



## A study on growth and performance of Primary Agricultural Cooperative Credit Societies of West Bengal

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### ABSTRACT

India's economy is heavily reliant on agriculture as a developing economy. However, due to the lack of financing from the banking sector, farmers and agriculturists have a lot of difficulties in their farming activities. This is where the Primary Agricultural Credit Societies (PACS), the cooperative sector's lowest tier institution, comes into play. The current study uses secondary data to examine the overall performance of PACS in West Bengal between 2002-03 and 2018-19. To examine and better comprehend the data and interpretations, various statistical tools and techniques such as percentage analysis, compound annual growth rate, and tri-year average are utilized. The findings show that the number of viable PACS was declined dramatically during the reference period, and the PACS' performance was also deteriorated. Overdue accounts, a lack of resources, an indifferent management system, a lack of effort to mobilize deposits, and unskilled employees are only a few of PACS's key problems. As a result, executives must take responsibility for debt collection. The board of directors, as well as the members, should participate more actively in general body meetings and assist PACS in its operation. Executives must be more honest in their commercial dealings so that all members of society are informed of what is going on.

**Keywords :** Compound annual growth rate, tri-annual average, PACS, West-Bengal.

Cooperative credit institutions have played a catalytic role since inception in 1904 in mobilizing rural savings and stimulating agricultural investment. The Primary Agricultural Credit Society (PACS) are the foundation stone on which the whole co-operative credit structure is built up. The main function of PACS is to provide adequate and timely availability of institutional credit for agricultural development, particularly in enhancing its productivity and improving the living standard of the peasant communities by making them free from the clutches of usurious village money lenders. Growing commercialization, diversification and capitalization of agriculture through the use of modern technologies, largely driven by the forces of globalization, ipso facto, have increasingly raised the credit needs of the peasants (Gadgil, 1994) and PACS is considered as a vital instrument in channeling credit, mainly, short term, to meet the production credit requirements of the farmers, particularly the marginal and small farmers who don't have access to other financial institutions. PACS is considered as vital agencies to resolve a host of problems in agricultural development and uplift the socio-economic status of the poor and weaker sections of the society (Prasad, 2006). It has travelled a long way since inception and achieved a phenomenal growth in terms of physical and financial parameters. Over the years, institutional credit structure has undergone a sea change and to keep parity with the growing demand, a lot of reforms and restructuring have been carried out in the

cooperative organization based on the recommendation of various committees constituted time to time. In India, there are 95,955 PACS with a total membership of 132 million including sixty million borrowers from more than 6.5 lakh villages and constitutes one of the largest rural financial systems in the world. With smaller share of 11 per cent of total agricultural credit, co-operatives are covering 19 per cent of farmers (2.60 crore accounts), reflecting better coverage of small and marginal farmers. The share of small and marginal farmers in total loan amount disbursed by cooperatives is 69.7 per cent as against 47.3 per cent in respect of commercial banks as on March 31, 2020. In West Bengal, about 7405 PACS with around 12.17 m memberships mobilizing about Rs.208.04 crores and advancing about Rs.1871.3 crores. In spite of achieving outstanding success, a number of issues have arisen, putting their survival and long-term viability as an institutional credit agency in risk. Failures have outweighed successes in terms of participation, production and payback rates. Furthermore, it is frequently claimed that cooperative loan distribution remains unequal between areas and farm types. PACS credit distribution was inequitable amongst states, according to the Khusro Committee (1989), and large-scale non-repayment of loans and increasing late has also been noted by a number of studies. Aside from the obvious discrepancies in cooperative credit distribution, the PACS suffers from a number of diseases, including a lack of spontaneity, a weak financial system, poor

administration and leadership, and too much government meddling, to name a few. Under this pretext, the present study has been undertaken with the following specific objectives:

1. To evaluate the overall performance of PACS of the state of West Bengal over the period 2002-03 and 2018-19,
2. To assess the growth in PACS in terms of physical and financial performance indicators,
3. To suggest some policy measures for improving the performance of PACS of West Bengal.

## **MATERIALS AND METHODS**

The data relating to the selective indicators of the PACS such as Number, Membership, Loans issued, Loan recovered and over dues etc. pertaining to the period of 2002-03 to 2018-19 have been collected from secondary sources, namely, Annual Reports of NAFSCOB, various books and websites for the study.

To analyze the growth rate of physical as well as financial parameters log linear functions are used.

$$Y = ab_t u_t$$

Where,

In the time period  $t$ ,  $Y_t$  = Dependent Variable

$a$  = intercept

$b^t$  is Regression Coefficient =  $(1 + r)$

$t$  = Years which takes value 1, 2, ... ...,  $n$

$u_t$  = the year  $t$ 's error term

The Cobb-Douglas production function was transformed into the following double log or log linear form so that it could be solved by the least square method:

$$\log Y = \log a + \log b$$

The following function was used to calculate the compound growth rate ( $r$ ) of area, production, and productivity in percentage:

$$\text{CAGR}(r)(\%) = \{ \text{antilog of } (\ln b) - 1 \} * 100$$

The significance of the regression coefficient was determined using the student's  $t$ -test.

Mainly percentage analysis and tabular method are applied to discuss the estimated results with a view to draw meaningful inferences.

## **RESULTS AND DISCUSSION**

Compound and Linear Annual Growth rates of number of total societies and number of viable societies is depicted in Table-1. It reveals that the Annual Growth Rate (AGR) have witnessed the peaks and valleys it has gone through during this course of 17 years and it clearly indicates both positive and negative growth in number of PACS. The highest positive growth rate was registered in the year 2011-2012 which was 0.136 and the highest negative growth rate was registered in the year 2006-2007 which was -0.570.

Taking into consideration of all the years, number of PACS viable have registered negative growth rate and in terms of CAGR it is - 7.358 per cent. The estimated CAGR is significantly accepted at one per cent level of significance. Therefore, numbers of PACS viable have significantly decreased during the reference period. The reason for decreasing number of PACS in the state may be due amalgamation of some inactive or defunct societies. From the perspective of the size, measured in number of PACS, the short-term rural credit cooperatives in India has entered the phase of consolidation since the number of PACS have reduced by 10.49% over a period of six years (2004 to 2010) (Sharad, 2012). The number of viable PACS have registered the highest positive linear growth rate of 1.018 in the year 2007-2008 and the highest negative growth rate of -0.665 in the year 2006-2007. Taking into consideration of all the years, number of viable PACS have recorded negative growth rate of - 7.358 per cent, i.e., the numbers of PACS viable have significantly decreased during the reference period.

The growth of membership and borrowers delineated in Table 2 discerns that the highest positive growth rate of membership is 0.399 % in the year 2007-2008 which was and the highest negative growth rate of -0.340 is registered in the year 2010-2011. Taking into consideration of all the years, number of members have registered a compound negative growth rate of 2.798 per cent, i.e., the numbers of memberships have significantly decreased during the reference period and the number of borrowers has also experienced a negative growth of 0.435%, although the linear growth rate has exhibited a mixed trends of positive and negative growth with varying magnitude.

Growth of paid-up share capital along with the share of Government presented in Table 3 reveals that the paid-up share capital has grown up in successive years with exception in some years which is clearly reflected in the CAGR accounting 0.782%. But the Govt. share has declined continuously from Rs.9042 lakhs in 2002-03 to Rs.7328 lakhs in 2018-19 with a compound rate of - 0.746%.

The linear growth of Reserves and total deposits exhibit rising trend in successive years with few exceptions in some years where it is found to be negative. The CAGR of reserve funds is estimated to be as small as 0.038, but the PACS have shown outstanding performance in deposit mobilization by registering a CAGR of 7.155%.

The growth of total borrowings and total working capital reflecting the sum of share capital, reserves, deposits and total borrowing represented in Table 5 exhibits that the total borrowing and these two financial indicators have steadily increased over the years with

**Table 1: Growth of total and viable number of PACS in West Bengal during 2002-2019**

Year	N0. of PACS	AGR	Viable	AGR
2002-03	19,333	-	12,157	-
2003-04	18,888	-0.023	11,937	-0.018
2004-05	18,956	0.004	12,065	0.011
2005-06	18,780	-0.009	11,923	-0.012
2006-07	8,077	-0.570	3,995	-0.665
2007-08	8,061	-0.002	8,061	1.018
2008-09	8,028	-0.004	3,960	-0.509
2009-10	8,026	-0.0002	4,072	0.028
2010-11	7,007	-0.127	3719	-0.087
2011-12	7,962	0.136	4291	0.154
2012-13	7,402	-0.070	4529	0.055
2013-14	7,482	0.011	4037	-0.109
2014-15	7,372	-0.015	3929	-0.027
2015-16	7,504	0.018	4841	0.232
2016-17	7905	0.053	4753	-0.018
2017-18	7893	-0.002	4370	-0.081
2018-19	8052	0.020	5365	0.228
CAGR%=-6.013		t-stat =- 4.808*	CAGR%=- 7.358	t-stat = - 4.829*

\*1% significance level, \*\* 5% significance level, \*\*\*10% significance level.

**Table 2: Growth of membership and borrowers of PACS in West Bengal during 2002-2019 (in thousand)**

Year	Total members	AGR	Total borrowers	AGR
2002-03	17,695	-	5,150	-
2003-04	17,522	-0.010	5,122	-0.005
2004-05	17,895	0.021	5,176	0.011
2005-06	17,872	-0.001	5,386	0.041
2006-07	11,844	-0.337	5,332	-0.010
2007-08	16,573	0.399	8,839	0.658
2008-09	16,880	0.019	5,274	-0.403
2009-10	17,228	0.021	8,447	0.602
2010-11	11,370	-0.340	4,970	-0.412
2011-12	12,172	0.070	5,310	0.068
2012-13	12,193	0.002	5,239	-0.013
2013-14	11,894	-0.025	5,608	0.070
2014-15	13,756	0.157	5,509	-0.018
2015-16	11,673	-0.151	5,436	-0.013
2016-17	15,345	0.315	5,261	-0.032
2017-18	17,384	0.133	5,267	0.001
2018-19	14,945	-0.140	5,137	
CAGR% = -2.798	t-stat = -4.635*		CAGR% = -0.435	t-stat = -0.513**

\*1% significance level, \*\* 5% significance level, \*\*\*10% significance level.

CAGR of 1.222 and 2.485% respectively although, there are some deviations in few years. It also shows that nearly 50% of the working capital of PACS of the state comes from the external sources in the form of borrowing which indicates the high dependence of PACS on the external funds in spite of achieving high growth in deposit

mobilization. Haryana's communities were also heavily reliant on foreign income sources during the research period (Kumar and Mehta, 2018).

The loan advanced and total outstanding have increased continuously with CAGR of 0.027 and 3.883% respectively over the entire study period, although the

**Table 3: Growth of share capital along with Govt. share of PACS in West Bengal during 2002-19 (Rs. in Lakhs)**

Year	Paid up share capital	AGR	Govt. share capital contribution	AGR
2002-03	28,436	-	9042	-
2003-04	28,038	-0.014	8939	-0.011
2004-05	28,780	0.026	9097	0.018
2005-06	29,149	0.013	8882	-0.024
2006-07	25,041	-0.141	6303	-0.290
2007-08	25,087	0.002	6234	-0.011
2008-09	24,874	-0.008	6433	0.032
2009-10	25,388	0.021	6439	0.001
2010-11	24,702	-0.027	6031	-0.063
2011-12	28,222	0.142	6651	0.103
2012-13	27,779	-0.016	6780	0.019
2013-14	27,293	-0.017	6210	-0.084
2014-15	29,475	0.080	6855	0.104
2015-16	30,505	0.035	7138	0.041
2016-17	28,381	-0.070	6845	-0.041
2017-18	28,490	0.004	6792	-0.008
2018-19	32,463	0.139	7328	0.079
CAGR% = 0.782 t-stat = -4.635**		CAGR% = -0.746 t-stat = -3.701*		

\*1% significance level, \*\* 5% significance level,\*\*\*10% significance level.

**Table 4: Growth rates of reserves funds of primary agriculture cooperative societies in West Bengal during 2002-2019(Rs. in Lakhs)**

Year	Reserves	AGR	Total deposits	AGR
2002-03	86,126	-	81,046	-
2003-04	86,174	0.001	84,216	0.039
2004-05	91,097	0.057	89,761	0.066
2005-06	87,232	-0.042	88,973	-0.009
2006-07	87,455	0.003	1,00,811	0.133
2007-08	87,840	0.004	1,08,758	0.079
2008-09	87,928	0.001	1,12,492	0.034
2009-10	88,162	0.003	1,30,123	0.157
2010-11	89,301	0.013	1,41,870	0.090
2011-12	91,886	0.029	1,96,041	0.382
2012-13	90,755	-0.012	1,89,104	-0.035
2013-14	92,524	0.019	1,90,205	0.006
2014-15	89,316	-0.035	1,95,713	0.029
2015-16	89,457	0.002	1,92,306	-0.017
2016-17	89,978	0.006	2,04,182	0.062
2017-18	89,404	-0.006	2,08,036	0.019
2018-19	90,945	0.017	2,10,071	0.010
CAGR% = 0.038 t-stat = 1.431**		CAGR% = 7.155 t-stat = 13.234*		

\*1% significance level, \*\* 5% significance level,\*\*\*10% significance level.

**Table 5: Growth rates of borrowings of primary agriculture cooperative societies in West Bengal during 2002-2019 (Rs. in Lakhs)**

Year	Total borrowings	AGR	Working capital	AGR
2002-03	1,67,424	-	3,55,114	-
2003-04	1,63,129	-0.026	3,60,470	0.015
2004-05	1,64,507	0.008	3,68,954	0.024
2005-06	1,69,191	0.028	3,67,807	-0.003
2006-07	1,49,108	-0.119	3,59,250	-0.023
2007-08	1,53,132	0.027	3,68,298	0.025
2008-09	1,52,882	-0.002	3,69,049	0.002
2009-10	1,56,616	0.024	3,90,915	0.059
2010-11	1,56,351	-0.002	3,97,185	0.016
2011-12	1,88,664	0.207	4,86,785	0.226
2012-13	1,79,940	-0.046	4,62,971	-0.049
2013-14	1,84,971	0.028	4,72,568	0.021
2014-15	1,80,617	-0.024	4,75,928	0.007
2015-16	1,81,365	0.004	4,64,302	-0.024
2016-17	1,87,842	0.036	4,86,362	0.048
2017-18	1,90,440	0.014	4,93,578	0.015
2018-19	1,92,335	0.010	4,95,735	0.004

CAGR% = 1.225 t-stat = 4.059\* CAGR% = 2.485 t-stat = 9.696\*

\*1% significance level, \*\* 5% significance level \*\*\*10% significance level.

**Table 6: Growth rates of loans issued and outstanding of PACS in West Bengal during 2002-2019 (Rs. in Lakhs)**

Year	Total Loan issued	AGR	Total loan outstanding	AGR
2002-03	1,32,937	-	1,56,338	-
2003-04	1,25,612	-0.055	1,50,096	-0.040
2004-05	1,33,134	0.060	1,53,804	0.025
2005-06	1,33,451	0.002	1,61,021	0.047
2006-07	1,40,288	0.051	1,57,285	-0.023
2007-08	1,38,540	-0.012	1,72,991	0.100
2008-09	1,38,598	0.000	1,70,006	-0.017
2009-10	1,47,184	0.062	1,79,470	0.056
2010-11	1,32,278	-0.101	1,55,493	-0.134
2011-12	1,67,301	0.265	2,39,999	0.543
2012-13	1,68,157	0.005	1,90,484	-0.206
2013-14	1,79,707	0.069	1,93,564	0.016
2014-15	1,69,221	-0.058	1,94,613	0.005
2015-16	1,76,839	0.045	1,99,272	0.024
2016-17	1,84,401	0.043	2,01,684	0.012
2017-18	1,87,626	0.017	2,03,033	0.007
2018-19	1,89,362	0.009	2,05,236	0.011

CAGR% = -0.746 t-stat = 10.293\* CAGR% = 3.883 t-stat = 4.884\*

**Table 7: Growth rates of total collection of loans and overdue of the PACS in West Bengal during 2002 – 2019**

Year	Total collection	AGR	Total overdue	AGR
2002-03	93,622	-	98,901	-
2003-04	88,474	-0.055	95,365	-0.036
2004-05	91,736	0.037	96,333	0.010
2005-06	1,02,869	0.121	66,311	-0.312
2006-07	1,07,954	0.049	69,086	0.042
2007-08	1,06,954	-0.009	59,736	-0.135
2008-09	1,15,032	0.076	78,064	0.307
2009-10	1,16,393	0.012	70,167	-0.101
2010-11	1,04,886	-0.099	70,295	0.002
2011-12	1,39,555	0.331	76,858	0.093
2012-13	1,34,608	-0.035	76,291	-0.007
2013-14	1,37,640	0.023	75,623	-0.009
2014-15	1,46,500	0.064	76,894	0.017
2015-16	1,43,464	-0.021	76,464	-0.006
2016-17	1,49,680	0.043	76,226	-0.003
2017-18	1,53,517	0.026	78,736	0.033
2018-19	1,52,602	-0.006	76,736	-0.025

**CAGR% = 3.533 t-stat =12.233\* CAGR% = -0.746 t-stat =-1.168\*\***

\*1% significance level, \*\* 5% significance level,\*\*\*10% significance level.

**Table 8: Tri-annual average of physical performance indicators of the primary agricultural cooperative credit societies in West Bengal during 2002 – 2019**

Particulars	Number of PACS	Viable	Total members	Total borrowers
<b>1st Triennial average (2002-03 to 2004-05)</b>	19,059	12,053	17,704	5,149
<b>Last Triennial average (2016-17 to 2018-19)</b>	7,950	4,829	15,891	5,222
<b>Percentage change</b>	-58.29	-59.93	-10.24	1.40

linear growth shows negative values in some years (Table 6). The same for total collection and overdue are estimated to be 3.533 and -0.746% respectively (Table 7).

Table 8 represents the change in the magnitude of the physical parameters over the entire study period which reveals that the PACS of the state has performed miserably by witnessing a reduction in number of PACS and viable PACS and total membership to the tune of 58.29, 59.93 and 10.24% respectively. Only the borrowing members has registered a positive, but marginal increment over the period triennium ending 2004-05 and 2018-18 accounting 1.40 %.

The performance of PACS in terms of financial parameters is observed to highly encouraging which is quite evident from the estimated percentage change (Table-9). In spite of reduction of the Govt. share by 28.38% in the share capital, total the paid-up have increased by 4.79% and the reserves and total deposits

have grown up by 53.04 and 143.31% respectively. The total borrowings have moved from Rs.165 crores T.E. in 2004-05 to Rs.190.21crores accounting 14.88%. The cumulative effect has pushed the working capital to register an increase of 35.87% over the period. Total loan outstanding and collection have also increased by 32.05 and 66.79%, whereas the overdue has come down by 20.85% indicating the improved performance of the PACS during the study period as the problem of loan overdue is matter of serious concern, as it affects the recycling of funds and credit expansion on the one hand and economic viability of the lending institutions, especially the cooperatives and the Regional Rural Banks, on the other (Majumder *et al.*, 2014).

#### PROBLEMS

The Co-operative movement was initiated in the country including West Bengal with a view to supplying agricultural credit at a cheaper rate to the farmers. Now

**Table 9: Tri-Annual average of financial performance indicators of the Primary Agricultural Cooperative Credit societies in West Bengal during 2002 – 2019 (Rs. in lakhs)**

Particulars	Paid up share capital	Government Share of Capital	Reserves	Total Deposit	Total Borrowings	Working Capital	Total Loan issued	Total Loan Outstanding	Total Collection	Total Overdue
<b>1st Triennial Average (2002-03 to 2004-05)</b>	28,418	9,026	87,799	85,008	1,65,020	3,61,513	1,30,561	1,53,413	91,277	96,866
<b>Last Triennial Average (2016-17 to 2018-19)</b>	29,778	6,988	90,109	2,07,430	1,90,206	4,91,892	1,87,130	2,03,318	1,51,933	77,233
<b>Percentage change</b>	4.79	-28.38	53.04	143.21	14.88	35.87	42.88	32.05	66.79	-20.85

it has been diversified and has taken roots in all aspects of economic activity like processing, marketing, banking, farming and also other social welfare activities in rural as well as urban areas. Cooperative law is the backbone of the co-operative movement and the success of the co-operative law depends more on its implementation than the interpretation of its clauses in the law courts. The amended West Bengal Co-Operative Society Act reflects the genuine desire of the State Government for placing the co-operative movement on a sound footing, and its provision will help the weaker sections to derive advantage of the facilities being offered by co-operatives in the state. But the co-operatives in the state have been facing problems. The main limitations of the cooperative system are: a) overuse issues, b) insensitive management, c) vested interests' dominance of co-operatives, d) a lack of resources, e) a lack of effort to organize deposits, f) unskilled staff, g) certain policies and procedures followed that are not appropriate for the local environment, and h) weak arrangements for linking credit with marketing.

#### SUGGESTIONS

PACS executives must take a serious part in recovering dues because late is producing a big worry in their performance. In order to bring in strong ideas to streamline PACS' operations, the board of directors must be more responsible (perform better). Members should participate more actively in general body meetings and assist with PACS operations. Executives must be more open about their business dealings so that all members of society are informed of what is going on. The application of the rule of law to all elements of PACS's business must be stricter in concept. Executives must take a more active role in putting board decisions into action. Borrowing has to be brought to the minimum so that owned funds can be reached. The societies have to create more benefits to the members so that an interest is created in members by the management. There should be no outside control in the decision-making process of the board. There should not be any infringement upon the powers of the board in the cooperative act. The board member and the executive should be trained in all aspects of management. Executives should be technically competent and managerially in line with the complexity of function to be perform. The cooperatives shall keep in place risk management policy fully disseminated to the employees. The board of director shall ensure that the society complies with all statutory and legal requirements together with cooperative values and prescribe codes of best practices. Board of directors should provide guidance for long term and short-term planning. The board of directors should be independent non-executive directors. The board of directors should

have created effective and continuing communication between all levels of the organization and stakeholders. Members should have timely and intelligible access to relevant and essential information so that they may analyze and comment on it. The societies should retain up to current information, particularly in respect to the society's records and accounts. They should not put off auditing the societies since this leads to poor governance.

## CONCLUSION

The performance of West Bengal's PACS over the research period appears to be unimpressive in terms of physical criteria, with the exception of the number of borrowing members, although the state has showed signs of progress in terms of financial indicators. Cooperative societies used to have a major role in agricultural finance, but their diminishing proportion of rural credit, which is currently around 11%, has created some uncomfortable questions regarding their functioning and governance, which must be overcome if they are to reclaim their former glory. Proper execution of the suggestions/recommendations provided by different Government Committees, as well as the functioning of the system, may be of considerable assistance in improving financial health and developing cooperative societies in the real meaning of the term.

## REFERENCES

Bansal, S.N., Budhedeo, S.H. and Thakkar, G. 2012. Reforms in Rural Credit Cooperatives in India. *IOSR J. Business Managmt.*, **4**(3): 42.  
Gadgil, M. V. 1994. Formal agricultural credit system in India: Shape of things to come. *Indian J. Agric. Eco.*, **49**(902-2018-3309): 476-490.

Khusro, A.M. 1989. Report of the Agricultural Credit Review Committee. Reserve Bank of India: 197-198  
Kumar, M. and Mehta, V.P. 2018. Performance and Prospects of Primary Agricultural Credit Societies (PACS) in Haryana during 2000-01 to 2014-15. *Int. J. Curr. Microbiol. App. Sci.*, **7**(4): 20-32  
Mazumder, R., Chakravarty C. and Bhandari A. K. 2014. Performance of Primary Agriculture Credit Societies in India: An Assessment, Discussion Paper No. 8294  
Patra, R.N. and Agasty, M.P. 2013. Cooperatives, Agriculture and Rural Development: Role, Issues and Policy Implications. *International Organization of Scientific Research (IOSR) J. Humanities and Social Sci.*, **13**(2): 14-25.  
Pawar, B., Unde, R., Mane, A. and Deshpande, P. 2011. Agricultural credit through cooperative society. *J. Agric. Eco.*, **2**(2): 11-17.  
Prakash, B. 2001. Performance of primary agricultural co-operative credit societies in India. *Indian J. Agric. Eco.*, **56**(3), 487.  
Prasad, A. 2006. Recovery Performance and Overdues of Selected PACS in West Godavari District of Andhra Pradesh. *Indian Cooperative Review*, **43**(4): 711-718.  
Pujari, A. A. 2008. *Performance of primary agricultural cooperative credit societies in Haryana and Karnataka* (Doctoral dissertation, CCSHAU).