Institutional Credit: A Policy Tool for Enhancement of Agricultural Income of Pakistan

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Abstract

Credit is an important instrument in enabling farmers to acquire commands over the use of working capital, fixed capital and consumption goods. After the emergence of green revolution, there have been overtime changes in crop production technology, so credit requirements have increased for both inputs for crop production and farm investment. The small farmers, with a limited ability to finance investment, have become the logical target group for loans advanced by the credit institutions. Various policy measures were initiated in successive five years plans to meet the real challenge of reaching the needy farmers with credit. Thus the total amount of agricultural credit reflected thirteen folds increase in 2001-02 over 1980-81. The credit disbursed was Rs.80.2 per cultivated acre and Rs. 84.2 per cropped acre in 1980-81 and it increased many folds in 2001-02 and reached Rs. 939 per cultivated acre and Rs. 938 per cropped acre in nominal term. In real term it increased from Rs. 80 to Rs. 191 per cultivated acre and Rs. 84 to Rs. 191 per cropped acre during the same period. The coverage under disbursement of institutional credit was only 1.24 percent of the farms upto 5.06 hectares. According to regression results for all considered equations, agriculture credit contributed positively and significantly in agricultural income. The estimated elasticity was 0.36. Despite constant increasing trend in disbursement in nominal term, the loans were not expanded in qualitative term. So, this is a challenging issue for the policy maker to develop measures to improve efficiency of agricultural credit system by providing it to the needy farmers.

Introduction

Credit is an important instrument in enabling farmers to acquire commands over the use of working capital, fixed capital and consumption goods. After emergence of green revolution, there have

been overtime changes in crop production technology, so credit requirements have increased for both inputs for crop production and farm investment. The small farmers, with a limited ability to finance investment, have become the logical target group for loans advanced by the credit institutions. The farmers often face a fragmented credit market with a pre dominant non-institutional credit with several rates of interest generally much higher than the institutional loans. Realizing that, the government began to emphasize the role of institutional credit to increase both productivity and production. Different specialized financial institutions, catering specifically to the credit requirements of the rural sector, were established. Despite such efforts, there was a growing feeling that most farmers were unable to borrow sufficiently to take full advantage of the opportunities opened up by the emergence of green revolution.

The government concern to ensure the availability of credit for farmers to take advantage of the gains from the spread of modern technology, institutional credit was heavily subsidized. The mark-up free credit scheme introduced by the government of Pakistan in 1979 was designed to provide short-term interest free loans to the small farmers for production purposes.

These distortions in the interest rate structure coupled with other weakness in the system resulted in the access to institutional rural credit being dominated by the political influential large farmers for the adoption of chemical oriented technology. The setting of mandatory landing targets by the National Credit Consultative Council (NCCC), which increased dramatically each year after the rate in excess of 25 percent per annum, facilitated a process of rolling over the debt to large farmers (Meller, 1995)

Various policy measures were initiated in 7^{th} five year plan and other successive five year plans to meet the real challenge of reaching the needy farmers with credit. This reflected tremendous increases in the quantum of institutional credit. The total amount of agricultural credit provided by various institutional sources, which was Rs. 16.3 billion in 1986-87, was 13 percent of the GDP generated in agricultural sector. It reflected thirteen fold increase in 2001-02 over 1980-81. The ratio of institutional credit as a proportional of sectoral GNP of agriculture increased three fold from 4.0 percent in 1976-77 to about 13.0 percent in 1986-87(Government of Pakistan, 1988). Again there was a abrupt

increase in total amount of loan and it increased from Rs.14163.29 million in 1988-89 to 21971.05 million in 1994-95 while in 1998-99 it was Rs. 42562.5 million. However, it decreased to Rs. 37661.56 million in 1999-2000.Despite very impressive gains in the expansion of agricultural credit, agricultural production measured as an index with base year 1980 grew at only 170 percent in 1997-98*.The ratio of institutional credit to agricultural GNP increased by 7.36 percent in 1998-99 over 1981-82. However this progress made in expanding agriculture credit in quantitative term was not equally encouraging in qualitative terms. This leads towards the consensus that agriculture sectors was operating at relatively low level of productivity despite possible consideration given to this sector, to adopt the latest cash intensive crop production technology. This study was under taken thus to focus on responsiveness of agriculture to increased institutional credit disbursed for this sector.

Objectives of the study

The main objectives of the study were as under:

- To study the growth and disbursement pattern of institutional credit
- To assess contribution of institutional credit in agricultural income
- To suggest policy measures to be considered by policy makers in future

Methodology

Secondary data penetrating from 1980-81 to 2001-2002 was collected and analyzed to use in the study. The main source of data was various issues of Agricultural Statistics of Pakistan. The method of analysis applied to derive the results was as under:

*Government of Pakistan (2003), "Agricultural Statistics of Pakistan 2001-02,"
Ministry of Food and Agriculture &Livestock (Economic Wing), Islamabad

The estimates regarding growth rate of institutional credit were made using simulation values for the considered period calculated by using the least square method; (OLS)

$$Y = a + bx$$

The growth rate formula applied was as under;

$$[EXP \{\log (y^{\wedge}_{t+n} / y^{\wedge}_{t})\} / T)] - 1 \times 100$$

T = Total Considered Period

To assess contribution of institutional credit in agricultural income, and isolate contribution of various related factors in agricultural output, regression model was used. The model was follows;

$$Y = a + \Sigma_{i=1}^{n} b_i X_i + e$$

Where

Y = Agricultural income
X_i = Relative input
i……n =Various inputs
e = error term

So the generalized functional form of the model was as under;

$$Qt = a + b_1 CR_t + b_2 TW_t + b_3 TR_t + b_4 FZ_t + b_5 PS_t + b_6 Lb_t + e$$

To assess elasticity of each factor contributing to agriculture income Cobb Douglas Production Function was applied. So the final form of equation in this case was as under:

$$Q_t = a_o . CR_t^{b_1} . TW_t^{b_2} . TR_t^{b_3} . FZ_t^{b_4} . PS_t^{b_5} . Lb_t^{b_6} . e$$

Where

Qt = Agricultural income in year t
CR_t = Amount of credit disbursed by various institutions in year t
TR_t = No. of tractors in year t
FZ_t = Use of chemical fertilizer in nutrient terms in period t
PS_t = Values of pesticides used for various crops in year t
Lb = Labour working in agricultural sector in year t
e = error term
b_1 to b_6 = Co-effeient of Parameters

The values of various factors were estimated on per cultivated acre and cropped acre to use in the model. Separate equation was run for Output as well as input per cultivated acre, output as well as inputs on per cropped acre basis.

Variable Rationale

Agricultural income per cultivated acre as well as per cropped acre was assessed considering agricultural GDP. Since the agricultural credit disbursed was not confined to specific sub-sector of agricultural, but its coverage has been expanded to all the sub sectors, such as fish farming, forestry, livestock and crop enterprise since entrepreneur of any specific sub sector or managing all the sub sectors has been provided equal opportunity to receive and utilize the credit for agricultural development.

- Credit disbursed by the institutional sources comprises production loans and development loans. Production loans are provided to the farmers to adopt the latest crop production technology, whereas development loans are long-term loans and are provided to the farmers for capital formation at farm level. So both the categories of loans contribute directly or indirectly in enhancement of agricultural production. Though the conceptual expectations of the misuse of the agricultural credit are not beyond comprehension, yet such practice could be limited to some specific individuals encountering finance problem for social activities and sometime to meet day-to-day consumption expenses. However, a relatively large proportion uses the agricultural credit appropriately. Thus, the production credit per cultivated as well as credit per cropped acre was considered variable for the equation.
- Irrigation water is the scarce input in some areas of the country. Irrigation water facility was negligible in some areas, whereas in certain areas the rain is the only source of crop production. However, to fill the deficit of supply and requirements of irrigation water, the credit was given to the farmers for the installation of the tube wells. Thus overtime change in number of tube wells was considered the variable affecting the agricultural income, and this input was proxy for development loan.
- Tractors are not used only for the ploughing operations but also for the transportation of agricultural produce from farm to market and farm inputs from market to farms. Besides this timeliness in completion of the farm operation can be ensured. In addition to all this

its saves the time of farmers to adopt other relative manual operation to enhance agricultural productivity. Since majority of the farmers have purchased tractors on credit trough agricultural schemes. Its contribution in enhancement of agricultural production becomes certain thus the inclusion of this variable in economic analysis of farm enterprises is of great significance. So the number of tractors was the considered variable. Though the use of tractor on off- farm activities is debatable issues, yet this may not be at the cost of farm activities. Moreover, this was also a proxy variable for development loan.

- Chemical fertilizer is used to maintain the fertility of the land. Due to excessive use of farm land for crop cultivation and overtime increase in cropping intensity have deteriorated the land fertility, Moreover due to organic composition, chemical fertilizer can be used to increase specific nutrient's capacity after soil testing to ensure its suitability for increasing production of specific crop under required balanced soil structural environment. This ensures increase in land productivity. With the passage of the time its use has become universal and every farmer wants to crop and harvest its benefits. To ensure its use specifically at the farm of the farmers with weak financial position it is credited in kind by the financial institutions to increase productivity and production. This leads towards the justification of this variable to be included in the specified model and it is considered in nutrient terms.
- Pesticides and weed sides are used to save the crop from pest-infestation and weeds respectively. These results in reduction of crop productivity specifically in this era of researcher's consideration towards vertical hazardous issues. In all, the major and high value crops, the use of both these inputs has become essential to ascertain increase in crop productivity. So the use of this input was considered collectively in value terms.
- Labour is the primary input in all the sectors of the economy. However, its use pattern at farm level is of great importance due to seasonality. Moreover, a critical issue of disguised unemployment of rural labour in agricultural sector has become crucial. So to estimate contribution of the labour towards agricultural production becomes essential. Thus the labour force working in agricultural sector was considered the variable for study purpose.

Results of the study

Zuberi(1989) stated that the strategy for agricultural development in the country had been based on greater utilization of "high pay-off" low cost technology. The government advanced loans through financial institutions to make it possible for the farmers to acquire this technology. According to Malik et.al, (1989) there was a serious and growing problem of access to institutional credit especially by the small and tenant farmers, despite many folds growth of institutional credit. In this section credit disbursement pattern, requirements and allocation have been discussed.

Credit Disbursement Pattern

The policy approach adopted in the country has been multi-dimensional one. It has been evolved gradually and implemented in disbursement of agricultural credit. The data presented in the Table-1 revealed that the total credit increased about thirteen folds i.e. from Rs.40424.31 million in 1980-81 to Rs.51347.82 million in 2001-02. Agricultural credit disbursed in nominal terms increased by 271.9 percent from 1980-81 to 1990-91. However such credit increased by 243.0 percent from 1990-91 to 2001-2002. Consequently, the agricultural credit has undergone considerable increase overtime. In 1995-96 the total agricultural credit disbursed was Rs. 21215.6 million, while it increased to Rs. 42562.5 million in 1998-99 and than Rs.51347.86 million in 2001-02.As credit plays an important role in rural development, the supply of total credit had been on increase from year to year. The average growth rate estimated for the period was 16.9 percent in nominal term.

In real term it fluctuated ranging from Rs.5601 million to Rs.9726 million during the considered period i.e. 1990-91 to 1999-2000.There emerged decrease in the value of the credit in real term in 1991-92 over 1990-91 and in 1993-94 over 1992-93,while such decrease then occurred in 1996-97.The average growth rate estimated in real terms was 3.46 percent. The figure-1 reflected the fluctuation pattern of nominal and real credit disbursement pattern.

Figure-1: Overtime Changes in Institutional Credit Disbersement in Pakistan

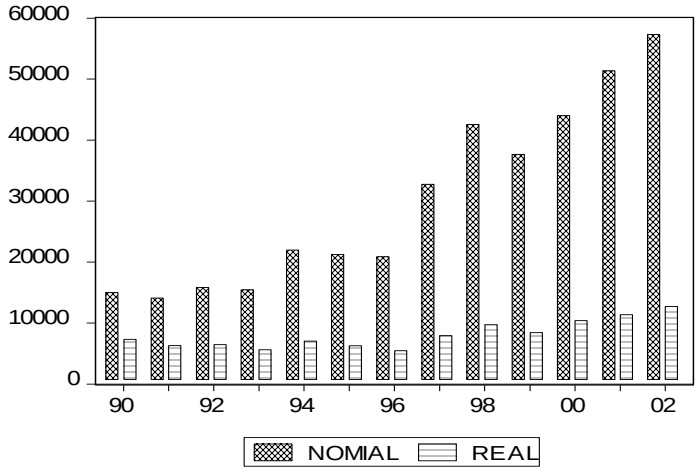

Table-1:- Overtime Changes in Credit Disbursement

Year	Nominal	Real
1990-91	14968.64	7332
1991-92	14125.04	6296
1992-93	15825.20	6479
1993-94	15413.32	5601
1994-95	21971.05	7028
1995-96	21215.46	6267
1996-97	20893.54	5441
1997-98	32748.53	7921
1998-99	42562.50	9726
1999-2000	37661.56	8373
2001-2002	51347.86	10436

Source: Various issues of Agricultural Statistics of Pakistan, Rs in Million

Credit Disbursement by Land Utilization

The area, which is brought under plough to cultivate crop is called cultivated area, whereas the area allocated to various crops during the year and area sown more than once constitute cropped area. Credit disbursed by various institutions was estimated on per cultivated acre and per cropped acre basis, which gives the actual volume of the credit against the requirements. The data presented in the Table-2 revealed that the credit disbursed was Rs.80.2 per cultivated and Rs.84.2 per cropped

acre in 1980-81 in nominal terms. This increased manifolds in 1990-91 and the credit per cultivated acre and credit per cropped acre was estimated at Rs. 289 and Rs.277 respectively.

In 2001-02, the total credit disbursed by various institutions was Rs.51347.82 million. On per cultivated and per cropped basis it was about equal i.e. Rs.939 per cultivated acre and Rs.938 per cropped acre in nominal term. In real term it was Rs.80 and Rs. 84 per cultivated and per cropped acre respectively in 1980-81, which increased to Rs. 142 per cultivated acre and Rs.136 per cropped acre in 1990-91.In 2001-2002, The credit disbursed in real term was Rs..191 per cultivated acre and per cropped acre. This reflected that in this era of expensive technology comprising machinery and bio-chemical, the credit given to the farmers was quite insufficient, while the cropping intensity was on increase over years. So there is a need to review deeply the credit disbursement policy to confine it to certain target groups comprising needy farmers. This would lead to harvest the real benefits of disbursed institutional credit

Table-2: Distribution of Agricultural Credit by Land Utilization

Year	Total Credit (Rs.In Million)	Total Cultivated Area (Million Acres)	Total Cropped Area (Million Acres)	Agricultural Credit	
				Rs./ Cultivated Acre	Rs./ Cropped Acre
1980-81	40424.31 (4024)*	50.2	47.8	80.2 (80)	84.2 (84)
1990-91	14968.46 (7332)*	51.79	53.92	289 (142)	277 (136)
1992-93	15825.20 (6479)	52.87	55.45	299 (122)	285 (168)
1995-96	21215.46 (6267)	53.57	55.81	396 (116)	380 (112)
1998-99	42562.50 (9726)	54.04	56.73	787 (179)	750 (171)
2001-2002	51347.82 (10436)	54.68	54.73	939 (191)	938 (191)

*Figures in Parenthesis indicate real value of agricultural credit.
Source: Various issues of agricultural statistics of Pakistan

Credit Disbursed by Farm Size categories

In view of pre pondering majority of small farmers in our farming system, the provision of agriculture credit on time and through a simplified system assumes greater importance. The mechanism for processing the credit expeditiously and directing it towards the small farmers was given greater attention overtime. The data regarding disbursement of agricultural credit has been presented in Table-3. The results in this table indicate that the farms having area up to 5.06 hectares were 80.9 percent of the total farms, while the coverage under disbursement of institutional credit was only 1.24 percent. The average amount of loan given per farm was Rs.20.58, whereas it was Rs.1.81 per acre. In case of owning farm land above 5.06 hectares to 20.23 hectares, the total farm were 17.0 percent, while 3.75 percent of the farmers of this category were brought under coverage of loan distribution .However, the amount of credit disbursed was Rs.355.73 per farm and Rs.8.32 per acre. The highest coverage 5.98 percent with respect to disbursement of institutional credit was in case of the farmland owners with above 20.23 hectares, while the average amount of loan disbursed was Rs.788.03 per farm and Rs.42.43 per acre.

This situation supported the general complaint that the agricultural loans do not reach the small deserving farmers due to misuse at large-scale through proxy loaning, family loaning and paper loaning.

Table-3:- Agricultural Credit Disbursement by Farm size in 2000

Farm Size (Hectare)	Total Farm		Farm Coverage	Rs/ Farm	Rs/ Acre
	No.	Percent	Percent		
Up to 5.06	4102739	80.9	1.24	20.58	1.811
>5.06 - 20.23	861039	17	3.75	355.73	8.32
Above 20.23	107185	2.1	5.98	788.03	42.43

Report on National Commission on Agriculture (1998)

Requirements, Allocation and disbursement of Agricultural Credit

In order to make the agricultural credit effective with respect to the adoption of the latest crop production technology, it is equally important that disbursement must be according to the requirements. The data given in Table-4 revealed that against total requirements, allocation had always been less and disbursement continued to decline against allocation. Poor resource generation particularly due to non-recovery rates had been responsible for lower disbursement. In order to increase the recoveries, the government announced incentives and relaxation. The recovery of loans extended before the year 1985 was allowed on simple mark up basis or reduce the balance, which had accrued due to compound interest rates, provided the balance is paid on scheduled date. Farmers holding lands 12.5 acres or less were also exempted from mark up and surcharge fines, if they clear their debt balance up to the prescribed date. The commercial banks were also instructed to sanction more loans to agriculture sector.

In 1995-96, the allocation was 36.4 percent of the requirement. Thus, the disbursement was 79.4 percent of the allocation. So disbursement remained less than allocation, which was already less than the requirements.

Table-4: Requirements, Allocation and Disbursement of Agricultural Credit (Rs./ Farm)

Year	Requirements	Allocation	Disbursement	Allocation as %age of Requirement	Disbursement as %age of Requirement
1987-88	17987.0	15595.00	15537.8	86.70	99.63
1988-89	18662.40	15592.00	14228.8	88.91	85.76
1989-90	22542.50	18632.00	13407.12	82.65	71.96
1990-91	31815.10	18471.00	14619.16	58.06	79.15
1991-92	39141.70	21392.00	14399.94	54.65	67.361
1992-93	48981.00	20797.00	16238.22	42.46	78.08

1993-94	52443.80	24643.00	15955.81	46.99	64.75
1994-95	62202.0	29008.00	22503.51	46.64	77.58
1995-96	68077.60	24806.00	19688.72	36.44	79.37

Source: Government of Pakistan (1998), "Assessment of Requirement of agricultural Credit," State Bank of Pakistan, Karachi-Pakistan

Regression Results

Financial abilities and management qualities of the farmers determine the productivity and profitability in the farm business. High yield of crops is not possible without judicious application of package of farm inputs. Agricultural credit is provided to the farmers to overcome financial constraint and to adopt modern package of bio-chemical technology of crop production, thus to assess the uses or abuses of the agricultural credit use, two models i-e. simple linear and log linear comprising each two equations i.e. variables estimated on per cultivated acre and per cropped acre were regressed on ordinary least square method (OLS). The results of both the equations were presented in Table-5. The data in this table indicate the good fitness of the equation with estimated determination of the co-efficient (R^2) with explained variability to the extent to 98.0 percent by considered explanatory variables in dependent variable i.e. agricultural income per cultivated acre in case of equation-1.The results of the regression analysis supported the appropriate use of the agricultural credit, as it was obvious by its highly significant contribution in agricultural income(t-value 3.215).Number of tube wells, which was considered as proxy for provision of irrigation water, also contributed not only positively but also highly significant at 95.0 percent precision Level (t-value 2.801). Number of tractors was a proxy variable for benefits of mechanization in farm business. This variable contributed positively, but insignificant. This reveals that this aspect of mechanization was not sharing in increasing the agricultural production according to the expected level. Underlying reason may be the excessive use of the tractors on off-farm activities i.e. road construction, bricks transportation etc due to relatively higher cash returns associated with these activities

Chemical fertilizer also contributed positively but non-significant to agricultural income. This situation leads towards inappropriate use of this input of paramount importance in the context of maintenance of fertility in soil. Undoubtedly its use could be considered universal, since every farmer is using certain doze of chemical fertilizer in his field, but this use is random without analyzing the texture of the soil, whereas to reap the expected results its use, considering the soil requirements, is essential. Similar to that pesticide contributed positively but insignificant. Pesticides and weedicides were considered as single variable. This indicates that in certain cases specifically major crops like cotton, rice, sugarcane, maize and high value crops i.e. vegetables, pesticides/weedicides had emerged as the input of prime importance to increase agricultural income. However its use without appropriate knowledge of pest scouting may inversely affect the crop production. Thus, its contribution was positive but insignificant.

In this equation the labour input contributed negatively, though insignificant. This supports the concept of disguised unemployment in agricultural sector. Moreover, seasonality concept of labour requirement in this sector also leads towards increase in disguised unemployment in off-season.

Equation-II comprises all the variables i.e. dependent and explanatory variables estimated on per cropped acre. This equation was also regressed using ordinary least square method (OLS).The variability captured under the relationship of considered explanatory variables and dependent variable was 98.0 percent, which leads towards good fits of equation, while F-ratio was also highly significant with estimated value (112.36).

Table-5 Results of Simple Linear Regression Analysis
(Dependent Variable Agricultural Income /Acre)

	Equation- I		**Equation-II**	
Items	**Per Cultivated Area**		**Per Cropped Acre**	
	Coefficient	**t-Value**	**Coefficient**	**t-Value**
Constant	4282.440	0.332	-4274.76	-0.419
Credit	13.729	3.215*	12.865	3.119*
Tube wells	0.425	2.801*	0.386	3.419*
Tractor	3.808	1.382	2.666	1.059
Fertilizer	69.997	1.026	81.354	1.924* *

Pesticide	25.734	1.841	24.957	1.988 * * *
Labour	-1485.394	0.629	-780.488	0.046
R2	0.98	-	0.98	-
F-Ratio	90.55	-	112.36	-

*Significant at 99 percent confidence level.
* * Significant at 95 percent confidence level
* * *Significant at 90 percent confidence level

The estimated co-efficients on the basis of per cropped acre were presented in Table-5.The results indicated positive contribution of agricultural credit. It was significant at 99 percent precision level. This again leads towards appropriate use of production loan, which was the considered variable. Number of tractors per cropped acre contributed positively but non-significant due to the excessive use of tractors out of farm activities.

Fertilizer and pesticides in this case contributed positively as well as significant. This indicates that the measurement of the variables on per cropped acre basis yielded relatively better results that the results estimated on per cultivated acre basis. Labour input contributed negatively in this case even which reflected disguised unemployment in agriculture sector.

Number of tube wells contributed not only positively but highly significant, as it supplements the scarcity of irrigation water for all the farm enterprises, and water is the main input to enhance productivity specifically of crops.

Consequently there is need to supervise the credit disbursement activities vigilantly to ensure its appropriate use to enhance agricultural production which would increase the agricultural income. Moreover, the requirements should be assessed on cropped area basis.

. All other variables contributed positively and insignificantly. This indicates the relatively better measure to use of resources on per cropped acre basis. However, there is a need to develop an appropriate strategy to make the appropriate use of the credit i.e. production loans and development loan, which could be made possible through strengthening extension services and increasing its role in credit disbursement and utilization as well as recovery

Results of Cobb Douglas Production Function

To assess elasticity of the considered variables with respect to agricultural income, the Cobb Douglas production function was applied on both the sets of data i.e. per cultivated acre and per cropped acre. The estimated coefficients are presented in Table-6. Equation proved good and fit with respect to the capturing variability by the included explanatory variables, i.e. 98.0 percent. Moreover, F-ratio was also significant to support the relationship between the dependent and independent variables considered in the equation.

The elasticity of all the explanatory variables with respect to dependent variable on per cultivated as well as per cropped acre basis indicate that credit (production credit) and tube wells contributed positively and significant at 95 percent confidence level. Thus there was a positive relationship of credit and number of tube wells per cultivated acre and the agricultural production. Number of tractors and use of fertilizers also contributed positively but insignificant which might be attributed to inappropriate use of fertilizer mix without considering soil test results, and use of tractor for off-farm activities such as road construction and haulage.

All other variables also contributed positively but insignificantly. This indicates relatively better measure to use of resources on per cultivated and per cropped acre basis. However, there is a need to develop an appropriate strategy to make the appropriate use of credit i.e. production loan and development loan, which could be made possible through strengthening extension services and increasing its role in credit disbursement and utilization as well as recovery.

Table-6: Results of Cobb Douglas Production Function (Dependent Variable Agricultural In come/ Acre)

Items	Equation-I		Equation-II	
	Per Cultivated Area		Per Cropped Acre	
	Coefficient	t Value	Coefficient	t Value
Constant	3.820	1.505	5.032	2.288
Credit	0.360	2.464*	0.305	2.144*
Tube wells	0.115	2.175*	0.129	2.555*
Tractor	0.122	0.650	9.099E-02	0.501

Fertilizer	0.447	0.874	0.282	0.731
Pesticide	0.40239E-02	-0.299	1.279E-02	0.096
Labour	-0.833	0.157	0.157	0.169
R^2	0.98	-	0.98	-
F-Ratio	83.57	-	87.21	-

* Significant at 95 percent Precision Level

Conclusions and policy Implications

Following recommendations are made on the basis of conclusion drawn from the study.

According to the study results the average growth rate of disbursed loans was estimated to 16.9 percent in nominal term and 3.46 percent in real term. Agricultural credit per cultivated acre and per cropped acre was Rs.80.2 and Rs.80.4 in 1980-81. It increased to Rs.938 per cropped as well as per cultivated acre in 2001-02. Credit contributed positively to agricultural income. However the loans were not expanded in qualitative term, as 1.24 per cent of the farms comprising 5.06 hectares were brought under coverage of agricultural credit disbursement.

- Despite constant increasing trend in loan disbursement in nominal term, the loan was not expanded in qualitative term, so this is a challenging issue for the policy makers to develop measures to improve efficiency of agricultural credit system by providing it to the needy farmers.
- Generally, the production loans have been distributed for seed and fertilizer. It is equally important to provide loans for marketing, storage and processing of agricultural produce. There is, thus, a need that these sectors should be given priority in the allocation of credit.
- To improve efficiency and improve coverage of the small and needy farmers, there is a need to develop a system of verification, periodical check and follow-up of the farmers.
- To ensure use of credit for agriculture there is a need to involve the agricultural extension services in loan disbursement and recovery. Moreover, of involvement extension services at grass root level may help in assessing loan requirements and identification of the needy farmers.

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