Social Agriculture

Young farmers, social media, and the digital transformation of agriculture

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by Caribou Digital, with support from Kilimo Source, Learn.ink, and Habitus Insight
in partnership with the Mastercard Foundation

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This report is part of an overall research study on social agriculture in Kenya and will be followed by research in Ghana and Nigeria.

All reports can be found at www.platformlivelihoods.com.

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What is social agriculture?

On Facebook and Twitter, on Youtube and TikTok, and in countless WhatApp groups, Farmers around the world are employing everyday, pervasive social media platforms to support their agricultural livelihoods. Through their posts, shares, photos and videos, they are building and exchanging knowledge, offering mutual support, and inventing new markets and marketing channels.

In Kenya, and China, and around the world, these emerging practices already involve a young, dynamic and growing subset of the farming community. In Kenya, for example, there are farming groups on Facebook with *hundreds of thousands of members*, with enough activity to shape agricultural markets, including what people grow, and how much they get paid for their produce.

This summary report offers an overview of these practices, and why they are important -- practices that, in the aggregate, we call "Social Agriculture":

> *Social agriculture refers to a set of practices that support agricultural livelihoods—including information exchange, support mechanisms, and markets—where these are based on the use of social media platforms in countries with a high proportion of their workforce in agriculture.*

The overview takes the form of ten key takeaways from extensive and multi-method research in Kenya, carried out over nine months in 2021–22. It includes clear recommendations for policymakers and technology companies to improve conditions for youth practicing social agriculture, and is intended to spark further interest in (and collaborations among) those interested in youth employment and the digital transformation of agriculture.

The research was carried out by Caribou Digital, Kilmo Source (a research firm led by Cathy Kamanu, also founder of one of Kenya's largest agricultural Facebook groups, Farm Ink, and Habitus Inc, in Partnership with the Mastercard Foundation.

Together, the project work has produced:

- A quantitative report on the Social Agriculture Ecosystem
- A qualitative report showcasing the perspective of social agriculturalists
- Eight self-shot videos by young Kenyan farmers
- A review of the relevant literature
- A documentary video
- A reflection on digital research methods
- Reflection by Cathy Kamanu (an influential facebook group administrator) on her own journey with social agriculture
- A peer-reviewed research article accepted and published by ACM "COMPASS" Conference on Computing and Sustainable Societies

More broadly, we frame social agriculture as an exciting element of what Caribou Digital calls 'Platform Livelihoods' - the new ways of working, trading, renting, and creating that emerging in platform economies. This work on Social Agriculture is the latest in a series of research projects on platform livelihoods , building on a foundational literature review and sector studies, and branching recently into deep-dives on platform livelihoods and gender, and on platform livelihoods and disability.

A snapshot of ten key things to know about social agriculture

1. *Social agriculture is a dynamic part of the future of agriculture*
2. *Social agriculture is already popular among young, educated farmers—there are lots of people doing it, and there could be lots more*
3. *There are more people using Facebook for agriculture than all dedicated agricultural platforms in Kenya*
4. *Social agriculture happens in groups*
5. *Digital platforms mean new farmers and new behaviors*
6. *New behaviors include selling information and expertise*
7. *Digital platforms amplify opportunity and risk for female farmers*
8. *Trust is the biggest risk and barrier to successful social agriculture*
8. *Meta's platforms have huge power and influence in agriculture*
10. *Social agriculture is a widespread phenomenon with opportunities for learning and innovation across geographies*

Ten things to know about social agriculture

The longer project reports and accompanying videos offer several insights into and perspectives on social agriculture. To summarize them, here are ten things we think the broader community needs to know about social agriculture.

1 Social agriculture is a dynamic part of the future of agriculture.

The people who use social media platforms for agricultural livelihoods see themselves as forming a new and growing community of farmers and related roles who communicate and share via social media. Many call themselves "agripreneurs," a term that captures their role as dynamic and entrepreneurial individuals using social media platforms to pursue their livelihood goals. For example, Thomas, a former engineer and now livestock farmer, describes how he entered the agricultural sector:

> *"With COVID-19 going on around the country, it was a bit difficult for me in the engineering business … So I went back to social media and that's where I met so many guys who are farming pigs and they really helped. So after that, I did the construction of the structures and brought my first pregnant sows."*

Social agriculture is a global phenomenon that has developed under the radar of traditional approaches to digital agriculture. It represents one possible future of agriculture, but remains poorly understood in terms of the opportunities for and challenges to realizing agripreneurs' livelihood goals. Despite little attention from mainstream digital agriculture work, social agriculture introduces a significant new source of revenue: selling information as well as produce. When asked about what they buy and sell using social media, 52% of survey participants indicated buying information and 78% reported selling produce, advice, and/or services. Mary, a farmer and social agripreneur, described how social agriculturalists sell information:

> *"… mostly, they sell the information, in terms of consultation. They charge some consultation fee because they call it a mentorship program. They charge, if you get lucky, a few people will give you the information for free, but mostly they charge."*

RECOMMENDATION

Development actors and those interested in digital transformation of agriculture should deepen their understanding of social agriculture in context, including how these practices are situated within a wider agricultural ecosystem and value chain, and as part of a wider process of digital transformation of agriculture and rural livelihoods.

2

Social agriculture is already popular among young, educated farmers—there are lots of people doing it, and there could be lots more.

The total addressable market for social agriculture is massive—potentially over 200 million people. A 2018 dataset from Facebook's Ad platform for a sample of all countries outside Latin America, Europe, and North America with more than 15% of their labor force in agriculture produces a potential market of 224,455,900 people.

Facebook agricultural audiences in South Asia grew by over 2.5 times between 2018 and 2021—over double the speed of any other region. South Asia and East Asia & Pacific accounted for around 80% of Facebook's total agricultural audience in the same time period. Sub-Saharan Africa is one of the greatest potential growth regions, and Kenya serves as a good indicator of other SSA markets. It has a strong payments infrastructure, which has enabled some of the e-commerce applications common in China. Many Facebook agriculture groups that are now pan-African began in Kenya.

Three-quarters of survey participants across all occupations, ages, and genders identified social media as positively impacting farming. Further, 49% of participants indicated that the Facebook/WhatsApp outage experienced on October 4, 2021, negatively affected their commerce. However, these numbers do not represent all farmers. Social agriculturalists / agripreneurs are young, educated, and connected; they are digitally familiar and already digitally connected smartphone and internet users. The poorest, subsistence farmers struggle to access the opportunities of social agriculture.

RECOMMENDATION

Identify ways to strengthen existing social agriculturalists and develop on-ramps to social agriculture for others currently unable to access the benefits of social agriculture.

3

There are more people using Facebook for agriculture than all dedicated agricultural platforms in Kenya.

Social media platforms have more users than dedicated digital agriculture platforms. Based on an industry-standard estimate that 22.5% of 33 million registered users are active, digital agriculture platforms have an estimated active user base of approximately 7.5 million in Kenya; Wefarm, a popular digital agriculture platform, had 1.4 million users in 2018. Facebook advertising indicates that the number of users interested in agriculture is estimated to be 9.3 million. In other words, despite any concerted marketing efforts, the number of people using social media platforms for agriculture in Kenya is higher than the total active users of dedicated digital agricultural platforms.

Without any dedicated marketing, social platforms have a wider reach than any one dedicated digital agriculture platform. The top three social media platforms used for agriculture in Kenya, according to survey participants using Facebook, are Facebook (62%), YouTube (16.15%), and WhatsApp (13.35%). Only ~3% of respondents preferred dedicated digital agriculture platforms such as Wefarm. These are the platforms that people use every day, repurposed to support agricultural livelihoods. However, social platforms are designed to maximize user attention, which is in tension with the goals of agripreneurs, as outlined below.

RECOMMENDATION

Orient donors and digital platform investors towards the social agriculture opportunities, particularly those revealed by agripreneurs' efforts to develop services and products that resolve the tensions involved in using social media platforms for social agriculture.

4 Social agriculture happens in groups.

Social agriculture does not occur in perfect digital marketplaces but as a result of the behaviors enabled by the features of available platforms. These are new communities with new behaviors: a mix of information sharing, community building, and trading. Understanding these marketplaces starts from understanding the relationship between platforms and behaviors.

Platform group features enable particular behaviors; Facebook is characterized by open groups with algorithmically structured news feeds. Behaviors are characterized by broadcast, marketing, and promotion of products, producers, and expertise. But the open nature of groups and the algorithmic structuring of content lead to a lack of trust, a prevalence of scams, and abuse, particularly of female users.

A typical path to transaction involves marketing or promotion on Facebook, a transition to WhatsApp for trusted members, and a verification process that can involve online vetting of social media profiles and histories, direct calls, and even farm visits—all of which act as friction in social agriculture livelihoods. As Jane reported, *"in WhatsApp groups farmers know each other and the majority of the farmers know each other. So they will say don't sell to that person, not unless he maybe pays first, or that is a good person."*

RECOMMENDATION

Support strengthening social agriculture needs to engage with the dynamics of groups—recognising and accepting their complexities rather than building new "perfect" platforms—and the ensemble of applications used throughout the transaction cycle of social agriculture. A focus on one platform will miss out on key elements spread across multiple platforms.

5 Digital platforms mean new farmers and new behaviors.

Digital platforms increase the exposure of digitally connected social media users to agriculture as a potential livelihood. Influencers who promote social agriculture frame agriculture as a livelihood relevant to the digitally connected and introduce agriculture to people who might not otherwise consider an agricultural livelihood. The increased visibility of agriculture is important because it makes farming more attractive to people who might not be able to access white collar jobs and brings people with the education and digital literacy required to translate agriculture innovation into practice. At the same time, it emphasizes digital connectivity and digital literacy as barriers to entry for participation in social agriculture. Returning to Thomas, a former engineer and now pig farmer:

> *"With COVID-19 going on around the country, it was a bit difficult for me in the engineering business … So I went back to social media and that's where I met so many guys who are farming pigs and they really helped. So after that, I did the construction of the structures and brought my first pregnant sows."*

RECOMMENDATION

Strengthen influencers who promote social agriculture to increase their reach. Identify routes to overcome barriers—such as digital access and literacy—in order to access social agriculture. Explore the extent to which social agriculturalists diffuse agricultural innovation into the wider agricultural sector.

6

New behaviors include selling information and expertise.

The use of social media platforms positions social agriculturalists as new providers of expertise: as self-made digital extension workers. Successful agripreneurs are influencers who market their expertise as much as their products. A high proportion of survey participants (52%) bought agricultural information through social media, while 27% indicated that they used social media to sell information. The proportion of buying and selling of information did vary across occupation (i.e., agronomists vs. farmers), but did not vary across gender. In other words, social agriculture is particularly significant for female farmers in terms of expanding their livelihood opportunities.

Social agriculture lowers the barrier to sharing expertise and has enabled a new community of farmers to develop different strategies to monetize their new social position, complementing and disrupting extension workers and agronomists in the process. Social agriculture appears to address some gender imbalances by offering opportunity to female agriculturalists just as it does for male agriculturalists, though it also strengthens other barriers to participation and introduces new challenges, as outlined below. As Beth, a farmer and administrator of a WhatsApp group, noted:

> *"I found out on social media that some farmers were going to be trained to grow asparagus. Without social media, I would never have known that's possible ... I wouldn't have had the thought of planting asparagus and being a small-scale farmer, asparagus and other higher value crops are really good for me ... So I get a lot of my training through social media."*

RECOMMENDATION

Support social agriculture influencers to share *how* they monetize expertise to help others understand how to be a social agriculturalist or agripreneur, as well as investigate other ways social agriculture can create value.

7

Digital platforms amplify opportunity *and* risk for female farmers.

Digital marketplaces can be safer and easier for female farmers to participate in—but at the same time they introduce new patterns of harassment. The increased safety of online marketplaces increases livelihood outcomes and market participation for female agriculturalists. As Beatrice, a successful farmer and administrator of a Facebook group with over 60,000 members, said:

> *"So as a woman, you are already scared at 3:00 AM at the market standing there waiting for your tomatoes to be sold ... So you can decide online, I'm going to sell it to this person or to this person or this other one … you show them samples online … So for online, it's a bit calmer ..."*

At the same time, others describe bullying and abusive behavior, particularly towards women, as a common part of being online. Three in four survey respondents reported that they have seen bullying or abusive behavior on social media in relation to agriculture; the same number indicated that they had reported abuse to Facebook. Digital platforms are not simply positive or negative, but rather both disrupt and amplify existing patterns of social behavior—introducing new opportunities while amplifying other patterns, including harmful ones. For example, Mary, describes how being online introduces new opportunities, but also introduces familiar patterns of harassment:

> *"You find on Facebook you've posted things to do with agriculture, then someone comes to your direct messages posting things like nudes there, and you are like, it is not even related (and) without your consent."*

RECOMMENDATION

Efforts to increase and strengthen the quality of outcomes for agripreneurs should focus on strengthening opportunities and mitigating risks, particularly for female users.

8

Trust is the biggest risk and barrier to successful social agriculture.

Groups are the core of social agriculture practice, though groups differ significantly across platforms. WhatsApp groups are closed, trusted, and used to conduct transactions. Facebook groups are open, but many are not trusted by users. Only 18% of survey respondents trusted Facebook the most, in comparison to 42% who trusted Kenyan mobile operator Safaricom the most and 40% who trusted the Kenyan Department of Agriculture the most.

The key to maintaining trust in groups are the group moderators. They ensure that posts are on topic and police behavior to limit the spread of disinformation, sponsored content, and bullying and abuse. As Beatrice describes, the longevity of her group is based on effective moderation:

> *"It's [the group] still active, including today. It's still very disciplined. You don't see people posting irrelevant things and there's a lot of help in that group."*

People's efforts to establish the trust required to conduct livelihood transactions tend to focus on verifying an individual's identity and trustworthiness. Strategies include manually searching an individual's online profiles and interactions, sometimes across multiple platforms, to see if they seem to be a real person rather than a fake account, and verifying through one's own personal networks if anyone knows this person or has previously done business with them. Phone calls are an important strategy in establishing trust—even the act of sharing a number breeds trust, as it indicates openness to direct communication. But calls are also important in establishing character; respondents described drawing inferences when people speak vaguely, make excuses, or behave suspiciously on a phone call.

RECOMMENDATION

Strengthen and share existing practices that build trust (e.g., verifying user authenticity) and identify solutions that could be scaled (e.g., trust stamps, escrow services).

9

Meta's platforms (Facebook, WhatsApp, Instagram) have huge power and influence in agriculture.

Social media platforms are designed to maximize the time users spend on them, especially through the use of algorithms that structure and privilege content that attracts attention and interaction regardless of substance. This means that platforms often privilege content that is sensationalist or controversial rather than content that supports social agriculture, such as useful or trustworthy information. In this way, platforms function as intermediaries that shape agripreneurs' livelihoods.

Algorithms structure content in ways that incentivize the creation of content that attracts attention, not content that is reliable, trusted, or true. For example, respondents we spoke with viewed 68% of people who share agricultural information and 62% of information shared on social media to be untrustworthy. As one respondent said, *"Facebook being without many restrictions and global is prone to fraud information for the sake of making sales."*

RECOMMENDATION

Advocate for platforms to increase efforts to mitigate disinformation. Explore ways of strengthening source and information trustworthiness.

10

Social agriculture is a widespread phenomenon with opportunities for learning and innovation across geographies.

Asia, particularly China and India, has important lessons for the future of social agriculture. For example, in China Pinduoduo has made concerted efforts to specifically target and support agriculture as a use case for their platforms. Africa can shape its future by learning from Asia generally, and China specifically.

The algorithmic structuring of information—the selection of information in newsfeeds and prioritization of content that attracts attention—incentivizes the creation and sharing of information that is engaging over information that is useful and truthful, as well as distorts markets. For example, research participants mentioned how a widely shared, viewed, and discussed social media post about quail egg profitability caused so many people to start producing quail eggs that the market became flooded, and eventually many people made losses. This algorithmic intermediation of social agricultural practices is problematic because it can promote misinformation as well as inadvertently promote specific crops, because they are attracting attention regardless of their marketability.

RECOMMENDATION

Conduct further analysis of Chinese social agriculture to identify lessons learned, and analyze these lessons and trends for their implications for Africa.

Three ways to advance successful, safe, and inclusive social agriculture

All told, we see three broad challenges and clusters of activity ahead – efforts in these three areas can make social agriculture work better, for more people.

1 Strengthening practices.

Support existing agripreneurs and social agricultural "influencers" to act as peer support for prospective and existing agripreneurs through sharing insights, experience, and lessons learned.

Donors could support a structured and sustainable initiative to establish mechanisms through which successful agripreneurs share their expertise with others, such as initiatives that connect these groups and enable the voices of successful agripreneurs to be heard as widely as possible.

2 Scaling what works.

Support agripreneurs to scale the ad hoc solutions they develop to overcome the challenges of using social media platforms. This should include specific research to identify agripreneur-developed solutions that can be scaled to achieve greater impact.

For example, donors and investors could support the scaling of innovations such as the ad hoc provision of escrow services. Researchers and policymakers should explore specific challenges, such as trust in transacting parties, and identify measures to reduce this friction in the use of social media platforms for agricultural livelihoods.

3 Promoting inclusion of marginalised and poor farmers.

Access to social agriculture depends on access to smartphones and the internet. Increasing access to both would go a long way to increasing access to social agriculture and the opportunities it holds.

Donors and policymakers should increase support to digital access initiatives (such as reducing tariffs and extending coverage) as a wider enabling of access to the benefits of digital transformation.

Conclusion

Social agriculture is a dynamic, youth-led part of the future of agriculture and an important aspect of the ongoing digital transformation of markets, livelihoods, and societies. The growth of social agriculture is already well underway, with many different participants carving out new opportunities and emerging entry points to support and shape this future by meeting agripreneurs where many of them already are. As Beatrice describes:

> *"So I would say farming for me and social [media] … They are very integrated. Eh, they're moving hand in hand. You cannot separate either from the other one."*

Social media is part of the widespread digital transformation of agriculture, rural livelihoods, and markets and emerging economies. These technologies are enabling people to learn, access new opportunities, buy and sell and market themselves, and support and develop their own livelihoods. This transformation also introduces new challenges and amplifies existing ones, forcing participants to develop strategies that mitigate risk and maximize opportunities. The challenge for those wishing to support these efforts and influence that path of ongoing transformation is understanding what people affected by this transformation say they need to support the development of ethical and inclusive digital agricultural economies.

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