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S Praveen Kumar

# Impact of Utkal Grameen Bank Financing on Agriculture Development in Odisha



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**Padmalochana Bisoyi**  
**Bhushan Pardeshi**

*Pimpri Chinchwad Education Trust's S.B. Patil Institute of Management*  
(bisoyi.padma@gmail.com)  
(bhushan3182@gmail.com)

This study is an attempt to assess the impact of Utkal Grameen Bank financing on agricultural development in the Odisha state during COVID-19. In this study, yearly farm income, acquisition of assets, consumption pattern, land productivity, employment generation is considered as the dimensions of agriculture development. The data is collected from 116 beneficiary farmers using systematic sampling. Chi square test shows that bank loan has positive impact on the standard living of the beneficiary farmers. The 't' test results highlighted that the dimensions of agriculture development has positive and significant impact on agriculture development of beneficiary farmers.

**Keywords:** Agriculture Development, COVID-19 Pandemic, Land Productivity, Standard of Living, Utkal Grameen Bank

## 1. Introduction

The main reason for Indian agriculture is the disregard of the credit to the economic sector in agriculture (Lonja, Syed, Jahanara, 2018). According to Dantawala (2004), it is a truism that the provision of adequate and timely credit is a critical component of any agricultural development programme. To put it another way, in order to increase the productivity of Indian agriculture and break the cycle of poverty, a transformation must be achieved by providing adequate amounts of investible credit to the country's cultivators. Many researchers have urged that adequate financing is provided for the agriculture industry so that this sector moves quickly and smoothly. More in the India context, which has full of small-scale farmers who are almost lack resources and need resources. This is also true of India. The problem, which is large and long-lasting, will continue to obstruct the expansion and modernization of agriculture if not solved on a sound basis and the existing poor and in many respects defective system. There should therefore be a basic framework for credit in any credit policy to promote a progressive rural economy and guarantee its production use (Lonja, Syed, Jahanara, 2018). When regional rural banks were created in 1975 to provide low cost banking services to poor rural people, further development occurred (Rajesh Kumar, Raju, Singh, 2012). The creation of the National Bank for Agriculture and Rural Development in 1982 as an apex institution became another major initiative to strengthen the institutional framework for the delivery of rural credit (NABARD, 2015). The regional rural banks play an important role since their inception within the framework of the multi-agency approach. In this study, the role of Utkal Grameen Bank (UGB) in crediting, in particular, the farmers community and in the development of agriculture in the state of Odisha in general, was tried. In the district of Ganjam of Odisha, the role of Utkal Grameen Bank in promoting agriculture has been analyzed. A periodic assessment and evaluation of the success of any institution should be carried out to adopt the policies appropriate to make the institutions more efficient. A study assess the Utkal Grameen Bank finance impact determine the individual farmers in financing their activities. The study also evaluates the influence and role of bank funding in developing agriculture dimension of agriculture development include annual revenue, acquisition of properties, consumption, productivity of land, patterns and job creation. According to the World Bank (2005) farmers and agriculture must speed up the use of new technologies, such as credit facilities, that are part of the commercialization process and higher productivity revenue among rurally poverty. According to the National Committee for Agriculture, for sustainable, speedy and socio-economic development in India, a strong foundation for agriculture is necessary. Without that, growth cannot be speeded up and the economy cannot be continuously improved. Again, in the countries like India where agriculture is poor, the rest of the country is poor. An overwhelming majority of the poor are in the rural areas and still depend on agriculture because of their lack of other livelihoods outside the sector. Therefore, agriculture development is a prerequisite for our country's overall development. However, agriculture, like other sectors, needs certain basic development facilities. It is, therefore, apparent that credit and development in agriculture is linked and that one of the major development credit agencies is the Regional Rural Banks. The Regional Rural Banks of Odisha have spent a considerable amount of money on agricultural development and related operations in their command areas since their inception. Utkal Grameen Bank has been studied in Ganjam district of Odisha to support the agriculture sector. There are three types of agricultural loans that farmers need, namely short, medium and long-term credit.

The district of Ganjam is one of the districts of Odisha, dominated by agriculture. The Ganjam economy's backbone is agriculture. Almost 80 percent of the district's population depends on farming and alliances. District Ganjam is reversing because farming is reversing. Bank financing is very important to develop the local economy. In this context, the banking sector, under both short-term financing for working capital and investment loans, has been given top priority in agriculture.

In Odisha's district of Ganjam, Utkal Grameen Bank's role in promoting the agricultural sector was examined. In addition, such an impact study would make it clear that banks perform their roles more successfully. The present study will also highlight the functioning and suggestions for rectification of the Utkal Grameen Bank for Agricultural Development. The study is an honest attempt to assess the functioning of Utkal Grameen Bank in Odisha district of Ganjam to take these points into consideration. After a thorough study of the concept of agricultural development some of the socioeconomic dimensions of agricultural development were determined. The study shows that the post-loan period has increased income, expenditure, and savings by 38.96%, 25.45% and 77.37%. It shows that bank loans have a positive effect on the beneficiaries' income, expenses and savings pattern.

### **Profile of Utkal Grameen Bank**

Utkal Grameen Bank (UGB) was formed on 1 November 2011 by a Regional Rural Bank, which, under the provisions of the Rural Regional Banks Law of 1976, was integrated into the Rushikulya Gramya Bank and the Utkal Gramya Bank. The bank has a joint ownership of the Indian government, Odisha and SBI, and is sponsored by State Bank of India. The Bank is active in seventeen districts of the west and south of Orissa: Bolangir, Sonepur, Bargarh, Sambalpur, Deogarh, Jharsuguda, Sundargarh, Kalahandi, Nuapada, Kandhamal, Boudh, Ganjam, Kajapati, Koraput, Malkangiri, Rayagada and Nabarangpur, covering 57% of the total districts and 63% of the geographical area and 48% of the total population of the State as per 2001 census. As on 31 March 2020, Rs. 704706.47 lakhs of the total deposit and Rs. 289419 advances. The network of 442 branches, of which 360 are located in remote areas, subsequently grew. The bank opened regional offices in Sambalpur, Rayagada, Phulbani, Bolangir, Bargarh, Bhawanipatna, Jeypore and Berhampur in addition to the Head Office in Bolangir.

## **2. Review of Literature**

Singheta (1978) concluded that the Parrukhabad Rural Regional Banks focused mainly on crop loans to buy milky animals, small-scale business men loans and rural artisans. There was no advance to buy tractors or install tubes. They did not pay. It was most unsatisfactory to recover. They found that the Regional Rural Banks and commercial banks are new entrants in the rural finance field and lack trained and experienced rural personnel, who also have a negative impact on recovery. The study by Jain and Sarawgi (1981) was carried out in the area of the 'Impact of agricultural loans in the Dindori Block, Madhya Pradesh District' on farm manufacture, income and employment of selected tribal farmers. They have found that the total production of the farm with loan facilities has increased 43.04 percent. In the post-loan period, the borrowers' total income increased 28 percent. They concluded that the agricultural credit had a positive impact on the increase of agricultural production and income in the study area. In Shahpur, district Jabalpur of Madhya Pradesh, Mishra et al. (1981) studied the impact of farms on Nets Farm Revenue from farmers. Their study showed that before taking the crop loan the net income of the agricultural sector for the small, medium and larger loan group was Rs. 246366, Rs. 417760 and Rs. 81993, respectively, for the farmers in the group of three sizes Rs. 338993 and Rs. 654860 or Rs. 1253596. It was concluded that changes in net agricultural revenue were due to the crop loan, which increased the intensity of crop production and ultimately the return. Sudhakar et al (1984) investigated the Cauvery Gramine Bank's performance in Mysore district in Karnataka in an evaluation of its rural banks performance in Karnataka and compares it with the primary agricultural cooperative societies The Cauvery Gramine Bank's performance (PACSSs). The study found that the performance of regional rural banks in terms of mobilization of deposits, credit deployment, timely sanction of loans and adequacy was comparatively better than those of primary farming co-operative societies. A 1986 paper on the "Regional Rural Banks Viability" was published by Financial Express (1986) and was published on behalf of the National Bank for Agriculture and Rural Development by Agriculture Finance Corporation in 1986. The study found that the viability of the regional rural banks depended primarily on the management of the banks' funds. Another critical factor affecting its viability was the proportion of building costs to the total cost and expansion of the sectors. The study also found that losses from malfunctions in their systems were suffered by the Regional Rural Banks. In particular, the main proposals of the study were to improve infrastructure facilities and to open commercial banks' branches in areas already operating under regional rural banks. The study, however, was mainly restricted by the study of two Regional Rural Banks only, namely the 'Mala Proha Gramin Dharwar of Karnataka' and the 'Royal Seems Gramin Bank of Andhra Pradesh.' A study of the pattern of jobs, income, and expenses of farmers in Nasik District of Maharashtra was conducted by Raut et al. (1992). The study found that farming has provided the people with a major source of jobs. The only source of income in the summer was the collection of minor forest products. In contrast, wage earnings were the primary source of income, while agriculture represented 50 percent of landowners mainly. Rs. 6570 and Rs. 7312 respectively were worked out per family total consumption expenditure for wage earners and farmers. The Chaitanya Gramin Bank's performance in Andhra Pradesh was assessed by Savaraiah et al. (1998). They found that agricultural investments receive a lion loan, particularly crop loans, leading to a good sign of banking sector development in this sector. Vashist et al. (2000) concluded that by introducing the agriculture loan by the Regional Rural Bank, farm income can increase by as much as 62% over existing situations. They also concluded that with the growth in agricultural size, capital availability also increased. With the aid of agriculture finances, around 50 more man-days were created for employment. Ruston (2004) has studied 'The effect of Rajshahi Krishi Unnayan Bank funding on Bangladesh's agricultural development.' It is found to be statistically significant for variation in farming and non-farm production, agri-based trade income, crop intensity, amount of cropped area of uncommon crops, total and per-capita borrower consumption expenses. The study shows that diversions of the borrowed funds, a poor reinsertion of the loans and high default rates attributable to both the creditors and the bankers are the major issues involved in bank financing. It was found that the total funding of all institutions in Madhya Pradesh for agriculture was Rs. 2385, Rs.

1658 and Rs. 1747, respectively, in 1997-98, 1998-98, and 1999-2000. Gupta et al. (2007). For long-term purposes, the Rural Regional and Commercial Bank finance were more than 80%, with the remaining 20% for short-term purposes. The small and marginal groups borrowed from cooperative banks are mainly farmers. The study on Andhra Pradesh Grameena Vikas Bank (APGVB), undertaken at Paderu block of Vishakhapatnam, Andhra Pradesh State, was conducted by Lonja Bhavigna, Syed H Mazhar, Jahanara (2018). The students found that most of the beneficiaries (41.66 per cent) have a medium socioeconomic condition and most non-beneficiaries (40.00 per cent) have low socioeconomic status. The Bank is contributing to improving the beneficiaries' socio-economic status. Based on the past literature most of studies were carried out in the different states of India with Regional Rural Bank. To study the role of Regional rural bank and influence of bank finance on farmers, different academician and researchers considered pattern of jobs, income, and expenses of farmers total and per-capita borrow of bank finance, etc. Hence, in this present study we have studied the role and impact of Utkal Grameen Bank on annual revenue, acquisition of properties, consumption, productivity of land, patterns and job creation. In this study considering the past work of researchers, we have included annual revenue, acquisition of properties, consumption, productivity of land, patterns and job creation as the dimensions of Agriculture development.

### 3. Objectives and Hypotheses of the Study

1. To study the socio-economic profile of beneficiaries farmers of Utkal Grameen Bank.
2. To analyze the role of Utkal Grameen Bank on agriculture development of beneficiaries.
3. To assess the impact of Utkal Grameen Bank on the dimensions of agriculture development.

#### Hypothesis of the Study

1. There is no significant difference between the pre loan value of the agriculture inputs and post loan value of the agriculture inputs of the beneficiaries.
2. There is no significant difference between the pre loan land productivity and post loan land productivity.
3. There is no significant difference between the pre loan income and post loan income of the beneficiaries.
4. There is no significant difference between the pre loan expenditure and post loan expenditure of the beneficiaries.
5. There is no significant difference between the pre loan savings and post loan savings of the beneficiaries.
6. There is no significant difference between the pre loan employment and post loan employment of the beneficiaries.
7. There is no significant difference between the pre loan value of the assets and post loan value of the assets of the beneficiaries.
8. There is no significant impact of the bank loan on the standard of living of the beneficiaries.
9. There is no impact of Utkal Grameen Bank finance on Agriculture Development of Beneficiaries.

### 4. Methodology

The study is done in the State Ganjam districts, where there are a large number of UGB branches. They have been selected for this study. As of 31 March 2020, there were 85 branches of the UGB bank. Eight bank branches for the study were selected by systemic probability sampling. With the help of the UGB Branch Manager and Agriculture Officer, a list of farmers has been developed from every branch selected. Then, a random sampling was used for selecting 15 beneficiaries from each branch. Total sample size was 120, but 116 were actually considered sample size. The failure to provide a reply meant that 4 schedules had not been properly completed. The dimensions of agricultural development were concluded on the basis of previous reviews and discussions with experts. Development measures include annual revenue, acquisition of properties, consumption, productivity of land, patterns and job creation. Data from the diverse dimensions of agricultural development are analysed by frequency and percentages before and after borrowing a loan by UGB. It calculates the difference between frequency and percentage. The Difference of mean test, Chi Square test is used for hypothesis verification. During October 2020 to March 2021, this study was carried out. Based on the results, The researchers conclude that Utkal Grameen Bank has had a positive impact on the development of farmers in the Odisha state in agriculture.

**Table 1** Details of the UGB Branches in Odisha

Sr. No	Name of the Branch	Number of Branches	Percentage
1	Baghala	12	10
2	Bhonjanagar	18	15
3	Dharakote	17	14
4	Haridakhandi	19	16
5	Kankarada	22	18
6	Mangalpur	11	9
7	P.Ramachandrapur	12	10
8	Sunapur	9	8
<b>Total</b>		<b>116</b>	<b>100</b>

The study is conducted in Ganjam districts where the large number of UGB branches are present. The study will be specifically selected. With the help of the UGB Branch Manager and Agriculture Officer, a list of farmers has been developed

from every branch selected. Then 15 beneficiaries from each branch have been randomly selected. The sample size was 120 as per table 1, but actually 116 were considered sample size, four interviewees did not correctly complete the data.

## 5. Data Analysis

In this section, we have tried to analyse the effect of bank financing on the agriculture development in the selected sample beneficiaries on the dimension selected for the study.

**Table 2** Distribution of the Beneficiaries by Demographic Variable

Sr. No	Variables	Particulars	No. of beneficiaries	Percentage
1	Gender	Male	109	93.97
		Female	7	6.03
2	Marital Status	Married	100	86.21
		Unmarried	16	13.79
3	Education	Illiterate	26	22.41
		Below 10 <sup>th</sup> Class	41	35.34
		12 <sup>th</sup> Class	18	15.52
		Diploma/ Technical	17	14.66
		Graduate	6	5.17
		Post-Graduate	8	6.90
		Any other	0	0.00
4	Family type	Nuclear	38	32.76
		Combined	52	44.83
		Extended	26	22.41
5	Media of awareness	News Papers/print media	7	6.03
		TV/Radio/electronic media	9	7.76
		Block/Government officials'	19	16.38
		Friends/ relatives/neighbors	68	58.62
		Local leaders'	12	10.34
		Others	1	0.86
6	Reasons for selecting UGB	Nearest to the house	46	39.66
		Advice of friends/ relatives/neighbors	19	16.38
		Public sector bank	24	20.69
		Better services	21	18.10
		Recommended by Govt. officials	6	5.17
7	Awareness about rate of interest	Yes	105	90.52
		No	11	9.48
8	Rate of interest	Reasonable	101	87.07
		Not Reasonable	4	3.45
9	Frequency of loan	First time	76	65.52
		Second time	19	16.38
		Third time	14	12.07
		Several times	7	6.03

(Source: Primary Data)

Table 2 shows that 93.97% of beneficiaries are male and 6.03% of beneficiaries are female. In general, people are not allowed to use loans because of conservatism. They are reported. Max. 86.21% of the beneficiaries are married, 13.79% of the beneficiaries are unmarried, 57.76% of the beneficiaries are under the 10th standard whereas the graduates are 14.66%. Once again, 22.41% of the beneficiaries were analphabets and 5.17% were graduates. The results show that the combined family system accounts for 44.83% of recipients, whereas 32.76% and 22.41% of recipients are nuclear and extended familiar. 16.38% of the recipients have knowledge of the bank by their friends, relatives and neighbours. 58.62% of the recipients have knowledge by the government. Moreover, the print media and electronic media inform 6.03% of beneficiaries about the Bank. The bank was found to be selected by 33.66% of beneficiaries, as the bank is near their house. 20.69% of beneficiaries select UGB, except close to the bank to the house, because it is a bank of the public sector. The advice given by friends and government officials to choose the UGB is 5.17% and 6.95%. The rate of interest charged by the Bank was found to be 90.52 percent of beneficiaries but 9.48 percent of the recipients were unaware. When asked of beneficiaries, the interest rate is noticeable to 87.07% of recipients, whereas 3.47% of beneficiaries do not understand the interest rate charged by the bank. 65.52% of beneficiaries used the first loan, 50 of the beneficiaries, i.e. 16.38% of the beneficiaries took advantage of the second loan and 20 of the two recipients, i.e. 12.07% of the beneficiaries had the third loan, while 6.03% of the beneficiaries used the loan several times.



#### 5.4 Impact of the UGB Finance on the use of Agriculture Inputs

Table 6 shows that agriculture development depends for many times on the use of farm inputs. Inputs on farming can be defined as the resources used in the production of farming products, including fertilisers, machinery, livestock, seed, irrigation, decommissioning etc. Table-6.31 shows the pre- and post-loan period value of some important inputs in rupees. It showed that all inputs showed a positive percentage increase for the period after the loan. Some of the inputs such as the farming machinery; after loans, there were increases respectively of 99.20% and 83.67%. It is also evident that all inputs increased in the post-credit period by more than 50%. From the data it can be concluded that the bank loan has positive impact on the use agriculture inputs in the study area.

**Table 6** Pre and Post Loan Value of the Agriculture Inputs in Rupees

Sr. No.	Agriculture Inputs	Pre Loan Total	Pre Loan Average	Post Loan Total	Post Loan Average	Difference	Percentage
1	High Yielding Verities	222600	1918.97	400000	3448.28	177400	79.69
2	Fertilizers / Pesticides	340600	2936.21	600000	5172.41	259400	76.16
3	Agriculture Machinery	100402	865.53	200000	1724.14	99598	99.20
4	Godowns	49002	422.43	90000	775.86	40998	83.67
5	Livestock	197202	1700.02	356700	3075.00	159498	80.88
6	Irrigation Facilities	131903	1137.09	236720	2040.69	104817	79.47
7	Others	21220	182.93	33710	290.60	12490	58.86

Source: Field Survey

By using the media test difference, the difference between the pre-loan and post-loan values of agriculture inputs are statistically tested. The value of the two thresholds is 0.009 ( $p < .05$ ), which shows a significant difference between the means. The test results show that the pre-lending value of agricultural inputs and post-lending values of agricultural inputs are significantly different. Therefore, the post-prime value of farm inputs exceeds the pre-loan value of farm inputs with  $t(6) = 3,827$ ,  $p < 0.05$ . It can thus be concluded that the bank loan has a positive effect on the value of inputs from agriculture.

#### 5.5 Impact of the UGB finance on the Land Productivity

Most people depend on farming to be their main occupation. Ganjam is mostly an agriculture district. Rural people can be developed to improve land productivity. Table 7 shows the production of some major selected crops pre-loan and post-loan land (kg/acre) in the study area. The table shows that after the bank loan was used the paddy productivity increased 65.53%. In the post-loan period, the productivity of sugar also rose 126.73%. In the post-consumption period, the crop productivity of all crops has significantly increased.

**Table 7** Pre and Post Loan Land Productivity of the Selected Crops

Sr. No.	Name of the Crops	Pre Loan Productivity (Kg/Acre)	Post Loan Productivity (Kg/Acre)	Difference	Percentage
1	Paddy	1208.21	2000.00	791.79	65.53
2	Maize	204.00	300.00	96.00	47.06
3	Groundnut	362.35	481.67	119.32	32.93
4	Cotton	454.29	682.86	228.57	50.31
5	Sugarcane	2460.00	5577.50	3117.50	126.73
6	Ragi	317.02	438.19	121.17	38.22
7	Wheat	1017.62	1500.00	482.38	47.40
8	Mung/Biri	193.25	360.00	166.75	86.29
9	Pea	212.5	303.75	91.25	42.94
10	Mustard	165.45	400.00	234.55	141.76
11	Vegetable	493.98	800.00	306.02	61.95
12	Fruits	978.02	1300.00	321.98	32.92
13	Flower	696.53	1100.00	403.47	57.93

Source: Field Survey

The difference between the pre loan productivity and the post loan productivity is statistically tested using the means test difference. The value of 2 tail significance is 0.047 and is less than 0.05 ( $p < .05$ ), since there is a significant difference between the media. The test output shows that the productivity of pre-loan land and post-loan land has been significantly different. Therefore the productivity of post-loan soil is higher than that of pre-loan land with  $t(12) = 2.217$ ,  $p < 0.05$ . It can therefore be found that the productivity of the post-loan land is more than the productivity of the pre-loan land.

#### 5.6 Annual income of the beneficiaries

As Table 8 shows, revenue is one of the important measures for rural people's standard of living. We can see whether the economy is growing or decreasing with the help of income statistics. If revenues grow over a certain period, the economy will grow, but if revenues decrease compared with the previous period, the economy will decrease. Similarly, an increase in per capita income is a positive sign of a rise in the standard of living of persons and vice versa. The beneficiaries' income pattern



the annual pre-loan expenses with  $t(12) = 2.45$ ,  $p < 0.05$ . It can therefore be concluded that the yearly post-loan expenses are greater than the annual pre-loan expenses.

### 5.8 Annual Savings of the Beneficiaries

In every economy, savings play a major role, and their role at different levels is important. Naturally, everything depends on people's income and expenditure. The following table 10 shows the beneficiaries' savings pattern in the field of study. It is noted in the table that, for the pre-loan period, a maximum of 71 recipients saves less than Rs. 10,000 each year, while 50 recipients save Rs. for the post-loan period less than 10,000.

In the pre-loan period, 7 beneficiaries save 10,001-15,000 Rs. per year, while in the post-loan period, 6 recipients save 10,001-15,000 Rs. Similarly, in the period prior to the loan, eight beneficiaries save Rs. 60,001 per annum and more, while in the post-loan period, 14 beneficiaries saved the Rs. 60,001. There is evidence that a lower savings range is more prevalent in the pre-loan period than post-loan period, while a higher savings range is more prevalent in post-loan period than pre-loan period. It shows that the recipient's savings have increased during the post-loan period.

**Table 10** Distribution of the Beneficiaries by Category and Annual Savings

Sr. No	Saving Range	Pre Loan	Percentage	Post Loan	Percentage
1	Less than 10,000	71	61	50	43
2	10,001-15,000	7	6	10	9
3	15,001-20,000	8	7	8	7
4	20,001-25,000	0	0	7	6
5	25,001-30,000	12	10	6	5
6	30,001-35,000	0	0	1	1
7	35,001-40,000	2	2	4	3
8	40,001-45,000	1	1	2	2
9	45,001-50,000	4	3	5	4
10	50,001-55,000	1	1	5	4
11	55,001- 60,000	2	2	4	3
12	60,001-and Above	8	7	14	12

The difference between the pre loan and post loan annual savings is tested statistically by using the difference of means test. The value of two tail significance is 0.04 is less than .05 ( $p < 0.05$ ), as such the difference between the means is significant. The test output indicates that there is a significant difference in the pre loan annual savings and post loan annual savings. Hence, the post loan annual savings is more than the pre loan annual savings, with  $t(12) = 1.64$ ,  $p < 0.05$ . Hence, it can be concluded that the post loan annual savings is more than the pre loan annual savings.

### 5.9 Employment Conditions of the Beneficiaries

Employment generation is the number of days the beneficiaries worked and is expressed in man-days. The Utkal Grameen Bank finance has resulted in creating a positive impact on the employment generation of the beneficiaries. So far the employment generation of the agriculturists is concerned in the pre loan period the annual average levels of employment was 139.92 man-days and has increased to 186.75 man-days in the post loan period with a 33.47 percent increase in the post loan period.

The difference between the pre loan employment and post loan employment is statistically tested by using difference of means test. The value of two tail significance is 0.001 is less than .05 ( $p < 0.05$ ), as such the difference between means is significant. The test output indicates that there is a significant difference in the pre loan employment conditions and post loan employment conditions. The post loan employment conditions are more than the pre loan employment conditions, with  $t(24) = 2.44$ ,  $p < 0.05$ . Hence, the bank loan has a positive impact on the employment in the post loan period.

### 5.10 Asset Possessions of the Beneficiaries

Asset possessions of the beneficiaries are determined by considering the assets acquired such as land, building, farm machinery equipment, livestock and many other assets commonly possessed by the rural people and is expressed in terms of rupees. The data pertaining to the value of assets owned before and after taking loans from the Utkal Grameen Bank is elicited and the difference is calculated for each of the items.

The difference between the pre loan values of the assets and post loan value of the assets are statistically tested by using difference of means test. The value of two tail significance is 0.002 is less than .05 ( $p < 0.05$ ), as such the difference between means is significant. The test output indicates that there is a significant difference in the pre loan value of the assets and post loan value of the assets. The post loan value of the assets are more than the pre loan value of the assets, with  $t(28) = 3.34$ ,  $p < 0.05$ . Hence, the bank loan has a positive impact on the value of the assets in the post loan period.

### 5.11 Standard of Living of the Beneficiaries

eleven parameters in this study. If, the bank loan has impact on the above selected particulars than, ultimately the bank loan has impact on the standard of living of the beneficiaries. To verify the impact of the bank loan on the eleven standard of living particulars the chi-square is used.

**Table 10** Chi-Square Test Statistics

Sr. No.	Standard of living particulars	Chi-Square	Degrees of Freedom	p-value
1	Expanded the business in the modern lines			
2	Repaid past debt			
3	Given better education and health facilities to the children			
4	Wearing good clothes			
5	Eating good food			
6	Led a comfortable life			
7	Improved the credit worthiness			
8	Purchased house hold articles			
9	Marriage/ Social functions			
10	Reduce poverty			
11	Modified/ constructed house			

\*Significant at 5% Level of Probability

From table-10, it is clear that p-value of all the parameters are 0.00, at 5 percent level of significance, which is less than 0.05( $p < .05$ ), hence bank loan has positive impact on the selected parameters of standard of living. So it can inferred that bank loan has positive impact on the standard living of the beneficiary farmers.

### 5.12 Impact of Utkal Grameen Bank on Agriculture Development of Beneficiaries

The results presented in the table-11 clearly show that there is significant impact of UGB on agriculture development of beneficiaries. The results were analyzed with respect to five dimensions of agriculture development before and after availing loan from UGB. Based on the past reviews and discussion with experts, the dimensions of agriculture development were finalized. The dimensions of agriculture development includes, annual income, asset acquisition, consumption patter, land productivity, pattern and employment generation. The data pertaining to the different dimensions of agriculture development before and after borrowing the loan from UGB is collected from the borrowers is analyzed through frequency and percentages. It was observed that annual income has increased 38.96 percent, asset acquisition has increased 25.39 percent, consumption pattern has increased 78.07 percent, land productivity has increased 73.95 percent and employment generation has increased 33.47 percent in the post loan period.

**Table 11** Utkal Grameen Bank on Agriculture Development of Beneficiaries (t-Test)

Sr. No.	Variables	Before	After	Difference	Percentage change
1	Annual income (Rs.)	62589.1	86976.9	24387.77**	38.96
2	Asset acquisition (Rs.)	3768.944	4725.909	956.965**	25.39
3	Consumption pattern (Rs.)	643.02	1145.01	501.99**	78.07
4	Land productivity (kg/acre)	674.09	1172.61	498.52**	73.95
5	Employment generation (man-days)	139.92	186.75	46.83**	33.47

\*, \*\*: Significant at 5% and 1% level of probability

A close look at the table 11 shows that, in agriculture development, the dimensions like consumption pattern (38.96), employment generation (33.47 %), asset acquisition (25.39%), annual income (38.96%), land productivity with respect to selected crops (73.95 %) has positive and significant impact on agriculture development of beneficiaries indicated by significant 't' values.

## 6. Implications

The study has had clear implications for the results and discussions. The study showed that the UGB has a major impact on the development of the recipients of agriculture. Bank management and administration should start to establish the village-level UGB branches to meet the credit needs of the great majority of rural farmers. The majority of farmers have little awareness and practice such as the selection of recommended varieties, seed season, seed treatments, distance and use of fertilizers, use of protective plant chemicals, etc. In this way, it is ideal that the UGB and the Department of Agriculture organize regular and planned training programmes, effective demonstrations, campaigning and regular farmer meetings by motivating farmers and convincing them to accept sustainable technologies. In order to increase their level of awareness in their practise. This requires a sincere effort to provide the minimum facilities needed to increase the technological adoption, such as input supply, marketing structure and other infrastructure.

The documentation for farm loans has been greatly streamlined with the coming of the computerization of land records, the introduction by the government of Kisan's credit-card system etc. For the processing of loan applications, the UGB Bank should use these facilities. The beneficiaries have a high chance of being overdue because of adverse weather conditions,

fluctuations in the market, sponsored government programmes, complex loan processes, and inadequate assessment of future bonuses. Thus, the bank should formulate new and viable outlooks that can be offered to the borrowers. During the survey, some recipients said they receive the help of bank officers in the lending of loans but they do not receive technical assistance in due course. Efforts should therefore be made to recruit farm graduates in all branches to assist farmers with technical guidance in crop production.

## 7. Conclusions

The UGB played a central role in promoting the socioeconomic life of the district's people in Odisha district of Ganjam. The UGB, as a Regional Rural Bank, provides credit to rural people, especially small and marginal farmers, craftsmen, farm workers and even small entrepreneurs, who are not economically strong enough in the sector. The development of agriculture is a process to enhance rural people's socio-economic status. After a detailed study on the concept of agricultural development, some socioeconomic dimensions of agricultural development were determined in this study. In the post-loan period, land productivity increased by 73.95%. Revenue is one of the key indicators that usually determine the expenditure level and saving levels. The study shows that the post-loan period has increased income, expenditure, and savings by 38.96%, 25.45% and 77.37%. It shows that bank loans have a positive effect on the beneficiaries' income, expenses and savings pattern. The acquisition of assets is one of rural development's most important indicators. Following analysis, it was concluded that the value of assets increased by 25.39% during the post-loan period, which indicates the bank's positive impact on asset holdings. For the rural poor, employment is an important issue. It was found after analysis that bank lending created jobs in the field of study. Over the period after the loan, employment rose 33.47%. Finally, during the post-loan period, the bank loan improved the living standards of rural people. The above analysis and results can be concluded that the bank justified its establishment in the district. Bank funding improved land productivity, increased asset value, generated income, reduced dis-savings, generated job opportunities, improved living standards and created assets for recipients. The conclusion can be drawn that bank loans have improved rural areas by satisfying the district's socio-economic needs.

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