

Effect of Agro-economic Variables on Disbursement of Agricultural Credit in Bihar

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ABSTRACT

Agricultural production process is biological in nature and has comparatively long transition period, resulting in a wide time gap between investment and income. For the long production and marketing period, the available fund with the farmers is not found sufficient. Credit requirement of the farmers has increased manifold in Bihar particularly because of using more and more of purchased inputs i.e. high yielding variety seeds, fertilizer, irrigation, micronutrients, pesticides etc. The study is based on time series data of Bihar for a period of 25 years that is from 1980-81 to 2005-06. It is found that association between agricultural credit flow and different variables as the percentage area under HYV, percentage area under irrigation, percentage area under non cereal crops, fertilizer consumption per hectare and no of PACS per 1000 villages, land holding and agricultural labour use was positive.

Keywords: Agricultural credit, Agro-economic variables, Districts, Bihar

Agriculture has played a prominent rule, and still continues to occupy the place of pride in Indian economy, contributing about 18% to national domestic product and providing employment to more than 55% of working force of the country. In the post bank rationalization era, agriculture has got a preferred status for financing through institutional sources. In the context of our socio-economic structure, it is an urgent need to increase agricultural production for improving food security and quality of life of rural population.

More than 96% of farming households are cultivating area of less than 2 ha, who have meager amount of saving to plough back in the process of improved

agricultural production. The situation is more pronounced in the state of Bihar, because agriculture is still contributing nearly one third to the state domestic product and providing employment to about 78% of the working force.

Agriculture in Bihar has undergone a rapid technological revolution and the scope of improvement in farm business organization is increasing fast with the adoption of modern production technology. Capital requirement of the farmers has increased manifold particularly because of using more and more of purchased inputs i.e. high yielding variety seeds, fertilizer, irrigation, micronutrients, pesticides etc. Moreover,

Agricultural production process is biological in nature and has comparatively long transition period, resulting in a wide time gap between investment and income (Bhulmall, 2000).

METHODOLOGY

The study is based on secondary data which were collected from State level Banker's Committee, Patna National Bank for Agricultural and Rural Development, Patna, Department of Institutional Finance and Programme Implementation, Patna, Reserve Bank of India, Patna, Bihar. Data related to agro-economic and social variables were collected from Directorate of Agriculture, Directorate of Statistics and Evaluation, Bihar State Electricity Board, Census Office, Patna, Bihar and Publications like Economic Survey of Bihar, Bihar at a Glance, State credit plan, Bihar.

The study is based on time series data of Bihar for a period of 25 years that is from 1980-81 to 2005-06. Analysis is based on secondary information obtained from NSS reports and development departments of the state. An attempt has also been made to draw relevant conclusions through tabular analysis.

RESULTS AND DISCUSSION

There are 38 districts in four zones of Bihar and while analysing spatial variation among different zones it has been observed that the districts with comparatively high per hectare loan were not concentrated in any of the zone, but some districts of comparatively high quantum of agricultural loan are placed in zones which have comparatively lower quantum of per hectare loan and vice-versa. Hence, an analysis has been tried to discuss the distribution of loan by grouping districts on the basis of per hectare loan disbursement.

All the thirty eight district were categorised on the following basis i.e., category A (below ₹ 2500), category B (between ₹ 2500-3500), category C (₹ 3500-5000) and category D (₹ 5000 and above). Number of districts on the basis of per hectare agricultural loan granted were computed for each of the specified categories, mentioned above and presented in Table 1 and Fig. 1.

Table 1: Number of districts comes under different categories of agricultural credit disbursement in Bihar

Category of Districts	Loan disbursement per ha of net area sown (₹)	Number of Districts
A	Below 2500	6
B	Between 2500-3500	5
C	Between 3500-5000	7
D	Above 5000	20

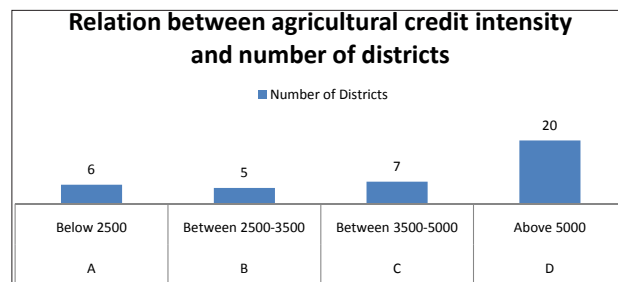


Fig. 1: Agricultural credit intensity in different districts of Bihar

It may be observed from the table that more than 50% of districts were under the category D, indicating that the majority of the districts could avail the quantum of per hectare agricultural loans of above ₹ 5000. There were only 6 districts in category 'A', which could avail per hectare loan facility of below ₹ 2500. These districts were either districts of Kosi region, or agriculturally less developed districts. These two factors might have affected adversely the smooth flow of agricultural credit in these districts. It may further be observed from the table that there were 7 districts which could obtained agricultural credit between ₹ 3500-5000 per hectare. Out of these 7 districts, one district had developed agriculture and better infrastructure than that of most of the districts in Bihar. Moreover, detailed analysis of variables affecting agricultural credit flow in different districts of Bihar has been undertaken in the following section. Indicator of different agro-economic and socio-economic variables were computed for all the 4 categories of districts classified on the basis of per hectare agricultural loan which are presented in Table 2.

It may be observed from the table that there is no specific trend in any of the variables with respect to different categories of districts but a comparison of category A and category D which

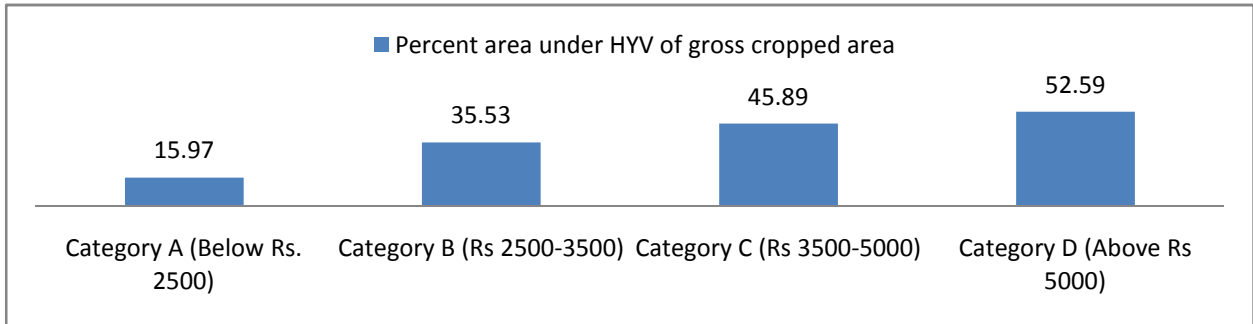


Fig. 2: Relation between Percent area under HYV of gross cropped area and agril credit disbursement

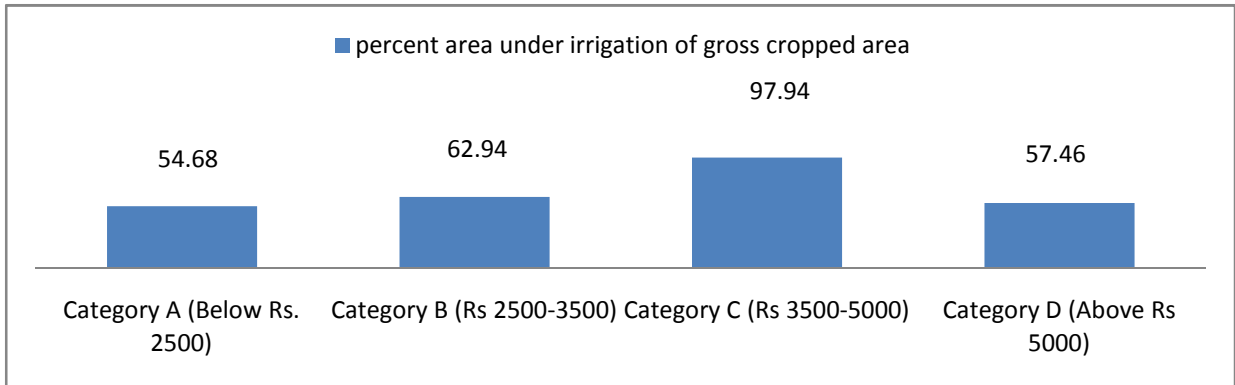


Fig. 3: Relation between percent area under irrigation of gross cropped area and agril. credit disbursement

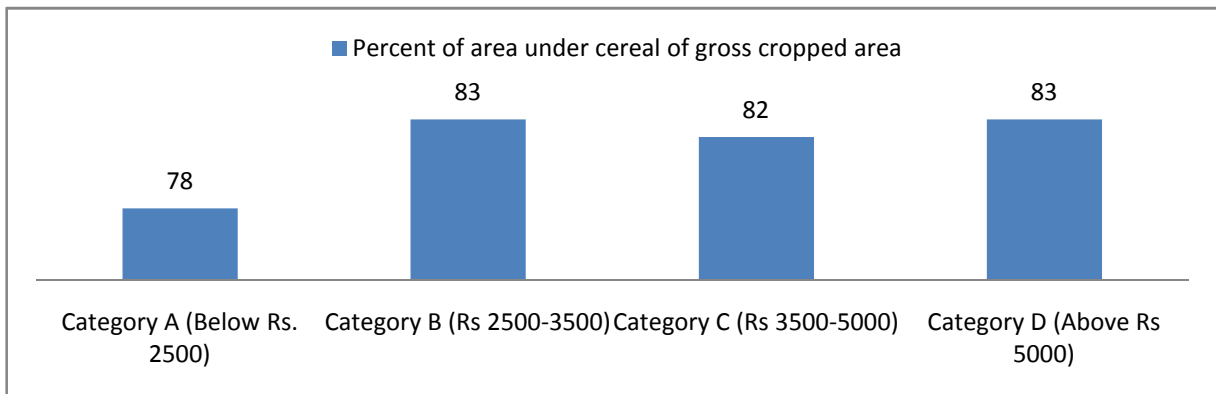


Fig. 4: Relation between Percent of area under cereal of gross cropped area and agril. credit disbursement

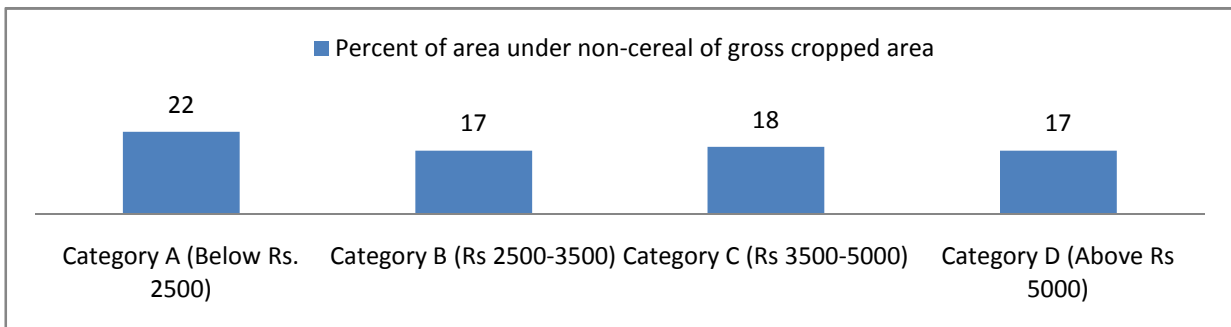


Fig. 5: Relation between Percent of area under non-cereal of gross cropped area and agril. credit disbursement

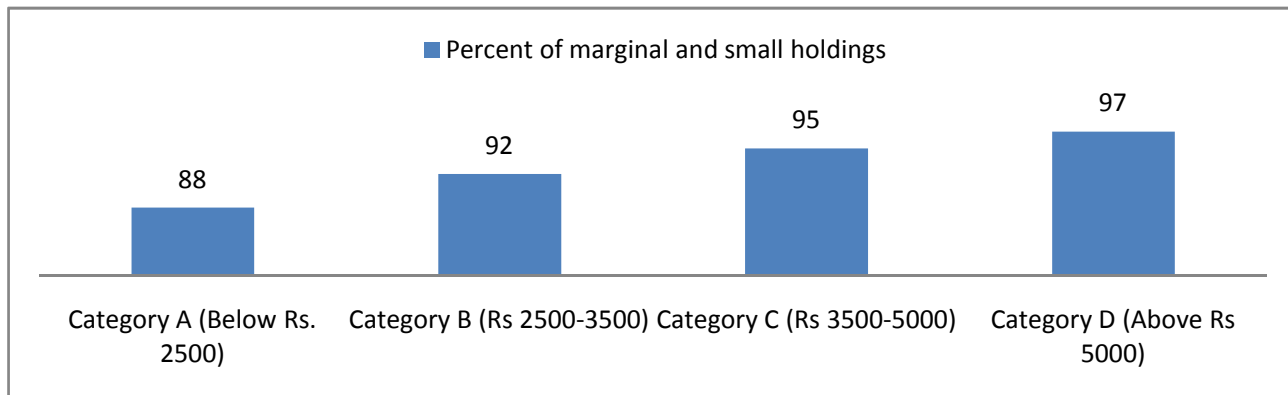


Fig. 6: Relation between Percent of marginal and small holdings and agril. credit disbursement

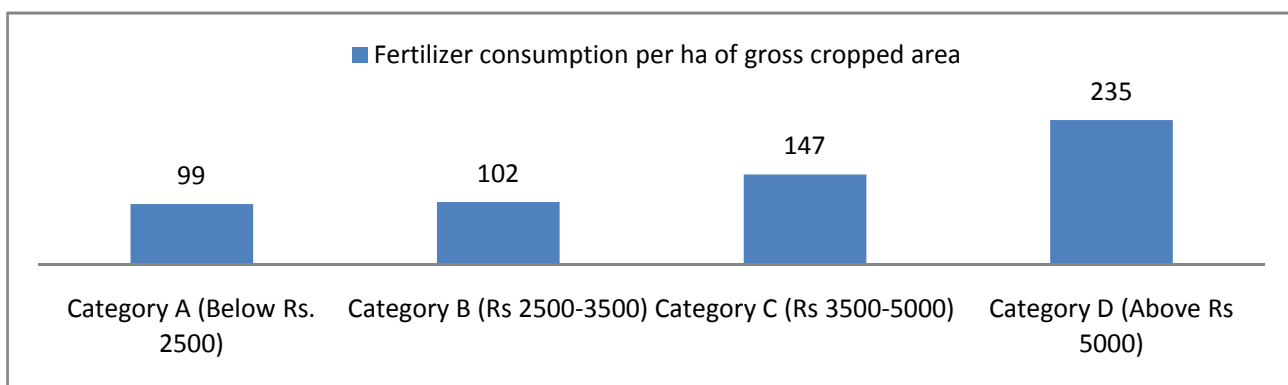


Fig. 7: Relation between Fertilizer consumption per ha of gross cropped area and agril. credit disbursement

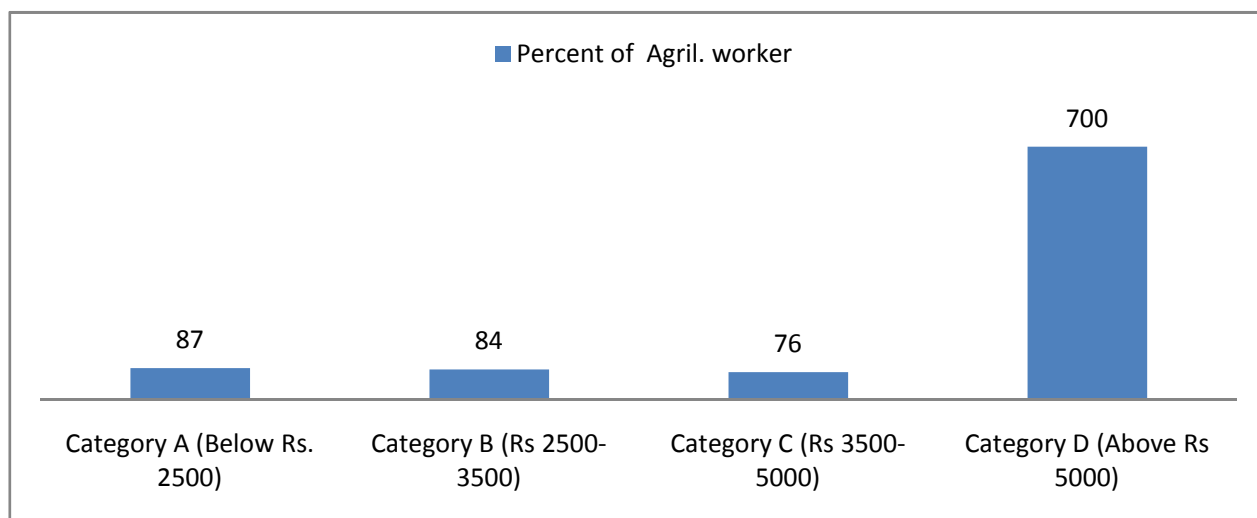
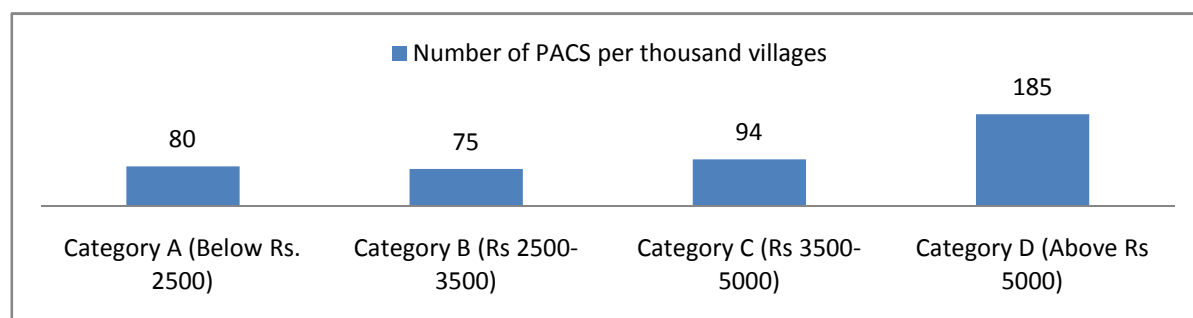


Fig. 8: Relation between Percent of Agril. worker and agril. credit disbursement

Table 2: Agro economic variables for different groups of districts categorised on the basis of per hectare agril. credit

Agril. loan per ha of net area sown (₹) →		Category A (Below 2500)	Category B (2500-3500)	Category C (3500-5000)	Category D (Above 5000)
1	Percent area under HYV of gross cropped area	15.97	35.53	45.89	52.59
2	percent area under irrigation of gross cropped area	54.68	62.94	97.94	57.46
3	Percent of area under cereal of gross cropped area	78	83	82	83
4	Percent of area under non-cereal of gross cropped area	22	17	18	17
5	Percent of marginal and small holdings	88	92	95	97
6	Fertilizer consumption per ha of gross cropped area	99	102	147	235
7	Percent of Agril. worker	87	84	76	700
8	Number of PACS per thousand villages	80	75	94	185

**Fig. 9:** Relation between Number of PACS per thousand villages and agril. credit disbursement

have comparatively low and high quantum of agril loan, respectively revealed a very clear cut association between agricultural credit flow and different variables under considerations. It is found that percentage area under HYV and disbursement of agril. Loan has direct relationship (Fig. 2) and this is clearly visible also Satish, 2006). The percentage area under irrigation and disbursement of agril. Loan has also direct relationship (Fig. 3). The percentage area under non cereal crops and disbursement of agril. Loan is also reflecting positive relationship (Fig. 5). The fertilizer consumption per hectare and disbursement of agril. Loan is also reflecting positive relationship (Fig. 7). While the no of PACS per 1000 villages were comparatively much higher in category D districts than those in category A districts (Ghosh *et al.*, 2004 and Chalam *et al.*, 2005). This shows number

of PACSs have steep improvement in D category of districts which have high disbursement of loans (Fig. 9). Hence, it may be said that these variables probably have direct relationship with quantum of agril. credit flow.

The proportion of marginal and small holdings were much higher in category D (97%) than that in category A (88%). Hence, it may be said that higher the number of smaller holdings, the higher will be the per hectare agricultural credit flow in the districts (Fig. 6), Sohi and Chahal, 2004). On the other hand, a larger number of agricultural labourer is an indicator of poor agricultural development. Lower the proportion of agril. labour in total work force is an indicator of agricultural development. In the present analysis, the districts of group D had 70% of working force as agril. labour as compared

to 87% in case of category A which has lowest per hectare agricultural loan (Fig. 8). Hence, it may be said that decline in proportion of agril. labour in working force in particular district or region may require higher credit flow, to replace labour by other capital intensive factors of production as evident from above analysis.

The relation between the various agro-economic variables and agricultural loan disbursements in Bihar is depicted through figures very clearly. In figures, on horizontal axis, there are four groups of districts on the basis of loan intensity and agro-economic variable is shown on vertical axis.

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CONCLUSION

It is concluded that association between agricultural credit flow and different variables as the percentage area under HYV, percentage area under irrigation, percentage area under non cereal crops, fertilizer consumption per hectare and no of PACS per 1000 villages was positive as found comparatively much higher in category D districts than those in category A districts. Hence, it may be said that these variables probably have direct relationship with quantum of agril. credit flow.

Regarding the land holdings, higher the number of smaller holdings, the higher will be the per hectare agricultural credit flow in the districts. Regarding, agricultural labour, higher use of agricultural labour shows less progress in those districts as categorised in D. The first three categories of districts have less share of agricultural labour, it shown there is higher progress as larger number of agricultural labourer is an indicator of poor agricultural development.

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