International Journal of Agriculture Sciences
ISSN: 0975-3710&E-ISSN: 0975-9107, Volume 9, Issue 5, 2017, pp.-3763-3766.
Available online at http://www.bioinfopublication.org/jouarchive.php?opt=&jouid=BPJ0000217

Research Article

IMPACT OF FORMAL CREDIT ON AGRICULTURAL DEVELOPMENT IN THE RAJASTHAN

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Received: January 09, 2017; Revised: January 16, 2017; Accepted: January 17, 2017; Published: January 30, 2017

Abstract- The present study was conducted to analyse the impact of agricultural credit on agricultural development and constraints in advancing the agricultural credit. The study was conducted in the district of Bikaner region *viz.,* Sriganganagar, Hanumangarh, Bikaner and Churu district. A lead bank of each selected district was selected purposively for collection of secondary and primary data in respect of agricultural loan supplied to the farmers. A sample of 30 farmers was drawn as borrower farmers from each selected district by probability proportion to the number of borrower farmers. The increasing trend was observed in the value of net worth with increase in farm size on both borrower and non-borrower farmers of the study area. At overall level about 47 to 50 per cent net worth value was higher on borrower farmers than the non-borrower farmers. The value of current assets was ranged from 1.81 to 3.82 on borrower farmers in comparison to non-borrower farmers 1.02 to 2.90. Similarly, the intermediate ratio on borrower farmers was about 2.30 to 2.93 against 1.80 to 2.24 on non-borrower farmers. The net capital ratio was 13.00 to 19.60 on borrower farmers in comparison to 10.46 to 16.92 on non-borrower farmers. The overall difference in net income between borrower and non-borrower farmers was ranged ` 14377.1 to 274341 on per hectare. About 48 per cent higher income was recorded on borrower farmers than the non-borrower farmers at overall basis in the study area. The return per rupee on borrower farmers was ` 2.83 to 3.90 and 2.35 to 3.10 on non-borrower farmers. Thus, it can be concluded that financial position of all the borrower and non-borrower farmers in the study area was worthiness but in comparison the non-borrower farmers the financial position of all the borrower farmers of each selected district was quite worthiness in the study area.

Keywords- Agricultural credit, Farmers, Borrower and district.

Citation: Kumawat Raju, et al., (2017) Impact of Formal Credit on Agricultural Development in the Rajasthan. International Journal of Agriculture Sciences, ISSN: 0975-3710 & E-ISSN: 0975-9107, Volume 9, Issue 5, pp.-3763-3766.

Academic Editor / Reviewer: Manish Kumar

Introduction

A tremendous increase in the production of food grains has been witnessed from 82 million tonnes in 1960-61 to 255.36 million tonnes in 2012-13. This growth was made possible by the adoption of high yielding varieties, expansion in irrigation, higher use of modern inputs and development of infrastructures. But the modern technology is capital intensive and the Indian farmers unfortunately are unable to meet the capital requirement for short term, medium term and long term production processes. Aroutselvam and Zeaudeen (2000) [1] Therefore, a large amount of credit is required by the farmers to transform the agriculture into a profit-oriented farm business. Most of the developing countries Agriculture credit play vital role for developing the Agricultural activities through modern technology. Agricultural credit helps in creating environment for the adoption of modern production technology and encouraging investment on the farms. Balishter and Kumar (2012) [2]. Thus, credit in agriculture acts as a lubricant which helps to run the machine swiftly and smoothly. It is more so in the context of Indian agriculture which is predominated by small and marginal farmers and agricultural laboures who have less resources and are in dire need of them. Keeping this consideration in view, the present study entitled "To evaluate the impact of formal credit on agricultural development in Rajasthan" has been undertaken.Chand and Sidhu (2010)[3].

Materials and Methods

The present study was conducted in the Bikaner region of Rajasthan. The Bikaner region of Rajasthan comprises of four districts namely, Bikaner, Sri Ganganagar, Hanumangarh and Churu. A Lead Bank of the each district was selected purposively for collection of secondary data such as agricultural loan advanced for the various purposes, amount paid and over-dues etc. Majumdar and Baruah (1999)[4]. The selected banks were Oriental Bank of Commerce from Sri Ganganagar district, State Bank of Bikaner and Jaipur from Hanumangarh and Bikaner districts and Bank of Baroda from Churu district. One tehsil from each district of the region *viz.* Raisinghnagar from Sriganganagar, Pilibanga from Hanumangarh, Nokha from Bikaner and Sardarsahar from Churu district were selected on the basis of highest amount of agricultural loan advanced to the farmers. The selected branches were Raisinghnagar from Raisinghnagar tehsil, Pilabanga branch from Pilabanga tehsil, Bhamatsar branch from Nokha tehsil and Dikhnanada branch from Sardarsahar tehsil. Two villages from each selected branch were selected on the basis of highest amount of the agricultural loan advanced. Thus, total eight villages were selected from the entire region for further sampling. For categorization of the farmers of the selected villages, the cumulative total method was used and farmers were categorized in to three categories i.e. small, medium and large. The size of land holding was found different for different tehsils. A sample of 30 borrower farmers was collected from each selected tehsil. Thus, total 120 borrower farmers were selected from entire region for collection of primary data.

Impact of credit on agriculture development: To examine the impact of credit on financial position of the farmers and agriculture development, the balance sheet, income statement and other ratio was workout for borrowers and non-borrower farmers.

Balance Sheet

1. Net worth (`) = Total values of assets – total values of liability

$$2.\ \text{Current ratio} = \frac{\text{Total current assets}}{\text{Total current liabilities}}$$

$$3.\ \text{Working or Intermediate ratio} = \frac{\text{Total current and working assets}}{\text{Total current and working liabilities}}$$

$$4.\ \text{Net capital ratio} = \frac{\text{Total assets}}{\text{Total liabilities}}$$

Income Statement

1. Gross Income (Rs.) = Total crop production x Value of the product (both main and by product)

2. Net Income (Rs.) = Gross Income –Total Expenditure on crop production

$$3.\ \text{Return per rupee} = \frac{\text{Gross income from crop production (Rs.)}}{\text{Total expenditure on crop production (Rs.)}}$$

Results and discussion: To examine the impact of credit on agricultural development, a comparative financial statement of borrower farmer and non-borrower farmers was prepared and is presented in [Table-1 to 2]. The net worth, current ratio, intermediate ratio, net capital ratio, gross income, net income and return on per rupee was worked out for preparing the financial statement of the farmers.

Net worth: It is seen from the [Table-1 to 4] that the value of net worth of all borrower farmers in study area was quite higher than the non-borrower farmers. The overall average net worth for the borrower farmers of Sriganganagar district was `9822481.72 against` 522336.25 of the non-borrower farmers. In case of Hanumangarh district, the net worth of the borrower farmers was ` 11221732.45 in comparison to `5671564.81 of non- borrower farmers. Similarly, the overall average net worth for the borrower farmers of Bikaner and Churu district was `7926817.02 and `7728129.10 against `3485729.72 and `4027174.73 of non-borrower farmers of these district, respectively. The increasing trend was observed in the net worth with increase in farm size of both borrower and non-borrower farmers. Thus at overall basis about 47 to 50 per cent net worth was higher of borrower farmers than the non- borrower farmers in the study area.

Table-1 *Financial position of the borrower and non- borrower farmers of Sriganganagar district (2011-12)*

Particulars		Borrower farmers				Non- Borrower farmers			
		Small	Medium	Large	Overall	Small	Medium	Large	Overall
1. Net worth (`)	Per farm	5342428.20	7808361.67	16316655.30	9822481.72	3195539.18	4451053.34	8023509.23	5223367.25
	Per hectare	2520013.30	1918516.38	2219953.10	2219494.26	1655719.78	1153122.62	1183408.44	1330750.28
2. Current ratio		2.16	2.88	3.19	2.74	1.95	2.06	2.89	2.30
3. Intermediate ratio		2.07	2.73	3.62	2.80	1.67	2.06	3.01	2.24
4. Net capital ratio		14.50	16.56	22.61	17.89	12.72	14.45	20.84	16.00
5. Gross income (`)		262528.44	564436.33	1186551.23	671172.00	135318.63	292117.85	574992.60	334143.02
6. Net income (`)	Per farm	173355.94	423457.98	879627.87	492147.26	79272.96	193181.20	387810.77	220088.31
	Per hectare	81771.66	104043.72	119677.26	101830.88	41074.07	50046.94	57199.23	49440.08
7. Return on per rupee		2.94	3.78	3.52	3.41	2.41	2.95	3.07	2.81

Table-2 *Financial position of the borrower and non- borrower farmers of Hanumangarh district (2011-12)*

Particulars		Borrower farmers				Non- Borrower farmers			
		Small	Medium	Large	Overall	Small	Medium	Large	Overall
1. Net worth (`)	Per farm	4476000.70	9321221.02	19867975.63	11221732.45	3177896.99	4888268.62	8948528.84	5671564.81
	Per hectare	2850955.86	2782454.03	2180897.43	1770032.77	2542317.59	1703229.48	1052768.09	1766105.05
2. Current ratio		2.54	2.90	3.42	2.95	1.85	2.24	2.51	2.20
3. Intermediate ratio		2.20	2.93	3.67	2.93	1.47	2.10	2.72	2.09
4. Net capital ratio		13.94	19.94	24.92	19.60	11.97	17.15	21.64	16.92
5. Gross income (`)		207607.15	440498.75	1331051.17	659719.02	112623.11	219015.17	861990.08	397876.12
6. Net income (`)	Per farm	149246.93	329338.42	1014231.95	497605.77	142903.72	142903.72	616359.65	277884.59
	Per hectare	95061.73	98309.97	111331.71	101567.80	59512.32	49792.23	72512.90	60605.81
7. Return on per rupee		3.55	3.96	4.20	3.90	2.94	2.87	3.50	3.10

Table-3 *Financial position of the borrower and non- borrower farmers of Bikaner district (2011-12)*

Particulars		Borrower farmers				Non- Borrower farmers			
		Small	Medium	Large	Overall	Small	Medium	Large	Overall
1. Net worth (`)	Per farm	3305066.31	6607757.58	13867627.19	7926817.02	1653005.91	3364675.09	5439508.16	3485729.72
	Per hectare	869754.29	1027645.03	1243733.38	1047044.23	541969.15	547101.64	507416.80	532162.53
2. Current ratio		1.81	1.98	3.31	2.36	1.02	1.46	2.90	1.79
3. Intermediate ratio		1.87	2.05	3.28	2.40	1.03	1.52	2.85	1.80
4. Net capital ratio		10.34	12.86	17.72	13.64	6.43	10.95	14.83	10.73
5. Gross income (`)		300790.12	516083.01	1047201.23	621358.12	115023.69	251928.49	514614.04	293855.40
6. Net income (`)	Per farm	212947.97	359252.27	864571.71	478923.98	75387.96	170215.28	368143.64	204582.29
	Per hectare	56038.93	55871.27	77540.06	63150.08	24717.36	27677.28	34341.76	28912.13
7. Return on per rupee		2.24	2.97	3.28	2.83	2.01	2.28	2.76	2.35

Table-4 *Financial position of the borrower and non- borrower farmers of Churu district (2011-12)*

Particulars		Borrower farmers				Non- Borrower farmers			
		Small	Medium	Large	Overall	Small	Medium	Large	Overall
1. Net worth (`)	Per farm	2507199.41	5409713.43	15267474.46	7728129.10	1670638.22	3119288.84	7291597.14	4027174.73
	Per hectare	595534.30	500899.39	716782.83	604405.50	332796.45	300220.29	329936.52	320984.42
2. Current ratio		2.15	3.03	3.21	2.79	1.44	2.63	2.83	2.30
3. Intermediate ratio		2.05	2.83	3.35	2.74	1.23	2.12	2.75	2.03
4. Net capital ratio		9.12	12.60	17.28	13.00	6.78	10.10	14.52	10.46
5. Gross income (`)		241016.63	708951.69	1485842.80	811937.04	113569.83	362715.74	785054.78	420446.78
6. Net income (`)	Per farm	185838.63	557515.02	1070269.42	437286.35	84621.28	268997.12	526925.21	293514.53
	Per hectare	44142.19	51621..76	50247.39	48670.44	16856.82	25890.00	23842.77	22196.53
7. Return on per rupee		2.52	3.15	3.68	3.12	2.18	2.42	2.92	2.51

Current ratio: Current ratio indicates the capacity of the farmers to meet immediate financial obligations (liquidity). A ratio of more than one indicates a favourable run of the farm business. Current ratio reflects liquidity within one year time. The current ratio was worked out for all borrower farmers and non-borrower farmers by dividing the value of total current liabilities to the value of total current assets and is presented in the [Tables-1 to 4]. It is apparent from the table that the liquidity position of borrower farmers of the study area was better than that of non-borrower farmers. The value of current ratio ranged from 1.81 to 3.42 on borrowers farms and 1.02 to 2.90 on non-borrowers farms of the study area. It reveals that the borrower farmers were more sound in term of current assets in comparison to the non- borrower farmers.

Intermediate ratio or working ratio: The intermediate ratio indicates the liquidity position of the farm business over an intermediate period of time, ranging from 2 to 5 years. Here certain time is allowed for the farmer to build up the farm business to improve his liquidity position. This ratio should also be more than one to indicate sound running of the farm business. The steady growth of this ratio over a period is a healthy sign of the farm. This ratio is worked out by dividing the total value of current and intermediate assets by the total value of current and intermediate liabilities. The intermediate ratio was worked out for both borrower and non- borrower farmers of the study area to assess the impact of agricultural credit on farm financial position and are given in [Table-1 to 4]. The results indicate that the value of intermediate ratio was higher on all the categories of borrower farmers in comparison to non- borrower farmers in the study area. It was about 2.40 to 2.93 on borrower farmers against 1.80 to 2.24 non-borrower farmers. Increasing trend was observed in the value of intermediate ratio with increase in the farm size of both borrower and non-borrower farmers. The intermediate ratio worked out for borrower and non- borrower farmers of Sriganganagar district and are presented in [Table-1]. The intermediate ratio of borrower farmers was 2.20, 2.93 and 3.93 on small, medium and large farms, respectively. This ratio was 4.47, 2.10 and 2.72 on non-borrower farms. Similarly, the intermediate ratio of borrower farmers of Hanumangarh district was 2.20, 2.93 and 3.63 on small, medium and large farms respectively and on non-borrower farmers this ratio was 1.47, 2.10 and 2.72. In case of Bikaner district, the intermediate ratio was worked out 1.87, 2.05 and 3.28 for small, medium and large borrower farmers against 1.03, 1.52 and 2.85 for non-borrower farmers, respectively. The intermediate ratio on the farms of borrower farmers of Churu district was 2.05, 2.83 and 3.35 and on the farms of non-borrower farmers this ratio was 1.23, 2.12 and 2.75 respectively. Above analysis shows that financial positions of both borrower and non-borrower farmers was found in both immediate and intermediate periods for all the borrower and non-borrower farmers of selected districts. However, the financial position of borrower farmers, in general, was better than that of non-borrower farmers.

Net Capital Ratio: The net capital ratio indicates the long-term liquidity position of the farmers. If the net capital ratio is more than one, the funds of institutional agencies are safe. The net capital ratio was worked out for both borrower and non- borrower farmers of the study area and are presented in [Table-1 to 4]. It is seen from the above tables that as per the current and working ratio the net capital ratio was also found higher for borrower farmers than non-borrower farmers in the study area. On an overall level, the net capital ratio was 13.00 to 19.60 for borrower farmers in comparison to 10.46 to 16.92 for non-borrower farmers. The positive relationship was observed in net capital ratio with increase in farm size on both borrower and non-borrower farmers. At overall level, the net capital ratio for all the categories of the borrower farmers of the study area was higher for borrower farmers in comparison to the non-borrower farmers.

Income Statement

Gross Farm, Net Farm Income and Return on per rupee investment: In income statement the items included are receipts, expenses, gain and losses. It can be defined as a summary of receipts and gains minus expenses and losses during a specified period. It is prepared for the entire farm for one agricultural year. In income statement, monetary values are assigned to inputs and outputs. Income statement basically constitutes three items *viz*, gross income, net income and return on per rupee investment. Income measures were worked out and are presented in [Tables-1 to 4]. The results show that on farms of all the borrower farmers, the gross income and net income was higher than on the farms of non-borrower farmers in all the selected districts. The per farm difference in gross income, at overall level, was from ` 261838.90 to ` 391490.26 between borrower and non-borrower farmers. This difference was highest in Hanumangarh district. Similarly, the net income received by borrower farmers was also higher than non-borrower farmers of all size groups. The overall difference in net income of borrower and non- borrower farmers was `143771.82 to `274341.69. At overall level, the net income was highest on the farmers of borrower farmers of Hanumangarh district and it was lowest on the farms of borrower farmers of Churu district. At overall level, this difference was `60319.42 on the farms of borrower and non- borrower farmers of the study area. The per hectare net income was also quite high on the farm of all borrower farmers in comparison to the non- borrower farmers. At overall level this difference was `52390.80 for the farmers of Sriganganagar district and ` 26473.91 for the farmers of Churu district. On per hectare basis, the increase of borrower farmers was about 48 per cent higher than that of non- borrower farmers at overall basis in the study area. The per hectare net income was having positive relationship with the size of holding on both borrower and non- borrower farmers. The per rupee return was higher on farms of borrower farmers in comparison to the farms of non- borrower farmers in all the selected districts of the study area. At overall basis, returns per rupee was ` 2.83 to 3.90 on borrower farmers and ` 2.35 to 3.10 on non-borrower farmers of the all districted. The return on per rupee investment on crop production was highest on large farms followed by medium and small farms of both borrower and non-borrower farmers in the study area. The return on per rupee investment was found higher for the farmers of Sriganganagar and Hunumangarh district against the farmers of Bikaner ad Churu districts. At overall level, the average return on per rupee investment of the borrower and non-borrower farmers of Sriganganagar district was 3.41 and 2.81, respectively. Similarly, this return on the borrower and non-borrower farms of hanumangarh district was 3.90 and 3.10, respectively. While, the per rupee return on the borrower and non-borrower farms of Bikaner district was estimated 2.83 and 2.35, respectively. These estimates for the farms of Churu district were 3.12 and 2.51. From the above discussion, it is clear that financial position of both the borrowers and non-borrower farmers of study area was sound. However, the financial position of borrower farmers was much better than that of non-borro farmers. Thus, the implication of the analysis clearly

indicates that the formal agricultural credit played the important role in increasing the farm income, farm investment and agriculture development.

Conclusion

We observed that various data show the different indicator such as Balance sheet and income statement which showed that position of Agriculture development. We also find out production level changes with categories such large, medium and short. The production level vary with return level also vary. Here we talk Agriculture credit than its play great role behind all the activities, which was related to this field. Credit provides through various financing institute to farmers for the Agricultural activities.

Acknowledgement / Funding

I avail the opportunity to express my deep sense of gratitude to Dr. N.K. Singh Proff. Department of Agricultural Economics, SKRAU and Major adviser for his guidance, sustained encouragement. I owe my deepest gratitude to Indian Council of Agriculture Research for providing the necessary facilities and support for research work

Conflict of Interest: None declared

References

[1] Aroutselvam C. and Zeaudeen P. (2000) *Financing Agriculture*, 32(3), 17-18.
[2] Balishter and Kumar P. (2012) *ndian Journal of Agricultural Economics*, 49 (3), 507-508.
[3] Chand R. and Sidhu D.S. (2010) *Financing Agriculture*, 13(2), 18-20.
[4] Majumdar D.K. and Baruah H.K. (1999) *Indian co-operative Review*, 37(1), 1-7.