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Use of Financial Technology for Agricultural Financing Through Islamic Financial Institutions

SAYEDA ZEENAT MARYAM [1]*, DR. ASHFAQ AHAMAD[2]

[1] Ph.D. Scholar, Hailey College of Commerce, University of the Punjab, Pakistan

[2] Associate Professor, Hailey College of Commerce, University of the Punjab, Pakistan

Abstract: Financial technology and digitization are an essential part of the financial sector in the recent age, especially for Islamic Financial Institutions (IFIs), who offer a variety of products and services to the different sectors/segments of society. Demand for food is rising, but agricultural productivity is reducing worldwide. The reason behind this contraction is the decreasing trend of investment in agriculture due to the shortage of credit and financing facilities. IFIs promised to provide financing, and Fintech is considered as an opportunity to manage this problem. The study aims to explore challenges for the small farmers regarding agricultural financing through IFIs in the presence of conventional financing sources to find out a solution with the help of Fintech integration. This study was undertaken to collect data through focus group and in-depth interviews. Population of the study is small farmers of agriculture sector in the Gujranwala region. A sample of 70 people were chosen based on purposive sampling to create focus groups (seven focus groups) and in-depth interviews of the selected respondents. The sample size of the study was decided based on the territorial classification of the selected area of the Gujranwala region to approach the maximum number of target audiences for this study. Moreover, unstructured in-depth interviews were carried out to collect data from small farmers. Individual farmer is the unit of analysis for this study. Interviews were transcribed and coded to develop the themes to conclude the results. Findings of the study indicate that conventional banks don't provide loans to vulnerable small farmers due to risk burden and high interest; collateral requirements; bribery, and lengthy procedure for financing that discourage the small farmers to approach these banks. However, IFIs especially Islamic banks provide interest-free but offer very limited financing products/services to small farmers. Moreover, these financing facilities are not accessible to small farmers. Therefore, the use of financial technology with value chain financing emerged as a viable alternative that can tackle the financing issues by integrating small farmers and other stakeholders with IFIs. This study has several implications for IFIs, policy makers, and other stakeholders.

Keywords: Fintech, Agricultural financing challenges, Small famer's, Value chain financing, IFIs

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INTRODUCTION

Financial innovation and financial technology are emerged as important elements of financial sector in post-covid-19 scenario to meet contemporary needs especially for IFIs, who are offering a variety of products and services to the different sectors/segments of the society. The banking sector of Pakistan has experienced a very turbulent environment and economic turmoil since its inception in 1947. Similarly, many drastic changes in the banking sector during different regimes, including civil government, martial law, nationalization of banks, nationalization of banking, and inception of Islamic banking created many challenges for the financial sector (Ahmad, Malik, & Humayoun, 2010). Islamic and conventional banks are two different entities that could be differentiated based on principles, source of earnings, risk sharing, profit maximization, objectives, and nature of earnings (Ahmad, Awan, & Malik, 2011). A rise of seventy percent is projected in agricultural demand with existing farmers or to meet the world food requirement in 2050, almost eight billion dollar investment is anticipated (Ningrat & Nurzaman, 2019). But the productivity of agriculture sector is reducing all over the world. For example, agriculture productivity of Java Land reduced to 13.75% 1015 from 16.55% in 2008 (Thaker et al., 2020). A similar case is of Pakistan, where Agriculture is the backbone of the country, but a contraction in agricultural productivity is observed that caused to decrease its contribution in Gross Domestic Product (GDP) of the country (Ullah & Bangash, 2020). Several studies identified the possible reasons for reduced productivity i.e., less budget

*Corresponding author: SAYEDA ZEENAT MARYAM
†Email: syedazeenat5@gmail.com

for agriculture research, stalled agricultural financial markets (Varangis, 2018). Small farmers of the sector are in vulnerable conditions and also facing problems of market price fluctuation along with lack of credit accessibility (Thaker et al., 2020). Numerous studies identified that farmers have a lack of access to formal finance, that is a major problem that negatively affects the agricultural productivity and caused in lowering the farmers' income for daily consumption (Kuwornu, 2012; Porgo et al., 2017; Saqib et al., 2016; Zeller, 1994). This limited access to formal financing compelled the farmer to access informal loans here the role of mediators has remained crucial, and farmers get exploited with ,hefty charges or sale of crops at lower prices due to loan accessibility for the next time (Abid et al., 2020).

In previous studies, agriculture credit is considered in general. Agriculture credit is an opportunity for social enterprises. New approaches are needed to sort out the emerging issues with technology and innovation in social entrepreneurship (Todorof, 2018). Thus, agriculture financing is demanding innovative practices and Financial Technology (Fintech) could promote financial inclusion as well as manage the agriculture financing issues (McIntosh & Mansini, 2018). Now, technology is becoming part of every field, so financial services have no exception. As compared to the traditional method emerging financial technology (Fintech) platform offers customer-centric products and services with speed and flexible capabilities (Nicoletti, 2017). These services can also be performed for agricultural financing to support it with transparency, and different investors can play their role to streamline the financial process in the presence of Fintech enable platforms. Fintech platforms are a source of asymmetric information for institutional investors information borrowers due to advancements in technology in the shape of artificial intelligence and block chain. Some other features like digital money, Insure-Tech, mobile wallet could decrease the operational cost (Lynn & Mooney, 2019). Digital finance for agriculture is still a pristine area of research, although several current issues have been addressed, such as digital inclusion for smallholder farmers, the role of Fintech platform in agribusiness also food security platform model. Unfortunately, very little research has been done in Islamic finance with Fintech enabled platforms for agriculture value chain despite the growing interest in digital finance from an Islamic perspective (Todorof, 2018).

It is expected Islamic finance can get a great edge in the presence of Fintech (Reuters, 2018). According to Marszk & Lechman (2019) shaping and structuring of the economic and social environment is more influenced by Information and Communications Technology (ICTs). Fintech can play an important role as an intermediary for society and people in all over the world. It is a new era for banks with the rise of Fintech (Milian et al., 2019). Due to Fintech, performance of financial services and transactions is totally changed (Huei et al., 2018). Unfortunately, very little research has been done with the Islamic Fintech platform despite the growing interest in digital finance from an Islamic perspective (Todorof, 2018a). The opportunity of Islamic Fintech to grow the Agricultural Value Chain Financing (AVCF) remained as the topic of the research, so in the future should access the extent of digital technologies into value-added development agenda in agriculture sector along with the determination of behavioral intention of AVCF (Ningrat & Nurzaman, 2019). As small farmers are the big population of this sector that are switching from agriculture due to shortage of money and hurdles in agricultural financing even in the presence of Islamic financing and advanced technology (Ningrat & Nurzaman, 2019; Ullah & Bangash, 2020). It is necessary to gear the financing policies and tools to protect the agriculture sector through budgetary allocation and credit accessibility for agricultural production (Onyiriuba et al., 2020). It is an era of financial innovation through technology, there is a need to put forward the framework or such models that are based on technology to reduce cost increase efficiency in agri-financings for agricultural development instead of following the traditional agricultural financing setup (Zhang, 2020). In this regard, Fintech integration with other technology has shown immense potential in agriculture, through Fintech, new offers are available for small-sized and medium-sized enterprises, a way to transform agribusiness in developing countries (Hinson et al., 2019). There is a great opportunity for Islamic finance to facilitate this underserved area through Fintech by addressing the small farmers financing challenges and giving a solution with Fintech integration (Ningrat & Nurzaman, 2019; Todorof, 2018b).

Existing literature enables the researchers to identify the gap regarding contemporary challenges of small farmers in the absence of technological intervention, digitization, innovation, and financial technology. The research gap enables to list out research objectives by addressing this important and emerging issue through this study that aims to explore a) agricultural financing challenges of small farmers in the presence of conventional financing, b) agricultural financing challenges of small farmers in the presence of Islamic financing, and c) away for Fintech as a good solution by giving a direction of Fintech Integration with Islamic Financial as a service provider.

This research contributes by addressing the small farmers' agricultural financing challenges related to conventional banks and Islamic banks. The study is taking Fintech as an opportunity and providing a way forward to sort out the small farmers financing issues. This study aims to contribute towards existing literature about IFIs in the local setting of Pakistan, particularly by examining the role and intervention of IFIs to facilitate the agriculture sector all over the world. In last this research would be helpful for the academia, bankers, policymakers, researchers, and another stakeholder by knowing how Fintech can be a part of the existing system like IFIs to give a solution to the industry.

LITERATURE REVIEW

Fintech is referred to as financial services with technology's involvement to facilitate the customers according to their expectations. Fintech businesses use technology for the best financial services aiming the financial segment digitization, to reduce the cost and transparent working in the market (Gregorio, 2017; Rizvi et al., 2018).

Financial industry has an immense importance to the people's daily lives and society worldwide. This sector has gone a lot of transformation due to political and geographic regimes and legislation changes and many authors mention that a new era is of Fintech era (Berger, 2003; Mareev, 2016; Shim & Shin, 2016). Throughout the middle ages, the concept of Islamic finance and its implications remained in the Muslim world (Zaher & Kabir Hassan, 2001). The first Islamic bank was established in the Egypt with the name of Bank Faisal in 1975 (Ariff, 1988; M. Iqbal & Molyneux, 2005; Maryam et al., 2019). Islamic finance industry left its roots all over the world. More than 300 IFIs are functioning in almost 75 countries of the southeast and middle east. However, Islamic banking is waxing stronger not just in Muslim countries but also getting popular in the USA, Europe, Africa, and many non-Muslim countries (Z. Iqbal & Mirakhor, 2011; Lone & Ahmad, 2017; Lone & Fayaz Ahmad, 2016). The proliferation of Islamic banking is because its interest free and its benefits are long lasting (Ahmad et al., 2011). In another study, Ahmad et al., (2010) reported that customers are more satisfied in case of Islamic banking. Islamic finance in helping to bridge the gap through value chain financing approach as one of the strategies to reduce risk and provide socio-economic spillover effect along the chain. Islamic finance could promote agricultures sustainability and a more efficient process with Fintech enabled platform (Ningrat & Nurzaman, 2019).

Agricultural Financing Challenges

The financial sector and agriculture industry are two important segments of any economy. It is reported that agriculture sector contributed to GDP of 20.9%. Similarly, majority of population in Pakistan is associated with agriculture sector almost 43.5% of rural population use it as a source of livelihood (Pakistan Economic Survey, 2014-2015). This is the reason agriculture sector said as the backbone of Pakistan. This sector is dependent on credit due to the farmer's return seasonal variations(Saqib et al., 2018). So, farmers try to access the credit, but there is a lack of financing that cause of low production. Many studies pointed the limited access of farmers to formal credit (Kuwornu 2012; Porgo et al., 2017; Ullah et al., 2016).

Bharti (2018) described the low profitability of agriculture has many reasons, and lack of access to financing is one of the major causes. In his study, he attempted to explore the relationship between policy initiatives and current microfinance industry. To promote agriculture in developing countries like India self-sustainable model should develop for the adequate credit financing to increase the sector's productivity and profitability. Domestically, Eze et al. (2010) revealed in implementation of policies, corruption is one of the reason that make difficult for policies to be effective.

Onyiriuba et al. (2020) addressed the issue of the risk of financial Institutions towards agricultural financing. Through an empirical literature review, authors found those banks, insurance companies, and other lending institutions reluctant to finance agriculture due to its vulnerable conditions. The study concluded that policy intervention is a source of sustainable economic growth so, the high ups want to reduce the hurdles of access to financing in emerging markets.

Shkodra and Shkodra (2018) conducted a case study in Kosovo to examine the impact of agriculture financing in rural areas. The main factors of the study were a role of government and banking institutions in rural financing, credit lending, and the barriers and challenges throughout the year. In finding, it was discussed banks give more than the micro financing in case of large loans and give less than microfinance in case of small loans in rural areas.

Saqib et al. (2018) said the government of Pakistan is supporting to subsistence farmers by giving a special credit facility so the focus of the study was to investigate the farmer's access to credit and its adequacy in the light of current credit policy. The results revealed farmers' socio-economic factors play vital role in access and outreach of credit. So, government should strengthen the credit policy considering these factors. And should also keep in view the problems and hurdles that small farmer tenants face like collateral and interest etc.

Fintech and Value Chain Financing

Ningrat & Nurzaman (2019) describe the agriculture business process in which several actors are involved that make a chain. The common financers are individuals, non-profit organizations, and non-financial institutions. Agriculture business process consists of four steps i.e., input (farmer initiates the cultivation), production, intermediations (transfer of product into market), and the final user (consumer). To perform the functions of the concerned section, each has a different market, different financing needs, or different financing sources. AVCF is an innovative way that improves the agriculture business process. The smallholder farmers need access to finance and connect with other actors, i.e., brokerage, and traders to sell the product and financial institutions to increase the competitiveness, marketing, and distribution of the product. So, in value chain framework, the risk is involved that look for the financial instrument for the optimum social and profit impact. Here, some push and pull factors like technology, standardization, regulation does not create only challenges but also give opportunities. To give financial access means to give the market information, identification, and policy. There is a need to develop or maintain the cooperation between different actors like government, NGOs, and, importantly, financial institutions. The financial institution can get benefit of gaining all types of information about borrowers from various sources throughout the chain. Financial institution's services are linked vertical and horizontal that reduces the cost and risk while increasing the repayment rate.

An important way of agricultural financing is AVCF. AVCF is a modern way that leads towards sustainability by following the current era technology, communication, supporting the transformation, and communalizing agriculture to make it successful. The author critically analyzed the existing AVCF models, discussed the deficiencies, and suggested significant participation of financial institutions in the chain through their expertise and knowledge sharing (Swamy & Dharani, 2016). The internet intervention could develop the modern agriculture with intelligence and standardization. Using or embedding the internet system in AVCF the information integration, data analysis, information awareness, automatic control, accurate management, intelligent transformation, and upgrading of value chain financing is possible (Zhang, 2020). In the digital marketplace Fintech is the innovative way that can deliver financial services with user convenient way of managing finance. Fintech is future banking where the investor or the customer will contact using technology. Fintech can be in agriculture through mobile payments, crowd funding, and money transfer and asset management. Fintech can connect all actors of business into one platform. This system can promote public engagement, resourcefulness, empowerment, and transparency in agriculture dealings (Anshari et al., 2019).

The biggest challenge is the limited access to the food value chains by the smallholder farmers and small, medium enterprises (SME): working as agro-processors. Especially those people suffer more who are located in rural areas. Again, here is an opportunity for the Islamic financing to fill this gap through value chain by removing the hurdles and barriers with the integration of technology to facilitate the smallholder farmers and SME agro-producers. All these problems can be overcome with technological innovations and adoption of them. There is a huge room to work in these sectors therefore, technology and innovation can be applied radically and with increment, using the biotechnology; automation in sorting, production technology, grading, and packaging; and to connect it with market, there is need to build a linkage with market through digital platforms and devices for connection purpose. African countries give a piece of evidence to increase the quality of productivity of farmers by reducing costs, meeting the standards, accessing finance, information, market along with payment facilitation (Nair & Landani, 2020).

METHODOLOGY

An experimental design is used in this study to find out small farmers' agricultural financing challenges and Fintech as a possible solution. Following the case study approach, focus group in-depth interviews were conducted. The case study approach for qualitative research is used due to its uniqueness as it covers all aspects from data collection to data analysis in a research design and helpful in theme development (Yin, 2009). Focus group discussion was chosen as the aim was to collect the large and multiple views of small farmers at a time (Krueger, R. A., 2000). These attributes are not found in other qualitative research techniques except case study (Corbin & Strauss, 1990; Glaser & Strauss, 1969; Meyer, 2001). Population of the study is the small farmers in the agriculture sector, while the sample is selected from the province Punjab, district Gujranwala. Punjab is the most populous province, and Gujranwala division is the most populous, where district Gujranwala has largest number of rural population (PBS, 2019). Hence, this area is the true representative of population for the study.

Before conducting a focus group discussion, the researchers reviewed the literature about agricultural financing challenges, especially the issues that small farmers face. Different resources like reputed databases' journals to collect the articles related to the topic, to get know world scenario and report of Pakistan bureau of statistics and editorial of Dawn newspaper specifically for agricultural financing challenges in Pakistan. The authors noted the main points extracted from literature and prepared a draft regarding small farmers' financing issues, especially related to the financial institutions and possible uses of Fintech. Later, two experts having knowledge about farming, financing, financial institutions, and technology were contacted to further discuss and prepare the interview protocol. With the help of local experts, individuals were requested to join the focus group discussion where 10 members were planned to participate.

Population of the study is small farmers of agriculture sector in the Gujranwala region. A sample of 70 people were chosen based on purposive sampling to create focus groups (seven focus groups) and in-depth interviews of the selected respondents. A sample size of the study was decided based on territorial classification of the selected area of the Gujranwala region to approach the maximum number of target audience for this study. Moreover, unstructured in-depth interviews were carried out to collect data from small farmers. Individual farmer is the unit of analysis for this study. For sample size, 70 individuals were requested for total 07 focus group discussions by applying the purposive sampling technique. To conduct the interviews local language i.e., Punjabi was used for a better understanding to access the intensity of emotions of small farmers while they were answering the question. Here two moderators were part of the interview conduct team. One was asking the questions and dealing with the participant, while the other was the silent observer. Interview protocol divided into two main domains related to content. First one consisted of the small farmers financing issues and role of financial institutions and the second one was small farmers' agricultural financing issues and technology as a solution. The discussion period was 40-50 minutes, it was recorded with the audience permission and gave them surety to use the recorded audio only for research purpose (Sekaran & Bougie, 2003). Total five focus group discussions were conducted as repetition was observed, as the sample size in qualitative research differs and is managed according to research need. Still, it is suggested research should continue the procedure till the saturation (Guest et al., 2006).

The next was to transcribe the recorded interviews and confirm their reliability. So, the research transcribed the interviews by listening to the recorded tape again and again with great care and concentration to give the true meanings of participant's voice, feelings, and emotions. Transcription was done in English language was confirmed by the participants, and then was cross-checked by the English experts for correction and validation. This Qualitative research aims not to generalize the findings but to understand the behaviors in depth. So, the researcher could perform the research process using their own research skill, understating and confirming the results from the participants of the study, to use any research tool (NVIVO) is not compulsory. In the current study, the transcribed data was coded to develop a theme and analyzed by researchers to conclude the study. (Creswell & Poth, 2016).

RESULTS AND DISCUSSION

Formal Sources and Small Farmer's Financing Challenges – Financing through Conventional Financing Institutions

Financial institutions are playing their role for the development and well fare of society. They are also serving the people of rural areas. But a reluctance is found in case of vulnerable small farmers due to serious risk by the financial institutions like insurance companies and banks (Onyiriuba et al., 2020). Similarly, lengthy documentation and collateral requirement for financing is halting the way for small farmers to access the financial services of conventional financing institutions. The participants said that:

We small farmers avoid the banks as its lengthy process to approve the case is tiring. A simple man gets exploited, not knowing or fearing to use the thing. For documentation like land ownership etc. We visited Tehsildar *or Patwari that charged us high fees. Suppose if a small farmer has completed the documentation for bank the time of cultivation is gone and the available money is used for another purpose rather than to invest through cultivation (FG5).*

In conventional banking along with collateral, high interest, charges are unaffordable for small farmers. It was responded:

After case approval and fulfilling collateral requirements by pledging the land. Another concern is the heavy interest that must pay according to bank policy. Small farmers cannot pay the principal amount while he is oppressed with interest amount along with principle (FG2).

Banks also offer a small amount, but interest is hurdled to enjoy this benefit. It was said:

Small farmers can avail an opportunity to get a small amount but again the markup rate is un-affordable for the person (FG4).

It is supposed that banks perform their functions with great devotion and offer services that are customer centric to facilitate the customer, but it was strange to listen about the bribery in the bank. As was responded in the discussion:

Bank's policies to advance the loan reject the small farmer not fulfilling the criteria. But the person who is referred by some influential party or the one who make a deal with the banks' authority or employee becomes able to get financing, but small farmer is not able to do such type of process due to its vulnerability (FG2).

The other problem as discussed before is timely financing. It was commented: Talking about timely it was commented:

Small farmer announced ineligible for loan advancement, but in case if he meets the loan advancing criteria bank issue the money when the cultivation season is out. So, it's become useless by using the money on some personal or domestic matter (FG1).

Formal Sources and Small Farmer's Financing Challenges – Financing through IFIs

Lengthy documentation, high interest, and collateral requirement are the identified reasons to go away from conventional financing. But an alternative of it is also present in the shape of Islamic financing that is interest free and that has an ethical banking system (Maryam et al., 2019). So, it was necessary to discuss why small farmers are not accessing to Islamic financing through IFIs. Talking about Islamic financing respondents said:

Islamic banks are far from the way or in the main city of the district. So, the access of small farmers to Islamic banks is not an easy thing. Yes, Islamic banks are interest free but do not offer their services to the small farmers in villages (FG5).

There is an opportunity for Islamic Banks to stabilize the small farmer's position by facilitating their interest free services (FG1).

Discussing the access to Islamic banks it was recorded:

Islamic banks are good at being interest free. But the branches of Islamic banks are few as compared to conventional banks. Islamic banks offer to the agriculture sector, but due to the long distance or the restriction of a specific distance, all small farmers can not enjoy Islamic bank's services (FG3).

In my knowledge there is only one Islamic bank, and it's not dealing the small farmers (FG1).

I don't have experience, because in my area there are more conventional banks than the Islamic banks (FG2).

The aforementioned discussion indicates that there is an opportunity for Islamic banks to consider small farmer's agricultural financing as a neglected area (Ningrat & Nurzaman, 2019). And conventional banks cannot manage it due to its policies, especially heavy interest charges. As interest is also prohibited in Islam so it is discouraged majority of the individuals (Maryam et al., 2021). So, Islamic financing can facilitate the small farmers of agriculture sector of Pakistan by providing a financing mechanism where the system has transparency, easily accessible, and quick financing that is possible through Fintech (Todorof, 2018a).

Financial Technology - A Good Solution

Fintech is an innovative way to deliver financial services in a convenient and managing manner. Future banking is fully based on Fintech, where the parties may be investors, or facilitators, and service providers will interact with one another using technology. Fintech can be integrated for agriculture financing through mobile payment, money transfer, and crowd funding. All actors can be collected at one place using Fintech. Such a setup can promote transparency, resourcefulness, and public engagement in agriculture dealings (Anshari et al., 2019). For agriculture financing, value chain financing with Fintech could be an innovative approach (Miller et al., 2010). Hence, Fintech with a value chain is a possible solution of above discussed financing challenges of small farmer's. Small farmer's responses regarding technology integration of Fintech integration are recorded such as:

There is a need for a system that confirms fairness, transparency, and proper check and balance to align the functions with the described policy to facilitate the small farmers (FG1).

Technology is a good solution in case of Govt. itself is involved. Govt. should formulate such d favorable policies for the public of the agriculture sector and ensure its executions with true spirits. It's possible if there is a proper and actual check and balance with accountability. So, such initiatives are encouraged to confirm the above discussed suggestions. So, here Fintech could be integrated to build a system or to provide a platform (FG2).

Govt. should develop such a system that may integrate Fintech and Islamic banks system to promote Islamic financing (interest free initiative) (FG3).

Small farmers cannot access to Islamic Banks due to the location. Fintech can sort out this issue of accessibility (FG5).

In formal financial, high interest is an important hurdle for small farmers. As Islamic banking is interest-free, there is a need to devise such a system that could address the small farmers financing issues, using Fintech. As technology-based interest free financing could be a source to eliminate dishonesty, mismanagement, and corruption (FG4).

It may be tough or challenging for small farmers to use the Fintech based interest free platform, but through awareness and training programs this issue could be overcome (FG3).

Government and IFIs should frame such a mechanism that may register the small farmers with detailed records and allow the small farmers to access the IFIs in financing needs. And that system should also have such features that inform or educate the farmer about the market condition, market demand for the product and policy initiatives, subsidies, and other cooperative programs by the government for the agriculture sector of Pakistan (FG1).

Fintech enables a financing system that can keep small farmers updated and active people involved in their work with great confidence. Financing availability with awareness, expectations, and desired results can positively stabilize small farmers (FG2).

The above discussion confirms the importance of Fintech and a way forward to integrate Fintech into the existing system, especially for IFIs. IFIs need to give Fintech enable framework addressing the issues of small farmer's agricultural financing challenges through Fintech and may involve the agriculture department to keep the customer (small farmer) updated and aware about the market demand for cultivation, Government policies, and plans to facilitate the agriculture sector. By such a framework all the suggestions of (Ningrat & Nurzaman, 2019; Saqib, Kuwornu, Ahmad, et al., 2018; Todorof, 2018a) could be incorporated.

CONCLUSION

This research explored the agricultural financing challenges that small farmers face to find a solution by recommending Fintech integration into IFIs setup. This study indicated that although financial institutions are there to work for the development and prosperity of society, they have some limitations with respect to the agriculture sector. Conventional banks are reluctant to offer their financing services to small farmers in the agriculture sector as their condition is vulnerable and high risk is involved. Small farmers face difficulties in accessing the loans due to high interest charges, strict collateral condition, and lengthy procedures for loan approval. In the case of Islamic financing, Islamic banks are in the market but far away from small farmers' access and not offering many services to the agriculture sector. Small farmers are inclined towards Islamic banks as it is interest-free banking but unable to access due to its limited number of branches in big cities, not in rural areas. Another aspect of the research is where a solution is identified in the shape of Fintech integration, so it is concluded that Fintech is a way to make Islamic financing viable. So, there is a need to design such a framework or devise such an ecosystem based on Fintech through IFIs involving government under the supervision of the central bank of the country to facilitate the individuals through value chain financing concept. By such a system IFIs issue to approach the small farmers of agriculture sector in rural areas would resolve. Fintech enables programs can provide asymmetric, updated, and fair information to all stakeholders of the system.

LIMITATIONS AND FUTURE DIRECTIONS

This research has some limitations that lead to future directions. This research focuses only on those agricultural financing issues related to financial institutions. In future, other factors, like Government role, middlemen role, and agricultural bank's role, should address both in qualitatively and quantitatively. Likewise, regarding Fintech the views of practitioners and academicians should also consider. Furthermore, in future research, a proper framework of Fintech Value Chain Financing (FVCF) should devise with its possible functions and should test its adoption in stakeholders' perspective to identify the predictors of the system. the possible predictors may be value chain factors, organizational factors i.e., Maqasid e Sharia, Sharia Governed Framework, innovation factors, and information system in case of IFIs. Similarly, adoption of the system should be tested taking small farmers as the respondents of the study.

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