



Research Article

STUDY ON CROPPING PATTERN OF AGRICULTURAL FINANCE CREDIT BORROWERS AND NON-BORROWERS FARMERS IN ALLAHABAD DISTRICT, U.P

Rohin John., Dinesh Kumar and Nahar Singh

Department of Agricultural Economics & Agribusiness Management, SHIATS, Allahabad, India

ARTICLE INFO

Article History:

Received 26th November, 2016

Received in revised form 12th December, 2016

Accepted 6th January, 2017

Published online 28th February, 2017

Key words:

Credit, Cropping Pattern, Cropping intensity

ABSTRACT

Agriculture forms the core sector of the Indian Economy. It accounts of nearly 15% of the aggregate National Income and provides livelihood for more than 60% at the working population of the country. Credit plays role of improving agriculture production, productivity and thus mitigating the distress the farmers. The purpose of the study is to identify the cropping pattern of borrower and non-borrower farmers. The impact of credit is measured in terms of cropping intensity. Average Cropping intensity (small, medium, large) of borrowers farmer is high with respect to non-borrower's farmers Further, Small and medium size group's credits borrower's and non-borrowers farmers allocated comparatively higher area to the vegetable crops as compared to large size group beneficiaries.

© Copy Right, Research Alert, 2017, Academic Journals. All rights reserved.

INTRODUCTION

Agriculture forms the core sector of the Indian Economy. It accounts of nearly 15% of the aggregate National Income and provides livelihood for more than 60% at the working population of the country. Credit plays role of improving agriculture production, productivity and thus mitigating the distress the formers. Rural credit institutions owing to rapid development of credit cooperatives over a period of one hundred years, i.e., from 1904 onwards, and commercial banks since their nationalization in 1969. The commercial banks have supplied 73.37 per cent of total institutional agricultural credit flow through 37.2 per cent of their branches located in rural areas during 2012-13. The co-operatives and RRBs had the share of 16.84 per cent and 9.79 per cent to the total credit flow to the agricultural sector respectively (RBI, 2014-15). The flow of agricultural credit in India has shown a significant increase of more than ten times from Rs.0.53 lakh crore in 2001-02 to Rs.6.07 lakh crores in 2012-13 (NABARD, 2013-14).

The New technological possibilities thrown open by the recent researches in agricultural science have proved that the total yield per acre can be boosted up by applying the optimum package of farm, inputs such as high yielding variety seeds, fertilizers pesticides, insecticides, etc. These also indicated that the desired adoption of new technology demand higher capital deployments. The response of a farmer to new technology could, therefore, be visualized as a function of his financial resources supporting this Conjecture, majority of group of farmers equipped with better financial resources is able to derive mostly the benefits of new technology. Shortage of finances has been identified as the

major constraint in cases of marginal and small formers to shift over the new methods of cultivation.

REVIEW OF LITERATURE

Rajeswari and Neelkanta (2011) studied the credit gap. The study was on the short term borrowers and long term borrowers house holds in Thiruvardur district of Tamil Nadu. Agricultural credit helps farmers to go for short-term credit for purchase of high cost inputs and other services and for making investment on capital assets with the support of long term credit facility. Further, adoption of new technological inputs obtained through farm finance helps in enhancing farm productivity.

Mohan (2004) Investments on farm assets and supporting infrastructure provided by large scale financial activities entail increased farm income and livelihood status of the farmers. Thus agricultural credit not only enhances farm productivity but also strengthens forward and backward linkages in agricultural production.

Sidhu and Gill (2006) in their study conducted at Punjab assumed that while marginal and small farmers required 100 per cent of their operational cost as short-term credit, the proportion varied from 50 per cent to 100 per cent under different scenarios for the medium and large farmers. The present study, 90, 70 and 50 per cent of the working capital incurred on the cultivation of crops were assumed to be the credit requirement or the demand for credit for marginal, small and medium and large farmers respectively.

METHODOLOGY

The study was conducted in the district of Allahabad. It is situated in the south eastern part of the state of Uttar Pradesh

which touches the boundary of neighboring state Madhya Pradesh. There are 20 community development blocks in the district. A stage stratified sampling technique was used for this study. District Allahabad of UP was selected purposively. All the 20 blocks of District Allahabad was arranged in descending order of the agricultural officers. One blocks namely Kaurihar and second blocks namely Jasra as selected purposively.

A complete list of all villages will be obtained from the block development office of the selected block. A sample of 10 villages will be selected randomly from each block. A list of If the Credit borrowers farmers from selected village were prepared and categories in three group.Small (below 1 hectare) Medium (1-2 hectare) large (2 hectare above) A sample for this study of 120 KCCs (30 marginal 42 small and 48 large) were selected.

Analytical Techniques

Tabular analysis Tabular analysis was used to work out to find out the cropping pattern of borrower’s and non-borrower’s farmer’s average is a number expressing the central value in a set of data. It is calculated by dividing the sum of the values in the set by their number. Percentage is used for making the simple comparison. For calculating percentage, frequency of particular cell was multiplied by 100 and divided by total no. of observations or respondents in that particular category to which cell belonged. The equation can be put as follows

$$\text{Percentage} = \frac{\text{Given amount}}{\text{total amount}} \times 100$$

Cropping intensity- It refers to raising number of crops from the same field during one agriculture year. Cropping intensity is being calculated

$$\text{Cropping intensity} = \frac{\text{Gross cropped area}}{\text{net sown area}} \times 100$$

Table 1 Cropping pattern on different size group of credits borrowers (ha)

S.no	Name of group	Medium		Medium		Large		Average	
		Ha	%	Ha	%	Ha	%	Ha	%
A.	Non-vegetable crops	1.078	75.12	2.778	80.85	4.478	73.25	2.995	81.80
a.	Cereals	0.846	58.95	1.999	58.18	1.998	32.68	1.452	39.66
1	Paddy	0.413	28.78	1.055	30.70	0.110	1.79	1.210	3.27
2	Wheat	0.374	26.06	0.909	26.46	0.818	13.38	0.120	3.27
3	Maize	0.052	3.62	0.009	0.26	0.018	0.29	0.110	3.00
4	Barley	0.007	0.49	0.026	0.76	0.052	0.85	0.012	0.32
b.	Pulses	0.087	6.06	0.242	7.04	0.454	7.42	0.783	21.38
1	Arhar	0.041	2.86	0.070	2.04	0.14	2.29	0.300	8.19
2	Gram	0.006	0.42	0.037	1.08	0.074	1.21	0.220	6.00
3	Mung	0.022	1.53	0.64	1.86	0.128	2.09	0.130	3.55
4	Urd	0.0009	0.63	0.021	0.61	0.042	0.68	0.111	3.03
5	Lentil	0.0009	0.63	0.050	1.46	0.070	1.14	0.012	0.32
c.	Oil seeds	0.043	3.00	0.057	1.66	0.113	1.84	0.213	5.81
1.	Rape & Mustard	0.036	2.51	0.052	1.51	0.104	1.70	0.102	2.78
2.	Linseed	0.007	0.49	0.005	0.15	0.009	0.14	0.111	3.03
d.	Fodder	0.077	5.37	0.217	6.32	0.387	6.33	0.227	6.20
1	M.P chari	0.012	0.84	0.051	1.48	0.120	1.96	0.102	2.78
2	Berseem	0.017	1.18	0.050	1.46	0.144	1.86	0.013	0.35
3	Jower	0.048	3.34	0.116	3.38	0.123	2.01	0.112	3.05
e.	Cash crops	0.025	1.74	0.263	7.65	1.526	24.96	0.604	16.49
1.	Sugarcane	0.025	1.74	0.263	7.65	1.526	24.96	0.604	16.49
B.	Vegetable	0.357	24.88	0.658	19.15	1.635	26.74	0.795	21.71
a.	Cole crop	0.015	1.05	0.049	1.43	0.103	1.68	0.055	1.50
1	Cauliflower	0.012	0.84	0.035	1.02	0.075	1.22	0.032	0.87
2.	Cabbage	0.003	0.21	0.014	0.41	0.028	0.45	0.023	0.62
b.	Tuber & Root crop	0.078	5.44	0.174	5.06	0.348	5.69	0.002	0.05
1.	Potato	0.078	5.44	0.174	5.06	0.348	5.69	0.002	0.05
a.	Legume crop	0.042	2.93	0.118	3.43	0.236	3.86	0.132	3.60
1	Pea	0.018	1.25	0.088	2.56	0.176	2.87	0.094	2.56
2	Cow pea	0.024	1.67	0.030	0.87	0.06	0.98	0.038	1.03
d.	Spices	0.053	3.69	0.085	2.47	0.466	7.62	0.201	5.49
1	Chilli	0.027	1.88	0.046	1.34	0.92	15.04	0.1000	2.73
2	Onion	0.018	1.25	0.026	0.76	0.52	8.50	0.001	0.02
3	Garlic	0.004	0.24	0.004	0.12	0.008	0.13	0.100	2.73
4	Coriander	0.004	0.24	0.009	0.26	0.018	0.29	0.000	0.00
e.	Common vegetables	0.169	11.78	0.232	6.75	0.482	7.88	0.294	8.03
1	Okra	0.033	2.30	0.057	1.66	0.114	1.86	0.011	0.30
2	Radish	0.022	1.53	0.007	0.20	0.114	1.86	0.011	0.30
3	Brinjal	0.015	1.05	0.072	2.10	0.144	2.35	0.010	0.27
4	Tomato	0.044	3.07	0.033	0.96	0.066	1.07	0.011	0.30
5	Bitter Gurad	0.003	0.21	0.005	0.15	0.01	0.16	0.010	0.27
6	Bottle guard	0.006	0.42	0.005	0.15	0.01	0.16	0.010	0.27
7	Pumpkin	0.008	0.56	0.001	0.03	0.02	0.32	0.010	0.27
8	Cucumber	0.029	2.02	0.015	0.44	0.03	0.49	0.010	0.275
9	Painted Guard	0.002	0.14	0.014	0.41	0.028	0.45	0.011	0.30
10	Colocasia	0.007	0.49	0.023	0.67	0.046	0.75	0.100	2.73
	Cropped Area	1.435	100.00	3.436	100.00	6.113	100.00	3.661	100.00
	Net cultivated area	0.624	-	1.716	-	2.855	-	1.558	-
	Cropping intensity	229.7	-	200.23	-	179.36	-	203.18	-

RESULT AND DISCUSSION

The cropping pattern of different size of borrowers (Small, Medium, and large size) on the basis of vegetable and non-vegetable credits borrowers of the study area.

The small, medium and large size group credit borrowers devoted 75.12 percent and 80.85 percent and 73.25 per cent area under non-vegetable crops 24.88 percent and 19.15 percent 26.74 percent and area under vegetable crop respectively. Small and medium size groups' credits borrowers allocated comparatively higher area to the vegetable crops as compared to large size group beneficiaries. Whereas large size group credits borrowers spared highest percentage of area for non-vegetable crops as compared to the small and medium 1.452 hectare was occupied by crops, followed by 0.783 hectare under pulses 0.604 hectare under cash crops, hectare 0.227 under fodder crops and hectare 0.213 oil seed crops.

The area under cereals crops, pulses crops, cash crops, fodder crops and oil crops to the gross cropped area were accounted for 39.66 percent, 21.38 percent, 16.49 per cent, 6.20 percent and 5.81 per cent respectively.

The maximum area was recorded by paddy (1.210) hectare in cereal crops, Arhar(0.300) hectare in pulses crops, sugar cane (0.604) hectare in cash crops rapeseed & mustard (0.102) hectare in oilseeds and jower (0.112) hectare in fodder crops. Per cent area of these respectively non-vegetables crops to the total cultivated area was 3.27, 16.49, 3.05, 8.19 and 2.78 respectively.

Among the vegetables crops, common vegetable were shown in the maximum area ie 0.294 hectare followed by 0.002 hectare under tuber & root crops 0.132 hectare under legume crops 0.201 hectare under spice and 0.05 hectare under Cole crop. The percentage of area under common vegetables was 8.03, tuber and root crops 0.05, legume crops 3.60, spices 5.49, and cole crops 1.50 percent respectively.

Table 2 Cropping pattern on different size group of Credits non-borrowers (ha)

S.no	Name of group	Medium		Medium		Large		Average	
		Ha	%	Ha	%	Ha	%	Ha	%
A.	Non-vegetable crops	0.431	39.68	1.712	74.43	2.133	65.91	1.425	64.56
a.	Cereals	0.321	29.55	1.517	65.95	0.755	23.33	0.864	39.14
1	Paddy	0.113	10.40	1.000	43.47	0.314	9.70	0.475	21.52
2	Wheat	0.174	1.60	0.502	21.82	0.309	9.54	0.328	14.86
3	Maize	0.032	2.94	0.004	0.17	0.032	0.98	0.022	0.99
4	Barley	0.002	0.18	0.011	0.47	0.100	3.09	0.037	1.67
b.	Pulses	0.047	4.32	0.096	4.17	0.309	9.54	0.149	6.75
1	Arhar	0.026	2.39	0.022	0.95	0.054	1.66	0.034	1.54
2	Gram	0.006	0.55	0.018	0.78	0.096	2.96	0.004	0.18
3	Mung	0.012	1.10	0.033	1.43	0.033	1.01	0.026	1.17
4	Urd	0.003	0.27	0.008	0.34	0.030	0.92	0.013	0.58
5	Lentil	0.003	0.27	0.015	3.45	0.096	2.96	0.114	5.16
c.	Oil seeds	0.024	2.20	0.033	14.34	0.083	2.56	0.288	2.56
1.	Rape & Mustard	0.024	2.20	0.033	14.34	0.002	0.06	0.019	0.86
2.	Linseed	-	-	-	-	0.081	2.50	0.018	2.50
d.	Fodder	0.039	3.59	0.066	15.18	0.986	30.46	0.363	16.44
1	M.P chari	0.010	0.92	0.033	7.59	0.85	26.26	0.29	13.14
2	Berseem	0.007	0.64	0.015	0.65	0.100	3.09	0.040	1.81
3	Jower	0.022	1.94	0.018	0.78	0.036	1.11	0.253	11.46
e.	Cash crops	-	-	-	-	-	-	-	-
1.	Sugarcane	-	-	-	-	-	-	-	-
B.	Vegetable	0.015	13.81	0.485	21.08	0.834	25.77	0.444	20.11
a.	Cole crop	0.003	0.27	0.077	3.34	0.021	0.64	0.033	1.49
1	Cauliflower	0.003	0.27	0.077	3.34	0.021	0.64	0.033	1.49
2.	Cabbage	-	-	0.009	0.39	0.013	0.40	0.011	0.49
b.	Tuber & Root crop	0.021	1.93	0.089	3.86	0.022	0.67	0.044	1.99
1.	Potato	0.021	1.93	0.089	3.86	0.022	0.67	0.044	1.99
a.	Legume crop	0.023	2.11	0.063	2.73	0.099	3.05	0.061	2.76
1	Pea	0.008	0.73	0.044	1.91	0.079	2.44	0.043	1.94
2	Cow pea	0.015	1.38	0.019	0.82	0.02	0.61	0.018	0.81
d.	Spices	0.028	2.57	0.034	1.47	0.36	1.11	0.140	6.34
1	Chilli	0.018	1.65	0.020	0.86	0.13	4.01	0.056	2.53
2	Onion	0.010	0.92	0.014	0.60	0.22	6.79	0.081	3.67
3	Garlic	-	-	-	-	-	-	-	-
4	Coriander	-	-	-	-	-	-	-	-
e.	Common vegetables	0.064	5.89	0.103	4.47	0.269	8.31	0.145	6.57
1	Okra	0.011	1.01	0.020	0.86	0.100	3.09	0.043	1.94
2	Radish	0.009	0.82	0.003	0.13	0.008	0.24	0.666	30.17
3	Brinjal	0.008	0.73	0.026	1.13	0.099	3.05	0.044	1.99
4	Tomato	0.013	1.19	0.022	0.95	0.033	1.01	0.022	0.99
5	Bitter Gurad	-	-	-	-	-	-	-	-
6	Bottle guard	-	-	-	-	-	-	-	-
7	Pumpkin	0.002	0.18	0.001	0.04	0.002	0.06	1.666	75.48
8	Cucumber	0.021	1.93	0.009	0.39	0.009	0.27	0.013	0.58
9	Painted Guard	-	-	0.022	0.95	0.018	0.55	0.013	0.58
10	Colocasia	-	-	-	-	-	-	-	-
	Cropped Area	1.086	100.00	2.300	100.00	3.236	100.00	2.207	100.00
	Net cultivated area	0.456	-	0.176	-	1.722	-	0.964	-
	Cropping intensity	17901.	-	190.00	-	200.00	-	189.07	-

Table 3 cropping Intensity of different size of farms

Farm Size group	Borrower's Farmer			Non- Borrower's Farmer		
	Net Cultivated area (ha)	Gross cropped area(ha)	Cropping intensity (%)	Net Cultivated area (ha)	Gross cropped area(ha)	Cropping intensity (%)
Small	0.629	1.435	229.97	0.456	0.421	179.10
Medium	1.716	3.436	200.23	0.716	1.712	190.00
Large	2.855	6.113	179.36	1.722	2.514	200.00
Average	1.588	3.661	203.18	0.964	1.422	189.07

Table 2 reveals that the small, medium, and large size group non –borrowers devoted 39.69 percent and 74.43 percent and 65.91 percent area under non- vegetable crops and 13.81 percent and 21.08 per cent and 25.77 per cent under vegetable crop respectively. Small and medium size group credits non-beneficiaries allocated comparatively higher area to the vegetable crops as compared to large size group credits non-beneficiaries. Whereas large size group credits non-beneficiaries spared highest percentage of area for non-vegetable crops as compared to the small and medium size group credits non- beneficiaries. Among the non-vegetable crops the maximum area i.e 1.086 hectare was occupied by crops, followed by 0.047 hectare under pulses 0.000 hectare under cash crops, 0.039 under fodder crops, and 0.024 hectare oil seed crops. The area under cereals crops , pulses crops, cash crops, fodder crops and oil seed crops to the gross cropped area were accounted for 39.14 percent, 6.57 per cent, 2.56 per cent and 16.44 per cent respectively.

The maximum area was recorded by paddy(0.475) hectare in cereal crops, Arhar (0.034 hectare in pulses crops, sugarcane (0.00) hectare in cash crops, rapeseed & mustard (0.019) hectare in oilseeds and jower 0.253 hectare in fodder crops. Percent area of these respectively non- vegetables crops to the total cultivated area was 21.52, 1.54, 0.86 and 11.46 respectively.

Among the vegetable crops, common vegetable were shown in the maximum area i.e 0.145 hectare followed by 0.044 hectare under tuber & root crops 0.061 hectare under legume crops 0.140 hectare under spices and hectare under 0.033 Cole crops. The percentage of area under common vegetables was 6.57, tuber and root crops 1.99, legume crops 2.76, spices 6.34, and Cole crops 1.49 percent respectively.

Cropping Intensity

From the above table 4.5 states that cropping intensity of borrower farmers 229.97 percent in case of medium size group followed by 200.23 percent on medium size group followed by 179.36 per cent on large size group while the cropping intensity on Non-borrowers farmers of different size group is 179.10,190.00, 200.00 of small, medium large groups respectively.

CONCLUSION

Small and medium size group’s credits borrower’s allocated comparatively higher area to the vegetable crops as compared to large size group beneficiaries. Whereas large size group credits borrowers spared highest percentage of area for non-vegetable crops as compared to the small and medium whereas Small and medium size group credits non-beneficiaries allocated comparatively higher area to the vegetable crops as compared to large size group credits non-beneficiaries. Whereas large size group credits non-beneficiaries spared highest percentage of area for non-vegetable crops as compared to the small and medium size group credits non- beneficiaries. Average cropping intensity (small, medium, large group) of borrower’s farmer is high.

Reference

Rajeswari, S. and Neelakanta Sastry. (2011). Impact of External Finance on Farm Returns an Employment in Kadapa District,, Andhra Pradesh, *Financing Agriculture*, 43: 6
 Sidhu, R.S. and S.S. Gill. (2006). Agricultural Credit and Indebtedness in India: Some Issues, *Indian Journal of Agricultural Economics*, 61: 11-35.
 Mohan R. (2004). Agricultural Credit in India: Status, Issues and Future Agenda, RBI Bulletin, November, Mumbai: Reserve Bank of India.
