A Review on Access to Agriculture Finance by Farmers and its Impact on their Income

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ABSTRACT

Purpose: *Agricultural financing is a critical component of all agricultural development operations aimed at improving the productivity. Farmers must have access to sufficient and timely financing for irrigation, farm mechanisation, and land expansion. The main goal of the study is to identify and explore the factors affecting agriculture finance, understand the challenges faced by the farmers, to compare the growth of farmer's income before and after availing finance support and the strategies required to improve the agriculture credit to farmers.*
Design/Methodology/Approach: *The study is based on secondary data gathered from several publications, websites, and other pertinent substance from NABARD and RBI annual reports.*
Findings: *The study revealed that smallholder systems, policies, and investments are meant to improve infrastructure, boosting efficiency to expand and finance services, and increasing labour availability or automation; formal financial outlets have improved in region regions; financial institution violations are regulated by regulatory frameworks, such as charging exorbitantly high interest rates or taking excessive risks with people's savings or investors' assets; and financial institution violations are controlled by regulatory frameworks, such as charging exorbitantly high interest rates or taking unnecessary.*
Originality/Value: *This study is infrequent in that it endeavours to trace the access of agricultural finance by farmers, as well as its impression on farmer's income level varying to numerous agricultural strategies that have been enacted as a result of agricultural finance.*
Paper type: *Review Paper*
Keywords: Agriculture Finance, Farmers, Income, Growth, Strategies, ABCD Analysis

1. INTRODUCTION :

Finance is considered one of the highest - risk businesses since it involves significant sums of money at all levels, as well as detailed plan to create that revenue [1]. Agriculture funding necessitates long-term planning, and the Indian banking industry actively promotes agricultural funding, which enables peasants to accomplish duties effectively and without impediment [2]. At both the grassroots and global levels, agricultural financing was investigated. The Indian economy is based on agriculture. Agriculture provides a living for 70% of Indians. Because Indian agriculture is mostly rain-fed, which is unable to generate year-round revenue [3]. Agricultural sector contributed 14% of India's gross domestic output. Agriculture's GDP has grown at a slow pace [4]. According to data from the Government of India's Ministry of Agriculture and Farmers Welfare, the percentage of agriculture and associated sectors has been steadily declining [5]. Farmers' and others' incomes in agriculture and associated industries will only be enhanced if the growth rate of agricultural GDP is raised. Furthermore, the success of various states in terms of agricultural growth differs significantly [6]. As a result, any economic study should take geographical variance into account as well. India's agriculture is confronted with hardships [7]. Reduced farm productivity and, as a result, limited profitability is associated with conditions such as scattered landholdings, paucity of irrigation, greater emphasis on the monsoon, poor infrastructure, and weak market connections [8]. Agriculture's contribution to GDP can only be increased by increasing its profitability. The inaccessibility to financing is one of the most significant issues leading to agriculture's low returns [9]. For Indian authorities, raising and extending farm funding continues to be a challenge and a major concern. In order to sustain growth, farming has grown more insight in the post-green reformation era, with farmers using a wide range of agricultural inputs [10]. Farmers require credit in order to acquire agro - based equipment, yet the long-term consequences of this approach are questionable [11]. The appropriate use of these supplies is a key component in ensuring crop viability. It is critical in this situation to have access to timely, appropriate, and reasonable funding for agricultural techniques [12]. Several studies have demonstrated that access to financial resources has a significant impact on agricultural productivity. Agriculture that is profitable is more likely to be sustainable. Numerous policies and initiatives to assist farm financing have indeed been established in consideration of the necessity of increased and simple access to finance in agriculture [13]. Microfinance arose as a result to the governments and market's refusal to give farmers with access to capital [14]. This is significant because, for emerging nations such as India, inclusive growth has long been a top priority. Initiatives, such as the Pradhan Mantri Jan Dhan Yojana (PMJDY) and the Pradhan Mantri Mudra Yojana (PMMY) reveal policymakers' objectives in terms of inclusive growth [15].

2. OBJECTIVES OF THE STUDY :

The objectives of this review paper are as follows:
(1) To identify and explore the factors affecting agriculture finance.
(2) To identify the challenges faced by the farmers.
(3) To compare the growth of farmer's income before and after availing financial support.
(4) To study and analyze the strategies to improve the agriculture credit to farmers.
(5) To find the research gap.

3. METHODOLOGY :

This research is based on a review of secondary literature, using data drawn from the reports of RBI and National Bank for Agriculture and Rural Development (NABARD). For information on agricultural financing, this study also consults secondary sources such as research papers, journals, and articles using Google scholar search engine.

4. RELATED RESEARCH WORKS :

The primary goal of this research study is to review the existing literature. It aids in the comprehension and analysis of previous research contributions. These contributions are summarized and discussed in the following descriptive and tabular format.

DESCRIPTIVE FOCUS

(1) According to the study made by the authors, it analyses Finance availability, pricing power, regulatory procedures, resource investing policies, irregular lease arrangements, prolonged production conditions, and caste impediments are among the elements impeding small - scale farmers' accessing to formal financial services. The results reveal a link among greater cumulative transactions prices and smaller farm sizes, as well as a link between back payments and bigger field sizes. As per the findings, initiatives should be aimed at lowering the aggregate expenses of legal financing to farm households as well as improving recovery systems (Sarap, 1990) [16].

(2) The authors conducted a study to analyse the impact of chosen market dynamics parameters on non-real asset farm loan by financial institutions was investigated using a co-integration economic technique. As a result of the growing usage of attention funds following regulation, lenders have shrunk their farm lending inventories. Furthermore, over half of the drop was due to bankers ceasing to make credit to farmers. Additionally, analyses suggest that banks associated with multi bank owning corporations lends lower funds to farmers than impartial banks, based on their holdings (Betubiza & Leatham, 1995) [17].

(3) The study reveals that the utilization of farm finance, the level of debt, and credit counseling for farms are all influenced by specific and farming factors. Unlike prior analyses that focused at the provision part of credit to agriculture using bank facts, this one focuses at the demanding aspect of the sector using relevant farm-level records from the Agricultural Resource Management Study from 2001. The study concluded that cumulative farmer revenue, risk assessment measures, and the risk avoidance and operator's age all have a substantial impact on the odds of rural dwelling, transitional, and industrial ranches using farm loans (Katchova, 2005) [18].

(4) According to the author, using a longitudinal design and cross-sectional datasets from 175 peasants in Khorasan-Razavi region, this paper aims to inquiry the determinants impacting return attitude of farmers who obtained credit from commercial banks. The lending rate of interest was found to be the greatest key factor in determining farm loan default. The relevance of the factors and the values of the indices of predictor factors were used to evaluate the effects of each component on the likelihood of the predictor variables. Farmers' competence, revenue, obtained amount owed, and security valuation all have a preferable influence on users' credit worthiness, but lending rate, cumulative service charges, and frequency of payments have a detrimental effect. The elasticity of relevant factors was compared, and the loan interest rate was found to be the most elastic (Kohansal & Mansoori, 2009) [19].

(5) The research was aimed at knowing about the variables impacting insurance coverage, advanced procurement, and extending sale adoption are explored utilizing multifactorial and multivariable logit models, which take into account simultaneously acceptance and connection between the three mitigation measures. The implementation of farm subsidies, advance leasing, and starching sale, as per research evidences, is associated. The multidimensional and multivariable random effect study produced greater information than solitary logit estimate, which implies adopter choices are independent. The portion of owned hectares, off farm earnings, literacy, age, and level of economic hazards are all elements that have a substantial influence on perceived tool for effective usage (Velandia., et al., 2009) [20].

(6) The focus of this study is to examine at the factors that impact the financial success of new and commencing farmers and herders, including farming, operators, and household traits, as well as farm variety and local context. Although there is an asymmetric U-shaped relationship between user age and financial condition, approaches such as enhancing the frequency of policy creators, attempting to engage in value-added agriculture activities, and possessing a defined plan could result in greater profitability, as per the findings of this study. Furthermore, the quick reduction in inexperienced and emerging farmer's entrance is an indicator of increased entry hurdles, prompting appeals from the agricultural sector for public legislative proposals to assist prospective and commencing farmers (Mishra., et al., 2009) [21].

(7) The goal of this study is to evaluate at the variables that impact the proportionate volatility of farming and off farming revenue for farmworkers. Farm revenue variability is higher in larger commercial enterprises because they are less averse to risk or can handle greater risk. The analyses on relative variance in farming and off farm revenue by farm variety poses the issue of whether government subsidies should be directed at certain enterprises. Numerous studies have investigated the link between agricultural income and the decision to work off the farm, but none have looked at the relationship between income levels and the choice to work off the farm (Poon & Weersink, 2011) [22].

(8) This study was designed to understand and analyse the elements that impact agricultural production process, the components that determine agricultural group control systems, and the unique clusters, which is the fundamental basis for the enhancement of agricultural funding and experimental findings. Theoretical and conceptual methods, analytical studies, and possible solutions in limited sectors of agro economics are also addressed. Capital inflows, on the other hand, are an instrument that enables for

successful production variation upgrading, growth, technological advances, and so on. As a result, paying them minimal care is not acceptable and then there's the matter of deciding on priorities (Shermukhamedov, 2018) [23].

(9) The study explores the characteristics of creative clusters, the variables that govern their growth, and the outcomes of clustered structure in farming in the Bukhara province. This also delivers help and guidance on how to strengthen it. It has become a contemporary imperative to adopt farming techniques and to reuse raw materials locally. Agriculture in the nation are employed not only in the improvement of organic materials, but also with the warehousing, refining, and processing of readily available and packed farm commodities, as well as meeting consumer needs. It's worth noting that providing diverse facilities improves the economy's financial viability (Junaydullaevich, 2020) [24].

(10) The focus of this paper is to explore at the components that affect the performance of Vietnam's publicly traded financial institutions. For instance, equities have a significant positive effect on financial efficiency, implying that larger capital contributes to improved results. Furthermore, because operational costs are adversely connected to capital adequacy, increased operating costs can undermine a profitability of the bank. At last, bank performance is strongly linked to agriculture financing. This suggests that a large proportion of agriculture finance in total funds might boost banks performance. The outcomes have a number of policy impacts, which are addressed and the future study directions are also clearly highlighted (Dang, et al., 2021) [25].

On the underlying issue of the study, the research publications listed above show the agricultural finance is the evaluation, and assessment of the financial elements of the agricultural sector, which is the primary sector [26]. Money concerns connected to the production and disposition of agricultural goods are included in the financial elements [27]. The agricultural sector, on the other hand, continues to confront issues such as a lack of capital creation, regional disparities, farmers' reliance on non-institutional sources of finance at much greater rates, non-realization of the market, and so on [28].

5. NEW RELATED ISSUES :

In tabular form, new and relevant topics in relation to the study topic have been reviewed. Fifty relevant scholarly research publications were examined in order to have a better understanding of the research's evolution in key areas.

5.1 Challenges Faced by Farmers:

Farmers' access to finance has been hindered by their reluctance to provide security, excessive rates of interest, and a prolonged loan application procedure, small size, variance of productivity, market, and pricing risks, as well as inadequate penetration in remote regions, insufficient knowledge of business potential, lack of suitable risk management mechanisms, due to dispersion and the early stages of value chain growth, demand is minimal [29][30].

Table 1: Contribution by different scholars for challenges faced by farmers

S. No.	AREA	CONTRIBUTION	AUTHOR
1.	Rural and small farmers	The study explored the emphasis attributed to agro industries in India. The characteristics and restrictions of agroindustry are evaluated in order to determine their actual and potential contributions, as well as the obstacles they confront. Institutional and organizational models that have been explored and projected in India are assessed based on their effectiveness and contribution to rural and small farmer development.	Gandhi., et al. (1999). [31]
2.	Access to finance	The initiatives aimed at increasing impoverished people's access to credit have not yielded the desired results. To	Basu, P. (2005). [32]

		increase the effectiveness of the institutional rural financial services sector, not just legislation, but structures and channels must be reformed.	
3.	Analysis of farmers in distress	The anguish guilt feelings and healing techniques of farmers in financial distress are the main focus of this study. Farmers employed three different coping techniques to deal with guilt are problem-centered, self-directed, as well as others' perspective orientated. While problem-oriented and self-oriented approaches are comparable to classic soothing techniques, others' perception-oriented approach is a new category based on contradictory character. The paper claims that placing a strong emphasis on problem-oriented dealing with poverty's disgrace assists farmers retain psychological resilience throughout a catastrophe.	Mathew, L. (2010). [33]
4.	Agriculture sector in developing countries	This is an intent to apprehend the origins and nature of the Indian agricultural sector, as well as the revolutionary change to intensive farming and the concerns it faces. The impact of modern agriculture techniques on environmental deterioration has also been studied. Literacy level, socio - economically deprived situations, lack of technological insight and knowledge and unproductive excessive bureaucracy are some of the impediments confronted by the Indian agriculture sector and developing economies in broad sense. Improvements in farming methods are linked to natural catastrophes and human-induced environmental damage.	Dwivedy, N. (2011). [34]
5.	Poverty hinders intellectual ability	The impoverished frequently act in grossly incompetent ways that could exacerbate poverty. It proposes two experiments to explore the premise that deprivation impairs intellectual performance directly. It was revealed that inducing financial considerations lowers mental function in low but not in poorly people in an assessment. Farmers' cognitive abilities was evaluated all through the cultivation cycle, and it was discovered that same farmers had low learning ability before yield, when the crop is poor, contrasted to post production, when the harvest is abundant. It implies that poverty related anxieties deplete cognitive capabilities, reducing the potential for other duties.	Mani., et al. (2013). [35]
6.	Impact on socio economic status of farmers	Farmers encounter a number of difficulties, including a lack of funding and insufficient funds. When natural disasters strike, they are worried about repaying their loans. Their socio economic level suffers as a result. Large farmers are also more skilled than small and medium farmers; income or asset ownership motivates them to pursue further training. In this light, it is vital to investigate the problems and consequences of agricultural credit on peasants' socio economic condition. Large farmers are often more knowledgeable than small and medium farms; good education was driven by revenue possession. It has been determined that improving the agricultural contributes an essential role in enhancing farmers' livelihood.	Patil & Agarwal. (2014). [36]
7.	Value chain financing	The potential for using Islamic financial agreements throughout the value stream for equitable financing of smallholders in Kashmir has been examined in this article.	Hussain & Musa. (2016). [37]

		Farms' connectivity and expanded engagement along the value chain are obvious for complete growth of small farmers. It is particularly apparent because, in the traditional financing technique, peasant finance is viewed as a standalone module instead of an integrated approach through supply chain financing. A realistic choice for funding small - scale farmers via the production chain, on the other hand, is ideal for the farmer's long-term growth, development, and income creation, as well as the agriculture sector and the economy of developing countries.	
8.	Challenges in agricultural marketing	This study goes through the fundamentals of independent distributors, as well as some of the obstacles that come with it. It aims to investigate the restraints faced by farmers and to investigate the variables that make selling more difficult. A variety of difficult factors that impact marketing are assessed based on the literature research. Farmers are facing lack of cold storage and face intense rivalry in distribution channels, as per the outcomes of the study.	Dhakshana & Rajandran (2017). [38]
9.	Challenges to improve livelihood of farmers	The problems and opportunities of subsistence farming are examined in this study. It encompasses farm produce growth trends, cropping habits, smallholder farmer engagement complexities, productivity performance, integrating with market segments such as supply networks, the contribution in increasing food productivity and employment formation, variability policies and support mechanisms, problems and potential choices for smallholder agriculture. A notable series of precise assessments revealing a negative relationship between model size and land efficacy in most developing countries demonstrate the usefulness of smallholder Farmer of creation units in most developing nations.	Kanagavalli & Manida (2020). [39]
10.	Problems in financing and marketing	The purpose of this analysis is to discover about peasants' difficulties in the agriculture industry and to describe some of the restrictions that farmers encounter, such as productivity, distribution, and financial concerns. This aids farmers in producing more items and improving efficiency. It was deemed that a captivating report with vital data would be appropriate for uncovering the sites. The farmers' significant information has been obtained using a schedule that was specifically entrusted with the task. Greater effort was made to provide key insights in common, allowing respondents to react as exactly as possible and without hesitation.	Mandala., et al. (2021). [40]

5.2 Schemes:

Agriculture financing enables impoverished farmers to improve their income by providing substantial loan guarantee schemes for financing in the agricultural sector [41]. During the off-season, a strategy to serve the requirements for crisis financing for agricultural and household needs [42]. By paying a proportion of the overall cost of the program, the Indian government urges farmers to embark on initiatives in key sites [43]. All of these schemes are associated with significantly higher investment capital, long-term revenue, and employment in national strategic sectors [44]. In several of the policies featured in this section, NABARD has been a prominent network collaborator of the government. Subsidies are handed on to the financing banks as they are received from the competent ministry [45].

Table 2: Contribution by different scholars for different schemes

S. No.	AREA	CONTRIBUTION	AUTHOR
1.	Kisan Credit Card (KCC)	Agricultural credit is crucial for the implementation of agriculture in India since the majority of Indian farm owners are modest farmers who are unable to make significant investments in improving farming and consequently stay minimal for the rest of their lives. To address this issue, NABARD has introduced the Kisan Finance Card Scheme, which aims to give farm owners with adequate credit. This analysis focuses on comparing the characteristics of various banking groups with regard to establishing KCCs and granting credit via them. According to the report Commercial banks, backed by regional rural banks, are shown to be the greatest successful in achieving NABARD's goals. Cooperative banks fail to meet established aims, and as a result, they do not serve the public interest.	Uppal & Juneja (2012). [46]
2.	Gramin Bhandaran Yojana	The majority of the yield was acquired in the marketplace, the values were at their minimum, as per the periodic trends assessment of appearances and bids. In Nagaur and Jodhpur, there was a significantly adverse relation between pricing and availability of Moth bean. The deliveries of moth bean in Nagaur, Merta, Jodhpur, and Jaipur markets all indicated a downward tendency, with the exception of the Jodhpur market, where it's been considerable. The price of moth bean is slashed mostly during optimum season. Growers must also take out marketing lines of credit to lay their harvest on deposit for a timeframe so that they too can gain the best pricing during the seasonal peaks and the drought season. Farmers should indeed be offered credit as part of the Gramin Bhandaran Yojana so that they may have sophisticated warehouses in their villages.	Kumawat & Singh (2015). [47]
3.	Pradhan Mantri Krishi Sinchayee Yojana (PMKSY)	Due to two consecutive droughts in various sections of the nation, Indian agriculture is going through a massive period, caused extensive concern among growers. Previous sustainable agriculture strategies in India have mostly meant to increase agricultural production and enhancing food production, and have not clearly emphasized the need to boost farm owners' revenue or included any concrete initiatives to build farmers' wellbeing. As a result, farm income has dropped significantly, as shown by the prevalence of hardship among rural dwellers. This has the potential to have a significant negative impact on the country's agricultural prospects. To address all of these issues, Prime Minister Narendra Modi unveiled a plan in February 2016 called Doubling Farmers' Income.	Pandey, C. M. (2018). [48]
4.	Paramparagat Krishi Vikas Yojana (PKVY)	The purpose of this study was to evaluate organic and inorganic agricultural practices in Rajasthan's Bikaner area. Bikaner district was chosen for this study because it consists largely of rain - fed farmland and doesn't use a lot of agrochemicals. In order to preserve the land's purity, the provincial government has taken measures to transform a large area to sustainable agriculture under the	Saran., et al. (2018). [49]

		Paramparagat Krishi Vikas Yojana. According to the current state of organic agriculture, 1494 acres are being farmed under the PKVY system. This suggests that the state of Rajasthan, as well as the Bikaner district, has a great deal of potential for sustainable agriculture employing rain fed cultivation.	
5.	Pradhan Mantri Kisan Samman Nidhi (PM-KISAN)	The Pradhan Mantri Kisan Samman Nidhi initiative, which aims to offer financial assistance to all subsistence farming landholder's peasant's family members with farmland up to 2 hectares across the nation for agricultural and associated activities as well as household necessities through a contribution of Rs.6000 per year, pursuant to such exemptions, was unveiled on February 24, 2019. The funds are being transferred to the recipients' designated bank accounts. The Government of India would bear the complete financial accountability for delivering funds to specified recipients underneath the Scheme.	Ahmad & Haneef (2019). [50]
6.	e-NAM	Farmers may earn a higher revenue by offering their products at the highest rates accessible in the country, owing to the Indian government's implementation of digital trade under e-NAM, which is interconnected through a common market interface. The most prominent challenge the Indian government is to implement each mandi in the country by establishing transducing laboratory in each mandi, providing supply chain and other assistance programs for inter-mandi and inter-state trade, increasing market attendees' ability, creating resources and institutional facilities, and urging farmers to participate more in e-trading on e-NAM. Farmers are encouraged to extract value from e-NAM once it is completely operational across the country, rendering digital payment channels relatively easy to use and allowing for speedier transactions.	Meena., et al. (2019). [51]
7.	National Mission for Sustainable Agriculture (NMSA)	In this perspective, the proposed study tries to identify the key sustainability practices confronting India's farming industry, as well as assess the possibility for effective economic reform to improve economic growth. The analysis showed that, although achieving food security in terms of output, availability to feed for all citizens of the nation continues to be a key concern, as does inconsistency between some Sustainable Development Goal metrics and their associated data levels. For a seamless transition of agriculture as a sustainable industry in India, suggestions on agricultural waste management and adoption of planetary healthy meals have indeed been proposed.	Priyadarshini & Abhilash (2020). [52]
8.	Pradhan Mantri Fasal Bima Yojana (PMFBY)	Farmers in India have been marginalized as a result of systematic neglect. Crop failure caused by natural catastrophes and adverse meteorological circumstances places peasants in a difficult position, resulting to despair and suicide. The article presents an overview of Narendra Modi's crop insurance plan, Pradhan Mantri Fasal Bima Yojana, which was established in India in 2016. It has a distorted payout distribution, weak governmental backing, and an unsustainable support model. It is suggested that a	Tiwari., et al. (2020). [53]

		technology-enabled demand-driven strategy be used. The schemes speed, diversity, and factuality will enable crop insurance operate better for growers than for underwriters, bureaucrats, or legislators.	
9.	PM KUSUM	The Grid-Connected Solar Water Pumps for irrigated agriculture are recommended in emerging economies including India, owing to the availability of rural power grid. The ability to input excessive power to the grid will be one of those structures' most significant advantages. This boosts the farmer's income while also preventing overuse of groundwater sources. This study presents a technique for estimating the extra energy obtainable after satisfying the energy demands for supplying water to a succeeding crop at a precise area. This will aid in the promotion of KUSUM, the Indian government's initiative to solarize one million solar array pumps. Based on the parameters in the plan and the findings given, the recommended approach is executed for a place in Andhra Pradesh.	Srinivasarao., et al. (2020). [54]
10.	Livestock Insurance Scheme	When calamities happen, a thousand safeguards seem pointless. An amount of risk can result in incidents that are potentially devastating for a farmer. The vast number of rural landowners have only one or two livestock components. Any unbalanced circumstance or catastrophic event, such as infectious diseases, unintentional fires, earthquakes, hurricanes, storms, and so on, can result in the death of animals, causing anguish to the impoverished farmers where the only income stream is lost. In order to cope with all these unexpected circumstances and protect their livelihoods, livestock farmers must insure their animals. Thus, it is critical to encourage farmers to get livestock security in order to ensure the long-term viability of their livestock.	Singh., et al. (2020). [55]

5.3 Financial Institution:

In India, agricultural financial institutions were created with the aim of funding indigent farmers and enabling them with the resources they need to improve their farming efficiency [56]. NABARD was established as a consequence in 1982 [57]. A variety of financial institutions are accessible in India for various industries. Because of the size of the Indian economy, several organisations are designed to maintain it [58]. The Indian government has formulated a national bank for agricultural and rural development, often known as NABARD, to oversee the country's agriculture industry [59]. In India, there are a number of small agricultural finance associations that assist and encourage farmers [60].

Table 3: Contribution by different scholars for agriculture financial institution

S. No.	AREA	CONTRIBUTION	AUTHOR
1.	Primary Co-Operative Agriculture and Rural Development Bank (PCARDB)	Agriculture necessitates a substantial level of monetary resources to upgrade and enhance. As a result, capital is an essential agricultural component. The use of technological advances demands more capital. This emphasizes the necessity of cost control for farming loan facilities' long-term viability. The study concentrated on the cost of loans, financial statements of co-operative	Siddaiah, et al. (2011). [61]

		agricultural banks in this context. The results imply that the expense of managing PCARDBs had risen dramatically over time and cause loss have also risen. Furthermore, the requirement to transfer power to it for credit approval is urged in order to reduce delays in credit processing by bank. It is also believed that, rather than reducing interest rates, attempts should be made to promote funding of small and marginal farms via exposure.	
2.	District Central Cooperative Banks (DCCB)	Banks serve as financial federal authorities, regulating, and fostering economic growth. Agriculture finance is an elevated sector for banking institutions to volatility, limited income flow, and high inflation. As a result, commercial banks stopped financing agricultural enterprises, and credit unions were formed as a state policy instrument to fill the void. The study concentrated on assessing the results of cooperative banks in the state of Punjab in this framework. Over the course of nine years, their production and efficiency were assessed. Profitability in all chosen District Central Cooperation Banks of Punjab had demonstrated a steady decline during the study period, although productivity had improved substantially.	Singh, G. (2011). [62]
3.	Urban Co-Operative Banks (UCBs)	The urban cooperative banking sector is a vital part of the country's multi-agency financial sector. Furthermore, to maintain the UCBs sector's distinctiveness and progress in the financial sector, various steps must be taken, such as competence of administration, instilling sound corporate governance, technological assimilation, and strict compliance to legal regime. In the foreseeable, urban cooperative banks will encounter numerous constraints in the competing market of both publicly and private enterprise banks' vertical and horizontal growth plans.	Babu & Selkhar (2012). [63]
4.	State Co-operative Banks (SCB)	The purpose of this study is to look at the performance among all 31 State Co-operative Banks during 2002 to 2011. The operating efficacy and resilience of an institution are measured by its profit margin. Financial data are regarded as trustworthy indicators of an institution's performance and quality. Apart from meeting the goals, two profit assumptions are also explored. Both ideas have proven that there is no positive relationship between revenue growth, share capital, and cash flow. It should undertake steps to lower operational costs without jeopardizing or disrupting employee remuneration. This will allow them to boost profit margins.	Singh, V. (2013). [64]
5.	Regional Rural Banks (RRB)	In India's agricultural and rural development, regional rural banks play a critical role. RRBs are significant rural finance institutions that are in charge of satisfying lending demands for various	Devi, N. S. (2016). [65]

		sorts of agricultural loans. Most regional rural banks are currently addressing issues such as delayed payments, rehabilitation, impairment charges, and other issues. As a consequence of this approach, an operating committee led by Mr. M. Narsimham Rao formed RRBs on September 26, 1975, and the RRB Act, 1976 was enacted, with the goal of ensuring enough credit facilities for agricultural and other remote areas. RRBs' major goal is to encourage people to save money and invest it, which allows them to gather enough deposits to enable efficient at a lower cost than commercial banks.	
6.	Small Finance Banks (SFBs)	The development of a new financial institution SFBs has been a modern invention in the banking sector. The banks are anticipated to expand towards inclusive growth by offering fundamental banking and financial service to the public through a unique conventional banking. In this backdrop, emerging SFBs face several obstacles in establishing a fresh, distinctive business strategy. Creating a minimal risk portfolio, managing technologies, and assessing legal requirements are all issues. The insights of the senior executives of emergent small financing institutions are also included in this study.	Jayadev., et al. (2017). [66]
7.	Commercial Banks (CBs)	Agriculture and associated sectors play a pivotal role in the economy in terms of providing natural resources to agriculture industries, ensuring food safety for people, and offering potential jobs for rural residents, notably untrained laborers. Credit is a significant component in the agriculture sector's modernizing and creation of competitiveness. Problems concerning commercial bank credit flow to the agriculture sector have emerged due to a number of factors as there has been a significant drop in the actual figure of peripheral and small farmers agrarian loans, and there is a massive variance toward dense regions in the transfer of funds of bank lending to the agricultural industry, as well as a rise in provincial credit flow disparity. As a corollary, there are predefined issues with commercial banks offering agricultural finance.	Biradar & Abale (2018). [67]
8.	Non-Banking Financial Companies (NBFCs)	Banking participation is minimal, and despite efforts to expand protection vigorously via initiatives such as the Pradhan Mantri Jan Dhan Yojana, the reliability of flexibility and scalability to obtain comprehensive financial support for families and small companies remains inadequate. NBFCs have compiled a unique tale in this context. It exemplifies India's diversified and ingenious character. As a result, the study focuses on the significance of NBFCs in India's economic growth as well as the issues they confront.	Nazneen & Dhawan (2018). [68]

5.4 Growth of Farmer's Income before and after Availing Financial Support:

The following important insights are compiled and analysed to guarantee that future growth in farmer income in India is greater and more equitable [69]. Farmers' earnings must expand in the long term due to advances in farming systems intended to increase yield boundaries, boosting utilization efficiency, lowering production costs, and strengthening agriculture's climate crisis resistance [70]. It entails that the existing resource allocation for agricultural production, which is 0.6 percent of agricultural GDP, must be increased [71].

Table 4: Contribution by different scholars for the growth of farmer's income before and after availing financial support

S. No.	AREA	CONTRIBUTION	AUTHOR
1.	Challenges and Strategies for increase in income	India's government established a strategic goal of increasing farmers' income by 2022 in its annual budget for 2016-17. More over half of India's population relies on agriculture for their livelihoods. For decision - making, researchers, and regulators, boosting farmers' revenue in such a brief span of time is a daunting job. Producers' income may be doubled by significantly increasing productivity and improving market rate recognition, lowering cost of production, diversifying commodities, improving post-harvest operations, adding value, and so on. The goal of this study is to bring up the difficulties, constraints, and approaches for improving income of farmers. Market control, farming resource monitoring, risk mitigation, and extension service techniques were proposed as diverse ways for accomplishing the goal of increasing farmers' income.	Bihari., et al. (2011). [72]
2.	Survey on farmers income	The earnings of Indian agricultural families are estimated in this study. The report presents utilize of the survey conducted that examines the state of Indian farmers for this aim. The assessment was derived from data from the 70th round of National Sample Survey, which was conducted on 2013. The study has focused largely on characteristics of farmer's revenue, notably money obtained from several elements such as income from horticulture, non-farm business, livestock, and wages or salaried work. In the first round, the study was administered in 35,200 agricultural families throughout 36 states and territories, and a subsequent round was undertaken in 34,907 of these units. The factors indicated in the NSS for analysis and the results coincide to the community of dwellings.	Ranganathan, T. (2015). [73]
3.	Role of farmer organization	Farmers' associations, which include the impoverished, are tasked with creating a marketing channel for Guinea's small - scale farmers. Guinea's national agricultural programme has emphasized boosting farmers' income generating capacity and agricultural production. The findings suggested that farmer's age, landholdings, agricultural extension, credit policy, and off-farm income are all favorably correlated with group interactions, but gender and education degree are adversely associated with farmers group identity. Although peasants are	Tolno., et al. (2015). [74]

		resource-poor and farming associations are hampered by several organizational, technological, and investment restrictions regardless their ability, it is advised that beneficial policies be directed towards subsistence farming in Guinea to enable farmers associations' success.	
4.	Improving income by trading	India is the world's foremost producers, users, and importer of pulses. The changes in the price of pulses has been a greater concern in India's agricultural scene for the past several years. Variability in agricultural revenue will arise from elevated price fluctuation. Trading volume has boomed in this environment since it not only mellows instability and alleviates price volatility, but it also finds crude prices so that producers may manage their actions to increase their revenue. To determine the long-term relationship between two price movements, the Johansen co-integration test was used. The findings of the test demonstrate that the two price changes have a long-term link. The analysis revealed that there is a causative association between futures and spots, implying that trading activity encourages farmers to make the best decisions, hence increasing their earnings.	Rani., et al. (2017). [75]
5.	Institutional versus Non-Institutional Credit	The reduction of farmers' reliance on informal loans has been a priority of Indian agricultural subsidies. Towards that purpose, current measures have a favorable influence on the stream of agricultural financing by focusing primarily on remote rural areas. Considering the importance of the preliminary information in increasing institutional rural credit, the relationship among formal credit and cumulative farm income and consumer expenses in India is not extensively documented. Formal credit does undoubtedly serve a prominent factor in improving both net farmers' income and per capita monthly consumption expenses of Indian farm households, as per the results.	Kumar., et al. (2017). [76]
6.	Role of joined farmer groups	In economic growth, productivity and farmers income remain a worldwide challenge. The purpose of this study is to identify the characteristics of joined farmers associations in raising output and farmer's revenue in compliance with its mission. The findings revealed that it has executed a play connected to its role as a product line in providing distribution network and cultivation as well as promotion, but not duties pertaining to its role as a process functional area, saving and lending, and its role in raising farming productivity and income is supporting farmers' purchase of farming techniques and agricultural production devices and offering innovative products in farm operations.	Arsyad., et al. (2018). [77]
7.	Sustainable growth of farmers income	The two key issues are that few evolved sectors suffer more financial distress restraint, which led to lopsided and unproductive regional economic development, and farmers have differential credit lines due to productivity variations, which could further demoralize intrinsic income disparity. The study found that rural inhabitants	Wang., et al. (2018). [78]

		suffer credit limits on a regular basis, and that there are major stratified inequalities in the influence of farm lending on farmers' income. Growers with greater incomes are more eligible to secure bank loans and strive to improve their business, whereas farmers with lower earnings are far more prone to getting into a poverty trap leading to a shortage of wealth creation. As a result, it is critical to expand the financing accessible to farmers in order to encourage more equitable and long-term growth of their revenue.	
8.	Farmers' Income, Indebtedness	Farmers' revenue, insolvency, and suicides are involved in this study. The report indicates that farmer's income is limited owing to low harvests pricing, substantial product prices, and a limited operating holding capacity. Small farmers are trapped in a highly leveraged trap leading to decreased revenues and increasing spending requirements. Increased spending on infrastructures in agriculture, enhanced benefit distribution programmes for commodity purchases, greater rural credit distribution strategies, and extended support systems in rural regions are also needed. The contemporary agriculture policy supporting Farmer Producer Organizations and contract farming might boost small - scale farmers' negotiating leverage and scaled reductions, allowing them to take advantage of market possibilities.	Reddy., et al. (2019). [79]
9.	Impact of lockdown on farmers income	The unusual severity of COVID-19 caused India, along with several other countries, to take drastic steps to prevent the virus's reach and the loss of lives in early 2020. There was significant variation in how the curfew impacted farmers in these states, which is most largely caused by structural disparities in infrastructure facilities and variances in state-specific COVID related legislation. Farmers in Odisha, where automation is restricted, spend considerable time harvesting their crops by hand, and distressed sale was more common owing to the lack of a well-functioning fundamental reforms for their products. Periodically platforms that allow in Haryana helped to maintain consistent procuring prices, mitigating the effects on small farms output and farmers in Haryana had higher interruptions as users than producers in Odisha as a result of lower food supply in marketplaces, but farmers in Odisha experienced less disturbance.	Ceballos., et al. (2020). [80]
10.	Farmers' cooperative initiative	India's agriculture is governed by modest farmlands, which account for 87 percent of the country's total peasants. Income growth is vital for alleviating disparities and attaining zero starvation by 2030, as laid out in the Sustainable Development Goals. India has been emphasizing on increasing farmers' incomes by 2022, as part of an initiative that began in 2016. Farmers who planted only solitary harvests in a year earned while those who grew paddy crops in two growing season, according to the findings. The report suggests a set of policy efforts for developing an appropriate IFS model in diverse places	Saha., et al. (2020) [81]

		via cooperatives in order to achieve the goals of additional revenue, eradicating poverty, and farmer empowerment.	

6. STRATEGIES TO IMPROVE AGRICULTURE FINANCE TO FARMERS :

Agriculture continues to be the backbone of the Indian economy and a key source of income for rural residents, notably poor and indigenous, while also ensuring national food security [82]. Credit, agricultural inputs, and market linkages are just a handful of good issues that these farmers confront. Women farmers are trailing behind with the embracing daily grind solutions, which is accompanied by farming community wellbeing [83]. Using diverse ICT tactics, institutional capacity, ensuring environmental sustainability, and improving food productivity, may improve their living conditions [84]. A financial criterion should also be considered. By applying the concept of Farmers Producer Organizations or Company's in a bigger framework, market-oriented innovation and funding should also be strengthened protect farmers from abundant circumstances and generate more revenue [85].
Small and marginal farmers in emerging nations are more resilient to climate hazards, and several of these tend to rely on traditional strategies to alleviate the detrimental influences of such uncertainties on agricultural output leading to a shortage of access to institutionalized hedging strategies such as farm subsidies [86]. Using farm-level data and a multinomial impulse response modelling approach, the study primarily uncovers the predictors of farmers' own risk management techniques before assessing their effects on farm revenue and negative risk profile [87]. The evaluation has three components to consider. Firstly, farmers generally utilize various tactics or interventions to prevent, transmit, and contend with climatic variability, derived from previous exposures to environmental risks, factor endowments, and access to financial services and knowledge [88]. Agriculture must be strengthened in order to address issues such as grinding poverty, undernourishment, underemployment, and resource viability [89]. Agriculture is the term used for the process of operations encompassing food, feeds, and fiber generation, refining, commercialization, transmission, usage, and trade [90]. This perspective suggests that an agricultural growth plan should also include not just farmers, but also people associated with marketing, trading, processing, and agro – based [91]. Marketing efficiency and rural finance networks become even more significant in this backdrop. The marketing system serves as a vital linkage between the agricultural sector and the non-agricultural, commercial, and urban sectors [90][91].
The considerable rise in providing credit from financial institutions has instilled in public sector banks a nagging suspicion of anticipation. This anticipation, however, could not be upheld because the priority has been on attaining tools to evaluate. As a result, borrowers of all types have experienced loan defaults and loss of repayment ethics to various extents. The overall effect was an exponential trend in defaulters, which further delayed banks' composting of vital resources, but also harmed financial institutions' profitability and sustainability [92]. The primary goal of the financial liberalization was to enhance the integrity, effectiveness, and output of all lending institutions, even those in remote areas with poor fiscal viability. The amendments directed at improving domains of infomercial liberty, expand their outreach to the underprivileged, and boost the amount of money flowing into the field. Liberalizing rate of interest for co-operatives and RRBs, loosening regulations on where, for what intent, and to whom rural financial firms might lend, adopting fiscal requirements, and rebuilding and revaluing RRBs were all part of the reform programme [92][93].
Commercial banks' financial wellbeing has improved as a consequence of the restructuring effort in respect of liquidity, non - performing loan, and asset turnover, all of which are in compliance with international trends for categorization of advancements and line with guidance in substantially all sectors [94]. Commercial banks, on the other hand, are more profit-driven and prefer to cherry-pick their consumers, giving peripheral and sub marginal farmers a lower priority [95]. In general, considerations about micro - finance are framed in accordance of deficiency of credit, restrictions on swift access to funds, high inflation, overlook of smallholder farmers, lower borrowing ratios extensively in various states, and the mere existence of informal sectors, apart from structural issues [96].
Recognizing the relevance and capability of credit facilities in remote India's growth, the Reserve Bank of India (RBI) has devised a set of techniques to boost rural credit efficiency. The following are some of the RBI's methods for increasing the flow of rural finance [97].
(1) Rural credit is widened to include warehousing as well as credit from Non-Bank Financial Institutions (NBFIs).

(2) Administrative and transactional obstacles are being strived to be eliminated, including the abolition of the service area paradigm, lowering margins, reframing over dues to align with crop-cycles, additional debt modification strategies, one-time payments, and relieving methods for farmers in owe to non-institutional lending [98].
(3) The Kisan Card Scheme is being enhanced and extended, while other banks are promoting generic credit cards, which are equivalent to cleared bank overdraft that may be used for a different purpose, notably consumption.
(4) Public and private sector banks are being urged to improve credit delivery while enhancing impediments for lending shortfalls in key sectors.
(5) Banks are recommended to value lending to farmers derived from real risk evaluation instead of a set rate premised on borrowers type or end-use, while assuring that rate of interest charged are both rational and acceptable [98][99].
In essence, the focus is on improving credit delivery in an appropriate credit environment, under current legislative and judicial limits, and there has been a substantial shift in mentality to this limited extent [100].

7. RESEARCH GAP :

A research vacuum has been emphasised in the examination of farmers' access to agriculture financing and the influence of various government programmes on their income levels. Various components of agriculture financial institutions, farmer's difficulties with credit systems, and agricultural improvements have been the basis of prior studies. According to a review of studies, there is a clear connection between agriculture finance and farmer's socio-economic growth in India. Based on a review of the literature, it indicates that researchers have not taken into account farmers, evaluations of government programmes aimed at improving their situation. It articulates the farmers' opinion and levels of satisfaction with their economic status and well-being in the study region. And also, no research in this area has been done at the provincial level. As a result, there is a need for this type of analysis at the grass-roots level, which would be extremely beneficial to the district's evolving socio-economic growth. The current study is being conducted in attempt to close the gap.

8. RESEARCH AGENDA :

The program's fundamental aim is to look at the expansion of agricultural credit in India, as well as the increase in farmers' income after acquiring financial assistance from the government. The study focuses on the structure of agricultural finance, as well as different perspectives and progress, with an emphasis on how they lead to increased productivity and income growth for farmers.
(1) Socio-economic factors affecting on farmers income:
The purpose of this research is to systematically analyze the socioeconomic factors that influence farm income among developing horticulture farmers. The goal of this study is to examine the socioeconomic features of developing agricultural producers, to examine the elements that influence developing producers' farm revenue and to make recommendations for improving farm incomes for developing producers. A more focused policy response for distinct types of rising farmers would result from such a study [101].
(2) Economic factors on farming system:
This framework contains less synthesized inputs, integrates strategies that improve services at the community, provincial, and global scales, and considers the social consequences of production techniques, competitive dynamics, and product combinations. Diversified farming systems have evolved as a concept for maintaining ecosystem services vital to agricultural output by including functional variation at different temporal and geographical dimensions. The goal is to present an analyst's viewpoint on the variables that make diverse farming systems economically appealing, or not, to farmers, as well as to examine the possibilities for and hurdles to broad adoption [102].
(3) Risk factors in agriculture sector:
The agriculture sector is characterized by a high level of risk. Every agricultural organization's strategic management must include the capacity to spot hazards early and effectively manage them. The technique and results of a study aiming at the occurrence of risk factors and risk management measures in primary agricultural production are presented in this research. It emphasizes on the risk's unique

characteristics. The findings show that farmers consider price volatility, output or revenue risk to be the most relevant possible causes, and diversifying to be the most essential risk management technique [103].

(4) Farmers experiences and perception on climate changes:

Climate change is the world's most significant environmental concern, affecting nearly every economic sector. Agriculture is one of those areas where the weather is becoming increasingly unpredictable. As a result, agriculture workers, notably peasant farmers, are firsthand spectators to climate change, as their dilemma is to battle for a living in the midst of these rising disturbances. In recently, studies have concentrated on determining the apparent implications of climate change and farming, as well as how people respond to it [104].

(5) Financial institution and agriculture output:

The focus of this research was to determine the interplay between government, lending institutions, and farmer investment decisions, as well as their combined influence on agricultural investment and production. The relevance of upstream and downstream prices in determining collective crop yield is validated by study evidence, however aggregate out-out supply indices are modest. The availability of educational facilities and financial institutions have a significant impact on investment, resource, and yield decisions. As a result, agricultural output is governed by a complicated interacting process in which farmers, governments, and mediators all adapt to the same influences [105].

9. RESEARCH PROPOSAL :

After a thorough examination and evaluation of the research literature, the paper recommends that a massive study be conducted to better understand farmer income and government funds.

(a) Proposed title (comprehensive)

Farmer's income and Government fund

(b) Geography

Dakshina Kannada District

(c) Target respondents

Farmers

(d) Objectives

(1) To study the role of agriculture finance in the development of farmers.

(2) To study the expectations of the farmers towards the financial services provided by government.

(3) To study the socio-economic conditions of farmers after availing credit facility from the government.

(4) To estimate the various schemes of government for the socio-economic development of farmers.

(5) To analyse and suggest the measures to fill the gap between farmers income and government fund

10. ABCD LISTING :

Advantages, Benefits, Constraints, and Disadvantages are abbreviated as ABCD. The ABCD analysis produces a systematic matrix with an ordered list and this method addresses all variables in important areas by examining the fundamental challenges and finding the critical constituent aspects based on four constructs: Advantages, Benefits, Constraints, and Disadvantages [106][107].

ADVANTAGES

1. Increasing net income via efficient agricultural company organisation and operation.
2. Using prospective technologies to boost productivity while lowering costs on the farm.
3. Correcting resource availability inconsistencies.

BENEFITS

1. Creating a payback schedule based on income flow.
2. Increasing agricultural families' financial value.
3. Farm enterprise diversification
4. Risk management measures such as crop, livestock, and machinery insurance, as well as hedging to reduce price changes, are being implemented.

CONSTRAINTS

1. Land fragmentation has resulted in small farm holdings.
2. Crop yield and output are low.
3. Excessive consumption by the family.
4. Agricultural commodity prices are low, and they fluctuate rapidly.

DISADVANTAGES

1. Making irrational purchases using credit.
2. A farmer's equity or net worth is low.
3. The failure to adapt newer technologies.
4. Inadequate management of scarce farm resources, and so on.

Fig. 1: ABCD listing of Agriculture finance to farmers

Source: Compiled by Researcher

11. FINDINGS :

(1) In smallholder systems, policies and investments are designed to enhance infrastructural, enhancing efficiency to outgrowth and financing services, and increasing labour availability or automation.
(2) In rural regions, formal financial outlets have improved.
(3) Financial institution violations are controlled by regulatory frameworks, such as charging exorbitantly high interest rates or taking undue risks with savings of people or investors' assets.
(4) The credit procurement and reimbursement system is simple, allowing the greatest number of farmers to profit.
(5) In considerations to time lags, approval of collateral, documentary evidence, and credit distribution, attempts have been made to streamline the funding method.
(6) Financial companies create specialised credit programs and strategies based on the characteristics of their potential customers.
(7) There seems to be a close association between borrowers' socioeconomic qualities and their ability to obtain agricultural financing.
(8) Farmers' marital status, education level, farm size, and farm status all have an impact on the amount of agricultural loan they may borrow.

12. SUGGESTIONS :

(1) To achieve self - sufficiency and alleviation of poverty in the province, enabling policies are required to promote both agriculture growth and off-farm income prospects for smallholders.
(2) Improved loan availability, enhanced extension services, and investments in irrigation and transportation infrastructure should be the top priorities for the sector and government entities.
(3) Farmers should be notified about credit shortfalls resulting from informal credit sources.
(4) The government must ensure that the financial system has sufficient openness and mobility to supply the financial derivatives required by the rural areas.
(5) The government should prohibit high-interest loans and enact tough rules against them in order to promote security and anti-poverty initiatives in the region.
(6) Policies should be adaptive in order to enhance productivity and improve farmer wellbeing, and the interest rate should be lower for small farmers than for large farmers because small producers seldom address their fundamental needs.

13. CONCLUSION :

Rural farmers' accessibility to credit facilities has grown significantly over time, while the influence of unstructured intermediaries, such as money - lenders, as a source of funds has shrunk. Agricultural credit, as a percentage of both input and output value, rose sharply in recent times, as per information extracted. The huge geographical differences in the allocation of farm inputs by banking institutions are one of the most remarkable elements of the Indian agricultural credit landscape. Simultaneously, agriculture's percentage of total GDP is deteriorating. As per the studies, the level of immediate farm funding has a favourable and substantial influence on output growth, and the impact is instantaneous. The presence of implicit farm credit accounts has a productive significant influence on agriculture production as well, although with a year lapse. These analysis shows that, despite various flaws in the existing institutional credit delivery mechanism, such as insufficient credit to small - scale farmers, a scarcity of medium term and long-term financing, inadequate bank mobilizing, and a strong reliance on money borrowed by big agricultural lending institutions, agriculture credit continues to play a vital role in India's agricultural output. As aforementioned, it can play a greater role in promoting financial integration by depicting regional banking institutions and financial sector providers in all of these initiatives, as well as credit providers such as public sector, private sector, co-operative banks, and micro-credit providers, notably self-help groups.

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