Journal of Poverty, Investment and Development
ISSN 2422-846X An International Peer-reviewed Journal
Vol.34, 2017

Bitter Gourd Production Enhancement through Credit Program of Zari Tarqiati Bank Limited in Rural Areas of District Mardan-Pakistan

Dr.Naushad Khan
Institute of Development Studies, The University of Agriculture, Peshawar

Sohail Khan
PHD Scholar Institute of Development Studies, The University of Agriculture, Peshawar

Ahmad Adnan
MBA Institute of Management Sciences Peshawar

Dr.Muhammad Hanif
Research officer veterinary Research Institute Peshawar

Abstract
The major objective was to examine the effects of ZTBL Credit Program on Bitter Gourd production in the study area. The Universe of the study was consisted of three tehsils, namely Mardan, Takhth Bahi and Katlang. All beneficiaries of the ZTBL was 260 while the number of Bitter Gourd growers was 81 among the beneficiaries. Through questionnaire data were collected from the respondents. With the help of descriptive statistics, correlation and sign test were used for data analysis. The results shows disbursed amount Rs.17405000 to beneficiaries of the study area. The average production per hectare after credit was 43620 Kg and before 29645 Kg and the result was found highly significant which explains that credit has positive effects on Bitter Gourd production in the study area. Average annual cost after credit per hectare was found Rs.127499 while before was Rs.66235 .The result was found highly significant at .0 5 level. The result further explains the return of the production before and after credit Rs. 592900 and Rs.654300 and the Benefit Cost Ratio was Rs 5.13, Rs.8.95 respectively. Majority problems such as high costs per hectare; high interest rate: complicated procedure of the bank; non availability of loan in time etc. were observed to farmers in Bitter Gourd production enhancement in the study area. So quick actions by Govt for future policy implications in different section of the economy is requested for filling the gap. Such as as Loan should be provided to farmers according to requirements; interest rate should be decreased in future; quality seed should be provided on low price in the study area for boosting Bitter Gourd production. Proper utilization of the farmer for specific activities are recommended.
Keywords:-Enhancement, Bitter Gourd Production, Through Credit Program, ZTBL, Rural Areas of District Mardan

INTRODUCTION

Vegetable is an edible plant and its parts are cooked or in raw form are eaten by human beings. In biological terms are designated members of the plant kingdom (http:// en.wikipedia.org/wiki/vegetable) vegetables have great scope due to high nutritional value and high net revenue than the other cereal crops. Vegetable is wealthy source of vitamins to progressive development in the country. The level of nutrition and demand for a variety of food are increasing day by day but the productivity level are not increasing accordingly due to poor quality seed, low yielding cultivars, inadequate plant protection measures and un-awareness of vegetable growers about modern technologies. Many research stations are working for the development of vegetable in Pakistan including Research institute, AARI, Faisalabad, sing Horticultural Research Institute Mirpurkhas, Agriculture Research center Mingora swat, and agricultural research institute Sariab, Quetta (PARC) the following vegetables are growing now a day in the study area, such as Tenda, Marrow, bitter gourd, Cabbage, Carrot, Chilies, garlic, Okra, Onion, Tomato while Tenda, Marrow, and Bitter Gourd are more popular than the others vegetables and grown for commercial purpose in district Mardan of Gujar Gari and Jamal Garhi (Field Survey, 2012). Karilu is a typical variety of Indian better gourd and is very popular for indain Cuisines. An unique appearance of in indian bitter gourd is teeth on the fruit skin. This variety produces long green skin fruits 8-12 inches in length and about. 25 LB in weight. The plant grows vigorously in warm climate and bears a lots of fruits for a long time. Now a day this type of bitter gourd is very popular in Pakistan (http://www.evergreenseeds.com/bitgourinlon.html)

Mohsin, et al (2011) studied that credit plays a key role in upgrading of agriculture which increases the contribution of small farmers in the development of Pakistan economy. Not only it solves the monetary constraints but also develop the technologies adaptation. Credit services are also an integral part of commercialization of rural economy.

Khan Jan, (2012) studied that the availability of finance by bank showed a significant increase in the production of crops such as wheat, maize, sugarcane, tobacco while such type activities also increased 16 percent income of the farmer and boost the production of vegetable sector indirectly. The less amount availability and high interest rate was found barrier to farmer in taking loan from the bank. The respondents considered the amount Rs 12880 to each one by bank non sufficient for their field requirement. During survey it was also recorded that interest rate was higher for uplifting their economic conditions. The result also revealed that the outskirt farmer of the villages could not benefit more than the nearest.

Madisa, et al (2011) recorded that for agricultural productivity the government of Botswana has established a financial scheme for improvement of vegetable production. Young farmer fund programs were started to increase the vegetable production according to country demand through financial and technical assistant. After result it was found that those programs have increased the vegetable production significantly in Botswana.

Ahmad, (2007) studied that the small and land less farmer very difficult avail the credit due to lack of collateral availability and complex procedure followed by bank therefore, a dire need to start a finance program to benefit the maximum number of poor communities without any complicated collateral system.

Seeing to its importance the cited title study was selected. The major objectives were i) to see the effects of ZTBL finance program on Bitter gourd production on various size of farms ii) to identify problems and constraints faced by farmer in financing procedure iii) Recommendations for improvement of ZTBL's finance program for Karilu production in the study area.

MATERIALS AND METHODS

The main income source of District Mardan is agriculture. Both small and large farmers avail the credit from different sources, including ZTBL. Since ZTBL has given advanced huge amount of finance to a farmer in district Mardan. Therefore four banks of ZTBL are working which provide credit to farmers in the study area for agricultural development. District Mardan is consists of three tehsils, namely Mardan, Takhth Bahi and Katlang Purposively from each tehsil two villages namely Gujar Garhi, Rustum, Lund khawar, Sharegarh,katlang and Jamal Garhi were respectively selected. All beneficiaries of the ZTBL consist of 260 while village wise distribution Gujar Garhi 32, Rustum 5, Lundkhwar 4, Sharegar 2 Katlang 8 and Jamal Garhi 30. Through questionnaire data were collected from the 81 respondents. With the help of descriptive statistics, correlation and sign test data were analyzed.

RESULT AND DISCUSSION

Table 1: Literacy status of the sampled respondents of Bitter Gourd growers in the study area

Particular Item	No	%
Literate	17	21
Literate	64	79
Total	81	100

Source: - Field Survey 2012

Table 1 indicates the literacy status of the sampled respondent of bitter gourd growers in the study area. According to table 21% is illiterate while 79% literate. So the literacy rate is better than Pakistani literacy rate which is 58%. Sind and Punjab 60% followed by Khyber Pukhthunkhwa 52% while Baluchistan 46% (GDP, 2012-2013). So it is a good sign for the farming community because literacy play crucial role in the development of a country. Literate farmers more easily adopt the modern technology than illiterate farmers. They read the research publication and pamphlets very easily. Through this way they improve their farming knowledge's and use in the fields for increasing farm productivity and improve their standard of living and enhance the Gross Domestic products of Pakistan.

Table 2 Educational Status of the Sampled Respondents of the Bitter Gourd Growers in the Study Area.

Education status	No	%
Primary	08	12
Middle	16	25
Matric	23	36
F.A/FSc	05	08
B.A	12	19
M.A	00	00
Total	64	100

Source. Field Survey 2012

Table 2 shows the educational status of the sampled respondents in the study area. According to table primary is 12% middle 25% Matric 36% F.A/FSc 08% B.A 19% and M.A zero percent. They struggle for other

jobs in the country to earn more than farming, so they do not take keen interest in agricultural activities.

Table 3 Tenancy Status of the Sampled Farmers of Bitter Gourd Growers in the study area

Particular	No	%
Owner	77	95
Owner-cum-tenant	04	05
Tenant	0	00
Total	81	100

Source:- Field Survey 2012

Table 3 reveals the Tenancy Status of the sampled of the Bitter Gourd growers in the study area. According to table 95% is owner, 5% owner Cum Tenant while tenant is Zero percent. So the table data explains that the loan has given to only owner and owner cum tenant farmer while the real tenant have been left and not provided loan by bank due to lack of land.

Table 4 Distribution of Various Size of land in Hectares of sampled farmers of Bitter Gourd Growers production per hectare in the study area.

Various size of land	No	%	r= -.300 P = .007
01-5	14	24	
5-10	22	40	
10-15	09	14	
15-20	07	11	
Above -20	06	11	
Total	58	100	

Source: - Field Survey 2012

Table 4 reveal the distribution of various size of land in Hectares of sampled farmers of Bitter Gourd Production per hectare in the study Area. In 1-5 hectare category the grower number is 24%, in 5-10 category the grower number is 40%. In 10-15 hectare category the number is 14% while in 15-20 hectare category the number is 11% and above 20 hectares land is also 11% however majority farmers were found in second category. It also shows that economic holding farmer percentage is more than the non-economic holding farmer. Through heredity division the land divided into small pieces generations after generation which affect the productivity of vegetables. The correlation between various size of land and Bitter Gourd production is -.30 and found significant at .01 levels. When one unit of the land increases then 30 percent negative changes will be occurred in Bitter Gourd production due to high cost per hectare.

Table 5 Type of credit availed by sampled farmers of Bitter Gourd Growers in the study area

Type of credit	No	%
Short term	33	41
Medium term	48	59
Long term	00	00
Total	58	100

Table 5 indicates type of credit availed by sampled of Bitter Gourd growers in the study area. According to table the share of short term by sampled farmers is 41% Medium Tern 59% and long term zero percent. The table explains that the medium term strength is higher than the other followed by short term while long term counted zero percent. The table also shows that the economic holding farmer is more than the other farmers.

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

Type of credit	Amount	%
Short term	3285000	19
Medium term	14120000	81
Long term	0000000	00
Total	17405000	100

Source: - Field Survey 2012

Table 6 indicates the total amount of credit dispersed by ZTBL among sampled farmers of Bitter Gourd growers in the study area. According to table the total credit is Rs 17405000. The short term allocate 19% amount to sampled farmers, medium term 81% and long zero percent there the medium term amount is more than the other bank in the study area

After deleting outlier no normality was found, because of this pair t-test was ignored and sign test was applied. According to table 4.47 the negative difference frequency was one, while positive difference frequency was 79 and ties frequency was zero, so it shows that average bitter gourd per hectare yield after credit was greater than before credit. The results of the credit were found positive.

Table 7 Bitter Gourd After Credit and Before Credit, per Hectare Yield Frequency of the Respondents in the Study Area

Statistics	N
Negative Differences	2
Positive Differences	79
Ties	0
Total	81

Source: - Field Survey 2012

According to table 7 the test statistics Z value is -8.667 and p- value .000. The hypothesis is rejected and the result was found significant at .05 levels and shows that after yield per hectare Yield was more than before credit. The per hectare yield of bitter gourd after credit was 43620 Kg and before credit was 29645 Kg. The difference was 13975 Kg and increase 47%. So the result shows that ZTBL credit program had positive effect on per hectare yield of bitter gourd in the study area.

Similarly Mohiudddin (2011) also analyzed the IPM and Non-IPM practices on bitter gourd Yield in Bangladesh. The IPM practices farmer Yield per hectare was found 19105 Kg and the Non-IPM practices Yield per hectare were estimated 17845 Kg and the difference was 1260 Kg and increase was 7%. While in the present study after credit, the Yield per hectare bitter gourd was 43620 Kg and before credit was 29645 Kg and the difference was 13975 Kg and the increase was 43%. In both situations the bitter gourd Yield per hectare of the improved technologies was better than non-improved technologies.

Iqbal and Nawab (2013) also evaluated the farmers' field schooling impact on bitter gourd productivity in District Charsada Kyber Pakhtunkhwa-Pakistan. There also the Yield after schooling of the bitter gourd Yield was found more than before schooling of the farmers. The Yield before schooling was 43462 Kg and after schooling was 45933 Kg and the difference was 2471 Kg, while increase was 6%. The increase in the present study was found more than the previous studies, because in previous situation the farmer have used the mixed varieties, while after credit they purchased certified varieties by credit and so, increased the Yield enormously in their field.

Table 8 Sign test of the Bitter Gourd After Credit and Before Credit per Hectare Yield of the Sample Respondents

Statistics	**Test Value**
Z	**-8.667**
Asymp. Sig.(2-tailed)	**.000**

Source: - Field Survey 2012

After deleting outlier, normality was not found in the data and instead of pair t-test sign test was applied for data analysis. According to table 8 the negative frequency was 2, Positive was 79, while ties was zero. It shows that the Investment per hectare of bitter gourd after credit was greater than Investment per hectare before credit.

Table 8 Bitter Gourd after Credit and Before Credit, per Hectare Investment Frequency of the Respondents in the Study Area

Statistics	N
Negative Differences	2
Positive Differences	79
Ties	0
Total	81

Source: - Field Survey 2012

According to the table 9 the test statistics z value was -8.44, while the p-value was .000.The hypothesis was rejected and the result was found highly significant at .05 levels and shows that per hectare Investment of bitter gourd after credit was greater than before credit. The per hectare Investment of bitter gourd after credit was Rs.127499, while before credit was Rs.66235 and change was 92%. So the result shows that the Investment per hectare 92% change was not favorable for boosting of the bitter gourd Yield in the study area. Through Investment increasing, the purchasing power of the bitter gourds growers were inversely affected, which had decreased the bitter gourd cultivation in the study area and demand was found more for credit than before, because without finance bitter gourd Yield enhancement is impossible in the study area, while ZTBL do not give more amount for farming activities according to requirement to farmers in the study area.

In the present study per hectare return after credit was Rs.654300 and before credit was Rs.592900 and difference was Rs.61400 and increase was 10%. The undiscounted BCR were Rs.5.13 and 8.95 of after credit and before credit respectively, while the increase was 43%, so, in real situation, the return after credit was found less than before and shows that one rupees investment return were Rs.5.13 and 8.95 after credit and before credit respectively, since, due to more Investment and low price of the bitter gourd Yield after credit in the study area

the benefit Investment ratio after credit was less than before credit of the bitter gourd, while Mohiuddin (2011) recorded the undiscounted benefit Investment ratio of the IPM and Non-IPM practices 2.08 and 1.79 respectively of the bitter gourd in Bangladesh. The present study BCR is greater than the past study. Finally, it is concluded that credit effect on bitter gourd Yield was positive and found significant, while in return it was found lower than before credit due to high Investment and low price. It also shows that due to high productivity the supply increases, which have decreased the price and due to low price the total return decreased, on the other hand, which have decreased the BCR.

Table 9 Sign test of the Bitter Gourd after Credit and Before Credit per Hectare Investment of the Respondents

Statistics	Test Value
Z	-8.44
Asymp. Sig.(2-tailed)	.000

Source: - Field Survey 2012

Table 10 indicates the problems and constrained faced to sample of Bitter Gourd growers by ZTBL in taking credit in the study area. According to table 59% told that the credit was not available in time, 69% claimed that the passbook preparation was very complicated and patwari did not prepare the passbook in time. They demand for money and used delay tactics in preparation of the passbook. Influential farmers very easily prepare the passbook while poor farmer faced problems in passbook preparation. However 63% also reported that the collateral availability in the study area is also a great problem. No one was ready for signing the credit form, due to police arrestment in failure of payment. Thirty two percent told that the bank staff did not cooperate with us and met with rude behavior in time of case processing. Sixty two percent claimed that the bank provided credit on the basis of their land, if the land is more, then payment will be more, if less then payment by bank is less and not according to their requirement while 64% reported that the bank is away from them and due to engagement in farming activities, they faced problem in loan processing cases due to high distance.

Table 10 Problems and Constraints faced to Bitter Gourd Growers in the Study Area

Problem	Yes	%	No	%	Total	%
Non availability of credit in time	48	59	33	41	81	100
Complication of passbook preparation by patwari	56	69	25	31	81	100
Non availability of collateral	51	63	30	37	81	100
Non co operation of bank staff	26	32	55	68	81	100
Amount less than requirement	50	62	31	38	81	100
Bank away	52	64	29	36	81	100

Source: - Field Survey 2012

CONCLUSIONS AND RECOMMENDATIONS

The study finally concluded that credit has positive effect on bitter gourd production and without credit the development of bitter gourd production enhancement is impossible because the inputs of the bitter gourd is very costly and the farmers purchasing power is not capable to purchase inputs in time to boost the bitter gourd production in the study area. Few problems and constrained faced to farmer in the study area were observed and on the basis of these problem the following recommendation were suggested for boosting the bitter gourd production. Interest rate should be decreased, for increasing the purchasing power of the farmer. One window operation policy should be applied by ZTBL because to speed up the loan distribution in the farming community. Amount should be provided in kinds by bank to decrease the miss-utilization chances of the credit. Loan amount should be given according to farmers requirements, to fill the financial gap for purchasing inputs. Islamic principals should be applied by ZTBL. To reduce the religious tension of the farmer's .Qualified staff appointment and monitoring cell development for enhancing agriculture productivity is required in the study area.

REFERENCES

Ahmad,M.2007. Evaluation of AKRSP Micro Credit Program on Agriculture and Enterprise Development in District Astore, Northern Areas. Faculty of Rural Social Science. MSc (Hons) Thesis Agric. NWFP AUP.

GOP 2011-12 Economic Affairs Finance Division , Islamabad

GOP 2012-13 Economic Affair Fianance Division Islamabad

Iqbal M. et al 2003. The Impact of Institutional Credit on Agricultural Production in Pakistan the Pakistan Development Review 42:4 part III (winter 2003) pp. 469-485

Khan S. and I. Jan (2012). Effects of Micro Credit Program of Khushali Bank limited on Farm Productivity in District Mardan Thesis of Master science (Hons) Specialization in Rural Development Studies Agric University Peshawar

Madisa M.E et al 2011.Impact of Government Financial Incentives on Peri Urban Vegetable Production in Botswana Journal of Horticulture and Forestry vol 3 (8) pp. 264-269.

Mohsin et al 2011. Impact of Supervised Agricultural Credit on Farm Income in the Barani Areas of Punjab Pakistan J of Soc.Sci.vol 31 (2) pp 241-250.

Pakistan agriculture research council. www.parc.gov.pk/1subdivision /narcesi/horticul/vegetables.htmlhttp://en.wikipedia.org/wiki/vegetablehttp://www.evergreenseeds.com /bitgourinlon.html