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Leveraging informal lending mechanisms to facilitate technology transfer and microenterprise in developing countries

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ABSTRACT

This article discusses how Rotating Savings and Credit Associations (ROSCAs or merry-go-rounds) can concurrently overcome four challenges faced by small enterprises in developing communities: access to financial capital, technology transfer, vertical and lateral knowledge transfer, and reliable market linkages. Based on primary data from Kenya, three models of partnership between ROSCAs and diverse external organizations are presented and compared against each other. These approaches are designed to help ROSCA groups engage in small enterprises, while creating business opportunities for agricultural technology manufacturers and the formal banking industry. The ultimate purpose of such collaborations is to improve rural livelihoods, strengthen food value chains, and foster food security.

1. Introduction

Reflecting similar challenges in many developing countries, the unemployment rate for Kenya in 2012 was estimated at 40%, which was five-times the global average at the time [19]. In an attempt to alleviate chronic unemployment and foster economic growth, several governmental and non-profit organizations have emerged to enable and empower micro-enterprises. Their efforts have offered Kenyan small and medium enterprises increased access to capital and professional business management advice [9,20]. Micro-enterprises now constitute a significant part of the national economy, accounting for an estimated 18% of GDP and the employment of 3.2 million people [16]. Access to financial capital is one of the biggest challenges facing entrepreneurs striving to start their businesses. Despite the increased interest in providing enterprises with access to capital, the formal banking sector in Kenya is deficient in this role. Although the formal banking industry in Kenya is the most developed in Sub-Saharan Africa, as of 2009 70% of adult Kenyans report not having a bank account [18]. Cultural customs, physical distance, unattainable minimum deposits, high administrative costs, recurring fees, and complicated banking processes stymie efforts at expanding financial services to the unbanked.

The formal banking sector, including traditional banks and savings and credit cooperatives (SACCOs), meet the

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needs of small business owners trying to expand their businesses, but they do not typically lend money to unproven entrepreneurs interested in starting new micro-enterprises [6]. The lack of credit history and collateral are the primary barriers for these entrepreneurs [3]. Due to the accessibility problems in the formal financial sector, entrepreneurs rely on the localized and trust-based informal financial systems. Over 50% of Kenyan adults are active in at least one informal financial group, with 35% of the population citing such groups as their only access to financial services [12]. The informal financial sector is comprised of several different types of lending groups.

The first place many entrepreneurs turn for start-up capital is their network of friends and family. Unfortunately, this is rarely sufficient in developing communities as friends and family are often also in financially vulnerable positions. Next, entrepreneurs often turn to rotating or accumulating savings and credit associations. Rotating Savings and Credit Associations (ROSCAs) are informal groups comprised of community members that contribute a set amount of money on a weekly or monthly basis. The members take turns receiving the total funds collected. This rotating savings structure gives members access to large sums of money, in less time than it would have taken them to save on their own. Accumulating Savings and Credit Associations (ASCAs) are similar to ROSCAs with the exception that these groups charge interest to the borrowers. This accumulation of interest allows the pot to grow, giving members access to ever-increasing loan amounts [5].

A previously conducted study about access to capital in rural Kenya reported that none of the surveyed entrepreneurs borrowed money from micro-finance institutions (MFIs) [11], ROSCAs and ASCAs were the most prominent sources of funding for individuals in these rural communities. The trust-based relationships in the agricultural communities are further strengthened by the ROSCAs and ASCAs. The growth and success of rural agricultural enterprises is pivotal in developing countries like Kenya where over 80% of the economy is dependent on agriculture and small-scale farmers are responsible for a majority of the crops produced [1]. Of the estimated 1.3 billion tons of food wasted each year, most of the loss is due to post-harvest inefficiencies in production, processing and transportation [14]. The Food and Agriculture Organization (FAO) of the United Nations posits that these challenges can be addressed through the optimization of land use productivity in terms of labor, crop yield, water conservation, and waste reduction [23].

Appropriately designed agricultural technologies can help farmers and agro-enterprises increase yields and more efficiently process, store and transport food products. While the largest barrier to the integration of technologies in the food value chains (FVCs) is access to capital, there are other challenges too. A second barrier is the lack of continual educational support to facilitate the transfer of knowledge from the experts to the farmers, and then facilitate knowledge transfer amongst the farmers themselves. The diverse players in the formal and informal lending circles, including MFIs, SACCOs and governmental outreach programs, provide a level of knowledge transfer to the farmers [17,25]. While this knowledge transfer typically happens in the early stages of introduction of the technology, follow-on support related to maintenance, troubleshooting and business management is not easily accessible. The initial knowledge transfer typically needs to be between the experts and the farmers while lateral knowledge flow amongst the farmers and other involved actors are crucial during the operational phases. This peer-to-peer knowledge transfer necessitates the establishment of trust amongst all the stakeholders.

A related barrier to this transfer of knowledge is the level of complexity within the actual product design, also known as technology transfer. Difficulties with the transfer of a certain technology must be addressed by the manufacturer because the viability of the manufacturer's business depends on it. Design components that can dictate the impact of this barrier include product mobility, required technical literacy, and availability of replacement parts. This focus on designing appropriate technologies has been well studied as vital for sustainable technology proliferation [31]. The focus on human-centric approaches, incorporation of indigenous knowledge, and cooperative design have been shown to be important aspects in ensuring that a technology is contextually appropriate [32]. A stronger network of knowledge transfer can make it easier for farmers to gain the necessary technical expertise and supplies necessary for product use in the longer term. In the agricultural sector, several studies have shown that farmers prefer receiving information from people they know, trust and who are familiar with the local farming conditions [33]. Trust is the most important factor in deciding whom to work with and whom to ask for practical advice. Small farmers generally learn about best practices and exchange knowledge only with peers in their immediate social networks [31]. Furthermore, farmers often rely on these networks to access agricultural markets. They identify trustworthy brokers, work with market retailers, and sometimes combine their produce with other farmers in order to share transportation costs. However, value-added products such as dried fruits or processed dairy may be difficult to sell locally and require more established institutions such as marketing agencies or corporate entities to access profitable markets [27,28]. The ability to find these market linkages is the fourth major barrier for smallholder farmers when establishing agricultural enterprises.

Research on agri-business in East Africa indicates that farmers and traders value trustworthiness and personal relationships over price and profits [21]. ROSCAs facilitate the creation of multi-stranded relationships and trusted networks amongst farmers and other actors in FVCs. Such community-based peer groups allow the members access to capital, technology transfer, knowledge transfer, and facilitate market linkages to grow their enterprises. We posit that these four factors are the basic conditions that must be met by any entrepreneur establishing a business in a developing nation in order to facilitate sustainable poverty reduction.

This article discusses the potential of informal financial groups such as ROSCAs in addressing the four barriers to technology-based agricultural microenterprises: