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IMPACT OF COVID-19 ON INSTITUTIONAL AND AGRICULTURAL CREDIT ON AGRICULTURE PRODUCTION: AN EMPIRICAL ANALYSIS IN ANDHRA PRADESH

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ABSTRACT

Understanding the impact of COVID-19 on India's agricultural sector, as well as the Indian government's emergency steps to mitigate the economic consequences of viral spread, can provide critical insights as the virus spreads around the world. According to available data, agricultural credits have risen in recent years as a percentage of input and output costs. In the local market, agricultural credit is disbursed by scheduled commercial banks in a number of ways. Agriculture's economic output, as a percentage of total GDP, is also declining. In the (Covid-19) epidemic, researchers looked on agricultural productivity and loan disbursement in Andhra Pradesh. Furthermore, it has been discovered that direct agricultural loans have a statistically significant and immediate impact on production (Ramakumar, 2020). After a one-year lag, indirect farm credit accounts boost agricultural output. These findings show that agricultural credit remains an important support for Andhra Pradesh agricultural production, despite current flaws in the institutional credit delivery system, such as a lack of credit for small and marginal farmers, a lack of medium- and long-term lending, and limited deposit mobilization. Thus, this study aims to study the Impact of COVID – 19 on institutional and agricultural credit on agriculture production.

Keywords: Agricultural credit, COVID-19, Agricultural production, loan disbursement

INTRODUCTION

Agriculture is the principal source of income for nearly all Indians who reside in rural areas. Growing the agricultural sector is critical because it not only gives rural residents purchasing

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power by creating jobs both on and off the farm, but it also helps to keep prices stable. Agricultural employment has fallen to 52 percent in the state, yet it still accounts for one-fifth of the state's GDP. To feed the country's expanding adult population, agricultural production must increase dramatically and steadily. In recent years, food availability per capita, notably cereals and pulses, has fallen. As a result, the recent downturn in agricultural growth has been a key source of concern for policymakers.

Agriculture's expansion potential is determined by three factors: increasing the amount of agricultural inputs used, technological improvements, and improved technical efficiency. When small farmers have such little assets, agricultural financing looks to be a vital component for increasing production. Large farmers can now borrow money to supplement their income, a development that has occurred during the last three decades. Small and marginal farmers are no longer eligible for any credit benefits. Credit has played a significant role in agricultural development since independence (Senapati M, 2009). In Andhra Pradesh, there are both informal and formal lenders in the agricultural finance system. Private moneylenders include banks and credit unions, which can be reached through informal channels such as friends and family. Throughout the country, commercial banks, cooperatives, and microfinance institutions all distribute formal credit in different ways (MFIs). Credit is critical for agricultural and rural productivity, and policymakers believe there is a direct link between credit availability and these sectors' productivity. As a result, financial resources are employed to assist agricultural businesses in expanding (Narayanan S. 2016).

The Reserve Bank of India devised Special Agricultural Credit Plans (SACP) policy in 2018-19 to help public sector banks lend credit to the agricultural sector. To be eligible for a Special Agricultural Credit Plans (SACP) award, banks must define their own targets and work toward them during the calendar year (March - April). Banks usually aim for a 20 percent to 25% rise in disbursements from year to year (Strauss, 2020). Credit to agriculture has surged drastically since the introduction of Special Agricultural Credit Plans (SACP), rising from Rs. 8,255 crore in 2018-19 to Rs. 1,22,443 crore in 2019-20, well exceeding the estimated amount of Rs. 1,18,160 crore For the fiscal year 2020-21, agriculture received Rs. 1,11,543 crore from public sector banks, compared to a target of Rs. 1,52,133 crore (provisional). The Advisory Committee on the Flow of Credit to Agriculture and Related Activities from the Banking System advocated in 2019-20 that private sector banks be allowed to use this strategy (Kumar A, 2017).In 2020-21, Special Agricultural Credit Plans (SACP) disbursements to agriculture by private sector banks were Rs 44, 093 crore, above their target of Rs 40,656 crore. In 2018-21, privatized sector banks supplied Rs.45,905 crore to agriculture, far exceeding the target of Rs.41,427 crore (provisional). The Union Finance Minister outlined a variety of initiatives on September 16, 2021, including a goal of increasing agricultural loans within three years and providing some aid to farmers hit by natural disasters while being fiscally responsible.

Reserve Bank of India and the National Bank for Agriculture and Rural Development (NABARD) issued important operating recommendations for Indian and international banks. For

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the fourth year in a row, spending has exceeded expectations. All banks released Rs.2,25,348 crore in 2018-21, falling short of the objective of Rs.2,25,000 crore (Kumar A, 2010). Commercial banks and regional rural banks (RRBs) sponsored 7 million new farmers in 2020-21, greatly exceeding the 5 million objective set by the Union Finance Minister for that year. Finance Minister Nirmala Sitharaman asked banks to expand loan levels to Rs.2,80,000 crore in the 2021 fiscal years in his Budget Speech.Agricultural productivity has not grown despite these efforts. Agriculture industry growth has been low and erratic since the mid-1990s, dropping from a 4.7 percent annual average in the 1980s to 3.1 percent in the 1990s, and then to 2.2 percent during the Tenth Plan period. Agricultural production growth decreased in 2018-21, with food grain output being stagnant in the agriculture sector (Das A, 2009).

Kisan Credit Card (KCC) Scheme

The Kisan Finance Card is an Indian government programme designed to assist farmers in obtaining funding in a timely manner. In 1998, NABARD introduced the Kisan Credit Card (KCC) to help Indian farmers by providing credit. Farmers, rural residents, and other rural dwellers benefit from this bank (Guirkinger, 2008).

The KCC System was created to ensure that farm owners in the agricultural, fishing, and animal husbandry industries are provided with appropriate credit standards (Guirkinger, 2008). Because short-term loans are beneficial in assisting businesses in obtaining the resources they require, credit restrictions were removed and credit was made available for any purpose, including the purchase of equipment.Furthermore, the interest rate offered by KCC is as low as 2%, with an average rate of 4%. This method can assist farmers in repaying their loans by indicating how long their crop has been harvested for and how much they will be required to repay based on that length of time(Deepak, 2020).

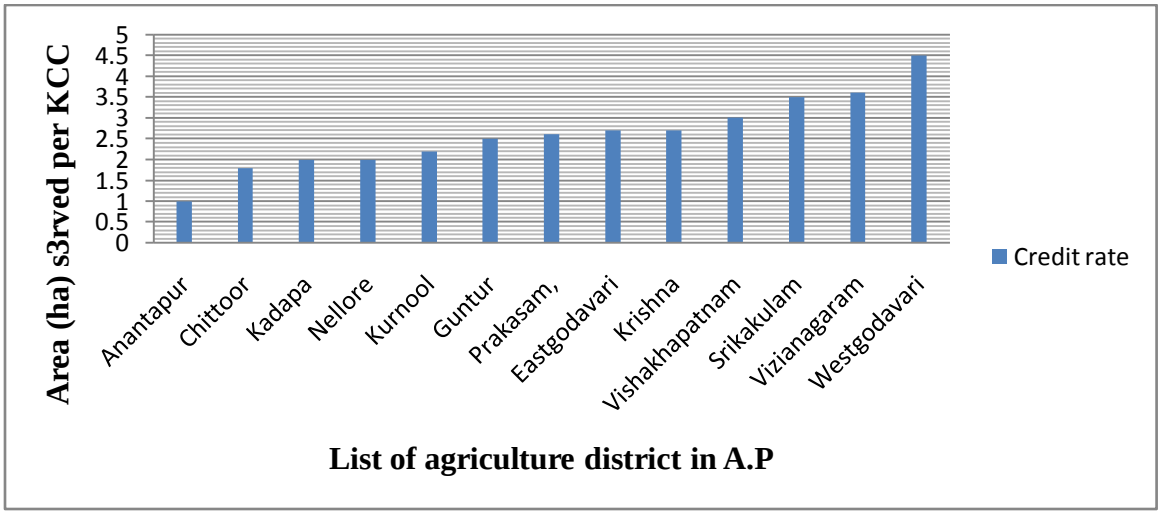

Figure.1.State wise distribution of KCC in India during 2020 - 21.
(Source: Authors' calculation using data from NABARD and DES, GoI)

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KCC's district-level distribution density is expected to drop in 2020-21, as shown in Figure.1. Andhra Pradesh had the lowest KCC concentrations of all the states (one card per 1.09 ha). The impacts of institutional loans on agricultural productivity are investigated using a panel data model (Sidhu R S, 2008). Each of the thirteen major districts had its own panel, which was built from 2018-19 to 2020-21.

Research objectives

The study's specific objectives included examining COVID 19's impact on:

1. To propose agricultural and rural policy steps to help mitigate the negative effects of the post-COVID-19 situation.
2. To investigate the impact of COVID-19 on institutional credit, with a focus on RBI, SBI and Commercial bank etc.
3. To analyze agricultural production, farm gate pricing, agricultural input supply and demand, and so on.
4. To know the impact of banking activities on credit access, recovery, and digital transactions in covid-19.

RESEARCH METHODOLOGY

The present study mainly based on secondary data collected from various sources between 2018 and 2020. Sources like, The Indian Government's Ministry of Statistics and Program Implementation compiled agriculture-output data from statistics publications (MOSPI), and NABARD information on institutional loan disbursements per state.The data was then deflated using GDP deflator at 2018-21 prices. The total irrigated and cultivated land in India was obtained for this study from reports from the Ministry of Agriculture and Farmers Welfare. Coastal region of Andhra Pradesh was selected for the study.

Assessment of Agricultural Credit Progress in Andhra Pradesh

Agriculture's contribution of the state's GDP has continuously fallen from 36.4 percent in 2018 to 18.5 percent in 2020, according to COVID-19. The agricultural sector has grown at a slower rate than the combined industrial and service sectors (Sidhu R S, 2008). This is especially true in 2019-20, as the disparity between agricultural and non-agricultural growth has grown over the recent century. Despite agriculture's reduced contribution to GDP as a result of COVID-19, the number of individuals who rely on it has remained consistent. A number of efforts have been taken by the Reserve Bank of India (RBI) and the Indian government to increase agricultural lending. Agriculture credit will triple in the next three years. Actual payments have all exceeded the initial targets during the last four years (Table.1).

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Table.1Banks targets and actual disbursements of credit for agricultureand allied

S.No.	Time period	Agency	Target (Rs. Crores)	Disbursement (Rs. Crores)
1.	2018-19	Comm. Bank	58,000	81,541
2.	2019-20	Coop. Bank	40,000	32,298
3.	2020-21	RRBs	9,000	12,853
Total			1,17,000	1,26,692
*****Source: NABARD, Provisional, RRBs (Regional Rural Banks)				

From Table 1, It is clear evident that for the period 2018-19, Disbursement of credit is more than the actual target of 58,000 crores, where as target was lower than the previous year due to the spurge of COVID-19 and Financial Institutions considered farmers may not be able to repay the credit, they took. Banks repeated the same for the period of 2020-21, but this time drastically to 9000 crores from 40000 crores, as the pandemic at peaks, and agriculture and its allied activities were disrupted highly. Surprisingly little higher than actual target, around more than 3,853 crores were disbursed. It is a quite positive momentum for the agriculture.

Table.2. Actual production in comparison to goals

S.No.	List of Crops	Time periods		
		2018-19	20019-20	2020-21
1.	Rice (in percent)	105	101.00	95.01
2.	Wheat(in percent)	92.01	102.5	93.00
3.	Coarse cereals (in percent)	95.1	94.7	98.0
4.	Pulses(in percent)	90.00	94.03	89.04
5.	food grains(in percent)	98	99.55	95.02
6.	Oilseeds(in percent)	106	84.0	87
7.	Sugarcane(in percent)	120.0	132.5	98.9
8.	Cotton (in percent)	114.05	125.0	95.3
9.	Jute & Mesta(in percent)	98	100.3	97.43
*Source: economic survey (2018-21)				

Result and discussions:

Impact on Production

COVID-19 had a negative impact on the state's agriculture productivity in over half of the sample districts in Andhra Pradesh. Agriculture production (-2.7%) was not significantly impacted because rabi crop harvesting, such as wheat harvesting, was almost complete by the

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end of April 2020. To be sure, production in the allied sector had dropped dramatically, particularly in the poultry sector (-19.5%), owing mostly to a sharp decline in demand for these items following COVID-19 widespread worry about the safety of non-vegetarian food for health-related issues.

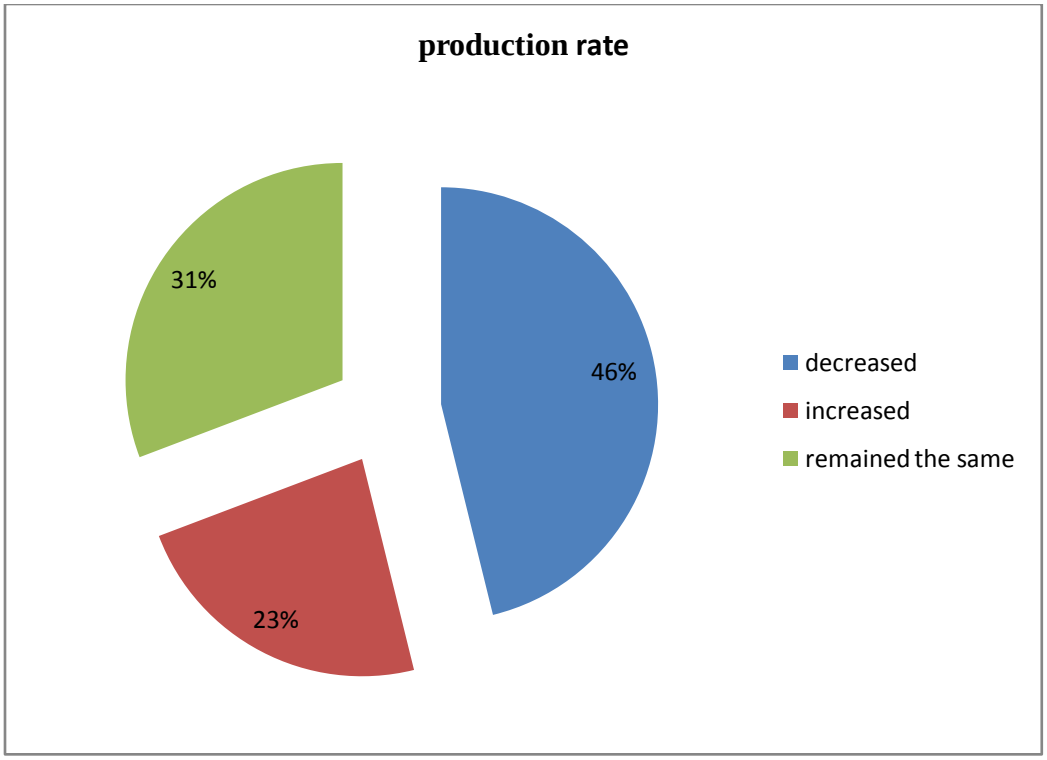

Figure.2. Changes in overall agricultural production in a number of districts

Reduced demand for dairy (-6.6%) and horticulture (-5.7%) products, as well as disruptions in the supply chain, led to lower production in these sectors (Kimberling, 2020).

Impact on Agri-Input Availability

The availability of agro inputs such as seeds (-9.2%), fertilizers (-11.2%), insecticides (-9.8%), fodder (-10.8%) etc. decreased by 9 to 11 percent as a result of limitations on people/material mobility and business closures. The availability of inputs was a problem in 58% of the sample districts across Andhra Pradesh (Strauss, 2020).

Impact on Agri-Input Prices

Due to disruptions in the supply chain caused by limits on vehicle mobility and the closure of stores and markets, prices for agricultural supplies such as fertilizer have skyrocketed.

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Seeds increased by 8.8%, fertilizers by 10%, insecticides by 9%, and fodder increased by 11.6 percent. The price of agricultural inputs has increased in 54 percent of the sample areas due to their scarcity (Kumar A, 2017).

Trend in institutional credit disbursement to agriculture

The overall institutional loan disbursement for agriculture and allied operations increased considerably in 2018-19, from Rs. 107742 crores to an estimated Rs. 836937 crores (Figure.2). Institutional credit disbursements increased dramatically in the early 2000s.

When it comes to disbursing institution loans, the contribution of SCBs has risen above that of cooperatives since 2004. The role of informal credit agencies has dwindled as institutional loan disbursements have climbed between 2018-19 and 2020-21, institutional credit to agriculture grew by 10.37 percent. (Table.4). Annual growth in SCB agricultural credit flows is 12.45 percent. RRB's contribution to agriculture has risen by 13.52 percent every year. Compared to other types of banks, cooperative banks have grown at the slowest rate (4.88 percent). According to a sub-period-by-flow analysis, SCBs and RRBs had the highest growth rates in institutional lending to agriculture from 2018–19 to 2020–21.

As part of a government initiative to boost agricultural productivity, the amount of agricultural credit was increased in 2021.From 41% in 2018-19 to 17% in 2020-21, the share of institutional lending to agriculture that goes to cooperatives has progressively fallen over time. SCBs, on the other hand, have seen their share rise from 52% to 70% in the same time period(Kumar A, 2010). The federal government's focus on supporting SCBs and RRBs through recapitalization to improve their financial health aided this process (Das A, 2009).

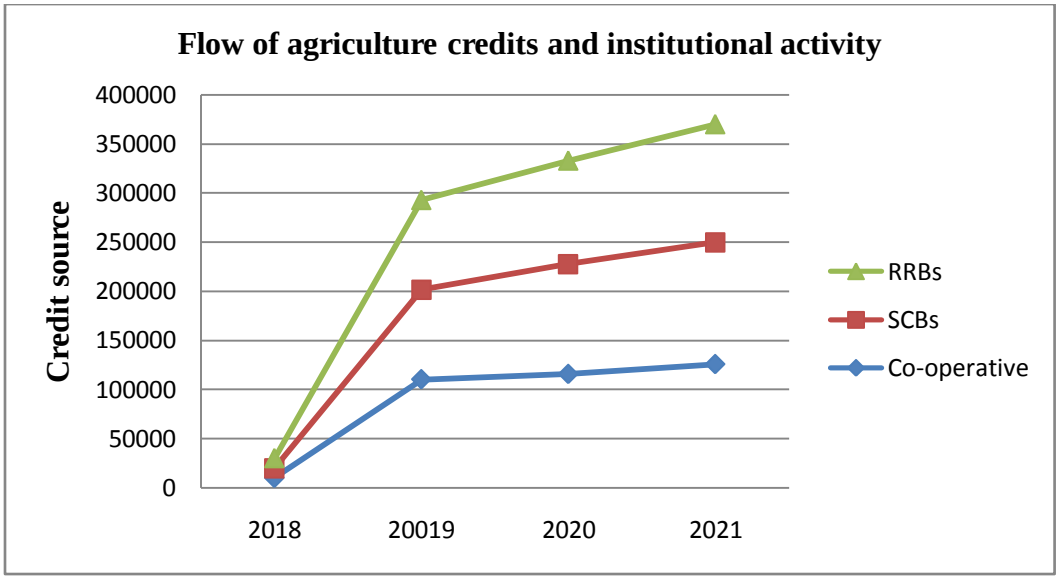

Figure.3. Real-term change in the amount of institutional credit going to agriculture and related activities Source

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Institutional credit to agriculture is distributed by region

As seen by variables of total institutional credit and loan flow per hector of gross cropped area, the flow of institutional credit to agriculture is not uniform across the country (Table.4).Andhra Pradesh had received the lowest amount (`135036/ha) of institutional credit 2018-19 to 2020-21. The share of institutional credit to agriculture was also strikingly low in these regions for the study period.During 2020-21, production and investment credit disbursed per hectare of gross cropped area were lowest in Andhra Pradesh, (figure.3). This inter-state and inter regional disparities in institutional credit outreach may be due to varying resource endowments and technology adoptions. Therefore, there is a need for increase in investment in capital formation to improve the resource base in backward regions.

Table.3. Panel data regression results by using random effect model

S.No.	variable	Value of output from agriculture[2] (crop sector) (rs/ha)
1.	Institutional credit (rupees/ha)	0.25***(0.12)
2.	Irrigation coverage (%)	5.86.27***(96.44)
3.	Fertilizer (kg/ha)	73.00***(19.01)
4.	constant	13391.89***(3345.09)
5.	R squared	0.92
6.	Wald chi-square	3029.6
7.	Prob>chi square	0.00
8.	Observations	326
10	Number of years	25.00
Note: in real terms, standard errors in parentheses, ***represents 1% level of significance		

Table.3 shows the results of analysis, which were obtained with the help of the random effect model. The results showed that institutional credit has a significant positive impact on the value of agricultural output, which is a proxy for crop productivity. Irrigation coverage and fertilizer use also had a significant impact on productivity, both positively. Institutional credit has been proved in the past to boost agricultural output. This study examined trends and impacts of institutional credit on Andhra Pradesh agricultural productivity.

In Andhra Pradesh, an institutional loan to agriculture has been steadily expanding over the years, with the increase becoming more prominent in 2018-19. With a growing percentage of SCBs and RRBs, there was a structural shift in the institutional flow of agricultural finance. Production credit was mostly provided by cooperatives, whereas investment credit was primarily provided by SCBs. We discovered that institutional credit outreach to different regions is still uneven. During the study period, southern states received the most institutional credit per

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hectare, while eastern states received the least. A panel data model found that institutional credit has a considerable and favorable impact on agricultural productivity. These findings underscore the need for increased credit outreach through the simplification of loan disbursement procedures (Elahi E.; 2020). There is also a need to ensure that credit is distributed fairly across regions, with a particular focus on credit-starved eastern, western, and northern states.

CONCLUSION

Rural farmers today have better access to institutional funding, but the importance of moneylenders as a source of credit has declined. Based on current data, financial support for agriculture appears to be increasing substantially. Agricultural loans from scheduled commercial banks in Andhra Pradesh are spread throughout a large geographical area, which is rare in the agricultural credit environment. As a result, agricultural output makes a smaller contribution to global GDP. The relationship between farm credit disbursement and agricultural productivity must be examined in light of regional differences in disbursement.

According to the experts, direct farm finance has a significant and immediate impact on agricultural productivity. Even a year later, the total number of indirect agriculture credit accounts has a significant positive impact on agricultural output. The existing system of institutional credit delivery has shortcomings such as insufficient loan availability to small and marginal farmers, a lack of medium- and long-term lending and restricted deposit mobilization, agriculture finance nevertheless plays a vital role in sustaining Indian agricultural production. Finally to conclude, the local market participants and private sector suppliers and credit providers, such as public sector banks, cooperatives, new private sector banks , can expand financial inclusion even further for the welfare of farmers as well as agriculture.

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