

## Role of Banking Sector in Agricultural Development of India (A Comparative Study of Pre & Post Globalization Period)

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**Abstract:** The present study eyes to depict the relation between the production growths of agricultural produces and loans and credits availed by farmers during the study period. It is seen that the increase in production causes increase in the input cost for which farmers look towards various institutional credit facilitators. To define this relation, the study has been done across the period of forty years from 1971 to 2010. The data has been obtained from the various issues of Handbook of Statistics on Indian Economy published by Reserve Bank of India and analysed with the help of various statistical analysis tools to draw the conclusion.

**Keywords:** Globalization, Direct Institutional Credit, Total Food Grains Production, Total Commercial Crops Production

**Introduction:** Financial Institutions work as blood cells in any economy to keep the money and finance in flow. The present study is focused to observe the changes occurred in the banking practices in regard to agricultural financing before and after the New Economic Reforms which took place in the year 1991. The Globalization of the economy flamed the need of finance to meet the domestic and international market needs. The period of economical reform also brought changes in the farming techniques and farmers started shifting to Chemical Fertilizers, High Yield Variety Seeds and Capital Intensive techniques in production. This eventually raised the requirements of funds at farmers' end where actually the banking system of the country came into play. This study is an attempt to look into the periodical change in the credit facility provided by the banking institutions from time to time. The period taken for the study of forty years comprises four decades from the year 1971 to 2010; two prior to Globalization and two post Globalization policy. The efforts have been made to find out relation, if there is any, between the direct institutions credit facilities provided by various banking institutions and the production growth in Food Crops as well as Commercial Crops before and after the implication of Globalization policy.

**Objectives of the Study:** This study has been carried out keeping following objectives in mind to draw conclusive findings in the end:

- To state the relation between credit facilities extended and production of agricultural produces
- To compare and test the significance of growth statistics between the two periods of the study separated by globalization

**Significance of the Study:** This study is significant in terms of relation it depicts between the production of agricultural produces and the role of credits and loans into it. It also throws light on the fact that how far the globalization and raised demands due to it has forced the credit requirements of farmers.

**Methodology:** The study uses statistical and mathematical tools like arithmetic mean, paired t-test, regression test and compound annual growth rate to pen the findings with significance. The graphical presentations have been done with the help of column graphs and tables have been used to present the findings in a situated manner.

**Hypothesis:** Following hypothesis has been formulated to test the statistical significance of the study. The  $H_{01}$  and  $H_{02}$  have been tested with paired t-test while the  $H_{03}$  and  $H_{04}$  have been tested with regression test:

**$H_{01}$ :** There is no significant growth in production of Food Crops in the study period.

**$H_{02}$ :** There is no significant growth in production of Commercial Crops in the study period.

**$H_{03}$ :** There is no co-relation between production of Food Crops and Credit Supply for agricultural and allied activities.

**$H_{04}$ :** There is no co-relation between production of Commercial Crops and Credit Supply for agricultural and allied activities.

**Data Analysis:** The study has been divided on the basis of occurrence of Globalization policy in the year 1991. The two decades before this occurrence are from 1971 to 1990 and the two decades after this occurrence are 1991 to 2010. The growth in Credit supply and production of agricultural produces has been depicted with the help of graphs and tables. Further, the significance of growth and relation between the variables taken for the study has been tested with hypothesis tests suitable for the study. Food Crops comprise Rice, Wheat, Coarse Cereals and Pulses whereas Commercial Crops comprises Groundnut, Soya Bean and

Rapeseed & Mustard Tea, Coffee, Tobacco and Sugarcane Cottons, Raw Jute & Mesta in this study.

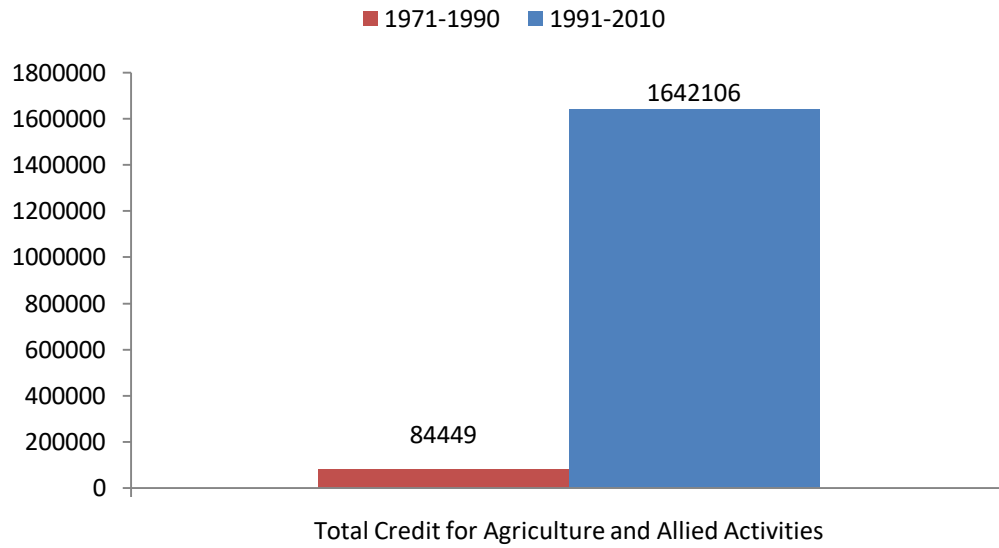
**Table 1: Findings on Growth Statistics**

Variables	Total Credit for Agriculture and Allied Activities (Rs. Crore)	Total Production of Food Crops (Lakh Tonnes)	Total Production of Commercial Crops (Lakh Tonnes)
1971-1990	84449	25808	176417
1991-2010	1642106	39916	287980
Growth	1844.5%	54.7%	63.2%
CAGR	16.2%	1.8%	2.3%

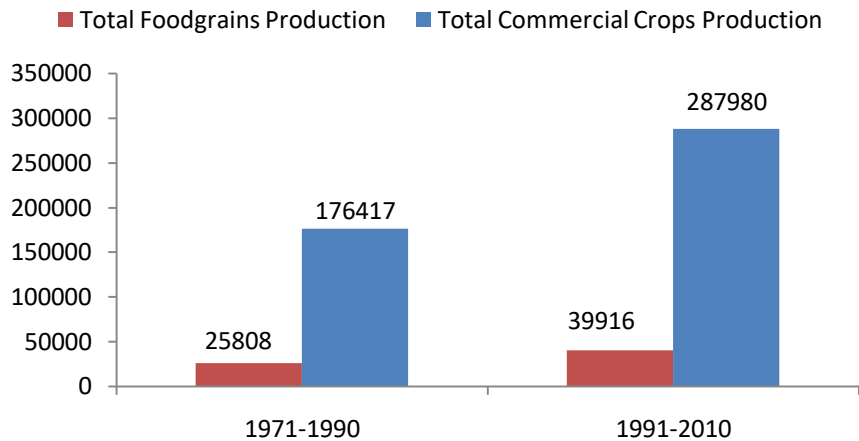
**Table 1** shows the findings on growth statistics in credit amount facilitated to farmers and production of Food Crops and Commercial Crops during the period.

- **Total Credit for Agriculture and Allied Activities:** In 1971-1990, the period prior to Globalization, the total credit amount delivered for agriculture and allied activities was Rs. 84,449 Crore which increased to Rs. 16,42,106 Crore in the post Globalization period from 1991 to 2010 (See **Figure 1**). This increase is very high in terms of percentage change as it is 1844.5% more in comparison to the credit value of the year 1971. The compound annual growth rate was 16.2% for credit facilities served in the period of forty years from 1971 to 2010 (See **Figure 4**).
- **Total Production of Food Crops:** The total production of Food Crops during 1971-1990 was 25,808 lakh Tonnes and it reached to 39,916 lakh tonnes during 1991-2010 (See **Figure 2**). The percentage increase in production of Food Crops is 54.7% from 1971 to 2010 (See **Figure 3**) and it grew with the compound annual growth rate of 1.8% (See **Figure 4**) during the period of forty years.
- **Total Production of Commercial Crops:** The total production of Commercial Crops during 1971-1990 was 1,76,417 lakh Tonnes and it reached to 2,87,980 lakh tonnes during 1991-2010 (See **Figure 2**). The percentage increase in production of Food Crops is 63.2% from 1971 to 2010 (See **Figure 3**) and it grew with the compound annual growth rate of 2.3% (See **Figure 4**) during the period of forty years.

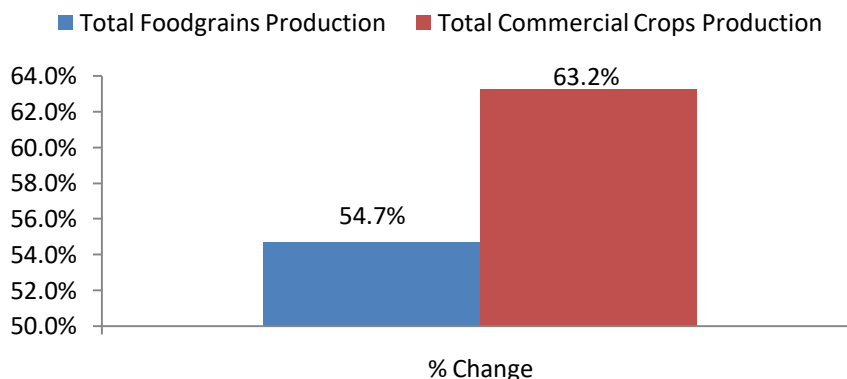
**Figure 1: Credits for Agriculture and Allied Activities (Rs. Crore)**



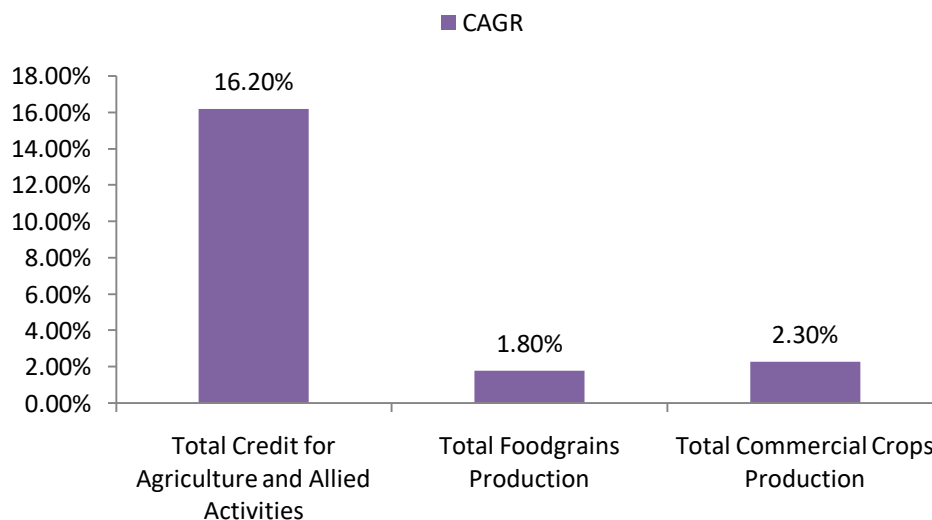
**Figure 2: Production of Agricultural Produces (Lakh Tonnes)**



**Figure 3: Percentage Growth in Agricultural Produces (%)**



**Figure 4: CAGR of variables of the study during the period (%)**



**Testing of Hypothesis:** This part of the study tests the significance of the analysis carried out during the study. The growth and relation among the variables have been tested for significance of the results obtained from statistical measures.

**H<sub>0</sub>1:** There is no significant growth in production of Food Crops in the study period

**H<sub>0</sub>2:** There is no significant growth in production of Commercial Crops in the study period

**Table 2: Paired T-test for Growth Significance of Agricultural Produces**

Hypothesis	Observations	Df*	P-Value	H <sub>0</sub> *	H <sub>1</sub> *
H <sub>01</sub>	20	19	1.48E-14**	Rejected	Accepted
H <sub>02</sub>	20	19	2.49E-19**	Rejected	Accepted

**\*\*Significant at 5% level of significance** {(1.48E-14 and 2.49E-19 are scientific notations and can be written as 0.000; (0.000<0.05)}

**\*Df = Degrees of Freedom, H<sub>0</sub> = Null Hypothesis and H<sub>1</sub> = Alternative Hypothesis**

**Table 2** shows the hypothesis test performed for growth significance of Food Crops and Commercial Crops during the study period. As per the descriptive analysis showcased earlier in this study, it can be stated that there has been growth in both the Food Crops and the Commercial Crops from first twenty years to next twenty years, i.e. 1971-1990 to 1991-2010. This growth has been tested at 5% level of significance and 19 degrees of freedom for both type of crops. The p-value in this test for both the crops is quite smaller as compared to 0.05 which signifies the growth in case of Food crops and Commercial Crops. This ultimately rejects the null hypothesis for both the crops and accepts the alternative hypothesis in both the cases. The alternative hypothesis accepted is as follows:

**H<sub>11</sub>:** There is significant growth in production of Food Crops in the study period

**H<sub>12</sub>:** There is significant growth in production of Commercial Crops in the study period

**Table 3: Regression Analysis for Co-relation Significance between Agricultural Produces and Credit Supply for Agriculture and Allied Activities**

Hypothesis	Observations	Df*	Co-relation	P-Value	H <sub>0</sub> *	H <sub>1</sub> *
H <sub>03</sub>	40	39	0.69	5.42E-07**	Rejected	Accepted
H <sub>04</sub>	40	39	0.74	4.16E-08**	Rejected	Accepted

**\*\*Significant at 5% level of significance** {(5.42E-07 and 4.16E-08 are scientific notations and can be written as 0.000; (0.000<0.05)}

**\*Df = Degrees of Freedom, H<sub>0</sub> = Null Hypothesis and H<sub>1</sub> = Alternative Hypothesis**

**Table 3** shows the key summary of regression analysis performed to test the significance of co-relation between Agricultural Produces and Credit Supply for Agriculture and Allied Activities.

- The correlation co-efficient of Food Crops and Commercial Crops to Credit Supply for Agriculture and Allied Activities is 0.69 and 0.74 respectively.
- At 39 degrees of freedom with 5% level of significance the p-value is 0.000 for both the crops which is quite smaller than 0.05 ( $0.000 < 0.05$ ). This result rejects the null hypothesis and accepts the alternative hypothesis in case of both the crops. The alternative hypothesis for both the crops is as follows:

**H<sub>13</sub>:** There is significant co-relation between production of Food Crops and Credit Supply for agricultural and allied activities.

**H<sub>14</sub>:** There is significant co-relation between production of Commercial Crops and Credit Supply for agricultural and allied activities.

**Findings:** The study with the help of statistical tools and techniques produces following findings to draw the conclusion:

- ✓ There is very high increase in the credit supply from the pre globalization period to post globalization period.
- ✓ Food Crops have gained 54.7 % growth whereas it was 63.2% in case of Commercial Crops. It shows that Commercial crops have gained more benefit of Credit supplies during the study period.
- ✓ The CAGR is 1.8% in case of Food Crops and 2.3% in Case of Commercial crops which denotes that there is better growth in Commercial Crops as compared to Food Crops in the study period.
- ✓ The hypothesis tests performed for both co-relation and growth resulted statistically significant which proves that the study and its outcomes are significant to be relied.
- ✓ The study shows the role of banking sector in agricultural development of India as the trend of; “The more the Credits, The More the Production” have been observed in the study.

**Conclusion:** The study reaches to the conclusion that there has been significant increase in Direct Institutional Credit, Total Food Grains Production, and Total Commercial Crops Production during the study period. It shows that with the implication of New Economic Reforms and Globalization to be precise, the demand for credit went up to meet with the qualitative and quantitative requirements in both domestic and world markets. It has been observed in the study that commercial crops received more advantage of credit facilities or in

other words, more loans and credits were taken by farmers for production commercial crops in place of food crops throughout the study period. The study also hints on one of the reasons behind the suicidal practices among farmers and the heavy increase in credit supply clearly denotes that with the time, there has been burdening increase in loans and credits on farmers which was more than enough to push them towards the negative state of mind. In the end, the work can be concluded by saying that Direct Institutional Credit Facilities have been one of the major deciding factors for increase in production of both Food Crops and Commercial Crops in the study period and it shows that the banking sector has played a significant role in agricultural development of India.

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