Smallholder irrigation farmers’ financial exclusion in Zimbabwe: A resilience threat

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Smallholder rural farmers in Zimbabwe have a long history of financial exclusion since the pre-independence period. This study aims to establish the factors behind smallholder farmers’ financial exclusion and how that has been impacting on the resilience of smallholder irrigation schemes. A mixed research approach, involving a questionnaire, key informant interviews, FGDs and observations was used for the study. The study found that over 70% of the farmers had no bank account and this was a major barrier to access bank loan and 74% had no access to bank loans. Farmers had bad experiences with financial institutions, attesting to the extractive engagement of farmers by financial institutions. Lack of faithfulness of smallholder farmers in loan repayments was preventing banks and input suppliers from extending credit lines to farmers. Some farmers could not access loans because the only assets they had, cattle and land, could not be accepted as collateral by financial institutions. Financial institutions were also not offering financial products that were compatible with the farmers’ needs and contextual requirements of the poor farmers. The Government interference, the poor water management and lack of vibrant farmers’ union made the majority of the irrigation schemes risky entities for financial inclusion. The study recommended that financial policies need to provide market-based incentives for delivery of sustainable financial access and usage of affordable and pro-poor services to farmers. Efforts should also be made to develop and engender financial literacy and financial capability amongst the smallholder farmers.

Key words: Financial exclusion, smallholder farmer, smallholder irrigation schemes, resilience

INTRODUCTION

Financial inclusion refers to the sustainable cost-effective provision of a wide range of financial services at affordable cost to the majority of the population, enabling them to engage in income generating activities which improve their economic welfare (Mataruka, 2015). It is a process of equity in financial services provision centred on reliability and affordability. It can mitigate the exploitation of vulnerable segments of the population, such as the rural poor, women, youth and smallholder farmers by usurious lenders by facilitating easy access to formal credit welfare (Mataruka, 2015; Makaha, 2016). Resilience is the ability of households, communities and institutions to prevent disasters and crises as well as to anticipate, absorb, accommodate or recover from them in a timely, efficient and sustainable manner (FAO, 2016).

Almost 1.2 billion of the world’s population is extremely poor and about 78% of these live in rural areas of developing countries, where agriculture is their main livelihood (IFAD, 2015). Paradoxically, it is these rural people who produce most of the food in developing countries (IFAD 2015). Although they are the world’s food producers, smallholder families (with their small plots of land) are often marginalized from markets (financial, input and output markets), resources, information, technology,
capital and assets. They are associated with lower yields and fewer resources to rely on when facing financial difficulties (IFAD, 2016).

Only 23% of the adult population in Sub-Saharan Africa have bank accounts (Hamp et al., 2016). Seventy percent (70%) of the Zimbabwean population resides in rural areas and only 23% of the rural population is formally banked compared to 46% of the urban population (FinScope Consumer Survey Zimbabwe, 2014). Forty seven percent of rural businesses in Zimbabwe are financially excluded, compared to 36% in urban areas (Hamp et al., 2016; International Relief and Development (IRD), 2016).

Literature on the power of markets in enhancing the resilience of farming operations shows that financial markets were more successful in influencing sustainable rural development programs in Asia than in Africa (Perry, 1997; World Bank, 2008). It was found that the introduction of self-sustaining rural finance systems such as village banks were very successful in advancing rural development in Indonesia and China (Cloete, 2013; Kukenshoner et al., 2012). The World Bank (2008) reported that some types of rural finance mechanisms like cooperatives, mutual benefits societies and solidarity groups in Asia have had good loan recovery records. Jenkins and Ishikawa (2009), drawing examples from Bangladesh, demonstrated that enabling the poor people to buy, by accessing markets creatively and designing affordable financial products for the poor, breaks the long-held assumption that ‘Bottom of the Pyramid’ markets are not viable. He also demonstrated that effort of a distinguished banker, Mohammed Yunus, in organising the poor for group lending and savings groups made the rural poor people in Bangladesh bankable and as a promising market (Jenkins and Ishikawa, 2009). Mutambara et al. (2015) hinted that in order to make markets work for the smallholder farmers in irrigation schemes, such financial innovations may be needed in Zimbabwe’s financial market.

Experiences in Asia revealed that not all governments were committed to recovering capital costs of irrigation schemes from the beneficiary farmers (FAO, 1996; Veldwisch, 2009), as many governments and donors in the developing world view farmers in smallholder irrigation schemes as too poor to make contribution towards capital costs (Koopman et al., 2001; Mukherji et al., 2010). This was mainly caused by the fact that these development agencies regard smallholder irrigation schemes as welfare projects rather than investment projects (Mundra and Garg, 2013). Such welfare approaches are unsustainable and not pro-poor as they would never engender any sense of ownership, commitment, accountability or responsibility on the part of the poor farmers (Hirsch, 2013; Mukherji et al., 2010). Experiences in the smallholder irrigation schemes in Southeast Asia proved that even very poor farmers from poor communities have been willing and able to invest considerable amounts of money for irrigation projects that they needed (Mukherji et al., 2010).

In Asia, it was discovered that where farmers were unable to gain legal or even customary title to their irrigation plots, they would be reluctant to invest in it (Subijanto et al., 2013). Consequently, the long history of smallholder irrigation schemes development saw a lot of reforms in the land tenure, water, energy and financial sectors, in an effort to address the changing needs of the smallholder farmers and their connected stakeholders. In Thailand, irrigation systems were more resilient than in most African countries because the government was instrumental in providing an enabling environment for the effective operations of the Water User Associations (WUA) through the establishment of not only an enabling legislation but also enforcement capabilities (Facon, 2013). This allowed WUAs to operate as businesses entities capable of borrowing money, have legally binding contractual agreements for service provision and have an internal legal system with the irrigation schemes, which would impart both responsibilities and protection of farmers’ investment in the irrigation schemes (Facon, 2013).

Smallholder irrigation schemes, by their nature, are capital intensive and the more involved farmers are in commercial farming and value chains, the greater the need for an array of financial services tailored to agricultural production (Christen and Anderson, 2013). In Sub-Saharan Africa as a whole, an assessment by Musemwa and Mushunje (2012) revealed that rural credit markets have been difficult to develop and sustain due to high transaction costs. Access to formal commercial bank credit therefore gives large scale farmers a considerable advantage in risk diffusion over small farmers without such access (Musemwa and Mushunje, 2012). A research by Tripp (2003) and Veldwisch (2009) on agricultural markets in Sub-Saharan Africa revealed that poorly developed financial markets limited agricultural development and innovations. The traditional subsidised programmes used by the South African government as a mechanism of finance to serve agricultural development in rural areas generally failed (Cloete, 2013). Specifically, most of the government’s credit programmes in the North West Province of South Africa have failed to yield the desired outcomes of getting farmers out of poverty (Belay et al., 2012).

**History of farmers’ financial inclusion in Zimbabwe**

During the pre-independence era, the black Zimbabwean rural population was financially excluded as agricultural Finance was organised to suit the needs of the white owned large scale commercial farmers. In 1912, the Land Bank was formed to encourage European immigrants to settle as farmers and in 1924, the bank was mandated to facilitate the acquisition of more land by large scale commercial farmers (Chitokwondo et al., 2014). In 1930, the then Government started financing irrigation plot holders in the small scale commercial farming sector in African Purchase Areas (Chitokwondo et al., 2014). At least, the colonial Government was sensitive to the capital intensiveness of operations in irrigation schemes. The Land and Agricultural Bank commenced lending to farmers in 1945, offering medium and long-term loans, while short-term loans were
largely provided by the former African Loan Development Trust (Gono, 2006). In 1964, the Agricultural Loan Fund was established and the loan provision to small scale commercial farmers was increased, grounded on the satisfactory loan repayment record. Through an act of Parliament, the Agricultural Finance Corporation (AFC) was established in March 1971, by merging the former Land and Agricultural Bank and the Agricultural Assistance Board (Pandey and Ramnarayan, 1994; Gono, 2006). Between 1971 and 1979, AFC was catering to the needs of less than 3,000 white commercial farmers and not black farmers because only the whites had title deeds to their land (Gono, 2006; Chitokwindo et al, 2014). In response to the political dynamics in the country in the late 70s, some policy shifts were noted at AFC. In 1978, the Small Farm Credit Scheme was created under AFC, to increase the scope of lending to the small scale commercial subsector (Gono, 2006). In 1979, the AFC Act was amended to accommodate rural peasant farmers in the communal subsector (Gono, 2006).

At independence in 1980, the Zimbabwean Government inherited one of Africa’s best banking systems, after a long period of financial exclusion of the majority black population during the colonial regime (Brownbridge and Harvey, 1998; Chitokwindo et al, 2014). The economy was serviced by 5 commercial banks, namely Barclays, Standard Chartered, Zimbank, ANZ Grindlays (now Stanbic) and The Bank of Credit and Commerce International (now Commercial Bank of Zimbabwe-CBZ) (RBZ 2012). These commercial banks were of no direct relevance to the smallholder rural farmers as they were not servicing them. In 1980, Government through statutory instruments directed AFC to extend loans to all farming sectors including communal farmers who were neglected prior to Independence and the AFC started lending to this sector from 1981 (Pandey and Ramnarayan, 1994; Gono, 2006). A Resettlement Credit Scheme (for purchasing farm inputs, farm equipment and livestock and working capital) was introduced in 1981 through a statutory instrument whereby Government guaranteed credit facilities were extended by AFC to resettled farmers (Pandey and Ramnarayan, 1994). Unfortunately, loan funds availed under the Scheme were inadequate and the lending remained short-term. However, considering the costs of loan granting and recovery, the communal sector was rated a loss making proposition by many financial institutions, including the AFC. Lending to the communal and resettlement sector was fraught with many problems, particularly defaults, and this presented a huge indemnity bill to the Government farmers (Pandey and Ramnarayan, 1994). Consequently AFC maintained a policy of not granting loans to clients who had defaulted on their 1984 and 1985 loans (Pandey and Ramnarayan, 1994). This policy stance resulted in a number of loan applications getting rejected, as a way of encouraging repayment of loans (Pandey and Ramnarayan, 1994). Despite some financial intervention by the Government, the smallholder farmers remained less resilient. Their lack of resilience was demonstrated by the fact that the majority of the rural farmers (whether irrigation, commercial and communal) would slide back to subsistence farming after every drought, especially in the 1982, 1987, 1992, 2002 and 2005 droughts), where they would strive just to ensure family’s food security and avoiding credit for purchase of factor inputs (Gono, 2006).

Although the AFC was facing challenges and losses in serving the smallholder farmers, the institution’s clientele increased from a mere 6 000 clients in 1978 to around 100 00 in 1986, advancing 40% of all agricultural loans in the 1986/87 agricultural season (Pandey and Ramnarayan, 1994; Gono, 2006). Credit from AFC increased between 1980 and 1992, financing around 35% of total agriculture financing, compared to 22% prior to 1980 and 14% between 1993 and 2000 (Gono, 2006).

### Economic meltdown

The economic crisis currently affecting the economy can be traced from 1997 when the Zimbabwe dollar lost 74% of its value. This was attributed to the unbudgeted Z$50 000 once off gratuity payment to each of the more than 50 000 war veterans, the Land Designation Act and the unilateral identification of white owned farms for redistribution, resulting with the International Monetary Fund (IMF) and the World Bank withdrawing balance of payment support (European Union, 2012; Musemwa and Mushunje, 2012; Chitokwindo et al, 2014). The sudden fall of the Zimbabwean dollar against the major currencies caused price increases, and price controls on most basic commodities resulted in shortage of these goods on the market as business considered the gazetted prices unviable (European Union, 2012). The banking sector was not spared by the economic crisis. In 2004, some banks, such as Trust bank, Royal bank, Time bank and Barbican bank, collapsed and were placed under curatorship and their banking licences withdrawn by the RBZ (RBZ 2004; Chitokwindo et al, 2014). Although the troubled banks were consolidated into a single entity called Zimbabwe Allied Banking Group (ZABG) in 2005 and people’s (including some farmers) deposits were converted into equity, they lost their money as hyperinflation had eroded the value by the time the funds became accessible (Chitokwindo et al, 2014). With the continued plummeting of the economy, banks struggled to maintain viability and profitability, culminating in the rural bank branch closures and setting of low maximum daily withdrawal limit and suspended issuing of loans to farmers (Chitokwindo et al., 2014). These unfavourable changes encouraged people to transact outside the banking system, thereby furthering financial exclusion of the rural population. Consequently, by 2007, only 18.3% of the Zimbabwean population had access to a bank account (Chitokwindo et al, 2014). The country’s economic meltdown and hardships affecting all sectors, including agriculture, were impelled by the world record hyperinflation which reached 230 000 000% by 31 July 2008! (RBZ 2009; European Union; 2012) The adoption of the multicurrency system and the abandonment of the
Zimbabwean dollar in 2009 resulted in people losing their bank deposits as their money was rendered worthless (Mphambela, 2016; Makaha, 2016). Although the dollarization of the economy resulted in the stabilisation of the economy, as reflected by price stability, single digit inflation rate and GDP growth of 5.9% in 2010, the low income population (including the smallholder rural farmers) did not benefit much from the slight improvements in the economy. They remained financially excluded and the financial sector remained unhealthy as the local banks continued to fold (Flashpoint economics, 2015). The soundness of Zimbabwean banks was ranked 137 out of 148, in the World Economic Forum Global Competitive Index 2013 -2014 (World Economic Forum, 2014).

The Statement of the Problem/Issue Under Analysis

Little research has been carried out to investigate what has been preventing the poor farmers from participating in the financial markets connected to the irrigation schemes (Zimbabwe Farmers' Union, 2002; Easterly, 2006; Bindu and Chigusisa, 2013) and how that has been impacting on the sustainability of smallholder irrigation schemes, especially in the light of the economic melt-down of the Zimbabwean economy and the changes in the land market following the fast tract land reform program. Rukuni (2013) revealed that the banking sector in Zimbabwe has a limited understanding of smallholder farmers; and smallholder farmers, with their limited history of dealing with banks, had little understanding of the financial markets. It is in the light of the need to fill these gaps in knowledge that this study was undertaken.

RESEARCH METHODOLOGY

A mixed research approach, involving a questionnaire, key informant interviews, Focus Group Discussions (FGDs) and observations was used for the study. The mixed method research design took the form of a Convergent Parallel Design whereby the researcher collected quantitative and qualitative data and analysed the two data sets separately and then mixed the two databases by merging the results during interpretation or during data analysis (Creswell, 2008), as illustrated in Figure 1.

This was informed by the need to tap from multiple stakeholders involved in smallholder irrigation farmers’ financial market and the need to connect rural farmers' time use patterns with their spatial and material footprints (Fahy and Rau, 2013). Eight community small-scale irrigation schemes in the south-eastern Lowveld and the Midlands province of Zimbabwe (Tsvovani, Dendere, and Rupangwana in Chiredzi district, Zuvarabuda and Vimbanayi in Chipinge district, Insukamini, Mutorahuku and Mambanjeni in Gweru district) were purposively selected for this study. The Map below (Figure 2) shows the spatial distribution of the irrigation schemes targeted for the study.

For quantitative data collection, a simple random sampling method was used to select participating farmers through a self-weighting system or proportional representation whereby a scheme with more farmers had relatively more respondents that were selected for the questionnaire interview. In order to determine who was to be interviewed, random samples were taken by assigning a number to each plot holder and using a random number table to generate the sample list. A total of three hundred and sixteen farmers were interviewed from the eight irrigation schemes, distributed as follows: Tsvovani (48), Dendere (32) and Rupangwana (32) in Chiredzi district, Zuvarabuda (33) and Vimbanayi (60) in Chipinge district, Insukamini (42), Mutorahuku (34) and Mambanjeni (35) in Gweru district. The critical stakeholders involved in the financial market of smallholder irrigation schemes were also selected for interviewing for this study to assess how
their levels of engagement were impacting on the sustainability of the schemes. The researcher chose the sample based on who was judged appropriate for the study, focusing on the role of the stakeholder and the position of the person within a particular organisation or institution. The key informant interviews allowed the researcher to obtain information from knowledgeable research participants with a wealth of experience in operating with irrigation farmers in the different subsystems of the scheme, tapping from their expertise and unique viewpoints.

The following is the list of key informants who were interviewed for the study:
- 8 Irrigation Management Committees (IMCs)
- 8 Agritex officials
- 3 Rural District Councils
- 8 Department of Irrigation officials,
- 8 traditional leaders,
- 4 bank officials (from CBZ, Agribank, Steward and Bank ABC)

Eighty one farmers (forty three females and thirty eight males) were interviewed through Focus Group Discussions (FGDs) across the eight (8) irrigation schemes. Purposive sampling was used to determine the FGD participants. A farmer needed to be a member of the scheme in the ten years preceding the day of the survey to participate in the FGDs.

Data from the questionnaire survey was processed in SPSS and was subjected to both descriptive and advanced statistical analysis. The thematic framework analysis was used to analyse the data from FGDs and key informant interviews. The analytical procedure followed a general inductive approach and the data was grouped into categories and descriptive themes (Shank, 2006; Patton, 2002).

RESEARCH FINDINGS AND DISCUSSION

The following were the major factors that were found to influence smallholder irrigation farmers’ financial exclusion in Zimbabwe:

Financial exclusion of smallholder farmers in irrigation schemes

Seventy-four percent indicated that they had no access to loans from banks by the time of the survey and the difference by name of scheme was found to be statistically significant by chi-square test at $P=0.05$ ($\chi^2=24.271$, df=1, $p=0.000$). Insukamini Irrigation scheme had 58% of its farmers claiming to be accessing loans while 0% and only 6% claimed to have access to loans in Mambanjeni and Dendere respectively. Thirteen percent and eight percent had access to bank loans in Vimbanayi and Tsovani respectively. The differences of schemes in the number of farmers who were accessing loans proved to be statistically significant by Pearson’s Chi-square analysis at $P=0.05$ ($\chi^2=$...
92.754, df= 14, p=0.000). Differences by age, level of education, sex and marital status of the farmers on their access to loans were not statistically significant at P=0.05 using Chi-square tests.

Farmers were asked if they would need a loan for the procurement of agricultural inputs in the scheme. Seventy-eight percent wanted to have the loans while 22% did not need the loan by the time of the survey (Figure 3).

The differences by the name of the scheme was proved to be significant at P=0.05 (χ²= 42.318, df= 5, p=0.000). All the farmers in Tsvovani, 97% in Mutorahuku, 88% in Zuvarabuda wanted loans while only 6% of the farmers in Mambanjeni needed loans. The reduced demand for loans in Mambanjeni was justified by the fact that the scheme was non-functional by the time of the survey. This finding confirms the World Bank (2008) finding that only 23% of the adult population in Sub-Saharan Africa has bank accounts and the FinScope Consumer Survey (2014) findings that only 24% of Zimbabwe’s adult population is banked. In a pack of selected countries in Sub-Saharan Africa, Zimbabwe was positioned the least in terms of deposits accounts as only 13.9 percent has bank deposits, leaving 86.1 percent excluded from the banking system (World Economic Forum, 2014).

One way ANOVA revealed that there was a significant difference between farmers enjoying access to loans and the quantities of fertilizer used in the last cropping cycle preceding the survey (F = 5.000, df = 2 p = .007). Twenty percent of those who did not have access to loans did not apply any fertilizer, while only 10% of those who accessed loans did not use any fertilizer. On the farmers who had access to loans but failed to use fertilizer, all FGDs in the 4 irrigation schemes revealed that some farmers were not prioritizing fertilizer use out of the need to satisfy other pressing social needs. Consequently, some of the farmers were taking agricultural loans to use in non-farming commitments, such as payment of school fees. This confirms IFAD (2016) finding that rural smallholder farmers have diverse financial needs that remain unsatisfied due to their constrained access to the financial market. Consequently, their access to loans was not translating into improved productivity level in the irrigation schemes. If farmers’ diverse financial needs are not considered when awarding loans, farmers can easily fall into debt traps. Farmers’ financial inclusion is not just about encouraging farmers to take loans but it should be underpinned by an underlying inclusive process of inculcating business mind-set amongst the irrigation farmers and informed participation in different value chains (Dhewa, 2016).

Twenty percent of the farmers were participating in Village Savings and Lending Schemes although none of them were using the proceeds from these saving schemes to finance their agricultural operations.

Old age

The seventy years and above age group had the highest proportion of farmers (67%) who were not interested in getting a loan to finance their agricultural operations. The difference in the willingness of farmers of different ages to get a loan for agricultural use was statistically significant at 5% significance level (χ²= 92.318, df= 64, p=0.012) suggesting that the elderly who constituted 12% of the interviewed farmers were less prepared to take up loans than the younger age groups.

The FGDs across the eight (8) irrigation schemes confirmed that the older farmers (65 and above years of age) were hesitant to take loans. One 76-year old farmer in Mambanjeni even doubted if the banks would allow him to apply for a loan. He said:

"I can't imagine any serious bank entrusting an older person like me with funds; honestly how would I work to repay the loan, considering the challenges in cultivating and water pumps, the repayment of the loan becomes very difficult Self-exclusion of the farmers from the financial
market was in line with Hamp et al. (2016) argument that even if innovative financial products are available, there might not be sufficient demand if smallholder farmers do not understand the value of the products and opt not to use the services.

**Very small hectarages**

Thirty percent of the farmers felt that their small plot sizes could not allow them to produce enough to service a loan. One FGD participant at Insukamini said: "Can one take loans for a 0.1 hectare plot, and expect to get food for the family, something to sell and payback the loan, it is not possible. Even bank officials who were interviewed indicated that some of the hectarage commanded by the farmers were too small for serious commercial engagements and that was one of their reasons for not giving out loans to some smallholder irrigation farmers.

**Lack of collateral security**

Interviews with bank officials indicated that the farmer needed to satisfy a long list of requirements including collateral security to qualify for a loan. Interviewed bank officials confirmed that loan applicant should provide collateral security in the form of tangible immovable asset, buildings and other equipment at the farm. Those items given as security needed to be insured and the insurance was ceded to the bank stipulating that the Bank needed to enjoy first preference in case of any unfortunate events happening. Cattle used to be accepted as collateral but by the time of the assessment, insurance companies were finding it very difficult to fund. The interviewed bank officials revealed that the risks with cattle as a form of collateral emanated from the informal nature of how cattle were normally sold and challenges associated with verification of facts around cattle as one could claim to have lost cattle to thieves or disease after selling it to someone. Cattle were also vulnerable to diseases, such as foot and mouth diseases, which could affect all the cattle at the same time and, which for the bank and the insurance company, would make funding the losses a nightmare. Therefore, the 66% of the farmers that owned cattle were not better-off in their accessibility to loans.

According to all the interviewed bank officials, there was no security of tenure in the land the smallholder farmers were doing their business in. Therefore, it was risky for a bank to give long term loans where there was no security of tenure. This tenure status prevented banks from investing in long term infrastructural investments like the rehabilitation of irrigation schemes and dams that feed into the schemes. The irrigation plots were Government-owned and could not be used as collateral to borrow the much needed short and long term credit for investment in the irrigation schemes and to access hybrid seed, fertilizer and other equipment.

The existing collateral arrangements for smallholder farmers, including the recently introduced 99 year leases, did not provide adequate security of land tenure to motivate financial institutions to award loans to farmers (Mutambara et al., 2015). Following the inception of the Fast Track Land Reform Programme in 2000, the proportion of commercial bank loans to the agricultural sector declined from a peak of 91% in 1999 to 14% in 2000, due to the changed risk assessment profiles in agricultural finance (RBZ, 2015). The whole farming business cycle whereby land holders borrow from banks to produce crops, which they then sell to the manufacturing sector and channel the finances back into the financial system, was destroyed by the government’s policy to nationalise all land resources (Taff, 2014). The criticality of the collateral requirement as a barrier to access loans was consistent with some research findings in Southeast Asia that low productivity level in smallholder irrigation schemes investment could be symptoms whose initial cause might be lack of access to relevant financial services and the underlying cause which could be lack of formal title to landholdings acting as major barrier to bank finance (Norman, 1998; Tschumi and Hagan, 2009). Hence there is a serial link between land tenure, access to credit and productivity. It also confirms Taff (2014) argument that without land tenure, no one can sustainably access finance and without finance no one can sustainably engage into agricultural production.

The inaccessibility of credit facilities to acquire inputs for irrigation farmers echoes Sheahan and Barrett’s (2014) conclusion that the use of credit to purchase agricultural inputs in Sub-Saharan Africa was nearly non-existent. In Thailand, it was proved that farmers with secure land tenure were able to invest in their land as they could access favourable institutional credit which in turn translated into higher output per unit of land (Feder, 2007). In Vietnam and China, the poor farmers who were once unable to take title of land lacked the incentives necessary to invest in their irrigation schemes (Ferrand et al., 2004; Tschumi and Hagan, 2009; Zhao, 2014). The introduction of land use certificates gave smallholder farmers the right to sub-let, dispose, inherit and mortgage their land and such changes triggered rapid agricultural growth and productivity of over 7% per year in both China and Vietnam (Tschumi and Hagan, 2009; Zhao, 2014).

**Bad previous experiences with banks**

Twenty percent of the farmers had very bad experiences with repayment of loans and were no longer interested in taking loans to finance agricultural activities. Some Tsvovani farmers failed to repay after their pumps broke down and Agribank recovered the loan with everything valuable that was available in their houses and kraals. It did not only embarrass them but to them they escaped imprisonment only by a whisker. One said: "...you are very close to prison if you take a loan; if you fail to payback, the banks can send you to jailin Rupangwana, the farmers who had accessed a loan two seasons before the survey, ended
up selling their livestock to pay back after a bad harvest and a glut in the market. One farmer in Rupangwana said:

“I took a loan with Agribank and grew tomatoes and cabbages. At harvest time, the market became very bad that I ended up selling my tomatoes and cabbages at very low prizes. The bank could not take it and I had to sell my cattle to pay back the loan. No one in my family wants to hear about the loan as it did not help us; rather, we lost some beasts to the bank loans.”

In Tsvovani, farmers had almost similar experiences with Agribank. After borrowing from the bank for input procurement, they experienced a pump breakdown which resulted in complete crop failure. They had to struggle to pay back. Smallholder farmers sold livestock and other household belongings. Everyone eventually paid up, but farmers felt banks were not genuine partners in the farming business as Agribank should have intervened to save the crop by helping the farmers to fix the pump and extend the repayment period.

The farmers’ bad experiences with financial institutions is consistent with farmers’ experiences in Senegal where credit failed to ease the liquidity constraint of the farmers because the financial market was not supportive of flexible loan repayment schedules after a poor harvest (Kelly et al, 2006). Musewe (2016) argued that until the countries addressed the farmer perceived systemic risk and lack of confidence in banking system and financial policies, financial inclusion will remain a theoretical wish. Zimbabweans are still grappling with historical pain of loss of bank deposits, money market investments, pensions and valuable assets during the hyperinflation period, the initial stages of the adoption of the multicurrency regime in February 2009 and during different episodes of bank closures (Chitokwindo et al, 2014). These horrendous experiences have remained stuck in the psyche of many Zimbabweans, including smallholder farmers (Musewe, 2016). People’s lack of confidence in the banking system is further exacerbated by inconsistent government economic and investment policies, lack of trust of the current government on money matters, the liquidity crunch in the money market and the fact that there is always suspicion that this government will one day reintroduce the Zimbabwe dollar without warning (Musewe, 2016). This feeling was reinforced by the proposal by the RBZ to introduce bond notes by August 2016. More than 10 commercial banks have collapsed since 2004 and this has resulted in an affective outlook on financial service providers by the depositors (Chitokwindo et al, 2014). Even the world’s largest financial markets had similar experiences during the Great Recession of 2007-2009 when economic agents started pulling out their investments and savings (Makaha, 2016). Makaha (2016) argued that when seeking financial services, farmers are rational enough to scrutinise the type of financial institution they are about to enter into a relationship with, and lack of confidence in the financial system drives them away from seeking mainstream financial services. The farmers’ bad experiences with financial institutions also attest to the extractive engagement of bank to farmers which does not engender farmers’ trust in the financial products and banks in the long run. Nyakwawa (2016) lamented the lack of priority sector lending policy in Zimbabwe which is exposing the poor (including the rural smallholder farmers) to loan sharks. The exposure can also be explained by lack of consumer protection in the financial economy and lack of financial education or literacy amongst the smallholder farmers (Nyakwawa, 2016).

**Incompatible financial packages**

One percent of the respondents felt their lack of a bank account was a strong barrier to access loan as banks only considered account holders. Most farmers’ bank accounts were lost during the time of hyper-inflation (between 2004 to 2008) and most of them lost their money to inflation and have since lost confidence in banks. The banks confirmed that they were giving out short term loans to those who were formally employed and those receiving their salaries through the bank. Alternatively, a person needed to have an active account reflecting a consistent flow of money for over 6 months. Most farmers could not meet such requirements. Banks confirmed that their loans were not tailored to meet the special needs of the farmers. The farmers dealing with banks such as Steward Bank and other commercial banks were not doing so on the basis of their viability of agricultural projects but normally on the basis of the soundness of their financial standing outside agriculture. That possibly reinforced the finding that some farmers who had access to loans were not using it to buy critical inputs for their crop production. Farmers had to provide sufficient security in the form of immovable assets or a bankable contract farming arrangement well backed with valid crop insurance to get a loan. The farmers in the 8 irrigation schemes were aware that banks gave considerations for loans to those that had some bank statement reflecting cash inflows. Bank officials admitted that the services banks were offering were not pro-poor as one could not expect the poor farmer to be a bank account holder.

Interviews with some bank officials revealed that where the farmer satisfied the bank requirements the banks could only give short term loans repayable within 6 to 12 months because the banks were also receiving the majority of their deposits through short term deposits. Banks appreciated that short term loans were not compatible with farming operations, but their source of Capital could not allow them to award long term loans to the farmers. One bank official from Steward Bank said:

“How can you lend someone money to pay you back in 3 years’ time when the source or the person who entrusted you with that money wants his/her money within a year or less?. After all, only a few are saving money in this economy, as many are operating on a hand- to mouth basis. This does not give good health to the banks for the issuance of long term loans”. The same argument was presented by agro-dealers who
were not able to extend any input credit facility to farmers because their suppliers were not giving them such facilities. The suppliers that were giving inputs on credit basis to companies like Farm and City were only giving them 30 days to pay for the inputs entrusted to them. Under these conditions, it was not possible for Farm and City to extend some credit facilities as the whole input supply chain was not giving credit.

Zimbabwean financial institutions’ failure to offer financial products compatible with the farmers’ needs and contextual requirements of the poor farmers was confirmed by Makaha (2016)’s findings that the mainstream banks have lagged behind and failed to offer financial products that suit the current economy. Also, the sudden surge in the number of microfinance institutions (MFIs) in the 1990s attests to the failure by the traditional banking system to cater for the needs of the small-scale borrowers (Makaha, 2016).

**High transaction costs of administering smallholder farmers’ loans**

According to the interviewed bank officials, the geographical location of the farmers was making it very expensive to give out loan to the farmers. Considering that agriculture has a lead-time of about 6 months, the crops have critical stages that needed monitoring to ascertain that the entrusted financial resources were being put to good use. The supervision requirements for farming project cost the banks more than what the bank got from the loan given to the farmer. This made it a loser’s business, especially considering that most agricultural projects had very low profit margins. All the interviewed banks reiterated that the cost of money for banks in dealing with the farmers was not congruent to the profit margins.

In Sub-Saharan Africa, an assessment by Musemwa and Mushunje (2012) revealed that rural credit markets have been difficult to develop and sustain due to high transaction costs. Hamp et al. (2016) posited that innovations in finance are constrained by the cost of delivering financial products to rural areas and by the limited profits to be generated from smallholder farming.

**Very high interest rates**

According to Agribank officials, Zimbabwe used to have the National Farmer Irrigation fund that was administered by the Ministry of Agriculture between the 1980 and 1990s. Some smallholder irrigation schemes were able to borrow from the fund to repair their infield works and procure agricultural inputs and the repayment period was up to 10 years. The fund was channeled through AFC (now Agribank) and was borrowed at an interest of 9.75%. By the time of the survey, the interest rate for the short term loans was between 12 and 25% per annum, which the farmers said was not viable for farming business.

World over, banks generate their income through loan provisions, derivative investments and capital markets (Reserve Bank of Zimbabwe, 2016). For Zimbabwe, following the adoption of the multicurrency in February 2009, banking institutions generated most of their income through bank or transactional charges (Mataruka, 2015). This has excluded the majority of the low income Zimbabweans out of the mainstream financial system because the costs of banking services, transaction fees and the cost of maintaining a bank account are prohibitive (Reserve Bank of Zimbabwe, 2016). There is no incentive on saving through a financial institution as the small interest is wiped out by the monthly charges that accrue thereof (Reserve Bank of Zimbabwe, 2016). Although the RBZ also considers the bank charges as high and has been urging banks to review their costs, it has no supporting legislation to enforce these measures (Reserve Bank of Zimbabwe, 2016). Micro-finance institutions were no better, as their costs were much higher than those of banks. The same applies to mobile money banking by Econet (Ecocash), Netone (One wallet) and Telecel (Telecash), where their transactional costs remain high even though they are convenient, reliable and have huge potential for enhancing the financial inclusivity of the poor (Makaha, 2016).

**Poor farm infrastructure and high utility bills**

One challenge of supporting the financial inclusion of smallholder farmers was that of poor infrastructure and high utility bills. Interviewed bank officials highlighted that the poor infrastructure at most smallholder irrigation schemes and the siltation of Save River were making it highly risky for financial institutions to give loans to farmers. There was a high risk that farmers could default after a pump or mechanical breakdown in the irrigation schemes or if the water became inaccessible due to siltation. Farmers also confirmed that the risk of loan non-repayment was high due to other risks like inadequate water supply, especially for pumped scheme areas where they were experiencing frequent breakdowns or malfunctioning of water delivery or infield canals. The farmers drawing their water from Save River also reported that water discharge was compromised by selfish upstream water users and siltation, increasing the risk of crop failure which then leads to loan non-repayment.

In Vimbabayi, Tsxovani and Zuvarabudha, farmers had problems in satisfying the banks’ requirement that they maintain an active account with a good balance as they always had outstanding arrears in utility bills with ZESA (Zimbabwe Electricity Supply Authority) for the electricity used for pumping and ZINWA (Zimbabwe National Water Authority) for water charges, preventing them from making savings. Farmers in Tsxovani highlighted that electricity ZESA outstanding bill that was averaging US$27 000 by August 2014 was a threat to their access to bank loans. An official from Steward bank indicated that the starting point when dealing with a community irrigation scheme was the proof that the farmers had no outstanding utility bills. Everything being normal, this would have automatically
disqualified all the irrigation schemes targeted for this study, other than Dendere and Mutorahuku, from getting a bank loan.

Tied to the concept of resilience is self-reliance (Conard, 2013) and the failure by most schemes to maintain their irrigation schemes and pay their own utility bills made the smallholder irrigation schemes less resilient. Researches in Latin America confirmed similar inefficiencies with parastatals for several decades, where the providers of water and electricity were so poor that their services were deteriorating by the day and the poor farmers suffered most (Ferrand et al, 2004). Unlike the case with Zimbabwe where the water and electricity service provision has remained in the hands of parastatals, the provision of these services in Latin America was handed over to private companies following some dramatic reforms, resulting in improved water and electricity supply to the poor smallholder farmers (Ferrand et al, 2004). Contrary to the practice in the six pumped schemes, where farmers were paying for electricity after use, resulting in huge outstanding bills, upfront electricity cost gave farmers in Chao Phraya Delta of Thailand an added impetus to organise themselves and manage their irrigation water and their productivity (Mukherji et al, 2012). In India, the Government had to subsidize electricity for irrigation amid concerns that higher tariffs would compromise the viability of farming operation and undermine the financial inclusivity (Vasant et al., 2007; Monari, 2002).

**Political interference**

Discussions with bank officials revealed that at times government was providing grants, revolving loan funds or guarantees as credit facilities to financial institutions to support people in specific segments disaggregated by geographical location, gender, age, income levels and such production sectors as agriculture for smallholder farmers. The government would pledge to match whatever the bank would have given out as loan to these people in order for it to achieve certain objectives. All the bank loan application requirements (such as collateral) would be waived or guaranteed by the Government. The administration of such grants was controversial in that the moment people were told about the facility, they would flock the banks and the applications would be overwhelming. Some would certainly fail to get the loan as the funds for such arrangements were usually limited, and the bank would create political enemies in the process. The moment people received a government subsidized loan, they usually have a natural tendency to resist repayment as the Government was known for free hand-outs and poor follow-ups for any credit arrangement. Following up the dispersed farmers was not only costly for the bank, but it was also associated with a myriad of challenges. If the bank applied the legal and formal ways of recovering the money, one banker stated that "political fingers would point at you and the process would have a lot of obstacles". For some banks like AgriBank, by the time the information about the credit facility reaches ordinary smallholder farmer, the money would have been exhausted by high ranking politicians who “literally would not payback”. Interviews with CBZ and AgriBank revealed that banks incurred losses each time they administered government sponsored loan schemes for the smallholder farmers. The bank would get a government commission for chasing for and monitoring the repayment, but the returns for the bank were not usually commensurate with the costs incurred in the process.

These findings confirmed Bruce (1995) finding in Northern Africa where financial institutions were worried about political interference, which made it difficult on foreclosures for those who were politically connected in case of default on loan repayments. The poor performance of AGRIBANK, a predecessor of the Agriculture Finance Corporation (AFC), was at one point attributed to the systematic looting of its resources by politicians who defaulted on their loan repayments (Chenga, 2012). The politicians were also blamed for meddling with its operation, resulting in the charging of unviable interest rates on loans (for example, the bank was charging a 20 percent interest on loans at a time when the country’s inflation was over 300 percent) (Chenga, 2012). The loans were also issued to farmers for political expediency and this encouraged the free riding culture amongst the farmers (Chenga, 2012).

**Informal output marketing arrangement**

During the time of the survey, banks reported that they were giving out loans to tobacco and sugarcane farmers and were not experiencing many problems in repayment. The reason was that the farmers were producing and selling to recognised formal marketing boards, where stop-order arrangements could be made with the buyer of their produce to deduct the amount due to the bank to enable the bank to recover its money and interest before the farmers’ proceeds reached the farmers. Chances of side marketing and market failure were very rare for sugarcane and tobacco as the buyers were few and institutional. With the smallholder irrigation schemes, the marketing arrangements were highly informal. Farmers grew a range of crops like cabbage, rape, tomatoes, maize and wheat. These crops had no recognizable marketing board or consistent institutional buyers with which arrangements could be made for stop-order payments. Without stop orders, banks believed the risk of non-payment was very high as the culture of non-payment had allegedly gripped farmers and has been reinforced for decades. Consequently, without clear ways of tracing and recovering the money, the banks were not keen to invest in the smallholder farmers.

With the closure of companies, due to the economic meltdown and the controversial indigenisation policies, the Zimbabwean economy became highly informal and this will continue to work against smallholder farmers’ financial inclusion.
Lack of faithfulness of the smallholder farmers

One major problem that the finance institutions and input suppliers encounter in dealing with farmers was lack of faithfulness. FGDs with the farmers in the schemes revealed that the bad experience farmers had with lenders was also exacerbated by the fact that some farmers abused the loan and used it for other non-productive purposes. Discussions with farmers and the IMC at Insukumini revealed that the Windmill once gave farmers fertilizer on credit in 2013 and that boosted farmers’ harvest by a wider margin. Unfortunately, some farmers failed to repay back the loan in time. The lack of faithfulness worked against them when they tried to reengage Windmill in the subsequent seasons as they were blacklisted as risky customers. The IMC at Mutorahuku revealed that Panner Seed Company had the same experience with farmers in Mutorahuku after supplying farmers sugar bean seeds on credit. The repayment took them six (6) months after the due date and some farmers failed to pay back the loan completely. Therefore, lack of faithfulness was preventing banks and input suppliers from extending credit lines to the farmers.

This is in line Hamp et al (2016) finding that in Zimbabwe, repayment rates for the Micro Finance Institutions even for the Government operated microfinance programmes SEDCO1 and SDF2 dropped to around 4% (Hamp et al, 2016). It also confirms earlier findings that among other reasons, financial institutions considered credit worthiness, which encompassed good savings record, repayment of previous loans and reliable non-farm income streams which naturally excluded the majority of the poor farmers (Bruce, 2004).

Weak farmers’ linkage to Farmers’ Associations/Clubs

The unionism of smallholder irrigation farmers was weak. Eighty-seven percent of the farmers in this study were not part of any farmers’ group or trade association. The only farmers' groups the 13% of the farmers were affiliated to was the Zimbabwe Farmers’ Union (ZFU). The differences in the farmers’ affiliation to farmers’ groups by name of irrigation scheme was found to be statistically significant at 0.05 significance level ($\chi^2 = 45.325$, df= 2, p=0.012).- Sixty percent of the farmers in Mambanjeni were members of the Zimbabwe Farmers' Union while other schemes like Vimbanayi, Mutorahuku and Zuvabudha had no farmers affiliated to any farmers’ club or association.

The reason for not being part of any farmers' club or association was that farmers were not getting anything from these clubs. Discussions with farmers revealed that some used to be ZFU members but had long stopped subscribing because they were not accessing any service from the union. Farmers indicated that they would have wanted the ZFU to help them broker for credit terms or access cheap inputs, assist in the marketing of agricultural products and represent their interest to stakeholders like ZINWA and ZESA who they accused of taking advantage of the them.

FGDs with farmers revealed that traditional leaders had no role to play in the day to day management of most of the irrigation schemes. The only issues that were referred to the local traditional leader were on straying cattle and witchcraft related conflicts. No single scheme was making use of the traditional management systems to help farmers in negotiating for loans and no financial institution was riding on the traditional management system in the loan recovery systems.

Irrigation farmers’ poor link with farmers’ associations was in contrast with findings in Vietnam, where farmers’ organisations or clusters were providing a platform for collective bargaining with both private (including input supply companies, trade associations and supermarkets) and public sector service providers (Wijeratne, 1997; Senanayake, 2004; Smith, 2005; Markelova et al., 2009). This suggests that the lack of a vibrant farmers’ union could be the missing link that irrigation farmers in Zimbabwe need to enhance the sustainability of their irrigation schemes. Immink and Alarcón (2014) found that, in Brazil, collective marketing did not only generate market power, opportunities for market diversity and increasing price stability, but that it also reduced loan default rates for irrigation farmers as well. For Zimbabwe (?), it was found that, although 20% of the farmers across the eight irrigation schemes were involved in different internal savings and lendings, none of them was using the ISAL to procure agricultural inputs and anything to promote agricultural productivity in their respective schemes. This attests to the lack of financial literacy and the need to bundle interventions when designing projects to enhance the resilience of rural farmers (Fowler and Panetta, 2011). It was also found that the traditional leaders had no role to play in the management of irrigation scheme as the policy was not clear on the mandate of traditional leaders in the schemes. Therefore, the financial institutions were missing a critical institution for the effective loan provision and loan recovery system in the rural setting.

Conclusion

The majority of the farmers had no access to credit facilities from financial institutions and input suppliers. Barriers to accessing loans by the farmers included lack of favourable terms of repayment, small hectarages, unfaithfulness of the farmers, incompatible financial packages, and high transaction costs on the part of the banks, political interference, poor on-scheme-infrastructure and high utility bills. Financial institutions in Zimbabwe were still to consider and appreciate the business logic and benefits of lending to the smallholder irrigation farmers.

Recommendations

- Financial policies need to provide market-based incentives for delivery of sustainable financial access and usage of a broad range of affordable and pro-poor...
services to farmers.

- There is need for clear and enforceable polices to protect the low income farmers from loan sharks and the private companies, with clear lines of accountability and coordination across multiple stakeholders as it promotes consumers' confidence in the financial system. Consumer protection builds and strengthens the trust and confidence in formal financial services, particularly among the low-income households.

- Effort should be made to develop and engender financial literacy and financial capability amongst the smallholder farmers and this should proactively and holistically start at an early age and be made a part of the national education curriculum spanning primary, secondary and tertiary education sectors. It should make people better informed, better educated and more confident, able to take greater responsibility for their financial affairs and able to play a more active role in the market for financial services. A financially literate consumer also has knowledge of financial concepts, such as interest rates, accounts in arrears; skills to draw up a family budget or use an ATM; attitude to trust the financial services provider and has a rational behavior of saving for future needs.

- The banking sector needs to research and find the business case of dealing with those on the bottom of the pyramid and tackle the following major barriers to financial inclusion in Zimbabwe; the high cost of financial services, including high bank charges which erode and discourage savings; account opening requirements, and consumer education to improve farmers' financial literacy.

- Efforts should be made to improve the poor infrastructure in rural settings to improve the accessibility of financial institutions by marginalized rural areas.

- Financial institutions serving rural areas should design products and lending methodologies suitable for the rural population. They should explore the group lending approach, particularly in the rural areas where the sense of belonging to the community is an important factor to the performance of a borrowing member in a group.

**Competing interests**

The authors declare that they have no competing interests.

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