

Effects of Zarai Tarqiati Bank Limited Finance Program on Sugarcane per Hectare Yield in Rural Area of District Mardan

Dr.Naushad Khan

Institute of Development Studies, The University of Agriculture Peshawar

Abstract

Finance play a key role in the development of agriculture. On the basis of scope and demand the present study was carried out in rural area of District Mardan. The major objective was to see the effects of finance program of ZTBL on Sugarcane per hectare yield in the study area. The Universe of the study was District Mardan which composed of three tehsil Mardan, Thakht Bai and Katlang. Purposively from each tehsil two village was selected. The total beneficiaries' number of the bank was 260 while sugarcane growers were only 105. With the help of interview schedule data were collected from the respondents. Descriptive statistics, Paired t-test and Benefit Cost Ratio were used for data analysis. Average yield after program was 54165 Kg per hectare and before was 37171 Kg per hectare. The result was found significant at 5% level. The correlation between various size of land and sugarcane per hectare yield was .031 and found non significant. It explains that one unit land increase, boost 3.1 percent yield per hectare in the total production of sugarcane. Average cost per hectare before was Rs.60857 and after was Rs.107493 and found statistically highly significant at 5% confidence level. Average return after credit per hectare was Rs.216658 and before was Rs.92929. The result was found highly significant. The benefit cost ratio of sugarcane after credit was Rs.2.02, while before credit was 1.53 and increase was 33%, which shows positive effects of the credit on return. The farmers facing number of problems and constrains such as high cost per hectare, high interest rate by bank, complicated procedure of the bank, non availability of loan in time and bank away from the growers etc. On the basis of problems few recommendation were suggested. such as Loan should be given on the right time to growers on low interest rate, sugarcane seed should be provided to farmers on low price. A stable Support and subsidized price system should be implemented by government for encouraging the sugarcane growers. According to requirement loan should be provided to sugarcane growers in the study area for boosting sugarcane production.

Keywords: Effects, ZTBL, Credit Program, Production, Rural Area

INTRODUCTION

Pakistan majority population based on agriculture while still considered the largest sector of the Pakistan economy. GDP contribution is 21.4 percent and labor force is 45% while its role in export is 70% (GOP,2012-13). Gur and sugar are manufactured from sugarcane in Pakistan. From Gur and sugar, large numbers sweets by products are prepared, which are consumed by people inside the country or exported to other country and earn foreign exchange from this crop.)

Sugarcane is a tropical and perennial grass which forms lateral shoots at the base to produce multiple stems. The height of sugarcane is three to four meter while diameter is five centimeter. The stem first grow into can stalk which slowly gradually increase into mature stock which typically composed of 11-16% fiber, 12-16% sugar, 2-3% non sugars and 63-73% water. The yield of can stalk is 60-70 tons per hectare per year. However its production vary between 30 and 180 tons per hectare depending on knowledge and crop management approach used in sugarcane cultivation. It is a cash crop but also used as fodder of livestock(Sugarcane-wikipedia, the free encyclopedia This crop is sown in the month of December till February, while harvested in the month of November till end of March. The total area under sugarcane crop in 2009-10 was 1080000 hectares in Pakistan while out of total 689000 hectares in Punjab, 280000 hectares in Sind, 110000 hectares in KP and 1000 hectares in Baluchistan province. The total Yield was 53600000 metric tons in Pakistan, while out of total 33500000 metric tons in Punjab, 15350000 tons in Sind, 4700000 metric tons in KP, while 50000 metric tons in Baluchistan. The highest Yield was found in Punjab province and was followed by Sind (ijcrb.web.com).

There are 84 sugar mills in Pakistan, seven in Khyber Pukhtunkhwa, thirty three in sind while in Punjab 44 mills are working. The total crushed cane in Pakistan is 136000800 tons, sugar made was 1298989 while total sugar recovery is 9.37%, however in Punjab crushed cane is 27890459 tons and sugar made is 2598085 tones and recovery is 9.32%. In Sind the total crushed cane is 13600800 tons, sugar made is 1298989 tons while sugar recovery is 9.42 %. In Khyber Pakhtunkhwa the total crushed cane in the mill is 3035460 tons, sugar made is 275655 and sugar recovery is 9.08(ijcrb.webs.com).Mardan district is also famous for sugarcane production. There two mills namely Thakht Bahi and Mardan Sugar mills are working. The largest producer of sugar countries are Brazil, India, China, Thailand, Mexico, Pakistan, Australia, USA, Indonesia and Argentina respectively (ijcrb.web.com)

Financing requirements of the farming community have shown an increasing trend over the years. Therefore agriculture finance was increased by the government from Rs.42852 millions to Rs.215965.34 million

during 1998-2011. Institutional finance to the farmers is being provided through ZTBL, Commercial Banks, Cooperatives and Domestic Private Banks (GOP,2011-12)..Ahmad (2007) studies that the small and land less farmers very difficult avail the credit due to lack of collateral availability and complex procedure followed by bank. Therefore a dire need to start finance program to benefit the maximum number of poor farmers without any complicated collateral system. Khan et al (2011) investigated that proper monitoring cell establishment of bank play important role for proper utilization of the credit. Through this cell mistake, exact communication, auditing and check up will be process very efficiently and the require amount will be supplied to farming community in time for purchasing inputs while defaulter chance will be decreased in the future.. Ayaz and Hussain (2011) studied that the availability of credit to farmer was more important than any other factor to improve the resources use efficiency in agriculture sector. Without finance quality seed, fertilizer and water etc application is impossible. This is the finance which purchase the inputs for the farmer in time which used for boosting the productivity of sugarcane .

Seeing to its importance the present study was arranged to investigate the ZTBL distributed credit effects on the sugarcane per hectare yield and to identify the problems and constraints facing to farmer in credit access in the study area in sugarcane production.

RESULTS AND DISCUSSION

Table 1 indicates the Literacy status of the sampled respondents of sugarcane growers in the study area. According to table 23% is illiterate and 77% Literate. There the literacy rate is comparatively better than Pakistani Literacy rate which is 58%. Sind and Punjab 60% followed by Khyber Pukhthunkhwa 52% while Baluchistan 46%(GOP,2012-2013). So it is a good symbol for the sampled farmers because literacy play crucial role in the development of a country. Literate farmers very easily adopt the modern technology for the enhancement of their field productivity than illiterate farmers. They read the research publication and pamphlet and gain knowledge which is used in their farming practices however latter improve GDP of Pakistan as well as standard of living of the farming community.

Table 1 Literacy Status of the Sampled Respondents of Sugarcane Growers in the Study Area

Literacy Status	Frequency	Percentage
Illiterate	22	23
Literate	81	77
Total	105	100

Source:- Field Survey 2012

Table 2 shows the educational status of the sampled respondents in the study area. According to table primary strength is 11%, middle 16%. Matric 33%, FA./F.Sc 17%, B.A 17% and M.A 06%. The data show that M.A education of the sugarcane growers is less than the other level while majority are matriculate because high level educated people struggle for other government jobs and do not take keen interest in agriculture occupation.

Table 2 Educational Status of the Sampled Respondents of the Sugarcane Growers in the Study Area

Educational Status	Frequency	Percentage
Primary	08	11
Middle	13	16
Matric	27	33
F.A/F.Sc	14	17
B.A	14	17
M.A	05	06
Total	81	100

Source:- Field Survey 2012

Table 3 discussed the tenancy status of the sampled farmers of the sugarcane growers in the study area. According to table 95% farmers are owner and 5% owner Cum tenant while tenant is zero percent. The table shows that loan is given only to owner and owner cum tenant farmers and have not given to tenant due to their no land while the tenant play key role in the development of agriculture. Although, it is a great problem to agriculture development in Pakistan. Banks do not give loan to those farmers which are landless while tenant play key role in the development of agriculture.

Table 3 Tenancy Status of the sampled Farmers of Sugarcane Growers in the study Area.

Tenancy Status	Frequency	%
Owner	100	95
Owner-Cum-Tenant	005	05
Tenant	000	00
Total	105	100

Source:- Field Survey 2012

Table 4 reveals the distribution of various size of land of sampled farmers of sugarcane growers and correlation of various size of land and sugarcane production per hectare in the study area. According to table the coverage of 1-5 category land size respondents share is 87%, in 5-10 hectare category land size, the respondent proportion is 10%, in 10-15 category land size the respondents coverage is 2% while 15-20 hectares category land size the proportion of the respondents coverage is 1% and above 20 hectares land size, the respondent proportion is zero. Majority farmers come in the first category followed by 5-10 category land size. It also shows that economic holding farmer percentage is less than the non economic holding farmer. Through heredity division the land divided into small pieces generation after generation which affect the productivity of sugarcane. The correlation between various size of land and sugarcane productivity is .031 and found non significant. It explains that one unit increasing land boost 3.1 percent per hectare yield in the total production of sugarcane. So land size increase has a positive relation with the production of sugarcane in the study area.

Table.4 Distribution Regarding Various Size of Land of sampled Farmers of Sugarcane Growers and Correlation of Various size of Land and Sugarcane Production Per Hectare in the Study Area.

Various Size Of Land (Hectare)	Frequency	%	
1-5	91	87	
5-10	11	10	
10-15	02	02	
15-20	01	02	
Above 20		00	
Total	105	100	r=.031 P Value=.75

Source:- Field Survey 2012

Table 5 indicates type of credit availed by sampled farmer of sugarcane growers in the study area. The table shows the share of short term 43% , medium term 53% while long term only 4%. The table explains that the medium term respondents are higher than the other term and followed by short term and the long term credit owner is at the bottom of all. So in sugarcane growers the majority credit owner is in the medium term.

Table 5. Type of Credit Availed By Sampled Farmers of Sugarcane Growers in the Study Area

Type of Credit	Frequency	Percentage
Short Term	45	43
Medium Term	56	53
Long Term	04	04
Total	105	100

Source:- Field survey 2012

Table 6 shows the total amount of credit dispersed by ZTBL among sampled farmers of sugarcane growers in the study area. Table shows the total credit amount Rs.28612000 while short term allocate 13%, medium term 83% and long term 4%. The long term amount is less than the other. The table explains that the economic holding farmers obtained more amount than the non economic holding sugarcane growers.

Table 6. Total Amount (Rs) of Credit Dispersed by ZTBL Among Sampled Sugarcane Growers in the Study Area

Type of Credit	Amounts	Percentage
Short Term	3843000	13
Medium Term	23589000	83
Long Term	1180000	04
Total	28612000	100

Source:- Field survey 2012

Table 7 reflects continuation status of the ZTBL finance program by sampled farmers of sugarcane growers in the study area. According to table 78% still obtain the loan from the bank of ZTBL while 22% has discontinued the loan due to religious tension and police arrestment etc.

Table 7. Continuation Status of the ZTBL Finance Program By Sampled Sugarcane Growers in the Study Area

Continuation Status	Frequency	Percentage
Yes	82	78
No	23	22
Total	105	100

Source:- Field survey 2012

Table 8 indicates the Average Yield (Kg) of Sugarcane Crop per Hectare of the Sample Respondents in the Study Area. The average yield per hectare after credit was 54165Kg and before credit was 37171 Kg. The difference was 16992 Kg and increase was 46%. The t value was 11.50 and P value was .000. The hypothesis

was rejected and the result was found highly significant at .05 level which shows the positive effects of credit on the sugarcane per hectare yield. Javed *et al.* (2006) and Bashir, et. al (2007) also discussed that credit had a positive effects on the productivity of sugarcane. The present research is also supported by these statements, which were proved in different times and different situations in Pakistan. Chidoko *et al.* (2011) also recommended cheap finance and easy access to credit and easy collateral security for increasing sugarcane productivity in Zimbabwe. Similarly, these statements' are also supported by the present study.

Table 8 Average Yield (Kg) of Sugarcane Crop per Hectare of the Sample Respondents in the Study Area

Name of Crop	Average Yield After Credit	Average Yield Before Credit	Differences	%change	Degree of Freedom	t	P-values
Sugarcane	54165	37171	16992	46	104	11.50	.000

Source:- Field Survey 2012

Table 9 shows the Average Investment per Hectare Yield of the Sugarcane of the Sample Respondents in the Study Area. According to data, the Investment after credit is Rs.107493 and before credit Rs.60857 while increase is 77%. The t-value is 2.959 and p-value is 0.004. The hypothesis was rejected and the result was found highly significant at .05 level and found that Investment per hectare value after credit is greater than before credit.

Girei and Giroh (2012) identified inadequate credit, the major constraint for sugarcane Yield and suggestion was given for the solution of that problem for uplifting sugarcane production. In present study also, inadequate credit was a major constraint for sugarcane production. The growers did not obtain the loan according to their requirements from the bank. This research also supports this theory and recommends more credit supply to farmer in the study area.

Table 9 Average Investment per Hectare Yield of the Sugarcane of the Sample Respondents in the Study Area.

Name of Crop	Average Investment After Credit	Average Investment Before Credit	Differences	%change	Degree of Freedom	t-values	P-values
Sugarcane	107493	60857	46635	77	104	2.959	.004

Source:- Field Survey 2012

Table 10 indicates the Average Return (Rs) per Hectare Yield (kg) of Sugarcane of the Respondents in the Study Area. According to table, average return per hectare after credit is Rs.216658 and before credit is Rs.92929 while percent change is 133 %, t-value is 19.668 and P-value .000. The hypothesis is rejected and the result is found highly significant at .05 levels. The benefit Investment ratio of sugarcane after credit was Rs.2.02, while before credit was 1.53 and increase was 33%, which shows positive effects of the credit on the return. The result explains that due to inflation the price of returns per hectare after credit is greater than before credit, which is a good sign for credit owner. Through price increase the incentives of the farmer increases and enlarge the size of the sugarcane cultivation in future due to high returns. So, increase in the price of sugarcane is a good incentive for farmers. It was also observed, that if the prices are decreasing on, then growers take turns to other crops, which is more profitable than the present crop. Such type situation was also observed in the study area, due to low price the farmers took turn from sugarcane to wheat crop production, due to high price of the wheat. The proper price fixing is the responsibility of the government which not only satisfied the farmer satisfaction but also satisfied the consumer surplus of the consumers of country.

Hussain and Khattak (2011) investigated "The Economic analysis of sugarcane crop in District Charsada". The farmer in the study area were basically poor and dependent on credit, while formal credit were inadequate and farmers got loan from informal sources i.e friend, money lender etc, which later on made great hurdles for sugarcane grower. The present research also supports this statement and poverty was also a hurdle for agricultural development, due to high Investment. The farmer purchasing power for inputs was very weak, since, they are unable to purchase the agricultural inputs in time. This theory is also supported by present research.

Table 10 Average Return (Rs) per Hectare Yield (kg) of Sugarcane of the Respondents in the Study Area.

Name of Crop	Average Return After Credit	Average Return Before Credit	Differences	%change	Degree of Freedom	t-values	P-values
Sugarcane	216658	92929	123728	133	104	19.668	.000

Source:- Field Survey 2012

Table 11 reveals the problems and constrained faced to sampled farmers of sugarcane growers by ZTBL in taking credit in the study area. According to table 52% told that credit was not available in time, 60% claimed that the passbook preparation is very complicated and patwari halqa does not prepare the passbook in time and demand for extra amount and used delay tactics in preparation of the passbook. Influential farmer very easily get the passbook while the poor farmers faced problems in passbook preparation. Fifty four percent claimed about collateral availability as a grunter due to police arrestment after failure the payment to banker. Thirty nine percent told that the bank staffs do not lend a hand with us and met with impolite behavior in time of case processing. Fifty eight percent claimed that the bank provided the loan on the basis of land and not

according to their requirement. Das et. Al also studied that inadequate provision of credit to small and marginal farmer is also the main hurdle for agriculture development in India. Fifty three percent reported that the bank remoteness is also a great bottleneck in loan processing in the study area.

Table 11 Problems and Constraints Faced to Sampled Sugarcane Growers in the Study Area

Problem	Yes	%	No	%	Total	%
Non availability of Credit in time	52	49	53	51	105	100
Complication of Passbook Preparation	60	57	45	43	105	100
Non Availability of Collateral	54	51	51	49	105	100
Non Cooperation of Bank Staff	39	37	66	63	105	100
Amount less than requirement	58	55	47	45	105	100
Bank Away	53	51	51	49	105	100

Source: Field survey 2012.

CONCLUSION AND RECOMMENDATIONS

The study concludes that ZTBL finance program has positive effects on sugarcane per hectare yield. Similarly per hectare yield, cost and return after credit program was found more than before and found statistically significant. The correlation with size of farm and land were found positive. The study finally concluded that finance provision by ZTBL bank play vital role in the development of sugarcane production and without finance agriculture development is impossible in the country. On the basis of study finding, recommendations are suggested for sugarcane development in the study area. Such as Loan should be given on the right time to growers on low interest rate. Sugarcane seed should be provided to farmers on low price. Support and subsidized price system should be implemented by government for encouraging the sugarcane growers. According to requirement loan should be provided to sugarcane growers while loan also provide to tenant community on the basis of their crops not on land owning for boosting the production of sugarcane. Proper monitoring cell establishment is required for proper utilization of the loan by bank. Bank staff politeness in case processing is requested for encouragement of sugarcane grower. Islamic principles should be applied by bank for tension decreasing to farming community on religious basis. Soft technology should be applied for recovery of loan while hard technology by police should be blocked for farmer encouragement.

REFERENCES

1. Ayaz, S and Z. Hussain 2011. Impact of Institutional Credit on Production Efficiency of Farming Sector. A Case Study of District Faisalabad. Pak.Eco. and Soci.Review 49(2):2149-162.
2. Ahmad, M., 2007. Evaluation of AKRSP' Micro Credit Program on Agriculture and Enterprise Development in District Astore, Northern Areas. Faculty of Rural Social Sciences, M.Sc (Hons) Thesis Agric. NWFP AUP.
3. Bshir, M.K., Z.A. Gill, S. Hussain, S.A. Adil, and K. Bakhsh, 2007. Impact of Credit Disbursed by Commercial Banks on the Productivity of Sugarcane in Faisalabad District. Faculty of Agriculture Economics and Rural Sociology of Agric. Faisalabad. Pak.J. Agric. Sci. Vol. 44(2):361.
4. Chidoko, C., Chimwai, 2011. Economic Challenges of Sugarcane Production in the Low yield of Zimbabwe. Department of Economics, Department of Banking and Finance Great Zimbabwe University, Faculty of Commerce BoX1235, Masvingo, Zimbabwe. Int.J.Eco.Res.2(5):1-13
5. Das A., M. Senapati, and J., John. Impact of Agricultural Credit on Agriculture Production: An Empirical Analysis in India, Reserve Bank of India(www.rb.org.in/scripts/bs_viewconten.aspx?Id=2240).
6. Girei, A.A. and D.Y. Giroh 2012."Analysis of the Factors Affecting Sugarcane(Saccharum officinarum) Production Under the out growers scheme in Human Local Government Area Admawa State, Nigeria"Science Education Development Institute, Volume 2(5): 158-164
7. Gop, 2011-12. Economic Survey of Pakistan. Finance Division. Ministry of Finance, Government of Pakistan Islamabad.
8. GoP, 2012-13. Economic Survey of Pakistan. Finance Division, Ministry of Finance, Government of Pakistan Islamabad.
9. Hussain, A. and N.Khattak 2011." Economic Analysis of Sugarcane Crop in District Charsada". *Journal of Agric.Research* 49(1).
10. Institute of Interdisciplinary Business Research, 2013. Interdisciplinary Journal of Contemporary Research in Business Vol.4(12):61,67-68(ijcrb.web.com).
11. Javed S.M et al. 2006. "Impact Assessment of Micro-Credit Program of PRSP on Crops Productivity". Pak J. Agri. Sci. Vol.(43): 3-4.
12. Khan, N.,M.M. Shafi, M. Shah, Z. Islam, M. Shah, Z. Islam, M., Arif, R. Javed and N.Shah 2011. Review of Past Literature on Agriculture Credit in Rural Area of Pakistan. Sarhad J.Agric. 27(1):103-110.
13. Sugarcane-Wikipedia, the freeencyclopedia(<http://en.wikipedia.org/wiki/Sugarcane>).