AgEcon SEARCH
RESEARCH IN AGRICULTURAL & APPLIED ECONOMICS

The World's Largest Open Access Agricultural & Applied Economics Digital Library

This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.

Help ensure our sustainability.

Give to AgEcon Search

AgEcon Search
http://ageconsearch.umn.edu
aesearch@umn.edu

*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*

Vol XLI
No. 4

ISSN 0019-5014

CONFERENCE NUMBER

INDIAN JOURNAL OF AGRICULTURAL ECONOMICS

PART II
OCTOBER-DECEMBER
1986

INDIAN SOCIETY OF AGRICULTURAL ECONOMICS, BOMBAY

Ind. Jn. of Agri. Econ.
Vol. 41, No. 4, Oct.-Dec. 1986

(b) Credit

AGRICULTURAL INVESTMENT AND REGIONAL IMBALANCES: A STUDY OF REFINANCE DISBURSED BY NABARD

S. S. Sangwan*

Investment in agriculture is the axis of development under the new production conditions in which capital (including land): man ratio has relegated the land: man ratio to the backward position.[1] Along with the government investment, private investment in agriculture especially minor irrigation has played a major role in the adoption of seed, fertilisers and irrigation technology.[2] Institutional finance for private investment in agriculture is being provided through the co-operative banks of the States especially the State land development banks (SLDBs), Commercial banks (CBs) and regional rural banks (RRBs). Most of the schematic loans (term loans) in agriculture which were financed by the above agencies have been refinanced by the National Bank for Agriculture and Rural Development (NABARD) and its predecessors, *i.e.*, Agricultural Refinance Corporation (ARC, 1963-74) and Agricultural Refinance and Development Corporation (ARDC, 1974-82)[3] (henceforth all to be referred as NABARD). Term credit disbursement of NABARD by way of refinance under schematic lending reached a new peak of Rs. 1,061 crores during 1984-85 (July-June), registering an increase of 19 per cent over the previous year.[4]

The refinance disbursed by NABARD increased from Rs. 30.47 crores as on June 30, 1969 to Rs. 5,427.23 crores as on June 30, 1985 (co-operative year July to June has been used throughout the paper). With this increasing amount of refinance for schematic lending, the equitable disbursement of the amount not only among different classes of farmers but also among different

* Agricultural Economist, National Bank for Agriculture and Rural Development, Regional Office, Patna (Bihar).

The views expressed in the paper are personal and not of the institution in which the author is employed.

1. G. K. Chadha, "Farm Size and Productivity Revisited: Some Notes from Recent Experience of Punjab", *Economic and Political Weekly*, Vol. XIII, No. 39, September 30, 1978, pp. A-87-A-96, and S. K. Singh and R. Ramanna, "The Role of Credit and Technology in Increasing Income and Employment on Small and Large Farms in Western Region of Hyderabad District, Andhra Pradesh", *Indian Journal of Agricultural Economics*, Vol. XXXVI, No. 3, July-September 1981, pp. 41-51.

2. A. S. Kahlon: Modernization of Punjab Agriculture, Allied Publishers Pvt. Ltd., New Delhi, 1984, Chapter II, pp. 18-34.

3. NABARD provides refinance facilities to the SLDBs and CBs upto the extent of 95 per cent of loan amount financed by them under schematic lending. However, the exact percentages of refinance vary depending upon the type of the farmer, nature of scheme, region concerned and the implementing agency. The refinance facility for schematic lending in agriculture was started in 1963 with the establishment of Agricultural Refinance Corporation in that year.

4. NABARD: Annual Report 1984-85. For details regarding the role of this apex institution of rural credit, also refer to Reserve Bank of India: Report on Currency and Finance, Vol. I—Economic Review, 1982-83, Bombay, 1984, "Rural Credit", pp. 161-187.

regions of the country is becoming a matter of concern for social scientists and planners. However, the first aspect was already recognised and led to popular programmes like MFAL, SFDA and the latest IRDP; but the regional imbalances in investment credit have received scant attention.[5]

The purpose of this paper is to highlight the extent of regional concentration in the refinance drawn from NABARD and the changes in the shares of different States over time. Then, an attempt has been made to explain the State level concentration in terms of endogenous factors like the role of co-operative banks and the extent of diversification of activities financed in different States.

Specifically, the objectives of the study are to test the following hypotheses:

1. The regional imbalances in the refinance disbursed for schematic lending in agriculture have declined over time.
2. The performance of co-operative banks especially the land development banks of the respective States has positively affected the drawals of refinance from NABARD.
3. The increasing diversification of schemes implemented in the States has also positively affected their shares in the refinance disbursed by NABARD.

REGIONAL PATTERN

The regional imbalances in refinance disbursed attracted the attention of the erstwhile ARC in 1969 when it opened offices in the less developed States.[6] Since then, efforts were made at the Corporation level to promote rapid development of these areas by conducting pre-investment surveys, formulating special schemes and increasing the quantum of refinance upto 90 per cent of loan assistance for all purposes. The State level distribution of refinance drawn under schematic lending is presented in Table I at four points of time. The table shows that the relatively developed States of Punjab, Haryana, Andhra Pradesh, Karnataka, Maharashtra, Gujarat, Tamil Nadu and Kerala accounted for 59 per cent of cumulative refinance at the all-India level in 1985 while they accounted for 46 per cent of all-India net sown area (NSA).

Among the individual States, the refinance per hectare of NSA as on June 30, 1985 was the highest in Punjab (Rs. 1,368) followed by Haryana (Rs. 1,173), Kerala (Rs. 693) and Andhra Pradesh (Rs. 578). On the other hand, it was the lowest for Assam (Rs. 171) followed in ascending order by West Bengal and Rajasthan (Rs. 175 each) and Madhya Pradesh (Rs. 216).

5. The regional imbalances in the banks' advances to priority sectors in general and the agricultural sector in particular were indicated in a study of V. B. Angadi, "Banks' Advances to Priority Sector: An Inquiry into the Causes of Concentration", *Economic and Political Weekly*, Vol. XVIII, No. 13, March 26, 1983. His study points out that the proportion of agricultural advances in each State can be explained largely in terms of deposit mobilisation, to the number of bank offices and the total cropped area in the respective States.

6. As per the classification of erstwhile ARDC, the less developed/under-banked States are Uttar Pradesh, Madhya Pradesh, Bihar, Orissa, West Bengal, Rajasthan, Himachal Pradesh, Jammu & Kashmir, Assam and other North Eastern States.

TABLE I. STATEWISE DISBURSEMENT OF REFINANCE FOR TERM LOANS

(*per cent*)

Sr. No.	State	Refinance disbursed as on June 30				Refinance drawn per hectare of NSA in 1985 (Rs.)	Refinance drawn as per cent of commitment in 1981
		1969	1975	1981	1985		
1.	Assam	2·30	0·32	0·73	0·83	170·52	23·77
2.	Bihar	0·59	4·56	6·28	6·31	404·45	57·22
3.	Orissa	0·13	0·32	2·71	3·61	326·55	41·35
4.	West Bengal	0·07	0·26	2·14	2·00	175·93	45·31
5.	Madhya Pradesh	0·95	6·04	8·05	7·37	216·22	45·46
6.	Uttar Pradesh	4·00	13·63	15·06	14·74	461·61	50·37
7.	Rajasthan	0·20	2·39	4·04	4·87	175·05	48·96
8.	Haryana	9·40	9·81	8·36	7·59	1,132·71	67·00
9.	Punjab	21·43	8·86	9·49	10·50	1,368·31	72·73
10.	Gujarat	6·79	11·35	5·81	5·32	300·97	73·39
11.	Maharashtra	6·20	10·85	9·89	9·21	273·72	66·43
12.	Andhra Pradesh	26·55	9·94	13·38	11·60	577·81	59·59
13.	Karnataka	8·57	8·36	6·11	6·59	360·49	54·63
14.	Tamil Nadu	10·67	11·86	5·25	5·46	486·39	80·28
15.	Kerala	0·56	1·09	2·05	2·81	693·40	45·49
16.	Others	1·05	0·34	0·63	1·17	74·62	40·63
	Total : 1-16	100·00	100·00	100·00	100·00	383·00	57·59
	(amount in Rs. crores)	(30·47)	(423·05)	(2,223·10)	(5,427·43)	—	—
	Coefficient of variation : 1-15	1·223	0·72	0·63	0·57	0·74	0·26
	Total : 8-15	90·19	72·12	60·34	59·08	—	—

Source: Annual Reports of National Bank for Agriculture and Rural Development and the erstwhile ARC and ARDC.

Note:— The total refinance as on June 30, 1985 was divided by the average net sown area (NSA) of 1975-76.

The extent of inequality among the 15 States as measured by the coefficient of variation was 57 per cent in terms of absolute amount of refinance and 0.74 per cent in term of refinance per hectare of NSA. Notwithstanding this inequality which is in part due to varying physio-climatic conditions of the States, the above pattern does indicate the presence of regional imbalances in the refinance disbursed in 1985 under schematic lending in agriculture.

Over the years, the table shows a continuous decline in regional concentration of refinance disbursed to various States. The share of the five States of Punjab, Haryana, Andhra Pradesh, Karnataka and Tamil Nadu in all-India refinance decreased from about 77 per cent in 1969 to 49 per cent in 1975 and to 42 per cent in 1985. Among the individual States, the share of Andhra Pradesh fell from 26.55 per cent in 1969 to 9.94 per cent in 1975 and again rose to 11.60 per cent in 1985. Similarly, the share of Punjab declined from 21.43 per cent in 1969 to 10.5 per cent in 1985. Gujarat and Maharashtra have also recorded a decline in their shares after 1975. The six less developed States of Bihar, Orissa, West Bengal, Madhya Pradesh, Uttar Pradesh and Rajasthan have increased their shares in the refinance disbursed from 6 per cent in 1969 to 39 per cent in 1985. The decreasing

level of concentration is also indicated by the decreasing coefficient of variation as shown in Table I. These facts establish our hypothesis that regional imbalances in the refinance disbursed for schematic lending have declined over time.

The declining concentration of refinance among the States indicates the positive impact of measures undertaken by NABARD. The extent of concentration would be still lower if assessed in terms of refinance committed by NABARD to various States. The percentage of refinance drawn to total commitment of NABARD in most of the less developed States is less than that of the developed States. As on June 30, 1981,[7] the drawals as a per cent of commitment was the highest in Tamil Nadu (80 per cent) followed by Punjab and Gujarat (73 per cent each) and Haryana (67 per cent). Compared to this, the percentage of drawals to commitment was the lowest in Assam (24 per cent) followed in ascending order by Orissa (41 per cent), West Bengal, Madhya Pradesh and Kerala (45 per cent each). This varying utilisation of commitment as measured through coefficient of variation of percentage drawals explains about 26 per cent of regional imbalances.

The other endogenous factors which may affect the disbursement of NABARD refinance[8] are the role of financing agencies involved and the extent of diversification in the schemes implemented. Prior to the nationalisation of important commercial banks (14) in 1969, the SLDBs were solely financing for schematic loans in agriculture at the State level except in Assam, Tamil Nadu, Kerala and Punjab. In the first three exceptional States, the CBs have financed only for plantation crops grown on commercial lines. However, with the involvement of commercial banks after 1969 in the schematic lending for agriculture, the share of SLDBs has come down to 55 per cent in all-India NABARD refinance in 1981 from 91 per cent in 1969 (Table II). In spite of this, the State Land Development Banks which have also political backing of the respective State Governments may be regarded as the spearheads of schematic lending in agriculture.

REFINANCE TO CO-OPERATIVES (SLDBS)

Table II shows that the share of SLDBs in the refinance disbursed for schematic lending as on June 30, 1985 was relatively higher in the developed States. The SLDBs in Andhra Pradesh, Karnataka and Maharashtra accounted for 65.93, 63.57 and 49.51 per cent of the respective total refinance availed of by these States. Though in some other developed States like Punjab, Haryana, Tamil Nadu and Kerala, the relative share of their LDBs in the total refinance drawn in 1985 was not much higher, their cumulative refinance drawn per hectare of net sown area was higher than that in other States.

7. The year 1981 was purposively taken as a cut-off point as the refinance to IRDP has increased in a big way since then. The refinance for IRDP has not been shown as commitment in the following years. Moreover, the refinance facilities for farm mechanisation and Gobar gas schemes has been made automatic in recent years.

8. The exogenous factors like agrarian structure, quality of soil, availability of natural resources, etc., will also affect the demand for investment. The author has discussed their role in a forthcoming paper entitled, "Institutional Constraints in Adoption of Technology: A Case Study of Irrigation, Fertilisers and HYV of Seeds in Bihar".

TABLE II. SHARE OF CO-OPERATIVES* (SLDBs) IN THE TOTAL REFINANCE DISBURSED FOR TERM LOANS

State	Share of co-operatives in the refinance disbursed upto (as on June 30) (per cent)				Per hectare investment by co-operatives as on June 30, 1985 (Rs.)	Drawals as per cent of NABARD's commitment as on June 30, 1981 in	
	1969	1975	1981	1985		Co-operatives	Commercial banks
Assam	—	0·00	1·18	8·60	14·66	23·37	24·31
Bihar	100·00	76·28	32·42	30·27	122·42	67·46	57·22
Orissa	100·00	73·52	53·84	46·34	151·32	41·20	41·53
West Bengal	100·00	41·44	41·36	38·74	68·16	37·87	52·61
Madhya Pradesh	100·00	77·38	46·19	36·82	79·61	41·47	49·54
Uttar Pradesh	100·00	89·62	58·01	47·15	217·65	51·26	56·81
Rajasthan	100·00	76·48	44·89	32·12	56·23	58·28	43·32
Haryana	100·00	76·28	51·32	44·54	504·59	88·69	45·74
Punjab	66·67	88·40	35·94	30·66	419·30	76·73	70·07
Gujarat	100·00	95·23	39·73	26·91	80·99	84·17	67·67
Maharashtra	100·00	86·77	67·26	63·57	174·00	79·26	49·75
Andhra Pradesh	100·00	93·44	80·27	65·93	381·18	64·72	46·29
Karnataka	100·00	90·56	63·94	49·51	178·48	55·57	52·80
Tamil Nadu	76·69	98·68	72·74	44·48	216·35	89·92	62·41
Kerala	69·31	53·38	41·57	46·06	319·38	44·40	49·87
All-India	96·52	86·44	54·64	44·19	169·25	61·53	53·45
Amount of refinance to co-operatives (in Rs. crores)	29·41	365·67	1,217·71	2,411·48			

Source: Annual Reports of NABARD and the erstwhile ARC and ARDC.

Note:— * Out of them, the State Land Development Banks account for 97 per cent of total refinance for schematic lending as on June 30, 1985. In the remaining 3 per cent, the State Co-operative Banks have drawn significantly only in the States of Orissa (21·48 per cent), Rajasthan (8·68 per cent), Tamil Nadu (7·73 per cent) and Kerala (5·07 per cent). In all the other States, the shares of State Co-operatives Banks are less than 3 per cent in their refinance drawn for schematic lending in agriculture.

(Their shares of SLDBs as shown in the table were much higher in previous years). On the other hand, the shares of SLDBs of the less developed States in 1985 were within the range of 8.6 to 47.2 per cent of the total refinance disbursed in these States. Thus, the refinance drawn by SLDBs (and co-operatives banks) of those States which have claimed more of NABARD refinance for schematic lending is higher than that in the States which have drawn relatively less of refinance from NABARD or its predecessors.

Further, the wide gap between commitment and drawals of refinance from the NABARD by the SLDBs of various States has also adversely affected their shares. At the all-India level, the SLDBs have higher drawals as a per cent of commitment as compared to that of CBs and it is in line with the leading role of the former under schematic lending. Among the SLDBs, the drawals from the amount of refinance committed in 1981 were the highest for Tamil Nadu (90 per cent) followed by Haryana (89 per cent), Gujarat (84 per cent), Maharashtra (79 per cent) and Punjab (77 per cent). On the other hand, it was the lowest for Assam, (23 per cent), West Bengal (38 per cent) and Orissa and Madhya Pradesh (41 per cent each). Thus, the drawals

of SLDBs to commitment of refinance institution are higher in most of the developed States as compared to the less developed States. Even the drawals as per cent of commitment are higher in commercial banks in the developed States.

The above discussion about the relative amount of refinance availed of by the SLDBs in the total refinance drawn by the respective States and their percentage drawals against commitment of refinance supports our hypothesis that the performance of SLDBs has positively affected the amount of refinance drawn by the different States from NABARD and its predecessors.

DIVERSIFICATION OF REFINANCE

The increasing number of investment activities within an economy or a sector is likely to enhance the demand for credit. Following this argument, it is proposed to assess the impact of diversification on the refinance drawn by different States for schematic lending in agriculture. At the all-India level, minor irrigation and land development schemes accounted for 87 per cent of refinance as on June 30, 1975 but their share dropped to 66 per cent in 1981 and to 52 per cent in 1985. The share of schemes of farm mechanisation, animal husbandry and fisheries has increased from 0.46 per cent in 1969 to 23.20 per cent in 1985. Moreover, in the latter year 16.34 per cent of total refinance was accounted by IRD programme (Table III). This indicates that a rapid increase in the amount of refinance has been accompanied by diversification of schemes financed.

To compare the diversification at the State level, we have considered the refinance disbursed in the year 1981 as the share of IRDP was negligible, only 0.77 per cent. The purposewise disbursement of refinance for different States as on June 30, 1981 presented in Table III shows that the share of minor irrigation was more than 70 per cent in the States of Bihar, Orissa, West Bengal, Madhya Pradesh, Gujarat and Maharashtra as against 63 per cent for the country as a whole. Interestingly, all the above-mentioned States except Maharashtra have drawn less refinance for land development which is generally followed after development of irrigation. The investment per hectare of NSA of all the above six States, as well as Assam and Rajasthan was also quite low as against Rs. 157 on an average for all-India in 1981. Plantation is the other major item accounting for about 81 per cent and 15 per cent of refinance in Assam and Karnataka respectively while land development accounted for 11 per cent in Rajasthan and 18 per cent in Kerala. On the other hand, the States of Punjab, Haryana and Uttar Pradesh have drawn about 64, 42 and 31 per cent of their refinance for farm mechanisation, storage and market yards and animal husbandry schemes respectively as against 25 per cent at the all-India level. Out of the remaining States, Andhra Pradesh, Kerala and Tamil Nadu have also higher investment per hectare of NSA than all-India and their investment also seems well diversified as compared to other States. These facts lend support to our hypothesis

TABLE III. PURPOSEWISE DISBURSEMENT OF REFINANCE BY NABARD AT ALL-INDIA LEVEL AND IN THE STATES

State	Percentage of total disbursement										Total disbursement (Rs. crores)	Per hectare refinance (Rs.)
	Minor irrigation[1]	Land development	Farm mechanisation	Storage and market yard	Plantation/ horticulture/ forestry	Poultry/ sheep/ pig rearing	Dairy development	Fisheries	Others[2]	IRD programme		
All-India												
As on June 30												
1969	42·04	45·55	0·46	3·28	6·79	—	—	—	—	—	30·47	2·19
1975	79·86	7·10	4·56	3·27	3·14	0·23	0·72	1·10	0·03	—	423·05	29·85
1981	62·71	3·55	17·50	5·50	4·07	1·48	1·87	1·90	0·67	0·77	2,223·10	156·88
1985	48·62	3·35	19·12	3·05	4·56	1·70	2·05	1·33	1·72	16·34	5,427·43	383·00
States : 1981												
Assam	3·22	0·43	0·62	10·91	81·15	0·12	1·05	0·12	2·36	—	16·13	60·80
Bihar	70·05	0·97	13·11	14·50	0·21	0·03	0·51	0·04	0·37	0·24	139·69	111·50
Orissa	76·95	1·61	2·18	0·33	5·51	0·30	2·49	6·74	1·34	2·54	60·21	100·35
West Bengal	69·95	—	5·10	7·01	15·30	0·61	0·67	1·66	—	—	47·65	77·24
Madhya Pradesh	87·98	1·52	6·50	2·27	1·39	0·12	0·89	0·89	0·13	—	178·89	96·70
Uttar Pradesh	67·80	1·13	22·46	6·69	0·18	0·87	1·14	0·15	0·29	0·22	334·84	193·10
Rajasthan	59·10	11·00	13·75	9·44	0·28	2·28	1·66	—	2·35	0·13	89·74	59·43
Haryana	55·72	1·11	33·03	6·68	0·31	0·22	1·39	—	1·53	0·02	185·76	510·61
Punjab	32·44	3·70	49·68	12·03	—	0·65	1·37	—	0·03	0·09	210·97	506·53
Gujarat	73·45	—	14·89	1·89	0·17	0·24	4·94	3·86	0·26	0·29	129·06	134·44
Maharashtra	77·49	4·64	7·38	2·36	0 90	1·55	3·90	1·05	0·56	0·18	219·93	120·39
Andhra Pradesh	64·39	6·74	11·38	1·38	2·74	6·41	2·84	1·30	0·98	1·89	297·37	272·82
Karnataka	47·02	4·54	13·67	7·12	15·18	1·30	0·52	8·75	0·88	1·03	135·87	136·79
Tamil Nadu	60·62	4·37	8·98	1·81	8·50	2·65	2·11	4·93	0·86	5·17	116·82	191·60
Kerala	33·63	18·44	0·88	0·66	35·52	—	1·34	9·41	—	0·04	45·65	207·60

Source: Annual Reports of NABARD and the erstwhile ARC and ARDC.

Notes: — 1. Minor irrigation also includes refinance for Rural Electric Corporations.

2. Others include gobar gas, agricuitural aviation and 'others' of NABARD reports.

that the increasing diversification of schemes implemented in the States has also positively affected their share in the refinance disbursed by NABARD.

CONCLUSIONS

The regional imbalances in the refinance disbursed by NABARD and its predecessors for schematic lending in agriculture show a continuous decline in the States during the period 1969-85. The share of the five relatively developed States of Punjab, Haryana, Andhra Pradesh, Karnataka and Tamil Nadu in the total refinance disbursed has decreased from about 77 per cent in 1969 to 42 per cent in 1985. On the other hand, the share of refinance of less developed States like Bihar, Orissa, West Bengal, Madhya Pradesh, Uttar Pradesh and Rajasthan has increased from 6 per cent in 1969 to 39 per cent in 1985 due to the efforts of the refinance institution. The degree of inequality at the State level in the refinance disbursed per hectare of net sown area is 74 per cent in terms of coefficient of variation as on June 30, 1985. The analysis has revealed that the endogenous factors like lower utilisation of refinance commitment from NABARD, relatively poor performance of SLDBs and low degree of diversification in the schemes financed are positively associated with low disbursement of refinance in some of the States.

WITH THE BEST COMPLIMENTS OF

AGRICULTURAL FINANCE CORPORATION LIMITED

(*Regd. Office:* **Dhanraj Mahal, CSM Marg, Bombay 400 039**)
Tel. : 2028924

An Institution extending project consultancy services to individuals institutions, commercial banks, state governments, World Bank, Asian Development Bank, Food and Agriculture Organization, International Fund for Agricultural Development, Islamic Development Bank, African Development Bank, etc.

Techno-economic surveys and project formulation for agricultural and rural development.

Regional Offices — Eastern Region : Calcutta
Northern Region: Lucknow
Southern Region: Madras

Branch Offices: — **Patna, Shillong, Ahmedabad, Trivandrum, Chandigarh, Hyderabad, Bhopal**

Project Office: — **New Delhi**

G. V. K. RAO
CHAIRMAN

B. VENKATA RAO
MANAGING DIRECTOR