



UNDERSTANDING RURAL PATHWAY TRANSITIONS

Insights from Kenya

May 2021



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EXECUTIVE SUMMARY

Understanding how rural households and their needs might evolve over time is fundamental to providing better products and services to these clients—and to designing more inclusive rural economic development strategies. The introduction of the Rural Pathways Model in *Pathways to Prosperity* was an important step forward in thinking more dynamically about rural households.¹ This model laid out seven different Pathways that rural households might take as they pursue different livelihood strategies and seek to increase their incomes, resilience, and agency. Since the report was published in 2019, the Rural Pathways Model has been widely adopted by a diverse set of actors in the sector. Donors and investors such as the European Union, Ceniarth and FCDO Nigeria have adopted the frameworks presented in *Pathways to Prosperity* to help rethink and structure future rural investment strategies and programming. Thought leaders in the financial inclusion and agricultural development sectors, including CGAP and IDH the Sustainable Trade Initiative, have shaped their research agendas to more closely align to the Rural Pathways Model. These examples demonstrate the reach and impact of the model, and highlight sector demand for these types of frameworks to help improve our understanding of the complex and diverse livelihoods pathways rural households may pursue in their lifetimes.²

Building on the Rural Pathways Model

The Rural Pathways model is largely theoretical, allowing us to visualize the set of rural Pathway options that households might follow. Since publishing *Pathways to Prosperity*, the authors have been approached by different stakeholders looking for more granular insights into who these households are and what their Pathway transitions look like. There is also growing interest in finding practical ways to apply this thinking—both at a micro level, to design better products and services, and at a macro level, to improve programs and policies.

In this learning brief, we try to answer some of these questions. We introduce a new framework that will help the sector build a common understanding about Pathway transitions and translate these insights into action. To apply this framework, we present original research with 1,225 households on four Pathways in Kenya, seeking to map out what these transitions look like and to understand why some rural households are able to make progress in their Pathway transitions while others are left behind. We focus on households in four Pathways that play a vital role in rural economies: the vulnerable subsistence farmer (Pathway 1), the intensified commercializing farmer (Pathway 2), the agricultural small- or medium-sized enterprise (agri-SME) owner (Pathway 4), and the micro-entrepreneur (Pathway 5).³

A new framework to understand Pathway transitions

As we dug deeper into the Rural Pathways Model, we realized that there was no common understanding of Pathway transitions or agreed-upon language to describe these movements. Rural livelihoods are complex, and Pathway transitions are not linear. One of the important advancements in this report is the introduction of a new **Pathways Transition Framework** that provides some structure and common language to help us to better understand and describe Pathway transitions.

1 ISF Advisors and the Mastercard Foundation Rural and Agricultural Finance Learning Lab [Pathways to Prosperity: Rural and Agricultural Finance State of the Sector Report](#). Washington, D.C. 2019.

2 ISF Advisors. "2019 Q4 Performance Report." USAID. 2020.

3 For simplicity, in this report, we refer to the vulnerable subsisting farmer as a subsistence farmer and the intensified commercializing farmer as a commercializing farmer. Additionally, Pathway 4 includes two distinct segments in two different centers of gravity—the small-to-medium farm in Pathway 4a and the small- or medium-sized medium enterprise in Pathway 4b. The SMEs in Pathway 4b can be focused on agriculture or non-agricultural activities. In this report, we study only the agriculture-focused SMEs in Pathway 4b and refer to them as agri-SME/Pathway 4.

This new framework establishes that Pathways are anchored in the livelihood activities that a household is focused on, and Pathway transitions are defined by a fundamental shift in these livelihood activities. Rural households can make **relative transitions** within Pathways, as well as **absolute transitions** where they shift from one Pathway to another. As households experience relative or absolute Pathway transitions, they may also experience changes in their income, resilience, and agency. Our framework defines these changes as upward or downward mobility. Upward mobility is associated with increasing levels of income, resilience, and agency, whereas downward mobility is associated with decreasing levels of these same characteristics. Over the course of a lifetime, households may experience relative *and* absolute transitions, and upward *and* downward mobility, as they pursue their livelihood goals.

Throughout this report, we reference both relative and absolute Pathway transitions, as well as upward and downward mobility. Of critical importance is that transitions are anchored in livelihood activities, while mobility is anchored in changes in income, resilience, and agency.

Applying the framework to rural households in Kenya

Unsurprisingly, rural households do not usually think in terms of Pathway transitions. Rather, they are focused on pursuing their goals, increasing their incomes, and improving their resilience. We found that households across all four Pathways are strikingly similar in terms of how they perceive their livelihoods and think about the future. The majority of households involved in farming (Pathways 1 and 2) enjoy agriculture and want to expand their agricultural activities. This trend is similar for business-oriented households in Pathways 4 and 5, with the majority reporting that they enjoy running their business, feel proud about what they have achieved, and want to grow their business. Most households also feel optimistic about the future and feel they will be better off in five years than they are now.

While households across all four Pathways have common positive sentiments about their livelihoods and goals, their ability to transition (relative or absolute) and achieve upward mobility differs. Our research found that only a small minority of households will be able to make an absolute transition to another Pathway with higher levels of income, resilience, and agency. These transitions tend to be located within the same center of gravity – that is, farming or rural entrepreneurship—though some households may transition to Pathways in other centers of gravity (i.e., rural labor or urban migration).⁴ Commercializing farmers in Pathway 2 and agri-SME owners in Pathway 4 are more likely to make progress in their transitions (relative or absolute) compared to households in other Pathways.

Most households, however, will remain in their current Pathway during their lifetime. These households may make incremental progress in improving livelihoods or investing in farm or business growth, or they may experience periods of stagnation or even setbacks in their Pathway transition. Vulnerable households across all Pathways are at greater risk of stagnating if they are unable to access the products and services they need or if they experience external shocks. Subsistence farming households in Pathway 1 and micro-entrepreneurs in Pathway 5 are especially vulnerable given their lower incomes and savings, as well as limited access to resilience-enhancing products and services.

Pathway transitions also look different for women and young people. Across all Pathways, women are less likely to make progress in their transitions compared to men. These differences are par-

⁴ The Rural Pathways model outlines four centers of gravity, which are broad livelihood categories that rural households may pursue. The four centers of gravity are farming as a business, rural services, rural labor and urban migration.

ticularly stark for women in subsistence farming households (Pathway 1) and agri-SME households (Pathway 4). We also found that young people are less likely to be involved in farming and are more interested in running a business in Pathways 4 or 5. Young people tend to be more interested in full-time employment and many are likely to transition out of farming or business Pathways to pursue full-time work in rural areas or urban migration.

Drivers of Pathway transitions

Why are some households able to surmount hurdles and make progress in their livelihood strategies while others cannot? In trying to answer this question, we looked at which enabling factors are most important for households to achieve relative and absolute transitions, and which inhibitors and shocks act as brakes on their ability to make progress in their transitions.

Our research revealed three broad categories of enablers. The first includes the assets and capital that households need to invest in their farms and businesses. The types of assets vary depending on whether the household is focused on farming or entrepreneurship, but generally include farm inputs and equipment, land, business stock and equipment, labor, and energy. Households rely on savings and credit to invest in these assets.

The second category is the knowledge and support needed for households to develop and execute on their livelihood plans while making the best use of their capital investments. This knowledge and support can come from both informal and formal sources, and may include information and training on farming practices, equipment usage, or business skills, as well as networking and access to mentors.

The third category is market access, which helps households sell their products and services. Households can access markets in different ways—from selling farm produce in a local market to owning a shop in a well-trafficked location or engaging with buyers and traders. Market access allows households to reach more buyers and customers, get better information about demand and prices, and secure better prices. Most importantly, market access enables households to translate productivity gains into income gains by generating more sales.

While some households with access to key enablers will make progress in their transitions—both relative and absolute—others will experience inhibitors and shocks that can slow their progress or, if severe enough, push them backwards. A wide range of inhibitors can prevent households from achieving their livelihood goals. For most, the top inhibitors are related to their inability to access key enablers. However, when asked about the greatest risks to their livelihood activities, most households across all Pathways tend to focus on external shocks. Shock events tend to have an immediate and severe effect on households, while the lack of enablers more slowly impedes progress. Most households identify economic shocks (e.g., COVID-19), climate events like drought or pests, and household shocks, such as medical emergencies, as their greatest risks. The severity and duration of these shocks, as well as the overall level of household resilience, will ultimately determine whether a household can continue making progress in their transition or face setbacks.

Across different Pathways, the importance of these enablers—and the ability of households to access and use them—will vary. Figures 8 and 18 show the relative importance of these enablers and the risk of inhibitors and shocks for households across the four Pathways in Kenya. The ability to access enablers and mitigate against inhibitors and shocks will largely define who will or will not experience relative or absolute transitions.

Implications and the way forward

The Rural Pathways Model was just the beginning of a learning journey focused on understanding the long-term trajectory of rural households. This new Pathways Transition Framework pushes us a step further, moving from theory to practical applications. Using this framework, we can better map household trajectories, identify inflection points, and link these to associated mobility outcomes.

In publishing this report, our ambition is that service providers, funders, and policymakers will begin to adopt this more sophisticated way of thinking about rural Pathway transitions, and apply this new framework to:

- **Design better customer research to cover what customers might need today *and* tomorrow,** as they pursue their livelihood goals and adapt to new challenges. This customer research can provide a foundation for designing more tailored and *sequenced* products and services that can help rural households access key enablers and mitigate against inhibitors and shocks based on their Pathway journey.
- **Develop stronger and more thorough impact and investment theses with long-term horizons.** Understanding and testing household trajectories will enable funders and providers to get a more accurate assessment of the impact-return trade-off. With time, this can uncover fundamental insights into what models work best to enable transitions and upward mobility, how the returns might change as households achieve increased upward mobility, and what support they might need overtime from donors or sub-commercial funders.
- **Develop more effective collaboration between actors working in the rural livelihoods sector.** By using a common language about target clients, Pathway transition, and how different actors fit into that journey, stakeholders can collaborate on the basis of aligned expectations. This will allow for more effective and transparent partnerships between providers working with rural customers, increased coordination between funders operating in the same space, and improved communication between funders and the organizations they support.



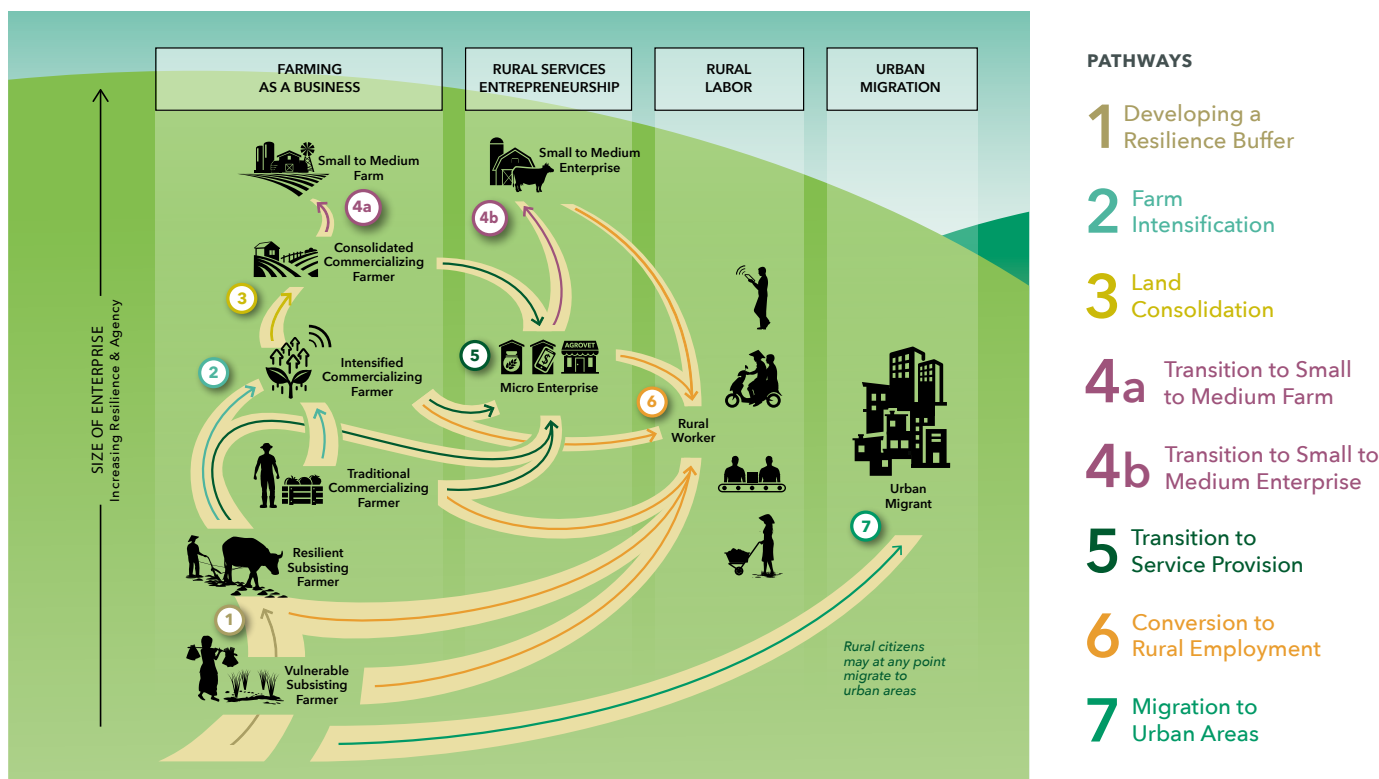
1. BUILDING ON THE RURAL PATHWAYS MODEL

In 2019, ISF Advisors and the Rural and Agricultural Finance Learning Lab published their latest **State of the Sector report Pathways to Prosperity**, which introduced a new framework for understanding rural livelihoods. The Rural Pathways Model moved the sector from a static understanding of rural households—based on their characteristics at a particular moment—toward a dynamic view of how these households and their needs might evolve over time. In essence, the model lays out different Pathways that rural households might take as they pursue different livelihood strategies and seek to increase their incomes, resilience, and agency. The Pathways coalesce around four centers of gravity, representing the broad categories of rural livelihood strategies. These four areas are:

- **Farming as a business**, wherein households focus primarily on agricultural production. As a household invests in growing its farming business, it may move from Pathway 1 (subsistence farming) to Pathway 2 or 3 (more intensified or commercialized farming), or even to Pathway 4a if their farm becomes large enough.
- **Rural services entrepreneurship** is a strategy pursued by households shifting away from primary agricultural production to build micro or small-to-medium-sized enterprises (SMEs). These micro-enterprises and SMEs may focus on providing agricultural services (e.g., inputs, processing, or aggregation) or non-agricultural services (e.g., transportation, running a local shop), and are

FIGURE 1

Rural Pathways model



This version of the Rural Pathways Model has been updated from the original model published in *Pathways to Prosperity* to reflect new research insights. The model is more developed for the farming-as-a-business and rural services entrepreneurship centers of gravity; further development of the rural labor and urban migration centers of gravity are outside the scope of this research. It is important to note that the small-to-medium farms (Pathway 4a) and small- or medium-sized enterprises (Pathway 4b) may eventually grow into large farms and enterprises. We have not included Pathways for large farms and enterprises in the current version of this model as our research is more focused on clients living and working in the rural economy, while these businesses tend to be more connected to urban areas.

represented by Pathways 5 and 4b in the model.

- **Rural labor** is another strategy for households that aim to make a living by working for larger commercial farms, SMEs, or other institutions in the local community. This labor (Pathway 6) may be agricultural or non-agricultural, formal or informal.
- **Urban migration** (Pathway 7) is pursued by households seeking part- or full-time work, usually in non-agricultural sectors. Facing enough push and pull factors, households may seek to migrate in search of better livelihood opportunities.

With this new research, we introduce a new framework and common language to understand and describe Pathway transitions. We then apply this framework to original data collected from households in four Pathways in Kenya to map out what these transitions look like—and to understand why some rural households are able to make progress in their Pathway transitions while others are left behind. In this report, we focus on households in four Pathways that play a vital role in rural economies: the vulnerable subsisting farmer (Pathway 1), the intensified commercializing farmer (Pathway 2), the agricultural small- or medium-sized enterprise (agri-SME) owner (Pathway 4), and the micro-entrepreneur (Pathway 5).

In this report, we have sought to simplify the language used to describe households within our four priority Pathways. When we talk about the subsistence farmer,

we mean a range of farming households within this Pathway, which includes vulnerable and resilient subsisting farmers and traditional commercializing farmers. We refer to farming households in Pathway 2 (intensified commercializing farmer) as a “commercializing farmer” for simplicity. It is also important to note that Pathway 4 includes two distinct segments in two different centers of gravity: the small-to-medium farm in Pathway 4a and the small- or medium-sized enterprise in Pathway 4b. The SMEs in Pathway 4b can be focused on agriculture or non-agricultural activities. In this report, we study the agriculture-focused SMEs in Pathway 4b and refer to them as agri-SMEs/Pathway 4 for simplicity.

We begin by introducing the new Pathways Transition Framework in Section 2. We then explore the research insights from Kenya in Section 3—starting with profiles of a composite household in each Pathway in order to illuminate who they are, what they do for a living, and how they define their goals and aspirations. We then explore which households are transitioning and to where; analyze the key enablers and inhibitors of Pathway transitions; and look at how these transitions differ for women and youth. Finally, in Section 4, we conclude the report by discussing implications of this research and offering recommendations for service providers, funders, and policymakers on how to integrate thinking on Pathway transitions to design more strategic and effective interventions.



2. A NEW FRAMEWORK FOR UNDERSTANDING PATHWAY TRANSITIONS

Rural livelihoods are complex, and Pathway transitions are not linear and often quite messy. In this section, we introduce a new **Pathways Transition Framework** with the hope of establishing a common structure and language that can help us to better understand and describe Pathway transitions.

RELATIVE VS. ABSOLUTE TRANSITION

Pathways are anchored in the livelihood activities that a household is focused on, and Pathway transitions are defined by a fundamental shift in these livelihood activities. For example, households in Pathway 1 are focused on subsistence farming and supplement these activities with income from part-time labor or running small, informal shops. These households consume most of their crops, selling around 20% on the local market. These livelihood activities define Pathway 1. In contrast, households in Pathway 2 are focused on commercial farming and generate most of their income by selling this farm produce. These households cultivate larger plots of land than those in Pathway 1, are focused on cash crops that generate more income, and use more farm inputs—such as fertilizers and pesticides—to increase productivity. These livelihood activities define Pathway 2. By definition, a rural household that shifts their livelihood strategy from subsistence farming to commercial farming is undertaking a transition from Pathway 1 to Pathway 2.

Rural households can make relative transitions within Pathways, as well as absolute transitions where they shift from one Pathway to another. For example, a subsistence farming household in Pathway 1 might aspire to transition to commercializing farming in Pathway 2. The household may secure a loan to lease more land, expand the size of their farm, and purchase new seeds to start cultivating cash crops. While they now have the ability to increase their farm output in the future, they are still consuming most of their crops and thus remain in Pathway 1. We define this incremental change in livelihood activities as a relative transition.

Over time, this household may join an agricultural cooperative, where they can purchase inputs at lower prices,

get advice on more productive farming practices, and eventually enter into a contract farming agreement. At that point, the household would be selling most of its crops to a regular buyer and generating a bigger proportion of its income from farming. We define this shift from subsistence to commercializing farming as an absolute transition from Pathway 1 to Pathway 2.

PATHWAY TRANSITION VS. MOBILITY

As households experience relative or absolute Pathway transitions, they may also experience changes in their income, resilience, and agency. In this brief, we define these changes as upward and downward mobility. Upward mobility is associated with increasing levels of income, resilience, and agency, whereas downward mobility is associated with decreasing levels of these same characteristics. In theory, as households experience relative and absolute transitions between Pathways, they will also experience upward or downward mobility. A household that transitions from Pathway 1 to Pathway 2, and eventually Pathway 3, should experience higher levels of income, resilience, and agency. But, in practice, these two concepts are not perfectly correlated.

Look at a commercializing farming household (Pathway 2) that aspires to transition to more intensified commercial farming (Pathway 3). This household may invest a large portion of its savings to purchase an irrigation system to allow it to increase productivity over time. While this incremental change in livelihood strategy moves the household closer to Pathway 3, the upfront investment will initially deplete their savings and lower their resilience and ability to respond to shocks. In other words, they are experiencing downward mobility, at least in the short term. However, as their farm becomes more productive, they can sell more crops on the market. Household income may increase significantly, enabling them to replenish savings, improve resilience, and ultimately experience upward mobility.

Throughout the rest of this brief, we reference both relative and absolute Pathway transitions, as well as upward and downward mobility. Of critical

importance is that transitions are anchored in livelihood activities, while mobility is anchored in changes in income, resilience, and agency. Figure 2 shows a simple example of what these dynamics might look like for a Pathway 1 household making incremental changes to progress toward a Pathway 2 absolute transition. While Pathway transitions are associated with upward and downward mobility, we do not attempt to define what the levels of income, resilience, and agency look like for each Pathway.

Over the course of a lifetime, households may experience relative and absolute transitions, upward and downward mobility as they pursue their livelihood goals. Pathway transitions can also happen in any direction (Pathway 1 to Pathway 2, as well as the reverse), depending on different factors. Additionally, a single household may simultaneously pursue multiple

Pathways as it adapts to changing priorities. And finally, within Pathways, there may be differences in households' ability to transition during a lifetime according to age, gender, and socioeconomic status. These scenarios illustrate the dynamic, fluid nature of rural livelihood strategies and related Pathway transitions.

With all this complexity in mind, this brief tries to understand who transitions to where and why some households are able to transition and others are not. By examining the transition points along the various Pathways, we can begin to understand how a rural household's need for, and usage of, both financial and non-financial services and products may change over time. This dynamic understanding will help service providers, funders, and policymakers tailor their products, bundle offerings, design better policies, and improve communications with their rural clients.

FIGURE 2

Transitions and mobility

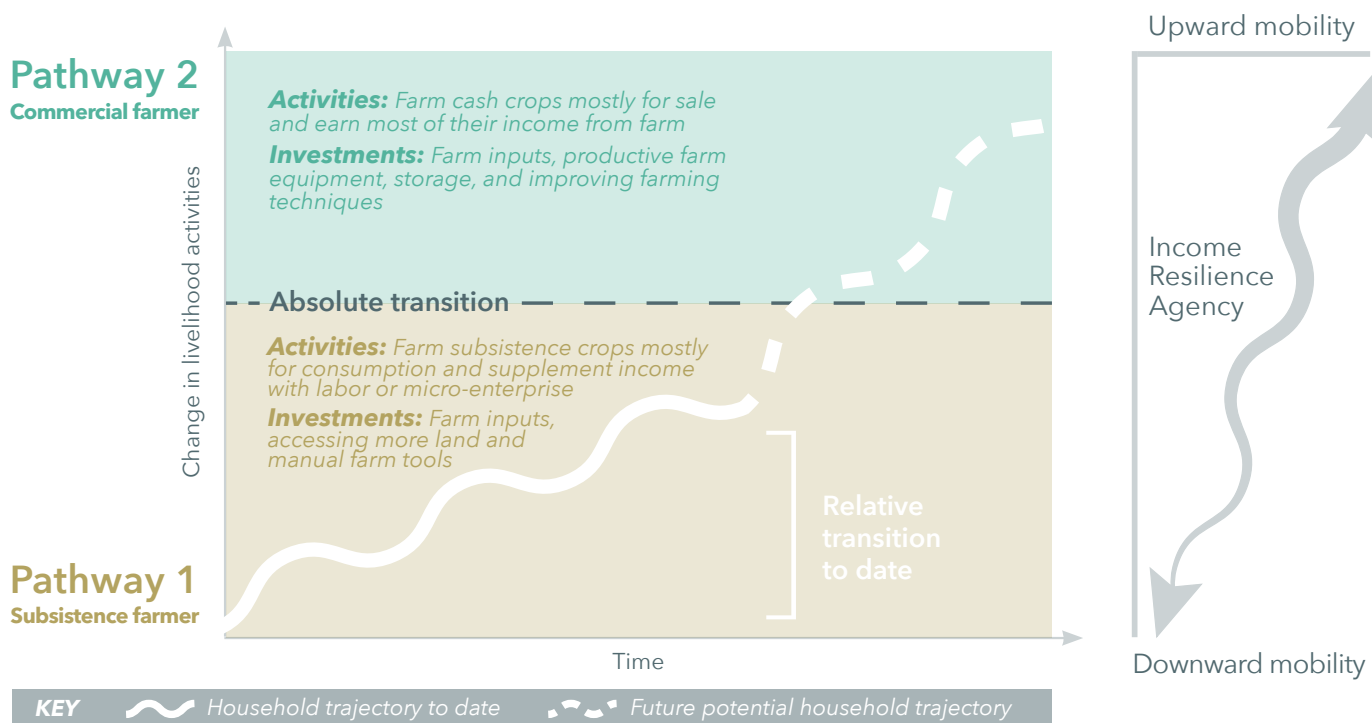


Figure 2 shows a simple example of what these dynamics might look like for a Pathway 1 household making incremental changes to their livelihood activities to make progress toward a Pathway 2 absolute transition. This figure shows changes in livelihood activities over time and is not comparable to the Rural Pathways Model. The solid white line represents the household's actual trajectory to date (i.e., the relative transition they have experienced during this time). The dotted white line represents the household's future potential trajectory assuming they are able to continue making progress in their livelihood strategy. If they continue on this trajectory the household will eventually experience an absolute transition to Pathway 2 (when they cross the horizontal, grey dotted line). This household will also experience changes in their income, resilience, and agency as they make changes to their livelihood activities. Mobility is not perfectly correlated with changes in livelihood activities; the household will likely experience periods of upward and downward mobility as they move along this trajectory.

3. APPLYING THE FRAMEWORK TO RURAL HOUSEHOLDS IN KENYA

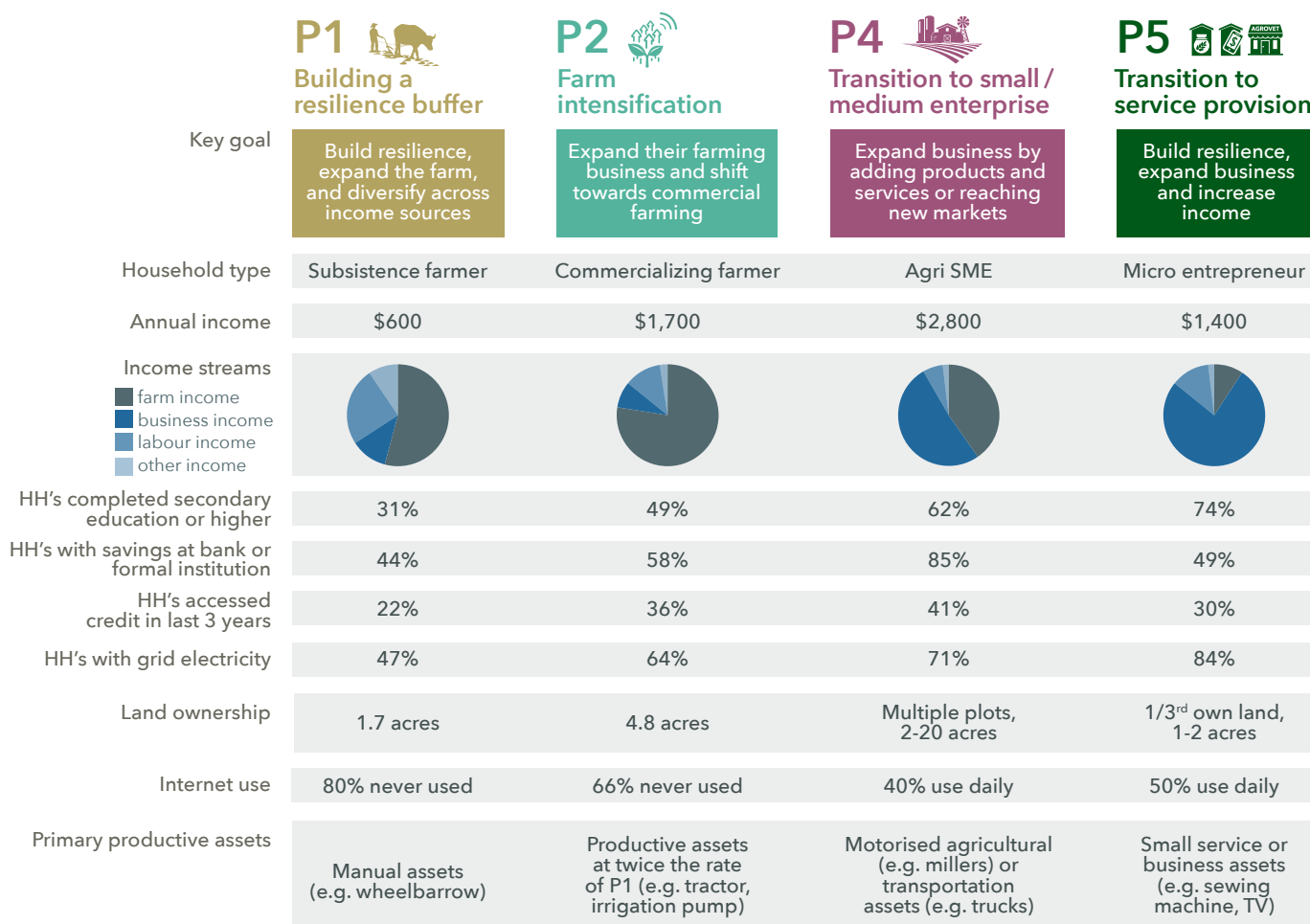
In the following sections, we apply the Pathways Transition Framework to analyze primary data collected on households in four Pathways in Kenya. We begin by presenting profiles of these households and then use the framework to explore what their Pathway transitions look like, the key factors that enable or inhibit them from making progress, and how transitions differ for women and youth.

3.1. HOUSEHOLD PROFILES

The purpose of these profiles is to bring these households to life—describing who they are, their socioeconomic status, what they do for a living, and what they aspire to. These profiles are character composites based on Human-Centered Design and survey data; though we are locating them in Kenya, they do not represent individual people.

FIGURE 3

Household (HH) snapshots





PATHWAY 1:
Building a resilience buffer

Edwin is a 35-year-old subsistence farmer living in Chepkorio. He lives on the same plot of land as his parents, where the household grows potatoes, sukuma wiki (kale), and managu (traditional green vegetables) primarily for their own consumption. Edwin is recently married; he and his wife are looking to start a family. In the future, he would like to lease more farmland and plant certified seeds in order to grow more produce for sale in local markets. But these plans require upfront capital investments. For now, they feel too ambitious and far removed. Edwin is considering getting a side job or migrating to Nairobi to find full-time work to supplement the household income, especially once he and his wife have children.

Edwin is a typical Pathway 1 farmer. These households pursue income through farming out of familiarity, though they may have previously explored opportunities in urban areas. They farm a few subsistence crops, only selling what produce is left over after they meet their consumption needs. On average, these households consume around 80% of their farming output and only sell a small amount on local markets, representing about half of their income. They are focused on short-term goals of generating surplus income—for example, supplementing their farming activities with income from part-time labor (often working on other farms), running small informal shops, or remittances. Most of these households are quite remote and only one in ten lives near a post office.

Pathway 1 households aspire to build their resilience, expand their farm, acquire key assets like livestock, and diversify across income streams. However, most Pathway 1 households own very small plots of land—averaging 1.7 acres—and live at or below the poverty line with an average annual income of around USD 600. Most households prioritize food security and day-to-day expenses, and are unable to save or make investments in productive assets. Very few households use substantial amounts of fertilizers and pesticides (25%), farm machinery (24%) or hire labor. Only 40% of these households have access to grid electricity and, while most use cell phones on a daily basis, nearly 80% have never used the internet. Typical assets in Pathway 1 include one or two large livestock and solar lamps. While most Pathway 1 households view their farm as their best chance to improve their livelihoods, they are open to other opportunities and many would take a full-time job if they could. These households are very vulnerable to external shocks.



PATHWAY 2: **Farm intensification**

Elizabeth is a 33-year-old commercializing farmer and mother of four children living in Uasin Gishu. When she was younger, she helped her mother prepare and sell busaa (traditional brew) and used the money to cover schooling costs for herself and her siblings. After high school she worked as a telecom agent for seven years before losing her job. Fortunately, she had savings with a local SACCO and was able to use this money to shift into farming. She joined a women's farmer group to learn the essentials and used her savings to prepare the land and purchase certified seeds and fertilizers. She now cultivates potatoes, peas, beans, and maize, and also does some dairy farming. Elizabeth sells most of the farm produce on the local market, and this represents her main source of income. Her five-year goal is to begin zero grazing to improve her milk quality and production. She has also started constructing a dairy and plans to purchase a water pump to irrigate her farm.

Elizabeth is a good example of a Pathway 2 farmer. These households are focused on commercial farming for profit; most have around 4.8 acres of land. They view their farm as a business and generate most of their income from farming. Pathway 2 households are more likely to be part of farmer groups or cooperatives (36% compared to 4% for Pathway 1), which gives them better access to agricultural products and services, such as improved inputs, technical training, and off-taking. These households are also more likely to be connected to formal financial systems, enabling them to save and access credit. Pathway 2 households have higher and more stable incomes than Pathway 1, with an average annual income of USD 1,700. Most households are quite remote and only 8% live near a post office.

Pathway 2 households are focused on expanding their farming business by increasing productivity and securing access to buyers and traders. They are generally willing to undertake riskier investments, understanding that risk brings with it the potential for high returns. The majority of these households own livestock (75%), use fertilizers and pesticides (75%), hire seasonal labor to work on their farm, and own or rent farm equipment (76%), with tractors and irrigation pumps particularly popular. Around 60% have access to grid electricity. All households use cell phones on a daily basis, but most of them never use the internet (66%). Typical assets include three to five large livestock, solar lamps, and water pumps.



PATHWAY 4: **Transition to small / medium enterprise**

George is a 54-year-old agri-entrepreneur. He lives with his wife and three children in Eldoret where he runs his own cereal distribution business. George spends most of his time monitoring seasons and market prices, buying cereals from farmers in the region, storing it, and reselling to wholesale buyers around Kenya. His parents were also entrepreneurs. When he was younger, he was deeply involved in the day-to-day running of their cereal aggregation business. He credits this upbringing for giving him the necessary knowledge and business acumen to run his own enterprise. George has invested in some land and plans to set up a milling factory with cost-effective energy. This will allow him to add value to the cereal products by grinding and packaging the maize on site, then selling the flour at a higher retail price. While bureaucratic regulations are slowing this process down, he is still optimistic about expanding his business.

Pathway 4 households operate well-established SMEs, resulting in relatively high and stable incomes averaging USD 2,800 per year. These businesses range from agricultural or non-agricultural SMEs to larger commercial farms. Most agricultural SMEs are input dealers, veterinarians, processors, or aggregators of farm produce. Many households that operate SMEs also do farming on the side and generate up to 40% of their income from their farms. Land ownership varies for these households, but most own multiple plots ranging between 2 and 20 acres. Many Pathway 4 businesses are registered and have been in operation for more than five years, making it easier for them to access credit from formal institutions, such as banks. Pathway 4 households are generally well educated, with half completing secondary school and a quarter completing tertiary education. They have often spent significant time working within specific agricultural value chains, acquiring specialized knowledge. Most Pathway 4 households are peri-urban and live closer to villages and towns.

Pathway 4 households actively think about their long-term future and retirement, and these plans inform their current activities. They are focused on expanding their business and maximizing profits. Households are keen to make capital investments that will enable them to add new products and services or enter new markets. Most Pathway 4 households invest in value-added processing or transportation assets, such as millers or trucks, and nearly half plan to finance these purchases with credit. Around half of all households are members of a farmer group and 26% do contract farming on the side. Pathway 4 businesses are also important for the local job market and, on average, employ two to three full-time workers. Most households have access to grid electricity (68%). Pathway 4 households are also more tech savvy; most use cell phones on a daily basis, nearly 40% use computers (with 10% using them every day), and around 40% use the internet every day.



PATHWAY 5:

Transition to service provision

Justina is a 25-year-old single mother of two and runs a small agro-veterinary store in Makueni that sells a variety of inputs and small equipment to farmers. When Justina finished high school, she worked at an agro-vet shop in a neighboring urban area about two hours away from her parents' farm. With encouragement from her former employer, she saved some of her income and was eventually able to start her own agro-vet business closer to home. She would like to expand her business to become one of the main suppliers in her area, and she is also interested in diversifying into chicken rearing. Justina was recently told by the local city council that she had to formally register her business and pay the relevant fees or she would be forced to close. Registering is expensive, and she is still waiting for guidance on how the process works. While she is actively saving money in a women's business group and in her bank, her monthly expenditures are high and she has found it difficult to access credit to invest in the business.

Households in Pathway 5 run micro enterprises in agricultural or rural services, including retail and leisure. They may also do farming on the side—usually on family land—or work part-time to supplement their income. Only a third of Pathway 5 households own land, averaging just one to two acres. These households are typically younger than those in other Pathways; nearly half are between the ages of 18 and 30. Because of their age, the businesses they operate also tend to be quite new and are often informal. While their average annual income of USD 1,400 is higher than Pathway 1, most are very dependent on their business for their livelihoods and can't fall back on farming during hard times.

Pathway 5 households aspire to expand their business, increase incomes, and build resilience. Because of their young age and the informal nature of their business they tend to have less savings and limited access to credit needed to grow their business. Instead, these households invest more of their time compared to other Pathways, often working 60+ hours a week without the support of paid staff. Pathway 5 households prioritize paying for running costs, such as rent or inventory, and making investments in smaller assets like fridges, sewing machines, or TVs to support their businesses. These assets are usually funded with limited savings. Pathway 5 households are usually located in rural towns and villages and the majority have access to grid electricity (84%). Most households use their cell phone daily and almost half use the internet daily.

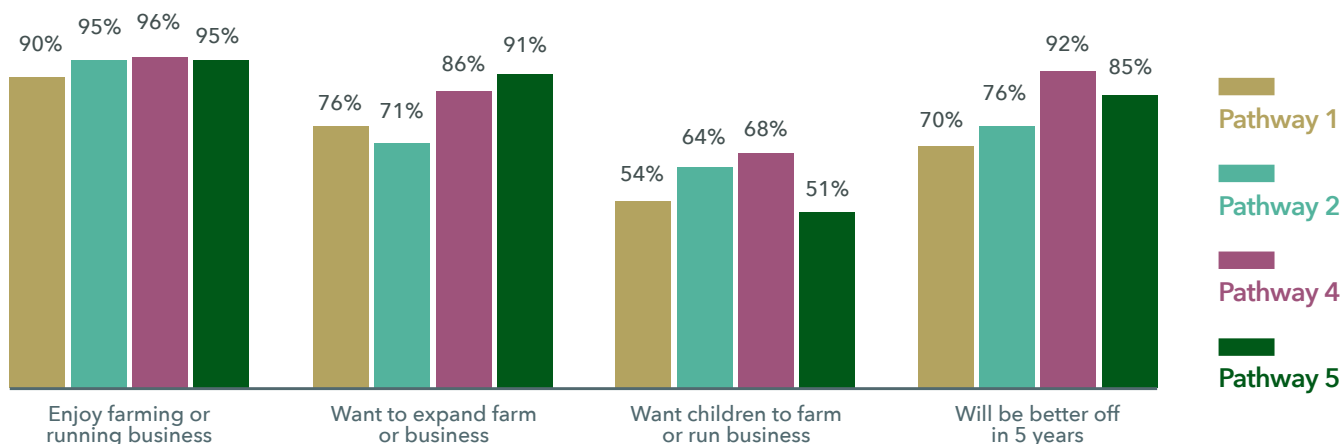
3.2. WHO TRANSITIONS AND WHERE

Unsurprisingly, rural households do not usually think in terms of Pathway transitions; they are focused on pursuing their goals, increasing their incomes and improving their resilience. Households across all four Pathways in Kenya are strikingly similar in terms of how they perceive their livelihoods and think

about the future. The majority of households involved in farming (Pathways 1 and 2) enjoy agriculture, want to expand their agricultural activities, and aspire for their children to be involved with farming. This trend is similar for households in Pathways 4 and 5, with the majority reporting that they enjoy running their business, feel proud about what their business has achieved, want to expand and grow their business, and aspire for their children to continue running the business after

FIGURE 4

Household aspirations for the future



they retire.⁵ Households across all four Pathways also feel optimistic about the future. The majority report that they feel they will be better off in five years than they are today.

While households across all four Pathways have common sentiments about their livelihoods and goals, their ability to transition (relative or absolute) and achieve upward mobility differs. Figure 5 shows that only a small minority of households will be able to achieve an absolute transition to another Pathway with higher levels of income, resilience, and agency. These transitions tend to be located within the same center of gravity, though some households may transition to Pathways in other centers of gravity (e.g., urban migration). For the small number of farming households that do transition to a different Pathway, the most common trajectory is for a Pathway 1 household

to move to Pathway 2—by increasing production, selling more crops, and generating most of their income from farming—or for a Pathway 2 household to move to Pathway 3—if they are able to access more land, invest in productive assets, and consolidate/commercialize their farm. A smaller number of Pathway 1 and 2 households may also transition to Pathway 5 (micro-entrepreneurship) if they see opportunities to earn higher incomes from running a small services enterprise.

“ I have four cows, I milk two and the other two are young. In 5 years I want to milk the two using zero grazing. The milk is better and I have more milk. I have built the roof of a dairy stand. I’ll save and finish the structure and finish it before 5 years. ”

E.J.C. | 53 years | Female | Mixed farming (dairy, cereal, horticultural) | Uasin Gishu

⁵ It is worth pointing out that households in Pathways 1 and 5 are relatively less likely to want their children to continue farming or running their business when compared to households in Pathways 2 and 4. This may be a reflection of their overall outlook on life, given their lower levels of income and resilience.

For Pathway 4 households (agri-SMEs), the most common trajectory is to continue growing their business. A small number of Pathway 4 households are able to achieve an absolute transition to become larger enterprises. For Pathway 5 households that are able to invest in and grow their businesses, the most likely absolute transition is to Pathway 4—from a micro-entrepreneur to a small- or medium-sized agricultural enterprise. Finally, some households across Pathways may transition into rural employment (Pathway 6) or migrate to urban areas to find work (Pathway 7); Pathways 1 and 5 are the most likely to transition to Pathway 6, while Pathway 5 households are most likely to migrate.

Households that are able to progress in their transitions (relative or absolute) will also experience upward mobility. As explained earlier in this report, relative and absolute transitions are not perfectly correlated with upward mobility. However, over time, most households that do make progress will experience upward mobility. Commercializing farmers in Pathway 2 and agri-SME owners in Pathway 4 are more likely to make progress in their relative and absolute transitions and more likely to report that they increased their farm or business income in the past three years—an important indicator of upward mobility.

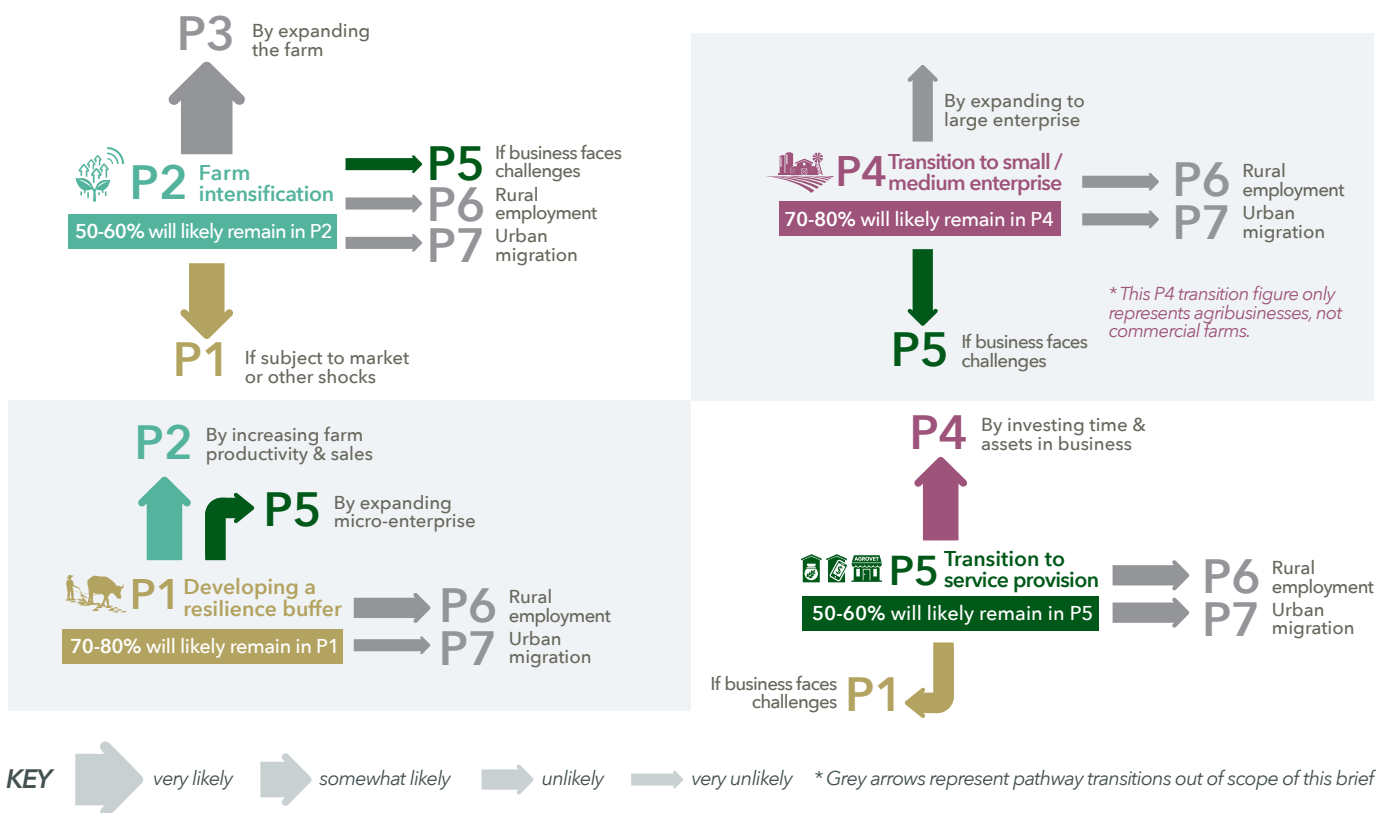
LIMITATIONS OF METHODOLOGY

This report builds on original Human-Centered Design (HCD) research with 25 households in Eldoret and Makueni counties in late April and early May 2020, and a quantitative household survey with 1,225 respondents in six counties (Central, Eastern, Nairobi, Nyanza, Rift Valley, Western) from late July to mid-August 2020. While this research has enabled us to collect context-specific insights from Kenya that advance the way we understand and describe rural Pathway transitions, there are limitations to this methodology. This was a cross-sectional study with data collected at a point in time; we are thus unable to track and analyze changes in households over time. Pathway transitions are complex and take place over long periods—therefore, a longitudinal study would provide richer insights. The study was also conducted during the height of the COVID-19 pandemic in Kenya, which may influence how respondents answered the research questions. The sample for the quantitative survey is small, and the study was designed to have roughly equal numbers of households in each of the four Pathways and an even gender split within each Pathway. The data is, therefore, not representative of the general population in Kenya; in fact, the even gender split may potentially bias the sample of women. For example, sometimes the research team was required to speak with women as proxies for their husbands who owned the businesses.



FIGURE 5

Pathway transitions



Most households, however, will remain in their current Pathway during their lifetime. They may make incremental progress in improving livelihoods or investing in farm or business growth, or they may experience periods of stagnation or even setbacks. Pathway transitions, whether relative or absolute, are not linear and are often messy. Most households may experience periods of incremental upward mobility and other periods where they struggle to maintain their current levels of income and resilience experience downward mobility.

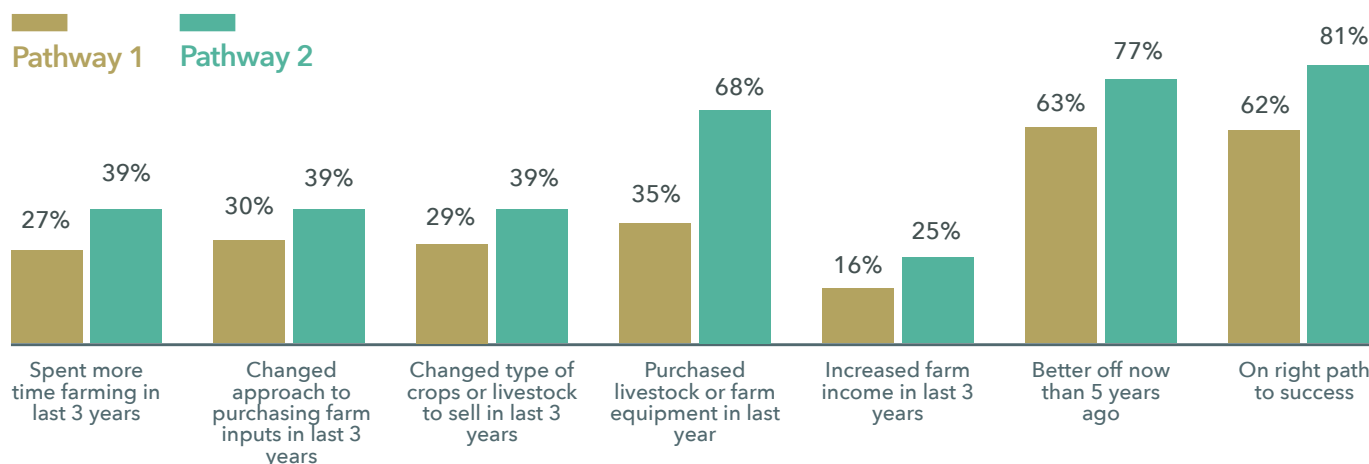
Vulnerable households across all Pathways are at risk of stagnating or facing setbacks if they are unable to access the products and services they need or experience external shocks. Pathway 1 households are especially vulnerable, and are less likely to report that they spent more time farming or changed their agricultural practices in the last three years or purchased major assets (such as livestock or farm equipment) compared to Pathway 2 households. These are important indicators of a household’s ability to make incremental changes

to their livelihood activities—meaning few Pathway 1 households are making meaningful progress toward an absolute transition to Pathway 2. These households are also less likely to feel that they are on the right path to success, to report that their farm income increased within the last three years, or to indicate that they are better off now compared to five years ago.

Similarly, Pathway 5 households are less likely to report that they spent more on equipment, hired more employees, or increased their number of business locations in the last three years compared to Pathway 4 households. Again, these illustrative indicators demonstrate that only a small number of Pathway 5 households are making progress toward an absolute transition to Pathway 4. These households are less likely to report that their business income increased in the last three years. But, compared to Pathway 1 households, Pathway 5 households earn twice as much and a large majority feel that they are on the right path to success and are better off today compared to five years ago.

FIGURE 6

Illustrative indicators of ability to transition for P1 and P2

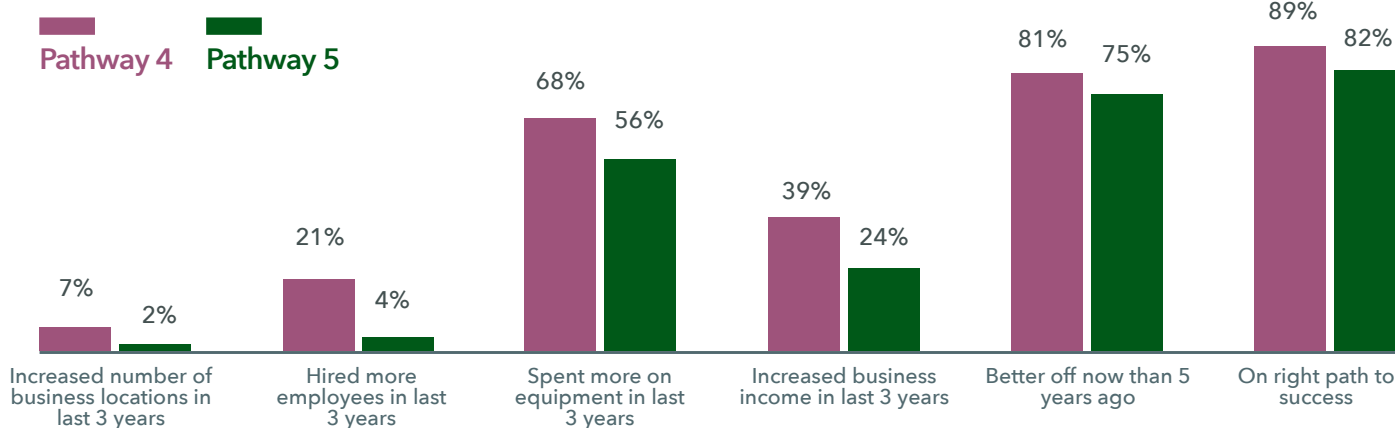


While households in Pathways 2 and 4 are more likely to make progress in their livelihood strategies, the majority will still remain in their current Pathway. Within these Pathways, there are also more vulnerable households that face the risk of downward mobility if they face

severe enough shocks. However, their higher incomes and resilience (compared to Pathways 1 and 5, relatively) give them a better chance of coping; many can tap into savings and credit to ride out difficult periods.

FIGURE 7

Illustrative indicators of ability to transition for P4 and P5



“ [Full time farming] really disappointed me. I am also getting old, I just prefer to do it for eating. I realized I was going at a loss [on my farm] and then decided to start a posho mill. I was going to start a small shop for food before I realized people travelled far for a posho mill, so I just focused on that. ”
 S. K. | 50 years | Female | Posho mill owner | Naiberi

3.3. DRIVERS OF PATHWAY TRANSITIONS

In this section, we set out to understand why some households are able to surmount hurdles and make progress in their livelihood strategies while others are at risk of stagnating or experience setbacks in their Pathway journeys. To do so, we look at which enabling factors are most important for households to achieve relative and absolute transitions, and which inhibitors and shocks act as brakes on their ability to make progress in their transitions.

THE CRITICAL ROLE OF ENABLERS

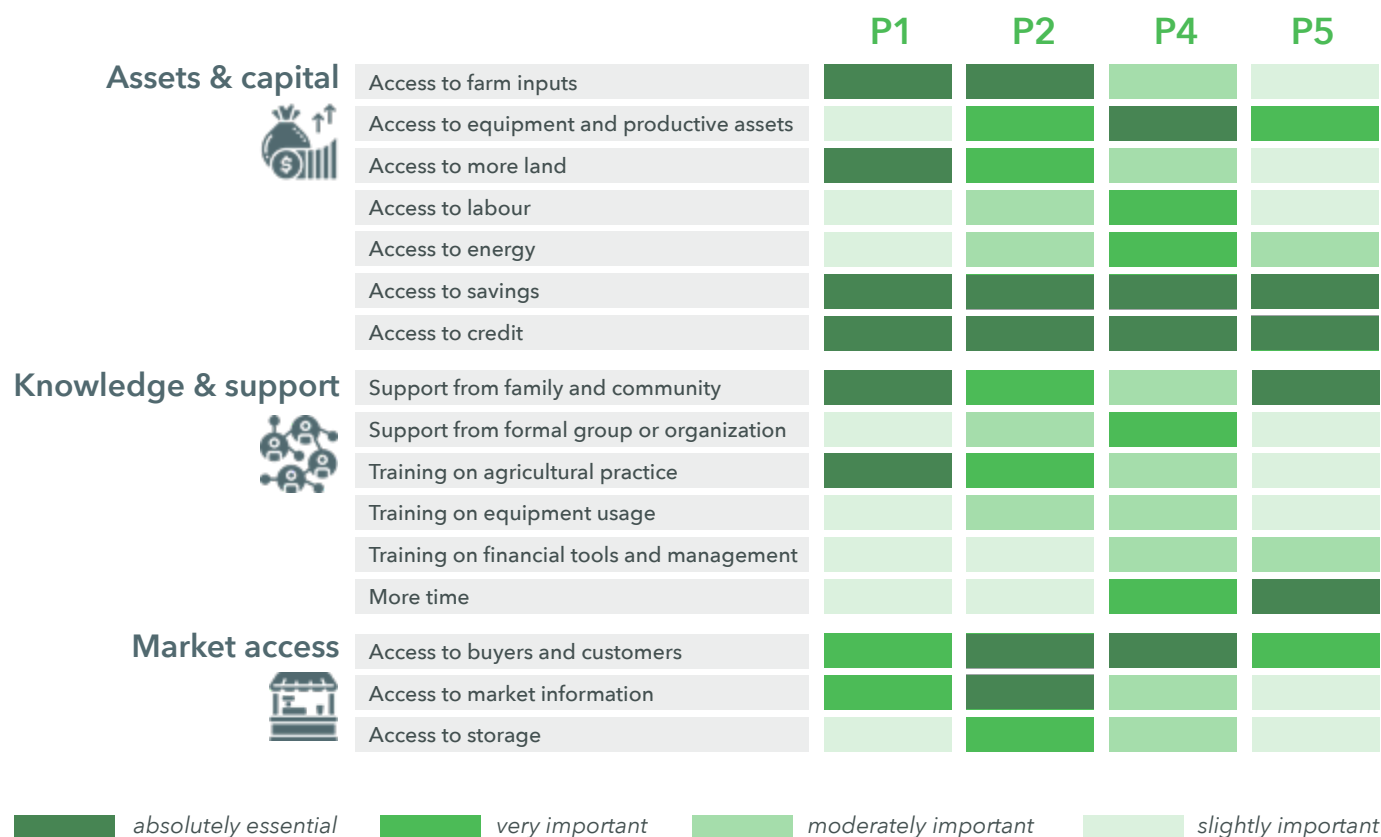
In our research, we asked households a series of questions about what factors would enable them to achieve their goals and expand their farming and business activities. For a smaller number of households that had successfully increased their income within the last three years, we also asked what factors had enabled that increase. Using these insights, we mapped out three broad categories of enablers: **assets and capital, knowledge and support, and market access.**

The first category of enablers includes the assets and capital that households need in order to invest in the growth of their farms and businesses. The types of assets will vary depending on whether the household is focused on farming or entrepreneurship but generally include: farm inputs (e.g., seeds, fertilizers) and equipment (e.g., wheelbarrow, livestock, tractor); land; business stock and equipment (e.g., sewing machine, grain miller, truck); labor; and energy (e.g., grid electricity, solar power, fuel). Rural households can purchase or lease these assets by saving or borrowing money from formal sources, such as banks, microfinance institutions, or agribusinesses; or informal sources, such as relatives and friends, savings groups and SACCOs, traders, and money lenders. Credit can also help smooth household cash flow in the event of a liquidity crisis or emergency. This credit can also come in different forms, including cash loans, inputs on credit, PAYGO solar, and asset finance.

Households also need the second category of enablers, knowledge and support, to develop and execute on their plans and make the best use of their capital investments. This knowledge and

FIGURE 8

Key enablers by pathway



support can come from informal sources, such as relatives and friends, mentors, or coaching groups; or formal sources, such as agricultural cooperatives, business associations, savings groups, NGOs, and financial institutions. Households can leverage these relationships to get information and training on farming practices, equipment usage, and business skills, as well as to connect with mentors, groups, authority figures, and partner organizations. Knowledge and support can empower households with agency to make decisions and time to invest in livelihood activities.

Finally, the third category of enablers is market access, which enables households to sell their products and services, thereby generating income.

Households can access markets in different ways—they can sell farm produce in a local market, own a shop in a well-trafficked location, engage with buyers and traders, join a farmer cooperative or outgrower scheme, or work with a service provider that offers market access services. By leveraging market access, households can reach more buyers and customers, get better information about demand and prices, negotiate formal contracts that specify volume and pricing, and access transportation to ship their products. Most importantly, optimal market access enables households to translate productivity gains into income gains by generating more sales at higher prices.

Across different Pathways, the importance of these enablers and the ability of households to access and use them will vary. But this access will largely define who will and will not experience relative or absolute transitions. For example, a Pathway 2 household that has been able to save enough money to purchase an irrigation pump may not rank access to credit as a top enabler compared to a similar household that has more family members to feed and thus has not been able to save. The three types of enablers are interrelated and can be mutually reinforcing. For example, a household can inherit land from supportive family members, but they can also lease or purchase more land by accessing capital. Figure 8 shows the relative importance of the enablers by Pathway. In the following sections, we dive deeper into these categories of enablers to understand how access and usage varies across Pathways—and how this, in turn, helps or hinders households from progressing within and between Pathways.

ASSETS AND CAPITAL

Diverse Asset Needs

Across all Pathways, households perceive access to

productive assets as a key enabler for growing their farms and businesses. These assets—including farm inputs, equipment, business stock, and raw materials—allow households to produce the goods and services that they rely on for their incomes. **The types of assets that rural households prioritize will vary depending on whether they are farming or business households, as well as on the type of farm or business they operate.**

Farming households in Pathways 1 and 2, unsurprisingly, prioritize investing in farm inputs. These inputs are a key enabler of farm growth: households that were able to increase their farm income within the last three years identify improved use of seeds, fertilizers, and pesticides as one of the primary contributors. However, many subsistence farming households in Pathway 1 struggle to purchase enough inputs; only 25% report using substantial amounts of fertilizers and pesticides compared to 75% of Pathway 2 households.

Farmers in Pathway 1 also consider land to be an important enabler. Their farm plots are, on average, three times smaller than those in Pathway 2 and land size is a serious limiting factor for Pathway 1 households trying to expand their farming activities. These households are twice as likely as those in Pathway 2 to identify access to more land as a critical factor in achieving their farming goals. Despite the barriers, around 40% of both Pathway 1 and Pathway 2 households plan to increase the amount of land they cultivate in the next 12 months.

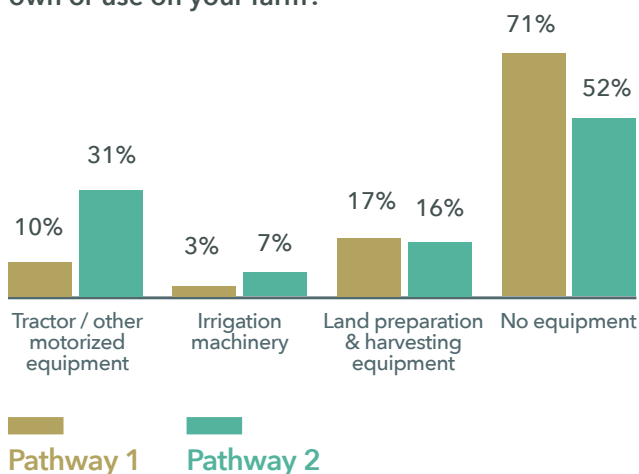
Farmers in Pathway 2 already have larger plots of land and grow cash crops that are more lucrative. Thus, they tend to be more focused on increasing the productivity of their farms by investing in assets like irrigation pumps, tractors and other mechanized farm equipment, or even livestock to diversify their income streams. Households in Pathway 2 are nearly twice as likely as those in Pathway 1 to identify access to farm equipment to be a key factor in achieving their farming goals. Relatedly, these households rank access to seasonal labor and affordable energy as important enablers that will help them manage their larger farm plots and power their productive assets.

Business-oriented households in Pathways 4 and 5, on the other hand, tend to prioritize investing in equipment, smaller productive assets, and business stock. Pathway 4 households that operate agri SMEs rely on their ability to own and operate major productive assets like mechanized farm or transportation equipment, value-added processing machinery, and storage facilities.

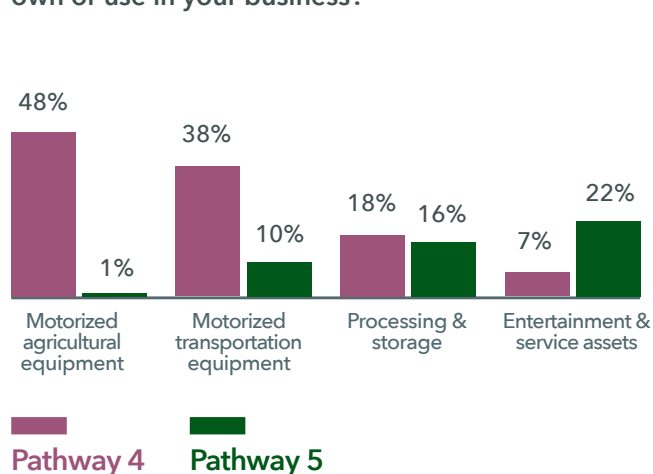
FIGURE 9

Farm and business use of productive assets

Which of the following equipment do you own or use on your farm?



Which of the following type of equipment do you own or use in your business?



Households in Pathway 4 that reported increased business income in the last three years identified better equipment and stock as major reasons for their success. These businesses also rely on access to labor: they typically employ two to three full-time staff, in addition to seasonal workers. Their use of mechanized equipment also means that affordable energy is an important enabler, with nearly half of Pathway 4 households identifying access to energy as a challenge for their business growth.

“ I don't save money. There is no way that someone will ask me to buy 60 bags of maize and I have savings in the bank. What little that I make, I put it back in the business. I buy from my profit. Savings lie in my stock and the plot. When I need money immediately, I sell what I have. ”

G. M. | 54 years | Female | Cereal Aggregator & Retail shop owner | Eldoret

THE ROLE OF ENERGY ACCESS

Households across all Pathways consider energy access to be important, both for basic needs and as an enabler of farm and business growth. However, their energy needs and ability to access energy varies.

Across Pathways, the most common sources of energy to power productive assets are grid, diesel, and petrol—with solar energy commonly being used to power household appliances. The top three reasons for choosing these energy sources are the same across all Pathways: affordability, availability, and ease of use. However, subsistence farmers in Pathway 1 and micro-entrepreneurs in Pathway 5 households value affordability the most, due to their lower incomes. Commercializing farmers in Pathway 2 and agri-SMEs in Pathway 4 have higher incomes, and place more importance on availability.

Grid electricity is a common energy source for rural households, though accessibility and reliability are significant challenges. More than half of Pathway 1 and one-third of Pathway 2 households lack access to grid electricity, as they tend to live in more remote areas. Pathway 4 and 5 households tend to be located in larger towns or peri-urban areas where they have more than 70% and 80% access to grid electricity, respectively. More than 40% of Pathway 4 and 55% of Pathway 5 households use grid electricity to power productive assets.

Diesel and petrol are the most common energy sources for powering larger equipment and transportation. For agri-SMEs in Pathway 4, more than 50% of past and planned asset purchases are powered by diesel or petrol.

As reliable energy is crucial for Pathway 4 business productivity, these households often use diesel gensets as a backup for the unreliable grid, despite the additional cost. Most Pathway 1 and 2 farming households also expect to power their planned farm equipment purchases with diesel or petrol.

Solar is the second most common energy source for powering household appliances—nearly half of Pathway 1 and 40% of Pathway 2 and 4 households rely on solar energy for lighting, as well as charging small appliances like mobile phones and radio. The popularity of solar energy is partly due to innovative financing models such as PayGo.⁶ Solar energy is currently uncommon as a source to power productive assets for Pathway 2 and 4 households requiring larger farm and business assets, although it has started gaining traction, for example, to power irrigation pumps.

The relative importance of energy as an enabler of Pathway transitions depends largely on what types of productive assets households are using for their farms or businesses. Access to energy is particularly important for households using productive assets to meet their livelihood goals. For example, Pathway 4 households have the highest energy needs, as they need to power larger motorized transportation and production assets, such as threshers or trucks. Pathway 2 households commercializing their farming need energy to improve productivity (e.g., through mechanization or irrigation). However, the remote locations of these farms means that grid electricity is not readily accessible. Pathway 5 households also need energy for productive assets, but on a relatively smaller scale (e.g., refrigerators, TVs, sewing machines); and most Pathway 5 households are able to use grid electricity. Still, energy can be expensive. Business-oriented households in Pathways 4 and 5 tend to view this cost and the low reliability of energy as a major obstacle to their growth (53% and 52% of each Pathway, respectively).

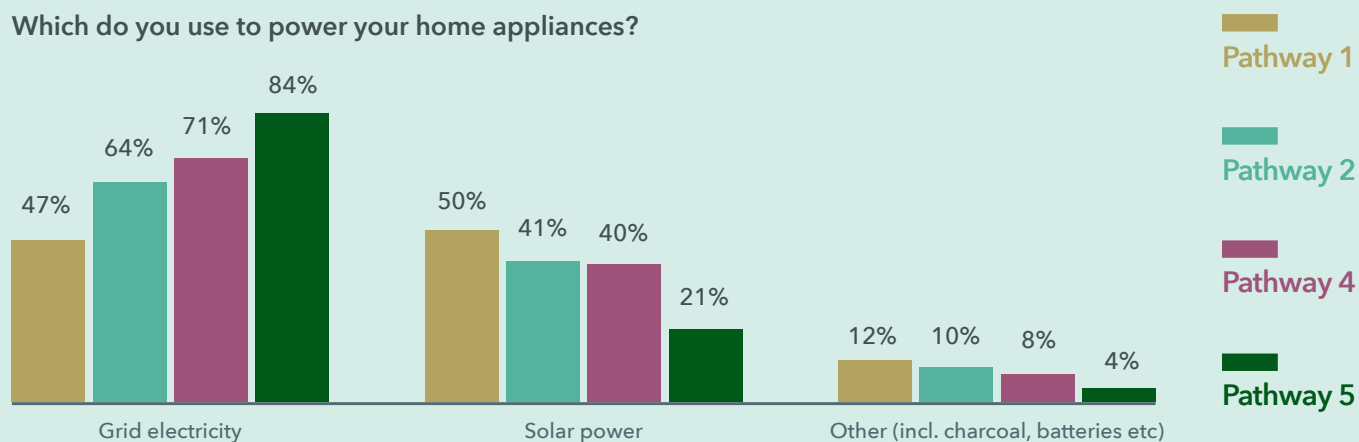
While households need access to energy to grow their farms and businesses, it is also crucial for the overall well-being of households. Energy access can enable upward mobility. In particular, access to clean energy significantly improves quality of life, leading to improved health, education, and livelihood outcomes at a household as well as country-level.⁷ For example, access to electricity provides children and younger family members with more time to study, improving educational outcomes. Increase in outdoor lighting, including solar lamps, can improve safety for households, especially women. Energy also leads to increased access to information by powering TVs, radio, and mobile phones.

It's important to note that women are disproportionately impacted by the lack of access to energy. Women spend time collecting fuels, such as firewood, for cooking; they are also exposed to significant indoor air pollution caused by these fuels.⁸ Over 60% of both Pathway 1 and 2 households, as well as 45% of Pathway 4 households, use firewood for cooking. Access to affordable and clean cooking fuels can drastically improve women's health and reduce time spent on household responsibilities. Similarly, mechanization enabled by energy access can help women increase productivity and reduce drudgery, which can have a significant impact on their time poverty.

FIGURE 10

Household energy sources

Which do you use to power your home appliances?



6 Sai Krishna Kumaraswamy. "Does PAYGo Solar Improve Women's Lives? A Look at the Evidence." CGAP. April 14 2021.

7 Todd Moss, Asvhin Dayal. "To Fight Poverty, We Must Raise Global Energy Ambitions." Energy For Growth Hub. February 16 2021.

8 WHO. "Household air pollution and health." WHO Fact Sheet. May 8 2018.

Households in Pathway 5 that operate micro-enterprises in retail, leisure, or rural services also consider better equipment and stock to be an important enabler. Nearly 50% of households identify this as a key success factor that will allow them to grow their business, though Pathway 5 households are more likely to rent or lease such equipment (vs. Pathway 4 households that have the means to purchase outright). For these households, the priority is investment in smaller

productive assets, such as motorcycles for transportation, refrigerators, TVs, or other equipment, as well as operating costs like rent, energy, and purchasing business stock. While Pathway 5 households also identify access to energy as an enabler, these businesses are often located in rural towns and villages and the majority already have access to grid electricity.

THE IMPORTANCE OF LAND

Land is considered to be one of the most important assets for rural households in developing economies. This is especially true for farming households in Pathways 1 and 2 who rely on their land to cultivate crops for both consumption and income generation. But land is also important for business-oriented households in Pathways 4 and 5, many of whom also farm for food or extra income. Families may also lease land to other households or businesses, as well as use land as collateral to secure loans.

However, in many countries in sub-Saharan Africa, rural land is fragmented. As land is subdivided across generations, households are left with small plots that cannot support commercial activities and may be difficult to lease or use as collateral due to their low productive value. In Kenya, the average smallholder farm is around 1.2 acres in size, according to the FAO.⁹ Farmers constrained by small land plots are unable to achieve economies of scale; even successful farmers will find it difficult to generate sufficient income.

As a result, most smallholder farmers focus on growing subsistence crops that they can consume rather than cash crops they can sell. The agricultural startup Cinch estimates that a successful maize farmer in Kenya would earn less than USD 1,000 per year on a one-acre plot. Small farm plots also make it difficult for farmers to rotate crops, which leads to soil nutrient depletion and lower yields over time. Because reliable buyers of agricultural crops prefer to purchase at scale, smallholders have few options but to sell to small-scale buyers despite irregular demand and abusive pricing.

Land ownership is another vital issue: nearly 80% of land in Africa is held under customary tenure and most smallholder farmers don't have title deeds.¹⁰ While their land ownership may be acknowledged by the local community, the lack of title deeds makes it difficult to use the land as collateral for loans. For many rural households, the process of registering the land is cost prohibitive and too complex. The gender implications of customary tenure are also significant, since the system is governed by practices and rules that discriminate against women when it comes to inheritance, access, and control. It's common practice to subdivide land among males in the family. Only 32% of women own agricultural land in sub-Saharan Africa compared to 42% of men.¹¹

In our research, the average subsistence farming household in Pathway 1 owns around 1.7 acres of land. The majority of these households will find it difficult to increase production—a key strategy for transitioning to Pathway 2—unless they can access more land. Commercializing farmers in Pathway 2 have larger farms, averaging around 4.8 acres of land. While these households can produce enough cash crops to generate triple the annual income of households in Pathway 1, most still won't be able to reach the economies of scale needed to transition to Pathway 3 unless they can expand their farm size. Agri-SME households in Pathway 4 generally own several plots of land, ranging from two to twenty acres. They are also able to leverage these assets for food, income, or collateral for loans. In contrast, only one-third of Pathway 5 micro-enterprise households own land; typically only one or two acres. Many Pathway 5 households are unable to generate additional income from their land or use it as collateral for loans, inhibiting their ability to transition to Pathway 4. Our research found that women-headed households across all Pathways own, on average, 0.5 acres less land compared to men. Women who own less land will find it more difficult to earn a living—whether through farming or by securing larger loans using land as collateral—which impacts their ability to make progress in their transitions.

9 Rapsomanikis, George. "The economic lives of smallholder farmers: An analysis based on household data from nine countries," Food and Agriculture Organization of the United Nations (FAO). 2015.

10 Veit, Peter and Katie Reytar. "LandMark: Protecting Indigenous and Community Lands by Making Them Visible." World Resources Institute. November 10 2015

11 FAO and AUC. *Leaving No One Behind – A Regional Outlook on Gender and Agrifood Systems*. Addis Ababa. 2020.

Financing Assets and Smoothing Consumption

Across all Pathways, households need capital to purchase or lease productive assets. Thus, savings and credit are also among the most important enablers for them to achieve their livelihood goals. However, household ability to save and borrow money—as well as how they utilize this capital—varies substantially across Pathways.

Most households view savings as the preferred way to finance their investments; savings account for around 60% of asset financing across all Pathways. When households were asked how they plan to achieve their goals, a large majority reported that they were saving money. Most households save in similar ways, holding around 30% in cash, 30-40% with formal and informal

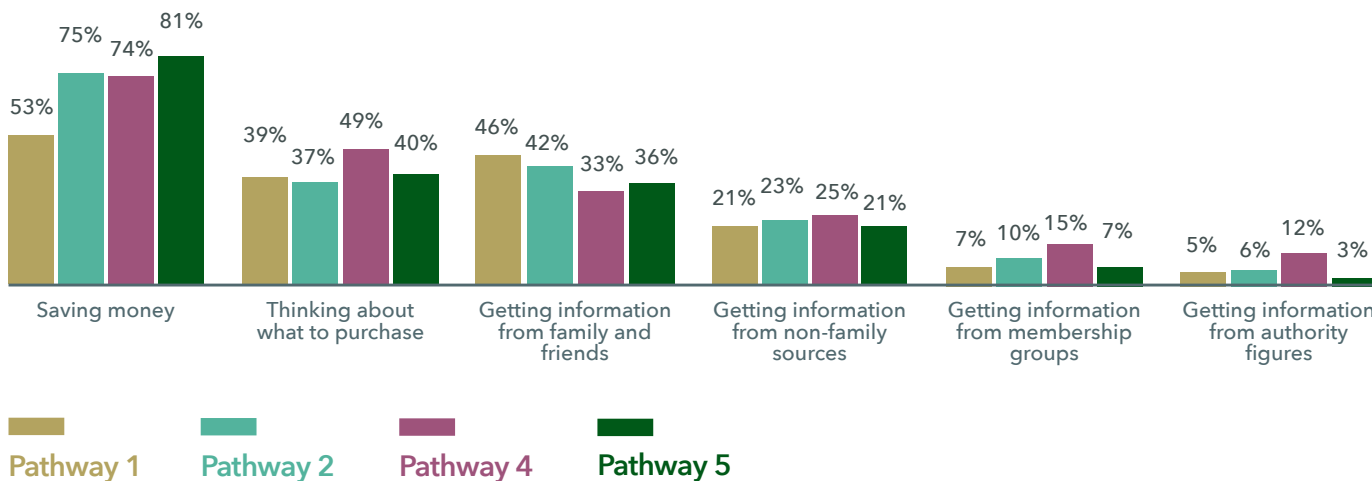
institutions, 15-20% in land, and the rest in livestock or inventory. However, their ability to save largely depends on their ability to generate surplus income—which, of course, is more difficult in some Pathways than others.

Pathway 1 households have the lowest incomes and find it difficult to save money as they struggle with food security and basic expenses. Nearly 40% of Pathway 1 households expect their monthly savings to decrease in the future. Conversely, households in Pathway 2 and especially Pathway 4 have substantially higher incomes and are able to save money to invest in their farms/businesses and prepare for emergencies. More than half of Pathway 2 households and 85% of Pathway 4 households save with a formal financial institution. While Pathway 5 households have moderately high incomes (and nearly half save with a formal institution), they tend

FIGURE 11

Meeting livelihood goals

How are you planning to meet your livelihood goal?



to be younger than other Pathways and most therefore have low levels of savings.

Though most households prefer to use their savings to fund investments, many point to credit as a key enabler for achieving their livelihood goals. This implies that many don't have enough savings to purchase the assets they need for their farm or business. Households plan to purchase future assets with credit at twice the historical rate—around 25% of households in Pathways 1, 2, and 5 are planning future purchases on credit, increasing to up to 40% of households in

Pathway 4. Even households with little experience using credit consider it a key enabler; for both Pathway 1 and 5, the share of households identifying credit as a top success factor exceeds the number of households that have experience with credit by 10 percentage points.

Households in Pathways 2 and 4 are more likely to access credit, since they are able to meet loan requirements and provide collateral, and aspire to invest in larger farm or business assets. Pathway 1 households, on the other hand, are least likely to access credit and cite complicated application processes, eligibility

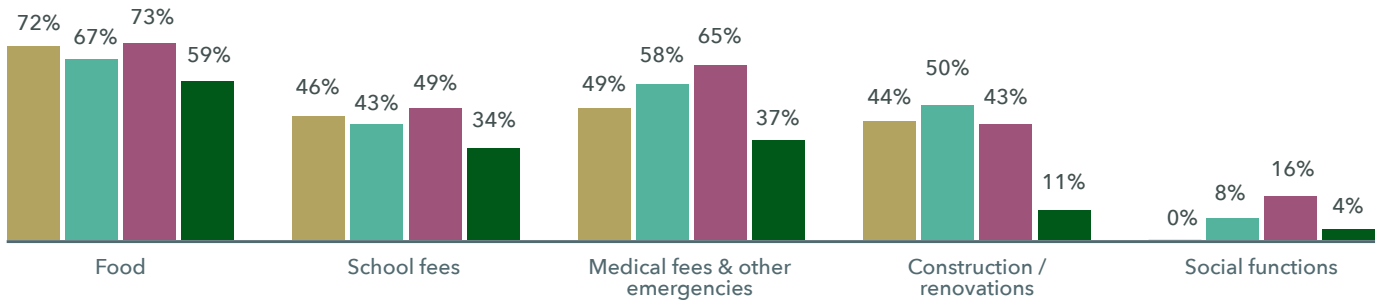
requirements, and family norms as the main barriers. These households are also more likely to access credit from informal sources, such as relatives or money lenders. While more accessible, this informal credit is often more expensive and doesn't help build a borrower's credit history—which further perpetuates financial

exclusion and limits future access to financial services. Women are also more likely to access credit from informal sources, including savings and credit groups, than men; this trend is true for women across all Pathways, but particularly Pathways 4 and 5.

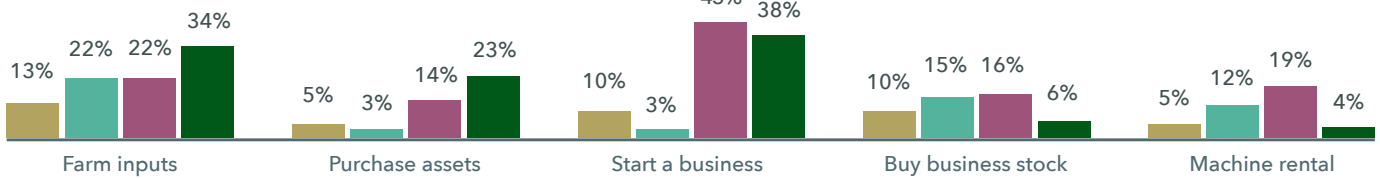
FIGURE 12

Household use of savings

Household expenses



Business expenses



THE ROLE OF CAPITAL TO SMOOTH HOUSEHOLD CASH FLOW

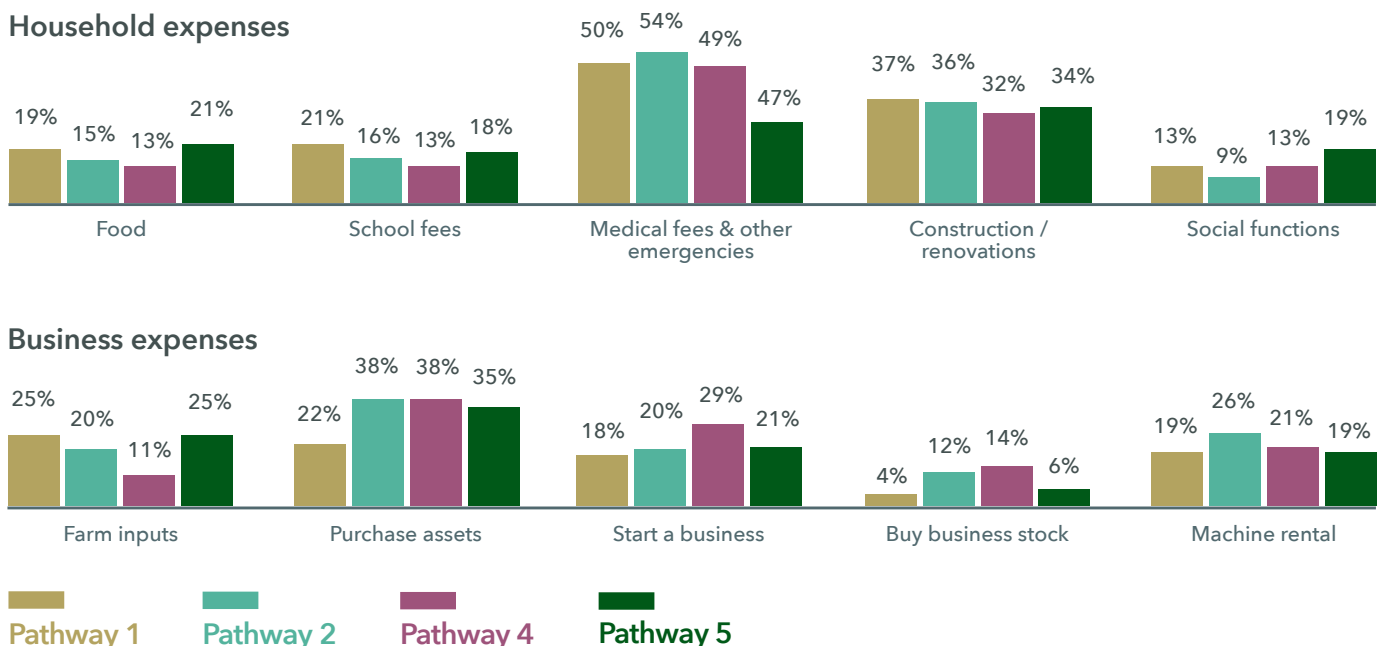
While our research highlights how households invest capital in productive assets, capital can also be an important enabler for smoothing household cash flow throughout an agricultural cycle, both for farming households and the agri-SMEs that source from them.

When faced with a liquidity crisis or emergency that requires quick cash, farming households may be forced to harvest and sell their crop prematurely, often at lower prices. This also impacts the quality of produce that agri-SMEs are able to source locally. Accordingly, there is growing recognition of how credit products—such as cash advances or credit lines—can be transformative for farming households, allowing them to draw down funds to cover household expenses rather than resorting to selling their crop prematurely. One successful example of this is in Uganda, where green coffee merchant Ibero piloted a mobile money cash advance for coffee farmers with support from the Mastercard Foundation Fund for Rural Prosperity. Farmers could use the cash advance for whatever they needed, including household consumption needs. Results from the pilot demonstrated that farmers were cautious in their use of the cash advance, drawing down only when needed. When farmers did make use of the cash advance, it was mostly to cover farm labor costs and children’s school fees. In a small number of cases, it was used to cover an emergency or invest in another business activity.¹²

Building flexibility into asset-focused credit, such as input loans, is another approach that can help smooth household cash flow. For example, One Acre Fund offers input credit with a flexible loan repayment schedule, coupled with access to information on pricing and training on proper crop storage. Rather than harvesting and selling their crop to meet a rigid repayment schedule, farmers can delay selling until they can get the best price, ultimately boosting their income and ability to set aside savings.

FIGURE 13

Household use of credit



12 Rural & Agricultural Finance Learning Lab and Mastercard Foundation Fund for Rural Prosperity. “Strengthening agricultural supply chains through the delivery of financial services.” 20/20 Series. February 10 2020.

Households across all Pathways also use savings and credit to pay for normal household expenses. Savings go first to school fees, food, medical costs, or emergencies, with the remaining savings reserved to fund around 60% of productive assets for their farms and businesses. When households can access credit, they generally prioritize the purchase of inputs and productive assets, but a large number also use credit to fund medical or other types of emergencies. Households in Pathways 1 and 5 are most likely to use credit to pay for basic expenses like school fees or food, another signal that these households struggle to generate enough income or savings to cover regular household expenses. Women are also more likely to use savings and credit for household expenses rather than investing in their farm or business compared to men; this is likely because women have less input into major household decisions such as how to manage savings and where to make investments. Unsurprisingly, increased access to savings and credit seem to be associated with upward mobility and increased feelings of well-being.

KNOWLEDGE AND SUPPORT

Households in all Pathways point to different types of knowledge and support as key enablers for them to execute on their plans and make the best use of capital investments. This knowledge and support comes from various sources, across formal and informal networks. Family and community, for instance, are important sounding boards for households across all Pathways, but particularly farming households in Pathways 1 and 2. The majority of these households consider information and advice from family and friends to be one of the most important factors in the success of their farms. This is especially true for subsistence farmers in Pathway 1 that are influenced and driven by the successes of friends and neighbors who were once in their position. While commercializing farmers in Pathway 2 still value family and community support, they are more likely than those in Pathway 1 to turn to formal networks for information about agriculture—including government extension programs, demonstration farms, NGOs, and agricultural cooperatives.

Family and community also play a vital role in creating space for household members to invest more time in their farm or business by taking on extra household responsibilities or providing part-time labor. Our research found that the ability to invest more time is an important enabler for business-running households

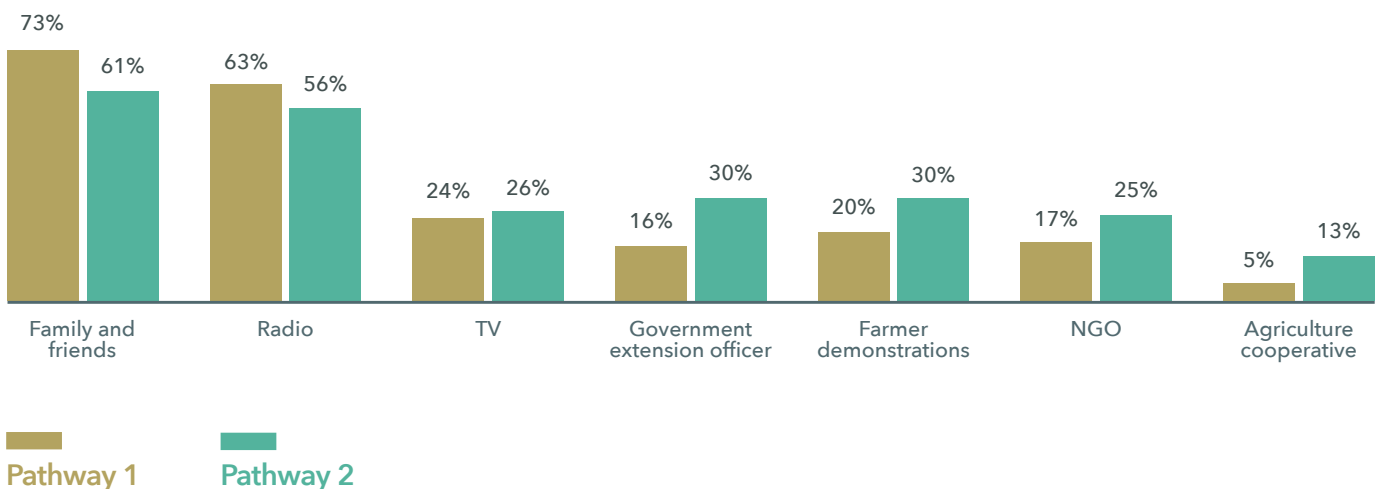
“ Right now is not easy for me to save when the kids are around and not going to school, because everytime they ask me to buy them something. ”

J. M. | 28 years | Woman | Agrovet | Makueni

FIGURE 14

Sources of agriculture information

To help you increase your farm income, what source of information did you use?



in Pathways 4 and 5. More than a third of the households in these Pathways that reported increasing their business income within the last three years consider the time they invested to be one of the primary reasons for success. This is particularly true for Pathway 5 households, which tend to be younger and have limited savings and access to credit. Though these households already report working longer hours compared to other Pathways—with the average household working 63 hours a week (65 for women)—they are twice as likely as those in Pathway 4 to say that the ability to invest more time would be critical in enabling them to grow their business. It is important to note that women-headed households across all Pathways face more time constraints because of caregiving and household responsibilities; for these households, family and community support is a vital factor in freeing up time to work on their farms or businesses.

Formal networks are an important source of knowledge and support, but especially for commercializing farmers in Pathway 2 and agri-SME owners in Pathway 4. Compared to Pathway 1, households in Pathway 2 are twice as likely to be a member of an agricultural cooperative or farmer group and are more likely to consider this membership as a key success factor for their farms. Formal networks are even more important for households in Pathway 4, which are more likely to rely on information from membership groups or authority figures compared to other Pathways. Almost a third of

Pathway 4 households identify networking and partnership opportunities as critical to their ability to successfully grow their business. Our research found that time spent building rapport with business associates tends to result in more flexibility in conducting business under challenging circumstances, such as in the event of payment or supplier delays—and these business partnerships are crucial to agri-SMEs in Pathway 4.

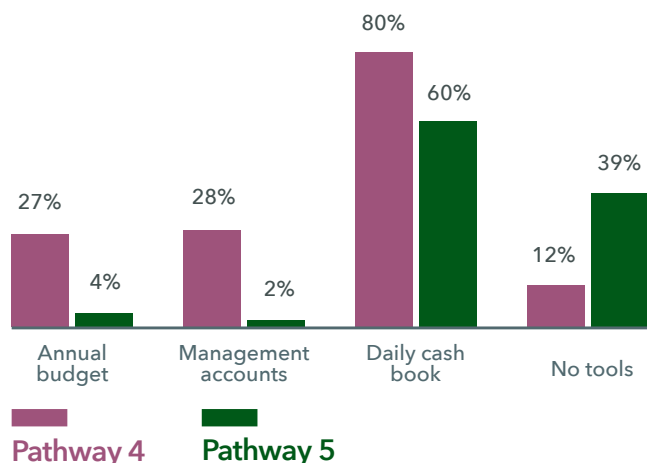
The type of knowledge that households are looking for also varies according to whether they are running a farm or business. Farming households in Pathways 1 and 2 consider training on agricultural practices to be a top enabler. Households that reported increasing their farm income within the last three years cite improved farming practices as a key success factor. There are, however, differences between the two farming Pathways. Subsistence farmers in Pathway 1, who are pursuing productivity gains, prioritize training on improved use of farm inputs, crop rotation and intensification, livestock rearing, and climate-smart agriculture.¹³ Pathway 2 households that are commercializing their farms prioritize training on crop diversification, climate-smart agriculture, zero-grazing livestock, and farm mechanization.

Business-oriented households in Pathways 4 and 5 are more focused on improving their business skills and consider information and assistance related to planning, bookkeeping, sales, and marketing to be an important

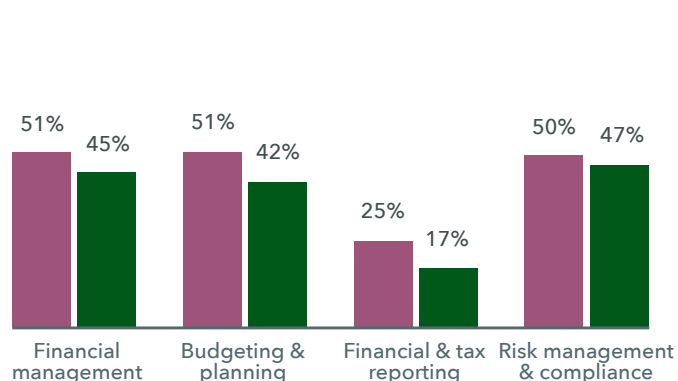
FIGURE 15

Business tools and skills gap

Which tools do you use regularly in the management of your business?



Which of the following trainings will be most beneficial to you?



¹³ [Climate-Smart Agriculture \(CSA\)](#) is an integrative approach that explicitly aims for three objectives: sustainably increasing agricultural productivity, to support equitable increases in farm incomes, food security, and development; adapting and building resilience of agricultural and food security systems to climate change at multiple levels; and reducing greenhouse gas emissions from agriculture (including crops, livestock, and fisheries).

factor in growing their business. These households prioritize financial literacy training on budgeting, financial management, tax reporting, and risk management. Since most Pathway 5 households have not accumulated much capital or assets, business skills are critical: they can help these households run their business more efficiently and better invest limited capital to maximize income growth.

MARKET ACCESS

While households across all Pathways consider market access to be a top enabler, how they define market access—as well as the related challenges they face—varies depending on whether they are farming or running a business, and how they sell their products and services.

Farming households in Pathways 1 and 2 need information about demand and pricing so they can decide what crops to grow and when/where to sell. They also often need storage, particularly for perishable crops, and access to the right buyers and markets so they can get the best price. Farmers in Pathway 1 tend to grow subsistence crops primarily for consumption, and have difficulties producing surplus crops for sale because of their small land plots and lack of access to farm inputs and other productive assets. These households only sell around 25% of their crops, and only 4% are contract farmers. Many buyers and traders who collect produce from farmers and bring them to markets find it too

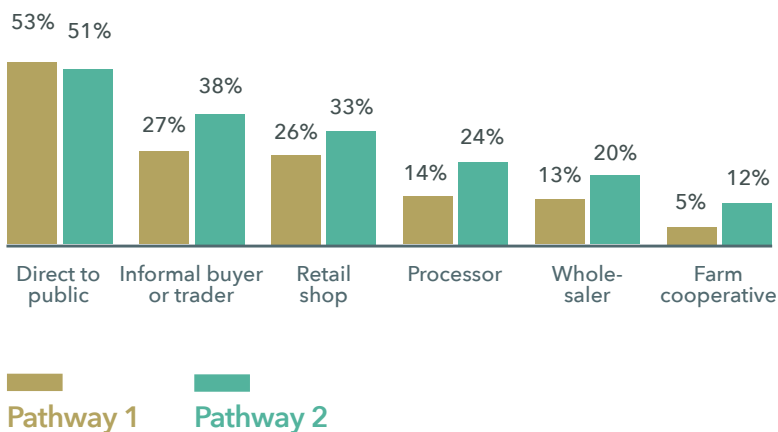
costly to serve these households. As a result, Pathway 1 farmers struggle to access regional markets or formal buyers; instead, they sell their crops directly to the public at the local market or through small retail shops, where they may not get the best prices. Difficulties accessing markets can also lead to high post-harvest losses. Without cold storage facilities, many crops need to be sold and consumed or processed within days of harvest. These losses also translate into lower incomes for farming households. While these households tend to prioritize other enablers, such as farm inputs and land, they need market information to ensure that increased productivity does not go to waste.

In contrast, Pathway 2 households have larger farms, are focused on growing and selling cash crops, and generate most of their income from farming—thus, they consider market access to be the most important enabler in achieving their livelihood goals. While these commercial farmers sell some crops in the local market, a significant portion of them are contract farmers (27%) and they are generally more likely to sell their crops to traders, processors, and cooperatives to secure better prices. Pathway 2 households need help finding the best buyers, optimizing pricing, and overcoming logistical challenges. Those in tighter value chains—such as dairy, coffee, or tea—are more likely to have formal contracts, whereas households in looser value chains may need support connecting with regional buyers and traders.

FIGURE 16

Market access dynamics

Who do you sell crops and livestock to?



Where do you normally sell your crops?

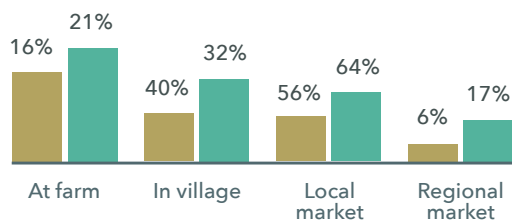
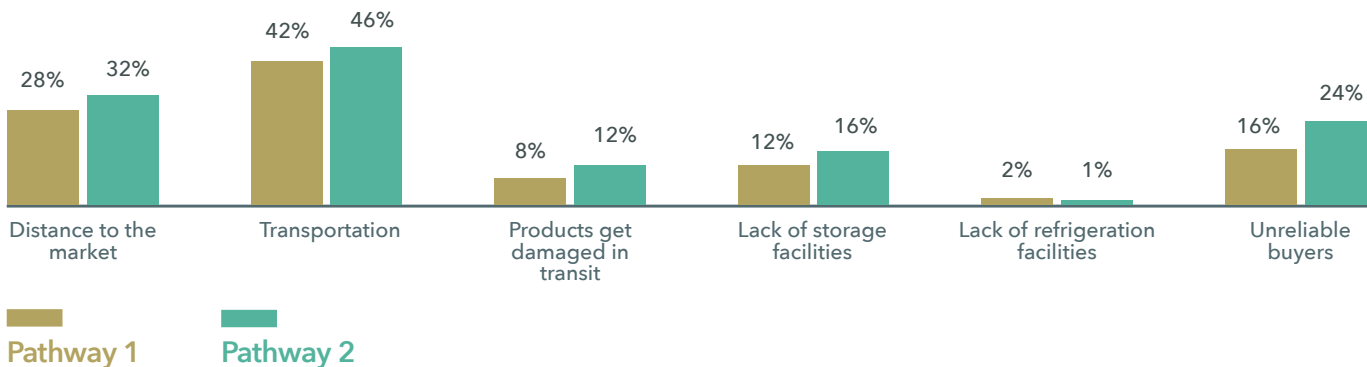


FIGURE 17

Market access challenges

What challenges do you face in terms of getting your crops or livestock to your customers?



For households in Pathways 4 and 5, market access needs depend on the type of business, primary customers, and location. These households see market access as a key enabler in growing their customer base. Around 90% of households in both Pathways that were able to increase their business income within the last three years consider access to customers a key success factor. A smaller number of households in both Pathways also identified the ability to add a new business location or expand to a larger shop as vital to growing their income.

Pathway 4 agri-SMEs play a key role in local agricultural value chains, serving many different functions and connecting different players—and this influences how they think about market access. For input providers, market access means partnerships with importers and distributors of inputs, cost-effective transportation, and shop locations in well-trafficked areas where they can grow their customer base. For grain aggregators and processors, it means having trusted relationships with a large number of farmers, cost-effective transportation, access to demand and price information, and relationships with large commercial buyers.

In contrast, Pathway 5 households that operate small, informal businesses in retail, leisure, or rural services need to offer products or services that meet a demand in the local market. Most of these households try to increase their customer base by having a shop in a well-trafficked location and building a trusted brand to develop repeat customers. These households are more focused on serving local demand and generally don't prioritize access to market information.

THE RISK OF INHIBITORS AND SHOCKS

While some households with access to key enablers will make progress in their transitions—both relative and absolute—others will experience inhibitors and shocks that can slow their progress and lead to stagnation or, if severe enough, push them backwards. A wide range of inhibitors can prevent households from achieving their livelihood goals. For most, the top inhibitors are related to their inability to access key enablers and there are distinct differences between farming households (Pathways 1 and 2) and those that run a business (Pathways 4 and 5).

Subsistence farmers in Pathway 1 consider the lack of capital to purchase farm inputs or acquire more land to be a top inhibitor; which makes sense, given their focus on increasing productivity. Pathway 2 farmers, on the other hand, are more concerned about market access and price variability. Households that operate agri-SMEs (Pathway 4) face challenges related to market conditions and access, which means their top inhibitors tend to be the inability to reach suppliers or customers, price variability, and increased competition. Pathway 5 micro-enterprises cite lack of access to capital—which they need to purchase productive assets and business stock—as well as the inability to invest more time in their business, as key inhibitors. Time poverty is a particular challenge for women in Pathway 5, as they already work more hours compared to men on combined business and household responsibilities. Finally, households in Pathways 4 and 5 cited the increased cost of doing business as a key challenge. Major business expenses include raw materials or business stock, utilities, labor,

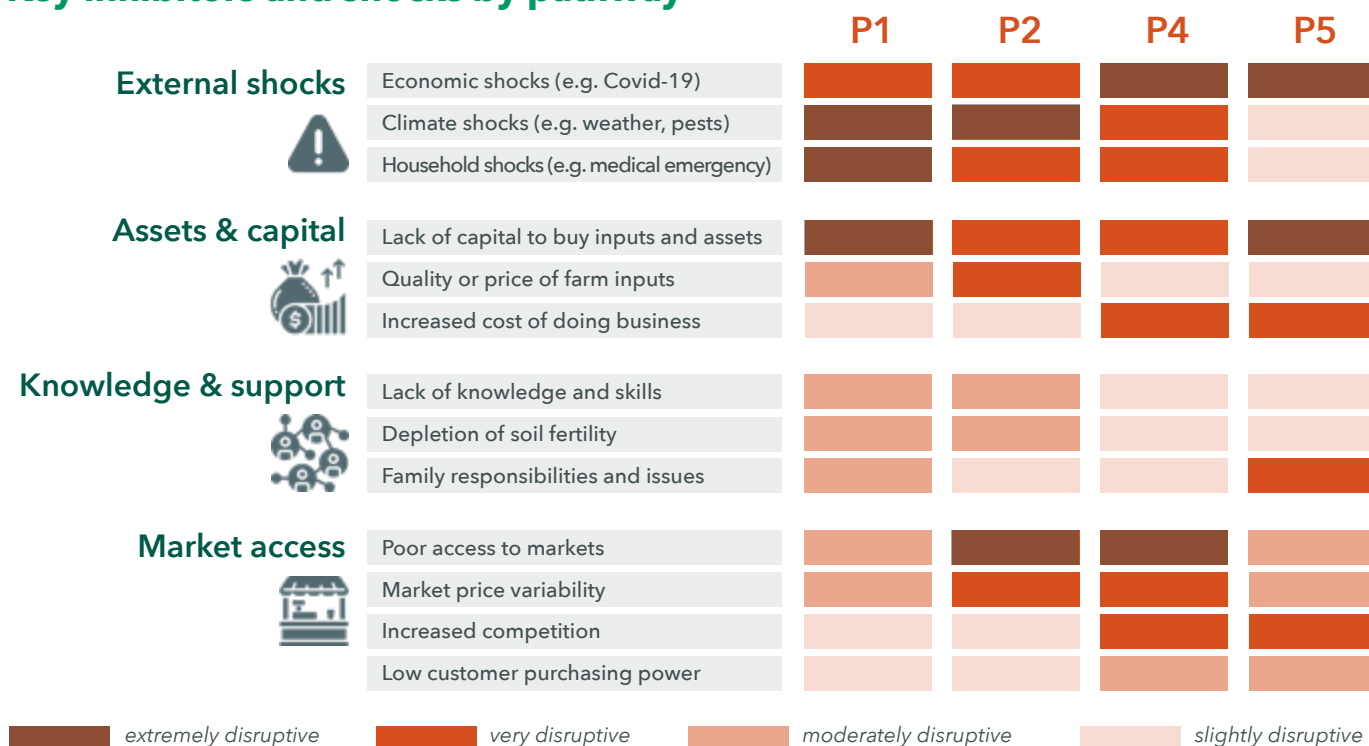
and rent or land costs. Access to affordable energy is a key barrier to growth for households in both Pathways, particularly Pathway 4.

When asked about the greatest risks to their livelihood activities, however, most households across all Pathways tend to focus on external shocks more than their inability to access key enablers. Shock events tend to have an immediate and severe effect on households, while the

lack of enablers more slowly impedes progress. Most households identify economic shocks—for example, COVID-19, climate events like drought or pests, and household shocks, such as medical emergencies—as their greatest risks. The severity and duration of these shocks, as well as the overall level of household resilience, will ultimately determine whether a household can continue making progress in their transition or face setbacks.

FIGURE 18

Key inhibitors and shocks by pathway



ECONOMIC SHOCKS

Rural households are vulnerable to many different types of economic shocks. These shocks are often specific to agriculture—and because most rural households rely on agriculture for their livelihoods, shocks that impact the demand and supply of agricultural inputs or produce are particularly severe in rural economies. The global coffee crisis is an example of the extent to which supply fluctuations can impact crop prices and, ultimately, rural livelihoods. Over-supply of coffee driven by increased production in Brazil and Vietnam led the international price of coffee to drop to record-low levels, even as the demand and willingness to pay for coffee has gone up. In coffee producing countries in Sub-Saharan Africa, the crisis has

primarily affected commercializing farmers in Pathway 2 who sell their coffee beans to exporters or cooperatives.

But economic shocks can also originate outside of agriculture, often from domestic or international political and macroeconomic instability whose impact trickles down to rural households. Currency fluctuations can be particularly harmful for households in Pathways 1, 2 and 4. Currency appreciations can lead to a drop in exports, sharply lowering farm-gate prices. These price fluctuations eventually trickle down the value chain and affect processed food prices more broadly. Productivity shocks, such as increased oil prices, can raise transportation costs and depreciate local currencies. An increase in transportation costs will have a higher impact on Pathway 2 and 4 households, which

rely on machinery and transportation to get produce and goods to markets. Finally, economic shocks can also include demand-side shocks, usually driven by a drop in income that impacts households' ability to sell their crops and products. With agriculture being relatively resilient to demand shocks, Pathway 1 and 2 farmers are likely to be less severely affected; conversely, Pathway 5 households—particularly those working in non-essential industries—are more likely to be the hardest hit.

The COVID-19 crisis shows how shocks that are not specific to agriculture can severely impact rural households. Initially perceived as a health crisis, the pandemic quickly resulted in a complex economic shock that

impacted both supply and demand. This led to price increases, shortages of agricultural products, and reduced remittances (an important source of income for many rural households). Households across all four Pathways consider the economic shock of COVID-19 to be one of the greatest risks to their livelihoods. While farming households in Pathways 1 and 2 have been hit hard, agriculture was designated an essential business and these farms were allowed to continue operating during the crisis. Business-oriented households in Pathways 4 and 5 are more vulnerable to these types of shocks and, at the time of the analysis, considered COVID-19 to be the top risk to the future of their livelihoods.

IMPACT OF COVID-19 ON RURAL HOUSEHOLDS IN KENYA

When COVID-19 reached Kenya in mid-March 2020, the national government moved quickly to contain the spread of the disease by restricting travel, closing schools and businesses, and implementing a curfew. While these restrictions were successful at slowing transmission of the virus, they contributed to severe economic shock by disrupting supply chains and reducing demand for goods and services. The majority of households across all Pathways reported that COVID-19 was the top risk factor that would keep them from achieving their livelihood goals. Additionally, the majority of households in Pathways 4 and 5 reported that COVID-19 was the main reason their business income had decreased in the past year.

Farming households in Pathways 1 and 2 reported both lower demand and lower prices for their crops, while households in Pathways 4 and 5 reported lower income driven by reduced consumer footfall. Households in Pathways 2 and 4 have been able to cope better because of higher incomes and savings and the fact that agriculture was designated an essential activity. In contrast, Pathway 1 subsistence households—who supplement their farm income with informal labor, micro-businesses, or remittances—were hit particularly hard. For Pathway 5 enterprises, the severity of the impact depended on whether the government deemed their services “essential” and allowed them to continue operating during the lockdown.

While COVID-19 is a one-time shock, it highlights how vulnerable rural households are to sudden impacts on both the supply of raw materials or inputs and the demand for goods and services. Global fluctuations in the demand and supply of consumer goods like coffee or tea can severely affect rural households across almost all Pathways. For more insight into how COVID-19 has impacted rural households in Kenya, read this [learning brief](#).

CLIMATE SHOCKS

Beyond the COVID-19 pandemic, rural households that depend on agriculture face regular and persistent climate shocks—not only direct shocks, such as drought or flooding, but indirect ones, such as pests. These households also face severe risks to their livelihoods through the gradual impacts of climate change, such as soil degradation and reduced productivity. While farming has always been subject to climate shocks, climate change is making them more severe and unpredictable. Farming households in Pathways 1 and 2 consider climate shocks to be one of their top risk factors; relatedly, households that reported a decrease in their

farming income cited drought, bad weather, and pests as the main factors. Most households in both Pathways report that their agricultural activities have been seriously affected by weather-related events—such as drought, flooding, or late rains—and pest infestation in the last three years. Pathway 4 households also consider climate shocks to be a key risk factor impeding their livelihood goals; however, they rank it lower in terms of importance compared to farming households. Given that Pathway 4 households rely on farmers to purchase their inputs and services *and* to supply raw materials for aggregation and value-added processing, impacts felt by Pathway 1 and 2 farming households will ripple throughout the agricultural value chain.

CLIMATE CHANGE AND PATHWAY TRANSITIONS

Despite low levels of contribution to climate change, rural households (especially in Pathways 1 and 2) are disproportionately impacted by climate-related shocks and the long-term effects of climate change.¹⁴ These events make farming riskier and more difficult, and smallholder farmers have low capacity to adapt. Without measures to help farmers adapt to climate change, worst-case scenario models estimate that global agricultural productivity may decrease by 17% by 2050 and by as much as 50% in Africa. If greenhouse gas emissions continue at the current rate, approximately 90% of farmers worldwide will experience food production losses by 2100.¹⁵

The impact of climate change on households' ability to make progress in their livelihood strategies differs according to Pathway.¹⁶ For Pathways where farming is the main source of income, climate change translates into lower productivity and yields. Due to their high dependency on agriculture for their livelihoods, Pathway 1 subsistence farmers are extremely vulnerable to climate change. If farming becomes untenable, they have limited means to pursue adaptation—even by migrating—and are, therefore, most likely to be pushed into extreme poverty. Pathway 2 farmers have relatively higher levels of resilience because they have more savings and assets. They are also more integrated into formalized networks that enable them to access improved inputs (e.g., drought-resistant seeds), financial services (e.g., insurance bundled with input credit), and knowledge and support (e.g., information on how to maximize soil health) that can further bolster their resilience. Sustained climate change impacts may cause Pathway 1 and 2 households to stagnate, or even push them to pursue income diversification strategies—possibly by running a micro-enterprise (Pathway 5) on the side or by leaving agriculture entirely.

Among rural households, women are disproportionately affected by climate change. Gender inequality and other vulnerability factors limit women's access to the resources needed to mitigate or adapt to climate shocks. According to CARE, women and children are 14 times more likely to die from climate-related shocks than men.¹⁷ The intergenerational impacts of climate change on women are also stark: as climate change exacerbates unpredictable weather patterns, pushing farmers back into extreme poverty, there is evidence that child marriage rates are increasing as households seek to reduce the number of mouths to feed.¹⁸ Women in Pathways 1 and 2 are especially vulnerable, due to their much lower levels of access to quality inputs, knowledge, and information on climate-smart agricultural practices, as well as to financial services that could help protect them from weather-related losses. Social norms that restrict women's mobility mean that they are also poorly positioned to pursue migration as a livelihood response. As a result, men and boys are leaving rural areas in higher numbers, leaving women behind to manage the farm.

“ If I go there, who will stay here? I have to stay here and care for the home. A woman is the household. One has to stay here. ” D. M. | 38 years | Female | Subsistence farmer | Kathatu

For households in Pathways 4 and 5 that operate different types of enterprises, climate change is felt as a market shock and ranked lower than other inhibitors or external shocks. Agri-SMEs in Pathway 4 have a stronger asset base that translates to higher levels of resilience and ability to adapt to changing conditions. Nevertheless, climate change can have significant impacts on SMEs (e.g., processors, aggregators) that source primarily from smallholder farmers. Unpredictable weather patterns lead to unpredictable harvests. For upstream players like input providers, these productivity losses can impact farmers' ability to invest in inputs for the next season. For downstream players, like offtakers or buyers, lower productivity disrupts their sourcing model, exposing them to price fluctuations. Households in Pathway 5 that operate retail or services micro-enterprises are less directly affected by climate change—but that does not mean they are immune from the market impacts. As a bad harvest or crop loss decreases the disposable income of farming households, local service-oriented businesses (e.g., beauty salons, catering, hospitality) may experience knock-on effects. Importantly, these are sectors with high concentrations of women-owned businesses, further demonstrating how women-headed households are disproportionately impacted by climate change. The high prevalence of young people in Pathway 5 may also mean higher levels of urban migration for these households, as they search for more stable employment opportunities.

14 Lewis, P., Monem, M.A. and Impiglia, A. [Impacts of climate change on farming systems and livelihoods in the near east and North Africa -With a special focus on small-scale family farming](#). FAO. 2018

15 ISF Advisors. [“The Climate Challenge: A Smallholder Pathways Deep Dive.”](#) April 2021.

16 In this call-out box we consider how households in these Pathways may be **impacted by** climate change. For analysis on how these Pathway households may be **contributing to** climate change, see ISF Advisors' full brief, available [here](#).

17 CARE International. [“Evicted by Climate Change: Confronting the Gendered Impacts of Climate-Induced Displacement.”](#) July 6 2020.

18 Chamberlain, Gethin. [“Why climate change is creating a generation of child brides.”](#) The Guardian Online. 26 November 2017

HOUSEHOLD SHOCKS

Households across all four Pathways also identified different types of household-level shocks that can impact their ability to make progress in their livelihood strategies. The most common was medical emergencies, with 37% of households reporting that they experienced a medical emergency during the last 12 months; this was followed by job loss (17%) and the death of a family member (13%). Medical emergencies can have a significant impact on rural households in countries like Kenya that have weak social safety nets and lack affordable private insurance. A 2018 study published in *BMJ Global Health* found that around one million people in Kenya get pushed back into poverty every year because of out-of-pocket healthcare costs.¹⁹ The majority of households across all Pathways don't have a plan in place to deal with unexpected expenses resulting from a major medical emergency. Of these, Pathway 1 households were least prepared (21% reported having a plan) and Pathway 4 households were most prepared (50% reported having a plan). Approximately 40% of households across all Pathways have basic health coverage through the National Health Insurance Fund and around 10% hold private insurance. Only 30% of households in Pathway 1 hold a health insurance policy, compared to

50% for households in Pathways 2 and 5, and 60% of households in Pathway 4.

While most households actively save for these types of emergencies, many are unable to build sufficient savings. Households often have to borrow money to cover these expenses, typically through short-term loans from informal sources, which carry high interest rates. Half of all households utilized a loan to pay for medical fees or other emergencies during the last year.

3.4. HOW PATHWAY TRANSITIONS DIFFER FOR WOMEN AND YOUTH

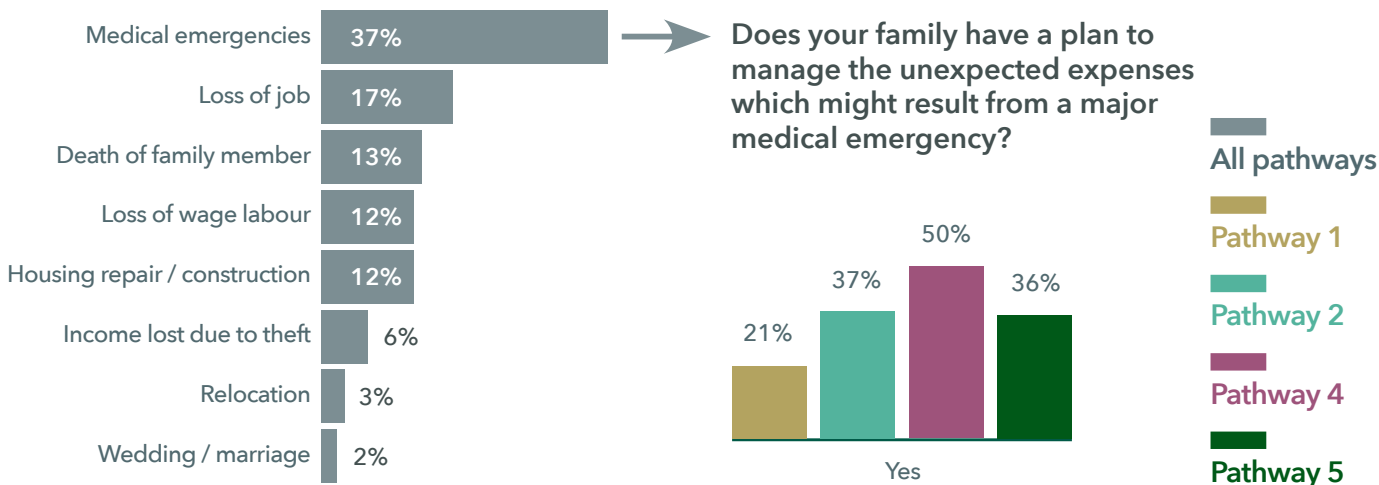
WOMEN

In theory, women have the same set of rural Pathway transition options as men. However, women are less likely to make progress in their livelihood strategies and more likely to stagnate or face setbacks. Across all Pathways, women show less progress on transition indicators than men; they are also less likely to report that they are better off now than five years ago, and generally feel less optimistic. These differences are particularly stark in Pathways 1 and 4, where women are

FIGURE 19

Personal events and shocks

In the past 12 months, have you experienced any of the following events?



19 Salari P, Di Giorgio L, Ilcinca S, et al. The catastrophic and impoverishing effects of out-of-pocket healthcare payments in Kenya, 2018. *BMJ Global Health*. 2019.

respectively seven and five percentage points less likely to state that they are better off now than five years ago. In Pathway 4 (and, to a lesser extent, Pathway 5), women are struggling to grow their business, have made significantly less investments in equipment during the last three years compared to men, and hire employees at a lower rate. This indicates that women’s progress in these Pathways—their upward mobility—has stagnated.

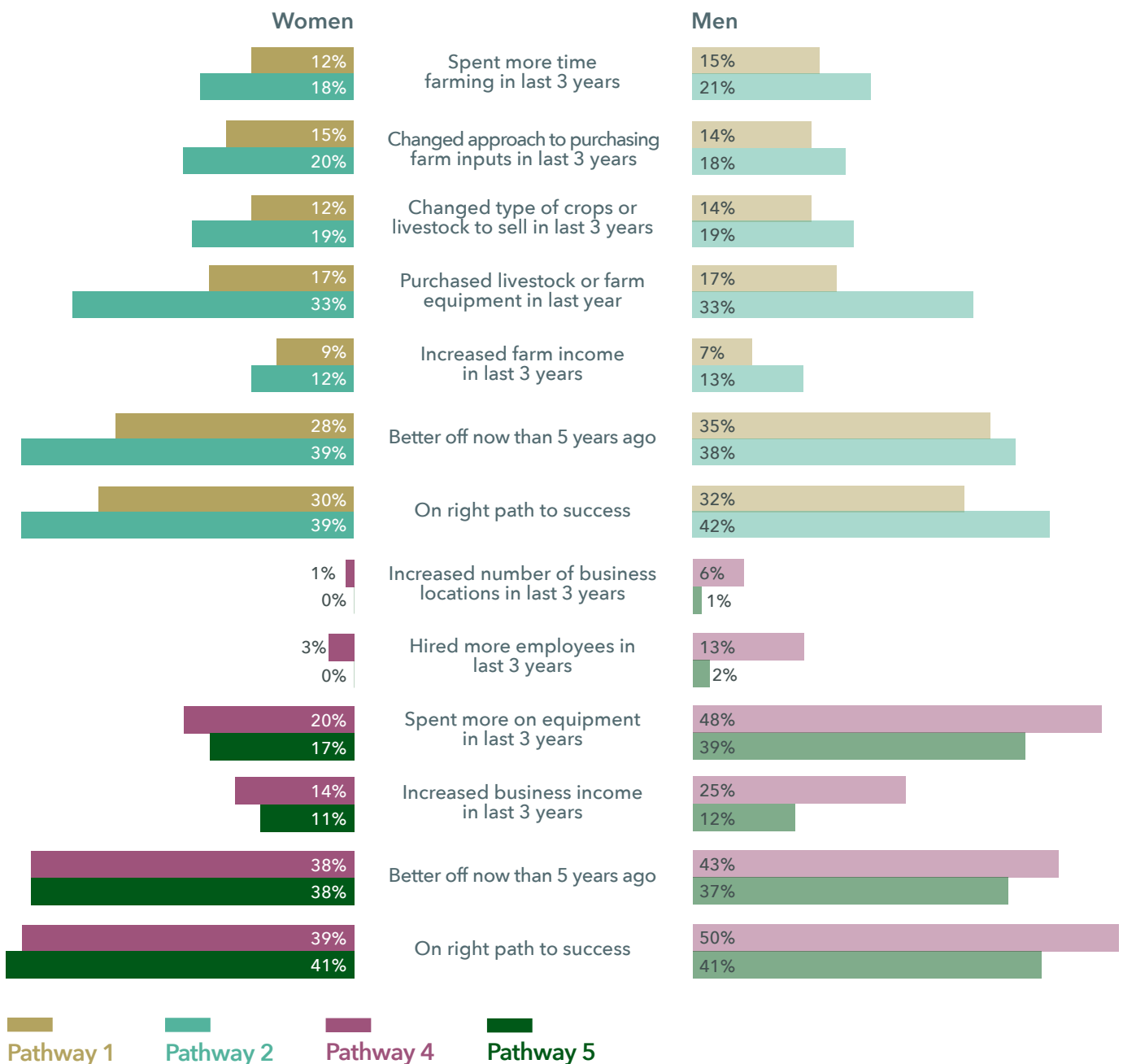
These gendered differences in Pathway transitions are

due to the significant structural barriers women face in accessing the capital, networks, and skills needed to support relative and absolute transitions. This doesn’t only limit upward mobility within and across Pathways; it also contributes to women’s higher levels of vulnerability to economic, climate, and household shocks—all of which are catalysts for downward mobility.

Women are also less likely to invest in the productive assets and services they need to grow their farm or

FIGURE 20

Illustrative indicators of ability to transition for women



businesses. Across Pathways, women have less capital and decision-making power to make investments in farm or business productivity and growth. In part, this is because women and men save and borrow money from different sources. Women across all Pathways are more likely to access credit from informal sources, including savings and credit groups, family, and friends, compared to men. These differences are particularly significant in Pathways 4 and 5, where women are 14 percentage points less likely to have taken a loan from a bank or formal financial institution than men—compared to the average gender gap of 6 percentage points across all Pathways.

While informal sources of credit are more accessible and have lower barriers to entry (e.g., collateral requirements), they prevent women from building credit scores, which would ultimately enable them to access

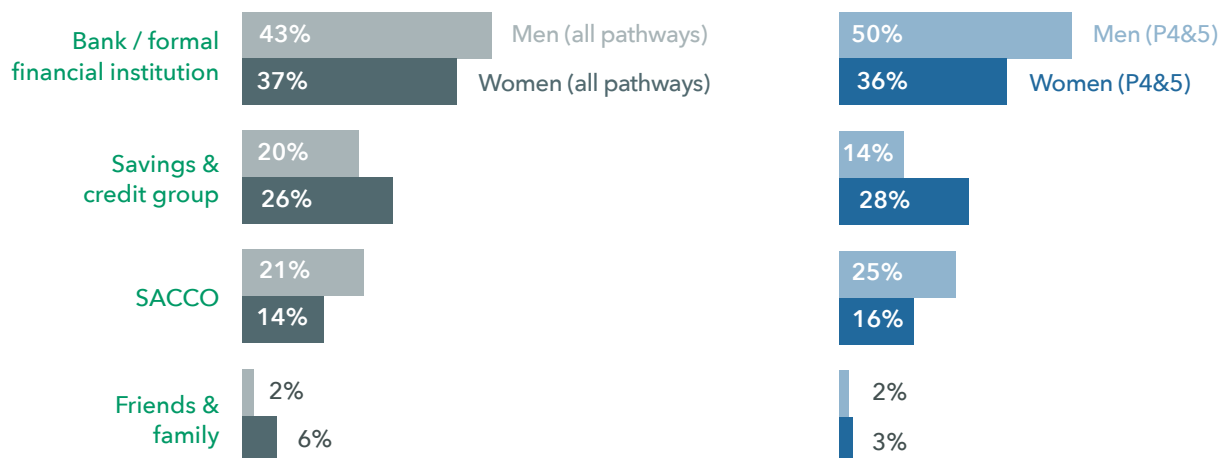
larger loans from formal financial institutions. Women also tend to take out smaller-sized loans: a recent study on Musoni, a Kenyan microfinance institution, shows that men consistently receive larger loans than women borrowers. The gender difference is most stark with Musoni's asset loan product, for which adult and young men receive 92% and 167% larger loans than adult and young women, respectively. According to Musoni, the gender difference is driven largely by differences in farm size and ability to put up collateral.

Women are also more likely to use the capital they do access for household expenses, rather than investing in their farm or business. This is likely because women have less input into major household decisions, such as how to manage savings and where to make investments. Only 50% of married women reported feeling that they have high levels of input into investment decisions,

FIGURE 21

Where do women and men access credit?

Has your household taken a loan from the following sources in the last 3 years?



Savings & credit groups are informal community savings groups while SACCO is a savings and credit co-operative society registered under the Co-operative Societies Act in Kenya.

compared to 76% of married men. In Pathway 1, women are 10 percentage points less likely to have a high level of input into decisions about purchasing farm inputs than men. Women's influence on household decisions tend to increase with age: one-third of women over the age of 45 reported that they have input into more than half of the household's decision-making areas, compared to under 25% for youth (ages 18-30) and women between the ages of 31 and 45.

For women in Pathways 1 and 2, lack of access to capital impedes their ability to make progress in their transitions compared to men. Women-headed households in these two Pathways are less likely to invest in their farm, compared to men: they are 15% less likely to invest in fertilizers, 17% less likely to purchase seeds, and 12% less likely to invest in farm equipment. This despite the fact that these women-headed households desire to grow their farm incomes. Without the

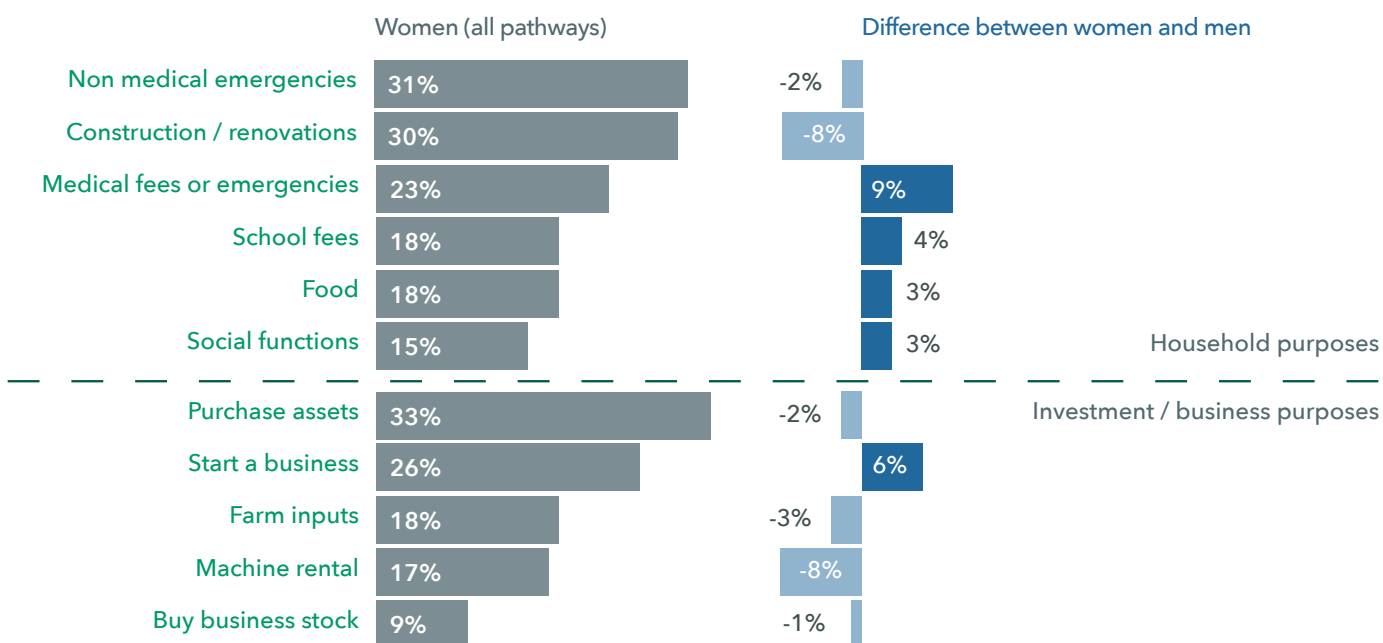
capital necessary to make catalytic investments, women are more likely to farm at the subsistence level rather than move into cash crops, and are less able to engage in farm intensification practices. In Pathway 1, 26% of women-headed households say they farm cash crops—18 percentage points less than households headed by

men. The gap is less evident in Pathway 2, suggesting that this is primarily a barrier for women who are trying to transition from Pathway 1 to Pathway 2 but are unable to progress due to lack of capital and access to services or market information.

FIGURE 22

How do women and men use credit?

What was the purpose of the loan your household took?



For women-led businesses in Pathways 4 and 5, lower access to capital influences the types of business activities they can conduct and limits their earning potential. Despite our approach of trying to survey equal numbers of men and women in each Pathway, only one in three businesses surveyed in Pathway 4 were run by women (114 out of 310), indicating that fewer women are able to transition into Pathway 4 compared to men. Women-owned businesses also tend to be concentrated in lower-value sectors that have fewer barriers to entry and less need for upfront investment. While women and men have similar rates of ownership when it comes to agro-dealers, agro-vet, and aggregator businesses, women are less likely (11% versus 21% for men) to run agro-processing businesses, which require bigger investments in expensive equipment. As a result, there is also a gender gap in annual turnover: women agri-SME owners in Pathway 4 reported earning 33%

less compared to men for the same amount of hours worked; in Pathway 5, this number ranged from 30-40% less across different types of enterprises. Additionally, we found that women are less likely to use financial tools in running their business—this includes written annual budgets, period management reports, audited accounts, and daily cash books to track income and expenses. Poor financial management can have a negative impact on overall business growth and is a key barrier to accessing capital, especially from formal financial institutions.

Time poverty also prevents women from investing the time necessary to grow their farms or businesses. For business-oriented households, additional time is the primary (Pathway 5) or second-biggest (Pathway 4) driver of increased business incomes. However, when households were asked what factors led to an increase

in their monthly income, women across all Pathways were 12 percentage points less likely to cite their ability to devote more time, signaling that time poverty is a key challenge for them. Women's time poverty is, in part, the result of social norms that dictate their primary responsibility for unpaid care work and other household responsibilities, including helping family members during emergencies. In Pathways 1 and 2, women are less likely than men to have increased the amount of time they invested in farming during the last two to three years. Only 24% of women-headed households increased their time spent farming, seven percentage points less than households headed by men. It's clear that household responsibilities also place significant limits on women's decision making around starting a business. In Pathways 4 and 5, when households were asked why they started their business, women were more likely to say that it gives them more time to be at or near home (30% for women vs. 19% for men). These same households, when asked why they spent less time working on their business, cited household responsibilities and other work (at 4 and 15 percentage points more than men, respectively).

Women across Pathways are 11 percentage points more likely than men to consider family support an important enabler—whether it's for information or for help with household responsibilities. This is especially the case in Pathway 1, where women value family support about 20 percentage points more than men and see it as central to the overall success of their farms. Similarly, women in Pathway 4 consider access to non-family networks of expertise within the community to be a key enabler. But our research provides some evidence that women are less able to get access to female authority figures who could give them advice and mentorship. Those without mentors feel they are on their own, which may hinder their adoption of new practices or technologies and impact their confidence when seeking out new opportunities or applying for credit from formal institutions. While these types of barriers may be hard to quantify, they can nonetheless negatively influence women's ability to advance rapidly in their Pathway transitions.

But the factors that limit women's upward mobility and prevent them from making progress in their transitions (relative or absolute) extend beyond simply their lack of access to capital and their time poverty. Structural barriers inherent to the communities, institutions, and markets that rural women interact with on a daily basis contribute to their overall lower levels of agency and resilience. As a result of these structural barriers, women tend to

be pushed into more precarious types of economic activity. For example, gender bias within financial institutions may lead women to be perceived as less credit-worthy and overlooked for loans. This impedes women's ability to access better quality inputs or other financial services that could boost their yields and protect them from shocks. This combination of structural inequality and inhibitors makes it more likely for women to experience a large number of transition setbacks throughout their lives. Analysis conducted by Dalberg on the Human Account data showed that Kenyan women face, on average, 2.5 times as many emergencies as Kenyans overall. In some cases, these setbacks may be linked to specific life stage events—such as early marriage or pregnancy—which derail women from their Pathway transition trajectory. In other cases, these setbacks are shocks that affect their entire communities but have a more significant negative impact on women due to their structural subordination.

YOUTH

Half a billion youth live in rural areas in developing countries, and this population is growing faster than in higher-income countries. That growth brings up

major challenges around employment and livelihoods—particularly in rural areas, where poverty rates are higher and youth account for 60% of the population (and 45% of the workforce). A new landscape report on jobs by MercyCrops AgriFin estimates that there will be 9.6 million rural youth in Kenya by 2024 and the majority of these youth will most likely not be working in farming.²⁰ This section looks at the challenges for young households situated in the different rural Pathways in Kenya. We focused on young heads of households or their spouses aged 18-30. The sample size of respondents in this group was relatively small. While our research revealed trends among the rural youth in our four priority Pathways, more research is needed to understand how Pathway transitions differ for young people—both broadly and in specific segments.

It's important to note that multiple life stages may occur within the 18 to 30 age range, and this can have significant influence on the decisions these households make, the types of economic activities they are able to engage in, and their Pathway trajectories. This is especially true for young women, who may go through several pivotal life changes between the ages of 18 and 30, including entering the labor market, getting married, and having children. These milestones can heavily influence young women's economic empowerment, by placing restrictions or conditions

20 MercyCorps AgriFin. [Rural Jobs Landscape Study: Exploring rural job opportunities for youth in agriculture](#). June 2020.

on their agency, mobility, and control of resources.

In this research, we found that young households are more educated and digitally savvy, more interested in stable job opportunities, more mobile and willing to migrate, and generally feel more optimistic about the future compared to older households.

Specifically, young people are more likely to have completed their secondary education and attended college or university. They access the internet more frequently and are more likely to use a cell phone and computer than older counterparts. Younger households are also more likely to look for full-time work, seeking job opportunities with regular incomes. Compared to older people, young respondents were more likely to report that they would be better off in five years than they are today (89%) and that they were on the right path to success (82%).

However, young households face unique challenges that may impede their ability to make progress in their Pathway transitions, both relative and absolute.

They generally own a limited number of assets, which makes it difficult to grow their farm or business, or to secure a loan. In our research, young households were more likely to own small assets—such as refrigerators, grain millers, or motorcycles—that could be used in a Pathway 5 micro-enterprise. But across all Pathways, they own less land. This is particularly the case in Pathway 4, where land can be crucial collateral for agri-SME households to use in securing larger loans and/or investing in productive assets.

Young people also have lower incomes and more limited access to finance, including savings and credit. In our research, young households had 32% lower incomes compared to the average household, although this varied by Pathway. While a large number of young people utilize mobile money like M-Pesa, they are less likely to save money or access credit from formal sources. According to the World Bank, young people globally are 33% less likely to own a bank account.²¹ In our study, young people accessed credit at a rate approximately five percentage points lower than older households; those that do access credit are more likely to get it from informal sources, such as SACCOs. Interestingly, when young people are able to save money or access credit, they are more likely than their older peers to use the capital to purchase productive assets.

Given these barriers, access to support networks and mentors in the community could be an important

enabler of Pathway transitions for rural youth. Yet our research shows that young people often lack access to non-family networks. Young households are more likely to rely on family and friends for information and support, and less on formal networks, groups, and authority figures, compared to older households. Youth in Pathways 4 and 5 are also more likely to report that they don't have plans to network or to pursue partnership opportunities to help grow their business.

FIGURE 23

Land ownership by age and pathway

Median land ownership (hectare)

	P1	P2	P4	P5
18-30	1	3	2	1
31-45	1	3.5	5	1.5
46-60	1.5	4	4.5	1.5
61+	2.9	6.8	low sample size	

Pathway transitions look quite different for young households because of their different socioeconomic status, aspirations, and challenges.

We found that young households are less likely to be involved in farming-focused Pathways (1 and 2) and more likely to be running a business (Pathways 4 and 5). The majority of young households (69%) reported that they want to do non-farming work. Young people are seven percentage points less likely to report that they enjoy farming than older respondents, and they are more likely to report that they only work in farming to make ends meet. This difference may be driven, in part, by their lack of access to land and their perceptions of agricultural work.

As a result, most young farmers in Pathway 1 are not expected to transition to Pathway 2; many will instead transition out of farming and into Pathway 5 (micro-enterprise), Pathway 6 (full-time work), or Pathway 7 (migration to an urban area). While Pathway 2 has the smallest number of young households, these farmers may be more likely to continue farming—perhaps even consolidating their farm operations to transition to Pathway 3. This is because young people tend to be more business-oriented and more likely to use savings and credit to expand their farm or invest in productive

21 Demircuc-Kunt, Asli and Klapper, Leora. *Measuring Financial Inclusion: The Global Findex Database*. Policy Research Working Paper; No. 6025. World Bank, Washington, DC. 2012.

assets, compared to older households. If young households view their farm as a business, they may be more likely to continue farming. Those Pathway 2 farmers that do decide to leave agriculture will likely transition to Pathway 5, 6, or 7.

The majority of young households in our study were in business-oriented Pathways (4 and 5). Pathway 5 had the greatest share of young households, possibly due to the low barriers to entry. Seventy-three percent of young households consider putting money into a business to be the most important investment they can make, and 72% consider business expansion to be their primary goal. While young people in Pathways 4 and 5 have big aspirations, many still have difficulty accessing capital to purchase larger productive assets and have a high risk of stagnating in their Pathway transitions. This is particularly true for young women, who face the dual challenges of perceived inexperience due to age and discrimination based on gender.

Young households that stagnate within their current farming or business Pathways are more likely to seek formal employment (Pathway 6) or migrate to an urban area (Pathway 7) compared to older adults. Full-time employment is the ultimate goal for most young people: nearly 75% reported they would be willing to take a full-time job compared to 43% of older people. Additionally, the rural youth population is characterized by high levels of mobility and a willingness to migrate in search of better opportunities. Respondents aged 18 to 30 reported plans to migrate at triple the rate of older adults. This is even the case in Pathways 4 and 5, where average earnings are relatively higher and there are opportunities for off-farm work. Young people in Pathway 4 have much higher reported

intentions of migrating to urban areas (15% intend to move within one year vs. 5% for Pathway 4 as a whole). In Pathway 5, young people are almost twice as likely to report intending to migrate (11% within one year vs. 6% of Pathway 5 as a whole). The most common reasons to migrate are to search for formal employment and to support the family through remittances, savings, or investment. There are, of course, differences by gender. Young men are more likely to migrate to urban areas, reporting an intention to migrate at twice the rate of young women. Young women's mobility, on the other hand, tends to be constrained by family and household responsibilities, safety concerns, and social norms.

As the population of young people in rural areas continues to grow and business or employment opportunities become more limited, urban migration flows will likely become unsustainable. While some better-educated young people may be able to find stable and well-paying jobs (especially if they have the right support networks), many others will run up against high unemployment rates in urban areas. **The challenge for policymakers and service providers, therefore, is to create vibrant rural economies where young people can pursue opportunities in farming, business, or full-time employment, rather than seeking uncertain futures in already crowded urban centers.**

“If I had not gone to town and come back, if I had been young and continued with farming, I would have gotten so far, I have already surpassed many of my peers and those that have been here.”

L. T. M. | 61 years | Male | Cereal and Horticultural farmer | Kilili



4. IMPLICATIONS AND THE WAY FORWARD

The introduction of the Rural Pathways Model in *Pathways to Prosperity* was a first step forward in thinking more dynamically about rural households. While that model helped us visualize how households might transition within and across Pathways over time, these insights remained theoretical. The new research presented in this learning brief takes us one step further. By applying the **Pathways Transition Framework** to design research and analyze household data, we can begin to understand and describe what Pathway transitions look like in practice. This framework enables us to map household trajectories, identify inflection points where households are making fundamental changes to their livelihood activities, and link those points to associated outcomes, such as changes in income, resilience, and agency.

Consider the example of subsistence farming households in Pathway 1 in Kenya. Most interventions targeting these households are trying to help them to get out of poverty, and one potential pathway to achieve this goal is for them to transition to commercializing farming in Pathway 2. The Pathways Transition Framework can help us identify where these households currently are in their Pathways journey, understand what changes in livelihood activities are necessary for them to become commercializing farmers, design and most importantly, sequence interventions to help them progress in their transition. Subsistence farming households at the beginning of this journey will require access to key enablers like farm inputs so they can increase production. As they make progress in their relative transition in Pathway 1, they may require access to larger loans so they can invest in more land and/or productive assets such as irrigation pumps. They will also need information and training on improved farming practices or support diversifying their farm production to increase income. As they make these investments, financial products like crop or health insurance that protect them against climate and household shocks would enable them to continue making progress in their relative transition and experience upward mobility. Eventually, if they are able to make an absolute transition into Pathway 2 where they sell most of their crops on the market, their requirements will evolve. By applying the Pathways Transition Framework and using the insights about the relative importance of enablers

and risks of inhibitors for each Pathway, we can identify these various levers at different points of time and help households achieve their goals.

It is important to recognize that this type of analysis is very context-specific and will vary by country, region, value chain, and even time. While the Pathways Transition Framework helps us think about and understand Pathway transitions, it is even more powerful when combined with context-specific primary and secondary data, as has been done in Kenya in this report. In the following section, we lay out three potential applications for how different stakeholders can apply this framework to design and implement more effective rural interventions.

APPLYING THE FRAMEWORK

Designing better customer research to improve our understanding of rural clients. This report has demonstrated how the Pathways Transition Framework can be used to sketch out hypothetical Pathway journeys for rural households. These journeys can then form the basis of client research that is designed to test and validate hypotheses on household goals, livelihood activities, product and service needs, and associated outcomes related to income, resilience, and agency. For example, financial service providers are increasingly turning to human-centered design and other research methods to conduct more sophisticated client segmentation. This can yield useful insights on customers at a particular point in time. But applying the Pathways Transition Framework to customer research activities can help push the analysis further by:

1. Segmenting customers based on a long-term view on where they are likely headed, the key inflection points along their journeys, and what types of products and services they need along the way to support transitions and enable upward mobility;
2. Supporting the development of better-tailored products and services, and providing guidance on how to sequence these over time to support Pathway transitions, with the ultimate goal of delivering impact while optimizing customer lifetime value and profitability; and
3. Defining key performance indicators related to

customer progression between product lines or service bundles, as well as associated timelines for helping clients achieve higher levels of income, resilience, and agency.

Developing stronger and more thorough impact and investment theses to support Pathway transitions.

The Pathways Transition Framework can also be used to develop Pathway-specific impact and investment theses. These theses should ideally be developed using context-specific primary or secondary data, and involve mapping the customer transition journey, pinpointing specific products and services needed at different stages of that journey, and identifying the outcomes associated with households achieving relative and absolute transitions (e.g., income, resilience, agency, education, health, job creation). Use cases for these impact and investment theses include:

1. Supporting governments as they define rural development plans, by using theses to design and deliver more strategic interventions that are tailored and sequenced over time, and helping measure the outcomes associated with investments;
2. Improving the ability of funders and financial service providers to assess and continuously monitor the impact-return trade-off of serving customers in different Pathways, build more robust use cases for different models targeting specific transitions, uncover how returns might change as households achieve upward mobility, and determine which types of capital and support—from donor to sub-commercial funding—should be deployed over time; and
3. Encouraging funders to take a more intentional approach to building out their portfolios to target specific Pathway transitions, and enabling collaboration with other funders on deal sourcing, co-investments, and structured exits.

Developing more effective collaboration between actors operating in the rural development and livelihoods space. Improved collaboration and partnerships

between organizations that work with rural households in different Pathways can help households make progress in their transitions. Organizations can use the Pathways Transition Framework to guide the design and development of these partnerships. By using a common language for who the target client is, what Pathway transitions they are supporting, and which products and services are needed to support these transitions, organizations can collaborate on the basis of aligned expectations, including each organization's specific value proposition and role within the partnership. More effective partnership between actors in this space could be transformative by:

1. Supporting improved communication between funders and the organizations they support, including establishing a common language around household Pathway transitions, key enablers to support these transitions, and the expected outcomes being targeted;
2. Enabling stronger collaboration between funders operating in the same space, using the Pathways transition framework as a basis for coordination of capital and technical assistance, measurement of outcomes, market-building initiatives, and data and knowledge sharing; and
3. Forming the basis for more effective and transparent partnerships between providers working with rural customers. A more granular understanding of which transitions are supported by which combination of products and services can help clarify to each party the value they are generating, both to farmers and to their businesses. This, in turn, clarifies each partner's specific role and helps define the terms for collaboration and data sharing.

In publishing this report, our ambition is that service providers, funders, and policy makers will begin to adopt this more sophisticated way of thinking about Pathway transitions by testing these applications, or continuing to push our thinking by further refining the Rural Pathways Model and Pathways Transition Framework.



ANNEX: RESEARCH METHODOLOGY



APPROACH

In 2019, ISF Advisors and the Rural and Agricultural Finance Learning Lab published the report [Pathways to Prosperity](#) introduced the Rural Pathways Model. This model moved the sector from a static understanding of rural households—based on their characteristics at a particular moment—toward a dynamic view of how these households and their needs might evolve over time. The Rural Pathways Model laid out seven different Pathways that rural households might take as they pursue different livelihood strategies and seek to increase their incomes, resilience, and agency.

With this new research conducted in Kenya, we aimed to improve the sector’s understanding of these Pathway transitions by diving deeper into rural households in four Pathways that play a vital role in rural economies: the vulnerable subsistence farmer (Pathway 1), the intensified commercializing farmer (Pathway 2), the agricultural small- or medium-sized enterprise (agri-SME) owner (Pathway 4), and the micro-entrepreneur (Pathway 5). In this research we tried to answer four broad questions:

1. Who are these households, what do they do for a living, and how do they define their goals and aspirations?
2. What do Pathway transitions look like, which households are making progress in their transitions and where are they transitioning to?
3. Which enabling factors are most important for households to make progress in their Pathway transitions, and which inhibitors and shocks might cause them to stagnate or face setbacks?
4. How do Pathway transitions differ for women and youth?

This research was conducted in Kenya in 2020 using a mix of qualitative and quantitative methodologies to collect primary data from households in these four Pathways. The qualitative data collection was done using Human-Centered Design (HCD) techniques and the quantitative data was collected through a household survey. We convened an Advisory Committee, made up of industry experts, to sense-check emerging insights from both phases of the research. Members of the Advisory Committee were representatives from organizations that operate within and serve rural customers in the four Pathways in Kenya.²²

IMPLICATIONS OF COVID-19 ON RESEARCH APPROACH

The emergence of the COVID-19 crisis, and subsequent restrictions imposed on international and local travel, occurred as our HCD research activities were about to be launched in March 2020. After pausing for 4 weeks to evaluate the situation, the decision was made to implement the research using a modified approach, while adhering to strict safety and hygiene protocols to protect research teams and research participants.

Questions related to the impact of COVID-19 on rural households were integrated into both the HCD and household survey research tools. To comply with Kenyan government regulations restricting travel between counties, the HCD research was conducted remotely. These restrictions were lifted by the time the household survey was ready to be deployed, however all interviews were conducted outdoors, using social distancing rules and PPE to ensure the safety of the research team and respondents. We discuss the implications of this modified approach during each phase of the research in the following section on Data Collection.

²² Aceli Africa, AgriWallet, Amiran, Apollo Agriculture, One Acre Fund, Sun Culture. Representatives from ISF Advisors and CGAP were also a part of the Advisory Committee.

DATA COLLECTION

PHASE 1: Human-Centered Design Research

The purpose of the HCD phase of the study was to conduct in-depth research with a small number of households in each of the four Pathways to collect rich qualitative insights on their socioeconomic status, livelihood activities, behaviors, attitudes and aspirations. These insights were then used to develop household profiles for each Pathway and informed the design of household survey sampling plan and questionnaire.

The HCD research was implemented from mid-April to mid-May 2020 with respondents in 25 households in Eldoret and Makueni counties. A basic sampling criteria to guide the selection of participating households in each of the Pathways was developed. These criteria included household activities, income sources, asset ownership, and usage of products and services. The sample was evenly distributed across the four Pathways, with 15 men and 10 women respondents. Figure 24 shows the sampling distribution.

A series of research themes were explored during the HCD interviews, including: farming techniques and knowledge, equipment usage and knowledge, income sources, financial behaviors and services used, capital investments, supply chain systems and networks, land ownership, energy usage, attitudes, motivations and impact of COVID-19. The interviews were conducted remotely using audio and video (when possible) and each interview lasted for around 1.5 to 2 hours. The research team used a number of different HCD tools during the interviews, including empathy exercises, lifestyle mapping, asset mapping, scenario testing and context setting.

FIGURE 25

HCD Sampling

	Men	Women	Total
P1	4	2	6
P2	4	2	6
P4	5	1	6
P5	2	5	7
Total	15	10	25

Remote implementation of the HCD research had both advantages and disadvantages. Conducting remote HCD research can significantly reduce the amount of time and money spent as it eliminates the need for travel. Those savings can be redirected towards expanding the sampling size, and including a greater diversity of locations and participants. Interviews conducted remotely can provide a level of anonymity that allows the respondent to feel more comfortable opening up, especially about taboo topics. Remote interviews can be scheduled in advance around participants' availability and daily routines which is especially important for women, who face time constraints as a result of their household responsibilities.

Certain target segments can be difficult or impossible to recruit without on-ground field staff, due to digital literacy and access challenges, or the difficulty of building trust remotely. For this particular research, this risk was mitigated by working with a network of local fixers and recruiters known to the research team and based in local communities. Forgoing face-to-face interviews was a point of concern around building rapport and pivoting using body language, however the research team found that audio calls worked just as well, and sometimes better, as research-participant power dynamics are removed, improving participant comfort, confidence and anonymity to share honestly.

PHASE 2: Household Survey

The purpose of the household survey was to collect quantitative data from a larger sample using a more rigorous sampling method. Building on the insights gathered during Phase 1, key hypotheses were developed for each of the four Pathways and put into a concept map. The Pathways concept map was organized around the following themes: farming and business practices, resilience and asset strategies, most useful products and services, goals, motivations, planning horizons, enablers and inhibitors.

Household questionnaire

The Pathways concept map informed the design of a household survey questionnaire with seven modules: Pathway identification, demographics, household decisions and economics, farm livelihoods, non-farm livelihoods, aspirations and motivations, products and services. The farm and non-farm livelihood modules included sections covering topics such as land ownership, crops and livestock, farming and business practices, farm and business assets, non-farm or business wage labor, migration attitudes and aspirations. The products and services module included sections on group membership, savings, credit, insurance and remittances.

Specific questions on the impact of COVID-19 were included in several modules and most of these questions were adopted from 60 Decibels' ["Listening in the time of COVID-19"](#) study. We chose to adopt these questions in order to share the data from this research with 60 Decibels to be included in their [COVID-19 Dashboard for Kenya](#). Gender specific questions were also included in several different modules and many were adapted from the Women Empowerment in Agriculture Index questionnaire. Time constraints prevented us from including a full module on gender. Respondents were asked to answer some questions at the household-level (e.g., household income sources, household asset ownership), and some questions as individuals (e.g., aspirations, motivations).

Sampling method

The focus of this research was to improve our understanding of household transitions in four Pathways. We did not seek to determine the distribution of households across these Pathways in Kenya. We therefore chose to survey approximately 1,200 households with a roughly equal number of households in each Pathway (300) and an even gender split within each Pathway. We used multi-stage sampling for the survey and applied different sampling approaches for the different Pathways.

Sampling approach to Pathways 1 and 2

Households in these pathways consider agricultural production as their main source of livelihood. The main distinction is the purpose of production - either producing for own consumption with little or no surplus for sale (Pathway 1) or producing purposely for sale with little or no amount consumed at the household (Pathway 2).

Using the 2019 KNBS census data, locations were mapped based on the type of agricultural activities undertaken in the locations. Counties recording large land sizes under both subsistence and commercial farming were then identified, excluding purely urban counties (Nairobi, Mombasa) and those that were very far from Nairobi or considered to be insecure. Six counties spread across Western, Rift Valley, Central and Eastern Kenya were selected.

Probability proportional to size (PPS) sampling was used in the selection of locations for the survey. The 2019 KNBS census data on farming activities in Kenya served as the sampling frame. The number of interviews were first allocated by counties and sub-counties proportionally to the size of

land under cultivation. The enumeration areas were rural sub-locations that were selected within the selected sub-counties.

Systematic random sampling was applied in the selection of farmer households. A starting point was established in the sampling area from where random route walks were used by the field teams in the selection of the households. A screener questionnaire was administered prior to any interviews in order to categorize the respondents in their respective pathways. The screener included questions on household livelihood activities; farm size; amount of crops consumed and sold; use of farm inputs, farm labor, and farm machinery; capital investments in farm; livestock raising; membership in agriculture groups; and contract farming. Answers to these questions determined whether the household was slotted into Pathway 1 or 2. For example, a farmer who engaged with crop or livestock production or both, consumed most of their farm produce, used minimal amounts of farm inputs, used minimal amounts of labor, and did not make capital investments in their farm in the past 12 months was categorized as a Pathway 1 farmer. After selecting a household, a respondent was selected based on the following criteria:

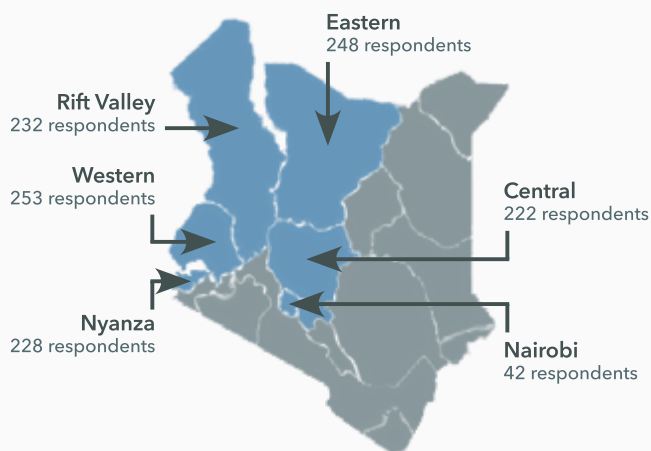
- Age (18 years and above)
- Residing in the selected survey location
- Involved in farming activities
- Involved in making farming and financial decisions
- Availability during the survey period

Sampling approach for Pathway 4

The respondents for this pathway were mainly going to be formally registered agri-businesses that buy or supply farmers with inputs on a large scale (e.g., aggregators, cooperatives, processors, millers, input providers). Purposive sampling was done for this category where the respondents were sampled from a list of contacts obtained from AGRA, Mercy Corps and FtMA (Farm to Market Alliance). Efforts were made to ensure a balance in terms of categories and locations of businesses. Given the well-documented gender gap in SME ownership in Sub-Saharan Africa, the research team assumed that reaching equal numbers of men and women within this pathway would be difficult. A target ratio of 70:30 male to female respondents was set, and in the end, exceeded (see Figure 26).

FIGURE 25

Geographic distribution of sample



Sampling approach for Pathway 5

The respondents for Pathway 5 were mainly going to be micro-enterprises that were either formal or informal and agricultural-related or non-agricultural related. Sampling was done using a list of businesses provided by Copia, but also some in-field recruitment for businesses that were identified within the selected survey locations for Pathway 1 and 2. All businesses located in Nairobi were excluded from the selection.

Survey implementation

The household survey was implemented with 1,255 participants across six counties in July and August 2020. Figures 25 and 26 show the distribution of the sample by geography, Pathway and gender of the respondents.

FIGURE 26

Distribution of sample by Pathway and gender

	Men	Women	Total
P1	151	154	305
P2	153	150	303
P4	196	114	310
P5	149	158	307
Total	649	576	1,225

DATA ANALYSIS AND REPORT WRITING

After the survey data was cleaned, the research team conducted thematic analysis of the qualitative and quantitative data using the Pathways concept map as the guiding framework. We also developed and applied the Pathways Transition Framework to make sense of the data and shape narratives around likely Pathway transitions, and the role of enablers and inhibitors in those transitions. The data was disaggregated by gender and age to understand how Pathway transitions may differ for women and youth within the sample. We explain below our approach for analyzing the data and developing each section of the report.

Household profiles: We combined the rich qualitative insights obtained from the HCD research and the quantitative data from the survey to develop composite profiles of one household in each of the four Pathways. The household snapshots in Figure 3 represent averages for households in each Pathway from the survey data.

Who transitions and where: We used a combination of data on household aspirations, attitudes, motivations and key indicators of their ability to transition to determine where households were heading, and to identify households that were making progress in their transitions and those that were either stagnating or facing setbacks. Key indicators of farming households' ability to make progress in their Pathway transition included spending more time farming, changing their approach to purchasing farm inputs, changing the type of crops or livestock to sell, purchasing livestock or farm equipment, increasing their farm income, reporting that they are better off now than five years ago and that they are on the right path to success. Key indicators of business oriented households' ability to make progress in their Pathway transition included increasing the number of business locations, hiring more employees, spending more on equipment, increasing their business income, reporting that they are better off now than five years ago and that they are on the right path to success.

Enablers and inhibitors: After mapping the Pathway trajectories for households and identifying whether they were making progress in their transition or not, the team layered in data on enablers, inhibitors and shocks to identify which factors play the most important role in supporting or hindering Pathway transitions. We used responses to multiple questions about enablers, inhibitors and shocks to create a heat map showing the relative importance of these factors in enabling or hindering households from making progress in their transitions.

LIMITATIONS OF RESEARCH METHODOLOGY

While this research has enabled us to collect context-specific insights from Kenya that advance the way we understand and describe rural Pathway transitions, there are limitations to this methodology. This was a cross-sectional study with data collected at a point in time; we are thus unable to track and analyze changes in households over time. Pathway transitions are complex and take

place over long periods—therefore, a longitudinal study would provide richer insights. The study was also conducted during the height of the COVID-19 pandemic in Kenya, which may influence how respondents answered the research questions. The HCD research was conducted remotely because of COVID-19 travel restrictions which may have influenced the quality of the insights. The sample for the quantitative survey is small, and the study was designed to have roughly equal numbers of households in each of the four Pathways and an even gender split within each Pathway. The data is, therefore, not representative of the general population in Kenya; in fact, the even gender split may potentially bias the sample of women. For example, sometimes the research team was required to speak with women acting as proxies for their husbands who were the actual owners of the businesses. Respondents were asked to answer some questions at the household-level (e.g., household income sources, household asset ownership), and some questions as individuals (e.g., aspirations, motivations) which made it difficult to accurately tease out gender insights. Time constraints also prevented us from including a full module on gender.

ACCESSING DATA AND RESEARCH TOOLS

The anonymized and cleaned data from the household survey and the research tools used for the household survey are available to organisations who would like to use them in their own work. The research tools include the household screener questionnaire, survey questionnaire, and data key. To access the data or tools please contact [Tanya Kothari](#), at Shell Foundation.





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