when people had to travel”. The advantage of this was explained:

“It allows you to do little and often.... you're working with farmers, you're sort of reminding each other and updating each other. And then you might have another webinar in a month's time, you know, so it just allows that if you're actually looking to change people's practice, sometimes that little and often approach can work better than then a, or is actually more effective than a big inspiring, full day”.

Using tools such as Whatsapp can ensure there is continuity between meetings as well, one example was described of a mob grazing operational group using Whatsapp for discussion to ensure connectivity between meetings. Social media is seen to be useful to provide some continuity between events:

“You don't only want people to come to an event but you need to keep a steady flow. I think that is actually one of the things, to maintain a flow of content has got better actually. So, people [providers] know they can't just do one bit live next week, that's not enough”

The value of Twitter in terms of its brevity and immediacy was also highlighted:

“People are increasingly time poor. You know, we are as an industry, trying to drive efficiency, and farm gate level. growers, managers, farmers, and workers are all getting busier and busier and busier. And that is a challenge. So, one of the features of Twitter as a medium if you like, is that you know, it is very finite. You can read it or disregard it”

Twitter was described as popular and participants use it to engage those who do not go to formal webinars, it is also thought to support learning:

“I think farming is such an active learning, you know, farmers have always learned by doing and seeing, haven't they? And that's why Twitter works really well, I think, because it's conversation and photos and why it works really well on the ground”

Videos and podcasts

There was agreement that “You can’t just translate your usual stuff to online”, online has got to be engaging and entertaining.

Visual content become more important online with KT and videos are popular (even international ones). The mainstream use of YouTube by the farming community was seen to confirm that videos are a popular way of disseminating knowledge, however, they need to suit the topic and context:

“I've also found that videos, if they are sort of if they if they tried to cover anything too complex, and they weren't really work, because there are things that you can only explain with on the ground advice. it's better for explaining support concepts or giving examples of farmers”.

“COVID has taught us that videos and podcasts have huge potential but they have to be relevant and cover topics appropriate to be covered in a video”

“And videos sort of previously in some groups were almost a bit of a cop out, it was like, oh, they've made a video they don't want to talk to us, whereas now we know it needs to be more personal and like more localised knowledge”.

Podcasts were also described as popular, especially when month or season specific (farmers listen to these while driving). All outputs need to be easy to find online, however, as YouTube for example was described as a ‘minefield’.

Overall participants agreed that the online tools used depends on learning styles, “some farmers prefer audio visual, others will prefer reading”. Established activities such as providing a hard copy of publications after an event were seen to remain important.

7 Robust and trusted information

Trust and credibility

The question of credibility of online sources was raised in the survey but not considered to be a central issue in the workshop. For one participant, farmers were seen to continue to use the same sources albeit the communication methods have shifted:

“For generations, the farmers make decisions based on the information they get from people they trust. And therefore, it's still much the same. The people that they know and trust are the ones that they will take the advice from and will listen to”

However, other concerns were raised, for example, the fact that online sources (accurate or otherwise) remain online for a long time was noted:

“The risks is, I guess, the accuracy of the information, you know, when you're doing an event online, and it's recorded, it's going to stay there for until somebody decides to take it down, and it can be reused. And so if it's not accurate, there's that side of it”

Other issues such as privacy in meetings were discussed, specifically the difficulty of putting on an event where you want to attract a select audience. One participant disclosed that he had to have closed meetings because there was a risk of people coming in from the outside who might cause problems. In another example, one stakeholder described the problem in trying to recruit people to a

new dissemination hub, as the growers misunderstood the concept and accused the organisation of 'data hoovering'. This suggests a level of mistrust prevails regarding online activities and data.

Social media and spheres of Influence

There was consensus that, with increased social media traffic, there is scope for misinformation becoming a problem, as these quotes illustrate:

"You could rapidly get communicate good information, but equally, you can communicate bad information"

"Anybody can put fake news on Twitter. How does the lay person sort out the wheat from the chaff in terms of technical information But how do you distil it? What is really worthy of being shared? What's robust?"

However, some participants pointed out that most people would be able to distinguish between "something you might have read on social media, compared to something a little bit more authoritative".

With large amounts of social media traffic, the difficulty of finding relevant information is reinforced, as noted here:

"The problem we have as an industry or problem I have is that there has been a proliferation of digital threads, you know, generic term. And to engage usefully in these, it requires quite a bit of time out of your day be working, they are social day of your day. And with WhatsApp, there is a lot of drivel in many of the threads that have absolutely no relevance to us individual but actually pick out the nugget that is there"

"Twitter's awash with all sorts of things that have struggled so much to know what's relevant, what isn't and what will be useful"

These comments reinforce those in the next them about fragmented information. Twitter is also considered very influential with the "sheer amount of engagement where you know, strong, strong messages aligned to whatever they're interested in". This is seen to create emerging spheres of influence, as one participant noted:

"In terms of in terms of players, I think, if you have a look on Twitter, like they're kind of sphere of influence, because of COVID. And everything being online has changed quite a bit in terms of what people are sharing..... But in terms of sphere of influence, I think things have a bit shifted"

Another participant agreed: "I think Yeah, now there's like, a top 10 celebrities in the farming world" who can be effective at raising awareness but not necessarily debate".

8 Connectedness and fragmentation

More connections

Closely linked to the discussion about increased networking and attendance at online meetings, digital tools were felt to be effective in improving personal connections, although a wider positive impact on KE delivery and AKIS fragmentation was not mentioned:

"All right. You know, on some levels, it's definitely more connected. For example people with more time on their hands (professionals) can connect to a lot more activities bring different stakeholders together, you know, because it offers an opportunity to doing more than probably face-to-face group"

“I think there has been a bit of an intention or a desire for groups or collaborators to start trying to form some almost like sector wide opinions and to really sort of gather support and sort of trying to create some traction for certain ideas or, or innovations from amongst our partners on agroecology. Now whether that's anything to do with the COVID situation or whether that would have happened anyway. I don't know”.

Still fragmented

However, there is a sense that fragmentation in KE delivery still exists and this is compounded by a plethora of new online information sources. Ironically information is more accessible than ever but it is harder to actually find it. One participant remarked on the silo nature of organisations:

“I personally don't think there's been a change there [still fragmented], I think we were guilty of operating in isolation, in our own little silos just as much as before. And there is obviously some connectedness in some areas, but I think it's pretty much the same as before”.

Regarding links within the AKIS, meetings with advisers are usually in-person but scientists who participated said that they have not had any meetings over the last year, thus disrupting this important link

“I have my most rewarding meetings when I meet face-to-face with advisors generally, because we're on the same wavelength”.

9 Providers: impacts, responses and implications

Providers - impact

Some participants said that despite COVID they still had to deliver KE support, for example some providers (public funded) had to continue to meet targets and requirements for the government. Many advisers are also reportedly continuing to visit farms and provide advice in a distanced manner, as some participants explained:

“Farmers, you know, they'll still be seeing agronomists, they've still been seeing specific advisers that they can talk to outside and things and so that you know, really essential stuff has carried on happening whereas maybe the more like, stuff that seems less essential like innovation initiatives are not taking place”

“I have been still working on the farms at a crop inspecting crops. So although I'm not meeting many people, I'm actually going on to farms and talk to someone at a distance. So for me my activities have not really been reduced too much during the green part of the crop”

Some companies and farmers themselves were restricting access, this had repercussions for the grain sampling according to one participant:

“And also, many companies are not wanting their representatives to go on farms now especially like for sampling grain, which from a health and safety point of view, they prefer the farmers to do that themselves and send the sample in. One of the problems you have there is the quality of the sampling coming in – so potentially loads are rejected”

More efficient use of resources and flexible planning

Participants commented on the resource and cost saving element of virtual conferences.

In terms of planning events participants agreed that organisations can be more flexible now. One person described the use of tools to evaluate interest, such as high sign up, or positive engagement in a Q and A session. These make it easier to be reactive and provide more popular topics. In this way organisation can potentially be more 'agile' and as one person said "digital gives us that, you know, that element of flexibility".

Capacities and capabilities

Demanding on skills and time

However, despite some cost savings, there are resource implications in terms of skills development. For providers of KE, adjusting to COVID restrictions has been a fast learning curve and most have learnt on the job, as one participant explained: "We've learnt a lot of digital tech, it's been a learning experience – and a bit hit and miss". There was agreement amongst participants that professional and knowledgeable communicators are now highly valued. It was noted that visual learning is really important for some audiences, so knowledge providers, need to deliver effectively and require additional training on creating videos, or even taking photographs of trials in the field, as "there's a huge misconception that that making a video is really easy".

However, there also needs to be a team approach, as there are many facets to new online delivery, as this participant remarked:

"Before we used to be able to run a meeting, turn off a meeting deliver that, and that was all you did. Now, you might have to run the meeting, do a podcast, do a webinar, do a press article, do a tweet, you know, do a little snippet video, you know, write a newsletter? Am I going to be expected to do all of that?" Because each of those are distinct and separate skills. So it requires a team approach or building a team in order to facilitate delivery of that"

Discussions about hybrid events in particular considered the need for new skills and capacities:

"So we need to think in terms of skills for blended events, it takes a bit of rethinking of what we need in terms of knowledge exchange, skills and capacity."

"If you try and do every event online, and in person session, you're doubling up ..and obviously that adds to capacity demands".

For many participants, facilitation was seen to be a key skill. One explained how previously the team were always flexible and meetings often were led by the conversation, but that online meetings are more formal/structured, and this requires a different approach:

"And we've almost had to retrain our brains a little bit in terms of what we offer as a key team. It's much more like facilitating rather than the face-to-face meetings that we used to deliver. So yeah, developing some of those skills and restraint, I think, for us has been quite difficult. It's more of towards knowledge transfer the knowledge exchange in some situations because of that, you know, it's sort of an online conversation"

Facilitator skills are regarded as varied as some people prefer facilitating face-to-face events compared to online version.

Need to professionalise and upskill

Participants pointed out that the whole process of delivery online has changed over the last year and now requires higher quality online provision using professional and knowledgeable communicators, which as some pointed out requires professionalism and almost a higher level of investment than a real meeting.

“The whole process has also raised the bar. So, you know, what if you could get away with, you know, a pretty crude video beforehand. And luckily now, you know, phones and things are quite sophisticated, and you can get good quality if you're, you know, careful and know what you're doing. So, you know, that adds additional cost, doesn't it?”

Marketing has become very important. With different delivery options and different learning styles, knowing, segmenting, targeting and monitoring different audiences is needed more than ever. Providers recognise this needs resourcing, as one said: “Our marketing budget has been turned upside down”, for another:

“I'm a marketeer, the sudden requirement of my expertise for colleagues and helping to bring them on and train and share how to do things. It's just gone through the roof, and suddenly everybody wants to be doing videos, and then when they haven't done them before, they need infrastructure support”

For many COVID has prompted an appraisal of their activities:

“So it's getting the balance between the two but COVID definitely helped us reevaluate what works, what doesn't work”

Participants also reminded us that for professionals, SMEs and academics: “digital fatigue is a massive thing at the moment and people are exhausted by it”.

10 Future innovation and implications for future delivery

Effective hybrid activities

There was consensus that there will be demand for continued online provision post-COVID, however, how this will be delivered in balance with face-face activities and meeting a range of preferences and learning styles is still being considered. Whilst hybrid activities are proposed, a number of participants expressed concerns about simultaneous hybrid delivery:

“Yeah, there has been quite a lot of requests for that sort of thing already, you know, people are saying, will you keep this [online] going? Once we go back to normal looks like, and you can understand that, can't you because, you know, save so much time. And some people would always prefer to be in the field. But for others, it might just, it just might not be practical. So yeah. And it'll be interesting to see how that's managed, then, because it's quite a different thing. You can't just film the event happening live and stream that because, you know, it's just not going to work like that. And that's what I mean, like, do you organise a separate webinar, but I guess what we're saying here is choice, isn't it? It's giving people choice moving forward”

“We've had a lot of people saying, you know, oh, can you live stream or your meetings, but for us as KT facilitators, it's recognising that actually, the facilitation skills of an in person meeting are very different to the facilitation skills of a webinar. And actually, can we live stream a meeting and deliver a quality event for all audiences? Or do we have to almost think about them with two different two different hats on. And it's two different events, but delivering maybe the same content in slightly different ways”

“There's a misconception like people have said to us, you know, I'll just live stream your meetings and I just joined remotely. And I think that simplifies knowledge exchange too much and the facilitation skills that are required to deliver an online meeting versus an in person. It will just go wrong if we just tried to livestream a meeting from a village hall”.

“I almost prefer having everybody at home on a screen. Going back to what we said, doing a virtual meeting effectively on the ground it needs to be facilitated in a very different way. And I think we might run into the danger of people are trying to do both, and then neither is quite right.... I keep the virtual and keep the on the ground on the ground and delivered to two different audiences”

“It's the risk of my biggest fear with blended is that you deliver for nobody, that you you're trying to deliver for everybody and that you end up delivering for nobody”

This prompted quite a lot of discussion about the challenges of making hybrid activities effective:

“If you are running an event, at the same time, you have to capture digital information which is hard work. The need is to build on experience and whoever's doing it will think seriously about what worked really well digitally. And what works really well in person and move forward with I guess, a kind of combination effect”

“So making sure that we always have like a button that is always you know, I want to get all this information through your digital offering. And another button, which is, I want to register and I plan on coming face-to-face so not forgetting that we've got this other audience now”

There was agreement that there is a need to plan for different approaches and requirements, for example, a small farmer group meeting or a monitor farm will require in field face-to-face discussion, with a social element to it, whereas for a bigger reach, a virtual meeting is appropriate. Participants agreed that flexibility and offering farmers a choice in terms of a delivery method will be key:

“You know, having lots of different ways of delivering advice in your toolkit is really important. And where you only have online, there are disadvantages equally, where you have only in person versus disadvantages. So I think going forward, there almost needs to be opportunities for farmers to engage with advice, however they wish”

“I think it's really key that farmers have a choice on what they on how they engage with advice, whether it's online offline, you know, in a group on a one to one”

“If you want to reach the widest audience, you have to have the widest different methods”

On farm advice

In the future some elements will remain key, participants agreed that the adviser or agronomist coming out the farm driveway is still going to be a vital component of support “and we shouldn't assume that that can just be usurped by digital”. The essence of on-farm advice is the personal interaction, as pointed out by on participant: “You need relationships and conversations in person sometimes and if you visit you see the whole enterprise”. A discussion was had about how one to one advice has to suit the topic, with some topics/sectors providing more flexibility for delivery than others:

“Advice which you could deliver via a one to one zoom, which, you know, it's kind of a midway, because it's cheaper than going all the way to farmers. But yeah, it takes a lot of time out of day. But equally, he'll get a one to one attention. But it [online] has to be appropriate to the topic, and, you know, with water quality stuff, you wouldn't be able to deliver a lot of it online, not properly”

Participants concurred that some of the work that they need to do is difficult or impossible to do digitally, according to one catchment adviser for example: “If everything moved online, it would be an absolute nightmare, because farmers will end up putting in practices that are not appropriate”.

On the other hand, for specialist crops, it was argued that face-to-face advice is needed in the first instance to discuss the pros and cons on a personal basis, but “once you made that contact with them, then everything else can be virtual. They show me a picture and we can basically answer their questions without travelling as I used to do”.

Future events

It was agreed that future face-to-face events will need to be good quality to make it worthwhile for people to travel and attend, as one person remarked: “You almost need to make it like a real event, like a proper two day thing or thinking about doing crop tech or something like that”. Overall it was thought that fewer live events would make the bigger agricultural events more important.

Evidence of learning is needed

Currently, participants pointed out, there is limited evidence of learning from online activities, there is a lot of information circulating but how much of that is being translated into knowledge is unknown. Participants agreed that understanding this is fundamental to future provision:

“We've done lots of courses and training and workshops, but actually we don't really know how much learning has happened or how much change”

“So we get a lot of funding from the Scottish Government, and they now know we're getting 200 people to an event, will they be happy with 30. So I think that's important is that we need the evidence actually, just for our own as well. So actually, what learning can be done online? And what does need to be done face-to-face”

“Engagement is different to learning. I've been really impressed with the online systems, but how much learning has really happened? And can we? We need to build on that we need a better understanding of that, then actually, how would that fit with the blend of virtual events? how to best do it”

Managing information and integrating platforms

Concern was raised about managing the large amount of digital material being created now and in the future. Making these resources useful, available long-term and for different learning styles was described as important, as this participant's questions highlight:

“But as we move forward into digital platform, how are we going to capture these podcasts? These webinars? How are we going to archive them so that they are retrievable and searchable?”

In recognition of this, certain sectors are compiling online repositories, for example, one organisation concerned with agroecology is aiming to upload historical knowledge and outputs and insights to increase their reach. Also, in response to a large digital demand, another organisation is converting all of their PDF publications to HTML.

Integrating platforms and KE activities in the future, however, was considered to be challenging by participants, as people would have to work together and have a certain level of trust, as these comments illustrate:

“I can't see that happening. Because there are too many. There's too much of a clash of organisations and their objectives. All of the stakeholders in agriculture don't all get on”.

“Yeah, it's an incredibly complicated area trying to get advisory entities to collaborate. I mean, they will do so if it's a benefit to them, or if it obviously aligns with their agenda, but it's complicated because of the way they're funded...you've got a mixture of public and private”

Bringing the discussion back to the transition in UK, an opportunity was seen in combining forces to provide advice for ELMs:

“They are going to need really solid advice on what on earth they are doing. And if some advisory organisations can club together and make sure that that transition is as smooth as possible for them, I think that will be key”.

Signposting is also seen to be key:

“I think signposting is quite, you know, where is all this topical information? Because there seems to be so many different organisations. And for me, coming in quite new to the sector, I think, you know, sometimes you're like, where people are like, we should be on this newsletter and that newsletter? And if there was a way of like, combining at all?”

This is also important for helping farmers chose which event to attend as they need to prioritise. Some incentives like offering FACTS points for CPD were seen as making a big difference. People tend to attend the same sort of events with the same people, in this case confirmation bias plays a part, according to participants. Topic-wise there was also the suggestion that farmers lean towards those offering business advantages:

“Information overload is becoming a complete issue -it's hard to recruit farmers. How do they choose which meeting? it is so much more accessible. And a lot of people either come to you I get the emails for this event, this event, that event”

“Yeah, I completely agree, it'll be the one [event] that I think will get the most out of the farm business, there'll be ones I think, are most beneficial. So they've got a choice between a sort of really pro environmental one versus one that will help with their productivity or profitability, they'll choose the latter”

Appendix

Programme for Farm-PEP workshop on 29th March 2021

	Session
11.00	Event platform opens (Hopin)
13.30	Introduction to Farm-PEP & the workshop <i>15 min</i> <i>Daniel Kindred, ADAS</i>
13.45	Introduction to interactive session <i>Julie Ingram, CCRI, 5 min</i> <i>Laura Bouvet, Agri-TechE 5 min</i>
13.50	BREAK for people to find breakout room <i>10 min</i>
14.00	Interactive session Discussion to cover (suggested time split): Impact of covid (20 min) What would you like to see in the future? (20 min)
15:00	BREAK 5 min
15:05	Feedback from group & survey discussion <i>40 min</i> <i>Julian Gairdner, chair</i> <i>Group spokespersons x8</i>
15:45	Survey Results <i>Julie Ingram, CCRI, 15 min</i> <i>Discussion, 10 min</i>
16:10	Closing comments <i>5 min</i> <i>Laura Bouvet, Agri-TechE</i>
16:15	Follow on discussions and networking <i>CCRI/ADAS room to stay open until 16.30; any further follow ups can be done 1:1.</i>
17:00	Event close

Questions for Farm-PEP workshop break-out rooms

1- What has been the main impact/change on KE activities since Covid-19

PROMPTS

- How have different sectors responded? Has there been more or less engagement? (organisations and farming communities)
- Is knowledge more or less accessible now (and for whom)?
- Have any players/intermediaries emerged as important?
- What have been the implications for digital capacities/capabilities and resources (skills, infrastructure, training etc)?
- Has there been a change in the sort of knowledge being exchanged?
- Has there been a change in the level of connectedness? (Are approaches coordinated, more connected or fragmented?)
- Has anything unexpected happened?

2 - What would you like to see in the future for KE activities?

PROMPTS

- What have we learnt over the last year about effective KE approaches (positives and negatives)? How can we build on these lessons?
- What are the risks/opportunities that digital media and tools present (e.g. disengaged/digital divide)?
- What would you like to see in the development of digital media and tools for accessing and sharing information in the future?

3 - Feedback on the 3 questions/key messages that have come out of your discussion?