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**SOME ASPECTS OF INTER-STATE AND INTRA-STATE
VARIATIONS IN THE FLOW OF INSTITUTIONAL
AGRICULTURAL CREDIT**

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The advent of modern farm technologies has contributed to widening disparities in income between different regions and between different categories of farmers. There are so many factors responsible for this development. Availability of fund for investment in agriculture and access to various institutional lending agencies are, *prima facie*, factors through which disparity in income distribution may develop. An attempt is made in this exercise to estimate the extent of inter-State and intra-State variations in the distribution of institutional credit and to offer a few suggestions to eliminate the imbalances in the distribution of agricultural credit. Secondary data on institutional agricultural credit from Statistical Statements Relating to the Co-operative Movement in India and Review of the Co-operative Movement in India published by National Bank for Agriculture and Rural Development (NABARD) were mainly relied upon for this purpose. Availability of loans to members from Primary Agricultural Co-operative Society (PACS) refers to the years 1978-79 to 1981-82. The data for the years after 1981-82 are not available. Operational size-groupwise distribution of loans from PACS was available for the years 1976-77 to 1979-80. Similar data for the years before 1976-77 and after 1979-80 are not available. Various dispersion measures and concentration ratios were estimated for almost all the States of the country. The source of information is properly indicated in appropriate places. The results of the analysis are presented below.

INTER-STATE VARIATION IN FLOW OF AGRICULTURAL LOAN FROM PACS

Inter-State variations in the flow of agricultural loan have been highlighted through the extent of variability in the average loan advanced per borrowing member from PACS of the different States of India over the period 1978-79 to 1981-82 and are presented in Table I. There were large inter-State variations in the average loan per borrowing member over the four-year period. The average loan per borrowing member varied among the States from Rs. 149 to Rs. 2,050 in 1978-79, from Rs. 149 to Rs. 2,137 in 1979-80, from Rs. 77 to Rs. 1,987 in 1980-81 and from Rs. 102 to Rs. 2,713 in 1981-82. For all the 18 States together the average loan per borrowing member increased over the four-year period with a slight fall in 1981-82. Mean value of loan per borrowing member for all the 18 States together for each of these

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TABLE I. VARIATIONS IN LOANS ADVANCED PER BORROWING MEMBER FROM PACS AMONG THE STATES DURING 1978-79 TO 1981-82

Sr. No.	States	Loan per borrowing member (Rs.) from PACS				Exponential growth rate (per cent)
		1978-79	1979-80	1980-81	1981-82	
	(1)	(2)	(3)	(4)	(5)	(6)
1.	Andhra Pradesh ..	642	711	838	836	+9.58
2.	Assam	591	394	357	256	-26.06
3.	Bihar	149	149*	77	102	-18.00
4.	Gujarat	2,050	2,137	1,987	2,682	+ 7.30
5.	Haryana	1,603	1,624	1,921	2,327	+ 9.00
6.	Himachal Pradesh ..	570	633	743	780	+11.05
7.	Jammu & Kashmir ..	368	226	226†	226†	-14.65
8.	Karnataka	1,102	1,393	1,578	1,917	+17.89
9.	Kerala	1,036	1,128	1,405	1,477	+12.70
10.	Madhya Pradesh ..	984	1,082	1,037	1,132	+ 3.82
11.	Maharashtra	1,190	1,373	1,727	1,940	+17.06
12.	Orissa	639	759	776	1,110	+16.79
13.	Punjab	1,145	1,548	1,740	2,713	+27.01
14.	Rajasthan	644	714	820	905	+ 5.04
15.	Tamil Nadu	498	261	197	584	+ 0.84
16.	Tripura	333	280	381	171	- 7.32
17.	Uttar Pradesh	551	626	611	728	+ 8.19
18.	West Bengal	583	457	589	588	+ 2.76
	Range	149 — 2,050	149 — 2,137	77 — 1,987	102 — 2,713	
	Mean	815.44	860.82	1,137.44	1,131.00	
	S.D.	476.23	568.71	851.06	845.83	
	C.V. (%)	58.70	66.06	74.82	74.73	
	S.D. of log	0.344	0.343	0.452	0.436	

Source: Loan per borrowing member is collected from NABARD; Review of the Co-operative Movement in India, 1978-82, Bombay, 1987, p. 238.

* Data relate to 1978-79.

† Data relate to 1979-80.

four years was Rs. 815.44, Rs. 860.82, Rs. 1,137.44 and Rs. 1,131.88 respectively. The standard deviation (S.D.), and the coefficient of variation (C.V.) calculated for the distribution of agricultural loan per borrowing member for the 18 States during the four years reveal that the dispersion about the arithmetic mean relative to arithmetic mean increased over the years with a slight fall in 1981-82. The standard deviation of logarithms also revealed the same trend.

The distribution of States according to the size-group of loans per borrowing member over the period under reference was analysed. The States falling in the size-group of loans of above Rs. 1,000 per borrowing member were Gujarat, Haryana, Punjab, Maharashtra, Kerala, Karnataka and also Madhya Pradesh during all the years under reference. The States which advanced loans only up to Rs. 500 per borrowing member were Bihar, Tamil Nadu, Tripura, Jammu & Kashmir and Assam during the period under reference. In Bihar and also in Tamil Nadu and Tripura in some of the years loans per borrowing member were less than Rs. 200 and in some cases even less than Rs. 100. The States falling in the size-group of loan of Rs. 500 to Rs. 1,000 per borrowing member were Andhra Pradesh, Himachal Pradesh, Orissa, Rajasthan, Uttar Pradesh and West Bengal. Orissa improved its position in the later year. The loan per borrowing member was above Rs. 2,500 in Punjab and Gujarat in 1981-82. In Kerala the loan per borrowing member was within the range of Rs. 1,000 to Rs. 1,500. The amount of loan per borrowing member was found to be lower in the agriculturally less developed areas whereas higher amount of loan per borrowing member was concentrated in some of the agriculturally developed regions and in regions where the co-operative movement is strong.

The rate of growth of loan per borrowing member over the four-year period for each State is also estimated and is presented in Table I. The rate of growth of loan per borrowing member was the highest in Punjab at 27 per cent, followed by Karnataka (17.89 per cent), Maharashtra (17 per cent), Orissa, etc. Negative growth rate was observed in States like Assam, Bihar, Jammu & Kashmir and Tripura.

RELATIONSHIP BETWEEN PROPORTION OF BORROWING MEMBERS AND AVERAGE LOAN PER BORROWING MEMBER

It is worthwhile in this context to relate the average loan per borrowing member with the coverage of the States in terms of the proportion of members receiving loans. The percentage of borrowing members to the total membership in the different States is presented in Table II. Substantial differences in the percentage of borrowing members were observed among the States. It varied from 0.9 per cent in Assam to 65.4 per cent in Punjab during 1978-79, from 1.4 per cent in Assam to 73.4 per cent in Punjab in 1979-80, from 1.9 per cent in Assam to 69 per cent in Punjab in 1980-81 and from 1.7 per cent in Assam to 60 per cent in Punjab in 1981-82. Rank correlation between the proportion of borrowing members and average size of loan per borrowing

TABLE II. PERCENTAGE OF BORROWING MEMBERS TO TOTAL MEMBERSHIP AND NUMBER OF BORROWING MEMBERS

Sr. No.	States	Percentage of borrowing members				Borrowing members (in thousands)			
		1978-79	1979-80	1980-81	1981-82	1978-79	1979-80	1980-81	1981-82
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1.	Andhra Pradesh ..	30.7	29.0	28.1	20.7	1,494	1,528	1,549	1,655
2.	Assam ..	0.9	1.4	1.9	1.7	22	33	42	39
3.	Bihar ..	36.1	36.1*	39.9	48.0	1,662	1,662*	2,160	2,719
4.	Gujarat ..	40.2	38.9	35.6	38.4	740	723	669	701
5.	Haryana ..	58.4	52.0	56.9	54.4	617	569	649	651
6.	Himachal Pradesh ..	20.1	16.8	17.6	17.4	114	98	105	109
7.	Jammu & Kashmir ..	19.1	39.3	39.3†	39.3†	76	164	164†	164†
8.	Karnataka ..	21.6	18.7	18.7	16.5	718	662	690	627
9.	Kerala ..	43.0	42.0	39.5	34.7	1,358	1,500	1,493	1,621
10.	Madhya Pradesh ..	30.2	32.6	35.0	33.0	912	1,071	1,254	1,297
11.	Maharashtra ..	26.4	24.9	26.8	27.9	1,356	1,296	1,447	1,557
12.	Orissa ..	29.2	36.7	36.7	25.9	643	826	866	627
13.	Punjab ..	65.4	73.4	69.0	60.2	1,066	1,280	1,142	1,044
14.	Rajasthan ..	41.5	40.5	37.7	41.5	1,117	1,227	1,280	1,496
15.	Tamil Nadu ..	50.1	52.8	46.6	44.7	2,458	2,624	2,354	2,380
16.	Tripura ..	13.2	17.6	13.5	18.7	15	25	21	35
17.	Uttar Pradesh ..	40.7	42.3	35.6	33.5	3,239	3,479	3,090	3,040
18.	West Bengal ..	49.4	39.7	30.2	30.5	1,098	910	698	730
	Rank correlation between loan per borrowing member and percentage of borrowing members	0.325	0.177	0.097	0.40				

Source: NABARD: Review of the Co-operative Movement in India, 1978-82, *op. cit.*, p. 236

* Data relate to 1978-79.

† Data relate to 1979-80.

member in the States showed insignificant positive relationship. In the States like Punjab, Haryana and also Kerala a higher average value of loan per borrowing member was associated with a higher proportion of members receiving loans. In the States like Bihar, Tamil Nadu, etc., a lower average value of loan per borrowing member, on the other hand, was associated with a higher proportion of borrowing members.

When the loan per borrowing member is compared with the total number of borrowing members in the respective States (cols. 6 to 9 in Table II), a different picture emerged. The higher amount of loan per borrowing member in the States like Gujarat, Haryana, Karnataka and Orissa was due to lesser number of borrowing members in those States, whereas in States like Bihar, Tamil Nadu, Uttar Pradesh, Andhra Pradesh, Rajasthan, etc., the lower amount of loan per borrowing member was associated with a significantly higher number of borrowing members in those States. The number of borrowers in each of the former group of States was less than half of each of the latter States. Punjab, Kerala and Madhya Pradesh were the States where a larger amount of loan per borrowing member and a larger number of borrowing members existed side by side. Thus it appears that the disparity in the distribution of loans arises as some of the States accounted for a larger share of total loan than what the proportion of their borrowing members permitted. This is highlighted in Table III where the number of borrowing members in each State is juxtaposed with the amount of loan the individual State accounted for. The States like Bihar, Uttar Pradesh, Tamil Nadu, Andhra Pradesh, West Bengal, etc., continued to account for a lesser proportion of loan than what ought to be on the basis of their relative weightage of borrowing members out of total borrowing members in the country, and the opposite was true of the States like Gujarat, Haryana, Kerala, Karnataka, Maharashtra, Punjab, etc., during 1978-79 and 1981-82.

When the flow of short-term agricultural credit and investment credit from co-operatives, commercial banks and Regional Rural Banks (RRBs) combined for the year 1982-83 were considered (Table IV), it was noted that the States like Tamil Nadu, Andhra Pradesh, Uttar Pradesh, etc., had improved their position so far as the proportion of such loans accounted for by these States was concerned. This indicated that the commercial banks and RRBs were instrumental in balancing the regional disparity in the flow of credit arising out of unequal growth of the co-operative movement.

The probable reason for the States accounting for larger proportions of loans from PACS may be that they catered to the needs also of medium and long-term loans besides short-term loan. But the purposewise distribution of term loans presented in Table V for the year 1979-80 failed to establish the fact that the States accounting for a larger proportion of loan from PACS were associated with a higher proportion of medium and long-term loans. Rather an opposite trend was noticed, *i.e.*, a higher proportion of medium-term loan, particularly, was mostly associated with the States accounting for a smaller proportion of loans from PACS. Moreover, of the medium-term loans, a significant proportion was accounted for by loans for animal husbandry activities like poultry, milch cattle, sheep rearing, goat rearing and pig breeding. The number of States adopting all the animal husbandry activities increased from 4 to 7 and those adopting more than two activities from 13 to 17 between 1976-77 and 1979-80.

TABLE III. DISTRIBUTION OF BORROWING MEMBERS AND SHARE OF LOAN ISSUED IN DIFFERENT STATES DURING 1978-79 AND 1981-82

Sr. No.	States	1978-79		1981-82	
		Percentage of borrowing members to total number of borrowing members	Share of total loan issued (per cent)	Percentage of borrowing members to total number of borrowing members	Share of total loan issued (per cent)
(1)	(2)	(3)	(4)	(5)	
1.	Andhra Pradesh ..	7.99	6.60	8.07	6.23
2.	Assam	0.12	0.09	0.20	0.04
3.	Bihar	8.88	1.70	13.27	1.25
4.	Gujarat	3.96	10.43	3.42	8.47
5.	Haryana	3.30	6.80	3.18	6.83
6.	Himachal Pradesh ..	0.61	0.45	0.53	0.38
7.	Jammu & Kashmir	0.41	0.19	0.80	0.17
8.	Karnataka	3.84	5.44	3.05	5.41
9.	Kerala	7.26	9.67	7.91	10.80
10.	Madhya Pradesh ..	4.87	6.17	6.33	6.61
11.	Maharashtra ..	7.25	11.10	7.60	13.61
12.	Orissa	3.44	2.82	3.05	3.13
13.	Punjab	5.70	8.40	5.10	12.76
14.	Rajasthan	5.97	4.94	7.30	6.10
15.	Tamil Nadu ..	13.14	8.42	11.61	6.27
16.	Tripura	0.08	0.03	0.17	0.03
17.	Uttar Pradesh ..	17.31	12.35	14.84	9.97
18.	West Bengal ..	5.87	4.40	3.56	1.93
	Total number of borrowing members ('000)	18,705 (100.0)		20,492 (100.0)	
	Total loan issued .. (Rs. crores) ..		1,454.6 (100.0)		2,219.4 (100.0)

Source: Computed from NABARD; Review of the Co-operative Movement in India, 1978-82, op. cit., pp. 236 and 238.

TABLE IV. DISTRIBUTION OF FLOW AND STOCK OF SHORT-TERM AGRICULTURAL CREDIT AND INVESTMENT CREDIT FROM CO-OPERATIVES, COMMERCIAL BANKS AND REGIONAL RURAL BANKS COMBINED IN NOMINAL TERMS DURING 1982-83

Sr. No.	States	Percentage short-term agricultural credit to the total	Percentage of investment credit to the total
(1)		(2)	(3)
1.	Haryana	6.71	4.56
2.	Himachal Pradesh	0.15	2.34
3.	Jammu & Kashmir	0.21	0.50
4.	Punjab	8.99	6.99
5.	Rajasthan	4.16	7.25
6.	Assam	0.08	0.50
7.	Bihar	1.40	4.37
8.	Orissa	3.63	3.72
9.	West Bengal	1.94	1.85
10.	Madhya Pradesh	5.58	5.70
11.	Uttar Pradesh	9.07	13.39
12.	Gujarat	5.90	8.46
13.	Maharashtra	13.01	9.35
14.	Andhra Pradesh	9.83	10.37
15.	Karnataka	7.33	7.77
16.	Kerala	11.67	6.55
17.	Tamil Nadu	9.85	2.65
	All-India (Rs. crores)	2,597.7 (100.00)	1,740.10 (100.00)

Source: Computed from M.V. Gadgil, "Agricultural Credit in India: A Review of Performance and Policies", *Indian Journal of Agricultural Economics*, Vol. XLI, No. 3, Part I, July-September 1986, pp. 286 and 289.

TABLE V. PURPOSEWISE DISTRIBUTION OF LOAN AMONG STATES DURING 1979-80

(per cent)

Sr. No.	States	Short-term loan	Medium-term loan	Long-term loan	Percentage of medium-term loan disbursed for animal husbandry activities out of the total loan
(1)		(2)	(3)	(4)	(5)
1.	Andhra Pradesh ..	87.36	12.64	—	2.95
2.	Assam	98.05	1.95	—	0.53
3.	Bihar	84.36	15.64	—	—
4.	Gujarat	89.39	10.61	—	0.60
5.	Haryana	87.25	12.75	—	3.28
6.	Himachal Pradesh	33.66	66.34	—	1.49
7.	Jammu & Kashmir	83.00	13.67	3.33	5.79
8.	Karnataka	87.78	12.18	0.04	4.70
9.	Kerala	76.56	21.55	1.89	1.67
10.	Madhya Pradesh ..	69.05	30.95	—	0.39
11.	Maharashtra	92.79	6.64	0.57	2.17
12.	Orissa	65.47	34.53	—	2.96
13.	Punjab	99.58	0.42	—	0.19
14.	Rajasthan	79.23	20.64	0.13	5.93
15.	Tamil Nadu	91.42	8.08	—	5.39
16.	Tripura	69.99	30.01	—	—
17.	Uttar Pradesh ..	67.72	32.28	—	4.66
18.	West Bengal	91.73	8.27	—	0.13

Source: Computed from NABARD: Statistical Statements Relating to the Co-operative Movement in India, 1979-80, Part I: Credit Societies, Bombay, 1983, pp. 140-144.

INTRA-REGIONAL VARIATIONS IN THE DISTRIBUTION OF CREDIT

The distribution of loans according to operational size-group of farms for different States for the year 1976-77 and 1979-80 was analysed to find out the intra-regional variations (or inter-farm variations) in the distribution of agricultural credit, based on data contained in the Statistical Statements Relating to the Co-operative Movement in India. The number of borrowers in each size-group and their corresponding amount of loans along with the value of Gini coefficient of concentration for individual States and for India

TABLE VI. GINI RATIOS FOR DISTRIBUTION OF PACS LOANS AMONG DIFFERENT OPERATIONAL SIZE-GROUPS OF FARMS

Sr. No.	States	1976-77	1979-80
	(1)	(2)	(3)
1.	Gujarat	0.312	0.389
2.	Maharashtra	0.339	0.261
3.	Madhya Pradesh	0.333	0.258
4.	Rajasthan	0.255	0.282
5.	Uttar Pradesh	0.366	0.161
6.	Assam	—	0.004
7.	Bihar	—	0.240
8.	Orissa	0.242	0.173
9.	Tripura	—	—
10.	West Bengal	0.231	0.194
11.	Haryana	0.075	0.054
12.	Himachal Pradesh	0.166	0.057
13.	Jammu & Kashmir	0.132	0.413
14.	Punjab	0.010	0.115
15.	Andhra Pradesh	0.093	0.118
16.	Karnataka	0.146	0.231
17.	Kerala	0.256	0.108
18.	Tamil Nadu	0.215	0.306
	All-India	0.276	0.229

Computed from data in Reserve Bank of India/NABARD: Statistical Statements Relating to the Co-operative Movement in India, 1976-77 and 1979-80, Part I: Credit Societies, Bombay, 1978 and 1983, pp. 154-156 and pp. 151-154.

as a whole were worked out. The values of Gini coefficient of concentration presented in Table VI reflect the degree of inequality in intra-regional variation in the distribution of credit between 1976-77 and 1979-80. The Gini concentration ratio was higher in the States like Maharashtra, Madhya Pradesh, Uttar Pradesh, Kerala, etc., in 1976-77 and these values declined during 1979-80 except in Gujarat, Rajasthan, Punjab, Andhra Pradesh, Karnataka and Jammu & Kashmir. Between 1976-77 and 1979-80, an increase in inequality was observed in Tamil Nadu and Jammu & Kashmir, the latter State recording the highest inequality in 1979-80 and a decline in inequality in Orissa, West Bengal and Himachal Pradesh.

CONCLUSION

It is thus evident from the above discussion that there were large inter-State variations in the distribution of loans from PACS. The amount of loan per borrowing member was lower in the agriculturally less developed areas whereas it was higher in some of the agriculturally developed regions and in regions with strong co-operative movement. The disparity in the distribution of loans arose because some of the States accounted for a larger share of total loans than what the proportions of their borrowing members permitted. Loans from commercial banks and RRBs helped to balance the regional disparity in the flow of credit arising out of unequal growth of co-operative movement. The extent of medium and long-term loans was not very much significant in States that accounted for a higher proportion of total loans. Substantial increase in loans from co-operatives for undertaking animal husbandry activities among the States was observed during 1976-77 to 1979-80. The degree of inequality in the distribution of loans from PACS among the size-groups of farmers decreased in the States like Maharashtra, Madhya Pradesh, Uttar Pradesh, Kerala, Orissa, West Bengal and Himachal Pradesh and increased in Gujarat, Rajasthan, Tamil Nadu, Jammu & Kashmir, Punjab and Andhra Pradesh during the same period.

It is, therefore, suggested that disbursement of loans to States by NABARD (RBI) should be made in accordance with their relative weightage in total borrowing members and on the basis of extent of medium and long-term loans covered by the States. Fixing of credit limit at variable proportion among the different size-groups of farmers will help to eliminate intra-State or inter-farm differences in the distribution of agricultural credit. Activities of commercial banks and RRBs should be extended to eliminate the imbalance in the distribution of credit arising out of unequal growth of co-operative movement within the country.