

Small business, big demand

Facilitating finance for productive uses of energy in Tanzania

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ABBREVIATIONS AND ACRONYMS

AFAP	African Fertilizer and Agribusiness Partnership	NIGP	National Income Generating Programme
AGRA	Alliance for a Green Revolution in Africa	NSSF	National Social Security Fund
BRELA	Business Registrations and Licensing Agency	OECD	Organisation for Economic Co-operation and Development
CEFA	European Committee for Training and Agriculture	PAYGO	Pay as you go
CGAP	Consultative Group to Assist the Poor	PUE	Productive uses of energy
EFTA	Equity For Tanzania Limited	SACCO	Savings and Credit Co-Operative Society
ENERGIA	International Network on Gender and Sustainable Energy	SDG	Sustainable Development Goal
FMO	Dutch Entrepreneurial Development Bank	SELF	Small Enterprise Loan Facility
FSDT	Financial Sector Deepening Trust	SELFINA	Sero Lease and Finance
GDP	Gross domestic product	SIDO	Small Industries Development Organization
ICSB	International Council for Small Business	SME	Small and medium-sized enterprises
IFC	The International Finance Corporation	TAMFI	Tanzania Association of Microfinance Institutions
IMF	International Monetary Fund	TANESCO	Tanzania Electric Supply Company Limited
KRDC	Kibaha Rural District Council	TANGSEN	Tanzania Gender and Sustainable Energy Network
MDC	Mkuranga District Council	TGT	Tanzania Growth Trust
MFI	Micro-finance institution	TNBS	Tanzania's National Bureau of Statistics
MMB	Mwanga Microfinance Bank	TZS	Tanzanian shilling
MSME	Micro, small and medium-sized enterprises	US\$	United States dollar
MVC	Matembwe Village Company	USAID	United States Agency for International Development
NEEC	National Economic Empowerment Council	VICOBA	Village Community Bank
NGO	Non-governmental organisation		

1. INTRODUCTION

Energy is strongly correlated with economic growth, and has a major place in the UN's Sustainable Development Goals (SDGs) as goal 7 – to ensure “access to affordable, reliable, sustainable and modern energy for all” by 2030. But perhaps more importantly, energy has a prominent role to play across the SDGs, enabling different sectors to reach end goals of better human development through education, health, decent work and economic growth. Indeed, for many micro, small and medium-sized enterprises (MSMEs)ⁱ and smallholder farmersⁱⁱ it is an essential requirement of their business, from lighting shops to powering agro-processing equipment.

MSMEs and smallholder farmers make up a significant part of economies worldwide, contributing vital jobs and livelihoods for billions of people. And in more remote areas they drive economic activity by creating employment and income opportunities for local communities. However in more remote contexts they are typically less connected to larger markets – where suppliers and inputs are often available – face higher costs for goods and service delivery, and have much more limited access to adequate reliable and affordable energy.

Over the last decade, the off-grid sector has been evolving at a rapid pace. Newer technologies, falling costs, and novel business models, coupled with renewable generation assets are rapidly unlocking opportunities for rural communities to connect to the electricity grid, which would have been difficult previously because of the huge costs of connecting ‘the last mile’.^{iii,1} But the energy sector continues to search for viable business models to sustainably deliver commercial energy infrastructure and products to remote and marginalised communities. This is because communities typically do not express large initial demand for electricity.

Productive uses of energy (PUE) are activities or processes that use energy to make farmers or business owners more productive and increase their income. But PUE requires additional investments in equipment, skills, and services in newly electrified areas. For example, a carpenter who had previously used manual tools could invest in electrified carpentry equipment but doing so would require access to affordable financing and the skills needed to operate such machinery as a start. Furthermore, women-owned businesses and women farmers face more constraints as compared to men-owned businesses and farmers. These usually include social and cultural norms and systemic barriers that limit opportunities for women.

Adding to the existing challenges of delivering energy access, and something that cannot be ignored going forward, are the economic impacts of Covid-19, which have had far reaching consequences, even for countries that have not enforced restrictions or lockdowns.

This paper discusses the experiences of community businesses (MSMEs and smallholder farmers) on the ground in their use of and access to energy. It aims to give a better understanding of the finance needs of community businesses using PUE, and explore opportunities for unlocking affordable access to finance. The study focuses on Tanzania, building on our experience from the Energy Change Lab, a joint initiative of IIED and Hivos that seeks to create a sustainable and people-centred energy system (see Box 1). Through a literature review and a survey of key stakeholders, it provides an overview of the current sources of finance available for these community businesses. It also identifies barriers to accessing the finance needed to operate and grow these businesses and considers how such barriers could be addressed. By better understanding these

i Definitions of MSMEs vary by country and sometimes between entities in the same country. The Government of Tanzania defines MSMEs as: micro (1-4 employees), small (5 to 49), medium (50 to 99), large (100+) working in non-farm activities. See Section 2 of this report for more details.

ii Accurately quantifying MSME contributions has been difficult due to the varying definitions of MSMEs and farmers between countries and a dearth of data overall. Over the years, individual researchers, the International Finance Corporation (IFC), the Consultative Group to Assist the Poor (CGAP), the World Bank and others have collated and analysed data and advanced methodologies to try and quantify global MSME and farmer numbers and contributions to economies.

iii ‘Last-mile’ definitions in the energy access space can include reaching households and communities that have combinations of characteristics that make them more challenging or expensive to reach—in other words, the last ones to get energy access—such as: geographic remoteness; marginalised, excluded and vulnerable groups; low socio-economic status; or limited monetary resources.

various elements of finance demand – the perceptions and needs of MSMEs and farmers at the community level – we aim to input to policy decisions on post-Covid-19 recovery. The primary research questions we address include:

1. How are community businesses accessing finance to meet their PUE needs?
2. What perceptions determine which financing options to use to run or expand their businesses?

3. What are the examples of innovative finance delivery models that can help community businesses (limitations, success factors and opportunities)?

4. How has the Covid-19 context affected perceptions of access to finance for community businesses?

In particular, we assess the gender differences across the research questions.

Box 1. The Energy Change Lab

The Energy Change Lab ('the Lab'),^{iv} a joint initiative of IIED and Hivos, has been convening and partnering with energy sector stakeholders in Tanzania since 2016. The Lab works with pioneers and change-makers to create an energy system that is sustainable and people-centred. It does this by developing leaders, incubating prototypes, building evidence, connecting people and sharing ideas. The Lab has four main themes: building future energy leaders, better power, crowd-grid, and productive uses of energy (PUE).

Studies from the productive use initiative – *Demanding supply*, *Making mini-grids work*, *Better power*, *Remote but productive*, *Remote but productive II*, and *Off-grid productivity* – have highlighted some of the Lab's learnings from prototyping and implementation efforts, focusing beyond just mini-grids and other technologies to look at what other socio-cultural issues and supporting services are important to stimulate rural energy access

and livelihoods. These include: the skills necessary to operate equipment and manage micro-businesses; exploring how to link in after-sales equipment support; market linkages; and accessing the financing needed to purchase equipment and operate businesses in rural areas.

Under its PUE workstream in 2020, in partnership with Tanzania Gender and Sustainable Energy Network (TANGSEN), Solar Sister, and International Network on Gender and Sustainable Energy (ENERGIA), the Lab engaged with six energy enterprises in Tanzania. The aim was to understand the financing needs of their off-grid community business customers, including smallholder farmers, to unpack how they access and use financing, and to understand the perceptions that drive financing decisions and how these perceptions and needs differ between women and men in various contexts.

iv See <https://energychangelab.org/>

2. MICRO IS BIG: LIVELIHOODS, GENDER AND ENERGY

In this section we look at three important threads around sustainable development. Rural communities usually have limited access to goods and services, with weak linkages to other markets because of poor road infrastructure. As a result, opportunities are limited and livelihoods in rural areas revolve around small business and farming. Governing communities are socio-cultural gender roles that typically mean that women face more barriers, hindering them from expanding their livelihoods. Additionally, energy access remains low in rural areas.

2.1 MSME and farmer contributions to jobs and economies worldwide

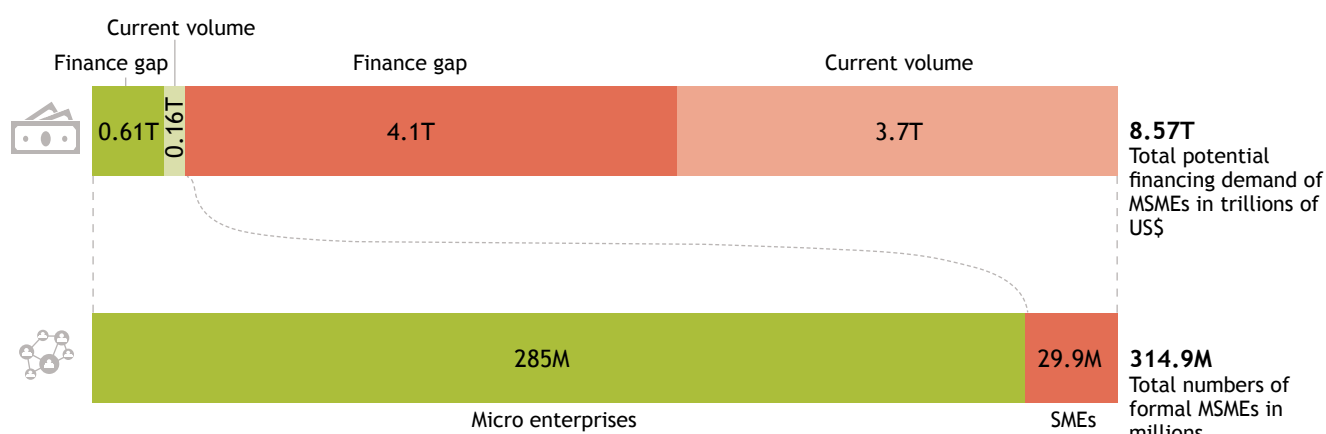
Data from the International Council for Small Businesses (ICSB) shows that MSMEs globally account for 70% of employment and half of GDP.² One dataset from the International Finance Corporation (IFC) shows that across 132 low- and middle-income countries, there are 29.9 million formal small and medium-sized enterprises (SMEs) and 285 million formal micro enterprises.³ Another shows that for 31 low- and middle-income countries, more than 744 million jobs are directly attributable to MSMEs, with micro enterprises contributing about 63% of those jobs, underlining the importance of micro enterprises to jobs in low- and medium-income economies.⁴

Farmers also contribute significantly to jobs and GDP and are the backbone of rural economies. The Consultative Group to Assist the Poor (CGAP) estimates that there are 400-500 million smallholder farmer families (approximately 2 billion people) worldwide working less than two hectares of land.⁵ The IFC reports that 80% of the world's poor in rural areas directly or indirectly rely on agriculture, with agriculture contributing to 60% of employment and 20% of GDP in low-income countries.⁶

2.2 Financing needs of MSMEs

One of the keys to stimulating these millions of MSMEs and smallholder farmers is financing. But there is a huge gap in meeting the financing needs of both groups. At the global level, the IFC estimates that formal MSMEs require US\$8.6 trillion in financing, with only about US\$3.8 trillion – just 44% of total demand – being met.³ Based on an IFC database, Figure 1 highlights how micro enterprises are far greater in number than SMEs but the latter have much larger unmet financing needs. For smallholder farmers, Dalberg's rough estimate is that the financing gap is US\$450 billion, split equally between short- and long-term financing.⁷

Figure 1. Financing requirements of micro enterprises and SMEs



2.3 Gendered differences

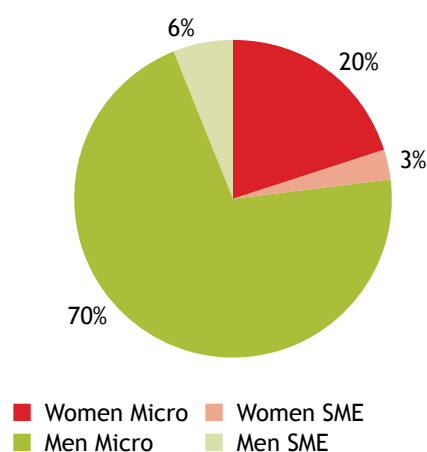
Gender is an important consideration across sectors, and farming and businesses are no different. In both sectors, women's and men's needs are different and the barriers they face are also different. Looking deeper into the numbers provides some nuance to these needs and barriers.

The majority of MSMEs are owned by men, with only 23% of MSMEs owned by women. The World Bank reports that women-owned enterprises are smaller and hire slightly fewer workers.⁸ The IFC highlights that while securing finance for women is a major constraint, there are critical non-financial factors that impact women-owned businesses in accessing the financing that they need. These typically include unequal laws that result in lack of collateral, inadequate financial infrastructure and high costs of borrowing as well as the social and cultural norms that reinforce gender bias against women. These social constructs create additional barriers and can limit women's access to education, opportunities and networks.⁹ Working to deconstruct and remove these gender barriers when planning, designing and implementing energy access interventions is crucial to maximise benefits of energy access, to both women and men in rural communities. Figure 2 illustrates the great gender disparity that exists in ownership of micro enterprises and SMEs, with men owning 76% of all MSMEs, and that women-owned businesses are mostly 'micro' in size.

2.4 Enabling energy for business

Access to affordable and reliable energy is a cornerstone for economic growth, and critical to increasing the productivity of businesses and farmers. But an ongoing issue across sub-Saharan Africa is access to affordable and reliable energy. Grid infrastructure usually revolves around urban centres where densely packed populations achieve economies of scale for electricity delivery. Historically, rural communities are the last to be connected. Grid generation and distribution tend to be inefficient, with infrastructure that is typically old and in urgent need of repair and upgrading, and with frequent losses and thefts. This means they are unable to deliver consistent high-quality power, which negatively affects productivity. A survey of MSMEs in Nigeria by PwC found that electricity is the most expensive daily cost for MSMEs, and that electricity shortfalls account for one in seven enterprise closures.¹⁰ The IMF states that a lack of access to electricity and unreliability of supply costs MSMEs and the Nigerian economy \$29 billion annually.¹¹

Figure 2. Total micro and SMEs by gender as percentage



Source: IFC (2018) MSME Finance Gap 2018-19 Update (Public).

3. TANZANIAN COMMUNITY BUSINESSES

3.1 Energy and rural economies

Researchers and enterprises have found that simply building infrastructure to electrify communities, such as mini-grids or stand-alone systems, is not enough to rapidly stimulate uptake of electricity. In IIED's *Remote but productive* study, experience from three electricity providers in Tanzania shows that community demand for electricity is not assured, and often additional interventions and investments are needed to stimulate electricity usage within communities for the benefit of the provider and the community.¹² Similarly, IIED's *Making mini-grids work* report highlights the promise of Tanzanian developer JUMEME, and its approach in targeting local value chains with additional investments to shore up the electricity infrastructure investment, while trying to maximise the impacts for the company and community.¹³ In short, newly electrified areas usually need additional support to more quickly leverage energy investments. To do this, electricity demand must be stimulated by supporting and scaling productive uses of energy so that more businesses and farmers can afford these energy products and services, and in turn sustain the energy system investments.

The benefits of electrification can also be unevenly spread. Those able to afford PUE are likely to be the wealthiest in their communities. IIED's recent *Energy for all*¹⁴ report explores how targeting subsidies will be crucial to closing the energy access deficit, lessons from which are applicable to enabling more PUE in communities, especially for the poorest households who cannot afford access without subsidised support. And as across all sectors, gender matters in productive uses of energy. A recent study along Lake Victoria in Tanzania highlights how men typically benefit more from energy access than women because their businesses are better positioned to use it. Women have less access to finance, education, and other resources to start their businesses, and must split time between business and domestic responsibilities. The study concludes that "in the absence of gender interventions, men entrepreneurs are more likely to benefit from the promotion of productive uses of electricity."¹⁵ To overcome some of these issues, Energy4Impact in Tanzania has bundled a training and

mentorship package for 82 women entrepreneurs in Kigoma, which among other impacts, has increased sales for 80% of the entrepreneurs.¹⁶ In *Remote but productive II*, the Lab documents its own work on PUE in Tanzania, building on ENERGIA's 2014 manual on PUE and business development skills, to ensure that these gender barriers are targeted before, during and after activities in training modules and mentorship.¹⁷

The Energy Change Lab experience of working on PUE with rural communities shows that micro businesses and farmers often need support to unpack their energy needs, financing options and supporting services such as training in business skills, planning, after-sales services, and stronger access to markets to reap benefits from energy investments. Building these elements into financing for energy access therefore is a key aspect to consider. Financing instruments need to consider what limits MSMEs and farmers from accessing energy – in particular lack of affordability and accessibility, lack of awareness of solutions, and limited access to energy service providers.

3.2 MSMEs and smallholder farmers in Tanzania

Like most countries, Tanzania's MSMEs and smallholder farmers contribute significantly to the economy and are a large source of employment.

The definitions of MSMEs vary widely from country to country, but most definitions are based on numbers of employees and capital investments. Table 1 shows how the Tanzanian government categorises MSMEs. Two-thirds of enterprises are categorised as micro (66%) with less than four employees; just under a third (31%) are categorised as small enterprises with a 5-49 employees, and the remaining 3% as medium up with up to 99 employees.¹⁸

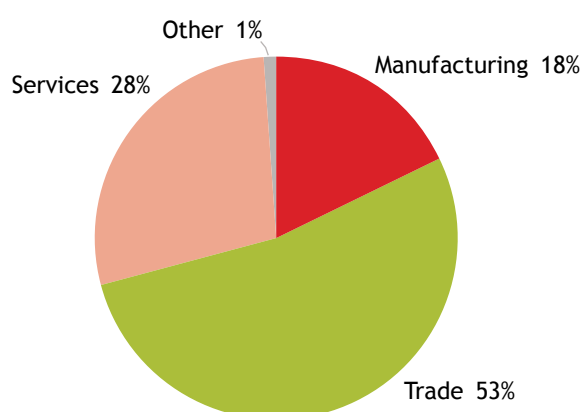
Tanzania has an estimated 3.1 million MSMEs split across trade (55%), services (30%), manufacturing (14%) and other (1%). Figure 3 shows the number of rural MSMEs only, which has a similar split, with slightly more (4%) manufacturing than urban MSMEs,¹⁸ which is surprising because rural areas typically have much lower electricity access rates, and electricity is usually a prerequisite for machinery for manufacturing purposes.

Table 1. Tanzanian government's MSME definitions

Enterprise size	Number of employees	Capital investment in machinery (TZS)	Capital investment in machinery (US\$)
Micro	1 to 4	Up to 5 million	Up to 2,145
Small	5 to 49	5 to 200 million	2,145 to 85,827
Medium	50 to 99	200 to 800 million	85,827 to 343,310
Large	100+	Above 800 million	Above 343,310

Source: FSDT (2012) National Baseline Survey Report¹⁸
Exchange rate of TZS2,330.25 per US\$1 from 12 Oct 2020 (Oanda.com)

Figure 3. Tanzanian MSMEs by sector in rural areas



Source: Financial Sector Deepening Trust (2012) National Baseline Survey report: Micro, small, and medium enterprises in Tanzania.

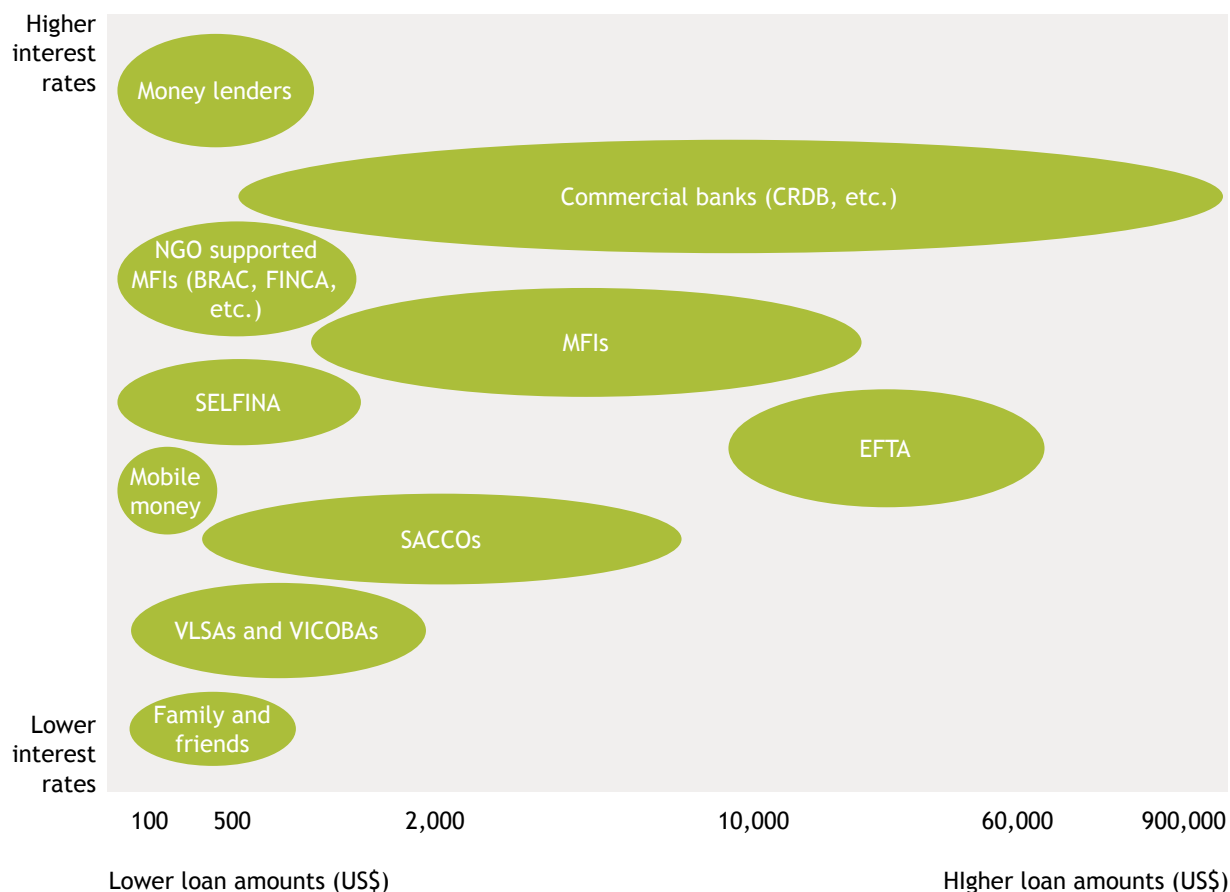
Research by the International Growth Centre suggests that MSMEs in Tanzania help fuel employment and productivity growth.¹⁹ According to the 2012 MSME National Baseline Survey Report by the Financial Sector Deepening Trust (FSDT),¹⁸ Tanzanian MSMEs employ around 5.2 million people, and most employees (80%) are the entrepreneurs themselves or relatives or friends of the entrepreneurs. Indeed, 84% of business owners said that they were motivated to start their business by a need to provide for their families. Most businesses are informal, with only 3.9% registered with the Business Registrations and Licensing Agency (BRELA).¹⁸ Registration processes require certification and registration with tax authorities, and so on, which provide additional

documentation to secure a loan. It is more challenging for informal businesses to secure financing from formal lenders, so many turn to informal sources, or simply don't borrow at all.

Smallholder farmers contribute significantly to the Tanzanian economy. Similar to the global average figure, 85% of Tanzanian households practised agriculture in 2012 (cultivating land, rearing livestock or managing fisheries).⁵ According to Tanzania's National Bureau of Statistics' (TNBS) 2017 report,²⁰ in 2015 the agriculture sector contributed about a third (29%) of Tanzania's GDP, of which 15% was crop production. And in 2014 the entire agriculture sector employed about two-thirds (66.3%) of the country's workforce. Farming households often have multiple income streams from off-farm activities to supplement inconsistent farming income, including wages and self-employment, and this trend increased between the 2008 and 2015 TNBS surveys. Farming households in rural areas are less likely to earn income from other businesses compared to farming households closer to urban areas.²⁰ This reduces rural households' ability to cope with shocks such as drought and price fluctuations, and affects their ability to secure financing.

Tanzania has 67 banking institutions offering various commercial and consumer financial products,²¹ but these usually only offer larger loan amounts to certain customers and in certain sectors – those that are familiar to the banks and consequently lower risk. This reduces the banks' ability to reach more remote areas with typically lower socio-

Figure 4. Financial providers in Tanzania by loan amount and interest rate



economic profiles, where there is more uncertainty and higher risks with smaller loan sizes and higher transaction costs. In other words, commercial banks typically do not serve rural areas.

Figure 4^{22,23,24,25,26,27,28} illustrates some of the options for financing in Tanzania. The bottom left section shows the lending opportunities that rural communities access. Moving through the gradient to the top right, the loan amounts and lending costs are higher, and availability is limited in rural areas.

Rural communities in Tanzania have seen their financing opportunities increase in the last decades thanks to home-grown options. Family and friends have always been viable options but the amounts that can be borrowed are limited. Money lenders in villages usually impose difficult lending conditions like high interest rates. Groups of people self-organise and form semi-formal and formal variations of Village Community Banks (VICOBAs) and Savings and Credit Co-Operative Societies (SACCOs) and offer different types of lending to each other. Overheads are usually minimal, which allows these groups to charge lower interest rates of around 5%.²⁹ The loan amounts are limited by the number and amount of member deposits, and it can take months before

an individual member can access a loan. More recently, SACCOs have been capitalising funds from commercial banks such as NMB Bank and government funds at low interest rates for on-lending. This has opened up more financing options for rural and poorer customers.

3.3 Challenges in accessing finance

Most **MSMEs** start their businesses using their own savings. There are numerous factors hampering MSME's access to finance. The OECD argues that market failures and structural challenges continue to hinder SME access to finance across the globe. Information asymmetries are prevalent on both the demand and supply sides of finance. Banks still have high transactions costs associated with servicing the smaller loan sizes that MSMEs and smallholder farmers need. Many businesses lack the financial skills and knowledge to begin accessing loans.³⁰ In addition, 28% of SMEs in middle-income countries and 44% in low-income countries need a loan but refrain from applying, citing a lack of: 'profitable investment projects', collateral, or required loan application information.³¹

Smallholder farmers face many business risks that affect their ability to borrow. Table 2 highlights some of the risks and challenges considered by lenders working within

agriculture. The risks for lending into agriculture include external risks that are difficult to influence, ‘business risks’ or internal issues to business/farmer structures and operations, and ‘product misalignment’ where typical banking financial products or practices may not align well with agricultural sector realities.³² Box 2 presents an overview of market challenges that increase the risk profile of smallholder farmers for borrowing.

Table 2. Lender risks for agriculture

Risk type	Risk example
External risks	Price volatility, climate change, government regulations
Business risks	Management capacity, inadequate financial records
Product misalignment	Seasonal nature of cashflows, lack of favoured types of collateral

Source: Dalberg (2018) *The Economics of Agri-SME Lending in East Africa*³²

Efforts have been made to address these financing challenges. For example, an agricultural development bank programme in Tanzania did try to reach rural households, but CGAP argues that it was hampered by weak institutional capacities and political unrest, which limited access to inputs for rural farmers.⁵ The volume of lending going into Tanzania’s agriculture sector remains low, just 6% of total bank credit (2015), and most of it probably goes to commercialised farms.⁵

3.4 Gender disparity in access to finance

Most (54%) MSMEs in Tanzania are owned by women, however this statistic masks an important trend of women typically being self-employed and having fewer employees overall. Figure 5 highlights this gender disparity by the size of the MSME, based on FSDT’s 2012 MSME survey. Around 60% of businesses with one employee are owned by women, and businesses with higher numbers of employees are mostly owned by men. Indeed, businesses with five or more employees are overwhelmingly (86%) owned by men.¹⁸ Women face significantly more barriers to accessing finance, including being less likely to own assets for collateral or mobile phones, especially in rural areas.

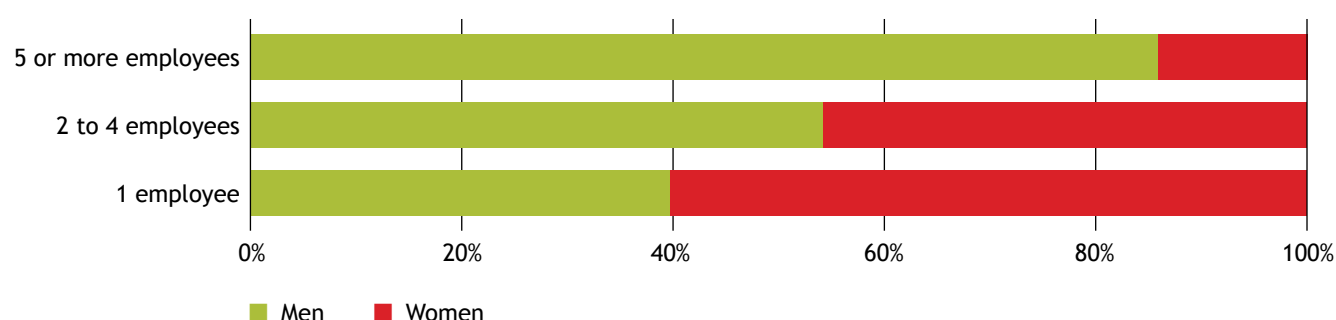
Box 2. Smallholder farmers’ market challenges that affect access to finance

CGAP’s Smallholder Diaries reveal that production-related risks are higher for less commercialised farmers in Tanzania, and risk management often involves crop diversification, staggering planting dates, and income diversification, while more commercialised production in efficient value chains can better utilise financial risk management tools.⁵ Indeed, smallholder farmers have limited options to reach markets to sell their goods because of their farm locations, which are typically more remote and not well connected to larger markets. This increases transportation costs and reduces overall market knowledge, leaving farmers with few options to sell their produce. In other words, farmers with weak relationships within value chains – usually those with low-value crops or in subsistence farming – are much higher in number and more difficult to reach with financing because of

transaction costs and risks. But farmers that have strong relationships with buyers have opportunities to leverage financing: shared credit screening, monitoring and collection, and sales contracts.³³

As a result, much of the value in agricultural value chains is captured by intermediaries who buy from farmers and bring produce to markets, and who have a strong negotiating position compared to farmers who have few other options.³⁴ For instance, a study looking at intermediaries (or ‘middlemen’ – and it is mostly men) in tomato supply chains in Kilolo District in Iringa revealed that most (58%) of the 133 smallholder tomato farmers surveyed sold their produce to intermediaries because of the long distances to larger markets, poor roads, and limited access to market information.³⁵

Figure 5. Gender split by business



Source: Financial Sector Deepening Trust (2012) National Baseline Survey report: Micro, small, and medium enterprises in Tanzania. Ministry of Trade and Industry.

There is also a gender gap in terms of productivity. For instance, women often lag behind men in skills and their median income is half that of men.³⁶ A study³⁷ published in the *Venture Capital* journal surveyed 212 Tanzanian women entrepreneurs across Central, Northern, Lake and Eastern zones. The study found that women entrepreneurs in Tanzania mostly used their own savings (86%) to start up their businesses, which is typical of many MSMEs around the globe. The study suggests that women entrepreneurs' ability to access finance through formal credit sources (such as micro finance institutions and commercial banks) is dependent on their own perceptions and knowledge about access to finance and the gender barriers they face. These barriers include being traditionally responsible for household duties; not being allowed to go out, which limits their ability to network; and being discouraged from using property as collateral. In addition, various procedural and institutional challenges, weak property rights and the lack of enforcement mechanisms in Tanzania affect entrepreneurs' ability to use their assets as collateral. Thirty percent of women said that when their businesses started to grow there was a lack of family support. This is probably related to the fact that the time they spend looking after their business is perceived as infringing on their traditional role of household caretaker. Most of the women entrepreneurs surveyed (82%) thought that they had the same opportunities as men to own and register property. There are negative perceptions associated with accessing finance. For example, the majority (62%) thought that access to finance is 'not women friendly', and a further 42% didn't believe that loan officers 'take women seriously'.³⁷

However, a study published in *Africa Journals Online* shows that women often lack assets to use as collateral. The study also highlights that many women entrepreneurs in the agri-business sector lack negotiation skills and are reticent when interacting with men counterparts, whereas men are "raised to believe that they are always winners at the negotiation table".³⁸ Overcoming these gender norms is an additional barrier facing women.

3.5 Tanzania's economy and impacts of Covid-19

Tanzania had made significant progress in reducing poverty, with an 11% reduction between 2007 and 2011,³⁹ and culminating in Tanzania's upgrade from 'lower' to 'lower-middle income' status in 2020 after impressive "real gross domestic product growth of 6% on average over the last decade".⁴⁰ However, according to a recent World Bank study, Tanzania's own gains against poverty effectively stopped in 2017 at a poverty rate of 49%. The report also highlights how the economic effects of Covid-19 further threaten a reversal back to poverty for millions of people living in sub-Saharan Africa, including in Tanzania.³⁹

FMO⁴¹ carried out a rapid assessment of MSMEs between June and September 2020 across Georgia, Jordan, Kenya, Tanzania, Zambia and Ghana, highlighting that Covid-19 economic impacts have been relatively lower in Tanzania and Zambia due to the looser restrictions imposed since the Covid-19 outbreak. However, other sources have highlighted impacts on specific value chains that could have led to knock-on impacts on livelihoods. A Covid-19 impact assessment by African fertilizer and Agribusiness Partnership (AFAP)⁴² found that despite Tanzania not imposing border closures, border restrictions in other countries (particularly in Asia and Europe) impacted agriculture SMEs and farmers. For instance, 60% of the Tanzanian agriculture SMEs (intermediaries who provide supporting services to farmers such as input sales) surveyed were unable to source their agricultural inputs for sale to farmers. Although no direct impact of this was reported for Tanzanian farming communities, overall more than 30% of the farmers from Ghana, Malawi, Mozambique, Tanzania and Uganda indicated that Covid-19 had negative impacts on their livelihoods and production.

4. VOICES FROM THE GROUND: VIEWS OF COMMUNITY BUSINESSES AND KEY STAKEHOLDERS

In this section we summarise the views and experiences of the 373 community businesses who were surveyed. In addition, 14 stakeholders in the Tanzanian finance supply chain were interviewed, including banks, micro-finance institutions (MFIs), specialist loan organisations, and government. The responses from key stakeholders point towards key trends or innovations that have supported improved financing of MSMEs using productive uses of energy. Few responses disaggregated business size exactly within the framing of MSMEs but in some cases they indicated how support for smaller sized businesses could be improved.

4.1 Who are the community businesses?

The government of Tanzania defines micro enterprises as having fewer than five staff, and small enterprises as having between five and 49 staff. This does not include farmers. More than 90% of all respondents in the survey confirmed that less than nine people work for them. This study defines ‘community businesses’ as micro/very small businesses and smallholder farmers^v operating in rural areas in small villages who are customers of mini-grid companies or stand-alone solar products.

4.2 Research methodology

Literature review: The research included a review of literature that focused on financing for MSMEs and community businesses in Tanzania and globally. It identified their needs across different contexts, their contributions to economies, and in particular looked for innovative approaches and inclusive financing models that are enabling livelihoods and rural community development. The review

also took a close look at gender: access to finance for women-owned community businesses, the additional challenges that they face, and opportunities and financing models for addressing those challenges. The study also incorporated the latest reports on the emerging impacts of Covid-19 on MSMEs and community businesses.

Telephone surveys: To better understand the context, perceptions and finance needs of the men and the women who own community businesses, the IIED-Hivos Energy Change Lab partnered with six energy product and service providers in rural Tanzania to conduct a phone survey entailing 30-minute interviews with respondents. The surveys were carried out with GeoPoll, an experienced mobile-based research provider. Out of a total of 722 phone numbers, 373 community businesses responded to the survey within the timeframe of the work. In this sample, 167 were smallholder farmers, about 45%. The other 206 community businesses were micro/small businesses. Of the total respondents 74% were men and 26% were women. Due to external constraints on the approach and methodology, the sample is not intended to be representative.

In addition, the Lab and partners conducted semi-structured interviews with key stakeholders that are financing and supporting community businesses, including civil society organisations, financiers and private companies. The in-country engagement in Tanzania was led by the Tanzania Gender and Sustainable Energy Network (TANGSEN). See the Annex for a full list of stakeholders.

^v Definition for smallholder farmers is not fixed (based on land area, farm size and value of assets), and often varies by country. In Tanzania a CGAP survey considered smallholder families to own 5 hectares. The majority of the respondents to the surveys confirmed they have less than 10 acres/ 4 hectares of land.



As part of the Energy Change Lab's PUE activities in 2019, a SIDO representative demonstrates the use of appliances in Matembwe, Tanzania. (Sisty Basil)

Research limitations: The respondents were targeted from contact lists of energy customers given by six energy providers. It was not possible to target respondents based on gender so the number of women respondents was not equal to men respondents. Disaggregated data was however collected and analysed and presented below, highlighting gendered differences by comparing the proportion of women as a percentage of respondents to the proportion of men as a percentage of the respondents.

A variety of community businesses took part in the interviews. The survey only targeted respondents who identified as farmers or business owners who use electricity and personal mobile phones, so there is a large selection bias inherent in this methodology. It is therefore likely that the sample skews towards richer business owners in communities.

The six energy providers focus their distribution in rural areas, so as customers of these companies, respondents were assumed to be members of rural communities. But it is possible that some respondents had moved locations, or customer data was not fully up to date. Survey methods and practicalities limited our ability to confirm locations or current customer information, in particular, to ensure anonymity.

4.3 Context: who responded to the surveys?

Only respondents identifying as either a business owner or a farmer were eligible to complete the survey. Respondents received a small, mobile units 'top-up' for completing the survey. The survey results combine smallholder farmers and other community business responses together as 'community businesses' in the narrative, unless otherwise noted. Statistics that are unique to each group (and sub-groups) are differentiated and highlighted in the narrative.

Due to limitations in our methodology, our sample is only representative of a small section of smallholder farmers and community businesses in Tanzania. From our sample, Figure 6 shows a larger proportion of men to women respondents than might be expected in a representative sample for community businesses. There were almost three times more men than women in this sample, which perhaps is the effect of selection bias in only selecting community businesses that are using electricity already. As described previously, smaller businesses in Tanzania are usually run by women so we would expect to see a larger proportion of women in a representative sample. Here, we present the gender breakdown to highlight how the perceptions and opportunities of men and women respondents differ.

Figure 6. Farmers and other community businesses disaggregated by gender

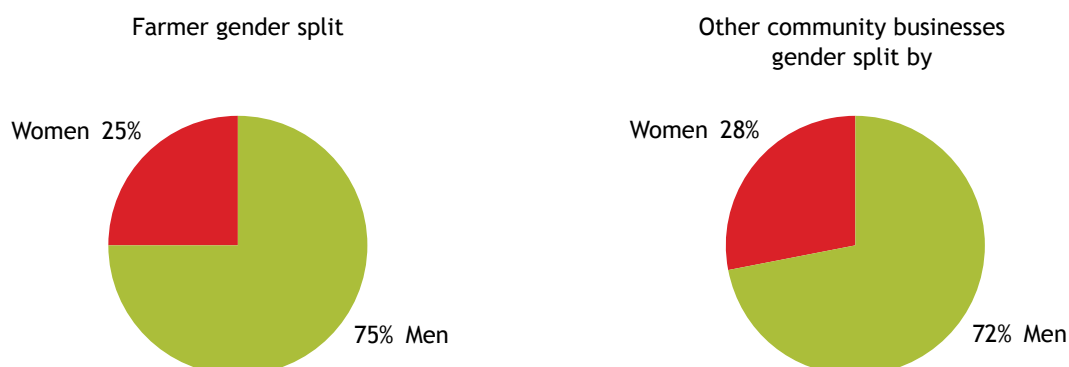
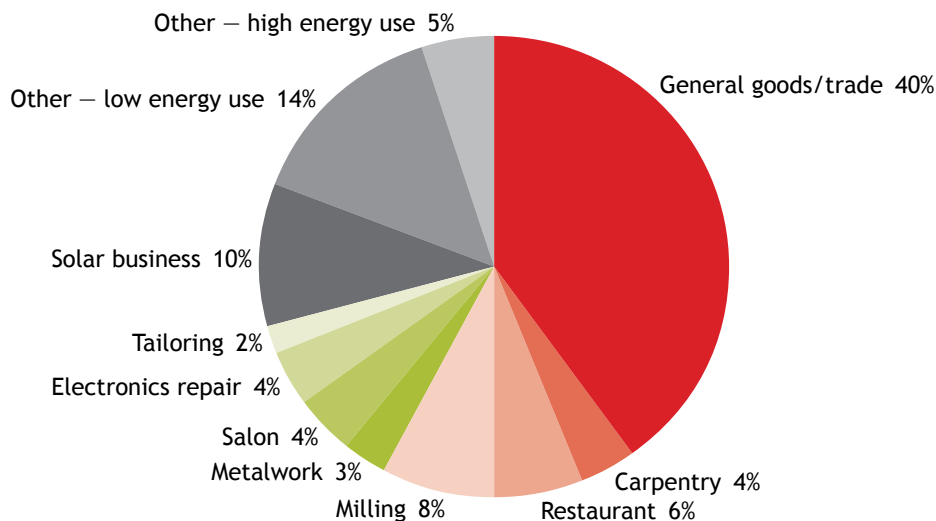


Figure 7. Types of other community businesses respondents



The survey covered a variety of non-farm ‘other community businesses’ that were using energy for their business. Figure 7 provides an overview of the types of ‘other’ community businesses identified and their proportions in our sample. We also created two additional categories called low and high energy use to cover responses that did not belong to a specific business type or that did not feature enough to warrant categories of their own. Consistent with national statistics, trade and services make up a large proportion of businesses in our sample.

High energy-consuming businesses such as carpentry, milling, metal work and other enterprises such as water pumping and metal working accounted for 20% of the respondents and were primarily (95%) owned by men. While our sample is not representative, this is consistent with studies that show men are in a better position to leverage electricity – especially in high energy-use applications. This is because of gender norms and other barriers that prevent women taking up vocations typical of many rural areas that use higher amounts of electricity, like carpentry and metal work.⁴³ Ownership of general goods/trade shops were just about even across both genders at around 40%. A number of Solar Sister employees were surveyed as business owners, so

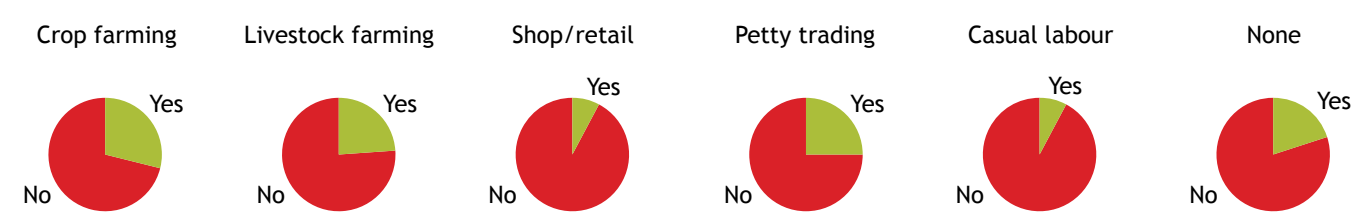
‘solar business’ is probably overrepresented at around 35% of women. Like most respondents, these women also had other revenue streams like farming and selling produce and mobile top-up units.

4.3.1 Additional revenue sources

Most (80%) respondents across farming and businesses said that they had additional revenue streams. Crop farming, livestock, and petty trading were the top three sources of additional revenue. Households with multiple revenue streams have become more common over time, giving families greater resilience against market shocks and climate change impacts. However, rural smallholder farmers are less likely than their counterparts closer to cities to have additional revenue streams. Electricity access is thus perhaps more important for opportunities for rural communities than those living in unelectrified peri-urban areas, where population density provides more opportunities.

Access to affordable and reliable electricity provides more opportunities to remote communities for improving productivity and income that can help diversify their income streams more effectively, providing ‘income smoothing’ over time and better resilience against shocks.

Figure 8. Additional revenue sources



4.4 Electrical appliances used

To better understand respondents' businesses, the survey asked what types of electric appliances they were using. The results in Figure 9 show that there are some appliances that are useful across different business types, for example lighting and mobile phones are used in high numbers regardless of business. Irrigation pumps, the second most cited appliance, were mainly used by those who identified as farmers, but business owners, such as general goods/trade shops, millers, and others, also used irrigation pumps for extra farming income. The large number of people using irrigation pumps (an overrepresentation as compared to national statistics) is probably because among those surveyed were customers of Simusolar, a company that provides irrigation pumps. Most fridges or freezers were owned by general/goods trade shops (54%) and restaurants (16%). The remainder were owned by a mix of businesses, which shows how some businesses diversify their revenue streams with different appliances. For instance, a carpenter and an electronics repair shop owned a fridge.

PUE appliances that are useful across business types such as lighting and refrigeration can help establish initial demand for electricity and diversify revenue streams in community businesses while meeting certain household needs. As is the case elsewhere, the local demand for

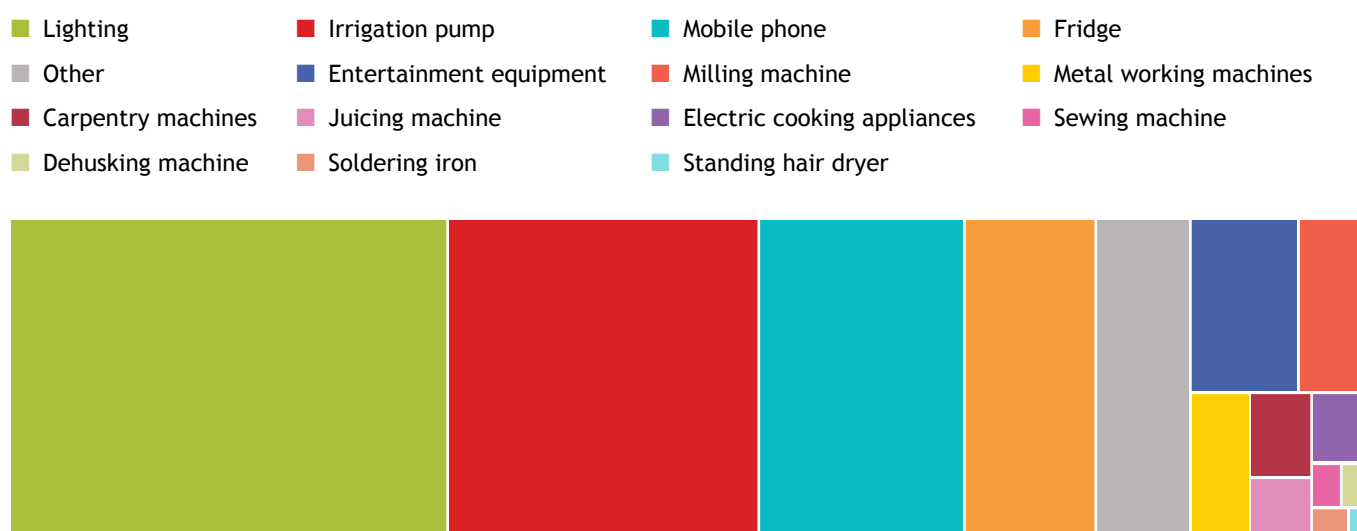
services usually stimulates entrepreneurs to purchase PUE appliances, but too much competition between services can also be bad for community entrepreneurs. Finding the right balance is essential for markets that are smaller in size. Furthermore, high energy-consuming PUE appliances are also expensive. But they are essential for the sustainability of larger energy infrastructure like mini-grids. And our work with the Lab shows that additional support to businesses on marketing and business skills is essential for building community demand.

4.5 Perceptions about accessing finance

4.5.1 What financing is available for community businesses?

As discussed in Section 3.2, formal and informal lending through groups, such as SACCOs and VICOABAs, have been fundamental in enabling finance to reach "those areas that have been hard to reach" according to the Small Enterprise Loan Facility (SELF) Microfinance Fund,⁴⁴ launched by the government in 2000 to provide financing services to underserved areas. Indeed, Kibaha Rural District Council (KRDC) has observed that much of the demographic it serves does not have the capacity to access finance through banks because they do not have formalised assets. "The best way for these groups to access loans is to start with their own financing, for example VICOABAs. And if they grow, they end

Figure 9. Types of appliances owned by respondents



up into SACCOs in which they can access funds indirectly from the banks. So we usually advise women, youth and Persons with Disability (PWD) groups to start their own VICOBA.”⁴⁵ This chimes with national surveys, as well as our own survey, which show that most community businesses in rural areas start with their own savings.

From a government perspective SACCOs act as a useful intermediary. Mkuranga District Council (MDC) notes that “the best mechanism is the SACCOs system where SACCOs will be making loans directly to the beneficiaries instead of us dealing with them directly; and this SACCO will be reporting directly to us (the District)”.⁴⁶ Most interviewees agreed that group lending – formal and informal – has been successful in expanding access to smaller loans with affordable interest rates in rural areas.

4.5.2 Community businesses’ perceptions about available resources

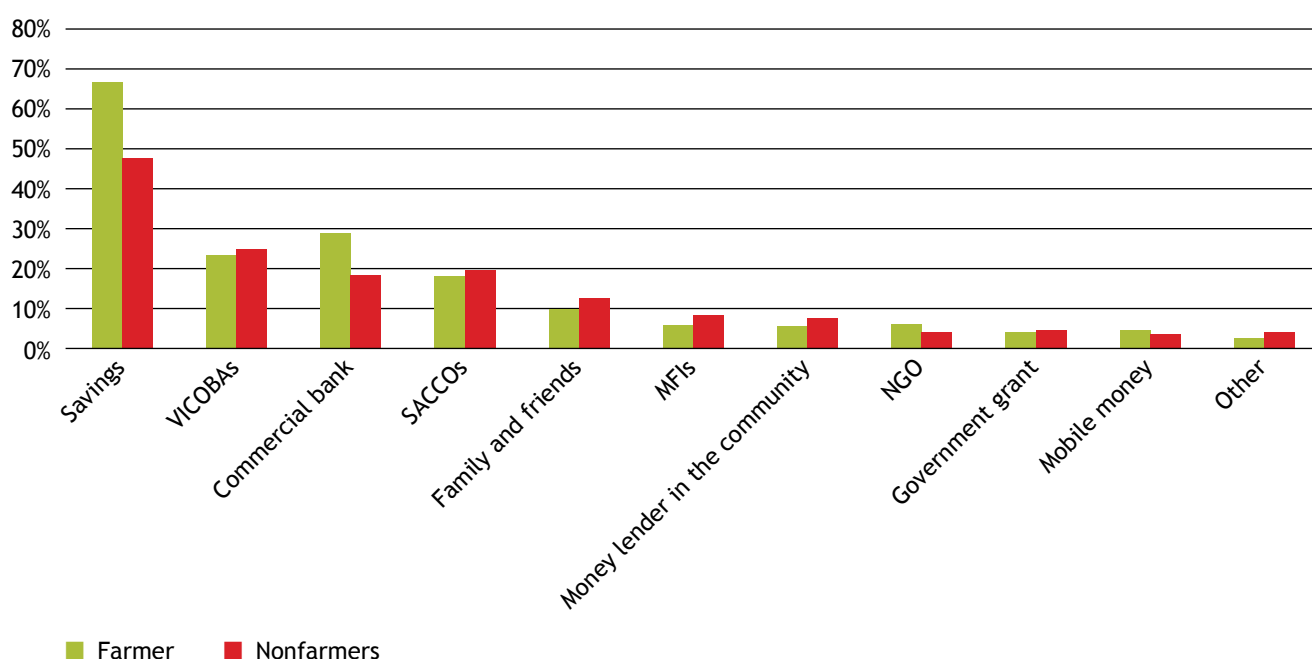
According to experience from Financial Sector Deepening Trust (FSDT), an intermediary operating in Tanzania, seed capital for small businesses in Tanzania typically comes from entrepreneurs’ own savings or from family and friends,⁴⁷ and other studies have also confirmed this.^{48,18} To further

understand community business perceptions of finance, the surveys asked what sources of financing respondents thought were available to start and run a business. Figure 10 highlights the answers to the multi-choice question, showing savings as by far the most popular option for both farmers (67%) and business owners (48%). This highlights ongoing reliance on savings for funding business operations, and perhaps shows continued risk aversion to taking on debt.

The above results also reflect lenders’ own risk aversion in lending to community businesses. For instance, few lenders, irrespective of loan size, offer start-up capital, especially for inexperienced entrepreneurs. KRDC experimented with giving start-up capital to newly formed groups in the past but found that most did not have the entrepreneurial capacity to succeed, resulting in loan defaults. Lessons from these experiments helped KRDC to offer entrepreneurs training support and offer working capital to more experienced groups.⁴⁹

The overall second choice was VICOBAs, followed by commercial banks, SACCOs, and family and friends. A small percentage of both farmers and businesses selected the remaining choices. This suggests that financing PUE

Figure 10. Perceived availability of finance disaggregated by business type



for community businesses may require greater efforts in convincing businesses to save more money in anticipation of the new energy infrastructure, or offering more affordable loan options for investing specifically in PUE equipment.

As a perceived source to access finance, commercial banks were the second most popular among farmers. This is likely due to ongoing government efforts to achieve food self-sufficiency and security by 2025. The Tanzania Agricultural Development Bank recently capitalised funds and, working through commercial banks, started lending to smallholder farmers, which has increased credit available to rural smallholder farmers.⁵⁰ Other large agricultural initiatives (such as the Private Agricultural Sector Support Trust, FSDT and EFTA), as well as more recent interest in agriculture from other commercial banks, may also explain why the farmers in this sample cite commercial banks as their second choice.

4.5.3 Perceived availability of finance by gender

Further analysis of responses disaggregated by gender provide some useful insights into how women and men perceive availability of financing sources differently. Our results in Figure 11 show that there are similar perceptions

between genders as between farmers and business owners for personal savings. Indeed, savings was the most popular source of financing available to start and run businesses among both men and women (57% and 56% respectively). Almost double the percentage of women to men see VICOBAs as an option for financing. This fits with the history of VICOBAs in Tanzania, which were established as a way for women to begin saving and accessing small loans for the first time.

For the less popular options, far more women perceived them as viable sources of income than men. For example, 6% more women than men perceive mobile money as a viable source of financing for their businesses, which contrasts with the national gender gap where 11% fewer women than men use mobile phones and internet.⁵¹ Mobile banking and financing is becoming more popular in Tanzania, offering quick, small loan amounts tied to mobile accounts.⁵²

Similarly, 7% more women than men perceive MFIs as a viable source of financing. However, women and men both had a similar level of perception that that borrowing from MFIs and commercial banks would have additional requirements for accessing financing, such as collateral, which generally

Figure 11. Perceived availability of finance disaggregated by gender

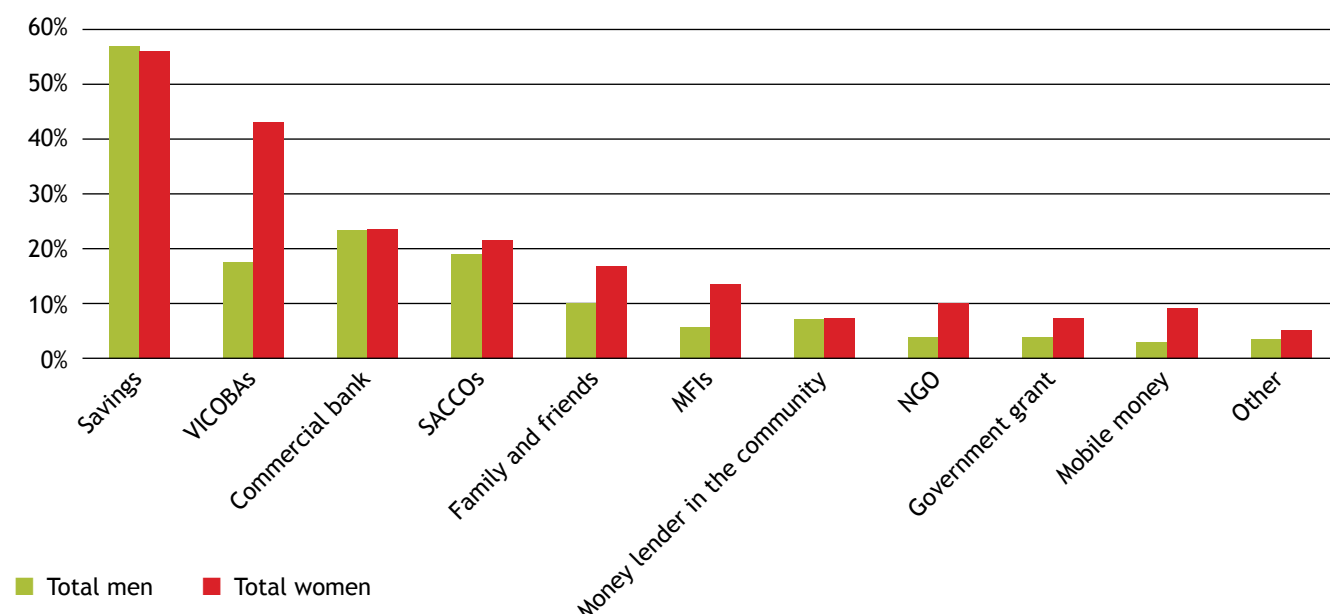
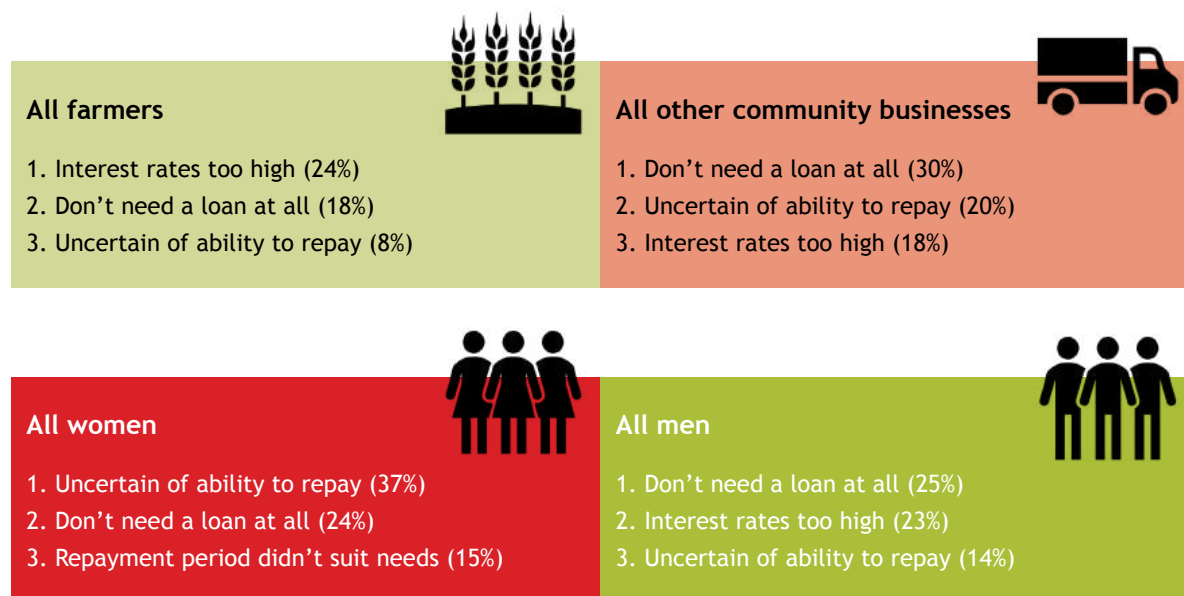


Figure 12. Top three reasons for not borrowing across categories



makes it more difficult for women to access. While we lack the data to draw more concrete conclusions, it is possible that this subset of women has greater opportunities than the average Tanzanian woman – access to education, access to collateral, more supportive husbands, and so on, factors that are seen as key drivers for borrowing by women, as discussed in Section 1.5.

4.5.4 Reasons for not borrowing from formal or semi-formal financial institutions

About half (49%) of all respondents said that they had not previously borrowed from formal or semi-formal financial institutions (see Figure 11 for list). Figure 12 shows the top three reasons for not borrowing categorised by women, men, farmers and other community businesses. To slightly differing degrees, respondents across the four categories who had not previously borrowed thought that they did not need a loan, and this was the most common reason for not borrowing among all respondents. This fits with the general profile of borrowing by community businesses, as many are not seeking to grow their businesses, but simply to provide for their families.

While we do not have sufficient data to understand why so many farmers perceived interest rates to be too high (24%), this view could be due to commercial banks being the most common financing source among the farmers we spoke to (see next section on borrowing), and those who do not borrow might see commercial banks as the only option for them to borrow. Commercial banks often have higher interest rates compared to SACCOs or VICOBA.

More than a third of women (37%) in our survey were not confident in their ability to repay a loan, while only 14% of men thought the same, which suggests women have negative perceptions about financing. Indeed, research indicates that negative perceptions are hindering women from accessing more formal lending. This may suggest that there is a lack of 'demand' for finance rather than a lack of 'supply', and this is limiting many Tanzanian women entrepreneurs in accessing formal lending.⁵³

More businesses than farmers are unsure of their ability to repay. This uncertainty indicates a tendency of risk aversion in borrowing, especially among rural communities, where income is inconsistent.

Additionally, a large percentage of women (15%) wanted better repayment periods to fit their needs. This highlights some of the structural challenges facing group lending, where short repayment periods are sought to allow other members an opportunity to take a loan. Indeed, sometimes taking a loan is a requirement of group lending structures to retain membership. This means a certain number of loans are disbursed throughout a year and are expected to be paid back in short tenors – sometimes even within a month so that lending can be available to all members.⁵⁴

Another reason for not borrowing is high interest rates. Many more men (24%) than women (12%) thought this was an issue. This could be because a higher proportion of men are borrowing from commercial banks (see section 4.6.1). High interest rates are either an issue of perception or affordability; more data is needed to better understand this.

4.6 How are community businesses borrowing and for what?

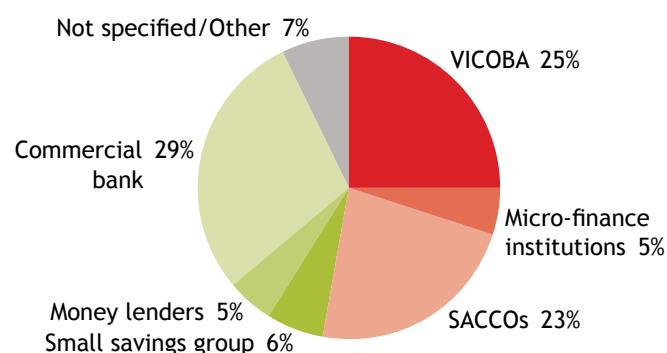
Perceived preferences for borrowing are often linked to affordability and accessibility of financing as well as past experiences in borrowing. To better understand borrowing habits, the survey asked about previous borrowing experience.

4.6.1 Who did they borrow from?

Fifty-one per cent of all community businesses said that they had previously borrowed for their businesses. Our findings across financing sources are consistent: our sample of farmers and businesses that did borrow preferred commercial banks, SACCOs, and VICOBA for their financing needs. Figure 13 shows that of those surveyed who did borrow for any reason, most borrowed from commercial banks (29%) followed closely by VICOBA (25%) and SACCOs (23%).

Women borrowed more than men: 58% of women had previously borrowed compared 48% of men. Women mostly borrowed from VICOBA, which is consistent with expressed preferences in the survey. Most men had borrowed from commercial banks or SACCOs. Figure 14 shows sources of financing by gender, which also aligns with the perceived preferences of respondents.

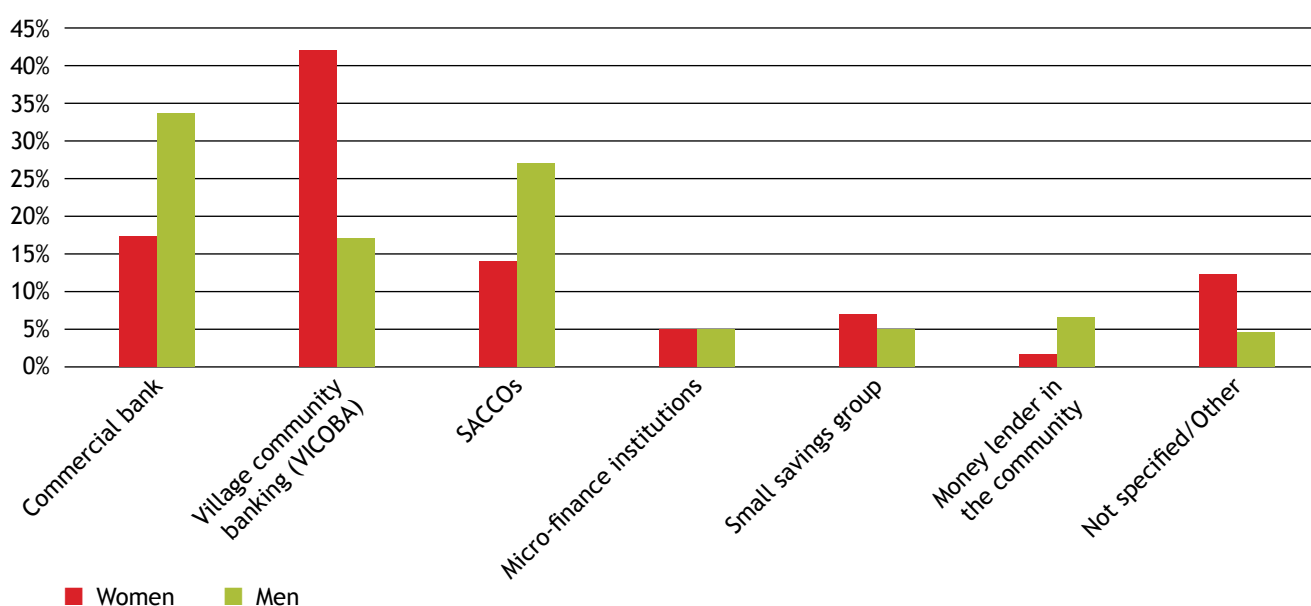
Figure 13. Sources of borrowing for all respondents



In our sample, women borrowing specifically to purchase electrical appliances chose VICOBA (36%) and then commercial banks (32%). It is likely that VICOBA loans could finance less expensive PUE appliances, and that more expensive, high-energy-consuming appliances would require large sums of money, such that commercial finance offers. Men borrowing for energy appliances in our sample, turned to commercial banks (29%), SACCOs (24%), and then VICOBA (17%).

There was no significant difference between farmers and other community businesses. Around 53% of farmers and 50% of other community businesses said they had

Figure 14. Borrowing source disaggregated by gender



Box 3. Expert views on how group lending through SACCOs has evolved over time

As compared to year-end 2018, year-end 2019 saw a decrease in the total number of SACCOs, but an increase in total numbers of members, share values, value of deposits, savings, as well as loans issued and outstanding.⁵⁶ This could indicate efficiencies achieved in SACCOs, which bodes well for continuing expansion and opportunities for productive uses of energy in rural areas. Forming local groups to pool resources is increasingly common according to FSDT. This helps with not only aggregating demand for finance but focusing capacity building efforts to improve financial literacy in individuals from the groups.

A common challenge with group lending is that members' interests need to be properly aligned and communities must be anchored and stable to be successful. For example, EFTA, a company specialising in equipment loans to support businesses, tried group lending but encountered governance challenges within the groups and abandoned its efforts. Group lending can be challenging in urban areas as these environments are more dynamic. Individuals tend to move often, which challenges the

cohesion of the group, increasing payment defaults and fraud. Other lenders have had good success working with groups with properly aligned interests, as they help aggregate demand and offer opportunities such as financial and entrepreneurship trainings in rural areas. A 2016 study⁵⁷ showed that the education levels of managers had a positive bearing on the success of SACCOs' performance, while lack of member commitment and patience, and loan defaults unsurprisingly, were major reasons for membership withdrawals.

The same study shows that SACCOs in Lindi, Mtwara, Kigoma, and Tabora were capitalised through members' shares, but fees, donations, and grants were also used. Most of the of SACCOS in these areas (63.46%) started with between TZS100,000 and TZS1 million* in capital, 35.9% started with more than TZS1 million, and a small fraction (0.64%) started with less than TZS 100,000 in capital.

*US\$1 = 2,330.25 (Oanda Oct 2020)

previously borrowed from one of the formal or semi-formal financial institutions above. However, farmers borrowed mostly from commercial banks, whereas other community businesses borrowed mostly from VICOBA. SACCOs, VICOBA and MFIs were more popular among other community businesses as compared to farmers. Commercial banks were perhaps more popular among farmers due to existing agricultural programmes that connect them to commercial banks. Nevertheless, studies show that in general, many smallholder farmers in rural areas continue to struggle to access finance,⁵⁵ which could suggest that our sample is biased towards farmers who already have access to finance.

Money lenders in the community and small savings groups were also more popular among farmers compared to other community businesses. This is potentially because farmers require intermittent small loans due to the seasonality and inconsistency of their income compared to other community businesses that have more consistent income flows.

Community businesses and their energy use

- **High energy-consuming businesses** such as carpenters and millers mostly borrowed from SACCOs and commercial banks. This indicates that these types of businesses turn to sources of financing that can offer larger loan amounts to purchase more expensive equipment such as milling and carpentry machines. VICOBA, money lenders, and other sources are unlikely to be able to lend these larger amounts of money.

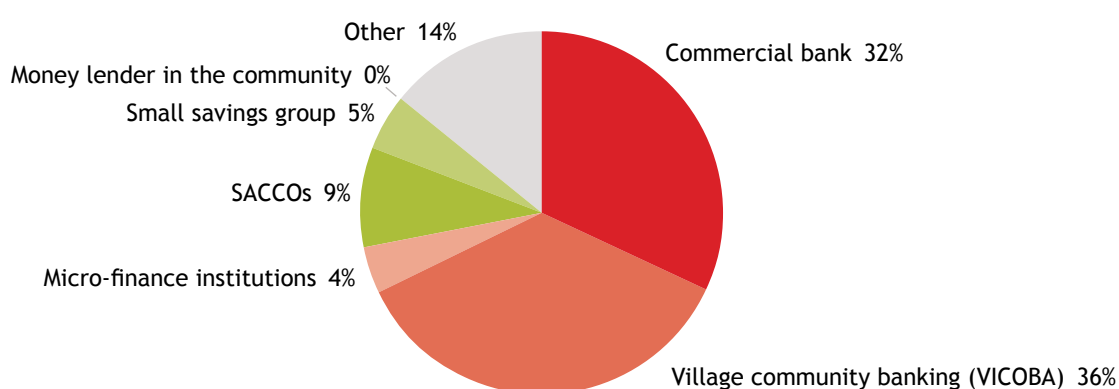
- **Low energy-consuming businesses** such as general goods/trade shops and restaurants, preferred VICOBA. This is consistent with the smaller working capital needs and energy requirements of these smaller businesses and a tendency for most community businesses to not actively seek to grow their business.

4.6.2 Borrowing to purchase electrical appliances and equipment

While electricity access in rural communities is increasing, there are still many communities without access, so investing in an appliance that requires electricity does not make sense without existing electricity infrastructure. Some manage to invest in machinery and a generator, but that means higher initial capital expenditures. Our survey found that overall borrowing was mainly to purchase non-energy inputs. More community businesses borrowed to expand their business (36%) than for starting their business (19%), which is consistent with general findings around MSMEs. At the national level, 94% of MSMEs did not even invest in machinery when starting up their business.¹⁸

Overall, commercial banks were the most common sources of borrowing to purchase electrical appliances. This could be because many appliances may be out of the loan range that VICOBA and SACCOs can offer or because of short repayment periods that they typically require. There were some differences between the genders in the selection of financing sources.

Figure 15. Women borrowing to purchase electrical appliances



- Women in general borrowed mostly from VICOBA, which follows general borrowing patterns of women. More specifically, 36% of women-owned community businesses borrowed from VICOBA to purchase electrical appliances (Figure 15). Only 11% of men used VICOBA for this purpose.
- Men farmers borrowed mostly from commercial banks (34%) to purchase electrical appliances. Men who owned other community businesses borrowed mostly from SACCOS.

VICOBA remains, an important source of financing for women-led community businesses to buy productive use appliances. The survey also found that women mostly own businesses that use low energy consuming electrical appliances and are also often cheaper than high energy-consuming appliances that are mostly owned by men.

4.6.3 What challenges do community businesses face when borrowing?

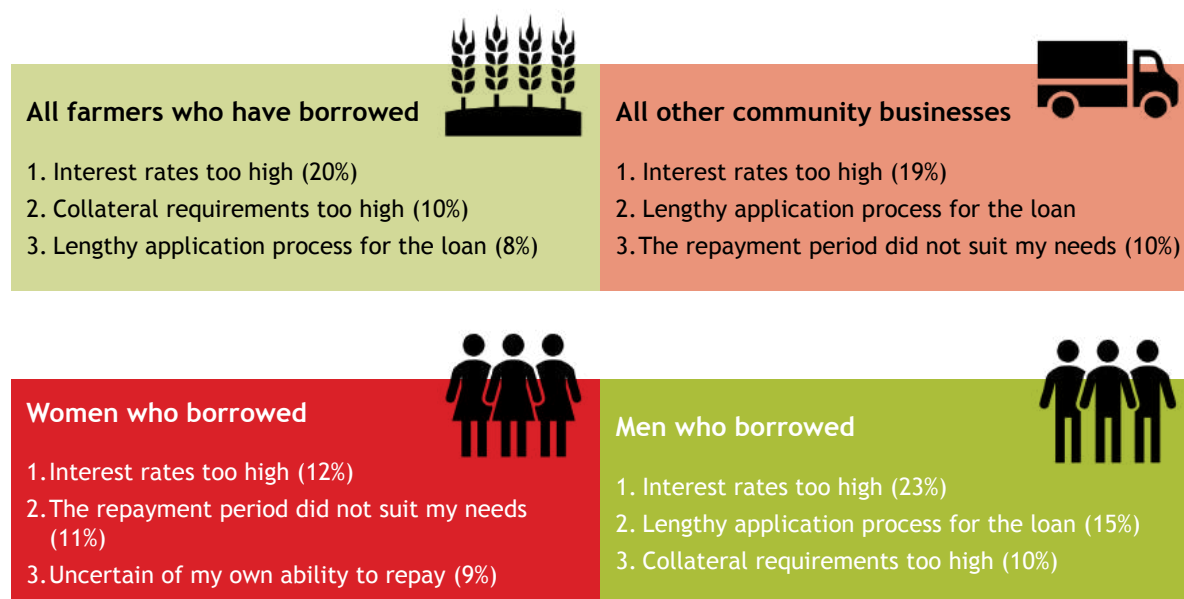
In total, well over a third of those surveyed (37%) reported no challenges in borrowing money. Much higher proportions of women (49%) said that they did not have any challenges, but a significant percentage of men (32%) also did not face any either. Since most women are accessing VICOBA for money, this probably signifies high satisfaction with the borrowing conditions of VICOBA, and their ability to meet women's needs.

Box 4. Challenges for borrowers nationally

According to the MSME 2012 National Baseline,¹⁸ only around 20% of MSMEs reported that they had taken out a loan in the previous 12 months. A majority of those experienced problems: 28.6% reported that “it took a long time” to borrow money; 9.7% said that they could not secure the amount they needed; 6.7% stated that they did not have collateral; and 5% stated that getting a loan had “many conditions”. Only a small percentage (4.8%) of MSMEs nationwide reported experiencing no problems in securing a loan.¹⁸ This is in contrast to our own survey, where 37% of those who borrowed reported no challenges. While very different methodologies and sampling were used in the two surveys, we could speculate that because financial access has increased, more people are able to access the finance that they need without challenges.

Figure 16 shows that across the four categories of men, women, farmers and other community businesses, the biggest challenge was the perception that interest rates were too high. A much higher percentage of men than women believed this. But it seems that the men farmers that we surveyed were also accessing commercial financing in higher amounts than might be expected for rural farmers. This could explain why both interest rates and collateral

Figure 16. Top three challenges for borrowers across categories



requirements were perceived as such challenges for men, as commercial financing typically charges higher interest and requires large amounts of collateral to secure loans. Lengthy loan applications featured prominently. Long and complex loan applications may push rural community businesses towards more expensive borrowing options with quicker turnaround such as money lenders.

A smaller percentage of women said that the repayment period did not suit their needs, which points towards the limitations of some types of group lending, which are limited by member deposits. Women highlighted uncertainty in their ability to repay loans as their third challenge, whereas few men did. This again highlights the negative perceptions many women have about financing.

Our results show a need for lending groups and institutions to streamline application processes, and to investigate more flexible payment terms, for example, around tenor. This would be particularly pertinent for PUE, especially as it can take some time to see a return on investment for larger appliances, and returns will vary by season.

Some financial institutions have started to address challenges related to short loan tenors by building flexibility into their financial solutions. Many lenders tailor loan packages to sector-specific needs. For example, Mwanga Micorfinance Bank loans for agriculture extend to 12 months and allow for instalment repayments quarterly or bi-annually to reflect the realities of seasonal income.⁵⁸ SELF adapts or combines loan products to support PUE users in rural settings, for example by using lease financing for equipment loans or accepting traditional farm land as collateral.⁵⁹

Some lenders already recognise the need for flexibility for unforeseen circumstances. For example, when a drought severely affected EFTA farming customers and jeopardised loan repayments, EFTA linked them to unaffected farms in neighbouring regions that needed additional labour, so that EFTA's customers could continue to earn income to repay their loans.

4.7 Financing plans for electrical appliances

To understand how community businesses plan to finance their energy needs in the future the survey asked what appliances they plan to purchase in the next year and how they plan to purchase them.

Figure 17 gives the sources of financing for different appliances, showing that of the total choices tallied for sources of finance, the most popular (66.8%) was savings. And more specifically, individual respondents overwhelmingly chose savings (82%). This was common across all groups – women and men, and farmers and other community businesses. As discussed above, borrowing from semi-formal or formal institutions was not seen as an easily accessible option.

Almost the same proportion of all community businesses wanted to purchase lighting and irrigation. Around 29% of all community businesses said they wanted to purchase lighting. This highlights the usefulness of lights regardless of business type. Around 28% of all community businesses wanted to purchase irrigation pumps, the majority of whom (80%) were framers. The remaining 20% were businesses but likely people who also farmed as an additional source of income, subsistence, or both.

Figure 17. Perceptions of financing community business energy needs



Refrigerators were the third most common appliance. Around 24% of community businesses whose primary business was not farming wanted to purchase refrigerators in the next year. This again shows the versatility of some PUE appliances across different business types. The main source of finance identified for all three of these appliances was personal savings.

4.8 Covid-19 impacts on community businesses

4.8.1 Changes to business

The Covid-19 pandemic has impacted countries around the world in different ways. Although the human cost of Covid-19 in Tanzania has been less severe than in many other countries, some sectors have been negatively affected because of knock-on effects of trade and travel restrictions imposed elsewhere. The Tanzanian government has imposed few restrictions on movement but as an exporting country it has been affected by restrictions and lockdowns in other countries.

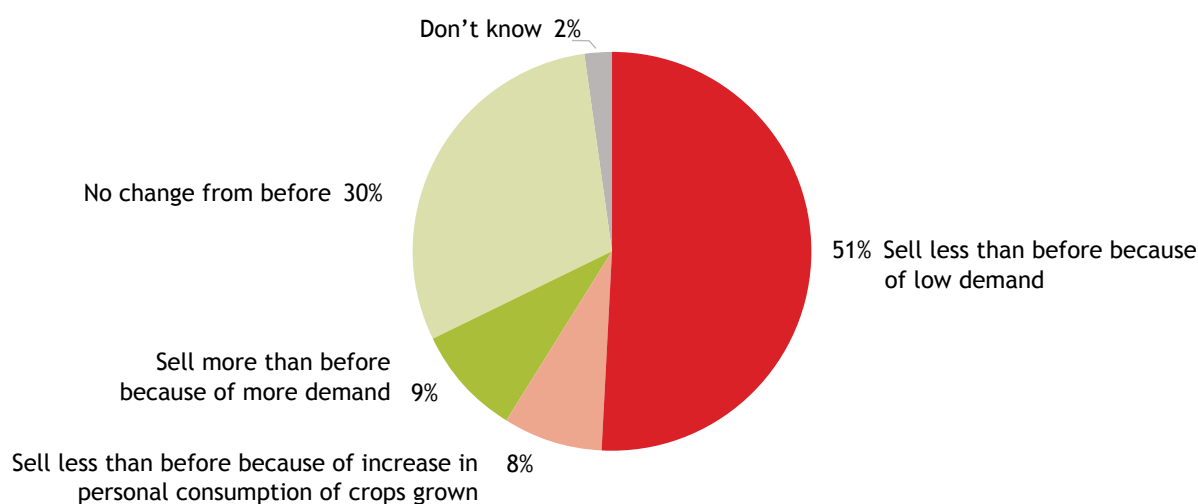
Our interviews with stakeholders showed that lending dropped significantly in the first six months of 2020. Lower sales affected repayments for many stakeholders up to April 2020. Indeed, KRDC say a decline in loan repayments up to April affected them, and about 20% of groups who received funding from KRDC could not return the funds. For customers hit by Covid-19, EFTA provided additional capacity building in entrepreneurship, cash management, and Covid-19 preventive measures. Some businesses have pivoted into new

sectors. Five tourism companies leased tractors from EFTA and began farming to survive. EFTA is contemplating making available working capital loans to support existing customers until the economy picks up again. The Tanzania Association of Microfinance Institutions (TAMFI) and SELF both reported that most MFIs have had to restructure loans. But most of our interviewees said that conditions had improved and sectors are beginning to recover.

When asked how crop sales had changed since the start of Covid-19, a majority of farmers (51%) stated that there had been a drop in sales because of falling demand. A higher proportion of women farmers (63%) reported this than men farmers (48%). Around 30% of all farmers said they had experienced no change, with 34% of men farmers reporting this compared to 17% of women farmers. Because of practicalities, our survey had limited open-ended questions, so we could not explore the precise reasons for this. African Fertilizer and Agribusiness Partnership (AFAP)⁴² has highlighted the challenges that the various value chain actors in Tanzania are facing because of global border restrictions on trade, which can have a ripple effect across community businesses.

Other community businesses reported similar experiences. More than 80% of all other community businesses believed their sales had decreased. And the gender disparity was similar to that of the farmers' group, where a higher proportion of women-owned businesses reported a drop in sales.

Figure 18. Changes in crop sales due to Covid-19 impacts reported by survey respondents





As part of the Energy Change Lab's PUE activities in 2019, a SIDO representative demonstrates the use of appliances in Matembwe, Tanzania. (Sisty Basil)

4.8.2 Changes in borrowing perceptions since the onset of the Covid-19 pandemic

To better understand if borrowing preferences had changed since the onset of Covid-19, the survey asked respondents how likely they were to have borrowed before the Covid-19 outbreak and if their appetite to borrow had changed since then.

Of those who said they were likely to borrow before Covid-19, about 67% said they were still likely to borrow and 33% said they were less likely to borrow money now. The percentages were the same for women and men.

Covid-19 has not affected most people's borrowing perceptions. Views on borrowing remain similar for both those likely to borrow and those unlikely to borrow before Covid-19. In other words, for most community businesses, Covid-19 has not changed their view on borrowing either way. This likely bodes well for financing productive uses of energy.

4.8.3 Post-Covid-19 expectations

We asked businesses about the economic challenges and opportunities they saw with Covid-19. Understanding perceptions of community businesses about future borrowing with Covid-19 in mind can help understand any negative and positive impacts on economies, which in turn can help to identify and plan ways to mitigate negative impacts and to target financing more appropriately.

When asked about the opportunities they saw, most respondents (58%) said they saw no change. This was the highest reported view by both men and women, but interestingly a lower proportion of women (48%) had this view than men (62%). In contrast, many more women (30%) thought they had the potential to introduce new products or businesses compared to men (16%).

When asked about what challenges they saw, most (58%) saw decreased sales as the main challenge and 55% said having fewer customers as a challenge. Both challenges point towards expected falling demand. Around 12% saw closing the business as a possibility. All of these perceived challenges were higher among women than men, which could relate to negative perceptions mentioned earlier in this report. Slightly more women also saw increased household chores as a challenge.

The 2012 MSME Baseline found that few MSMEs across Tanzania had insurance for unforeseen external shocks. The most popular option was borrowing money from relatives or friends, followed by using savings 'hidden away' and selling personal assets or agricultural crops or livestock. Many had no options in place to support them in the event of a shock.¹⁸ It remains to be seen if the effects of Covid-19 will motivate farmers and businesses to explore additional risk mitigation solutions cope with unforeseen shocks.

5. POTENTIAL SOLUTIONS AND OPTIONS FOR FINANCING

Tanzania's finance sector has rapidly evolved over the last two decades, with group lending through informal and formal banking structures such as VICOBAs and SACCOs – growing significantly and enabling access to finance for many rural communities. Non-bank formal and informal financial services grew from 35% in 2009 to 59% in 2013, with a rapid decline (28.5%) in those not using financial services at all.²⁵ Many community members are now able to save money, and secure more affordable loans for their business and farming needs. And for those communities accessing energy from the grid or through off-grid solutions, group lending is an important financing method to expand electricity infrastructure – including both appliances and business inputs like electricity connection costs. For community businesses that need smaller amounts of financing for low-energy appliances, VICOBAs and SACCOs are offering accessible lending options for rural areas. Women in particular have been gaining more access to finance thanks to the proliferation of VICOBAs in rural areas. This is helping to stimulate women-owned micro-enterprises. Larger productive energy use applications may require better capitalised SACCOs or alternatively MFIs and commercial financing where available. However, a Cardiff University study cautions that failure rates for SACCOs are high, with about 30-40% dormant.²⁵ The study argues that this is because many SACCOs were specifically set up to take advantage of a government fund to capitalise SACCOs.²⁵ This highlights a need to ensure that any schemes to capitalise SACCOs should target them carefully. Beyond financing, there is a need to target policies and programmes to ensure gender equality, and to bridge the gender disparity gaps, for example in technology use.

Our survey and interviews with key stakeholders revealed a number of innovative ways that lenders are enabling financing for their customers to stimulate productive uses of energy. Below we discuss some of these innovations.

5.1 Financing support for productive uses of energy Existing funds and financing for entrepreneurs

Supporting productive uses of energy is not always a finance supply issue. Rural communities have gained significant access to financing in the last twenty years through group lending. Our own survey highlights many community businesses that are already accessing commercial finance. Indeed, more recently, financiers are capitalising different micro-finance institutions and structures, making more affordable money available to communities. Oiko Credit Tanzania and Small Enterprises Loan Facility (SELF), and other organisations have been providing wholesale lending to micro-finance institutions, for example Oiko requires institutions to have at least 50 members.⁶⁰ Similarly, CRDB, a commercial bank in Tanzania, has been lending to SACCOs directly to lend on to entrepreneurs.⁶¹ Banks and government funding initiatives are looking to capitalise SACCOs beyond their membership deposits. For example, the NEEC's Entrepreneur Empowerment Fund leveraged TZS21 billion in guarantees and loans for financial institutions to lend on to entrepreneurs.²⁵ These loans were partially guaranteed to mitigate risks and help lenders absorb any defaults. Another example is the National Social Security Fund (NSSF), which has a USD\$2 million fund to make affordable medium-term loans to SACCOs, but only half the fund has been used so far as many SACCOs are unaware of this opportunity.⁶² These capitalisation efforts mostly target entrepreneurs, but not specifically entrepreneurs using energy productively.

There are other opportunities specifically for PUE equipment. For example, the Small Industries Development Organization (SIDO) offers credit facilities to MSMEs for equipment with funding from the National Income Generating Programme (NIGP), the Tanzania Growth Trust (TGT), the Small Entrepreneurs Loan Fund (SELF) and East African Development Bank.⁶³ There are also existing funds that specifically support women, such as district

council Women's Funds. Innovative district councils (like KRDC) are already targeting funds for PUE. But more can be done to improve access to electricity for women entrepreneurs, especially in rural areas (see gender equality recommendations below).

Lease financing

Lease financing offers the opportunity for an entrepreneur to use machinery or equipment while providing agreed payments to the owner over a set period. This allows entrepreneurs to generate an income from the machinery, and in theory afford the periodic payments. This model is gaining in popularity in Tanzania and has promise for productive uses of energy. Indeed, the finance business EFAfrica Group has recently acquired EFTA, which has helped pioneer the leasing model in Tanzania. They are making loans in the range of US\$10,000-60,000 to finance productive-use equipment, with 64% of companies located in rural areas. This acquisition suggests that there is confidence in the growth potential of this model for businesses with an average of 10 staff and US\$230,000 in annual revenues.⁶⁴ However, this is probably out of reach for most community businesses. For smaller amounts, the 'micro-leasing' model offered by Sero Lease and Finance (SELFINA), whereby women repay the loan while generating income from the asset, could be viable for rural areas. This model has grown significantly in the last ten years. Technology is also enabling lease payments through mobile payments. For example, Simusolar already offers lease financing to farmers through its solar water pumps, whereby mobile payments enable financing for water pumps.

The foregoing highlights the need for multiple solutions for different types and sizes of businesses and farmers, especially for smaller, rural ones.

Understanding community challenges

Our survey confirms what many others have found: entrepreneurs continue to rely on their savings to start and support community businesses. About half of them had not taken out any loans and many are simply happy with their business as it is and do not need a loan. Our survey showed that the challenges facing those who did take financing and those who didn't are similar in many ways: perceptions of high interest rates, low confidence in repayment, unsuitable loan tenures, high collateral requirements, and lengthy

loan application processes. These challenges will vary by community. More efforts must be made to understand the challenges that each community faces, as reducing the finance barriers will be essential to enabling greater access to PUE.

'Movable collateral'

Productive uses of energy in rural communities mostly include machines and equipment that are considered 'movable collateral'—that is they can easily be moved from one location to another, unlike other forms of collateral like buildings or land that are considered more permanent. Many financiers are hesitant to lend for PUE equipment—since it can easily be moved from one location to another, smaller appliances can easily disappear. As a result, many banks require additional collateral to secure loans. This increases the cost to entrepreneurs of accessing finance for PUE and hinders scaling of solutions. There is evidence that establishing registries for movable assets enables access to formal financing, with some evidence suggesting a greater impact on smaller firms.⁶⁵ The USAID's Feed the Future programme found that while "businesses [in Tanzania] are allowed by law to grant non-possessory security rights for moveable assets, there is not a collateral registry for movable assets or a unified legal framework for secured transactions". Malawi⁶⁶ and Rwanda⁶⁷ have movable asset registries, which help small businesses to secure loans and lenders to reduce risks.

Better customer data

Mobile financing in Tanzania is helping to build a credit history for many customers.⁵² But with lower mobile penetration rates in rural areas, more effort is needed to understand rural customers and to bring together disparate sources of information. Financiers already have existing customer credit history. Energy companies are producing data through pre-paid metering systems and 'PAYGO' technologies. More information on businesses and farmers reduces risks, and better data can help tailor and target financing and reduce the costs of delivering it.

Additional training and support for entrepreneurs

Our research further supports the notion that financing alone is not enough for many community businesses. Training can help the sustainability of the businesses and reduce payment defaults. Indeed, many organisations partner with



As part of the Energy Change Lab's PUE activities in 2019, a SIDO representative demonstrates the use of appliances in Matembwe, Tanzania. (Sisty Basil)

others to bring in specialist training for entrepreneurs. SELF partners with Alliance for a Green Revolution in Africa to support smallholder farmers of maize, beans and rice with trainings and exchange visits. KRDC collaborates with local NGOs and banks to train entrepreneurs in financial literacy and organise practical skills-building events. KRDC has a particular focus on capacity building to grow community businesses, whilst also providing working capital loans. This includes training groups to use electricity for value-adding activities such as processing, drying, chilling for milk, and incubation for eggs. Other districts could also apply PUE trainings with district council funding.

According to SELF, in the agriculture sector “a partnership approach along the value chain works best”, for example partnering with farmers and off-takers or buyers where SELF linked tea growers and a processing factory to give farmers a guaranteed buyer. SELF has also promoted some of its loan recipients through media coverage and trade fairs (such as the Saba Saba International Trade Fair), to improve their market linkages. Some oversight of how loans are spent can also be effective. MDC gives loans for equipment and

connects the community business with a reliable supplier or broker for equipment – and even noted that for “one group that wanted a coconut oil pressing machine, we contacted SIDO and after we gave them the funds, one officer escorted them to SIDO to buy it”.⁶⁸

‘Fintech’ solutions and gender disparities

Solutions that combine finance and technology to aggregate demand, increase efficiencies, or automate services and processes – so-called ‘fintech’ – has been touted as a promising method to aggregate MSMEs and farmers to reduce transaction costs and increase financing access to support PUE. However, fintech solutions may just entrench or exacerbate existing gender disparities in technology. Globally, women are 8% less likely to own a phone, 20% less likely to use the internet, and 20% less likely to own a smartphone than men.⁵¹ In Tanzania, 11% more men have access to mobile phones and use the internet than women,⁵¹ and this gap is likely to be much larger for women in rural areas. As a result, there is a real risk that solutions that are technology heavy may not benefit women as much as men.

6. CONCLUSIONS AND RECOMMENDATIONS

The results of our survey show a wide range of entrepreneurs running farms and businesses in rural areas with different needs and challenges. Savings remain the most popular option to support productive uses of energy in rural communities, and entrepreneurs' varied income streams show their ingenuity and resilience: great assets to support efforts to expand PUE. Entrepreneurs are already relying heavily on SACCOs and VICOBAAs, so enabling and reinforcing these existing structures will be better than establishing new ones. Women entrepreneurs continue to be hindered by negative beliefs and norms, and extra efforts must be made to mitigate this. To enable greater access to PUE, stakeholders must realise their aligned interests, and build out partnerships to more rapidly expand PUE. Based on our research we recommend the following.

Better linking of PUE into existing financing channels

Experience from companies selling solar home system products have shown the necessity of taking on numerous services within that value chain that do not yet exist (so called 'verticalisation'): from product design and importation to distribution infrastructures and consumer financing. Similarly, other energy developers, such as mini-grid developers, must continue efforts to stimulate electricity demand in their targeted communities; demand is not assured. Tapping into the existing funds and financing mechanisms in Tanzania by building partnerships with aligned banks and financiers is crucial to the sustainability of energy system investments. And perhaps most importantly, for better impacts on rural community development, productive uses of energy must be a part of the business model. Partnerships could capitalise existing group lending structures with good governance specifically for PUE. Linking into existing financing channels for PUE will also increase awareness of banks and financiers on PUE and increase the prospect of unlocking future financing. CEFA and MVC have already capitalised a SACCO fund specifically for PUE in the communities they support and is running an awareness campaign to build demand for that financing and to try

and shift negative beliefs that prevent entrepreneurs from building their businesses. Other energy providers should take notice. Even TANESCO's (the national utility) huge push for grid extension could benefit from a concerted effort to stimulate PUE in newly electrified grid areas.

Donors and investors must consider when providing financing for energy investments: what is the plan for stimulating demand stimulation plan – or more specifically, how is this company stimulating productive uses of energy? Meanwhile, the Energy Change Lab will continue its efforts in convening multi-stakeholder dialogues in Tanzania to build partnerships inside and outside the energy sector to strengthen this financing piece of the energy puzzle.

Expand lease financing for PUE

Many energy companies are already offering mobile payments for energy services in a type of lease financing. Existing efforts in lease financing, such as EFTA and SELFINA, offer great opportunities to leverage models that are already well-tailored to productive uses of energy. EFTA is reaching businesses that are much larger than most community businesses in rural areas. And SELFINA seems to be reaching women in urban areas.⁶⁹ To expand lease financing, partnerships must channel these models further into rural areas, prototyping and adjusting offerings as they learn from communities and leverage new opportunities with off-grid energy. Energy companies and organisations like SELFINA could work together to reach more and different types of rural customers.

Listen to community members and tailor financing accordingly

Energy developers and financiers must pay close attention to the challenges and needs of different communities. One broad possible solution is to capitalise group lending structures, like SACCOs, for PUE, reducing or eliminating the need for collateral. This in turn could also reduce interest rates and allowing more flexible tenures that come with more available and cheaper money. Application processes

should be streamlined to help reduce the burden on the entrepreneur. To this end, umbrella organisations like TAMFI, and banks lending directly to SACCOs like CRDB, will continue to play key roles in training and supporting micro-finance institutions and SACCOs to establish more efficient processes and in targeting PUE. Third-party initiatives like the Energy Change Lab have an important ‘trusted broker’ role to play and will continue to seek and build partnerships between parties.

Establish a movable assets registry

The government should help to establish a movable assets registry to support more rapid scaling of productive uses of energy equipment, making financing more accessible for smaller businesses and farmers. A unified database for movable collateral, linked to the debtor, would give financiers assurances that collateral is not being recycled and individual credit is not overstretched. This in turn could open new opportunities for financing productive uses of energy in rural areas.

Better data on customers

Farmers face a lot of variability and consequently uncertainty in agriculture, which can make lending to them particularly complex and expensive. The CGAP project in Uganda is looking to better predict incomes and expenditures in agriculture using data to design a new credit scoring system specifically for smallholder farmers. Early insights and recommendations from the programme indicate the need for: huge datasets; a focus on new high-quality data; automated data collection to reduce costs; buy-in from all involved within partner financial institutions; recognition that data can discriminate against groups (for example women); and perhaps, establishing a minimum viable product to iterate and learn from.⁷⁰ If this project proves successful, a similar model could be followed in Tanzania which could help increase access to affordable financing for Tanzanian smallholders. Once established, this could help farmers to engage in more productive uses of electricity like solar water pumps. A similar system could be useful for unlocking productive uses for other community businesses.

Continued investments beyond financing

Financiers already offer training and capacity building, and these efforts will be key to expanding financing into new rural areas. Expansion will require revised training and mentoring initiatives to address the unique needs and challenges facing rural communities such as greater gender disparities and limited access to other markets. Interventions must consider these unique challenges and work with entrepreneurs, building up skills and supporting them during the tenure of the loan.

Combining fintech solutions with women’s empowerment

Fintech solutions alone are not enough to build financing access. Evidence from India shows that access to fintech products and services should be combined with training and confidence building for women in using technology to ensure that they can access financial services but also adopt and use the skills in the long term.⁷¹ Initial evidence from a study by the Center for Global Development found that combining business trainings with improved access to mobile savings accounts for women entrepreneurs increased the amount of savings and transactions on the mobile savings platform.⁷² Government, donors, implementors, and companies experimenting with fintech must include additional support for women to mitigate gender disparities.

Productive use for all

Our sample methods for this survey have a heavy selection bias – only farmers or business owners who were customers of energy enterprises were interviewed. Households living in poverty are less likely to operate businesses using electricity and have access to financing. These households would likely require several different finance solutions. For example, a layaway model where providers retain assets and entrepreneurs make payments over time to the provider. Once payment is paid in full, the entrepreneur takes the PUE asset into possession and ownership. And it is likely the poorest would need much more in-depth interventions to use energy productively. To this end, if budgets and political will allow, BRAC Tanzania Finance Limited’s Ultra-Poor Graduation model, could be a viable solution for PUE. This model bundles a set of supportive mechanisms such as

livelihood promotion, social protection, financial inclusion, and social empowerment with the grant of equipment to help households escape the poverty trap.⁷³ Evidence shows that this type of programme can pay for itself within a year.⁷⁴ With the granting of a piece of equipment, families can begin generating income from PUE.

Finally, more financing is not necessarily the solution for enabling productive uses of energy. Not all community businesses need to borrow for the business to succeed: business success is not always measured by growth. As the national MSME baseline shows, most people start businesses to support their family, not necessarily to grow an idea. Indeed, our own survey confirmed that most community businesses are started with their own savings, which suggests that they do not see a need to borrow and/or they are risk averse. These businesses appear to be content to continue to finance their own operations and could probably benefit more from increasing their savings and insurance products rather than accessing additional credit.²⁵ Therefore, their productive-use potential is limited by the amount of savings or internal financing they can pull together, so they might only be able to purchase, for example, a solar light or a connection for a few lights. But they can provide for their families and succeed in their goals.

While Tanzania has made remarkable progress in reducing poverty, and its recent 'lower-middle income' status underlines gains, the World Bank highlights how fragile these gains can be, warning that "[t]hose who have just escaped extreme poverty can easily fall back", and noting that there have been 23 cases in the last decade of countries falling back into previous income categories after gaining ground.⁷⁵ As rural electrification efforts ramp up in Tanzania, enabling productive uses of energy will become increasingly important to ensure adequate demand for both grid and off-grid electricity systems, and in stimulating rural economies and livelihoods. These crucial energy and PUE investments could help offset negative impacts from Covid-19 while supporting economic activities across sectors in rural areas.

IIED will continue investigating what inclusive financing mechanisms and supporting services can successfully stimulate community businesses through productive uses of energy with partners in Tanzania.

List of organisations interviewed

BRAC Tanzania Finance Limited

CEFA and MVC

ENSOL

Equity For Tanzania Limited (EFTA)

Financial Sector Deepening Trust (FSDT)

Gham Power Nepal

International Network on Gender and Sustainable Energy (ENERGIA)

JUMEME

Kibaha Rural District Council (KRDC)

LonAgro Tanzania

Mkuranga District Council (MDC)

Mufindi Commercial Bank

Mwanga Microfinance Bank (MMB)

Mwenga Hydro Ltd

National Economic Empowerment Council (NEEC)

Practical Action Consulting – Nepal

Simusolar

Small Enterprise Loan Facility (SELF)

Small Industries Development Organization (SIDO)

Solar Sisters

Tanzania Association of Microfinance Institutions (TAMFI)

Tanzania Gender and Sustainable Energy Network (TANGSEN)

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