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RURAL EMPLOYMENT

Assessing the digital readiness and communication ecosystem of rural youth

Methodological guidelines



Assessing the digital readiness and communication ecosystem of rural youth

Methodological guidelines

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Reports and infographics developed using the methodology presented in these guidelines can be found in the Resources section of the FAO Decent Rural Employment website at www.fao.org/rural-employment/resources/en/.

Abbreviations

AgTech	agricultural technology
AYA	African Youth Agripreneurs
DigComp	European Digital Competence Framework for Citizens
FAO	Food and Agriculture Organization of the United Nations
HCD	human-centred design
ICA	Integrated Country Approach for Boosting Decent Jobs for Youth in the Agrifood System
ICT	information and communications technology
NGO	non-governmental organization
SMS	short message service
UN	United Nations

Introduction

Meaningful youth engagement in agrifood systems (see *Box 1* for related definitions) requires a proactive approach to mobilize, encourage, train, coach and ultimately empower youth to take the lead in shaping their own futures. The result is beneficial to increase both youth commitment and the overall cohesiveness and sustainability of development initiatives.

Listening to young people and collaborating with their organizations is an effective means for delivering policies and programmes that reflect and respond to their needs and aspirations.

Working with rather than for young people positively contributes to their personal and professional development, while it strengthens their voice, ownership and agency as key actors in transforming rural economies and societies.¹

Box 1. Defining youth engagement in agrifood systems



YOUTH

FAO aligns with the United Nations (UN) and for statistical consistency across countries and regions defines “youth” as persons between 15 and 24 years of age, without prejudice to other definitions by Member Nations or regional institutions (e.g. the African Union defines “youth” as people between 15 and 35 years of age).

AGRIFOOD SYSTEMS

Agrifood systems encompass the entire range of actors and their interlinked value-adding activities involved in the production, aggregation, processing, distribution, consumption and disposal of food products that originate from crop and livestock production, forestry, fisheries and aquaculture, as well as the broader economic, societal and natural environments in which they are embedded.

YOUTH ENGAGEMENT

Meaningful youth engagement is an inclusive, intentional, mutually respectful partnership between adolescents, youth and adults whereby power is shared, respective contributions are valued, and young people’s ideas, perspectives, skills, and strengths are integrated into the design and delivery of programmes, strategies, policies, funding mechanisms and organizations that affect their lives and their communities, countries, and the world.

Sources:

FAO. 2022a. *Rural youth action plan*. Rome. <https://doi.org/10.4060/cc0583en>

FAO, IFAD, UNICEF, WFP and WHO. 2023. *The State of Food Security and Nutrition in the World 2023. Urbanization, agrifood systems transformation and healthy diets across the rural–urban continuum*. Rome, FAO. <https://doi.org/10.4060/cc3017en>

Youth Power Learning Community of Practice on Youth Engagement. 2017. Youth engagement measurement guide. In: *Youth Power*. [Cited 01 July 2022]. www.youthpower.org/youth-engagement-guide

¹ For an example of ICA’s impactful work in the area of youth empowerment see: FAO. 2022. *Youth-inclusive policymaking: The National Strategy for Youth Employment in Agriculture (NSYEA) of Uganda*. Rome. www.fao.org/documents/card/en/c/cc2536en/

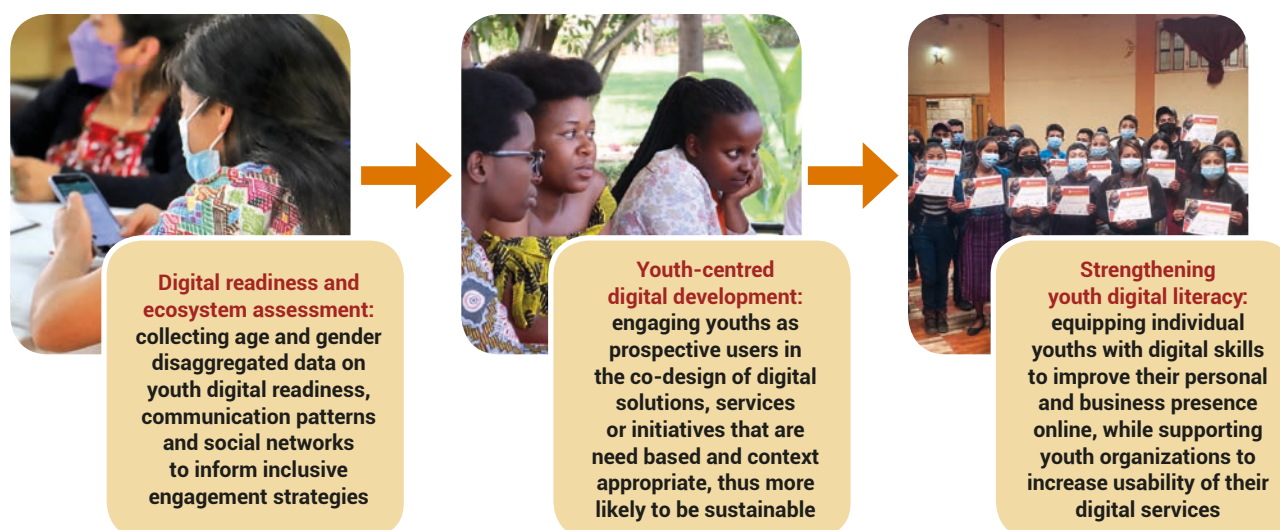
Integrating a digital dimension is key to facilitate youth engagement and informed participation in agrifood systems. The underlying assumption is that digital engagement can increase youth access to timely information, training or marketing opportunities, while providing more venues for peer learning, networking and participation in policy dialogues. This in turn can lead to raising youth interest and ability to embrace agriculture as a decent job and pursue their livelihoods in agrifood systems.

Yet, the transformative power of digital technologies also entails the **risk of widening existing divides**. A precondition to avoid this risk and inform inclusive engagement strategies, in line with the *Principles for Digital Development*,² is to **understand the existing ecosystem, including both online and offline elements that can determine youth participation in the digital space.**

A first key step to identify and address specific needs, preferences and barriers to digital youth engagement is to collect age and gender disaggregated data on youth digital readiness, communication patterns and social networks. **This preliminary assessment paves the way to engage youth as prospective users in the co-design of digital solutions, services or initiatives, adopting a human-centred design approach.**³

Moreover, strengthening the digital skills of individual youths and their organizations, both as users and providers of digital content and services, has proved to be another critical component to enable meaningful youth engagement online (see Figure 1 for an overview of the proposed approach).

FIGURE 1
Step-by-step approach to youth digital engagement



Source: Author's own elaboration. Photos (from left to right): ©FAO/José Hernández, ©FAO/African Women Agribusiness Network, ©FAO/Christian Lopez.

² The *Principles for Digital Development* are a set of nine guidelines for integrating best practices into technology-enabled programmes for international development and cooperation. They are as follows: design with the user; understand the existing ecosystem; design for scale; build for sustainability; be data driven; use open standards, open data, open source, and open innovation; reuse and improve; address privacy and security; and be collaborative. More information can be found at: <https://digitalprinciples.org/>

³ Human-centred design (HCD) is a creative approach to problem-solving that starts with the people and integrates a set of practices to understand their needs, constraints, contexts, behaviours, and wants. By putting people first, HCD allows building empathy with the users, generating multiple ideas and arriving at a tailor-made solution via rapid prototyping.

Objective, scope and structure

These methodological guidelines are meant to provide an analytical framework and practical orientation for the design and implementation of **age-specific and gender-responsive research, focusing on the online and offline communication assets, needs and behaviours of young people in rural areas and in the agrifood system.**

The main intended audience for these guidelines are **professionals promoting youth development and empowerment** in various domains (e.g. youth officers in the Ministry of Agriculture, in agribusiness councils, in farmer associations but also social inclusion or stakeholder and community engagement officers in development organizations, non-governmental organizations [NGOs], local administrations, and so on) who wish to leverage communication and digital technologies in their work with and for youth. The methodology will help to identify and integrate the communication resources and needs of young people into the design and delivery of programmes meant to increase youth employability, participation and leadership in the agrifood sector.

The guidelines will be a useful resource for any **practitioner or project designer working in the inclusive rural development domain** who needs to develop a strategy to equitably reach out and engage young women and men, making the most of both digital and offline channels.

Professionals involved in the design of ICT-enabled services (e.g. mobile-based advisory services, weather or market price alerts, e-commerce, digital finance, online learning and mentoring, among many others) **or digital development projects**, and those who should adapt their programme delivery to a remote internet-based modality, can follow these guidelines as they seek to ensure digital inclusion of rural stakeholders across different age and gender groups.

Finally, **decision-makers involved in the formulation of policies, programmes and services targeting young people or promoting digitalization in the agrifood sector** (including national e-agriculture strategies) can also benefit from reading this document to appreciate why and how evidence-based youth engagement strategies should be embedded in those initiatives.

This methodology is conceived as a **flexible tool**, fully adaptable to different contexts, thematic or geographic areas, and project needs. There is no blueprint for the assessment as it can be conducted at different stages during the formulation or implementation of a project, focusing on rural youth or on any other subpopulation of young people (youth agripreneurs, young migrants or returnees, indigenous youth, young people with disabilities, and so on). Two broad areas of applications of the methodology are presented in Table 1.

TABLE 1

Possible applications of the methodology

PROJECT TYPE	PURPOSE	APPROACH
Youth-centred or inclusive rural development projects	Develop equitable and effective youth engagement strategies	Comprehensive analysis of rural youths' online and offline communication needs and ecosystems, including digital access and use of ICTs
ICT-enabled or digital development projects	Ensure digital inclusion of rural youth and/or digital engagement of youth in agrifood systems	Identification of age/gender-differentiated enablers and constraints to digital access and use of ICTs by youth in rural areas and/or along agrifood value chains

Source: Author's own elaboration.

In summary, readers should see this methodological note as a reference and inspiration to switch on their creativity for more inclusive, fruitful and participatory interactions with young people in agrifood systems.

The guidelines are divided into four sections:

Section 1 explains the **rationale** behind investing time and resources in appraising the existing communication ecosystem before designing any initiative aimed at engaging youth in agrifood systems and in rural areas.

Section 2 outlines an **analytical framework** to unpack the digital readiness and the communication ecosystem of young rural women and men along major investigation areas: digital access, use and skills; information flows; offline communication resources; and social capital and social norms.

Section 3 provides **guidance on how to conduct hands-on research** combining the use of both qualitative and quantitative methods. It describes the main steps, research techniques and data collection tools to gather insights on the above research dimensions.

Section 4 summarizes **final considerations and take-home messages**.

The **Annexes** provide two **examples of data collection tools**, namely a mobile survey questionnaire and a focus group discussion guide. Moreover, the **Field Stories** presented throughout the document provide **real-life examples** testifying to the multiple and varied applications of the methodology within the scope of FAO's Integrated Country Approach for Boosting Decent Jobs for Youth in the Agrifood System (ICA) project.





SECTION 1

Why understand the communication ecosystem

Young people have the potential to transform rural economies and societies (IFAD, 2019). But what are the major determinants of youth engagement in agrifood systems and how can we increase their participation and leadership as key agents of change? Just as the institutional environment and physical assets play a significant role for economic inclusion of the rural youth, **social, community and individual drivers also influence whether and to what extent young people engage in agrifood systems.** These factors include young people's perceptions and attitudes related to agriculture or self-employment, personal aspirations for the future, broader expectations

on one's role as a family or community member, and deep-rooted social or gender norms that encourage or inhibit certain practices. Similarly, the integration of youth into society and the number and quality of social ties young people hold will in turn determine to what degree they have access to relevant and trustworthy information and to training, mentorship, financial and other support services.

In this complex ecological framework, personal and environmental factors interact and determine, to different degrees, young people's agency in agrifood systems. Among those

factors, there is a key subset linked to information, communication and social relationships that need to be carefully looked at when designing strategies that seek to engage and boost the participation and meaningful engagement of young people in an increasingly digital world.

The communication ecosystem of young rural women and men includes both online and offline information flows, social linkages and interactions as well as the norms shaping them, communication assets, skills, habits and preferences. As we seek to **engage youth in the digital space**, the analysis of the communication ecosystem needs to consider a whole range of important aspects that determine their online experiences, including: availability of mobile and broadband coverage, ownership of digital devices, affordability of data, levels of digital literacy, patterns of online behaviours and digital content consumption, awareness of and capacity to benefit from existing ICT-based services such as e-learning, e-commerce, internet and mobile-based weather and market price alerts, among others.

By adopting an ecosystem approach, the analysis should therefore encompass both the context – the digital and media landscape, the availability of dedicated services for rural youth and their accessibility online and offline, existing social networks and the degree of trust invested in each information source – and the specific communication behaviours, needs or preferences of different youth groups. All these interconnected elements shape how information and knowledge flow within and among various groups of young people and other actors in the agrifood system:

Initiatives that do not account for ecosystem challenges are less likely to achieve their objectives [...] The ecosystem is fluid, multifaceted and ever-changing, requiring that digital development practitioners regularly analyze the context to check their assumptions (*Principles for Digital Development*, 2016).

Testing assumptions about youths' digital lives

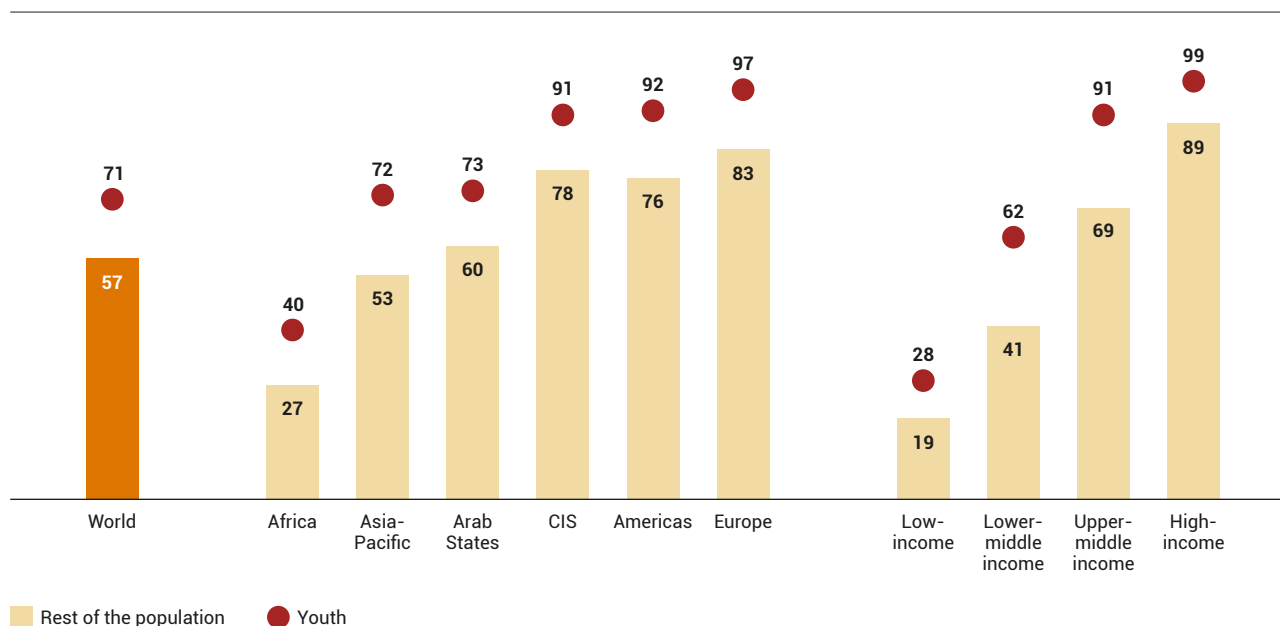
Young people are at the forefront of today's digital economy. More than 70 percent of the global youth population (ages 15–24) actively uses the internet, a proportion significantly higher than the 57 percent of the total population (ITU, 2022).

Consistently, **youth are playing a key role for the digital transformation of agrifood systems.** Thanks to their innovative attitude, ability to learn fast, interest and higher familiarity with new technologies compared to adults, the new generations of farmers and agripreneurs are more likely to uptake digital tools. Tech-savvy youths are those leading the agricultural technology (AgTech) industry, by devising creative solutions to market agricultural products, aggregate demand and supply of goods and services, and attract or crowdsource investments. In fact, young people own most tech companies, startups and digital platforms in this sector: for instance, in Kenya, a leading country in this sector, the average age of AgTech firm owners is 33 (ODI, 2020). The sudden boost to adopt digital technologies caused by the COVID-19 disruptions also saw young people leading the way on the adoption of new, digitally enabled business models to cope with major disruptions in local and global agrifood value chains (FAO, 2020).

However, **youth access to the digital space is uneven.** In high-income countries, virtually all (99 percent) young people ages 15–24 use the internet compared with 62 percent in lower-middle-income countries and only 28 percent in low-income countries (ITU, 2022).

While the youth population is considered to be highly connected all over the world, **digital inequalities persist and often mirror structural and social inequalities** (Helsper, 2012; Robinson et al., 2015). Nearly 9 out of 10 of the unconnected youths live in Africa and in least-developed

FIGURE 2

Percentage of youth using the internet in 2021 compared with the rest of the population

Source: ITU (International Telecommunications Union). 2022. Global connectivity report. In: ITU. Geneva. [Cited 30 June 2023]. www.itu.int/itu-d/reports/statistics/global-connectivity-report-2022

countries (ITU, 2022). It is therefore important to test assumptions about the spread of new technologies among youth, particularly the ubiquity of mobile phones and the extent to which social networks and other digital applications are in use.

Important gender inequalities concern internet access, digital skills and patterns of use. **The digital gender gap is widening worldwide** and is more pronounced in developing and least developed countries.⁴ Mobile connectivity played a critical role in reducing the gap making it drop every year since 2017 – when women were on average 25 percent less likely than men to use mobile internet – to as low as 15 percent in 2020, yet more recently this progress has stalled (GSMA, 2023). In 2022 women were 19 percent less likely than men to use mobile internet; the underlying gap in smartphone ownership has widened back to 17 percent and is larger in South Asia and

sub-Saharan Africa (GSMA, 2023). A global study of girls' mobile phone use confirms that the same inequalities exist for the new generations of the so called "digital natives": boys around the world are almost 1.5 times as likely to own a mobile phone than girls, and they are more likely to own and use a smartphone (Vodafone & GirlEffect, 2018). Moreover, evidence from low- and middle-income countries reveals that girls get access to digital technology at an older age and are more supervised or restricted from using computers or mobiles than boys (Livingstone *et al.*, 2017).

The rural digital divide is still a harsh reality even for the young generations. In both developed and developing countries, rural areas remain seriously underserved in terms of broadband coverage (OECD, 2018). In addition to physical and technological barriers caused by remoteness, poor quality of infrastructure, cost of connectivity and low functionality of mobile devices, lower average levels of education and skills in rural communities can exacerbate the gap (Salemink, Strijker and Bosworth, 2017).

⁴ The digital gender gap has increased fast due to the rapid growth in numbers of male internet users in developing countries (ITU, 2019).

Field story 1. Digital gender gap among Guatemalan youth

The ICA project facilitated a participatory assessment with rural youth in the Western Highlands of Guatemala, to gain insights on their access and use of mobile phones, internet, and social and traditional media as a basis to develop a youth-centred communication and digital engagement strategy.

The assessment showed that 9 every 10 youth owned a mobile phone. Out of them, 7 owned a smartphone and regularly connected to the internet or used social media bundles, both for personal and work-related matters. However, the study revealed a significant divide in smartphone ownership and use among young women and men, mostly due to social and gender norms.

Young married women were the most disadvantaged group as they depend economically on their husbands, thus have

little to no purchasing power to acquire their own device or credit. For this reason, they were using feature phones with minimum credit availability only to receive calls or send SMS on credit to their family members.

In turn, adolescent girls in indigenous or remote communities initially denied owning a mobile phone, because this is not socially accepted unless they have a close relative living abroad. But in focus group discussions it emerged that some girls secretly owned a mobile phone, received as a gift from their boyfriends, and were using chat and social networks to keep in touch unbeknown to their parents.

The full assessment report (in Spanish) can be consulted at the below source.

Source: Pafumi, M. 2018. Participatory assessment of communication for development engaging rural youth in Guatemala. Rome, FAO.

A report on the **urban–rural connectivity gap** by the Alliance for Affordable Internet (2022) found that in nine low- and middle-income countries, roughly only one in ten people have “meaningful connectivity”, defined as the daily use of internet through a fast connection and an appropriate device.⁵ In urban areas, the ratio increases to 1 in 7, while in rural areas the ratio drops to 1 in 20.

While reducing the “coverage gap” remains an important issue in developing countries and especially in rural areas, **the “usage gap” is emerging as the most significant digital divide** (see *Box 2. Defining digital divides*). Around 3.2 billion people worldwide are covered by networks but are still unable to reap the benefits of connectivity. For young people and adults alike, this is not only due to a lack of skills and knowledge to navigate the internet, but also to language or cultural barriers.

The quantity and quality of content available online in local languages is significantly low, while many rural youth are not necessarily conversant in English or other mainstream languages. Another limiting factor is the struggle to find relevant content that can speak to the diverse experiences, cultural identities and information needs of youth living in rural areas.

⁵ Meaningful connectivity is a framework and internet access metric proposed by the Alliance for Affordable Internet to understand the quality of internet access. It suggests replacing the existing binary indicator of internet use – defined as access on any device at least once in the past three months (ITU, 2020) – with four pillars of “meaningful connectivity”: 4G-like internet speeds; smartphone ownership; unlimited broadband connection at home, study or workplace; and daily use (A4AI, 2022).



Box 2. Defining digital divides

FIRST ORDER DIGITAL DIVIDES

First order digital divides focus on basic internet access and are linked to connectivity, ownership of devices and affordability of digital services.

SECOND ORDER DIGITAL DIVIDES

Second order digital divides deal with levels of digital literacy and digital capabilities for the meaningful use of the internet, online tools and digital environments.

COVERAGE GAP

The coverage gap refers to people living outside of areas covered by mobile broadband networks.

USAGE GAP

The usage gap refers to people living within the footprint of a mobile broadband network but not using mobile internet.

Sources:

Hargittai, E. 2002. Second-level digital divide: differences in people's online skills. *First Monday*, 7(4). <https://doi.org/10.5210/fm.v7i4.942>;

GSMA. 2022. *The mobile gender gap report 2022*. London.

Finally, youth individual motivation and self-efficacy,⁶ as well as social pressure or cultural norms can influence both access to digital technology and the disposition to use internet and virtual services in lieu of interpersonal interactions, particularly by specific segments of the youth population such as adolescents, indigenous youth or young women.

Despite persisting barriers to their digital inclusion, **young rural people are taking to digital spaces**. Online, they look for and share information responding to their specific needs, learn new skills, grow their social networks and capital, express their opinions and engage in group conversations. Not only do rural youth

tend to show significantly more interest and familiarity with digital technologies than adults, but they are also agents of technology socialization in their families and communities with a positive impact on agrifood systems.

Thanks to their role as early adopters, intermediaries and ICT ambassadors, young people are uniquely placed to harness the power of digital technologies in new and imaginative ways to boost transformation of rural areas. However, this tremendous potential does not necessarily translate in young rural people adopting digital solutions when these have not been designed putting them at the centre. As discussed earlier, they can also experience numerous access barriers and pain points as users of digital services. Assessing the digital readiness and overall communication ecosystem of young women and men is key to design youth engagement strategies that are need based, context appropriate, and more likely to be sustainable in the long term.

⁶ Self-efficacy is a positive youth development concept that denotes young people's beliefs about their ability to perform in different situations. These beliefs are mediated by cognitive, motivational, affective, and selection processes to generate actual performance. Self-efficacy development is closely intertwined with a young person's experiences, competencies, and developmental tasks in different domains at different stages in life (Tsang, Hui and Law, 2012).



Field story 2. Context-appropriateness of digital content and services

The ICA project carried out a digital readiness assessment with youth across East Africa, which generated insights on their interaction with digital technologies, either as entrepreneurs, service providers or members of youth organizations.

Access to finance, business management, marketing of agricultural products and value addition emerged as some of the most in-demand topics, but the youth experienced various challenges in finding information online that could be useful and timely for their agribusinesses. In particular they flagged that the market information, when available, is not relevant enough to their local context.

On a similar note, e-commerce platforms were reportedly not very popular and used mostly for price comparison and forecasting

rather than actual selling. This is partly due to the access barriers the youth face in terms of subscription fees and cumbersome registration processes, but also to their customer base being local and easier to interact with on other channels, such as Facebook and WhatsApp. Cultural values contribute to a shared perception, by both sellers and buyers, that virtual marketplaces are inappropriate for agricultural products, which need to be physically checked for quality and freshness. One of the young agripreneurs stated: “We have the mindset that this is for town people, that we cannot market our agricultural products the way people do it for TVs” (Pafumi and Arimbi, 2022, p. 20).

Source: Pafumi, M. & Arimbi, V. 2022. *Ready to go digital? Assessing the digital readiness of young agripreneurs in East Africa*. Nairobi, FAO. <https://doi.org/10.4060/cb8026en>

Four main reasons why

Although conducting a participatory assessment with youths, particularly those in rural areas, may seem a cumbersome and time-consuming task, it is worth investing project resources in this preliminary research.

Let's focus on four major advantages:

1. Address a significant knowledge gap

Information flows, communication preferences and digital readiness are among the social determinants of youth engagement in agrifood systems. Yet, they are often overlooked in sectoral studies, which tend to focus on more tangible socioeconomic determinants. On the other hand, data on access to information and communications technologies (ICTs) in rural areas are hardly found and are not age-disaggregated. On top of that, there is a tendency to consider youth as a homogenous population. Consequently, a widely recognized data collection gap exists related to the specificities of various subgroups (young women, adolescent youth, youth belonging to indigenous communities, young migrants, young persons with disability, and so on). **Conducting the assessment will help generate relevant data to fill existing knowledge gaps and avoid age-, gender- and diversity-blind formulation.**

2. Make smart design decisions

Dedicating time and resources to analyse the communication ecosystem helps to understand contextual factors that will enable or work against the inclusive and meaningful engagement of young people in agrifood systems, policy dialogue, professional development and other initiatives targeting rural youth. Instead of relying on biased information or outdated assumptions, the assessment will help

generate evidence-based strategies for youth digital inclusion and inform the design and user experience of digital solutions (e.g. mobile-based advisory services, weather or market price alerts, e-commerce, digital finance, online learning and mentoring, among others) based on real youth preferences, expectations, online behaviours and major pain points reported to access other digital services. In sum, **capturing actionable insights at a very early stage will allow the project team to centre the design process on youth and develop digital content and services that truly reflect their demands.**

3. Create a baseline for youth engagement work

Results of the assessment will constitute a baseline to define appropriate objectives, targets, indicators and means of verification for projects' youth engagement strategies and initiatives. The insights generated can be made available and widely shared to increase the knowledge base of various development actors and help orient FAO's and its partners' work to promote the informed and active participation of young people in agrifood programmes and policy initiatives.

4. Leverage existing communication resources

The ecosystem assessment will ensure that selected strategies and tools will be relevant and sustainable for the target group, building on existing initiatives rather than duplicating efforts. It will get the project team started with engaging relevant youth stakeholders and establishing a sounding board to test and validate ideas and prototypes along project implementation. Moreover, it will serve to identify and mobilize the youths' own communication resources, skills and talents as well as digital tools that are already popular among them.

Field story 3. Filling a data gap on rural youth digital access in Kenya

Kenya is one of the most technologically advanced countries in the African continent, yet it is not immune to the chronic absence of age-disaggregated data on digital access in rural areas. The National Census (2019) only provided generic statistics on the usage rate of mobile phones, computers and internet among young Kenyans (ages 18–35) while the urban–rural gap was measured by the share of mobile phone owners as compared to the total population in both areas.

In its inception phase in 2021, ICA Kenya launched a comprehensive assessment to fill this data gap and inform youth engagement work in the project areas of Siaya and Kakamega counties. Implemented in partnership with Maseno University, the study aimed to capture age- and gender-disaggregated data on access and use of digital technologies as part of a larger set of socioeconomic determinants of youth participation in local agrifood systems (e.g. employment and overall socioeconomic situation; individual attitudes towards engaging in agrifood systems, entrepreneurship and living in rural areas; community drivers and barriers; social capital; and access to rural services).

The research team selected and integrated 36 local youths (one woman and one man

from each subcounty) who participated in a 3-day training covering the principles of participatory research, how to set up and collect data through a mobile-based survey tool and the basics of data analysis. This cohort of young research assistants played a key role in the field data collection. Using the mobile application Kobo Collect, with remote support by FAO and Maseno University, they reached a sample of more than 1 000 male and female rural youths (14–35 years old) from all 18 subcounties of Siaya and Kakamega.

It was found that over 80 percent of those above 18 years of age use mobile phones, but more men than women own smartphones, with significantly more women reporting connectivity issues. About 1 in every 3 youths had never accessed the internet while only 1 in 4 reported using the internet to search or share content on agriculture and agribusiness. Only 1 in 4 youths had received training on digital skills, which were unanimously considered key for employability, while the majority acquired digital skills through self-exploration or peer learning (FAO, 2022b).

Sources: Author's own elaboration; FAO. 2022b. Social determinants of youth participation in local agrifood systems in Kenya. In: *FAO Decent Rural Employment*. Rome. [Cited 15 July 2022]. www.fao.org/rural-employment/resources/detail/en/c/1476606/





SECTION 2

What to look for in the assessment

A successful strategy for digital youth engagement is one that leverages digital technologies in an integrated and inclusive manner. To this end, it is crucial to **adopt a social ecological perspective**. This means recognizing that youth are embedded within a dynamic social system, where their individual behaviour is influenced by, and in turn can shape, what occurs at the family, community, institutional and policy levels (McLeroy *et al.*, 1988).

It is also key to recognize that youth inclinations and interactions in **the online and face-to-face domains are closely related**. On the one hand, digital technologies can expand informative, communicative and relational opportunities for individuals and collectives who are able to access

the digital space, redefining social action in a new interconnected virtual–real sphere (Garcia *et al.*, 2009). On the other hand, offline dynamics and social capital can influence social interactions and behaviour in the online world (Wright & Li, 2011; Bosancianu, Powell and Bratovic, 2013). In this sense, digital modes of engagement can be understood as contiguous with, complementary to, and inseparable from offline engagement (UNICEF, 2020).

Such an holistic analytical framework implies the need to **investigate both spheres in tandem, online and offline**, in order to identify the best strategies to meaningfully engage youth in our increasingly digital society.

Research dimensions

The assessment aims to profile youth in terms of **digital readiness**. This requires collecting data on their access to and use of digital technologies, unpacking the barriers that different individuals or groups of youth may face – linked to connectivity, ownership, affordability but also language or content relevance – as well as the existing digital skills and varying preferences when it comes to communication formats and channels.

In parallel, the study should also collect insights on the **communication ecosystem of youth**, which includes to a large extent their interactions offline, determined by the wider social environment. This part of the analysis involves mapping information exchanges in relation to agriculture or other relevant topics of investigation, offline communication assets of the youth, their social interactions as well as the gender and sociocultural norms shaping them.

TABLE 2

Research dimensions of the assessment

RESEARCH DIMENSIONS	KEY ELEMENTS TO ASSESS
DIGITAL READINESS	
Digital access	Availability of mobile/broadband coverage, ownership of digital devices, affordability of data
Digital use	Patterns of online activities, content consumption behaviours and preferences, including the gender-differentiated patterns
Digital literacy	Awareness and perceived utility of existing ICT-based services (e.g. e-extension, e-commerce, online learning/mentoring, mobile-based weather or market price alerts), disposition to use, existing (self-assessed) and desired digital skills
COMMUNICATION AND SOCIAL ENVIRONMENT	
Information flows	Trusted sources of information, opinion leaders/influencers and gatekeepers, preferred channels to get and share information, topics of interest
Offline communication resources	Available communication facilities, frequency and preference of use, patterns of offline communication
Social capital	Civic engagement, involvement in formal or informal organizations (e.g. youth/farmer organizations, cooperatives, saving groups)
Social norms	Family and community expectations, role models, sociocultural and gender norms

Source: Author's own elaboration.

Digital readiness

Digital access

First order digital divides are linked to poor **connectivity, ownership of devices and affordability of digital services**. It is important to start by tracking availability of mobile or broadband coverage, which are often scarce or discontinuous in rural and remote areas of developing countries. Then, map the penetration of digital devices among youth, what type of device they use (e.g. computers, smartphones or feature phones) and whether they have full control over the device or just access to a household asset.

Finally, consider that youth ability to connect and engage online will also depend on the cost of mobile services and internet data bundles vis-à-vis their purchasing power.

This part of the analysis will provide hard data about digital access and help identify underserved or completely unconnected groups of young people who may be further excluded if the engagement strategy remains limited to one digital channel without integrating other, low-tech channels they might have easier access to.

TABLE 3

Sample questions to assess digital access

RESEARCH DIMENSION	EXAMPLES OF RELATED QUESTIONS
Availability	■ Do you have access to a computer/mobile phone?
Ownership	■ If yes, is it yours or family owned? ■ If family owned, who uses it the most? If personal, at what age did you get it?
Device type	■ Which type of mobile phone do you use?
Connectivity	■ How is the quality of the network coverage in your area/community?
Cost	■ What are your average monthly expenses for mobile phone and internet data?
Access point	■ Where do you usually access the internet from?
Access barriers	■ What challenges do you face in accessing the internet?

Source: Author's own elaboration.

Digital use

On top of access barriers, there are second order divides that come into play that can hinder the meaningful use of digital technologies. Language and overall levels of education will certainly influence to what extent a young person can effectively navigate, find information or interact with other users online. Also, mainstream content available on the internet may not be relevant to the specific context, demands or life experiences of a young rural person in a developing

country. Working hours, family commitments or even weather conditions in remote areas can determine how long and when during the day youth are able to connect to the internet. The assessment should therefore try to capture **patterns of online behaviour** of youth, including their habits, attitudes and preferences in terms of online content consumption, adoption of digital solutions, use of specific channels, services or social media networks.

TABLE 4

Sample questions to assess digital use

RESEARCH DIMENSIONS	EXAMPLES OF RELATED QUESTIONS
Frequency of use	■ How often do you connect to the internet? ■ How often do you check your emails?
Online activity patterns	■ What do you use your internet data for? ■ When is your preferred time to connect during the day? ■ What do you use your email/WhatsApp/social media for? ■ Do you use internet-based services (e.g. mobile money) regularly? ■ Do all young people in your circle/community use a mobile phone? At what age do they start using it? Is there any difference between boys and girls?
Preference of use	■ What are your preferred social media/apps? ■ Do you have a favourite website or digital community related to agriculture? ■ Do you prefer self-paced e-learning courses or live interactions following a training schedule? Why?
Content consumption behaviours	■ When consuming content online, what is your preferred format? Do you enjoy more video, audio, text or a combination of the above?
ICT use for business	■ What are the digital technologies or applications you use the most to support your agribusiness? ■ How much do you pay (if at all) for their use? ■ Who introduced you to these technologies? ■ What benefits do you get from using them? Are you satisfied?

Source: Author's own elaboration.

Digital literacy

Individual digital skills of course play their part in the engagement of youth in the digital sphere; thus, it is important to include questions about the respondents' self-assessed digital capabilities. But digital literacy goes beyond the technical know-how. It encompasses youth ability to access and operate in digital environments safely and effectively. As defined by UNICEF:

Digital literacy refers to the knowledge, skills and attitudes that allow children and adolescents to flourish and thrive in an increasingly global digital world, being both safe and empowered, in ways that are appropriate to their age and local cultures and contexts (UNICEF, 2020, p. 31).

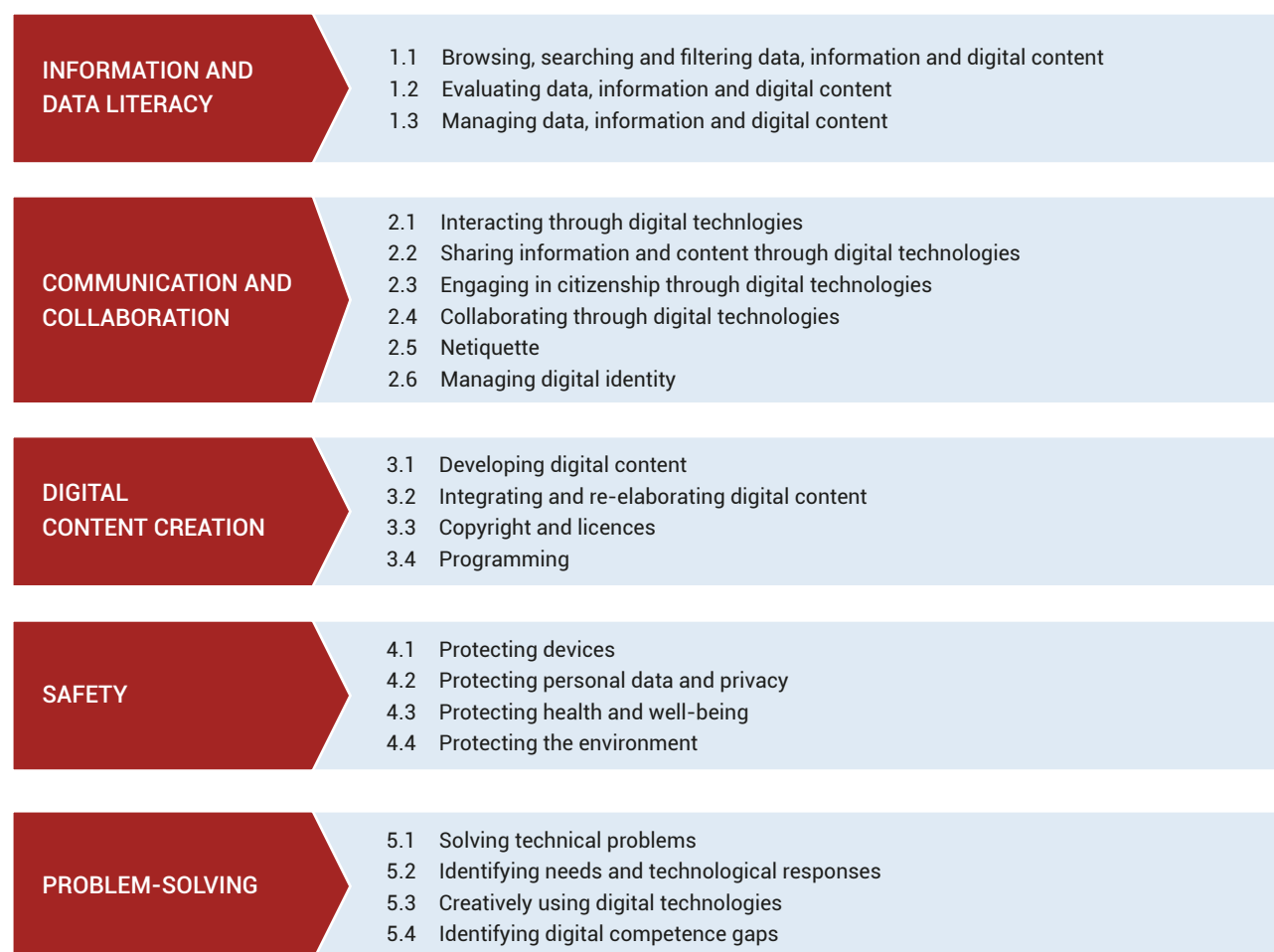
Such comprehensive understanding of digital literacy as **a combination of knowledge, abilities and mindset** aligns with the definition of digital competence as "the confident, critical and responsible use of, and engagement with, digital technologies for learning, at work, and for participation in society" (European Commission, 2019, p.10).

A useful reference is the European Digital Competence Framework for Citizens, also known as DigComp, which identifies 21 digital competences clustered into 5 key areas as summarized below:

1. **Information and data literacy:** To articulate information needs, to locate and retrieve digital data, information and content. To judge the relevance of the source and its content. To store, manage, and organize digital data, information and content.
2. **Communication and collaboration:** To interact, communicate and collaborate through digital technologies while being aware of cultural and generational diversity. To participate in society through public and private digital services and participatory citizenship. To manage one's digital presence, identity and reputation.
3. **Digital content creation:** To create and edit digital content. To improve and integrate information and content into an existing body of knowledge while understanding how copyright and licences are to be applied. To know how to give understandable instructions for a computer system.
4. **Safety:** To protect devices, content, personal data and privacy in digital environments. To protect physical and psychological health, and to be aware of digital technologies for social well-being and social inclusion. To be aware of the environmental impact of digital technologies and their use.
5. **Problem-solving:** To identify needs and problems, and to resolve conceptual problems and problem situations in digital environments. To use digital tools to innovate processes and products. To keep up-to-date with the digital evolution.

All of the above entails the importance of assessing youth awareness and understanding of digital technologies, their disposition to use them, as well as their proficiency in terms of cognitive and practical skills to perform activities online.

FIGURE 3
The DigComp reference model



Source: Vuorikari, R., Kluzer, S. & Punie, Y. 2022. *DigComp 2.2: The digital competence framework for citizens*. Luxembourg, European Commission, Joint Research Centre, p. 126.

TABLE 5

Sample questions to assess digital literacy

RESEARCH DIMENSION	EXAMPLES OF RELATED QUESTIONS
Awareness	■ Are you aware of/have you ever accessed the following digital services (e.g. e-extension, e-commerce, online learning/mentoring, mobile-based weather or market alerts)? ■ How would you rate the service?
Attitudes	■ How comfortable do you feel (1–5 not to very comfortable)... ● selling/buying agricultural products online? ● requesting/getting agricultural advice via mobile? ● learning anything online? ● receiving coaching/mentorship support online? ● getting information alerts via mobile? ● participating in virtual policy dialogues?
Self-assessment of digital skills	■ How would you rate (1–5 poor to excellent) your ability to... ● find information online? ● evaluate credibility of online sources? ● organize/store data in digital formats? ● make a video call? ● share content through social media? ● create digital content? ● detect risk of online fraud? ● protect your data and identity online?
Skills acquisition	■ Where did you acquire your digital skills? ■ Who provided the training?
Perceived utility	■ How important are digital skills for youth employability? ■ What are the major benefits you get by using digital technologies?
Desired digital skills	■ What kind of digital skills would you like to acquire/master? ■ Is there any digital tool you would like to use (e.g. in your business) but don't know how to?

Source: Author's own elaboration.

Field story 4. Measuring and developing youth digital competences

In the framework of a Peace Building Fund jointly implemented by FAO, the International Organization for Migration (OIM), and the United Nations Educational, Scientific and Cultural Organization (UNESCO) in Guatemala, the ICA methodology was used to investigate youth digital access, use and self-assessed proficiency as the basis to inform a digital inclusion strategy for young returnees.

Data was collected through a mobile-based survey with 132 youths (average age of 21) from two migration-prone municipalities in the Western Highlands. One of every three respondents were seasonal migrants or returnees, and the other two were residents from local communities. The sample included 53 percent young women and 47 percent young men, and the majority (61 percent) self-identified as indigenous.

The assessment showed high digital access among the youth, with 90 percent using smart phones, 66 percent connecting to the internet regularly, 93 percent using WhatsApp and 80 percent having a social network profile. However, a gender gap was recorded, with 17 percent fewer female than male youths online, using less sophisticated devices and with lower monthly expenses for internet data. Despite the widespread adoption of social media (mostly Facebook) and instant messaging apps (mostly WhatsApp), only 22 percent of the youth reported using such tools for business.

Using as a reference the EU DigComp Framework, participants were asked to self-assess their digital competences by

rating their own levels of knowledge, ability or confidence in use. Low levels of basic digital skills emerged, especially in the areas of online collaboration (67 percent had little or no experience with online training) and content creation (over 50 percent valued their abilities to create and edit digital content as null or very low). Remarkably on safety, 1 in 2 youths were not aware of how to protect devices, content, personal data and privacy in digital environments.

The findings were instrumental to design a digital literacy development programme that was delivered through FAO's supported digital platform ChispaRural.GT. This blended (online and face-to-face) training programme exposed more than 100 youths to the basic digital competences needed to safely navigate and express themselves in the digital space and progressively covered intermediate digital and communication skills, including digital tools for online collaboration, content creation and problem-solving. As a result, the youths learned how to improve both their personal and business presence online. An advanced training was delivered to selected youths who were equipped with digital devices and specific communication skills to produce multimedia content that contributed to amplify the voices of rural and indigenous youth, returnees and entrepreneurs, self-representing their stories in the digital space.

Sources: Author's own elaboration; FAO. 2021. Digital inclusion of young returnees in Guatemala. In: *FAO Decent Rural Employment*. Rome. [Cited 4 July 2022]. www.fao.org/rural-employment/resources/detail/en/c/1459502/

Communication and social environment

Information flows

Access to information and knowledge is one of the main challenges hindering the active engagement of youth in agriculture and food systems. **Mapping information exchanges** in relation to agriculture, entrepreneurship, employment – or any other relevant topic of investigation – is key to identify the sources of information youth rely on and trust more. These include popular channels as well as opinion leaders and influencers who can significantly help in reaching out and mobilizing youth. On the other hand, this exercise allows us to detect bottlenecks and the so-called “gatekeepers” or actors who can in fact block or filter the information we intend to share with youth and hamper their participation in our initiatives. Complementary questions to ask include the **topics of interest**, to identify young people's information needs and knowledge gaps, as well as the **preferred channels** to get that information.

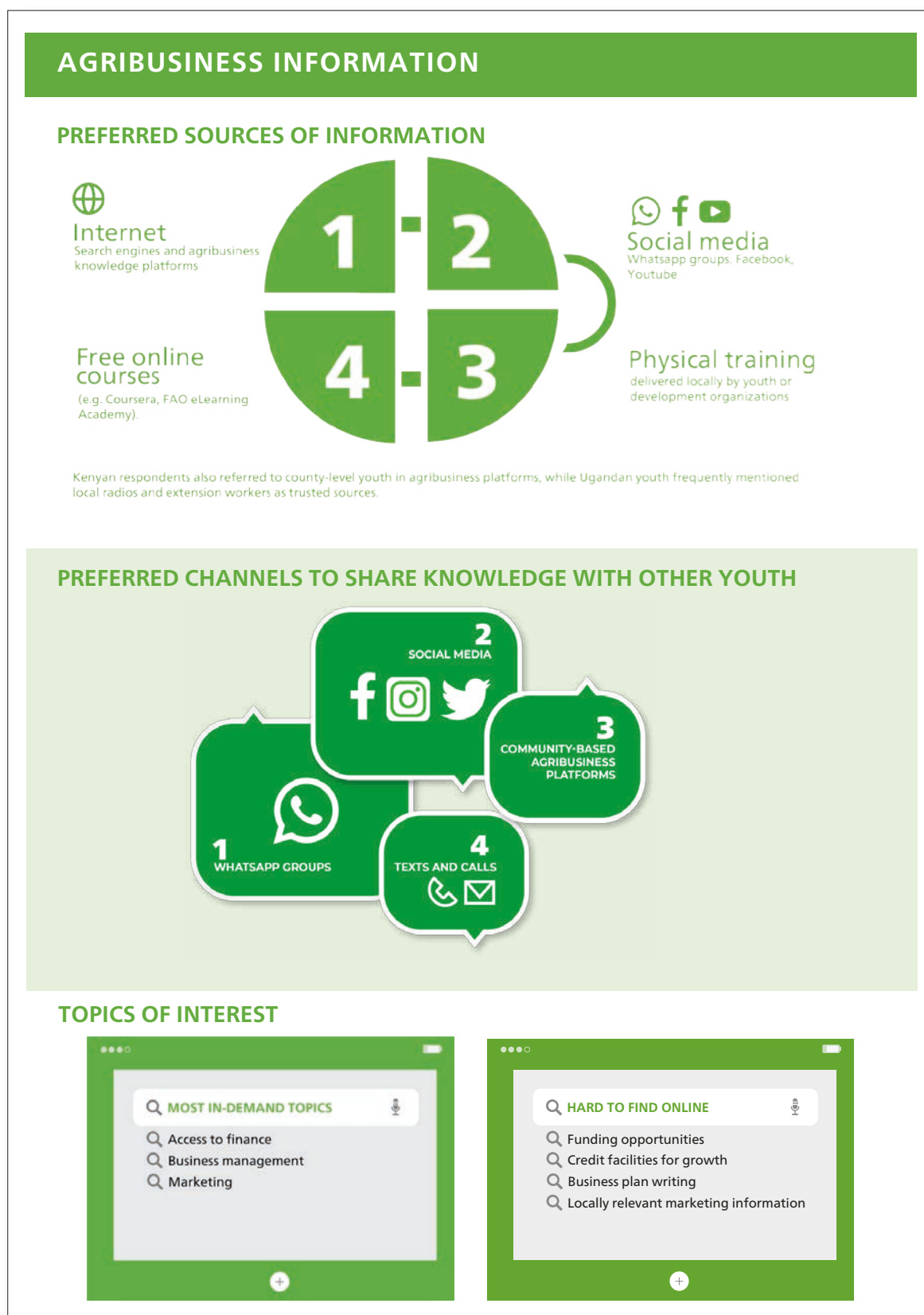
Investigating this dimension with young people usually reveals how the online world is entrenched in their daily lives, as they increasingly rely on the internet and social media to search for and share information of their interest, as compared to adults who tend to be more exposed and dependent on physical information exchanges, such as visits by agricultural extension workers.

As an example, Figure 4 shows that young agripreneurs in East Africa were found to look for agribusiness information primarily online, namely through search engines, online knowledge platforms and social media; free e-learning courses were also popular sources, just after the face-to-face trainings delivered by youth or development organizations. Similarly, they used mainly WhatsApp groups, Facebook and other social media to share agriculture or business-related information

and knowledge with other youth. In-demand topics revolved around access to finance, business management and marketing, while information about funding and credit facilities, as well as market information that was relevant enough to the local context, were flagged as harder to find online (Pafumi & Arimbi, 2022).



FIGURE 4
Agribusiness information flows of youth in East Africa



Source: FAO. 2022c. *Identikit of East African Youth Agripreneurs in the digital space*. Nairobi. <https://www.fao.org/3/cb9297en/cb9297en.pdf>

TABLE 6

Sample questions to map information flows

RESEARCH DIMENSION	EXAMPLES OF RELATED QUESTIONS
Sources of information	■ Where do you usually look for information on agriculture (or any other relevant topic)?
Opinion leaders/influencers and gatekeepers	■ What are the key actors or organizations providing agricultural information for youth in your locality? ■ Who are the ones you consider more reliable? ■ Who are the ones you trust the least? ■ Who are the ones that have the greatest influence on your decisions and behaviour? Why?
Agricultural extension services	■ Have you received agricultural information or advice in the last 6 months? ■ How often do you receive this type of service? ■ By whom? Through what channels?
Online content	■ Do you look for agricultural information online? ■ If yes, can you indicate the sites you visit more often? ■ Are you part of online communities or groups where people share information related to agriculture/agribusiness?
Exchange of information	■ How do you usually exchange agricultural information with other youth? ■ Do you share agriculture or business-related information through WhatsApp or your social media profiles?
Preferred channels to get information	■ In your opinion, which is the best communication channel to share agricultural information and advice with youth?
Topics of interest	■ What are the topics you would like to learn more about (e.g. to improve your agribusiness/employability)? ■ Among the topics mentioned, which ones do you find harder to access (online and/or offline)? ■ On which of these topics would you appreciate learning from/sharing with other youth?

Source: Author's own elaboration.



Field story 5. Information sources of digital natives

A participatory assessment conducted by ICA in Guatemala showed that, even though the national agricultural advisory services had a network of youth-dedicated extension workers, the young people interviewed did not consider those technicians as timely or trusted sources of agricultural information.

One of the reasons causing the extension service to be completely off the radar was that only 10 percent of the extension workers reported using mobiles to communicate with the youth and instead relied on traditional methods such as physical gatherings. On the contrary, most youth even in remote rural villages (70 percent) owned smartphones and regularly connected to the internet including for agriculture and work-related matters. Not surprisingly then, internet and social media were reported by the youth as

more accessible and trustworthy sources of information, only preceded by family, friends or neighbour farmers.

These findings informed the decision to develop a dedicated digital service where the new generation of Guatemalan farmers could more easily demand, access and share information to uplift their productive, marketing and networking activities. On the other hand, extension workers were sensitized and invited to join user-testing exercises of the platform, in order to shift towards ICT-based communication and extension methods.

The assessment report (in Spanish) can be consulted at the below source.

Source: Pafumi, M. 2018. Participatory assessment of communication for development engaging rural youth in Guatemala. Rome, FAO.

Offline communication resources

The analysis of communication resources is the evaluation of locally available channels to reach the intended stakeholders in order to identify the most appropriate and cost-effective options (FAO, 2014). While the digital readiness part of the assessment focused on digital channels and internet-based social media, this research dimension aims to identify any **offline communication facilities**, materials, services and networks that youth, particularly the unconnected, have available and use in their rural communities or smaller social circles and that could therefore be suitable to interact with them

outside and beyond the digital space. According to the context, these may include broadcast and print media – such as TV, community radio, newspapers, comics – as well as theatre, movies, music festivals, town halls and roadshows, among others.

The main goal of this analysis is to find alternative or complementary channels that can be embedded into a digital engagement strategy to include underserved individuals or youth groups with limited or no capacity to engage online.

TABLE 7

Sample questions to assess the communication resources

RESEARCH DIMENSION	EXAMPLES OF RELATED QUESTIONS
Availability	■ What offline communication facilities are available/popular among youth? Who can access them?
Frequency/preference of use	■ How often do you listen to the radio? What are your favourite radio stations/programmes? Do you listen to radio programmes about agriculture? ■ How often do you watch TV? What are your favourite shows? Do you watch TV shows about agriculture? ■ Are you subscribed to any information/advice service via short message service (SMS) related to agriculture? If yes, how often do you receive them? Who provides this service? How useful is this service for you? ■ Have you ever sent a request to those radio/TV shows or SMS about agriculture? ■ Would you like to get more agriculture/agribusiness information via radio/TV/SMS (or any other suitable channel)?
Offline communication patterns	■ Do young people only use digital technologies to communicate? What are their preferred ways to interact and express themselves? ■ Do young people have a dedicated space in the local newspaper/community radio (or any other suitable channel)? ■ Are there individuals or groups of young people who remain isolated or silenced? Why? ■ Who are the movers and shakers inside the youth community that could be used for effective youth mobilization?

Source: Author's own elaboration.

Social capital

The web of human connections, interpersonal relations and formal or informal interactions with other key actors – for example through a cooperative, a youth council or a farmer organization – is a fundamental asset for young people to pursue their goals in the agrifood system. The **number and quality of social ties young people hold** can in fact determine to what degree they have access to information, mindsets and skills, as well as training, mentorship, financial and other support services, both offline and in the digital space. It is through relationships that individuals or a collective group are able to access and mobilize valuable resources that contribute to positive outcomes

(Scales *et al.*, 2020). This kind of “**social capital**”⁷ is a precious resource that can be leveraged and mobilized through a youth engagement strategy, therefore a research dimension that shouldn't be overlooked during the assessment. Quantitative methods like Social Network Analysis (SNA) can be used to map and measure the size, structure and density of social relationships that exist between young people and/or groups. However, for the purpose of this assessment it will be sufficient to look into the social capital of young people in terms of their **civic engagement** and more specifically their degree of **participation in formal or informal organizations within the agrifood system**.

TABLE 8

Sample questions to assess social capital

RESEARCH DIMENSION	EXAMPLES OF RELATED QUESTIONS
Civic engagement	■ Are you involved in any youth network, council or association? In which capacity (e.g. board, local representative, active member)? If not, why? ■ Do you participate in consultation mechanisms on youth and agriculture (e.g. technical working groups, national or international fora, local platforms)? If not, why? ■ What are the issues discussed in those spaces? Do you feel free to express your opinion? To what extent are they acted upon?
Participation in formal or informal organizations	■ Do you belong to any farmer organization and/or cooperative? In which capacity (e.g. board, youth representative, member)? If not, why? ■ Do you belong to any youth in agribusiness association? In which capacity (e.g. board, technical advisor, regular member)? If not, why? ■ Are you part of a saving group? In which capacity (e.g. board, member)? If not, why?
Perceived benefits	■ What are the benefits you get from participating? ■ Do you think belonging to such organizations eases your access to support services (e.g. info, agricultural advice, training, finance)? How?
Digital civic engagement	■ What are the benefits you get from participating? ■ Do you think belonging to such organizations eases your access to support services (e.g. info, agricultural advice, training, finance)? How?

Source: Author's own elaboration.

⁷ While there is little consensus on what social capital is and how it should be measured, a recent literature review on social capital for young people by Scales *et al.* (2020, p.3) provides a useful definition as “the resources that arise from a web of relationships which people can access and mobilize to help them improve their lives and achieve their goals, which inevitably shift over time.”

Social norms

Finally, where possible, a more in-depth analysis of the **social norms** shaping young people's social interactions in the agrifood system could be conducted, investigating expectations as to their role as young persons, as family or community members, or as change-makers in the agribusiness sector. Social norms are the unwritten rules about how people should behave in different social and cultural contexts according

to their age, gender, social status, among other sensitive aspects; therefore, the questions need to be carefully tailored to the specificity of each research context. This part of the analysis provides complementary insights to uncover bias and gaps influencing youth engagement in the agrifood system based on demographic or socioeconomic characteristics.

TABLE 9

Sample questions to assess social norms

RESEARCH DIMENSION	EXAMPLES OF RELATED QUESTIONS
Family and community influences	■ What influenced your choice to engage or not in agriculture? Do other people in your family and closer social circle work in agriculture? ■ Who are your major professional references and role models? ■ Do you feel supported by your family and closer social circle in your career choice to work in agriculture? Why? ■ To what degree do you feel accepted and valued by others in the agribusiness sector? ■ What are your family's expectations about your future? Do they match with yours?
Social and gender norms	■ Is engaging in agriculture a local tradition or is it considered an atypical career for young people in your community? Why? ■ Have you experienced any constraints on the job due to your young age and/or gender (or other relevant characteristics)? ■ What do people say about young women farming or in agribusiness? Is it socially accepted? If not, why? ■ Is it socially acceptable for young women to work outside of the household/village (e.g. travel to market, interact with male traders)? If not, why? ■ Are young women equally able to access land and manage a family farm? If not, why? ■ Do young women use a financial account and have direct control over cash earnings? If not, why? ■ Do you think this situation is changing? What is driving this change?

Source: Author's own elaboration.





SECTION 3

How to conduct the assessment

Methodological steps

The methodology presented in these guidelines can be flexibly adapted to the particular research goals of any initiative aiming to mobilize specific groups of young people around different thematic areas, agricultural or business projects, development initiatives, and so on. As an example, within the scope of the ICA project, applications of this methodology ranged from supporting the formulation of a country project component to the design of specific digital services during the implementation phase. The methodology was used in response to project goals as diverse as, for example, creating a safe

space for youth networking and cross-country learning about agribusiness, or enabling the integration of young returnees in their local communities through digital upskilling (see the *Field Stories* for ICA project-based examples).

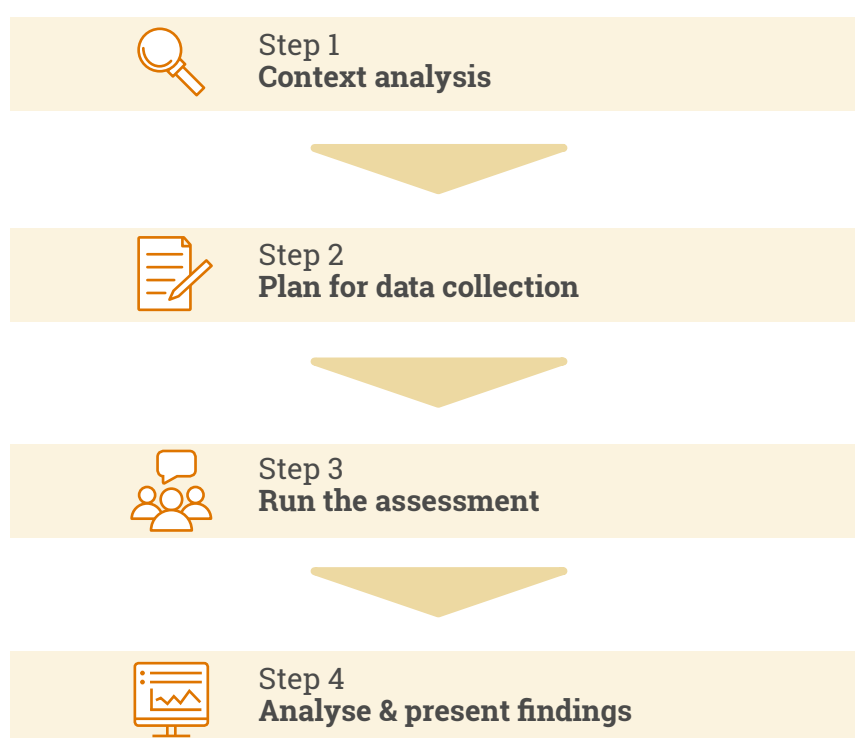
While the research effort may vary significantly in scope, the core research question of the assessment remains:

"What are the key enablers and potential barriers to a successful digital engagement of specific youth groups in the agrifood system (or a specific subsector/programme/initiative)?"

Likewise, in terms of process it is always helpful to follow basic steps to ensure consistency, relevance and effectiveness of the exercise. This section outlines four main steps to carry out the assessment (see Figure 5). First, it is important to gather existing evidence and background information in order to make informed decisions on what specific data

need to be sourced directly from research participants. This preliminary analysis will allow the research team to identify knowledge gaps, design suitable research tools and properly plan for the following step of collecting relevant data and insights with young people and key informants. The last step covers data analysis and dissemination.

FIGURE 5
Key steps to carry out the assessment



Source: Author's own elaboration.

Step 1. At your desk – context analysis



As with any primary research, the first thing to do is to undertake a desk study and review secondary data from existing reports and context analyses. This can provide background information and benchmarks, for example, on youth engagement in the agricultural sector, employment, access and use of digital services, among other aspects. The context analysis is functional to identifying existing data, knowledge gaps and what needs to be investigated more in depth with the assessment.

Areas of investigation

Specific lines of inquiry that a rapid context analysis can cover include:

1. **Digital landscape:** an overview of the state of digital development in the country/area of intervention, including infrastructure (coverage, broadband), mobile subscriptions, internet access and use, social media use, digital financial inclusion and ICT skills of the population

While general statistics are helpful to outline the big picture, the end goal is to find data differentiated at least by age and gender, as well as for rural as opposed to urban areas.

2. **Dedicated services for youth in agrifood systems:** background information on existing services dedicated or simply available to rural youth, young farmers and agripreneurs such as agricultural extension and advice, job orientation, capacity development, mentoring, incubation and agribusiness support, and financial services

The focus should be on the coverage and quality of those services, their accessibility (particularly for internet-based services such as e-extension or e-commerce) and responsiveness to youth needs and expectations.

3. **Youth networks and organizations:** mapping of existing groups, networks and organizations of youth active in the agrifood system at the national and local levels, including youth branches of farmer organizations, youth in agribusiness associations, saving groups, networks of rural youth, cooperatives and other informal or commercial groups

Beyond profiling the organizations in terms of membership, mission and/or service provision, the focus should be on their organizational capacities both in terms of outreach within the agrifood system, and in terms of youth engagement and representativeness (gender equality and social inclusion in organizational planning, governance, membership, communication, partnerships) (FAO, forthcoming).

4. **Youth-centred digital solutions, innovation hubs and start-ups:** mapping of existing digital platforms, solutions and innovation hubs (incubators, accelerators, funds) that rural youth and agripreneurs can access, including start-ups led by youth in the AgTech industry

This is particularly relevant when the assessment is meant to inform the design of a youth-centred digital service, as it allows designers to identify gaps and potential synergies in the landscape of digital and innovation support services already targeting youth. Failures and pain points reported by the users are also important as they may shape perceptions towards a new digital solution or initiative.

Data sources

Potential data sources for the context analysis are summarized in Table 10. While the list may seem long, it should be noted that not all the research areas will be relevant for every assessment. Moreover, the availability of data

sources will vary from country to country: in some cases it will be extremely hard to find robust statistics or up-to-date datasets, but interviews with knowledgeable informants can give access to unpublished studies or surveys.

TABLE 10

Research areas for the context analysis and related data sources

RESEARCH AREAS	DATA SOURCES
Digital landscape	Secondary sources: ■ Official statistics and national ICT surveys ■ Data portals and reports by specialized agencies or organizations (e.g. ITU Digital Development Dashboard) ■ Consolidated reports including ICT statistics and user numbers for the top social platforms (e.g. DataReportal "state of digital" reports by regions and territories) Key informants: ■ Government officials (e.g. Ministry of ICTs) ■ Subject-matter specialists
Dedicated services for youth in agrifood systems	Secondary sources: ■ Project documents ■ Country reports and sector strategies ■ Online databases and technical reports by specialized agencies/development actors (e.g. GFRAS World Wide Extension Study country factsheets) ■ Academic papers Key informants: ■ Project staff ■ Local authorities or government officials (e.g. Ministry of Agriculture/Youth/Labour) ■ Youth leaders and representatives ■ Local service providers ■ Subject-matter specialists
Youth networks and organizations	Secondary sources: ■ Project documents ■ Country reports and sector strategies ■ Online databases and technical reports by specialized agencies or development actors (e.g. GDPRD Insights into youth networks around agriculture in Africa) Key informants: ■ Project staff ■ Local authorities or government officials (e.g. Ministry of Youth) ■ Youth leaders or representatives ■ Youth development practitioners
Youth-centred digital solutions, innovation hubs and start-ups	Secondary sources: ■ Project documents ■ Country reports and sector strategies ■ Online databases and technical reports by specialized agencies/development actors (e.g. StartupList Africa directory of AgriTech startups) Key informants: ■ Project staff ■ Government officials (e.g. Ministry of ICTs) ■ Youth leaders or representatives ■ Subject-matter specialists or industry actors (e.g. Impact Hubs)

Source: Author's own elaboration.

Field story 6. Scoping opportunities for youth engagement in Rwanda

In 2019, during the inception phase of the ICA project in Rwanda, a desk study complemented by a scoping mission allowed experts to identify in advance gaps and opportunities for meaningful engagement of young women and men in project activities, with a digital inclusion lens. Such preliminary context analysis included the review of secondary data as well as interviews with key informants at national level and young agripreneurs in rural areas.

The context analysis covered the following areas:

- digital landscape with focus on rural and youth access;
- availability of youth-focused agricultural advisory, training or business support services;
- engagement strategies of rural youth organizations and networks, including communication capacity, membership participation and inclusiveness; and
- agrifood digital services, start-ups and innovation hubs (incubators, accelerators, funds) accessible by rural youth and young agripreneurs.

Secondary data showed that despite the country's outstanding efforts to transition to a knowledge-based society, only 40 percent of citizens subscribed to internet services and just about 5 percent were active social media users (DataReportal, 2019). Key barriers to large-scale adoption of ICT in rural areas, especially among women and youth, included the affordability of devices and services, a shortage of digital skills and largely the lack of locally relevant content (GSMA Intelligence, 2019; MINICT, 2018). And

while Rwanda's vision to embrace a digital agricultural transformation placed youth at the centre stage, none of the information and communications services implemented under the National ICT for Agriculture (ICT4Ag) Strategy was designed specifically for youth, with limited data available on the overall outreach and impact.

Key informant interviews with communication officers in the Ministry of Agriculture pointed to the lack of digitalized extension materials and of a road map for capacity building of extension workers, as well as a limited knowledge and information sharing culture. According to those informants, rural youth were "addicted to radio", which they listen to on their mobile phones, while no ICT4Ag solution was popular among them. The low uptake was considered to be due to insufficient awareness and relevance of the services, often designed in Kigali without proper user research.

Work sessions with major youth networks and organizations looked at their capacity to represent, engage and provide actionable information for rural youth. The analysis revealed the need to strengthen the national umbrella organization for youth in agribusiness, which translated into project support to its strategic planning, consultative processes and web presence in order to increase accessibility and ownership by youth members.

Source: Pafumi, M. 2019. Back-to-office report for duty travel to Rwanda, 13-19 October 2019. Rome, FAO. Internal Document.

Step 2. Get ready – plan for data collection



Based on the knowledge generated through the context analysis, it is now possible to sharpen the research methodology in order to effectively collect primary data. This entails defining the scope of the assessment, selecting suitable research techniques to get both quantitative and qualitative data, designing data collection tools, defining a sampling strategy and planning the logistics accordingly.

Scope of the study

With background information on the target population, it becomes easier to visualize the knowledge gaps and determine what **research dimensions** the assessment should cover. The study can address all or only some of the research dimensions described in *Chapter 2. What to look for in the assessment*. Likewise, additional areas of investigation can be embedded as needed.

Data collection techniques

Some research dimensions can be easily measured through **quantitative data**, for instance, those linked to young people's digital access and use (availability, frequency, and so on). A **structured survey questionnaire** will serve this purpose while facilitating the demographic and socioeconomic profiling of respondents.

On the other hand, certain research dimensions require more in-depth, **qualitative data and insights** such as mapping the information flows or trying to unveil motivational drivers or social barriers that influence youth behaviours and interactions in the agrifood system.

Survey questionnaires can still address qualitative dimensions trying to measure abstract concepts, for example, participants' attitudes towards migration or perceptions of agriculture as a decent job, through multiple choice questions or Likert scales (see Annex 1); however, they will only scrape the surface and are highly susceptible to biases due to the researchers shaping predefined responses based on their assumptions. **Individual and group interviews along with participatory research techniques, either visual or narrative**, will certainly work best to dig deeper into participants' opinions, feelings or behaviours asking the "why" questions.⁸

Focus group discussions should always be factored into your research plan. Conducted with homogeneous and representative groups of stakeholders (ideally six to eight participants), these discussions take advantage of group dynamics to explore issues in depth and stimulate richer responses through dialogue. It is critical to select and cluster focus group participants taking into account demographic and socioeconomic characteristics that are relevant to the research objectives, such as geographic area, age cohort, gender, occupation, family status, ethnicity, social capital, migration status among others (see next paragraph on Sampling strategy). Based on the local gender dynamics, you may consider an all-female group (with a female moderator). Where focus groups are not possible you can still opt for in-depth interviews with selected participants.

⁸ For an overview of advantages, disadvantages and skills needed to conduct focus group discussions, key informant interviews and other participatory assessment techniques, refer to the *Communication for rural development sourcebook* (FAO, 2014).



Box 3. Trust circle: a visual technique to map information flows

The Trust Circle is a participatory visual technique that works well in all settings to engage participants in mapping available sources of information on a given topic. Through probing questions, the exercise allows researchers to appreciate the level of trust participants invest in each of the sources and whether the information flows one way or two ways.

Materials: worksheet, coloured markers and post-its

Facilitation: This requires basic facilitation skills and can be conducted by a single researcher with the help of focus group participants. The facilitator can write and place the post-its based on participants' answers or ask the participants to do that by themselves.

Time: 20-30 minutes

Instructions:

- 1) Prepare the worksheet (draw concentric circles with a youth in the middle).
- 2) List all relevant sources of information (one per post-it).

Guiding question: *What are the key actors or organizations providing information for youth in your locality on agriculture (or any other topic of interest for the assessment)? E.g. family, farmer groups, community leaders or promoters, agronomists, local extension services, counties, NGOs, middlemen, buyers, merchants, distributors, suppliers (of seeds, fertilizers, etc.), banks, youth or producer organizations, media: radio, tv, social networks, internet, universities*

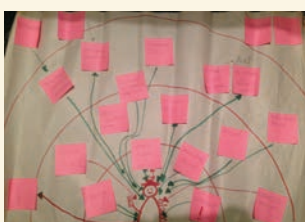
- 3) Position each player on the circles according to the level of trust/influence (the most trusted at the bottom and centre, the least trusted to the outer circles) and ask why.

Guiding question: *Who are the ones you consider more reliable? Who are the ones you trust the least? Why?*

- 4) (optional) Map information flows (draw one-way or two-way lines of different colours according to the type of information received or exchanged, e.g. agricultural production/market/finance/other.)

Guiding question: *What type of information are you receiving from this actor? Do you only receive information or also share information with this actor through this channel?*

Example (from Guatemala):



#1. Trust circle developed by young rural men and women belonging to a youth association

Participants placed internet in the inner circle of reliable sources of information about agriculture and employment, along with family and neighbour farmers, although they are classified as one-way sources of information. Instead they valued two-way communication primarily with other young people and friends, with extension workers and through local radio.



#2. Trust circle developed by young rural women not belonging to any youth association

The map of information sources on agricultural and employment issues is almost empty. The most influential and trusted actors are exclusively family members: husband, parents and siblings. In the next circle the neighbours (female), agronomists and community workers appear, but the flow of communication is almost always filtered by the men of the family.

Sources:

GSMA & Frog Design. 2016. The mAgri design toolkit: user-centered design for mobile agriculture. In: GSMA. London. [Cited 15 July 2022]. www.gsma.com/mobilefordevelopment/agritech/magri-design-toolkit/

Pafumi, M. 2018. *Participatory assessment of communication for development engaging rural youth in Guatemala*. Rome, FAO.

Photos (from top to bottom): ©FAO/Marzia Pafumi.

Embedding **participatory hands-on activities** in focus groups can effectively engage participants and trigger discussion on those topics that are harder to cover with direct questions or that benefit from a collective construction of meaning. Mapping, timelines, brainstorming, visioning, card sorting, scoring, ranking, a day in the life, empathy mapping, transect walks, farm tours, and so on are some of the most commonly used techniques, but there are no limits to creativity (see Box 3 for a detailed description of one participatory technique suitable to map information flows). Participatory action research toolkits and design-thinking methods for user research will provide plenty of inspiration.⁹

In parallel, **interviews with key informants** in the agrifood system (e.g. youth leaders and representatives, extension workers, business support or financial service providers, local authorities, family or community members of the young respondents) can prove useful to compare perspectives, cross-check opinions and investigate reasons why, while providing complementary insights to understand community expectations, gender roles and social norms.

In fact, most research dimensions are optimally captured through a **combination of both quantitative and qualitative data**, so it is strongly recommended to use both structured questionnaires and more open, participant-centred research techniques. While questionnaires are convenient and time efficient for gathering information from large samples, in a format that is easy to categorize and process, individual and group interviews with key informants and representative youth groups are critical to contextualize and deepen the investigation, validating and enriching survey responses.

Beyond providing the opportunity for young participants to express directly their needs, motivations, knowledge or preferences, participatory techniques enable youth to self-assess their situation, thus becoming actively involved and not mere subjects of the research. This greatly facilitates mutual understanding between researchers and young participants during the assessment phase and sets the ground to establish reliable feedback mechanisms during the following stage of co-designing digital solutions or services.

Data collection tools

Data collection tools such as **questionnaires, interview topic guides and focus group discussion guides** can be designed from scratch or adapted from previous studies. The core set of questions should cover all the research dimensions that have been selected and reflect the specificities of both project area and participants' groups.

Start by listing the research areas and main topics you need to explore with each group of participants, then detail the questions keeping in mind the amount of time that can be spent on each topic. *Chapter 2. What to look for in the assessment* provides a list of key questions under each research dimension; close-ended questions including Likert scales are more suitable for survey questionnaires while open questions are best asked during individual interviews or group discussions. You will need to tailor the question guides and develop specific sets of questions for different subgroups of research participants, for instance, when organizing separate focus group discussions with young women, younger youth or other relevant subsamples. On the other hand, if you are planning to conduct asynchronous online research, you will have to tweak the question guides and provide additional instructions for the participants to successfully respond (see Section on *Online research*).

⁹ Among others: *Communication for rural development sourcebook* (FAO, 2014); *mAgri design toolkit: user-centered design for mobile agriculture* (GSMA & Frog Design, 2016); *Participatory research toolkit for social norms measurement* (Sood, Kostizak and Stevens, 2020); *the SAGE encyclopedia of action research* (Coghlan & Brydon-Miller, eds., 2014).

TABLE 11

Suitable data collection techniques for each research dimension

RESEARCH DIMENSIONS	KEY ELEMENTS TO ASSESS	DATA COLLECTION TECHNIQUES
DIGITAL READINESS		
Digital access	Availability of mobile/broadband coverage, ownership of digital devices, affordability of data	■ Survey questionnaire ■ Direct observation in the project area
Digital use	Patterns of online activities, content consumption behaviours and preferences, including gender-differentiated patterns	■ Survey questionnaire ■ Focus group discussions
Digital literacy	Awareness and perceived utility of existing ICT-based services (e.g. e-extension, e-commerce, online learning/mentoring, mobile-based weather or market price alerts), disposition to use, existing (self-assessed) and desired digital skills	■ Survey questionnaire ■ Focus group discussions
COMMUNICATION AND SOCIAL ENVIRONMENT		
Information flows	Trusted sources of information, opinion leaders/influencers and gatekeepers, preferred channels to get and share information, topics of interest	■ Survey questionnaire ■ Key informant interviews with agrifood system stakeholders ■ Focus group discussion and participatory techniques (e.g. trust circle, network/power mapping)
Offline communication resources	Available communication facilities, frequency and preference of use, patterns of offline communication	■ Survey questionnaire ■ Focus group discussions and participatory techniques
Social capital	Civic engagement, involvement in formal or informal organizations (e.g. youth/farmer organizations, cooperatives, saving groups)	■ Survey questionnaire ■ Focus group discussions ■ Key informant interviews with agrifood system stakeholders
Social norms	Family and community expectations, role models, sociocultural and gender norms	■ Focus group discussion and participatory techniques (e.g. timelines, role play) ■ Key informant interviews with family and community members

Source: Author's own elaboration.

Individual questionnaires usually include basic introductory questions for sociodemographic profiling (e.g. gender, age, location, ethnicity, education, employment, family status, migratory status, income, among others) that will help you disaggregate findings. Remember to respect participants' privacy and only collect data that is essential for your research objectives (see Box 4. *Principles of research ethics*).

The Annexes provide examples of a full-fledged survey questionnaire and a focus group discussion guide.

Digital or mobile-based data collection tools such as Kobo Collect¹⁰ are strongly recommended to administer survey questionnaires to individual youths in a convenient and time-effective manner, both online and in the field.

You can use the same outline of the interview and focus group discussion guides to set a **template for note taking** that will help the research team to organize and later process the data collected.

Sampling strategy

Focusing on the target population and geographic scope of the research, you can also now determine a representative sample to be involved in the assessment.

The **sample size** can be calculated based on the degree of accuracy you need (using a standard formula or a sample size calculator, with confidence level and margin of error) but will mostly depend on the time and budget available. The **sampling technique** depends on the nature and objectives of your project. For an in-depth qualitative assessment, you can opt for purposive or convenience sampling that will

allow you to quickly capture as much information as possible from a targeted group with specific characteristics (e.g. job aspirations and digital readiness of indigenous rural youth among 14- to 25-year-old residents of a particular project area). Alternatively you can choose a random sampling method when you are concerned with proportionality and need to generalize findings from a smaller group of participants to the entire target population (e.g. rural youth in a given country) with minimized levels of error.

As the youth population is not homogenous, the inclusion of various subgroups should be ensured based on their different characteristics that are relevant to your research objectives (e.g. gender, age, ethnicity, employment status, business stage). It is always recommended to **stratify your sample**, whether you use purposive sampling or the stratified random sampling technique – in which case you first need to calculate the actual representation of each strata within the population and then select research participants in the same proportion, randomly or systematically.

Data collection plan

With your research methodology and tools at hand, you can finally come up with a workplan that will help you allocate sufficient time, human and financial resources for the collection of data, be it through fieldwork or web-based research (or a combination thereof). Planning includes outlining a timeframe for the data collection and preparatory activities (e.g. piloting, training of research assistants and enumerators, actual data collection) as well as fieldwork logistics with the related budget. The latest may include travel, venue and other facilities to mobilize both the research team and the participants.

¹⁰ Kobo Toolbox is a free and open source suite of tools commonly used for field research in challenging environments. It allows users to collect data both online and offline, store information offline until an internet connection is available, remotely monitor progress and quality of data, and perform basic analysis and mappings. More info at: www.kobotoolbox.org

Step 3. Hands on – run the assessment



It is always recommended to run a pilot exercise in order to fine-tune the research tools and make the necessary arrangements before conducting the assessment at full scale. Special considerations should be made when the assessment is conducted partially or entirely online, while the principles of ethical social research apply universally.

Pilot exercise

Conducting a pilot at local level (in the case of a field study) or with a small test group (applies also for internet-based research) is the best way to **refine the data collection tools**. You will be able to do so thanks to participants' feedback on aspects such as survey and interview length, wording and clarity of questions and response options, accurateness of translation (e.g. for local language versions of the question guides), and appropriateness of the proposed participatory techniques (e.g. culturally, timewise). The pilot will also help you evaluate the overall **feasibility of the full-scale assessment** in terms of duration and resources needed and adjust your plans and budget accordingly.

Through a pilot run you can make sure that everyone in the research team is on the same page about what results are expected from data gathering and how to go about it. It can serve as **hands-on training for research assistants** and enumerators, as they can practice while testing the data collection tools. In fact, it is a great opportunity to partner with organizations of rural youth, young farmers or youth in agribusiness, in case they were not engaged earlier in the process. They can provide precious inputs to validate the research tools and at the same time get familiar with them in view of a possible direct involvement in the research scale up as data collectors (see *Field Story 3. Filling a data gap on rural youth digital access in Kenya*).

Full-scale assessment

Once the data collection tools have been tested and finalized, the programme will mobilize resources to conduct the assessment at a larger scale gathering data from the full sample. This requires first of all activating the research team, which may include field enumerators or research assistants adequately trained for the data collection. It also implies **mobilizing local partners and stakeholders** such as outposted project staff, local authorities, youth organizations, and community leaders. They are key to assist and accompany the research team in the process of requesting authorizations, recruiting participants, scheduling interviews and group discussions, finding suitable venues to hold them, thus making the research implementation smooth and fit to the local context.

Recruitment of research participants should be guided by the characteristics that define your target group or sample population, but you should also consider their likelihood of being involved in forthcoming project activities and receiving a concrete response to the needs expressed during the assessment. The research team should always clarify the possible benefits of research participation (or lack thereof) to avoid raising wrong expectations and to make sure participants can opt out at their convenience (see *Box 4. Principles of research ethics*).

Remember that the assessment is the best opportunity to kick off a dialogue with relevant youth groups as prospective participants of your digital engagement initiative. Make the most of this first move to build trust and establish a feedback mechanism that can be maintained throughout the following stages of co-design and user testing.



Box 4. Principles of research ethics

The research team must adhere to the basic principles of ethical social research:

VOLUNTARY PARTICIPATION & INFORMED CONSENT

At the beginning of each research activity, seek and document the informed consent of participants. Give participants a clear explanation of the overall purpose, funding, methods and implications (potential risks and benefits) of the research, as well as an estimate of the time and effort expected. Based on that, ask survey respondents and interviewees to explicitly indicate their interest and availability in responding to your questions or joining a group discussion, whether in writing or orally. Clarify that their participation is voluntary and remind them of their right to withdraw at any point in time without consequences. Always provide participants with further information about the research if they ask for it.

ANONYMITY & CONFIDENTIALITY

Firmly commit to protecting respondents' anonymity and treating personal and sensitive information confidentially. Lay out anonymity and confidentiality clauses at the very beginning of your survey or while requesting specific permission for recording an interview or focus group session. Explain

who will have access to participants' data, how they will be treated and stored, whether or not participants' names will be used and the envisaged uses and dissemination of research findings. As a best practice, only gather data that is essential for your specific research aims and anonymize personally identifiable data by using pseudonyms or random identifiers. In focus groups you may ask everyone to agree to keep what was discussed confidential and to respect each other's privacy.

SPECIAL SAFEGUARDS

Consider additional protection when involving vulnerable populations or individuals with limited autonomy such as children, young refugees and asylum seekers, irregular migrants, and people in a dependent relationship with the researchers, among others. Seek parental/legal representative's consent for minors and involve NGOs or national authorities with relevant experience to provide legal advice, psychological support, and language interpretation. Ensure there is no pressure or coercion on participants to join or opt out of the study; treat them with care and sensitivity; and show respect for their ethnicity, language, religion, gender and sexual orientation.

Source: European Commission. 2021. *Ethics in social science and humanities*. Brussels, European Union.

Online research

In-person data collection can be replaced by internet-based research under certain circumstances, as was the case during the COVID-19 pandemic. Digital surveys, online interviews and virtual focus groups are only a few of the internet-based qualitative research methods that can be used to collect information remotely (Lupton, ed., 2020). These methods are classified as synchronous or asynchronous based on whether or not the responses are received through real-time interactions between participants and researchers.

Asynchronous methods such as **online surveys, virtual consultations or interviews via email, chat or messaging apps** can increase participation and response rates as youth can answer questions from their location at their own convenience. Participants can also be asked to respond to research prompts by submitting **photos, videos or voice messages** recorded with their smartphones (see *Field Story 7. Digital storytelling to raise youth voices during COVID-19*).

Special considerations for online questionnaires include the need to:

- provide specific instructions as they are meant to be filled out by respondents autonomously;
- simplify language and structure (replacing open-ended questions where possible with yes/no, multiple choice, drop-down or ranking questions); and
- reduce length (maximum 25 minutes of completion time).

On the other hand, **video conferencing platforms** such as Zoom, Google Meet or Microsoft Teams are great tools to conduct synchronous interviews with key informants or to recreate virtual chat rooms for focus group discussions. In this case, you should keep in mind the following:

- Keeping the video on will help capture non-verbal clues and compensate for the lack of face-to-face interaction in forming rapport between researchers and participants. However, use of the camera will depend on participants' bandwidth.
- Text chat and hand-raising functions are critical supports to facilitate smooth interactions without constantly interrupting the flow. However, be aware that participants connected via mobile may not be able to follow what happens in the chat.
- Depending on your research objectives you can use live polls or ask participants to share their screen, for instance, to observe their digital skills or their user experience of a digital service.
- Recording the session, after obtaining participants' consent, will ease your transcription work later on.
- Online sessions are subject to technology issues and interruptions, so it is recommended to limit the number of focus group participants to a maximum of six.

Field Story 7. DIGITAL STORYTELLING TO RAISE YOUTH VOICES DURING COVID-19

In March 2020, at the onset of the COVID-19 pandemic, ICA launched a digital engagement initiative “Coping with COVID-19: voices of young agripreneurs” to collect youth experiences and rapidly assess the impacts of the outbreak on their lives and agribusinesses. Participants were invited to share their stories in any format of their choice among photos, written reports, voice messages or video testimonies using as a prompt the following questions:

- 1) How is Covid-19 affecting your personal and professional life (challenges for your business, family, community)?
- 2) How are you organizing your work to cope with the crisis (solutions, alternative practices, innovations, etc.)?
- 3) What kind of support would you need to face this emergency situation (information needed, measures expected from government or other organizations, etc.)?

In order to reduce barriers to the participation of rural youth with poor connectivity while respecting the #StayHome directives, the questions were circulated through multiple communication channels based on local contexts and preferences, including email, social media, online surveys, WhatsApp groups and virtual consultations hosted by dedicated digital platforms for young agripreneurs. A key role in the dissemination was played by ICA partner youth networks, groups of agripreneurs, and young farmer champions.

The information collected through this digital storytelling initiative in a short time span contributed to understand how rural youth were experiencing the crisis and to jointly determine an emergency response under existing FAO programmes. A selection of videos and stories can be found in the ICA website’s country pages ([Rwanda](#), [Kenya](#), [Uganda](#), [Senegal](#), [Guatemala](#)).

Source: Author’s own elaboration.

Online research methods may seem like a natural fit to assess youth digital readiness and have been successfully used within the scope of the ICA project (see *Field Story 8. Online assessment for the African Youth Agripreneurs platform*). Compared to face-to-face research, internet-based methods offer the advantage of being time and cost effective in gathering large amounts of information and reaching a wide and diverse sample of youth across geographic boundaries. They can grant participants anonymity while the data collected are already in digitalized formats and often displayed in real time, thus easier to process and analyse.

However, there are evident drawbacks to online research in terms of inclusiveness and sample representativeness. With

participants’ recruitment, organization and data collection activities all happening through internet-mediated channels, **online research inevitably leads to intercepting only connected and relatively tech-savvy youth**. It is therefore strongly recommended to pair online methods with conventional in-person research or limit their use to research endeavours where the sample, and ultimately the findings of the assessment, would not suffer significant biases (e.g. when target participants are youths with good connectivity and digital skills). In-person interactions or research mediated by low-tech channels (e.g. phone calls, SMS) remain the primary form of reaching those youths who would otherwise be left out of the picture due to poor connectivity or digital illiteracy.

Field Story 8. Online assessment for the African Youth Agripreneurs (AYA) platform

In the midst of the COVID-19 pandemic, ICA facilitated a human-centred design process engaging young men and women engaged or interested in agribusiness in selected East African countries as prospective members of the African Youth Agripreneurs (AYA) online community. To inform the platform design and user experience, a digital readiness assessment was carried out entirely online with young male and female farmers, agripreneurs, service providers and members of youth organizations. Participants were recruited using direct mailing or WhatsApp, in close collaboration with the Eastern Africa Farmers Federation (EAFf) and youth-led organizations in Kenya, Rwanda and Uganda.

The data collection started with an online survey that captured general data on agribusiness information flows, youth digital access and preferences, ICT use for business, and digital engagements of youth networks. Out of the 363 survey respondents, a subsample of 36 youth (10 percent) was purposively selected to participate in focus groups, based on criteria of country, gender, and business stage representativeness. The group discussions, held through video calls, served to validate insights from the survey,



observe online behaviours, capture underlying motivations and needs as well as the major pain points experienced in accessing similar digital services. The sessions also allowed for further investigation of youth interaction with digital technologies, either as entrepreneurs or service providers or as members of a youth organization. A core group of research participants was further consulted throughout the design phase and contributed to make strategic decisions on the platform's visual identity, core services and values, and the overall user journey.

Source: Pafumi, M. & Arimbi, V. 2022. *Ready to go digital? Assessing the digital readiness of young agripreneurs in East Africa*. Nairobi, FAO, <https://doi.org/10.4060/cb8026en>

Step 4. So what? – analyse and present findings



After completing the data collection, it is finally time to clean, organize and analyse the raw data gathered, identify and synthesize key findings and report back to your stakeholders.

Data analysis

The methods used for gathering the information will determine the methods you use to analyse it.

Quantitative methods such as survey questionnaires will generate datasets that can be processed with **data analysis tools** like SPSS, R, Python or Excel spreadsheets (for smaller datasets and basic analysis). Popular tools to create online surveys like Google Forms, Microsoft Forms or Kobo Toolbox have built-in features that provide a quick overview of the data as they are collected. These are helpful to quickly check answers to a particular question or monitor responses in real time. However, it is preferable to download the final dataset as an Excel file to process the data and create visual insights for your assessment report. As a minimum standard, disaggregate data at least by gender and age brackets (e.g. 14–17, 18–24, 25–30, 31–35) – among other sociodemographic characteristics that may be relevant to your specific research questions – to shed light on existing differences within the youth population that is often wrongly perceived as a homogeneous group.

On the other hand, qualitative methods such as individual and group interviews will yield a wealth of information in a variety of formats (e.g. written notes, audio recordings, transcriptions, maps, drawings, videos, photos). It is up to you as researcher to go through the raw data, select what is meaningful to the research questions, categorize, code and cluster responses. **Thematic analysis** is a common method to make sense of qualitative data through identification of patterns, recurrent topics and overarching (more conceptual) themes, organized into a “hierarchy of significance” based on their relative importance (Brewer, 2000; Saldaña, 2011; Scott-Jones & Watt, 2010).

The analytical framework outlined in *Chapter 2* of this document provides the thematic categories that should guide you in organizing and coding the information gathered through the assessment. From this kind of analysis, it is possible to move toward **interpretation of the data** which involves attaching meaning to the patterns that emerged, making general assertions about the youth population that you studied, highlighting compelling stories and extracting meaningful insights for your project and stakeholders.

Reporting of findings

The results of your data analysis and interpretation should be compiled into a final report that will give a comprehensive picture of the online and offline communication ecosystem of your target group of youth and clear recommendations on how to effectively engage them. Findings will include age and gender disaggregated data on youth digital access and literacy as well as insights into their use of digital services, online behaviours and offline communication, preferred sources of information on agricultural issues, patterns of interaction, knowledge exchange and social influence within the agrifood system. All of this shall later constitute a baseline to define context-appropriate objectives, targets, indicators and means of verification for your envisioned youth engagement strategy.

The report can be structured as follows:

- a. Introduction – background and rationale of the study
- b. Methodology – overview of your research design (sampling, participants, data collection methods and research limitations)
- c. Presentation of findings – breakdown of data analysis under each research dimension accompanied by tables, graphs, pie charts, maps, photos and other visual output of the assessment
- d. Implications of findings and recommendations

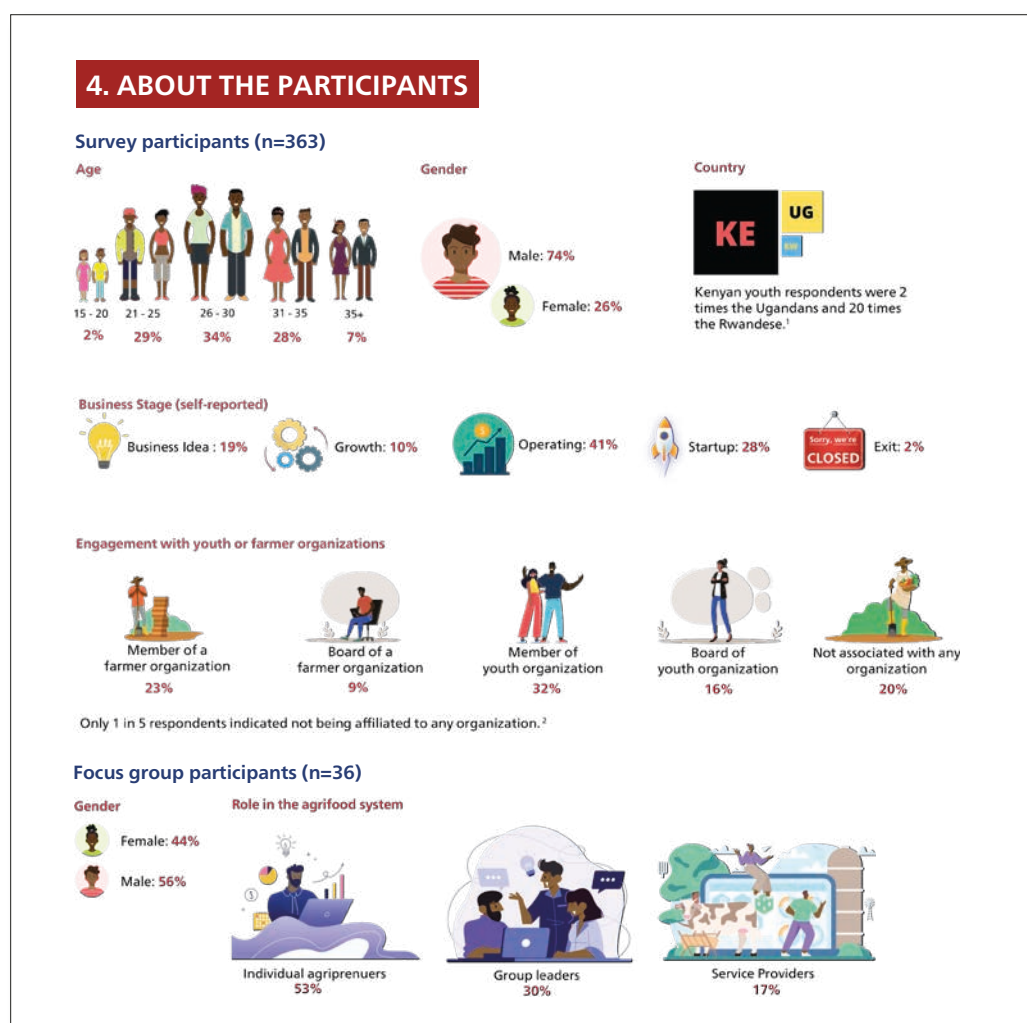
A **validation workshop** with project stakeholders, including key informants at local level, will be useful to share the research findings and collect feedback on your interpretation of data. It will also be an opportunity for restitution to the research participants and for strengthening the rapport you started building during the assessment in view of future engagements.

To **effectively communicate findings** and help your stakeholders make use of them you should strive to:

- a. Condense the information from the full report into a brief summary (e.g. a slide deck or an infographic)
- b. Use plain language
- c. Use data visualizations whenever possible (see Figure 6 as a sample illustration of the sample composition)
- d. Highlight the key findings and their significance to the project
- e. Embed pictures of the research participants and process
- f. Make recommendations for action
- g. Welcome comments and observations

FIGURE 6

Infographic profiling participants of a digital readiness assessment



Source: Pafumi, M. & Arimbi, V. 2022. *Ready to go digital? Assessing the digital readiness of young agripreneurs in East Africa*. Nairobi, FAO.
<https://doi.org/10.4060/cb8026en>





SECTION 4

Final considerations

Key takeaways

Engaging rural youth through digital technology constitutes a tremendous opportunity to open up innovative spaces for young people to take the lead in agrifood systems. Digital youth engagement can facilitate information sharing, interactive learning, access to mobile or internet-based advisory or financial services, virtual marketplaces, peer-to-peer exchanges and networking, online consultations and policy dialogues. This in turn can increase youth interest and ability to embrace agriculture as a decent job opportunity and pursue their livelihoods in the agrifood systems.

While potentially a game-changer, digital youth engagement depends on technology availability but also on individual motivations, skills and social environment. Digital divides are still real for young rural people and often vary according to the specific youth subpopulation. But as we seek to engage youth in the digital space, we need to consider a whole range of interrelated factors that influence their online experiences beyond connectivity, affordability and digital literacy, and look into their offline communication resources, social interactions and the norms shaping them.



Inclusive engagement strategies should adopt a mixed approach, blending digital with offline engagement and making the most of a combined set of channels that are accessible and suitable to interact with different subgroups of rural youth.

Assessing the digital readiness and overall communication ecosystem of young women and men is key to avoid age-, gender- and diversity-blind formulation. Investing time in this preliminary research will rather generate evidence-based strategies for youth digital inclusion and inform the design of digital solutions that are need based, context appropriate and more likely to be sustainable in the long term.

Understanding the communication ecosystem of rural youth involves generating knowledge and actionable insights together with the youths themselves. The data is best collected through participatory research, combining structured questionnaires with focus group discussions and interactive, visual techniques to generate both quantitative and more in-depth, qualitative information.

A participatory assessment is the best opportunity to kick off a dialogue with relevant youth groups as prospective participants of a digital engagement initiative or users of a digital service. Participatory methods enable youths to self-assess their situations thus becoming actively involved and not mere subjects of the research. This greatly facilitates mutual understanding between researchers and young participants and sets the groundwork to establish reliable feedback mechanisms during the following stage of co-designing digital solutions.

DOs and DON'Ts

■ **Embed gender considerations**

Adopt a gender-responsive and intersectional perspective and take into due consideration gender-related variables in all phases of the assessment, from the design of research questions and tools to the sampling strategy, from the selection and adaptation of data collection techniques to gender-disaggregated data analysis and reporting.

■ **Stratify the sample by age and other relevant variables**

Beyond gender, make sure the sample is also stratified distinguishing different age cohorts within the general youth definition (e.g. 14–35 years old) as various age brackets may correspond to very different life stages, family status and household roles. Single out in particular younger youths who are often excluded due to their status as minors. According to your research objectives, it may be relevant to sample respondents by employment status, ethnicity, business stage, education level, disability, migratory status, social capital, and so on. Acknowledging the diverse interactions and combined challenges, needs and interests of diverse youth subpopulations is key to shape the programme interventions in an inclusive and targeted way.

■ **Always include a self-assessment of digital literacy**

Collect information about young people's awareness, perceptions and skill sets related to digital technologies as digital literacy is one major barrier to youth digital inclusion. This assessment will yield results that are more actionable for the design of any digital engagement initiative or programme.

■ **Involve youth organizations as research partners**

As you plan your fieldwork and data collection consider implementing the research in partnership with local youth and their organizations. They are best placed to provide precious inputs not only to your research questions but also to the design and implementation of the research itself. They can provide contextual information, test and validate the data collection tools, directly contribute to data gathering and effectively play the role of facilitators compared to non-local and non-youth researchers. With a small extra investment in training you will strengthen youth organizations' capacity for data collection and analysis and increase their awareness of the importance of knowledge generation as a basis for their own programming and decision-making.

■ **Triangulate data**

Complement and cross-check information collected with young people through key informant interviews with other relevant stakeholders, e.g. family or community members, local authorities, service providers, clients. This will put you in a better position to learn and understand the ecosystem from different points of view. Also, make sure you organize a validation workshop to share and collect feedback on the research findings from all relevant stakeholders.

■ **Don't think participants are just a click away**

Online research inevitably leads to intercepting only connected and relatively tech-savvy youth. Whenever possible try to avoid relying only on internet-based surveys, and if you are bound to remote data collection do integrate in your research plan interactions mediated by low-tech channels (e.g. phone calls, SMS) to reach those youths who would otherwise be left out of the picture due to poor connectivity or digital illiteracy.

■ **Don't take the road more travelled**

Strive to interact equally with youth leaders and less articulated or educated youth; otherwise, the views of the second group, often the majority in rural areas, will be neglected. Make sure neither your participant recruitment strategy nor your research planning and facilitation reinforce any existing "elite bias" nor leave minority youth groups out of the picture.

■ **Don't come with all the answers**

Test your research assumptions through the assessment, but avoid pushing for external ideas or innovations. The research is meant to listen to young people and facilitate a process where they can determine their own needs and preferences. It should serve to identify concrete opportunities for change that youth can handle, not to find out ways for them to adopt pre-identified solutions, whether they need them or not.

■ **Don't underestimate the power of restitution**

Don't forget that the very owners of the knowledge generated by the assessment are the participants who offered their time, personal opinions and sometimes confidential information. Although they may not be the priority target audience to communicate your research findings, it is important to bring back to them the information collected through the assessment, in a format that is meaningful, accessible and appropriate to their age and local context.

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ANNEX 1

Sample survey questionnaire

Adapted from a participatory assessment of youth engagement in agriculture conducted in Kenya under the FAO Integrated Country Approach (ICA) for boosting decent jobs for youth in the agrifood system

***Acknowledgement**

Hello my name is_____. The purpose of this research is to learn more about what influences youth engagement in agriculture in your area. This survey will collect information on youth employment, access to services, civic engagement, ICT use and preferences. It will take approximately 40 minutes of your time. Are you willing to proceed?

☐ OK

SECTION 1. DEMOGRAPHICS

1. ID of respondent**2. Sex of respondent**

- ☐ 1 = male
☐ 2 = female
☐ 3 = other/not specified

***3. Age**

- 1 = 14–17
 2 = 18–24
 3 = 25–30
 4 = 31–35

***4. Do you have any form of disability**

- ☐ 1 = yes
☐ 2 = no

If yes, please describe it

e.g. Physical, visual, etc.

***5. Location**

Select the county then the subcounty and ward.

***6. Highest level of education attained**

- ☐ 1 = none/did not attend school
☐ 2 = lower primary (1–4)
☐ 3 = upper primary (5–8)
☐ 4 = secondary school
☐ 5 = post-secondary/TVET
☐ 6 = college/university
☐ 7 = postgraduate qualification

***7. Marital status**

- ☐ 1 = single
- ☐ 2 = married
- ☐ 3 = widow/widower
- ☐ 4 = other, please specify

***8. Household size**

No. of household members

***9. Household composition**

- ☐ 1 = living with parents/other relatives
- ☐ 2 = living by myself
- ☐ 3 = living with my wife/husband (and kids)
- ☐ 4 = other, please specify

***10. Dependants**

No. of kids/other dependants

***11. Ethnicity – Which ethnic group do you belong to?**

SECTION 2. SOCIOECONOMIC PROFILE, INDIVIDUAL ATTITUDES AND MOTIVATIONAL DRIVERS

2A. EMPLOYMENT AND INCOME

*1. Current occupation

(Helping in the family unit is considered work.)

- ☐ 1 = working full time
- ☐ 2 = working part time
- ☐ 3 = working and studying
- ☐ 4 = out of work: studying full time
- ☐ 5 = out of work: looking for work
- ☐ 6 = out of work: not currently looking for work
- ☐ 7 = other, please specify

*2. Employment status

- ☐ 1 = permanent wage worker
- ☐ 2 = seasonal/temporary wage worker
- ☐ 3 = contributing family worker
- ☐ 4 = cooperative member
- ☐ 5 = self-employed/entrepreneur
- ☐ 6 = business owner with employees
- ☐ 7 = other, please specify

2.a. (if entrepreneur or business owner) Is your business registered?

- ☐ 1 = yes
- ☐ 2 = no
- ☐ 3 = in process

Economic sector

*3. In which sector do you work?

- ☐ 1 = agriculture/agribusiness
- ☐ 2 = construction
- ☐ 3 = manufacturing
- ☐ 4 = trade
- ☐ 5 = transportation
- ☐ 6 = professional/business services
- ☐ 7 = health and social work
- ☐ 8 = hospitality and leisure
- ☐ 9 = education

- ☐ 10 = public administration
- ☐ 11 = other, please specify
- ☐ none

3 a. If not working, in which sector would you like to work in the future?

- ☐ 1 = agriculture/agribusiness
- ☐ 2 = construction
- ☐ 3 = manufacturing
- ☐ 4 = trade
- ☐ 5 = transportation
- ☐ 6 = professional/business services
- ☐ 7 = health and social work
- ☐ 8 = hospitality and leisure
- ☐ 9 = education
- ☐ 10 = public administration
- ☐ 11 = other, please specify

4. (if working) Work experience in the sector

- ☐ less than 1 year
- ☐ between 2 and 5 years
- ☐ more than 5 years

5. (if working) Is the professional training received relevant to your current job ?

- ☐ 1 = yes
- ☐ 2 = no

6. (if working) Would you like to continue working in this same sector in the future?

- ☐ 1 = yes, absolutely
- ☐ 2 = yes
- ☐ 3 = maybe
- ☐ 4 = not really
- ☐ 5 = definitely not

**Value chain
(only for respondents engaged/interested in agriculture)**

7. What value chain are you currently engaged or interested in? (Select all that apply.)

- ☐ 1 = fruit
- ☐ 2 = horticulture
- ☐ 3 = fish
- ☐ 4 = poultry
- ☐ 5 = dairy

- ☐ 6 = beekeeping
- ☐ 7 = other, please specify

8. What step of the value chain are you currently engaged or interested in?
(You can select more than one response.)

- ☐ 1 = production
- ☐ 2 = aggregation
- ☐ 3 = processing
- ☐ 4 = packaging/distribution/trading
- ☐ 5 = input provision
- ☐ 6 = service provision (transport, training)
- ☐ 7 = Other

8 a. If selected 1, please specify if subsistence or commercial farming.

Job aspiration and work engagement

***9 a. Job aspiration: Is your current job what you desired?**

- ☐ 1 = yes, absolutely love it
- ☐ 2 = yes
- ☐ 3 = somehow responds to my expectations
- ☐ 4 = definitely not

9 b. Please explain your answer.

10 a. Working hours

No. of hours per day

10 b. Working days

No. of days per week

10 c. On average, how many weeks do you work in a year?

No. of weeks per year

Individual/family income

*11 a. Main source of individual income

- ☐ 1 = salary/wages
- ☐ 2 = farming income
- ☐ 3 = business
- ☐ 4 = gig work
- ☐ 5 = remittances/donations
- ☐ 6 = other, please specify
- ☐ 7 = no individual income

11 b. Monthly income from main source of income

In KSH.

*12 a. Secondary income-generating activities for you as individual (Select all that apply.)

- ☐ 1 = salary/wages
- ☐ 2 = farming income
- ☐ 3 = business
- ☐ 4 = gig work
- ☐ 5 = remittances/donations
- ☐ 6 = other, please specify
- ☐ 7 = no extra income

12 b. Extra income generated per month

Ksh

*13 a. Income generated by other members of the household (Check all those that apply.)

- ☐ 1 = salary/wages
- ☐ 2 = farming income
- ☐ 3 = business
- ☐ 4 = remittances/donations
- ☐ 5 = allowances for the elderly
- ☐ 6 = rental Income
- ☐ 7 = pension
- ☐ 8 = other, please specify

13 b. Monthly income generated by other members of the household

Ksh

13 c. Average monthly family expense

Ksh

2B. MOTIVATIONAL DRIVERS**14 a. What influenced your choice to engage in agriculture/agribusiness? (Select all that apply.)***(if working or aspiring to work in agriculture)*

- ☐ 1 = land availability (specify size in acres)
- ☐ 2 = land ownership
- ☐ 3 = water availability
- ☐ 4 = favourable climate/soil quality
- ☐ 5 = inputs availability (seeds, feeds, fertilizers)
- ☐ 6 = market availability/proximity
- ☐ 7 = proximity to storing/post-harvest facilities
- ☐ 8 = transport availability
- ☐ 9 = education/training received
- ☐ 10 = good profit margins
- ☐ 11 = genuine passion/interest for agriculture
- ☐ 12 = my family owns an agribusiness
- ☐ 13 = local tradition/identity
- ☐ 14 = government incentives
- ☐ 15 = little or no alternatives
- ☐ 16 = other, please specify

Please, specify land size**14 b. What influenced your choice NOT to engage in agriculture/agribusiness? (Select all that apply.)***(if not engaged/interested in agriculture)*

- ☐ 1 = not aligned with educational background
- ☐ 2 = lack of productive assets
- ☐ 3 = lack of market
- ☐ 4 = lack of relevant skills
- ☐ 5 = lack of capital to get started
- ☐ 6 = higher income/profit expectations
- ☐ 7 = lack of family/community support
- ☐ 8 = aspiration to a better standard of living
- ☐ 9 = aspiration to higher social status
- ☐ 10 = willingness to break family tradition

- ☐ 11 = tried but failed
- ☐ 12 = me/acquaintance experienced an accident/health issues on the job
- ☐ 13 = my family had different expectations for my future
- ☐ 14 = atypical career choice for youth like me
- ☐ 15 = not socially accepted
- ☐ 16 = other, please specify

2C. INDIVIDUAL ATTITUDES TOWARDS AGRICULTURE AND ENTREPRENEURSHIP

15. Perceptions of agriculture

(Likert scales on pre-defined options to test major hypothesis/assumptions about why youth do not engage in agriculture) Please indicate your level of agreement with the following sentences:

*15 a. Agriculture is: quality/decent work opportunity

(5 – agree strongly; 4 – agree moderately; 3 – agree slightly; 2 – disagree slightly; 1 – disagree strongly)

1 2 3 4 5

*15 b. Agriculture is: tough/hard work

(5 – agree strongly; 4 – agree moderately; 3 – agree slightly; 2 – disagree slightly; 1 – disagree strongly)

1 2 3 4 5

*15 c. Agriculture is: risky (economically)

(5 – agree strongly; 4 – agree moderately; 3 – agree slightly; 2 – disagree slightly; 1 – disagree strongly)

1 2 3 4 5

*15 d. Agriculture is: hazardous

(5 – agree strongly; 4 – agree moderately; 3 – agree slightly; 2 – disagree slightly; 1 – disagree strongly)

1 2 3 4 5

*15 e. Agriculture is: antiquated/old-fashioned

(5 – agree strongly; 4 – agree moderately; 3 – agree slightly; 2 – disagree slightly; 1 – disagree strongly)

1 2 3 4 5

*15 f. Agriculture is: untapped business opportunity

(5 – agree strongly; 4 – agree moderately; 3 – agree slightly; 2 – disagree slightly; 1 – disagree strongly)

1 2 3 4 5

***15 g. Agriculture is: lucrative**

(5 – agree strongly; 4 – agree moderately; 3 – agree slightly; 2 – disagree slightly; 1 – disagree strongly)

1 2 3 4 5

***15 h. Agriculture is: key for our society**

(5 – agree strongly; 4 – agree moderately; 3 – agree slightly; 2 – disagree slightly; 1 – disagree strongly)

1 2 3 4 5

***15 i. Agriculture is: rewarding/fulfilling**

(5 – agree strongly; 4 – agree moderately; 3 – agree slightly; 2 – disagree slightly; 1 – disagree strongly)

1 2 3 4 5

***15 j. Agriculture is: backbone of our economy**

(5 – agree strongly; 4 – agree moderately; 3 – agree slightly; 2 – disagree slightly; 1 – disagree strongly)

1 2 3 4 5

16. Attitude towards entrepreneurship*(Likert scales on predefined options to measure entrepreneurial attitudes)**Please indicate your level of agreement with the following sentences:****16 a. Want to be my own boss**

(5 – agree strongly; 4 – agree moderately; 3 – agree slightly; 2 – disagree slightly; 1 – disagree strongly)

1 2 3 4 5

***16 b. Not afraid of risks/failure**

(5 – agree strongly; 4 – agree moderately; 3 – agree slightly; 2 – disagree slightly; 1 – disagree strongly)

1 2 3 4 5

***16 c. Want to engage in more lucrative activities**

(5 – agree strongly; 4 – agree moderately; 3 – agree slightly; 2 – disagree slightly; 1 – disagree strongly)

1 2 3 4 5

***16 d. Have the right knowledge/skills to start a business 1-5**

(5 – agree strongly; 4 – agree moderately; 3 – agree slightly; 2 – disagree slightly; 1 – disagree strongly)

1 2 3 4 5

***16 e. Passion for challenges**

(5 – agree strongly; 4 – agree moderately; 3 – agree slightly; 2 – disagree slightly; 1 – disagree strongly)

***16 f. Want to innovate in the agricultural sector**

(5 – agree strongly; 4 – agree moderately; 3 – agree slightly; 2 – disagree slightly; 1 – disagree strongly)

***16 g. Need to create my own job due to lack of employment opportunities**

(5 – agree strongly; 4 – agree moderately; 3 – agree slightly; 2 – disagree slightly; 1 – disagree strongly)

***16 h. Want to create new business opportunities**

(5 – agree strongly; 4 – agree moderately; 3 – agree slightly; 2 – disagree slightly; 1 – disagree strongly)

***16 i. Want to generate employment for others in my community**

(5 – agree strongly; 4 – agree moderately; 3 – agree slightly; 2 – disagree slightly; 1 – disagree strongly)

***16 j. Need higher income to cover my family expenses**

(5 – agree strongly; 4 – agree moderately; 3 – agree slightly; 2 – disagree slightly; 1 – disagree strongly)

17. What other factors would pull the youth into entrepreneurship?

2D. MIGRATION***18. Have you ever left your community to migrate and live somewhere else?**☐ 1 = Yes☐ 2 = No**18 a. If not, would you like to migrate in the near future?**☐ 1=yes☐ 2=no☐ 3=maybe

18 b. Where to?:

- ☐ 1 = nearby urban area
- ☐ 2 = other rural area
- ☐ 3 = capital city
- ☐ 4 = Abroad

19 a. If yes, where to:

- ☐ 1 = nearby urban area
- ☐ 2 = other rural area
- ☐ 3 = capital city
- ☐ 4 = abroad

19 b. Why did you decide to migrate? (Select all that apply.)

- ☐ 1 = living conditions in (county) are difficult
- ☐ 2 = cannot find a job here
- ☐ 3 = hoping to find better work opportunities elsewhere
- ☐ 4 = to study elsewhere
- ☐ 5 = to gain more /cover family needs
- ☐ 6 = to experience life in a different place
- ☐ 7 = to join a family member
- ☐ 8 = to be more independent/free
- ☐ 9 = not sure why
- ☐ 10 = all things considered I had/have no alternatives
- ☐ 11 = other, please specify

19 c. How long were you away from home?:

- ☐ 1 = less than 6 months
- ☐ 2 = 6–11 months
- ☐ 3 = 1–2 years
- ☐ 4 = 3–5 years
- ☐ 5 = more than 5 years

19 d. What did you do for a living in your place of destination?

- ☐ 1 = permanent wage worker: please specify sector
- ☐ 2 = seasonal/temporary wage worker: please specify sector
- ☐ 3 = contributing family worker: please specify sector
- ☐ 4 = self-employed/entrepreneur: please specify sector
- ☐ 5 = other, please specify

19 e. Was it how you expected it?

- ☐ 1 = yes
- ☐ 2 = somehow
- ☐ 3 = no

19 f. How long ago did you return to your community?

- ☐ 1 = less than 6 months
- ☐ 2 = less than 1 year
- ☐ 3 = more than 1 year
- ☐ 4 = more than 2 years

19 g. (only for returnees) Would you migrate again?

- ☐ 1 = yes
- ☐ 2 = no
- ☐ 3 = maybe

19 h. If not interested in migrating again, why. (Select all that apply.)

- ☐ 1 = not enough money to migrate again
- ☐ 2 = found a good job in my locality
- ☐ 3 = family commitments
- ☐ 4 = had a bad migration experience
- ☐ 5 = hard to reintegrate once I was back home
- ☐ 6 = other, please specify

20. If never migrated/not interested in migrating – What are the reasons that keep you from leaving your place? (Select all that apply.)

- ☐ 1 = living conditions in (county) are good
- ☐ 2 = good job opportunities are available
- ☐ 3 = not enough money to migrate
- ☐ 4 = no place to stay/don't know anyone at destination
- ☐ 5 = perceived risk/fear of going alone
- ☐ 6 = haven't got the skills to find a job in a urban area/abroad
- ☐ 7 = attached to my community/place of origin
- ☐ 8 = waiting to finish school
- ☐ 9 = need to care for family members/family commitments
- ☐ 10 = family does not approve
- ☐ 11 = don't need to migrate
- ☐ 12 = other, please specify

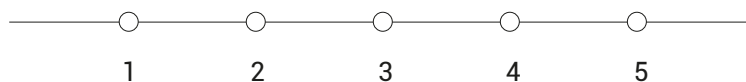
Attitudes towards living in their rural area

21. Attitude towards living in their rural area

Please indicate your level of agreement with the following sentences:

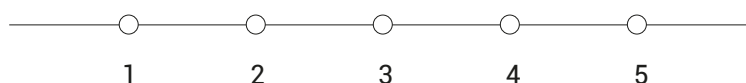
***21 a. Living in rural area means lack of electricity/basic services**

(5 – agree strongly; 4 – agree moderately; 3 – agree slightly; 2 – disagree slightly; 1 – disagree strongly)



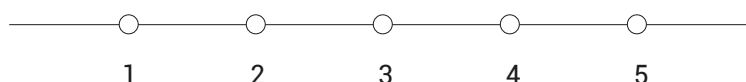
***21 b. Living in rural area means poor connectivity**

(5 – agree strongly; 4 – agree moderately; 3 – agree slightly; 2 – disagree slightly; 1 – disagree strongly)



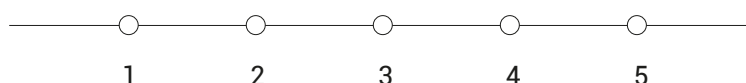
***21 c. Living in rural area means lack of entertainment/boredom**

(5 – agree strongly; 4 – agree moderately; 3 – agree slightly; 2 – disagree slightly; 1 – disagree strongly)



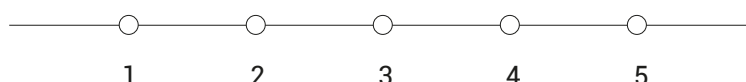
***21 d. Living in rural area means feeling isolated**

(5 – agree strongly; 4 – agree moderately; 3 – agree slightly; 2 – disagree slightly; 1 – disagree strongly)



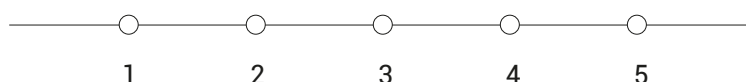
***21 e. Living in rural area means enjoying nature/slow-paced life**

(5 – agree strongly; 4 – agree moderately; 3 – agree slightly; 2 – disagree slightly; 1 – disagree strongly)



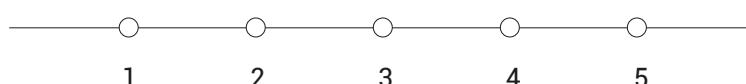
***21 f. Living in rural area means missing out on good employment opportunities**

(5 – agree strongly; 4 – agree moderately; 3 – agree slightly; 2 – disagree slightly; 1 – disagree strongly)



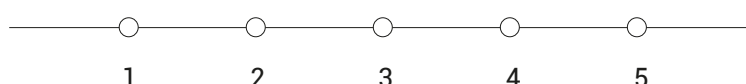
***21 g. Living in rural area means living in poverty**

(5 – agree strongly; 4 – agree moderately; 3 – agree slightly; 2 – disagree slightly; 1 – disagree strongly)



***21 h. Living in rural area means little opportunities to progress in life**

(5 – agree strongly; 4 – agree moderately; 3 – agree slightly; 2 – disagree slightly; 1 – disagree strongly)



SECTION 3. ACCESS TO SERVICES

3A. EXTENSION AND RURAL ADVISORY SERVICES

***3 A.1. Availability:** Have you received agricultural information or advice in the last 6 months?
(Select all that apply.)

- ☐ 1 = visit by an extensionist
- ☐ 2 = mobile-based information
- ☐ 3 = weather information
- ☐ 4 = market prices information
- ☐ 5 = private company
- ☐ 6 = none
- ☐ 7 = other, please specify

***3 A.2. Frequency of use:** How often do you receive these types of services?

- ☐ 1 = on demand
- ☐ 2 = on a weekly basis
- ☐ 3 = on a monthly basis
- ☐ 4 = once every 3 months
- ☐ 5 = once every 6 months
- ☐ 6 = very rarely
- ☐ 7 = never

***3 A.3. Service provider:** Who provides the service? (Select all that apply.)

- ☐ 1 = national extension system: please specify
- ☐ 2 = county/public service: please specify
- ☐ 3 = private company: please specify
- ☐ 4 = farmer organization: please specify
- ☐ 5 = youth organization: please specify
- ☐ 6 = university: please specify
- ☐ 7 = other: please specify

***3 A.4. Satisfaction:** How has been your experience so far?
(5 – very satisfied; 4 – satisfied; 3 – neither; 2 – dissatisfied; 1 – very dissatisfied)

1 2 3 4 5

***3 A.5. Access barriers:** What challenges do you face in accessing agricultural advisory services?
(select all that apply)

- ☐ 1 = lack of awareness
- ☐ 2 = lack of local providers
- ☐ 3 = service not relevant for youth

- ☐ 4 = lack of time
- ☐ 5 = costs too high
- ☐ 6 = low literacy level
- ☐ 7 = other, please specify
- ☐ none

***3 A.6. Perceived utility:** How important is access to agricultural advice and extension services for a young person like you?

(5 – very important; 4 – important; 3 – fairly important; 2 – slightly important; 1 – not important)

A horizontal line with five tick marks labeled 1, 2, 3, 4, and 5 from left to right.

3B. AGRICULTURE/AGRIBUSINESS TRAINING

***3 B.1. Availability:** Have you been trained in any of the following in the last 6 months?

(Select all that apply.)

- ☐ 1 = use of certified seeds
- ☐ 2 = good crop management practices
- ☐ 3 = good livestock management practices
- ☐ 4 = keeping of farm records
- ☐ 5 = post-harvest management
- ☐ 6 = marketing and price setting
- ☐ 7 = business plan writing
- ☐ 8 = investor preparedness
- ☐ 9 = bookkeeping
- ☐ 10 = inventory management
- ☐ 11 = financial management
- ☐ 12 = digital communication/marketing
- ☐ 13 = agroecology/green jobs
- ☐ 14 = soft skills
- ☐ 15 = other, please specify
- ☐ none

***3 B.2. Service provider:** Who provided the training?

(select all that apply)

- ☐ 1 = county/public service: please specify
- ☐ 2 = non-governmental organization: please specify
- ☐ 3 = private company: please specify
- ☐ 4 = farmer organization: please specify
- ☐ 5 = youth organization: please specify

- ☐ 6 = university: please specify
- ☐ 7 = international development organization: please specify
- ☐ 8 = religious organization: please specify
- ☐ 9 = other, please specify
- ☐ none

***3 B.3. Did you pay for the service?**

- ☐ 1=Yes
- ☐ 2=No

***3 B.4. Satisfaction: How was your experience?**

(5 – very satisfied; 4 – satisfied; 3 – neither; 2 – dissatisfied; 1 – very dissatisfied)

3 B.5. Access barriers: What challenges do you face in accessing agribusiness training and other support services? (Select all that apply.)

- ☐ 1 = lack of awareness
- ☐ 2 = costs, not affordable
- ☐ 3 = lack of local providers
- ☐ 4 = lack of time
- ☐ 5 = low literacy level
- ☐ 6 = other, please explain

3 B.6. Perceived utility: How important is access to training on agribusiness for a young person like you?
(5 – very important; 4 – important; 3 – fairly important; 2 – slightly important; 1 – not important)

3C. BUSINESS DEVELOPMENT SUPPORT SERVICES (ONLY FOR AGRIPRENEURS)

***3 C.1. Availability: Have you accessed any of the following business support services in the last 6 months? (Select all that apply.)**

- ☐ 1 = business mentorship
- ☐ 2 = coaching
- ☐ 3 = incubation
- ☐ 4 = acceleration (market research/intelligence, product development, proof of concept, etc.)
- ☐ 5 = market linkages
- ☐ 6 = financial linkages
- ☐ 7 = other, please specify
- ☐ 8 = none

3 C.2. Frequency of use:

- ☐ 1 = on demand
☐ 2 = on a weekly basis
☐ 3 = on a monthly basis
☐ 4 = once in 3 months
☐ 5 = few times a year
☐ 6 = very rarely
☐ 7 = never

3 C.3. Service provider: Who provided this BDS service? (Select all that apply.)

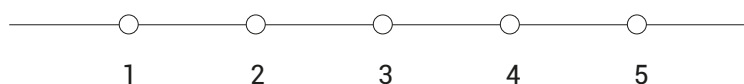
- ☐ 1 = county/public service: please specify
☐ 2 = non-governmental organization: please specify
☐ 3 = private company: please specify
☐ 4 = farmer organization: please specify
☐ 5 = youth organization: please specify
☐ 6 = university: please specify
☐ 7 = international organization: please specify
☐ 8 = other, please specify

3 C.4. Did you pay for the service?

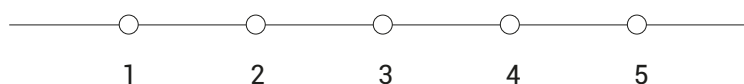
- ☐ 1 = yes
☐ 2 = no

***3 C.5. Satisfaction: How was your experience?**

(5 – very satisfied; 4 – satisfied; 3 – neither; 2 – dissatisfied; 1 – very dissatisfied)

**3 C.6. Access barriers: What challenges do you face in accessing agribusiness training and other support services? (Select all that apply.)**

- ☐ 1 = lack of awareness
☐ 2 = costs, not affordable
☐ 3 = lack of local providers
☐ 4 = lack of time
☐ 5 = low literacy level
☐ 6 = other, please explain
☐ none

3 C.7. Perceived utility: How important is access to training on agribusiness for a young person like you? (5 – very important; 4 – important; 3 – moderately important; 2 – slightly important; 1 – not important)

3D. FINANCIAL SERVICES

***3 D.1. Availability:** Have you accessed any of the following financial services in the last 6 months?
(Select all that apply.)

- ☐ 1 = savings
- ☐ 2 = loans and credit
- ☐ 3 = insurance
- ☐ 4 = investments
- ☐ 5 = financial training
- ☐ 6 = other, please specify
- ☐ 7 = none

3 D.2. Frequency of use:

- ☐ 1 = on demand
- ☐ 2 = on a weekly basis
- ☐ 3 = on a monthly basis
- ☐ 4 = once every 3 months
- ☐ 5 = once every 6 months
- ☐ 6 = very rarely
- ☐ 7 = never

3 D.3. Service provided this service? (Select all that apply.)

- ☐ 1 = formal finance institution (bank, etc.)
- ☐ 2 = informal organization (saving group, cooperative, etc.)
- ☐ 3 = digital finance (telco, etc.)
- ☐ 4 = other, please specify
- ☐ none

3 D.4. Satisfaction: How has been your experience with financial services?

(5 – very satisfied; 4 – satisfied; 3 – neither; 2 – dissatisfied; 1 – very dissatisfied)

☐ ☐ ☐ ☐ ☐
 1 2 3 4 5

***3 D.5. Access barriers:** What challenges do you face in accessing financial services?
(Select all that apply.)

- ☐ 1 = lack of awareness
- ☐ 2 = location being too far
- ☐ 3 = lack of collateral
- ☐ 4 = perceived risk of use
- ☐ 5 = cost too high
- ☐ 6 = other, please specify
- ☐ none

3 D.6. Perceived utility: How important is access to finance for a young person like you?

(5 – Extremely important; 4 – Very important; 3 – Moderately important; 2 – Slightly important; 1 – Not at all)

1 2 3 4 5

SECTION 4. SOCIAL CAPITAL AND CIVIC ENGAGEMENT***1. Participation in youth council/groups**

- ☐ 1 = yes, board
- ☐ 2 = yes, active member
- ☐ 3 = yes, sometimes
- ☐ 4 = aware of their activities but not involved
- ☐ 5 = not aware

***2. Participation in youth in agribusiness associations**

- ☐ 1 = yes, board
- ☐ 2 = yes, active member
- ☐ 3 = yes, sometimes
- ☐ 4 = aware of their activities but not involved
- ☐ 5 = not aware

***3. Participation in farmer organizations and/or agricultural cooperatives**

- ☐ 1 = yes, board
- ☐ 2 = yes, active member
- ☐ 3 = yes, sometimes
- ☐ 4 = aware of their activities but not involved
- ☐ 5 = not aware

***4. Participation in saving groups**

- ☐ 1 = yes, board
- ☐ 2 = yes, active member
- ☐ 3 = yes, sometimes
- ☐ 4 = aware of their activities but not involved
- ☐ 5 = not aware

SECTION 5. DIGITAL READINESS

5A. MOBILE PHONE AND COMPUTER

***5 A.1. Availability: Do you use a mobile phone?**

- ☐ 1 = yes
- ☐ 2 = no

5 A.2. Ownership: If yes, is it yours or family owned?

- ☐ 1 = personal use
- ☐ 2 = family owned

5 A.2.a. If family owned, who uses it the most?

- ☐ 1 = myself
- ☐ 2 = spouse
- ☐ 3 = father
- ☐ 4 = mother
- ☐ 5 = brother/sister
- ☐ 6 = other, please specify

5 A.2.b. If personal, at what age did you get your own mobile phone?

5 A.3. Do youth in your circle regularly use a mobile phone?

- ☐ 1 = all of them
- ☐ 2 = the majority
- ☐ 3 = half of them
- ☐ 4 = only few
- ☐ 5 = it depends: please specify on what (gender, age, other)

5 A.4. Device type: Which type of mobile phone do you use?

- ☐ 1 = feature phone
- ☐ 2 = smartphone
- ☐ 3 = both types

5 A.5. If smartphone, which is the operating system?

- ☐ 1 = iOS
- ☐ 2 = Android
- ☐ 3 = don't know

5 A.6. Service provider (List local telcos)

5 A.7. Quality of mobile network coverage in your area/community

- ☐ 1 = good
- ☐ 2 = average
- ☐ 3 = bad

5 A.8. Average monthly expenses for mobile phone

Ksh.

***5 A.9. Preference of use: What do you use your mobile phone for? (Choose all that apply.)**

- ☐ 1 = calls
- ☐ 2 = video calls
- ☐ 3 = SMS
- ☐ 4 = chat (e.g. WhatsApp)
- ☐ 5 = internet access
- ☐ 6 = mobile money
- ☐ 7 = listening to radio/music
- ☐ 8 = playing games
- ☐ 9 = taking pictures
- ☐ 10 = other, please specify

5 A.10. Do you have access to a personal computer or a laptop? (Select all that apply.)

- ☐ 1 = no
- ☐ 2 = yes, at home
- ☐ 3 = yes, at work
- ☐ 4 = yes, at school/university
- ☐ 5 = other, please specify

5B. INTERNET**5 B.1. Availability and frequency: How often do you connect to the internet?**

- ☐ 1 = all day
- ☐ 2 = several times during the day
- ☐ 3 = at least once a day
- ☐ 4 = at least once a week
- ☐ 5 = monthly
- ☐ 6 = I have very limited access
- ☐ 7 = never

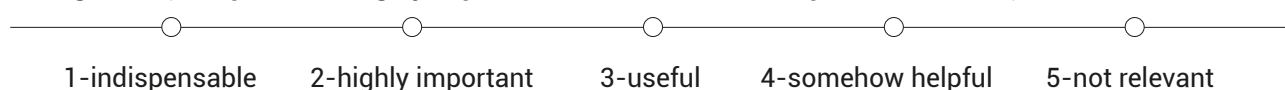
5 B.2. Access barriers: What challenges do you face in accessing and using internet?

(Select all that apply.)

- ☐ 1 = cost of tech equipment
- ☐ 2 = poor connectivity
- ☐ 3 = cost of internet subscription
- ☐ 4 = lack of tech knowledge (don't know how to use a computer/smartphone)
- ☐ 5 = lack of digital skills (don't know how to navigate internet, use social media, find or share digital content)
- ☐ 6 = lack of locally relevant digital content
- ☐ 7 = perceived risk of use
- ☐ 8 = other, please specify

5 B.3. Perceived utility: How important is the use of internet and digital technologies to advance your business or career?

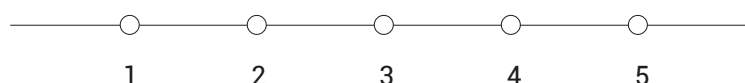
Rating 1 – 5 (indispensable, highly important, useful, somehow helpful, not relevant)

**Perception on digital tech influence in rural areas****5 B.4. Perception on digital tech influence in rural areas**

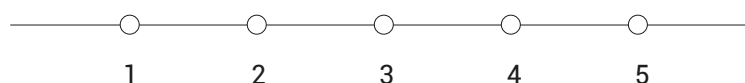
Do you agree with the following statements? Digital technology will:

Create more jobs for youth in rural areas

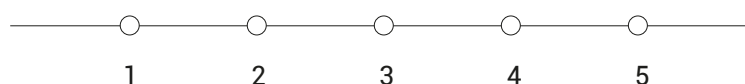
(5 – strongly agree; 4 – agree; 3 – undecided; 2 – disagree; 1 – strongly disagree)

**Modernize agriculture**

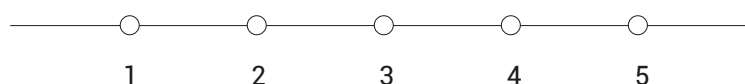
(5 – strongly agree; 4 – agree; 3 – undecided; 2 – disagree; 1 – strongly disagree)

**Facilitate market linkages**

(5 – strongly agree; 4 – agree; 3 – undecided; 2 – disagree; 1 – strongly disagree)

**Generate higher revenues**

(5 – strongly agree; 4 – agree; 3 – undecided; 2 – disagree; 1 – strongly disagree)



Create new business opportunities for youth

(5 – strongly agree; 4 – agree; 3 – undecided; 2 – disagree; 1 – strongly disagree)

Open up new spaces for participation of the youth in decision-making

(5 – strongly agree; 4 – agree; 3 – undecided; 2 – disagree; 1 – strongly disagree)

Internet use (for those with internet access)**1. Access point: Where do you usually access internet from? (Select all that apply.)**

- ☐ 1 = I mostly access internet through my mobile data
- ☐ 2 = computer or laptop at home connected to wifi/cable
- ☐ 3 = computer at school/university
- ☐ 4 = computer at workplace
- ☐ 5 = internet café
- ☐ 6 = public library or other hotspots
- ☐ 7 = other, please specify

2. Preference of use: What do you use your internet data for? (Select all that apply.)

- ☐ 1 = check/send emails
- ☐ 2 = search for information
- ☐ 3 = access social media profiles
- ☐ 4 = whatsapp or other instant chats
- ☐ 5 = Read news content
- ☐ 6 = attend online trainings/seminars
- ☐ 7 = participate in videoconferences (e.g. Zoom)
- ☐ 8 = research for school assignments
- ☐ 9 = entertainment (music streaming, video streaming, gaming)
- ☐ 10 = other, please specify

3. Email: If you have an email account, how often do you check your emails?

- ☐ 1 = several times during the day
- ☐ 2 = at least once a day
- ☐ 3 = at least once a week
- ☐ 4 = at least once a month
- ☐ 5 = not very often
- ☐ 6 = I don't have a personal email account

4. WhatsApp: If you use WhatsApp, what for?

- ☐ 1 = mostly personal communications
- ☐ 2 = mostly work-related communications
- ☐ 3 = both personal and work-related communications
- ☐ 4 = I don't use it

5 a. Social media: If you use social media, which of the following? (Select all that apply.)

- ☐ 1 = Facebook
- ☐ 2 = Twitter
- ☐ 3 = Instagram
- ☐ 4 = YouTube
- ☐ 5 = LinkedIn
- ☐ 6 = TikTok
- ☐ 7 = other, please specify
- ☐ 8 = don't have any social media account

5 b. What do you use social media for? (Select all that apply.)

- ☐ 1 = entertainment
- ☐ 2 = personal networking
- ☐ 3 = professional networking
- ☐ 4 = access to information
- ☐ 5 = marketing
- ☐ 6 = other, please specify

Online content on agriculture/agribusiness**6 a. Do you look for info related to agriculture/agribusiness online?**

- ☐ 1 = yes, regularly
- ☐ 2 = yes, sometimes
- ☐ 3 = not often
- ☐ 4 = never

6 b. If yes, can you indicate the sites you visit more often?

7. Are you part of online communities, Facebook or WhatsApp groups where people share information related to agriculture/agribusiness?

- ☐ 1 = yes, please specify
- ☐ 2 = no

8. Do you share work- or business-related information through WhatsApp or your social media profiles?

- ☐ 1 = yes, regularly
- ☐ 2 = yes, sometimes
- ☐ 3 = not often
- ☐ 4 = never

Digital services

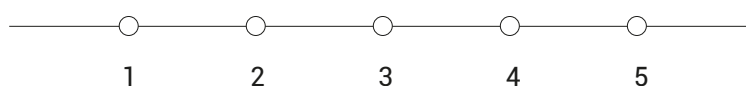
9. Digital services: Are you aware of/have you accessed any of the following services online?
(Select all that apply.)

- ☐ 1 = e-extension/agricultural advice: specify provider
- ☐ 2 = mobile money: specify provider
- ☐ 3 = e-commerce: specify provider
- ☐ 4 = e-learning: specify provider
- ☐ 5 = online mentorship: specify provider
- ☐ 6 = online business incubation: specify provider
- ☐ 7 = online business registration service: specify
- ☐ 8 = other: specify service and provider
- ☐ 9 = no

9 a. (if yes) How would you rate those digital services? (for each service)

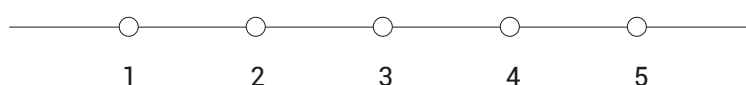
Overall experience

(5 – very good; 4 – good; 3 – acceptable; 2 – poor; 1 – very poor)



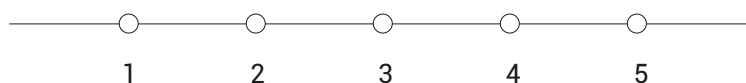
Easy to access

(5 – very good; 4 – good; 3 – acceptable; 2 – poor; 1 – very poor)



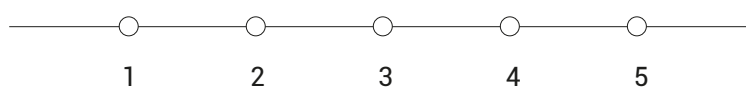
Affordable

(5 – very good; 4 – good; 3 – acceptable; 2 – poor; 1 – very poor)



Trustworthy

(5 – very good; 4 – good; 3 – acceptable; 2 – poor; 1 – very poor)



Time-saving

(5 – very good; 4 – good; 3 – acceptable; 2 – poor; 1 – very poor)

Good value for money

(5 – very good; 4 – good; 3 – acceptable; 2 – poor; 1 – very poor)

Digital engagement**10. Digital civic engagement: Have you participated in virtual consultations or online events in the last 3 months?***Select all that apply.*

- ☐ 1 = participated in online meeting/assembly of youth association: please specify
- ☐ 2 = participated in online meeting/assembly of cooperative/farming organization: please specify
- ☐ 3 = participated in online policy dialogue: please specify
- ☐ 4 = participated in online consultations/group discussions organized by the county: please specify
- ☐ 5 = filled in an online survey: please specify
- ☐ 6 = signed an online petition: please specify
- ☐ 7 = other, please specify
- ☐ 8 = no

10 a. (If yes) How would you rate this kind of digital participation compared to face-to-face events?
(5 – much better; 4 – better; 3 – similar; 2 – worse; 1 – much worse)

10 b. Do you feel comfortable engaging in digital consultations and making your voice heard online?
(5 – a great deal; 4 – much; 3 – somewhat; 2 – little; 1 – not at all)

Internet for business (only for agripreneurs)

11. What are the digital technologies or applications you use the most to support your agribusiness? (Select all that apply.)

- ☐ 1 = Email
- ☐ 2 = WhatsApp
- ☐ 3 = WhatsApp for Business
- ☐ 4 = Mobile Money
- ☐ 5 = Facebook
- ☐ 6 = Facebook Marketplace
- ☐ 7 = Instagram
- ☐ 8 = Twitter
- ☐ 9 = E-commerce platforms (specify)
- ☐ 10 = Digital marketplaces (specify)
- ☐ 11 = Agri-mobile apps
- ☐ 12 = Zoom or similar videoconferencing tools
- ☐ 13 = Office software (Word, Excel, etc.)
- ☐ 14 = other, please specify

12. If you use digital technologies to support your agribusiness, what for? (Select all that apply.)

- ☐ 1 = personal branding
- ☐ 2 = advertise my products/services
- ☐ 3 = take orders from my clients
- ☐ 4 = sell my products/services
- ☐ 5 = find out about other market players and do business intelligence
- ☐ 6 = send news and updates to clients
- ☐ 7 = buy inputs
- ☐ 8 = keep digital records and spreadsheets
- ☐ 9 = access e-learning/training
- ☐ 10 = access advisory services
- ☐ 11 = send and receive mobile payments
- ☐ 12 = manage my company's website
- ☐ 13 = other: specify

5C. OFFLINE COMMUNICATION (ONLY FOR RESPONDENTS WITHOUT INTERNET ACCESS)

1. Radio: How often do you listen to radio?

- ☐ 1 = all day
- ☐ 2 = several times during the day
- ☐ 3 = at least once a day
- ☐ 4 = at least once a week

- ☐ 5 = rarely
- ☐ 6 = never

1 a. Do you listen to radio programmes about agriculture?

- ☐ 1 = yes, please specify
- ☐ 2 = no

2. TV: How often do you watch TV?

- ☐ 1 = all day
- ☐ 2 = several times during the day
- ☐ 3 = at least once a day
- ☐ 4 = at least once a week
- ☐ 5 = rarely
- ☐ 6 = never

2 b. Do you watch TV shows about agriculture?

- ☐ 1 = yes, please specify
- ☐ 2 = no

3. SMS: How often do you send and receive SMS?

- ☐ 1 = all day
- ☐ 2 = several times during the day
- ☐ 3 = at least once a day
- ☐ 4 = at least once a week
- ☐ 5 = rarely
- ☐ 6 = never

3 a. Are you subscribed to an information/advice service via SMS?

- ☐ 1 = yes, weather forecast
- ☐ 2 = yes, health advice
- ☐ 3 = yes, agricultural advice
- ☐ 4 = yes, market price information
- ☐ 5 = yes, nutrition advice
- ☐ 6 = other, please specify
- ☐ 7 = no

3 b. If yes, how often do you receive those SMS?

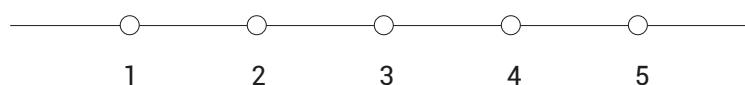
- ☐ 1 = on demand
- ☐ 2 = on a daily basis
- ☐ 3 = more than once a week
- ☐ 4 = on a weekly basis
- ☐ 5 = more than once per month
- ☐ 6 = not regularly

3 c. Service provider: Who provides this service? (Select all that apply.)

- ☐ 1 = county/public service: please specify
- ☐ 2 = non-governmental organization: please specify
- ☐ 3 = private company: please specify
- ☐ 4 = farmer organization: please specify
- ☐ 5 = youth organization: please specify
- ☐ 6 = university: please specify
- ☐ 7 = international organization: please specify
- ☐ 8 = other, please specify

3 d. How useful is this service for you?

(5 – Very Useful; 4 – Useful; 3 – Moderately Useful; 2 – Slightly Useful; 1 – Not Useful)

**3 e. Would you like to receive more agriculture/agribusiness information via SMS?**

- ☐ 1 = yes
- ☐ 2 = no
- ☐ 3 = maybe

3 f. Preferred channels: In your opinion, which is the best communication channel to share information and advice on agriculture/agribusiness with the youth?

- ☐ 1 = radio
- ☐ 2 = TV
- ☐ 3 = SMS
- ☐ 4 = WhatsApp
- ☐ 5 = Facebook
- ☐ 6 = Instagram
- ☐ 7 = YouTube
- ☐ 8 = Email
- ☐ 9 = Web platforms
- ☐ 10 = Mobile applications
- ☐ 11 = other, please specify

5D. DIGITAL SKILLS

5 D. Self-assessment of digital skills

How would you rate your ability to use the following digital tools?

5 D.1. Word or similar text editors to create documents

(1 – poor/do not know about this tool; 2 – beginner; 3 – good; 4 – very good; 5 – excellent)

1 2 3 4 5

5 D.2. Excel or similar tools to create databases, tables and make calculations

(1 – poor/do not know about this tool; 2 – beginner; 3 – good; 4 – very good; 5 – excellent)

1 2 3 4 5

5 D.3. Power Point or similar applications to create slideshows and visual presentations

(1 – poor/do not know about this tool; 2 – beginner; 3 – good; 4 – very good; 5 – excellent)

1 2 3 4 5

5 D.4. Internet browsers to navigate the web and search for content

(1 – poor/do not know about this tool; 2 – beginner; 3 – good; 4 – very good; 5 – excellent)

1 2 3 4 5

5 D.5. Social media like Facebook to post messages/photos/videos

(1 – poor/do not know about this tool; 2 – beginner; 3 – good; 4 – very good; 5 – excellent)

1 2 3 4 5

5 D.6 .Email to handle personal and professional communications

(1 – poor/do not know about this tool; 2 – beginner; 3 – good; 4 – very good; 5 – excellent)

1 2 3 4 5

5 D.7. E-learning platforms to take online courses/certificates

(1 – poor/do not know about this tool; 2 – beginner; 3 – good; 4 – very good; 5 – excellent)

1 2 3 4 5

5 D.8. Videoconferencing tools (e.g. Zoom) to participate in virtual meetings and events

(1 – poor/do not know about this tool; 2 – beginner; 3 – good; 4 – very good; 5 – excellent)

1 2 3 4 5

5 D.9. Digital data collection tools like Google form to respond a survey

(1 – poor/do not know about this tool; 2 – beginner; 3 – good; 4 – very good; 5 – excellent)

1 2 3 4 5

5 D.10. Where did you acquire those digital skills?

- ☐ 1 = by myself
- ☐ 2 = learning from my peers
- ☐ 3 = participated in trainings
- ☐ 4 = other, specify

5 D.11. Who provided the training?

- ☐ 1 = county/public service: please specify
- ☐ 2 = non-governmental organization: please specify
- ☐ 3 = private company: please specify
- ☐ 4 = farmer organization: please specify
- ☐ 5 = youth organization: please specify
- ☐ 6 = university: please specify
- ☐ 7 = international organization: please specify
- ☐ 8 = other, please specify

***5 D.12. Perceived utility: How important are digital skills for youth employability?**

(5 – very important; 4 – important; 3 – moderately important; 2 – slightly important; 1 – not important)

1 2 3 4 5

ANNEX 2

Sample focus group discussion guide

Adapted from a participatory assessment of youth engagement in agriculture conducted in Kenya under the FAO Integrated Country Approach (ICA) for boosting decent jobs for youth in the agrifood system

Questions in this discussion guide should be tailored to the specific subgroup of participants as focus groups are to be held with homogeneous groups of 8–10 participants with different profiles (e.g. younger youth, young women, youth in agribusiness, migrant and seasonal workers). **The focus group duration should not exceed 2 hours** – time indications are provided for each thematic cluster of questions. The research team will prioritize thematic areas and select questions that are relevant to the group interviewed.

Place:	Date:	Start time:	End time:
No. of participants:	Group ID:	Facilitator:	Rapporteur:

Welcome, the purpose of today's discussion is to learn more about what influences youth engagement in agriculture in your area and how you interact with digital technologies. We are interested in hearing your opinions and invite you to participate actively. The information you provide is confidential and your name will not appear in any report. However, we will record this session to have a reference when analyzing the information. We will need approximately 2 hours of your time. Any questions before we start?

1. ATTITUDES TOWARDS ENGAGING IN AGRIFOOD SYSTEMS (45–60')

Individual attitudes: perceptions, expectations, fears and desires, motivations towards agriculture, migration, entrepreneurship; general aspirations and vision for future

	GUIDING QUESTIONS	FACILITATION NOTES
0	Icebreaker Presentation round (name and occupation: work/study/none)	Make sure to identify contributing family workers
Rural employment and work in agriculture		
1	What are the main opportunities for youth employment in this area/where you live?	
2	What is needed to get a <i>good</i> job?	Assets – Skills – Other
3	What difficulties have you encountered in finding a job?	Mainly to youth out of work
	For working youth	
4a	Are you feeling proud of/satisfied with your job?	Those who feel proud of their job, please stand up!
5a	(To those who stood up) Why? What do you appreciate the most about your work? What motivates you?	If the group is not homogeneous, first ask youth working in agriculture/agribusiness.
6a	(To those who didn't) Why? What is it that you do not like about your work? What discourages you?	
	For students/youth out of work	
4b	Would you like to work in the agrifood sector?	Those who are interested, please stand up!
5b	(To those who stood up) Why? What do you appreciate the most about working in the agrifood sector? What motivates you?	
6b	(To those who didn't) Why? What is it that you do not like about working in the agrifood sector? What discourages you?	

	GUIDING QUESTIONS	FACILITATION NOTES
	ALL	
7	How would you describe working in agriculture?	Participants write keywords in cards.
8	(probing questions) Do you think agriculture is a <i>decent</i> job? Is it <i>profitable</i> ? Is it <i>important</i> for society? Is it too <i>hard</i> ? Do you think it can be <i>risky</i> or <i>dangerous</i> ?	
Occupational health and security		
9	Have you had any accident or health issue linked to working in the agricultural sector? What happened?	
10	Do you use any protective equipment at work (e.g. gloves, masks, shoes or special footwear)?	Only for working youth
Migration		
11	Have you ever considered migrating to live somewhere else?	
12	(To those who say yes) Why? What benefits do you expect from migrating?	Can be answered on cards: Desires/fears
13	Do you know other youth who have successfully migrated? Do you have contacts in the place of destination?	(optional)
14	(To those who say no) Why? What keeps you from leaving your place/community/village?	Can be answered on cards: Desires/ fears
Current situation and projection into the future		
15	Let's look at your typical day. How much time do you spend in the farm/at work/at school? How many hours do you spend doing domestic chores or care work? (gender focus) What do you do when you are not occupied with agricultural activities? Do your workload and tasks vary according to the season/productive cycles? Did COVID-19 have an impact on that?	Collective timeline (only in highly homogenous groups) OR ask individuals to draw their timeline on cards. If time allows, 1 or 2 volunteers can share with the group.
16	(for working youth) Does your current occupation look like what you desired? What was your job aspiration?	
17	How do you see yourself within 3–5 years?* Will you be here or somewhere else? (for those engaged in agriculture) Will you still be working in the agricultural sector? Would you like to have a formal job or run your own business? In the agrifood sector or others? Why? What benefits would it bring? * For young adults it is better to project in the short/mid-term (max 3 years) while asking for a 5-year vision will gather better inputs from younger youth, as they can see themselves beyond the school to work transition. Drawing is often preferred by youngsters, but it's important to always offer both options, so participants can express themselves freely and overcome literacy or other barriers.	CARDS: Everyone chooses drawing or writing (keywords/short sentences). Cards will be collected and later coded – if time allows, invite a few to share/elaborate.
Entrepreneurship		
18	What challenges does a young person face when choosing agriculture as a business?	
19	What is the key for success of youth in agribusiness? What are the characteristics of a successful agripreneur? (Break down concepts related to entrepreneurship, innovation, cooperation, etc.)	Collective exercise: The group draws an entrepreneur and notes down what the successful agripreneur knows, feels, knows how to do, and needs: head-knowledge, heart-feelings, hands-skills, and feet resources/assets.
20	Do you know many youths running a successful agribusiness? Do you feel motivated/inspired? Why, what can you learn from them?	(optional)

2. COMMUNITY DRIVERS AND BARRIERS (60')

Family and community expectations, gender roles and social norms related to mobility, intergenerational transfer of land, family farm management, work off village/household

	GUIDING QUESTIONS	FACILITATION TECHNIQUE
	For working youth	
0	(open intro question) What influenced your choice to engage or not in agriculture?	
1	Did your family play a role in your choice to engage (or not) in agriculture? How?	
2	What do your family and other people in your social circle think about your job? Do you agree?	
3	What are your family's expectations about your future? Do they match with yours?	
	For all youth including students/youth out of work	
4	Do other people in your family/closer social circle work in agriculture?	
5	Is engaging in agriculture a family/local tradition or is it considered an atypical career for young people in your community? Why?	
6	What do people say about young women farming or in agribusiness? Is it socially accepted? Why?	
7	According to your family and community, what are the advantages and disadvantages of working in agriculture? Do you agree?	
8	(determinants of change) Do you think this perception is changing? What is driving this change?	
	For youth engaged in agriculture	
9	Do you feel supported by your family and larger community in your career choice to work in agriculture? Why?	
10	To what degree do you feel accepted and valued by others in this business?	
11	Have you experienced any constraint on the job due to your young age and/or gender? Why?	Also applies to disability, ethnicity, etc.
12	How do you manage to balance your work in agribusiness with your daily family/personal commitments?	
13	Is it socially acceptable for young women to work away from the household/village (travel to market, interact w/ male traders)? If not, why?	
14	Are women equally able to access land and manage a family farm? If not, why?	
15	Do young women use a financial account and have direct control over cash earnings? If not, why?	
16	(determinants of change) Do you think this situation is changing? What is driving this change?	COVID-19 driver of change?

3. SOCIAL NETWORKS AND ENGAGEMENT (30')

Interpersonal relations, trusted sources of information, role models, influencers, gatekeepers, patterns of communication and networking, civic engagement (involvement in formal or informal youth/farmer/saving/commercial groups, participation in policy dialogue), and how this influences access to services

NB: This research dimension is complementary to an **assessment of rural youth organizations and networks**, which should look at their engagement capacities (in terms of governance mechanisms, service offer, inclusiveness, membership participation, communication). Such assessment should be part of the rapid context analysis.

GUIDING QUESTIONS		FACILITATION TECHNIQUE
Information sources, opinion leaders and gatekeepers		
1	What are the key actors, organizations and other sources of information providing information for rural youth in your locality on agriculture and agribusiness? e.g. family, farmer groups, community leaders or promoters, agronomists, local extension services, counties, NGOs, middlemen, buyers, merchants, distributors, suppliers (of seeds, fertilizers, etc.), banks, youth or producer organizations, media (radio, tv, social networks, internet), and universities	Trust circle 1. List actors on a post-it 2. Draw circles with a youth in the centre 3. Position according to level of trust/influence 4. Ask why 5. Draw information flows (lines of different colours according to the type of information: employment/ agriculture/ market/finance/other) 6. Deepen with the guiding questions
2	Which do you trust more? Who are the ones that have the greatest influence on your decisions and behaviour?	
Communication patterns		
3	What kind of information comes from each actor? How does information and knowledge circulate among young farmers/entrepreneurs (interpersonal communication/telephone/networks)?	
4	Do young farmers/agripreneurs communicate differently among themselves compared with older farmers/agripreneurs?	
5	Are there individuals or groups of young people who remain isolated? Why?	
6	Are there other actors with whom you are not in contact and do you think it would be useful to get in touch?	
7	Was this situation different before COVID-19? How has it changed and why?	
Civic engagement and access to services		
8	How many of you belong to a youth network/association/farmer organization/cooperative/saving group?	
9	Do you participate in county-level platforms and consultation mechanisms on agriculture for youth?	To those who say no = Why?
10	What are the issues discussed in those spaces? Do you feel free to express your opinion? To what extent are they acted upon?	
11	What are the benefits you get from participating? Do you think belonging to such organizations eases your access to support services (info, agricultural advice, training, finance)?	
12	Did COVID-19 have an impact on your access to services? How?	
13	What services do you think such platforms/mechanisms should offer to young rural people?	

4. INFORMATION AND KNOWLEDGE NEEDS (20')

Skills gap and priority topics of interest related to agricultural production, processing, marketing, professional training and entrepreneurship

	GUIDING QUESTIONS	TOOLS
1	What kind of information do you need to improve?: a) agricultural production b) processing and marketing c) agribusiness management	1. Brainstorming (facilitator scoring) 2. Classification (production/marketing/entrepreneurship) 3. Prioritization (dotmocracy)
2	On which subjects/topics in particular would you like to learn more about/ receive guidance?	
3	Which information would you like XX (e.g. local youth network, county youth in agribusiness platform) to provide?	
4	On which of these topics would you appreciate learning from/sharing with other youth?	Peer learning

5. DIGITAL ACCESS AND LITERACY (30')

	GUIDING QUESTIONS	TOOLS
Access and appreciation of ICTs		
1	How are internet and digital technology transforming your community/rural area?	
2	How many of you own a mobile phone? Are you able to connect to the internet? How often?	
3	What do you use it for? (e.g. personal/job calls, text messages, chat, social networks, email, other applications, videos, photos, radio, music, weather forecasts, games, mobile money)	
4	Do all young people in your area have a cell phone? At what age do they start using it? Is there any difference between boys and girls?	
4	What challenges do you face in accessing and using internet?	
5	Do you think digital technologies can improve your life and business/career? How?	
6	In your opinion, which is the best communication channel to share information and advice on agribusiness with youth?	
Digital skills		
7	Do you feel you should learn more on how to use internet and digital technologies? Why?	
8	What would you use these digital technologies and skills for?	

Assessing the digital readiness and communication ecosystem of rural youth

Methodological guidelines



Digitalization is a potential game-changer to boost youth engagement and leadership in agrifood systems. But as we seek to engage youth in the digital space, we must consider a series of interrelated factors that influence their online experiences ranging from digital access, use and literacy, to offline communication resources, social interactions and the norms shaping them.

These methodological guidelines will be a useful resource for development professionals who wish to leverage communication and digital technologies in their work with and for youth. The document provides an analytical framework and practical orientation to conduct age-specific and gender-responsive research on the digital readiness and overall communication ecosystem of young people in order to inform inclusive engagement strategies and youth-centred digital services.

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