CHAPTER -I
INTRODUCTION

Agricultural Development Bank Nepal (ADB/N) was established in 1968 under the ADBN act 1967 with the objective of providing agricultural loan and other supporting activities to the rural poor farmers. Before the establishment of ADB/N co-operative Bank established in 1963 was the main source of agriculture credit. The bank was started to provide the credit needs of the co-operative societies. Land Reform Saving Co-operative (LRSC) was established to mobilize the compulsory saving generated of the village level and to provide agriculture credit to needy ones. In 1966 both of these institutional credits management had a limit scope to provide loan in agriculture. In 1968 agriculture development bank was established under the agriculture development bank act 1968. After establishment of ADB/N, in 1973 the LRSC was also merged.

Loan disbursement of development banking of ADB/N refers agriculture credit granted by ADB/N in agriculture sector. Agricultural loan is provided such as term wise, purpose wise and development region wise is urban and rural areas to farmers. The purpose of granting rural credit is to uplift life standard of farmers by income generating activities to create self employment opportunities and reduce poverty through social mobilization activities. Likewise loan collection of ADB/N indicates collection of development loans principal from its farmers, invested early for the difference purposes.

1.1 Background Information

Nepal is least developed, agrarian country, having an area and population of 1,47,181 square kilometer and 2,31,51,423 respectively according to the census of 2001 but the present population is 2,66,20,809 on the basis of growth and census of 2011.

In our country farmers are all over the country, not only one geographical location specific, so to provide agriculture loan, and other support to the farmers the branches of Agricultural bank are also all over the country. This bank not only provides agriculture loan but it also provides difference subsidies from difference NGOS, INGOS to poor farmers. Agriculture development bank is a bank of farmers and to support farmers Asian Development Bank, World Bank, International Monetary Fund provides loan at very low rate, sometime provides subsidies for poor

farmers and ADB/N works as a mediator. It also provides loan at low rate than that of other bank.

Accordance to geographical climate Nepal is classified as three areas

i.   Terai region
ii.   Hilly region and
iii. Himalayan region

Above mentions natural geographical regions of the country is differ from each other especially climatic condition, living pattern, cultural heritage religion etc. Administratively Nepal is also divided into five development regions, 14 zones and 75 districts.

Agriculture is the backbone of Nepalese economy. The growth rate on GDP in 2008, 2009 and 2010 are 3.8 %, 4.0% and 3.5% respectively. Per capita income of Nepalese people in 2007, 2008, 2009 and 2010 is $350, $400, $440 and $440 respectively according to Central Bureau of Statistics. Agriculture sector provides inputs to the industrial sector. (Abhiyan National Daily, The Economic Newspaper)

In our country, we have large amount of water resources or in other word we are second rich in water resource in the world, but we are not able to utilize the resources because of lack of capital and technology. So in order to utilize water resource first of all we should develop agriculture sector and should collect capital for hydroelectricity project and irrigation project. To develop agriculture sector there is most necessary of ADB/N. It initially provides loan for difference agricultural project such as irrigation, agriculture plant and machinery development projects, to purchase modern productive seeds for farmers, to purchase fertilizer and fertilizer related industries, money provides for initially, Disbursement in farming for live stock finance agriculture marketing. Agriculture development bank also accept deposit from farmers and encourage them for saving by providing interest in their saving.

There are much more commercial and development banks are operating in Nepal but ADB/N is difference than other. The main objective of ADB/N is to provide loan in agriculture sector accordance to government priorities. Nepal is an agrarian least developed mountainous country in the world. According to According to Central Bureau of Statistics, almost 61% of total populations are engaged in agriculture sector, so the future of Nepal is based on agriculture development. By considering this facts Agriculture Development Bank encourage farmers to increase production by investing in agriculture sector.

Agriculture Development Bank provide different terms loan such as shot term, medium term, and long term 20-40 years loan to farmers of all over the country. It makes, targets or goal as development region district wise, and different term wise disbursement plan. In order to fulfill its goal, government bank have made different target for difference purpose for disbursement. In agriculture sector there may different sectors. Such as agriculture business, cash crops, fisher industry, agriculture marketing, horticulture, irrigation, etc.

Nepal was ranked 144th country among 184 countries in the world accordance to UNDP's Human Development index 2009/10. In 2011 Nepal is ranked 157th country among 187 countries accordance to Vice Chairman of National Planning Commissions (NPC) 2011.

The topography and climatic condition of Nepal is not also good for agricultural production. Agricultural production does not depend only geographical condition but also modern technology of farming such as chemical fertilizer, irrigation, bio-gas and power-development, pump-sets, agri-tools, tractor and in some extent political-condition of national and mostly on government policy on agriculture development.

In our country the people who plough land have no land, the ownership of land and actual farmers are difference in most of the places on the other hand government haven't enough support for farmers. Our cultivation style is traditional types. Farmers are unable to use modern productive seeds, enough fertilizer, and tools and equipment in farming. So in our country though more than 61% people engaged in agriculture sector, but its contribution for GDP is less than 38%. In this contents agriculture development Bank/Nepal have played supportive activist for farmers.(www.adb.org)

Poor people don't create poverty, poverty is created by institutions concepts and policies of government. We don't need foreign loan with the slogan of poverty alleviation, we need small packages programmes with the mobilization of local resources by the local people.

Small Farmers Development Programme (SFDP) was conducted since 1975 as specific poverty alleviation programme as an aim of improving the life standard of small farmers, tenants and landless labour. Small Farmers Co-operatives Limited (SFCL) is an outcome of (SFDP) ADB/N has been converting SFDP in to SFCL and planned to convert all SFDP into SFCL. SFDP is a pioneer form of rural micro

financing tool of eradication poverty and empowering ultra poor by bringing them main stream of development process through social mobilization of rural micro finance constitutions mobilization of saving and extension of credit micro finance. Uplifts socio-economic condition of ultra poor as well as provides financial and non financial services.

Poverty alleviation is the main objective of Nepal since 8th plan became of agriculture majority in Nepal, agriculture is the main support to poverty alleviation and to achieve sustainable economic development in rural economy. In tenth plan there have been declared long term agricultural plan and programme up to fiscal year 2006/07 the line of poverty reduced to 30% from 38%. Government of Nepal has determined fixed pricing sector on agricultural such as chemical fertilizer, agribusiness etc. including seventy nine sub heading. In addition of ADB/N micro credit will be provided to poor and ultra poor through SFCL saving and credit co-operative (SAC), NGOS, INGOS. Financial resources support will be given rural micro finance development center to strengthen institutional provision Rural Micro Finance Development Centre (RMFDC) will provide wholesale refinancing credit to German Bikas Bank and other financial institutions. But the major portion of the rural agricultural credit will be invested through ADB/N NRB will be mobilized for supervision and monitoring role.

Only a few studies have been conducted on loan disbursement and collection analysis of ADB/N. Except than ADB/N there are other development banks and micro finance institution operating in Nepal but the financing problems especially in the field of development credit sector is not yet solved. So the necessary of study is felt and done. This study may be a milestone in Nepalese context especially in the field of development credit and having significance and value to society in general.

1.2 Statement of the Problem

The contribution of agriculture sector on GDP in Nepal is 36% approximately in F/Y 2009/10 (Economic survey 2009/10) and the current GDP is 38%. The agriculture credit is increasing day by day. If disbursement and collection don't occur timely each and every organization cannot survive forever. Because of past political insurgency and instability the loan disbursement and collection system was greatly affected. The reason of selecting this research topics can be expressed in term of some research questions.

1. What is the sector wise loan disbursement and collection of ADB/N?
2. How much amount does ADB/N make disbursement and collection in different sector?
3. What is the relationship between loan disbursement collection in the practice of ADB/N ?
4. Does the loan disbursement of ADB/N support the sector wise growth trends?
5. Whether the loan disbursement and collection of ADB/N is proportionately distributed over different region?

1.3 Objectives of Study

The main objective of this study is to solve or find out the solution for above presented problems related to ADB/N. The other objectives are as follows.

1. To examine about targeted and actual loan disbursement and collection of ADB/N Regionally and nationally.
2. To analyze the sector-wise loan disbursement and collection of ADB/N.
3. To describe the correlation between loan disbursement and collection.

1.4 Significance of the Study

Development of the country requires the development of difference sector and region. In our country agriculture is the main sector. More than 65% population of Nepal are engaged in agriculture sector and its combination in GDP is only 38%, so by considering this facts we have to invest for large amount in agricultural sector so that it support for farming through scientific way by using modern technology. ADB/N is the best mediator for the agricultural sector. Therefore the study of loan disbursement and collection of in agriculture sector through ADB/N is very much important for every aspect of our life.

Mainly the study is important for the following aspects:

i. It is important for the bank to assess its present loan disbursement and collection policies.

ii. It is important to the farmers and entrepreneurs because the study will disclose to priority sectors of disbursement of ADB/N resources.

iii. It is important for the policy maker to assess their policies for loan disbursement and collection on the basis of result achieved.

iv. Study is important for the government for the development of other financial institution for disbursement in agriculture sector.

v. It is important to research scholar.

1.5 Limitation of the Study

Every research has to conduct within certain size. So existing limitation of this research may be as:

i. This research is based on only development banking transaction of ADB/N and exclude commercial banking transaction.

ii. This study will be based on secondary data which is received from annual reports, MIS. division, loan division, accounting division, planning and project division, loan disbursement and collection division of ADB/N.

iii. This study will include only five years data.

iv. This research focuses only on loan disbursement and collection of ADB/N not overall aspects of ADB/N.

v. Resource constraint is another factor which has significant impact on the study. For a student time for study, cost of the study, access of obtaining authentic and sufficient information and data for the study etc. are important and they can limit the scope of the study.

vi. Conclusion and recommendation of the study is reactive.

1.6 Organization of the Study

Each and every research is organized according to the nature and requirement of the study. The organization of the study is classified five chapters.

Chapter 1: Introduction: It contains introduction of the study. It is all about the background of the study, focus of the study, statement of the problems, objectives of the study, significance of the study and limitations of the study.

Chapter 2: Review of Literature: This chapter deals with the review of literature. It contains conceptual meaning, evaluations, types and other related topics and review of related studies as well as Institution's profile too.

Chapter 3: Research Methodology Third chapter contains research methodology. It holds research design, sources of data, data analysis, tools and techniques, limitations of data analysis etc.

Chapter 4: Presentation and Analysis of Data Fourth chapter deals with data presentation and analysis. The main objective of this chapter is to draw vital conclusion about Loan disbursement and Collection of ADB/N

Chapter 5: Summary, Conclusion and Recommendation: At last, The fifth chapter contains Summary, Conclusion and Recommendation of the entire study.

CHAPTER-II
REVIEW OF LITERATURE

2.1 Conceptual Review of Literature

Loan disbursement and collection is old as like as Bank. Before establishment of banking system the rich people used to give loan to people who need loan. Those were informal loan agencies and after establishment of bank it started to grant systematic formal loan for needy people. Generally the people who needs loan for different productive and service sectors takes loan and bank's & difference financial institution provides loan.

In the ancient time human being used to leave in jungle they used to eat Jungle's vegetables, they have no special inhabitations. They used to pass visiting life from one place to another. That age was called as Jungle era. After that era people started to feel something comfort by staying in a special place by farming, then they started cultivating and they became able to produce foods for their needs. That age was preliminary agricultural era. After that era people tried to find new and new thing day by day then they entered in mass production. They started to find out new plant and equipment for farming and after then they able to create difference machinery for making industrial goods. That era was called as pre industrial age. After that era people able to create automated machine and different types of means of transportation. This is the industrial age. In this age different types of bank and financial institutions are started to provide the loan for developing industrial activities. So by observing the term "loan disbursement and collection" it is started after agricultural age, and it became increasing with the movement of time, and after that age huge amount of loan disbursement in difference sector is started. In each and every country if government feels to develop of any special sector then there needs large amount of disbursement. After loan disbursement, the loan should collect otherwise there would end the existence of disbursement company.

Disbursement inspires the production. After investing in productive sector than there we get return. So the borrower repay loan with interest. After loan disbursement loan collection is compulsory other wise these will end the existence of disbursement company.

2.2 Review of Literature

Nepal is agricultural priority country without the increment of agricultural production, poverty cannot be minimized. For the agriculture development huge amount of disbursement is needed. ADB/N is the best mediator for the development of agricultural sector. Since the establishment 1967, it has lunched so many programmes in the sector. It has been investing its resources to raise the economic position of the farmers and to ensure overall agricultural development. The bank has flown huge amount of loan on different agricultural purpose.

Agricultural sector in Nepalese economy has occupied very significant role to contribute for the overall economic development of the country. In order to agricultural development large amount of fund should invest. But the farmers cannot meet the entire amount, so the gap must be bridged by other institutions. In our country the major institution for investing in agriculture sector is agriculture development bank, the major goal of ADB/N is to provide loan to farmers. Agriculture credit played a great role for agriculture sector development of a nation.

According to the view of Howard Wolf (1954), " Agriculture disbursement is necessary for the proper functioning of the present day production and disbursement in agriculture has been called the blood of modern economic society."

In our country the large majority of poor farmers are born in debt, lived in debt have low saving status which refrains them from introducing new techniques of the firm so for all these reasons the financing of this sector usually comes through external sources, but the loan on the credit is most essential to the economy of Nepalese like others. Agriculture financing is one of the most important factor for economic development in the general improvement of the condition of the rural small farmers, in particular of the central bank. Nepal Rastra Bank conducted the agricultural credit survey in 1969/70. It's work is also taking varieties organizational and financial problems relating to credit supplies marketing and extension at the grass root and material level. Pant and Jain (1969), Agricultural development in Nepal 1969 writes in spite of the fact that agriculture is the main occupation in economic life of Nepal. Most of the agricultural producers are still poor and illiterate. They have limited credit facilities as an account of their business on a small scale. The available credit facilities are also not properly used. The farmers take loan and they use for fertilizers, seeds and so on for the proper utilization of agricultural credit, there must be irrigation facilities in agriculture sector otherwise agricultural credit will not give

sound return. Due to the lack of irrigation facility, the productivity is decreasing and farmers are not benefited.

Here are three purposes of loan for farmers.

a) Repayment of old debt

b) Borrowing of unproductive purposes.

c) Loan for improvement purposes

Unproductive loan is useless and such type of loan should be avoided. One loan must be for development purposes. Loan should not be unproductive and consumption purposes. In our country Nepal, the main causes of indebtness are general poverty of cultivations, unfavourable climate leading to uncertain of monsoon, irregularity and insufficiency of income, loss of cattle due to diseases, heavy rain, heavy rent, inadequacy of institutional credit, big family members, unproductive expenditures. This types of misuses must be removed first, then agricultural credit or disbursement in agriculture sector will be effective otherwise it will be useless.

2.2.1 Theoretical Framework of Lending and Recovery Policy and Procedures of ADB/N

Agricultural development bank provides loan and collect by following certain rule and regulation. The following theoretical reviews give information guideline for effective lending and recovery policy of ADB/N.

2.2.2 Lending Policies and Procedure

Lending policies and procedure of ADB/N is based on following consideration.

- N.R.B's supervision and direction
- Eligible borrowers of ADB/N
- Security and margin policy
- Interest rate of ADB/N
- Loan limit/line of credit
- Pocket area group loan and total production loan.
- Procedure of lending

NRB's Supervision and Direction

N.R.B is the head of all other bank. It control banks and financial institutions and tries to keep them with in a certain rule and regulations. N.R.B supervision and give direction to other banks. N.R.B's direction to development banks is given below.

a) Adequate provision on Authorized capital issued capital and paid in capital.

b) Loan classification and loan loss provision.

c) Financial sources collection limit.

d) Compulsory cash reserve ratio management

e) Provision of priority sector and sector wise loan limit.

f) Provision of accounting policy and financial statements

g) Provision of effective monitoring, follow up and supervision for loan utilization.

h) Provision of audit and audit committee

i) Provision of good governance

j) Provision on disbursement

k) Provision on bank's right sizing.

Eligible borrowers of ADB/N

In order to get loan from ADB/N, the applicant posses the following qualification.

a) Must be Nepali citizen, if the application is a cooperative cooperate body, it must be registered in the related government department.

b) The applicant or his representative must have the required knowledge experience and skill to operate enterprises.

c) The applicant must have paid principle and interest account in time if he/she has already loan taken.

d) The applicant must be willing to meet the equity contribution for the project as required by ADB/N's rule and regulation. (ADB/N, 1989:13)

Security and Margin Policy

While providing loan ADB/N keeps some collateral. ADB/N has following provision and margin policy ADB/N requires or immovable property such as land, building, bus, car, difference business firm etc.

Table 2.1

Security and Margin policy

S.N.	Property	Maximum loan granting	Margin
1	Land	80%	20%
2.	Cemented house/go-down and cold storage	70%	30%
3.	Machinery	50%	50%

Source: ADB/N loan Division 2009(www.adbl.gov.np)

Interest Rate of ADB/N

ADB/N charges discriminatory interest rate policy depending upon the borrowers and purpose of loans. The effective rate of interest of ADB/N is given below.

Table 2.2

Current interest rate charged by ADB/N

S.N.	Purpose	Prime lending rate per annum% if interest is paid monthly
1.	Agriculture 1.1 Cereal crop 1.2 Cash crop 1.3 Special crop 1.4 Agri tools 1.5 Irrigation 1.6 Livestock 1.7 Horticulture 1.8 Tea and coffee	 11.0 11.0 11.0 12.5 12.0 12.5 10.0 10.0
2.	Industry 2.1 Go down construction 2.2 Cold storage construction 2.3 Bio gas and power 2.4 Agro industry	 10.0 10.0 12.0 12.5
3.	Service business 3.1 Non-agricultural credit 3.2 Tourism 3.3 Other service business	 12.0 12.0 12.0
4.	Land Development 4.1 Housing and land development	 12.0
5.	Derived class credit 5.1 Sana Kisan Bikas Bank Ltd. 5.2 Small farmer cooperatives Ltd. 5.3Unions/institutions, Sajha Cooperatives	8.5 10.5 10.5 10.5

Source ADB/N loan Division 2009 (www.adbl.gov.np)

Notes:

    a) Prime interest rate will be charged if interest is paid monthly and 20% interest discount is removed.

    b) Additional 1% and 3% medium term interest will be charged on deprived class credit and other credit respectively if interest is not paid monthly.

    c) 2% and 4% high interest rate will be charged in medium term interest on deprive class credit and other credit respectively source ADB/N loan Division 2004.

Loan Limit/Line of Credit

Depending upon purpose and types of loan ADB/N provides 80% to 90% of total project cost. The remaining should bear by borrower. The line of credit is a provision where the total requirement of credit to the borrower within one year is declared at a time (ADB/N 1989:33)

Pocket Area Group Loan and Total Production Loan

The lending policy of ADB/N is broadly based on two considerations. If bank offices classify loan according to geographical structure such as climate, condition of natural resources, physical infrastructure, facility, marketability etc. to provide agricultural credit within his work center's different places, than it is called pocket area group loan. ADB/N generally follows this approach to provide agricultural loan in easy and smooth manner to people for balanced economic development of the country. Pocked area loan group includes 5 to 20 members. Under total population loan ADB/N approves total requirement of credit to borrower in different purposes such as rice millet, mustard etc, within one year period. ADB/N 1989: 106-102

Procedure of Lending

The loan needed person or institution from ADB/N must fill up the prescribed loan application firm supplied by ADB/N. The applicant should submit supportive documents with the application firm such as certificate of land ownership, receipt of land revenue payment or certificate of government registration for corporate and co operatives organization and in some cases in big projects, project feasibility report is essential.

After receiving application the Bank officials inspect applications firm and check about accuracy the things which fill up in application firm. Bank officials observe about collateral and if feels suitable and they accept loan but the collateral it also emphasis to the feasibility of project and if project seems technically feasible

economically viable, politically suitable and socially acceptable than the field visit observation committee approves the loan.

2.2.3 Recovery Polices and Procedures of ADB/N

After granting loan these loan requires to recover. ADB/N provides difference term loan such as short term medium term, and long term loan with fixed lending period. The recover period instalment is difference with size and term of loan. ADB/N has loan recover, manual 1992 which was issued in 1992 under the ADB/N loan recovery regulation 1975 and ADB/N act 1967. The loan recovery manual is considered as main base/guideline to collect the loan invested early to farmers effectively with in its loan instalment period. The recovery polices and procedures of ADB/N are:

- Objectives of loan recovering manual.
- Authority of bank, if breaking of agreement.
- Provision for interest, penalty and rebate
- Provision for memorandum letter
- Punishment stage of recovery
- Provision for sick period
- Correction of payment period
- Per-notice for publication of borrower's name in magazines.
- Provision of action of collateral
- Doubtful loan
- Provision for black list (ADB/N 1992:3)

Authority of bank if breaking the agreement

ADB/N has the following authority if breaking agreement.

a) The bank has the authority of to sell or auction of the collateral to recover the loan amount and interest.

b) If the collateral value not enough to collect interest and principal amount than bank has an authority to recover total amount by other property of borrower.

c) Bank has authority to transfer the title of collateral to third party.

d) In case of failure to pay loan amount by borrow bank have right to sell or auction the collateral but if the collateral value is more than loan amount than the excess amount should returned to the borrower.

e) Bank may request to the land registration office for registration or transfer the collateral title with it self or other third party, which from the selling or any other process. (ADB/N 1992:4-5)

Provision for interest penalty and rebate

ADB/N charges difference interest rate in difference purposes which is shown in previous page. The extra provisions on interest rate, penalty and rebate are given below:

a) ADB/N charges one percent service charge, if the loan amount and outstanding is more than Rs. 50000.

b) ADB/N charges difference interest rate such as the interest rate to corporate organization is less than individual borrower.

c) Sometimes ADB/N publishers notice of rebate especially file closing time. 75% to 85% rebate is given on non performing loan's interest to farmers' ADB/N (1992:8-9)

Punishment stage of recovery

There are two stages of punishment i.e. one is general stage and another is critical stage. The first second and third memorandum letters are to be sent in general stage. After third memorandum letters 35 days notice will be published in newspaper in critical stage, it is also called legal punishment stage.

Provision for sick project

Under the following condition projects are consideration as sick projects.

a) Partial or absolute loss from natural. Climates such as earthquake, flood, and land slide fire etc.

b) If projects can't be run through lack of raw materials adequate market, increase in tax, electricity charge etc.

c) After project's entrepreneur's death, if other people and family members aren't to operate project.

d) If ADB/N unable to grant credit on time, less loan is approved. (ADBIN, 1992:38)

Correction of payment period

If project is considered as sick than correction of payment period will be made by ADB/N under the following condition.

a) If the project is affected by difference diseases.

b) Due to systematic cause that is beared by the borrower and if project will not be started in time.

c) If project is going on loss by the causes of natural climates such as earthquake, heavy rain, robbery and other causes.

d) If the borrower's family request after the death of main proprietor if the project may be operate successfully or it became difficult to operate.

e) If products became damaged because of lack of market (ADB/N 1992:40)

Provision of auction of collateral

If borrower became unable to pay loan than ADB/N takes legal action in order to re-back loan. The bank publishes notice in difference national newspapers for the auction of collateral. The bank has decentralized the auction power the different level of officials, which are given below:

a) If the loan's principal and interest up to Rs. 500000, district level auction committee has decision power.

b) If the loan's principal and interest up to Rs. 500001 to Rs. 700000, supervision and controlling office has decision power.

c) If the loan's principal and interest up to Rs. 700001 to Rs. 1500000 than decision power goes to DGM level committee.

d) If loan's principal and interest is more than Rs. 1500001 decision power goes to the general manager level committee or the BOD of the bank. (ADB/N 1992:55-56)

Doubtful Loan

ADB/N announces the doubtful loan if the amount will not be possible to recover. Doubtful loan is considered under the following conditions.

a) If borrower succeed to take loan from the bank by submitting duplicate document i.e. cheating and bank fails to find out the borrower and may not get success to recover loan by legal process.

b) If loan provided under the security of project and if the project is failure.

c) If the borrower and collateral are in undetermined conditions

d) If the collateral is value less through the case of natural climates or not possible to collect all loans by collateral.

e) If the loan amount may not be possible to recover when lending is made from the security and insurance of loan amount.

Provision for black list

In the following condition borrowers names are kept in black list.

a) If the borrower don't complete the project and misused the loan.

b) If the borrower submits application to bank by writing foggy name.

c) If borrower hides own collateral and takes loan by showing other people's collateral.

d) If borrower sell the projects or collateral without notifying bank.

e) If a borrower submits the duplicate document as a original documents. (ADB/N 1992:72)

2.3 Review of Journal, Newspaper and Text Book

Some of the relevant review of literature from journal, newspaper and textbook are presented below.

One of main problems of Nepalese agriculture is it slow productivity. Some of the main factors responsible for the low productivity are inadequate supply of improved varieties of seeds lack of fertilizers, lack of adequate irrigation facilities, insecticides and lack of knowledge on the part of the cultivation of improved techniques of cultivation other factor conditioning the slow growth of agricultural output are the poor farming techniques, insufficient incentive to augment production under the traditional system of land tenure lack of adequate agricultural credit and marketing facilities

Rural banks will largely serve the credit need of small and marginal farmers, artisans and landless labours. The banks will be run a commercial line but they will look after mostly the needs of those areas that are under or inadequately banked. The problem of coordinating the effort of commercial banks with those of cooperative institutions the supply of credit has yet not been solved. (Bhatia, 1977:203)

Agricultural development bank was established 20-30 years ago to extend financial services, mainly credit of subsidized interest rates, to customers not considered creditworthy by commercial banks. They are largely state-owned and funded by government and international donor agencies. In general, ADB/N has

focused on providing credit rather than an accepting deposits, a practice that has undetermined their self reliance as well as their viability. Given the high cost of administrating large number of small loans, the banks have tented to provide bigger loans to better off farmers. Because farming is a seasonal occupation, agricultural lending intuitions experience the boom and bust of the cash flows, with loan requirements drastically increasing during the sowing season. In addition an emphasis on providing loans strictly for agricultural activities, mainly crop production as opposed to providing credit for other kinds of rural income generating activities has limited the potential of ADB/N to serve a wider clientele. Such preferential credit programs have tended to curtail rather than expand their out reach to small farmers and other customers in rural areas.

2.4 Review of Previous Study

Some of researches which are already done in the field about loan disbursement and collection of ADB/N are presented below:

Oli, UmaNath (1980, 57-58) on his study "Agriculture financing in Nepal." Emphasised that institutional credit facility help to increase the rate of agriculture development. So according to him adequate agriculture credit should be extended to small and medium size of farmers by well organized agricultural credit institutions. As being only one to help the farmers of rural areas in maximum to raise the form productivity. His major recommendation are:

a) To expand the institutional credit services to the needy farmers in rural areas to save them from the exploitation of money lender's. ADB/N should open branches in rural part of country.

b) ADB/N financing are more concentrated specially in mid region but this will not fulfill the goal of balance development. So it needs to diverted to the less developed areas of the country especially to the western and far-western development region.

c) The process of loan disbursement by ADB/N is more complex and lengthy, and needy formalities are also unnecessary types. So there should be quick as well as simplified in loan granting process (Oli, 1980:)

Pandey, Maha Prasad (1999:114-115) found on his study "An evaluation of loan disbursement and collection of ADB/N," the economic condition of the farmers are too much poor, because of the low productivity of land. So to increase productivity there should provide agriculture credit to farmers. So that farmer's can entrance new technology modern fertilizer, tool improved seeds in farming than productivity also increase. His major recommendations are as follows.

a) ADB/N should minimize the variance between targeted loan disbursement and collection.

b) Mid and far western development regions seem to be poor as compared to the central development region from the view point of flow of agricultural finance in these areas. Hence, efforts must be given to remove such imbalance.

c) Poor recovery is the case of weak supervision high interest and other charges laid by the bank, political interference poor liquidity power of borrowers etc. so political interference should be neglected and to improve farmers liquidity the bank must managed marketing of agriculture products.

d) The bank must reduce interest rate in agriculture sector, loan supervision should be continuously in each and every office, supervisor must visit of the lending field, whether the borrower utilize the total loan amount for concerned people. Supervisor must motivate to the borrower to utilize the full loan amount in loan purpose

Pathak Bhumi Prasad (2004) found on his study "Loan Disbursement and Collection Analysis of Development Banking of Agricultural Development Bank, Nepal", that the development bank play the vital role in economic development whereas ADB/N plays the main role among them Granting large amount loan to the big farmers and small loan to small level farmers. If technical support is provided than farmers able to increase production then they able to pay loan. The causes of bad debts may also causes of flexible legal action of ADB/N who not pay high amount of loan. So if ADB/N takes tight legal action for them who takes large amount of money. And it should handle difference incentive programme for farmers to pay loan in time on all development region and sectors

Sharma Chabindra Nath (2007) found in his study "Analysis of loan Disbursement pattern of ADB/N of Nepal," that the role of agriculture in economic development of Nepal is very important. Agriculture credit is one of the most vital factors for increasing agricultural production. His major recommendations are:

a) The amount of the banks loans disbursement is largely depends upon the amount of loan repayment in each year. So the bank should encourage to the farmers by various such as subsidy, low interest on loan etc. for the repayment of loan.

b) The ADB/N should emphasis to fulfill the maximum credit gap between small and big farmers.

2.5 Research Gap

Though the researchers researched about loan disbursement and collection of Agricultural Development Bank it doesn't seem complete study. The researchers finalized their study by concluding that how the loan amount can properly utilized and how can it be increase for the farmers and tele farmers. ADB/N's lending policies, supervision and direction of NRB, rules for borrowing loan and relationship between the loan disbursement and collection were the main research gap for that studies.

To fulfill these gaps, biasness and scatterings of loan disbursement to the farmers due to geographical situations, next study or research is needed. Researcher is motivated to search for this topic because for the long time no research has been done about it. Researcher could not find any new research for loan disbursement and collection analysis about ADB/N during several years. Its make him inspire to write about Loan Disbursement and Collection Analysis of ADB/N. After the detail analysis of previous research work, researcher has tried to show the relationship of targeted loan disbursement and collection with actual loan disbursement and collection and relations of other many elements of ADB/N. Only discussing about the heading or topic is not a suitable research. It should examine each and every part of related areas. So researcher has also tried to flash out the rules for loan disbursement and payment the credit by region wise and sector wise. In the past many research work have been done but hey have not included the latest or refresh data regarding this research topic. The researcher have also tried to fulfill this gap.

CHAPTER-III
RESEARCH METHODOLOGY

3.1 Introduction

Research methodology is the overall framework for when and how to conduct research programme or it is a way of systematically solve research problem. It may be understand as a science of studying how research is done scientifically. Research methodology helps in defining research problem, formulating research hypothesis how the data have been collected and what kinds of techniques data have been used.

The objective of this research is to find out or to see the trend, relationship between loan disbursement and collection of ADB/N. This chapter follows the research design, population and sample of the study, source of data, variable and measure tools for analysis statistical data, and presentation.

3.2 Research Design

'Research design is the plan, structure and strategy of investigation conceived so as to obtain answer to research questions and to control variance." It is a conceptual framework or structure within which the research is conducted. It is also an overall scheme or programme of research to achieve research objectives are strategy to tackle the problems encountered in the research. Proposed study is basically analytical and descriptive rather than experimental.

This research is focused on loan disbursement and collection of ADB/N therefore correlation research design has been used to assess the relationship between loan utilization for agricultural development and loan disbursed by ADB/N. This technique ascertains the extent to which how much money has invested by ADB/N and how much has been able to collect.

3.3 Population and Sample

There is impossible to study about total loan disbursement and collection in agriculture sectors by difference development banks, and financial institution. So here it has taken as sample only of ADB/N due to government bank and mainly established for agricultural development. in this research it has taken sample of loan disbursement and collection by ADB/N in different development region wise and as a whole national wise.

3.4 Source of Data

This research is mainly based on secondary data and the secondary data are collected difference published source of ADB/N. annual report of 2062/63 to 2066/67 are the main source of data for the study. To facilitate the research work and for the effective achievement of research objectives subsidiary information and data are collected from the bank news of ADB/N periodic publication of Nepal Rastra Bank, Newspaper economic surveys etc.

Annual reports of ADB/N include, reports of record of loan disbursement and loan collection on the various sector according to objectives of loan, time period of loan, and types of borrows. Report also include the profit and loss A/C, balance sheet report of outstanding loan, outstanding interest operating and non operating expenditures of ADB/N.

Other published data relating to study include publication of finance ministry, National planning commission central bureau of statistics, Nepal Rastra Bank, research report related to ADB/N, dissertation, relating to ADB/N etc. which are collected from the respective sources as per the requirement of research work for achieving research objectives. In this research the primary data also collected from bank officers, farmers of difference development regions to make the research significance.

3.5 Variables and Measures

A variable is a symbol to which numerals or values are assigned. In other words variable can take on values. For the research work it is not possible to observe all the dependent and independent variables. But there are some variables which have direct impact on loan collection of ADB/N such as productivity of loan a farmer taking from ADB/N, repayment ability and so on.

Thus the variables such as productivity of loan, repayment ability of borrowers, outstanding loan interest rate on loan, rate of growth of disbursement are considered as main variables of the study.

3.6 Tools for Analysis

3.6.1   Financial Tools

Ratio Analysis

i.   Targeted Loan Collection to disbursement Ratio =

$$\frac{Targeted\,Loan\,Collection}{Targeted\,Loan\,Disbursement} \times 100$$

ii.   Actual Loan Collection to disbursement Ratio =

$$\frac{Actual\,Loan\,Collection}{Actual\,Loan\,disbursement} \times 100$$

iii.   Actual Loan disbursement to Targeted Loan disbursement Ratio =

$$\frac{Actual\,Loan\,Disbursement}{Targeted\,Loan\,Disbursement} \times 100$$

iv.   Actual Loan Collection to Targeted Loan Collection Ratio =

$$\frac{Actual\,Loan\,Collection}{Targeted\,Loan\,Collection} \times 100$$

v.   Development Region Wise Loan Collection to Disbursement Ratio =

$$\frac{Loan\,Collection\,(Development\,region\,wise)}{Loan\,disbursement\,(Development\,region\,wise)} \times 100$$

vi.   Purpose Wise Loan Collection to Disbursement Ratio =

$$\frac{Loan\,Collection\,(Purpose\,wise)}{Loan\,disbursement\,(Purpose\,wise)} \times 100$$

3.6.2   Statistical Tools

a) Chart Analysis

Under this, to analyze loan disbursement and collection on the basis of targeted and actual loan disbursement & collection, development region wise loan disbursement and collection and purpose wise loan disbursement & collection line diagrammes have been presented.

b) Karl Pearson's Coefficient of Correlation

$$r = \frac{\sum xy}{\sqrt{\sum x^2}\sqrt{\sum y^2}}$$

Where, r = coefficient of correlation

$$x = (X - \bar{X})$$

$$y = (Y - \bar{Y})$$

x = independent variable

y = dependent variable

Following diagram is considered to describe relationship between variable.

If r is

-1	-0.7	-0.3	0	+0.3	+0.7	+1
Perfect	strong	weak	perfect	weak	strong	perfect
-ve	-ve	-ve	independent	+ve	+ve	+ve

c) T-Statistics Test

t-statistics is used for the test of significance of each correlation coefficient (r)

test statistic:

$$t^* = \frac{r}{\sqrt{\dfrac{1-r^2}{n-2}}}$$

Decision rule:

The tabulated critical value of t at 5% level of significance for two tailed test at 3 degree of freedom i.e. 3.182. if t^* if found greater it is marked as significance, otherwise insignificant.

d) Hypothesis

Hypothesis is a conjectural statement about the relationship between two or more variables which needs to be investigated for the truth by valid and reliable data. The research of this study strongly holds that the hypothesis formulated meet the above mentioned criteria. The hypothesis of this research work is as follow.

F-Test:-

[a] Hypothesis First: (loan disbursement among the development region wise)

(Ho)   : $\sim X_1 = \sim X_2 = \sim X_3 = \sim X_4 = \sim X_5$ (There is no significance difference of loan disbursement of ADB/N among the development regions)

(H1)   : $\sim X_1 \neq \sim X_2 \neq \sim X_3 \neq \sim X_4 \neq \sim X_5$ (There is significant difference of loan disbursement of ADB/N among the development regions)

[b] Hypothesis Second: (loan outstanding among the development region wise)

(Ho)   : $\sim X_1 = \sim X_2 = \sim X_3 = \sim X_4 = \sim X_5$ (There is no significance difference of loan outstanding of ADB/N among the development regions)

(H$_1$)   : $\sim X_1 \neq \sim X_2 \neq \sim X_3 \neq \sim X_4 \neq \sim X_5$ (There is significant difference of loan outstanding of ADB/N among the development regions)

[c] Hypothesis Third: (loan collection among the development region wise)

(Ho)   : $\sim X_1 = \sim X_2 = \sim X_3 = \sim X_4 = \sim X_5$ (There is no significance difference of loan collection of ADB/N among the development regions)

(H$_1$)   : $\sim X_1 \neq \sim X_2 \neq \sim X_3 \neq \sim X_4 \neq \sim X_5$ (There is significant difference of loan collection of ADB/N among the development regions)

T-test :-

[d] Hypothesis Fourth: (targeted loan disbursement and actual loan disbursement)

(Ho)   : $\sim X_1 = \sim X_2 = \sim X_3 = \sim X_4 = \sim X_5$ (There is no significance difference between the ratios of targeted loan disbursement and actual loan disbursement)

(H$_1$)   : $\sim X_1 \neq \sim X_2 \neq \sim X_3 \neq \sim X_4 \neq \sim X_5$ (There is significant difference between the mean ratios of targeted loan disbursement and actual loan disbursement)

[e] Hypothesis fifth: (targeted loan collection and actual loan collection)

(Ho) $\sim X_1 = \sim X_2$ (There is no significant difference between the mean ratios of targeted loan collection and actual loan collection.)

(H1) $\sim X_1 \neq \sim X_2$ (There is significant difference between the mean ratios of targets loan collection and actual loan collection)

This research is conducted within the periphery of this research methodology which is the crucial part of this research to find out finding of the study.

CHAPTER – IV
DATA PRESENTATION AND ANALYSIS

4.1 Introduction

This chapter includes the collection, of secondary data and analysis of these data. This study covers the period 2062/063 to 2066/067. Data presentation is the basic organization and classification of data of loan disbursement and collection from difference prospective for analysis. Organization and processing of data include editing, coding, classification and tabulation of row data. Tabulation is the process of transferring classified data from data gathering tools to the tabular form, in which they may be systematically examined. Data is presented in table and chart diagrams to make some sense to the researcher as well as to the readers of this thesis.

The main purpose of analyzing the data of ADB/N is to change it from an unprocessed from to an understandable form. The analysis of data consists of organizing, tabulating, performing, statistical analysis and drawing figure of difference data of ADB/N. Data is analyzed by using proper statistical tools such as correlation coefficient t-test and f-test etc, to fulfill the objectives of this research. To test the relationship between loan disbursement and collection in difference development region wise and sector wise correlation coefficient is used, to find the significance t-test, f-test is used on the basis of difference data regarding ADB/N's loan disbursement and collection focuses on overall disbursement and collection of ADB/N in difference sector wise and development region wise.

In this research it is also tried to study and know about causes of non and delay payment by farmer's. In this chapter it has also included about targeted and actual loan disbursement and collection by ADB/N, and tried to find out how much deviation is. The all kinds analysis in this chapter is based on secondary data collected from head office of ADB/N. From this chapter it has tried to find out the actual condition on the areas of loan disbursement and collection by ADB/N on sector wise and development region wise. From this study it is also tried to find out whether the loan disbursement and collection is increasing or decreasing rate in difference development region, whether the disbursement amount in difference development region is difference or not and how much amount in difference purpose.

4.2 Targeted Loan disbursement and Collection

Planning and project department of ADB/N determines targeted loan disbursement and targeted loan collection for each and every year. This is basic

standard for granting loan to collect such granted credit/loan. The targeted loan disbursement and collection of ADB/N in difference year is given below.

Table 4.1

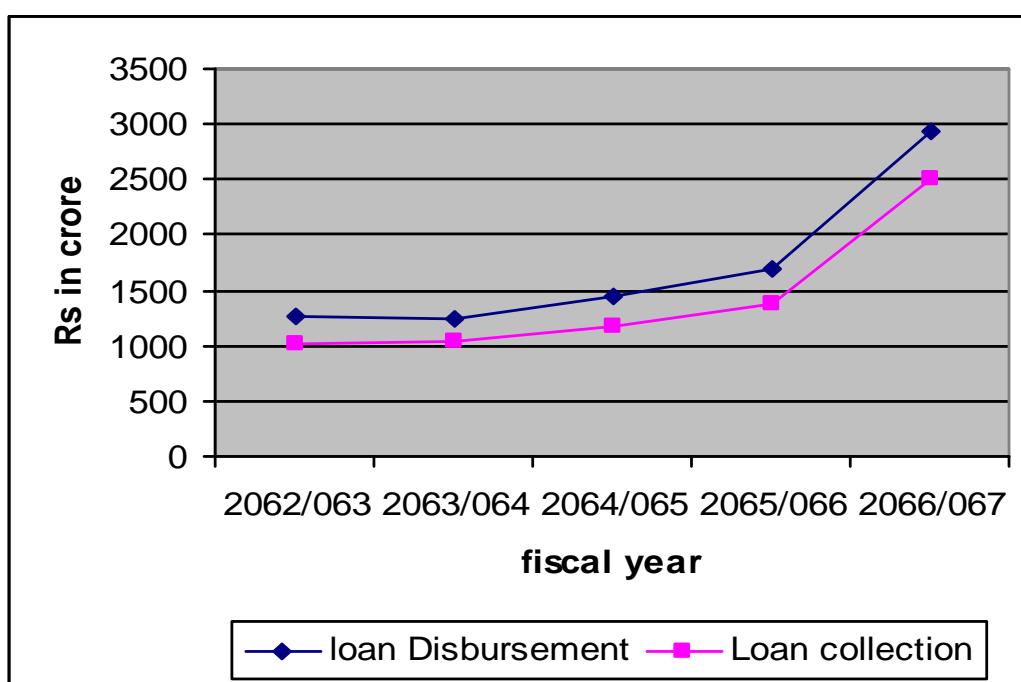**Targeted Loan disbursement and Collection**

(In Rs. Crores)

F/Y	Loan disbursement (Rs.)	Growth rate %	Index	Loan collection (Rs.)	Growth rate %	Index
2062/063	1270.82	-	100	1016.66	-	100
2063/064	1250.77	-1.58	98.42	1031.88	1.5	101.5
2064/065	1454.82	16.31	114.73	1178.40	14.2	115.7
2065/066	1697.04	16.65	131..38	1384.32	17.47	133.17
2066/067	2944.2	73.35	204.73	2495.21	80.02	243.19

Source: ADB/N Annual Program and Budget from F/Y 2062/063 to 2063/067

Chart 4.1

Line Diagram of Targeted Loan disbursement and Collection

In the above table, targeted loan disbursement is decreased in fiscal year 2062/063 than increased every year there after. The lowest targeted amount in 2063/064 is Rs. 1250. 77 crores and the highest targeted amount in 2066/067 is Rs.

2944.2 crores. In fiscal year 2063/064, the targeted loan amount decreased by 1.58%
in fiscal year 2064/065, 2065/066 and 2066/067 increased by 16.31%, 16.65% and
73.35% respectively which shown on chart 4.1. In the table the market index was 100
in the base year 2062/063 and it reached 204.73 in F/Y 2066/067. In the chart the
targeted disbursement line is downward slope first and than. It has started to upward
slope.

In the above table the targeted loan collection amount is increasing each and
every year. The targeted loan collection in fiscal year 2062/063, 2063/064, 2064/065,
2065/066, 2066/067 are Rs. 1016.66, Rs. 1031.88, Rs. 1178.40, Rs. 1384.32, and Rs.
2495.21 crores respectively, which is increasing by 1.5%, 14.2%, 17.47%, and
80.02% in each year respectively. The same increasing trend of targeted loan
collection which is shown in chart 4.1. The index 243.19 represent the base years
index 100 reached 243.19 in F/Y 2066/067 which is in upward slope.

The coefficient of correlation value calculated between targeted loan
disbursement and collection is 0.99 (see appendix I) which is positively correlated.
Coefficient of determination (i.e. r^2=0.98) indicates that 98% of the total variation in
dependent variable (Y) i.e. targeted loan collection is explained by independent
variable (X) i.e. targeted loan disbursement.

The tabulated critical value of t at 5% level of significance for two tailed at 3
degree of freedom is 3.182 which is less than the calculated value of t* 12.155.
Therefore, the coefficient of correlation shows the significant relationship between
targeted loan disbursement and collection, i.e. increase/decrease in disbursement also
increase/decrease in collection.

4.3 Actual Loan disbursement and Collection

Actual loan disbursement and collection is the amount which is actual
disbursement amount by ADB/N. It is a sum of total invested amount in five
development region and collection amount is the total amount collected by ADB/N.

Table 4.2

Actual Loan disbursement and Collection

(In Rs. Crores)

F/Y	Loan disbursement(Rs.)	Growth rate%	Index	Loan collection (Rs)	Growth rate %	Index	Loan Collection
2062/063	1011.5271	-	100	816.7332	-	100	80.74%
2063/064	1014.8569	0.33%	100.33	907.7415	11.14%	111.14	89.445%
2064/065	1181.7057	16.44%	116.77	1033.0873	13.8%	124.95	87.42%
2065/066	3061.3889	159.06%	275.83	2861.2217	176.96%	301.91	93.46%
2066/067	2928.5522	-4.34%	271.49	2815.5899	-1.59%	300.32	96.14%

Source: ADB/N Annual Report from F/Y 2062/063 to 2063/067

Chart 4.2

Line Diagram of Actual Loan disbursement and Collection
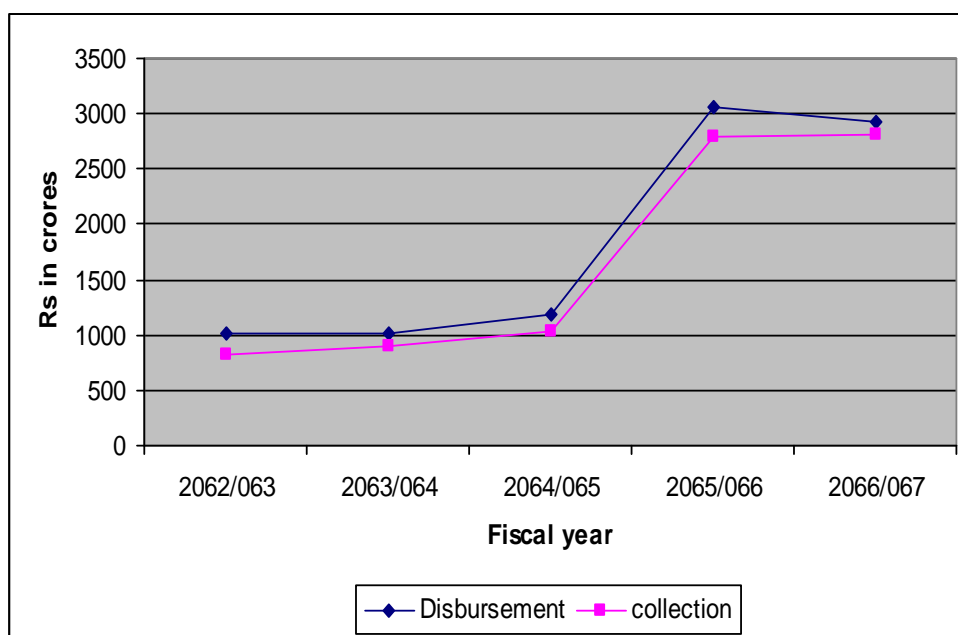
In the above table the actual loan disbursement is increasing for year 2065/066 and it has a little decreased in fiscal year 2066/067. The lowest amount of disbursement in year 2062/063 is Rs. 1011.5271 crores and the highest amount of disbursement amount is Rs. 3061.3889 in fiscal year 2065/066. From the table the disbursement amount is Rs.3061.3889 in fiscal year 2065/066. from the table the disbursement amount has increased by 159.06% in fiscal year 2005/2006 or it has

reached index 286.12217 instead 100 in fiscal year 2062/063. The increasing trend in total disbursement amount also presented in chart 4.2.

From the above mentioned table and figure, it is clear that the actual collection amount is increasing every year. The actual loan collection amount in fiscal year 2062/063 is Rs. 816.7332 crores and Rs. 907.7415 crores in fiscal year 2063/064, which is 11.14% more than 2062/063. The collection amount reached Rs. 1033.0873 crores in 2064/065, 2861.2217 croroes in 2065/066 and Rs. 2815.5899 crores in 2066/067. The collection amount in 2066/067 is 1.59% less than collection in fiscal year 2065/066. the collection index assumed in F/Y 2062/063 100 than the index reached 111.4, 124.95, 301.91 and 300.32 in F/Y 2003/4, 2064/065, 2065/066 and 2066/067 respectively. In the chart 4.2 the collection line also increasing year by year.

From the table 80.74% in fiscal year 2062/063, 89.445% in fiscal year 2063/064, 87.42% in fiscal year 2064/065%, 93.46% fiscal year 2065/066 and 96.14% in fiscal year 2066/067 have collected from the respective year's disbursement. It is only collection of principal amount not interest is included in this amount.

The coefficient of correlation value calculated between actual loan disbursement and collection is 0.99. (see appendix-II) which is positively correlate. Coefficient of determination i.e. ($r^2=0.98$) indicates that 98% of the total variation independent variable 'Y' i.e. actual loan collection is explain by independent variable (x) i.e. actual loan disbursement.

The tabulated critical value of t and 5% level of significance for two tailed at 3 degree of freedom is 3.182, which is less that the calculated value of 12.12. therefore, the coefficient of correlation shows the significance relationship between actual loan disbursement and collection i.e. increase/decrease in disbursement also increase/decrease in collection.

4.4 Targeted and Actual Loan disbursement and Collection

Table 4.3

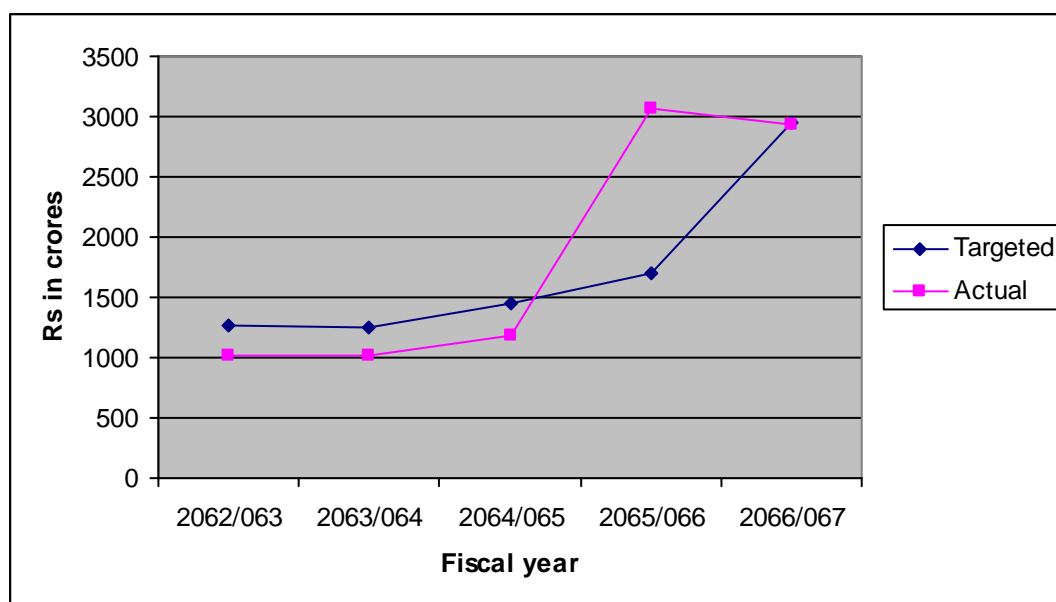### Targeted and Actual Loan disbursement and Collection

(In Rs. Crores)

F/Y	Loan Disbursement		Percent change	Loan Collection		Percentage change
	Targeted	Actual		Targeted	Actual	
2062/063	1270.82	1011.53	-20.4%	1016.66	816.73	-19.66%
2063/064	1250.77	1014.56	-18.86%	1031.88	907.741	-12.03%
2064/065	1454.82	1181.7	-18.77%	1178.40	1033.09	-12.33%
2065/066	1697.04	3061.39	80.4%	1384.32	2801.22	102.35%
2066/067	2944.2	2928.55	-0.53%	2495.21	2815.59	12.84%

(Source:- ADB/N annual report and annual program budget 2062/063 to 2066/067)
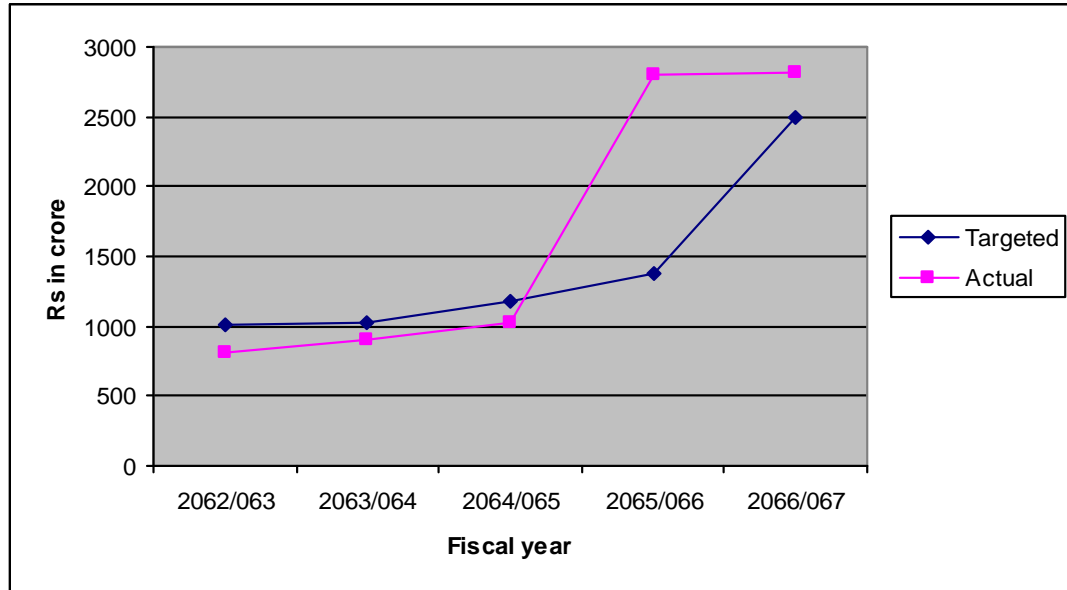
Chart 4.3

Line Diagram of Targeted and Actual Loan disbursement

Targeted and actual loan disbursement is increasing every year. The lowest targeted loan disbursement amount is Rs. 1250.77 crores in F/Y 2063/064 and the highest targeted loan disbursement amount is Rs. 2944.2 crores in F/Y 2066/067. The actual disbursement is 20.4%, 18.864% and 18.77% less than targeted disbursement in F/Y 2062/063, 2063/064 and 2064/065. In F/Y 2065/066, the actual loan disbursement amount is 80.4% more than targeted amount and in F/Y 2066/067 it has 0.53% less disbursement than targeted.

Chart 4.4

Line Diagram of Targeted and Actual Loan Collection

Targeted and actual loan collection amount is increased every year. The lowest targeted loan collection amount is Rs. 1016.66 crores in F/Y 2062/063 and the highest is Rs. 2495.21 crores in F/Y 2066/067. The lowest actual loan collection is 816.73 crores in F/Y 2062/063 and highest loan collection is Rs. 2815.59 crores in F.Y 2008/07. There was 19.66%, 12.03% and 12.33% less amount was collected than targeted loan collection in F/Y 2062/063, 2063/064 and 2064/065 respectively. In F/Y 2065/066 102.35% more amount was collected than targeted and in F/Y 2066/067 12.84% more amount was collected than targeted.

The difference or percentage change between targeted and actual loan disbursement and collection shows error in setting standard of targeted loan disbursement and collection because of deviation.

4.4.1   T-Test of Targeted and Actual Loan disbursement and Collection

Null hypothesis (H): $Mx_1 = Mx_2$ (There is no significant difference between the ratios of targeted loan disbursement and actual loan disbursement)

Alternative hypothesis (H1): $Mx_1 \neq Mx_2$ (There is significant difference between the mean ratios of targeted loan disbursement and actual loan disbursement.

Table 4.4

Targeted and Actual Loan Disbursement

Where x_1 = targeted loan disbursement

x_2 = actual loan disbursement

(in Rs. Crores)

F/Y	X_1	$x_1^2 = (x_1 - \overline{x_1})^2$	X_2	$x_2^2 = (x_2 - \overline{x_2})^2$
2062/063	1270.82	205689.46	1011.53	685709.86
2063/064	1250.77	223504.85	1014.86	680212.56
2064/065	1454.82	72205.06	1181.7	4332845.57
2065/066	1697.04	701.72	3061.39	1492746.36
2066/067	2944.2	1490035.25	2928.55	1185796.32
Total	$\sum x_1 = 8617.65$	$\sum x_1^2 = 1992136.34$	$\sum x_2 = 9198.03$	$\sum x_2^2 = 4477304.67$

(Source:- ADB/N annual report and annual program budget)

N = 5

$$\overline{X}_1 = \frac{\sum x_1}{N} = \frac{8617.65}{5} = 1723.53$$

$$\overline{X}_2 = \frac{\sum x_2}{N} = \frac{9198.03}{5} = 1839.61$$

$$s^2 = \frac{\sum x_1^2 + \sum x_2^2}{n_1 + n_2 - 2}$$

$$= \frac{1992136.34 + 4477304.67}{5 + 5 - 2}$$

$$= 808680.13$$

Test statistic under Ho,

$$t = \frac{\overline{X}_1 - \overline{X}_2}{\sqrt{s^2(\frac{1}{n_1} + \frac{1}{n_2})}}$$

$$t = \frac{1723.58 - 1839.61}{\sqrt{808680.13(\frac{1}{5} + \frac{1}{5})}}$$

$$= -0.204$$

|t| = 0.204

Critical Value

The tabulated value of t and 5% level of significance at 8 degree of freedom for two tailed test is 2.306.

Decision

Since the calculated value of t is less than the tabulated value of t, the null hypothesis (H_0) is accepted. In other words there is no significance difference between the targeted and actual loan disbursement of ADBIN.

T-test for targeted and actual loan collection null-hypothesis (Ho) , $\mu x_1 = \mu x_2$ (There is no significant difference between the mean ratios of targeted loan collected and actual loan collection).

Alternative hypothesis (H_1): $\mu x_1 \neq \mu x_2$ (There is significant difference between the mean ratios of targeted loan collection and actual loan collection)

Table 4.5

Targeted and Actual Loan Collection

Where, x_1 = targeted loan collection

X_2 = actual loan collection

(Rs. in Crores)

F/Y	X_1	$x_1^2 = (x_1 - \overline{x_1})^2$	X_2	$x_2^2 = (x_2 - \overline{x_2})^2$
2062/063	1016.66	163728.67	816.73	736404.26
2063/064	1031.88	151640.15	907.741	588488.44
2064/065	1178.40	58995.55	1033.09	411881.57
2065/066	1384.32	1366.78	2801.22	1268664.32
2066/067	2495.21	1153304.17	2815.59	1301242.12
Total	$\sum X_1 = 7106.47$	$\sum x_1^2 = 1529035.32$	$\sum X_2 = 8374.37$	$\sum x_2^2 = 4306680.71$

N = 5

$$\overline{X}_1 = \frac{\sum x_1}{N} = \frac{7106.47}{5} = 1421.29$$

$$\overline{X}_2 = \frac{\sum x_2}{N} = \frac{8374.37}{5} = 1674.87$$

$$s^2 = \frac{\sum x_1^2 + \sum x_2^2}{n_1 + n_2 - 2}$$

$$= \frac{1529035.32 + 4306680.71}{5 + 5 - 2}$$

$$= 729464.5$$

Test statistic under Ho,

$$t = \frac{\overline{X}_1 - \overline{X}_2}{\sqrt{s^2(\frac{1}{n_1} + \frac{1}{n_2})}}$$

$$t = \frac{1421.29 - 1674.87}{\sqrt{729464.5(\frac{1}{5} + \frac{1}{5})}}$$

$$= \text{-}0.47$$

$$|t| = 0.47$$

Critical Value

The tabulated value of t at 5% level of significance for two tailed test at 8 degree of freedom is 2.306.

Decision

Since, the calculated value of t is less than the tabulated value of t, the null hypothesis (Ho) is accepted. In other words there is no significant different between the targeted and actual loan collection of ADB/N.

4.5   Actual Loan disbursement and Collection of Development Region-Wise

ADB/N provides loan in different purpose to farmers of all five development regions. The purpose of division in to five development region is to achieve. Sustainable and equally development of all five regions and distribute return equally all people of that area, ADB/N invests loan in all the five regions. Actual loan disbursement and collection of eastern, central, western, mid-western and far-western development region is given below.

Table 4.6

Actual Loan disbursement and Collection of Development Region-Wise

(Rs. in 000)

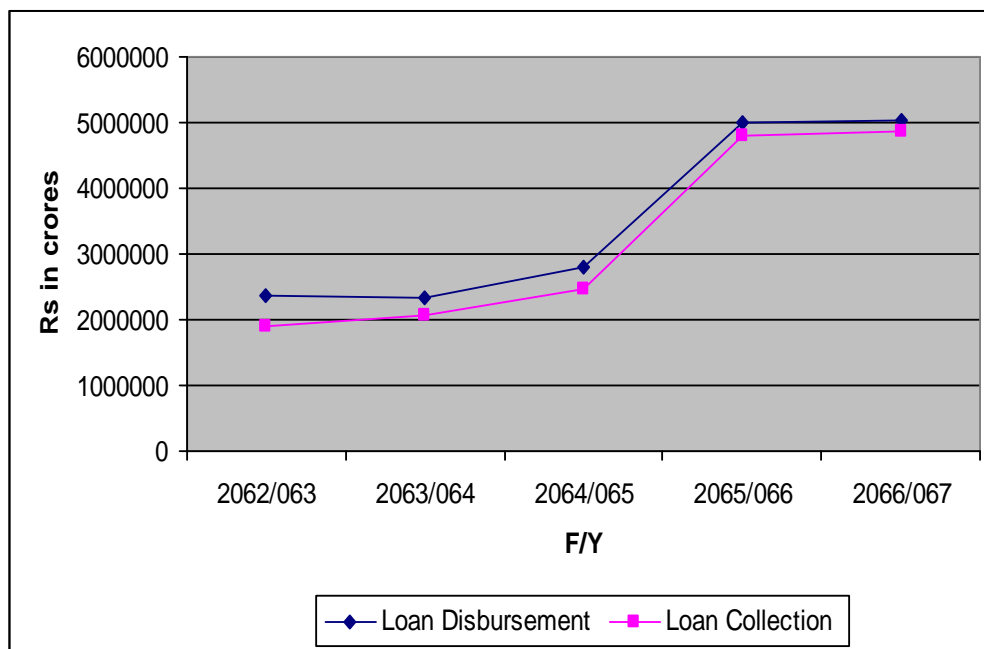| Development Region	Loan	F/Y				
		2062/063	2063/064	2064/065	2065/066	2066/067
Eastern	Disbursement	2372278 (23.45%)	2339831 (23.06%)	2789283 (23.6%)	4999218 (16.33%)	5030036 (17.18%)
	Collection	1910608 (23.39%)	2063022 (22.73%)	2474763 (23.96%)	4795504 (16.76%)	4883207 (17.34%)
	percentage of collection of disbursement	80.53%	88.17%	88.72%	95.925%	97.08%
Central	Disbursement	3189000 (31.53%)	3124758 (30.79%)	3816766 (32.3%)	15645662 (51.11%)	14484187 (49.46%)
	Collection	2487181 (30.45%)	2796789 (30.81%)	3236433 (31.33%)	14486704 (50.63%)	13938679 (49.5%)
	percentage collection of disbursement	77.99%	89.5%	84.79%	92.59%	96.23%
Western	Disbursement	3075772 (30.41%)	3132392 (30.87%)	3450185 (29.2%)	6013935 (19.64%)	6632210 (22.65%)
	Collection	2508526 (30.71%)	2788754 (30.72%)	3085650 (29.87%)	5598201 (19.57%)	6217026 (22.08%)
	percentage collection of disbursement	81.56%	89.03%	89.43%	93.09%	93.74%
Mid-western	Disbursement	911539 (9.01%)	1003476 (9.89%)	1074437 (9.1%)	2051629 (6.7%)	2090470 (7.06%)
	Collection	771481 (9.45%)	911696 (10.04%)	965129 (9.34%)	1916874 (6.7%)	1987616 (7.14%)
	percentage collection of disbursement	84.63%	90.84%	89.83%	93.43%	95.08%
Far western	Disbursement	566682 (5.64%)	548112 (5.4%)	686386 (5.8%)	1903445 (6.22%)	1048619 (3.58%)
	Collection	489536 (6%)	517144 (5.7%)	568898 (5.51%)	1814934 (6.34%)	1129371 (4.01%)
	percentage of collection of disbursement	86.39%	94.35%	82.88%	95.35%	107.7%
Total	Disbursement	10115271	10148569	11817057	30613889	29285522
	Collection	8167332	9077415	10330873	28612217	28155899

(Source : www.adbl.gov.np)

In the above table the percentage of disbursement represent the weight of disbursement amount in each development region within total disbursement. In the same way the percentage of collection represent the weight of collection amount in each development region within total collection.

4.5.1   Eastern Development Region

Chart 4.5

Line Diagram of Actual Loan disbursement and Collection of Eastern Development Region

Loan disbursement of eastern development region is in increasing trend. The lowest loan disbursement amount is Rs. 2339831 thousands in F/Y 2062/063 and the highest disbursement amount is Rs. 5030036 thousands in F/Y 2066/067. The percentage of disbursement of whole nation is 23.45%, 23.06%, 23.6%, 16.33%, and 17.18% from F/Y 2062/063 to 2066/067, respectively, where the lowest is 16.33% in F/Y 2065/066 and highest is 23.6% in F/Y 2064/065.

The loan collection in eastern development region is also increasing trend. The lowest actual loan collection is Rs. 1910608 thousands in F/Y 2062/063 and the highest is Rs 4883207 thousands in F/Y 2066/067. The percentage of actual loan collection to total loan collection is 23.39%, 22.73%, 23.96%, 16.76% and 17.34% from F/Y 2062/063 to 2066/067 respectively, where the lowest is 16.76% in F/Y 2065/066 and the highest is 23.96% is F/Y 2064/065.

The percentage of loan collection to disbursement is 80.54%, 88.17% 88.72%, 95.92% and 97.08% from F/Y 2062/063 to 200607 respectively, where the highest collection is 97.08% in F/Y 2066/067 and the lowest collection is 80.54% in F/Y 2062/063.

4.5.2 Central Development Region

Chart 4.6

Line Diagram of Actual Loan Disbursement and Collection of Central Development Region
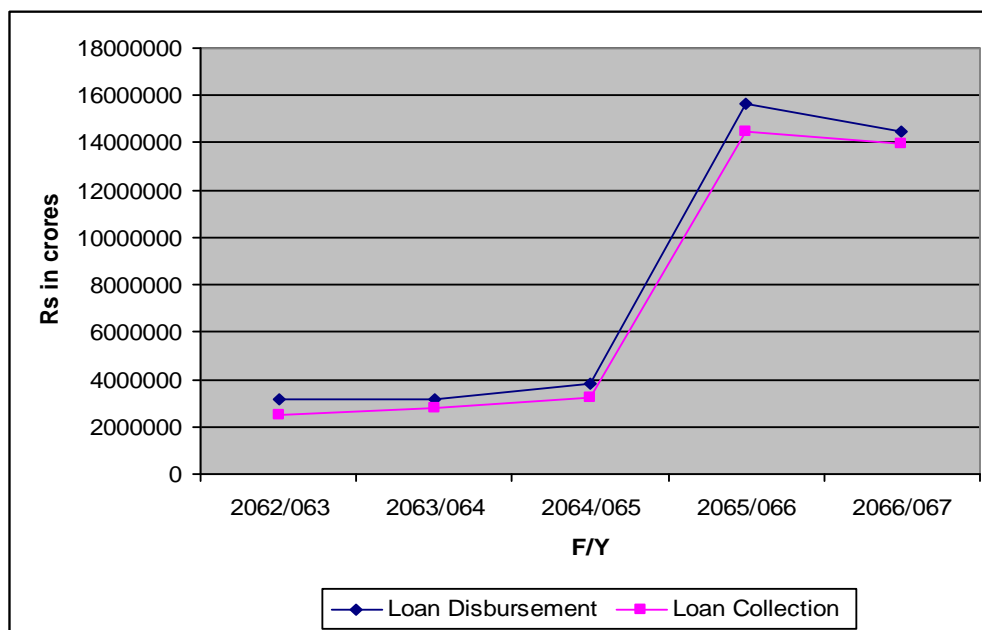
From the table and chart we can easily find out that there is close relation between loan disbursement and collection if disbursement amount increased that the collection amount also automatically increased. The loan disbursement of central development region is in increasing trend. The lowest loan disbursement amount is Rs. 3124758 thousands in F/Y 2063/064 and the highest disbursement amount is Rs. 15645662 thousands in F/Y 2065/066. The percentage of disbursement of central development region to total disbursement is 31.53%, 30.79%, 32.3% 51.11% and 49.46% from F/Y 2062/063 to 2066/067 respectively. Where the highest is 51.11% in F/Y 2065/066 and lowest is 30.79 in F/Y 2063/064.

The loan collection amount also increased every year. The lowest loan collection amount is Rs. 2487181 thousand in F/Y 2062/063 and highest loan collection amount is Rs. 14486704 thousands in F/Y 2065/066. The percentage of loan collection of central development to total collection of all development region is 30.45% 30.81%, 31.33%, 50.63% and 49.5% from F/Y 2062/063 to 2066/067 respectively, where the lowest is 30.45% in F/Y 2062/063 and 50.63% in F/Y 2065/066.

The percentage of loan collection to total loan disbursement of central development region of 77.99%, 89.5%, 84.79%, 92.59%, and 96.23% from F/Y

2062/063 to 2066/067 respectively, where the lowest is 77.99% in F/Y 2062/063 and the highest is 96.23% in F/Y 2066/067.

ADB/N have invested highest portion of disbursement fund in central development region. In F/Y 2065/066 it has invested 51.11% in central development region of total disbursement.

4.5.3 Western Development Region

Chart 4.7

Line Diagram of Actual Loan disbursement and Collection of Western Development Region
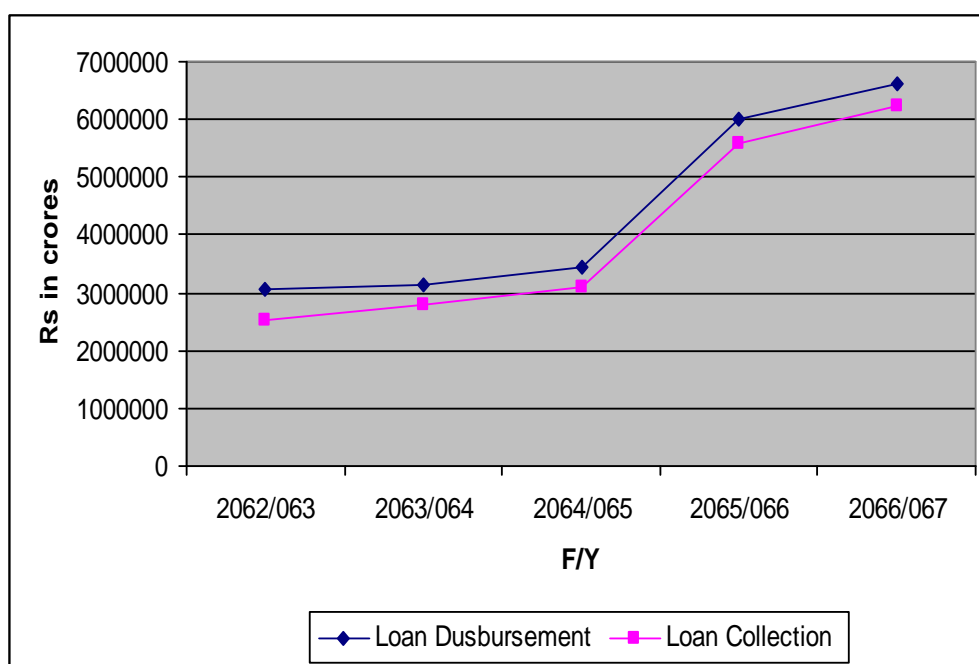
From the table and chart the actual disbursement and collection amount is increasing every year in western development region. The highest disbursement is Rs. 6632210 thousand in F/Y 2066/067 and the lowest disbursement is Rs. 3075772 thousand in F/Y 2062/063. The percentage of disbursement in western development region to total disbursement is 30.41%, 30.87%, 29.2%, 19.64% and 22.65% from F/Y 2062/063 to 2066/067 respectively, where the highest is 30.87% F/Y 2063/064 and the lowest is 19.64% in F/Y 2065/066.

The highest loan collection amount is Rs. 6217026 thousand in F/Y 2066/067 and the lowest collection amount is Rs. 2508526 thousand in F/Y 2062/063. The percentage of collection in western development region to total loan collection is 30.71%, 30.72%, 29.87%, 19.57%, and 22.65% from F/Y 2062/063 to 2066/067,

respectively, where highest collection is 30.72% in F/Y 2063/064 and the lowest collection 19.57% in F/Y 2065/066.

From the table there is collecting invested amount 80% to 90% rang. The loan collecting percentage is increasing one year after another, in western development region. The percentage of loan collection to total loan disbursement of western development region of 81.56% 89.03%, 89.43%, 93.03%, 93, 74% from F/Y 2062/063 to 2066/067 respectively, where the lowest is 81.56% in F/Y 2062/063 and 93.74% in F/Y 2066/067.

4.5.4   Mid-Western Development Region

Chart 4.8

Line Diagram of Actual Loan disbursement and Collection of Mid-Western Development Region
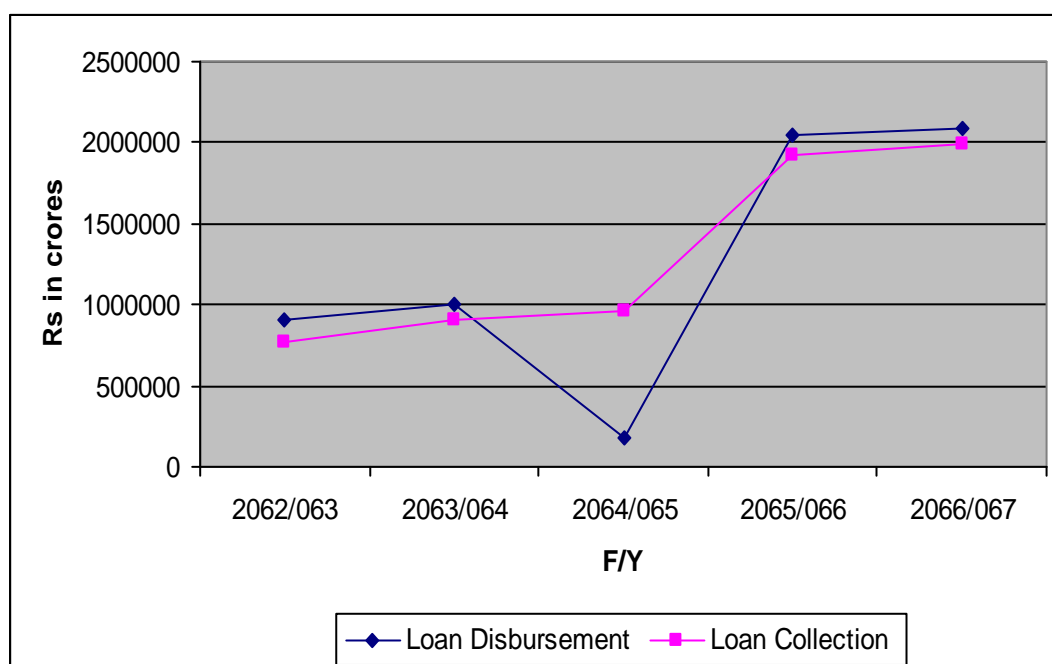
From the above table and chart the loan disbursement and collection amount is increasing every year. There is nearest positive relationship between loan disbursement and collection or increase/decrease in disbursement results in increase/decrease in collection. The lowest disbursement in Mid-western development region is Rs. 911539 thousands in F/Y 2062/063 and the highest disbursement in that region is Rs. 2090470 thousand in F/Y 2066/067. The percentage of disbursement of Mid-western development to total disbursement of all region is 9.01%, 9.89%, 9.1%,

6.7% and 7.14%. from F/Y 2062/063 to 2066/067 respectively, where the lowest is 6.7% in F/Y 2065/066 and highest is 9.89% in F/Y 2063/064.

The collection amount in mid western development region is also increasing the lowest collection amount is Rs. 771481 thousands in F/Y 2062/063 and the highest loan collection is Rs. 1987616 thousand in F/Y 2066/067. The percentage of collection of Mid-western development to total collection of all region is 9.45%, 10.04%, 9.34%, 6.7%, and 7.06% from F/Y 2062/063 to 2066/067 and the lowest is 6.7% in F/Y 2065/066.

The percentage of collection rang from disbursement in Mid-western development region is 80% to 90%. The loan collecting percentage is increasing one year after another in Mid-western development region. The percentage loan collection to total loan disbursement of mid-western development region of 84.63%, 90.84%, 89.83%, 93.43%, and 95.08% from F/Y 2062/063 to 2066/067 respectively, where the lowest is 84.63% in F/Y 2062/063 and 95.08% in F/Y 2066/067.

4.5.5   Far Western Development Region

Chart 4.9

Line Diagram of Actual Loan disbursement and Collection of Far-Western Development Region
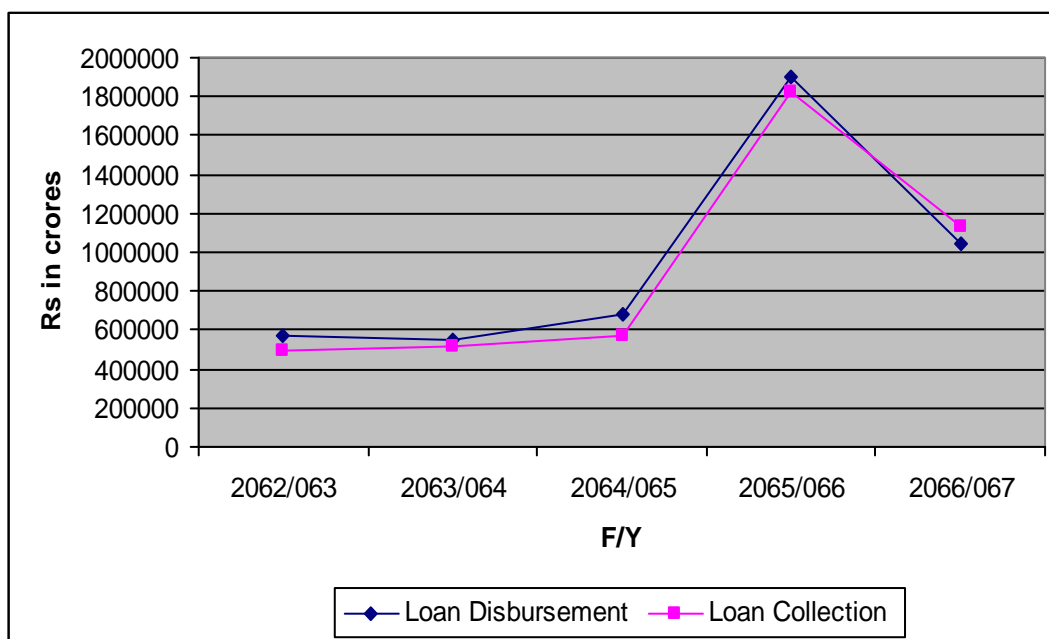
From the above table and chart the loan disbursement and collection amount is increasing each and every year. The increase/ decrease in loan disbursement result

increase decrease in loan collection. The lowest disbursement is Rs. 548112 thousands in fiscal year 2063/064 and the highest loan disbursement is Rs. 1903445 thousand in fiscal year 2065/066. in the far-western development region. The percentage of loan disbursement in the far-western development to total disbursement all region is 5.6%, 5.4%, 5.81%, 6.22% and 3.58% from fiscal year 2062/063 to 2066/067 respectively, where highest disbursement in percentage is 6.22% in F/Y 2065/066 to lowest in 3.58 in F/Y 2066/067.

The collection amount in far western development region is also increasing trend. The highest loan collection is Rs. 1814934 thousands in F/Y 2065/066 and the lowest loan collection is Rs. 489536 in F/Y 2062/063. The percentage loan collection in the Far-western development region to the total collection all region is 6%, 5.7%, 5.5%, 6.34% and 4.034% from the F/Y 2062/063 to 2066/067 respectively, where the highest percent is 6.34% in F/Y 2065/066 and lowest percent is 4.34% in F\Y 2066/067.

The percentage of loan collection from the disbursement is in increasing trend. It is a positive sign for disbursement bank. In F/Y 2006/05 the loan collection amount is higher than loan disbursement amount or 107.7% loan have been collected. The percentage collection from disbursement are 86.39%, 94.35%, 82.88%, 95.35% and 107.7% from F/Y 2062/063 to 2066/067 respectively, where the lowest percentage collection is 86.39% in F/Y 2062/063.

4.5.6 F-Test Analysis of Variance of Development Regions

a) Hypothesis First

(Ho): $\sim x_1 = \sim x_2 = \sim x_3 = \sim x_4 = \sim x_5$ (There is no significance different of loan disbursement of ADB/N among the development regions)

(H1): $\sim x_1 \neq \sim x_2 \neq \sim x_3 \neq \sim x_4 \neq \sim x_5$ (There is significant difference of loan disbursement of ADB/N among the development regions)

Under test Ho, statistics is:

$$F = \frac{Mean\ sum\ of\ squares\ between\ samples}{Mean\ sum\ of\ squres\ with\ in\ samples}$$

$$= \frac{403548.32}{93569.959}$$

$= 4.31$ (see appendix- III)

Critical Value

The tabulated value of F at 5% level significance for 4 and 20 degree of freedom is 2.87.

Decision

Since the calculated value of 'F' is greater than the tabulated value of F, the null (Ho) is rejected and the alternative hypothesis (H1) is accepted. In other words, there is significance difference of loan disbursement of ADB/N among the development regions.

Loan Collection

Hypothesis Second

(Ho): $\sim x_1 = \sim x_2 = \sim x_3 = \sim x_4 = \sim x_5$ (There is no significance difference of loan disbursement of ADB/N among the development regions)

(H1): $\sim x_1 \neq \sim x_2 \neq \sim x_3 \neq \sim x_4 \neq \sim x_5$ (There is significant difference of loan disbursement of ADB/N among the development regions)

Under test Ho, statistics is:

$$F = \frac{Mean\,sum\,of\,squares\,between\,samples}{Mean\,sum\,of\,squres\,with\,in\,samples}$$

$$= \frac{336824.54}{89544.96}$$

$= 3.76$ (see appendix- IV)

Critical Value

The tabulated value of F at 5% level significance for 4 and 20 degree of freedom is 2.87.

Decision

Since the calculated value of 'F' is greater than the tabulated value of F, the null (Ho) is rejected and the alternative hypothesis (H1) is accepted. In other words, there is significance difference of loan disbursement of ADB/N among the development regions.

4.6   Achievement of Purpose Wise Loan disbursement and Collection

ADB/N has invested development credit in difference purposes to uplift the life standard of poor and ultra poor such as agriculture, industry, trade, land development, deprived class credit and service business which is given below:

a) Agriculture related purpose

b) Marketing purpose

c) Bio-gas and power development

d) Housing and land development

e) Agri-tools and irrigation

f) Non-agricultural and tourism

g) Others

4.6.1   Actual Loan disbursement and Collection of Agriculture Related Sectors

The main focusing point of ADB/N is agriculture related sector. The main objectives of the ADB/N is to invest in agriculture sector. Agricultural credit includes cereal and cash crop production loan, horticulture, livestock, tea and coffee etc.

Table 4.7

Actual Loan disbursement and Collection of Agriculture Related Sector

(Rs. in 000)

F/Y	Loan Disbursement			Loan Collection			%of collection
	Amount	Growth	Index	Amount	Growth	Index	
2062/063	2121509	-	100	1819676	-	100	85.77
2063/064	3513662	65.57%	165.57	3266210	79.49%	179.49	92.96
2064/065	3874121	10.26%	175.83	3621400	10.87%	190.36	93.48
2065/066	5629288	45.30%	221.13	5953102	64.39%	254.75	105.75
2066/067	5296964	-5.9%	215.23	4792954	-19.49%	235.26	90.5

(Source: ADB/N Annual Report from F/Y 2062/063 to 2063/067)

Chart 4.10

Chart 4.10

Line Diagram of Loan disbursement and Collection of Agriculture Related Purpose
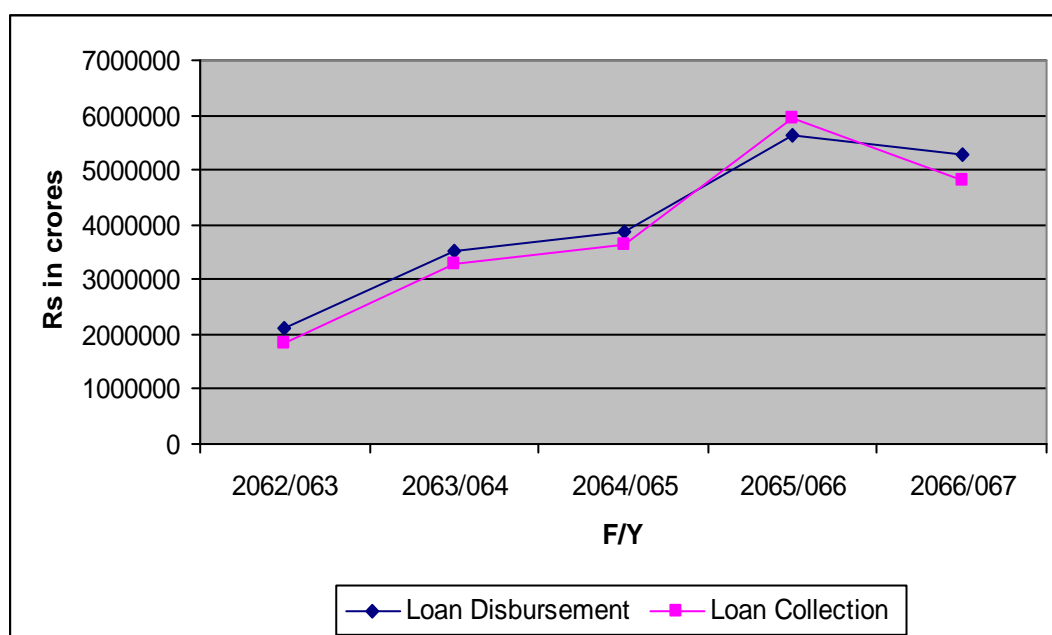
In the above table, loan disbursement has increased each year. The lowest actual loan amount on agriculture purpose is Rs. 2121509 thousand in F/Y 2062/063 and the highest is Rs. 5629288 thousand in F/Y 205/06. The highest growth in loan disbursement is 65.57% in F/Y 2063/064 and the lowest growth is -539% in F/Y 2066/067. The index 215.23 represents the 115.23% increase in loan disbursement amount in F/Y 206/07 than the base year 2062/063.

Actual loan collection amount is also increasing trend the lowest loan collection in agriculture purpose is Rs. 1819676 thousand in F/Y 2062/063 and the highest is Rs. 5953102 thousand in F/Y 2065/066. The highest growth in collection is 79.49% in F/Y 203/04 and lowest growth is -19.49% in F/Y 2066/067. The index of loan collection is 100, 179.49, 190.36, 254.75, 235.26 from F/Y 2062/063 to 2066/067 respectively.

The percentage of loan collection from the agriculture purpose are 85.77%, 92.96% , 93.48%, 105.75% and 90.05% from F/Y 2062/063 to 2066/067 respectively. The highest percentage of collection is 105.75% in F/Y 205/06 and the lowest is 85.77% in F/Y 2062/063.

The coefficient of correlation value calculated between loan disbursement and collection is to 96 (see appendix V), which is highly positively correlated. Coefficient

of determination (i.e. $r^2 = 0.92$) indicates that 92% of the total variation in loan collection of agriculture purpose (Y) is explained by the loan disbursement of agriculture (X). The tabulated critical value of t at 5% level of significance for two failed test at 3 degree of freedom is 3.182, which is less than the calculated value of t* 15.94. Therefore the coefficient of correlation shows significant relationship between loan disbursement and collection.

4.6.2 Actual Loan disbursement and Collection of Marketing Purpose

Agriculture credit is granted on marketing purpose to buy and sell agricultural goods such as chemical fertilizer, improved goods, pesticides, rice, millet, maize potato, mustard etc. for one year period. In this purpose it has also included Bio-gas and warehousing.

Table 4.8

Annual Loan disbursement and Collection on Marketing Purpose

(Rs. in 000)

F/Y	Loan Disbursement			Loan Collection			%of collection
	Amount	Growth	Index	Amount	Growth	Index	
2062/063	3035310	-	100	2363995	-	100	77.88
2063/064	4965190	63.58%	163.58	4420526	87%	187	89.03
2064/065	5605296	12.89%	176.47	4857471	9.88%	196.88	86.66
2065/066	8305543	48.17%	224.64	8947113	84.19%	281.07	107.7
2066/067	8789386	5.51%	230.15	8802132	-1.62%	279.45	100.12

(Source: ADB/N Annual Report from F/Y 2062/063 to 2066/067)

Chart 4.11

Line Diagram of Loan disbursement and Collection of Marketing Purpose
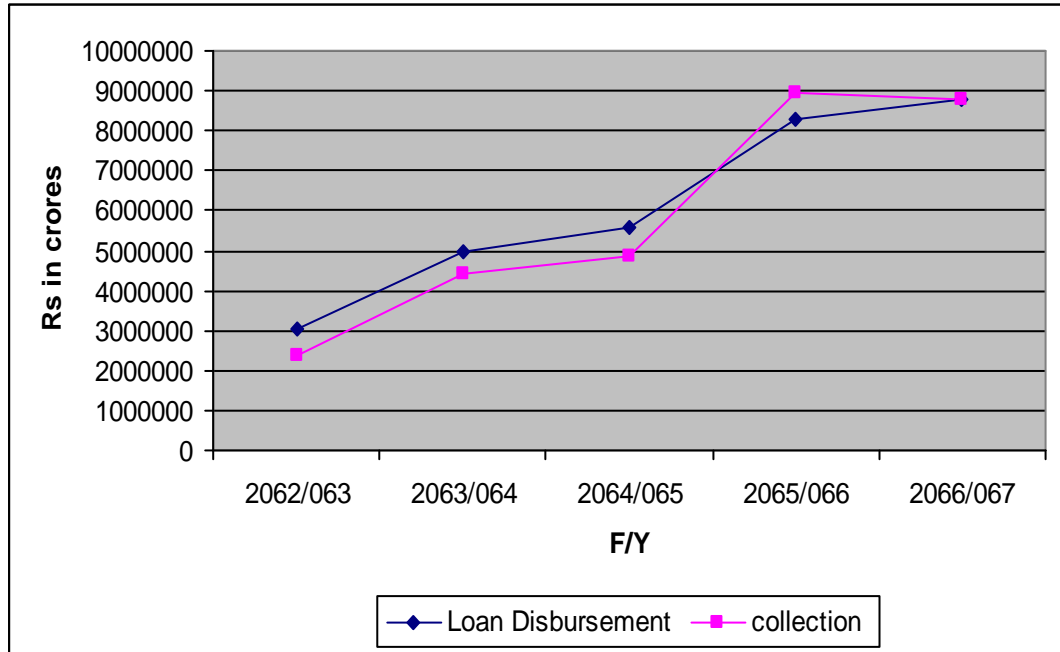
From the above table we can find that the loan disbursement and collection amount is increasing year by year. In F/Y 2062/063 the total disbursement amount in marketing purpose is Rs. 3035310 thousand which reaches Rs. 4965190, thousand Rs. 5605296 thousand Rs, 8305543 thousand and Rs. 8789386 thousand from the year 203/04 to 2066/067 respectively. Where the highest loan disbursement amount is Rs. 8789386 thousand in F/Y 2066/067 and the lowest is Rs. 3035310 thousand in F/Y 2062/063. The growth rate in loan disbursement amount in F/Y 2063/064 to 2066/067 is 63.58%, 12.89%, 48.17%, 5.5% respectively. The index 230.15 in F/Y 2066/067 represents the 130.15% increases in loan disbursement amount than the 130.15% increases in loan disbursement amount than the base year 2062/063.

The lowest amount of loan collection is Rs. 2363995 thousand in F/Y 2062/063 and the highest amount is Rs. 8947113 thousand in F/Y 2065/066. The loan collection amount is increasing 87%, 9.88%, 84.19%, and -1.62% from F/Y 2063/064 to 2066/067 respectively. In F/Y 2065/066 the loan collection amount has increased by highest amount. The index 279.45 indicate that the index amount reacted 279.5 with respect it's base years 100. The loan collection percent from disbursement amount is increasing year by year. 77.88%, 89.03%, 86.66%, 107.7% and 100.12% of loan disbursement amount have been collected from F/Y 2062/063 to 2066/067

respectively. In F/Y 2065/066 it has collected 7.7% more amount than it's disbursement.

The coefficient of correlation value calculated between loan disbursement and collection in marketing purpose is 0.99 (see appendix VI) which is highly positively correlated. Coefficient of determination (i.e. $r^2 = 0.98$) indicates that 98% of the total variation in loan collection of marketing purpose (Y) is explained by the loan disbursement of marketing purpose (X). The tabulated critical value of t* at 5% level of significance for two tailed test of 3 degree of freedom is 3.182, which is less than the calculated value of t* 12.12. Therefore the coefficient of correlation shows the significant relationship between loan disbursement and collection.

4.6.3 Actual Loan disbursement and Collection on Tourism and Non Agricultural Credit

The total loan disbursement on tourism and non-agricultural sector includes disbursement in tourism industry such as hotels, restaurant, bar, casino, travel, tour, tourism, airlines company etc and non-agriculture sector includes all other service and productive industries than agriculture including tourism.

Table 4.9

Loan disbursement and Collection on Tourism and Non Agricultural Credit

(Rs. in 000)

F/Y	Loan Disbursement			Loan Collection			%of collection
	Amount (Rs.)	Growth %	Index	Amount (Rs.)	Growth %	Index	
2062/063	2489295	-	100	1696794	-	100	68.16
2063/064	1069157	-57.05	42.95	696774	-58.94	41.06	65.17
2064/065	1797036	68.08	111.03	1177646	69.01	110.07	65.53
2065/066	3059007	70.23	181.26	2434667	106.74	216.81	79.59
2066/067	2839369	-7.18	174.08	2395199	-1.62	215.19	-

(Source: ADB/N Annual Report from F/Y 2062/063 to 2066/067)

Chart 4.12

Line Diagram of Loan disbursement and Collection of Tourism and Non Agricultural Credit
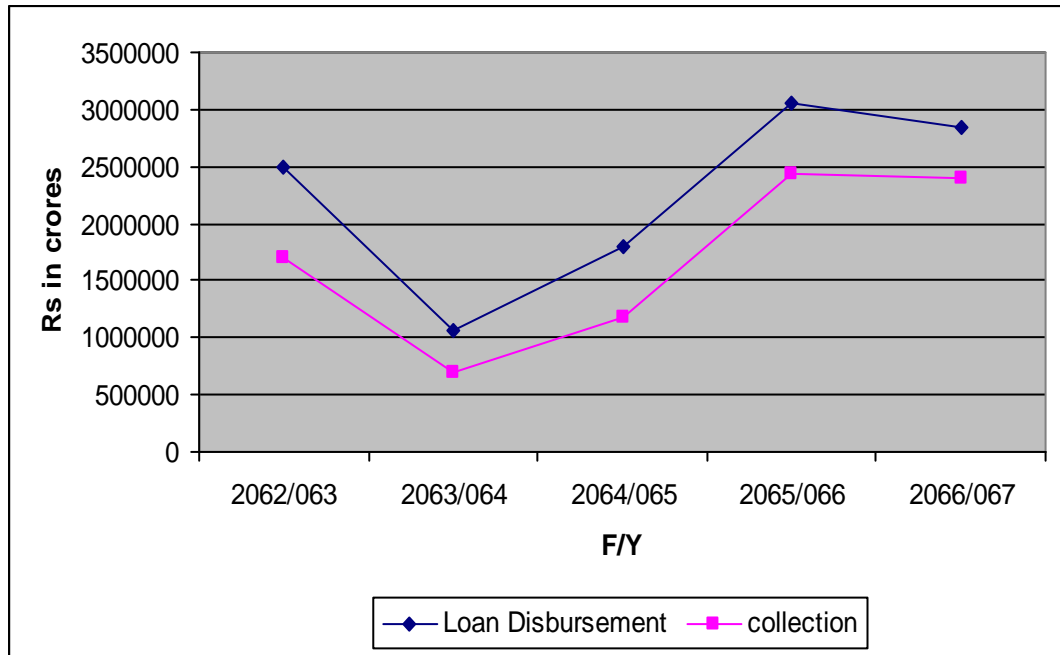
In the above table, the lowest disbursement amount is 1069157 thousands in F/Y 2063/064 and the highest disbursement is Rs. 3059007 thousands in F/Y 2065/066. The growth in loan disbursement amount from F/Y 2063/064 to 2066/067 is -57.05%, 68.08%, 70.23% and -7.18% respectively. The index in F/Y 2066/067 174.08 represent, the loan disbursement amount reached 174.08 with respect 100 in base year 2062/063. By considering the loan disbursement amount the disbursement amount is fluctuating each year.

In the table the loan collection amount is also fluctuating with the change of time. Rs. 1696794 thousands in 202/03, Rs. 696774 thousands in 2063/064, Rs. 1177646 thousands in 2064/065, Rs. 2434667 thousands in 2065/066 and Rs. 2395199 thousands in F/Y 2066/067 were collected. The growth in collection amount is -58.94%, 69.01%, 106.74%, and -1.62% from F/Y 2062/063 to 2066/067 respectively. The index 215.19 indicates the base years collection index 100 reached 215.19.

From the table it is clear that the highest percentage of loan collection from disbursement amount is 79.59% in F/Y 2066/067 and the lowest is 65.17% in F/Y 2063/064.

The coefficient of correlation value calculated between disbursement and collection is +0.97 (see appendix VII) which is highly positively correlated. Coefficient of determination i.e. ($r^2 = 0.95$) indicates that 95% or the total variation in loan collection of tourism and non agriculture purpose (Y) is explained by loan disbursement in such purpose (X). The tabulated critical value of t at 5% level of significance for two tailed test at 3 degree of freedom is 3.182, which is less than the calculated value of t* 7.513. Therefore the coefficient of correlation shows significant relationship between loan disbursement and collection the coefficient of correlation shows significant relationship between loan disbursement and collection.

4.6.4 Loan disbursement and Collection in Housing and Land Development

ADB/N has invested in land development and housing purpose, to farmers. Mostly ADB/N grants this type of loan for medium and long term to farmers, if natural calamities occur Nepal government directs to invest this type of loan to bank.

Table 4.10

Actual Loan disbursement and Collection in Housing and Land Development

(Rs. in 000)

F/Y	Loan Disbursement			Loan Collection			%of
	Amount (Rs.)	Growth %	Index	Amount (Rs.)	Growth %	Index	collection
2062/063	20502	-	100	20538	-	100	100.17
2063/064	Nil	-	-	Nil	-	-	-
2064/065	Nil	-	-	Nil	-	-	-
2065/066	682867	-	3330.73	623423	-	3035.46	91.29
2066/067	635023	-7.006	3323.73	613317	-1.62	3033.84	96.58

(Source: ADB/N Annual Report from F/Y 2062/063 to 2066/067)

From the table the loan disbursement on housing and land development in F/Y 2062/063 is Rs. 20502 thousand in F.Y 2063/064 and 2064/065 there is no disbursement. In F/Y 2065/066 and 2066/067 the loan disbursement is 682867 thousand and 635023 thousand. The loan disbursement in F/Y 2062/063 to 2066/067 is Rs. 20538 thousand, nil, nil, Rs. 303546 thousand and Rs. 3033.84 thousand respectively. The % of loan collection is 100.17% in F/Y 2062/063 and 91.29% and 96.58% in F/Y 2065/066 and 2066/067 respectively. Because of irregular disbursement on this purpose by ADB/N the figure and other statistical analysis hasn't completed in this research work.

Table 4.11

4.6.5 Actual Loan Disbursement and Collection of different region in total

Regions	Loan Disbursement	Loan Collection
Eastern	1753.06	1612.75
Central	4026.05	3694.58
Western	2230.45	2019.81
Mid Western	713.15	655.29
Far western	475.32	451.98

Chart 4.13
Line diagram of Actual Loan Disbursement and Collection of different region in total
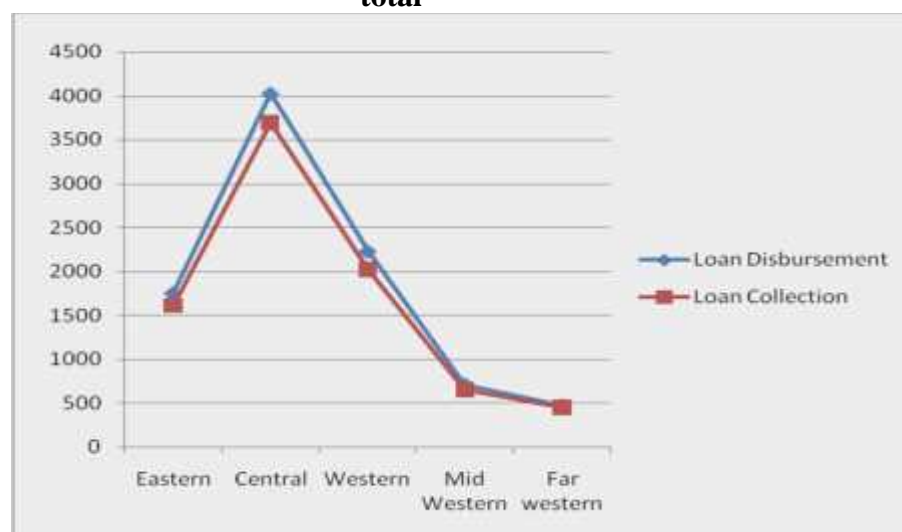
In the above diagram loan disbursement has decreased gradually from central region to far western region. The disbursement and collection

amount is greater in central region. The least disbursement and collection is in far western region It may cause by the geographical situation. The correlation between loan disbursement and collection in different region is 0.99 that is positively correlated (see appendix VIII). It shows the dependency of loan collection is much more in quantity of loan disbursement amount. $r^2 = 0.98$ i.e 98% of the total variation in dependent variable(Y) i.e. Actual loan collection is explained by independent variable(X) i.e. actual loan disbursement.

Table 4.12

4.6.6 Actual Loan Disbursement and Collection of different sector in total

Sectors	Loan disbursement	Loan collection
Agriculture	2043.56	1945.33
Marketing	3070.07	2939.12
Non Agriculture	112.53	84.02

Chart 4.14

Line Diagram of Actual Loan Disbursement and Collection of different sector in total
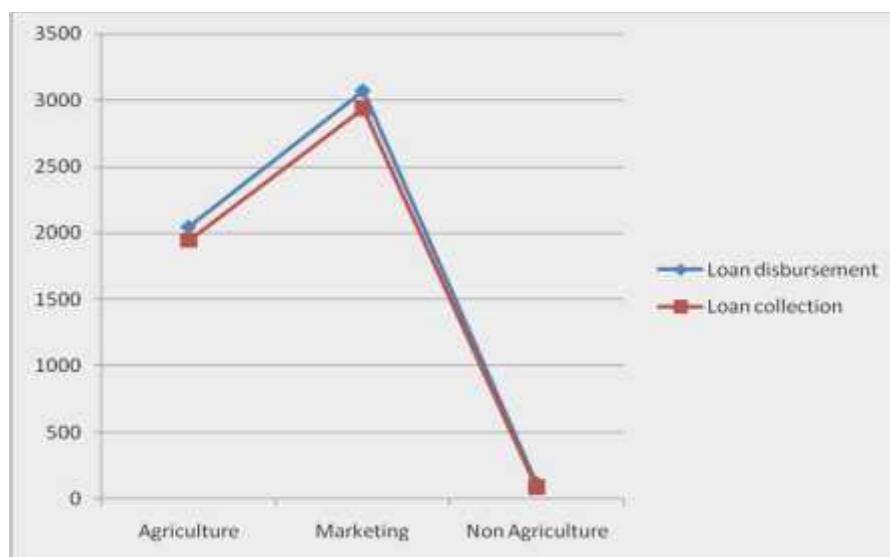
In the above diagram, loan disbursement and collection for marketing purpose is higher during five years period. Agricultural credit is granted on marketing purpose to buy and sell agricultural goods such as chemical, fertilizer, improved goods, pesticides, rice, maize, potato, mustard etc for one year period. The

least investing amount is for the non agricultural sector. The relation between loan disbursement and collection in different sector is 0.99 that indicates the relation is positively correlated. The dependency of loan collection is too much in loan disbursement amount. (see appendix IX). $r^2 = 0.98$ i.e 98% of the total variation in dependent variable(Y) i.e. Actual loan collection is explained by independent variable(X) i.e. actual loan disbursement.

CHAPTER-V
SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Summary

Nepal is agricultural country more than 65% populations are still depending in agriculture. The majority of 86% of people are still living below poverty line. Contribution on GDP by agriculture sector is 34.3% in F/Y 2066/067.

ADB/N is established in 1968 grants around 80% format institutional agriculture credit to farmers. The total requirement of agricultural rural credit of Nepal is much more than its supply.

Loan disbursement of development banking of ADB/N refers agricultural credit granted by ADB/N such as term wise, purpose-wise, and development region wise in urban and rural areas. The purpose of granting agricultural credit is to uplift life standard of the farmers by income generating activities, to create employment and self employment and to reduce poverty through social mobilization. Likewise loan collection of ADB/N indicates collection of development loans principal from its farmers invested early for different purposes.

Because of lack of banking sector in rural areas, non institutional money lender and non-institutional financing plays significant role in rural areas. Most of farmers have less than one hectare of land and also landless. Because of high interest rate of non-institutional loan, Nepalese farmers and their generation born in debt live in debt, die in debt, and bequeath in debt.

Nepal government have kept poverty alleviation is the main objective since 8th plan to thereafter plans. Agricultural sector is the chief support to poverty alleviation and to achieve sustainable economic development in rural economy. Nepal becomes full member of W.T.O. by 23 April 2004. Being member of least developed country, Nepal is a food exporting country. After being membership of W.T.O. Nepal has threats as well as opportunities. Nepalese agricultural sector should be restructured. Disbursement on agriculture sector should be done by making portfolio and have identify possible line of agricultural opportunities. This requires excessive homework, capital and technology in Nepal.

The general objectives of this research is to study development region wise and purpose wise targeted loan disbursement and collection of ADB/N. specific and

supportive objectives are kept to fulfill the general objectives and incorporate in the first chapter.

Review of literature is the preliminary search which helps us to generate and refine our research ideas on loan disbursement and collection lending policy collection procedure textbook, journal and from post thesis is reviewed in second chapter.

Research methodology, research design, such as statistical method of analyzing quantitative data, descriptive analysis for quantitative data are presented in third chapter.

In data presentation and analysis, data are presented in tabular form and in figures. Data is analyzed through organizing, tabulating, performing, statistical analysis draw inferences about current loan disbursement and collection situation and ADB/N.

5.1.1 Major Findings :

The general objectives of this research is to study development region wise and purpose wise or sector wise loan disbursement and collection of Agriculture Development Bank which are mentioned in previous chapter.

Bank are these kinds of institutions which handle its day to day operation and earn money by investing and collecting process. If disbursement and collection do not occur timely, each and every organization can't be economically and operating sound and viable. This research is focused on loan disbursement and collection of ADB/N. The following conclusion or findings can be found from the study.

1. There is small variation in targeted/actual loan disbursement and collection but through t-test it is found that there is no significance different between targeted/actual loan disbursement and collection.

2. There is significance difference on loan disbursement in development region wise by ADB/N. The   collection amount is based on disbursement rank. Loan disbursement is higher in Central Development region than other region.

3. Loan collection from disbursement is almost on same range on all development region or 70% to 90% loan are collected on each development region.

4. ADB/N invested large amount on Central Development region. It has not invested on the basis of area occupied of different development region but on the basis of

population density . Least disbursement (3-5%) on Far-Western Development region.

5. The Disbursement amount of ADB/N is in increasing trend . The disbursement amount is also higher in Agriculture sector than marketing and other non-agriculture culture . Percentage loan collection is satisfactory in agriculture sector (ie 85% to 100%)

6. By observing loan disbursement and collection on tourism and non agriculture purpose, there is fluctuating on disbursement amount. As the same loan collection is not so much satisfactory of aggregate collection percentage of ADB/N.

7. The achievement of loan disbursement and collection of ADB/N is specialized for big and small farmers. The main achievement is to analyze or flash out the actual situation of Agriculture Development Bank due to its' collection percentage on the basis of disbursement . It indirectly shows that the farmers are inspiring to grow their output by new technology for which ADB/N is being a good supporter for them. But it seems that ADB/N should follow the tight rules and regulations for big farmers to collect the large amount of credit.

   ADB/N has invested development credit in difference purposes to uplift the life standard of poor and ultra poor such as agriculture, industry, trade, land development, and service business.

5.2 Conclusion

Bank are these kinds of institutions which handle its day to day operation and earn money by investing and collecting process. If disbursement and collection do not occur timely, each and every organization can't be economically and operating sound and viable. This research is focused on loan disbursement and collection of ADB/N. The following conclusion can be found from the study. From the study the targeted loan disbursement and collection is increasing every year except in 2063/064. The targeted loan collection is also in increasing trend. The growth rate of targeted loan collection with respect base year value are 1.5%, 14.2%, 17.47% and 80.02% in F/Y 2063/064, 2064/065, 2065/066 and 2066/067 respectively.

Actual loan disbursement and collection is also is in increasing trend. The correlation between actual loan disbursement and collection in different region is perfectly co-related. It shows that the dependency of collection of loan is much more on loan disbursement. In this way the relation of actual loan disbursement and collection on different sector is same as above.

There is small variation in targeted/actual loan disbursement and collection but through t-test it is found that there is no significance different between targeted/actual loan disbursement and collection. The correlation of actual loan disbursement and collection in different region is positively correlated i.e.0.99. It shows that the dependency of loan collection is much more on loan disbursement. The same result appears in the case of correlation coefficient between loan disbursement and collection of different sectors.

By observing development region wise loan disbursement and collection by ADB/N there is not equally disbursement in each development region that loan disbursement in Central Development Region is higher than that of other development region. The lowest disbursement is in Far-Western Development Region. From the loan disbursement and collection by ADB/N in difference development region, we can reached in that conclusion that, ADB/N have invested large amount in Central Development Region. It has not invested on the basis of areas occupied by different development region but on the basis of population size. Perhaps because of more population in Central Development Region it has invested large amount in Central Development Region and because of low population than other development region in

Far Western Development, ADB/N have invested only little money on Far-Western Development Region. From the development region wise loan disbursement and collection by ADB/N, we can reach on the conclusion than there is significance difference on loan disbursement in difference development region by ADB/N. The collection amount is based on disbursement rank. The percentage collection from disbursement on different development region is almost same.

ADB/N has invested loan on difference purpose. Because of this research totally based on secondary data and ADB/N has not totally separate purpose wise loan disbursement and collections data and because of policy change of ADB/N, It is much more difficult to separate disbursement amount in different purpose as possible as I have analyzed only some purposes loan disbursement and collection data.

The main focusing points of disbursement of ADB/N is on agriculture sector and the key sectors of agriculture is difference agricultural crops, paddy, horticultural and agriculture business etc. The disbursement amount on agriculture sector is in increasing trend. The collection also on increasing trend. The collection percent from disbursement in agriculture sector is satisfactory on its aggregate collection percent.

By observing the loan disbursement and collection on marketing purpose disbursement and collection both are on increasing trend. So this also satisfactory on aggregate collection percent of ADB/N.

By observing loan disbursement and collection on tourism and non-agricultural purpose there is fluctuating on disbursement amount. The disbursement amount decrease by 57.05% in F/Y 2063/064 than that of F/Y 2062/063 disbursement. The disbursement amount increased by 68.08%, 70.23% in F/Y 2063/064 and 2064/065. The collection amount has on also increased decreased on the basis of loan disbursement. The collection in tourism and non-agricultural sector is 68.16%, 65.17%, 65.53% and 79.59% of disbursement. So it is not so much satisfactory of aggregate collection percent of ADB/N.

5.3 Recommendations

ADB/N has not invested as equal as it's target. The target is much than actual loan disbursement. Only in fiscal year 2065/066 it has invested much amount than its target. The targeted loan collection and actual loan collection is also difference. It has not able to collect as equal as its' target. So to make equal to targeted loan collection and actual loan collection ADB/N should provide difference discount for the farmers who payback loan in time, ADB/N should provide technical support for farmers. If technical support is provided than farmers able to increase production then they able to pay loan. The causes of bad debts may also causes of flexible legal action of ADB/N who not pay high amount of loan. So if ADB/N takes tight legal action for them who takes large amount of money and not pay although he/she is able to pay.

By observing development region-wise loan disbursement and collection, ADB/N has invested only little money in Far-Western & Mid-Western Development Region. So if the ultimate objective of ADB/N is to make national development by developing agriculture sector, by increasing income of poor farmers. I recommend to ADB/N to increase disbursement in Far-Western and Mid-Western Development Regions, because the farmers of these region are much more poor, there still scarce of foods to people if ADB/N increases disbursement on these regions with technical support for farming than there is certainly increase agricultural production then the condition of poor farmers may raise. By observing development region-wise loan disbursement and collection ADB/N there is no need to do other so much differences on loan disbursement and collection. To make effective on loan disbursement and collection on different development region and for aggregate agricultural development of difference development region ADB/N should start different development region wise competitive programme between farmers, on different development region. ADB/N should handle regionally package programme. In our country the climatic condition and natural resources of different development regions are difference so ADB/N should invest and should increase on disbursement on the basis of geographical and climatic potentiality. If ADB/N not emphasized its loan collection this bank may not successfully operate and it wouldn't get capital for other new disbursement, so I recommend to ADB/N from this study that it should handle difference incentive programme for farmers to pay loan in time on all development region.

By observing purpose wise loan disbursement and collection by ADB/N I get, in aggregate the disbursement amount is increasing rate. But the increase in agriculture purpose is lower than that of marketing and tourism and non-agricultural purpose. In my view there are other numerous banks are operating to provide loan on non-agriculture sector so ADB/N should focused only in disbursement in agriculture purpose than other purpose. From the study I cannot get special purpose wise vision of ADB/N on disbursement on difference purpose of agriculture such as cash crops, pet animals, fruits farming, fisher industry etc. So I recommend to ADB/N to make special long term vision for disbursement in different purpose of agriculture by comparing to loan collection in difference purposes the loan collection percentage on tourism and non-agriculture is less than that of other purpose so ADB/N should focus to collect loan on this sector. This collection on other sector is satisfactory.

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Appendix – I
Calculation Table of Correlation Coefficient of Targeted Loan Disbursement and Collection

Let   X = Loan Disbursement Variable

        Y = Loan Collection Variable

Fiscal year	X	$x = (x - \bar{x})$	x^2	Y	$y = (y - \bar{y})$
2062/063	127.082	-45.27	2049.46	101.666	-40.464
2063/064	125.077	-47.276	2235	103.188	-38.94
2064/065	145.482	26.87	722.05	117.84	-24.29
2065/066	169.704	-2.649	7.02	138.432	-3.698
2066/067	294.42	122.067	14900.35	249.521	107.39
Total	$\sum x = 861.765$		$\sum x^2 = 19913.88$	$\sum y = 710.647$	

    N = 5

$$\bar{X} = \frac{\sum X}{N} = \frac{861.765}{5} = 172.353$$

$$\bar{Y} = \frac{\sum Y}{N} = \frac{710.647}{5} = 142.13$$

$$r = \frac{\sum xy}{\sqrt{\sum x^2}\sqrt{\sum y^2}} = \frac{17443.97}{\sqrt{19913.88} \times \sqrt{15290.3}} = \frac{17443.97}{17449.61} = 0.99$$

$$r^2 = 0.98$$

$$t^* = \frac{r}{\sqrt{\frac{1-r^2}{n-2}}} = \frac{0.99}{\sqrt{\frac{1-(0.99)^2}{5-2}}} = \frac{0.99}{0.081445} = 12.155$$

Appendix – II

Calculation Table of Correlation Coefficient of Actual Loan Disbursement and Collection Year Wise

Let   X = Actual Loan Disbursement Variable
        Y = Actual Loan Collection Variable

Fiscal year	X	$x = (x -$	x^2	Y	$y = (y -$	y^2	xy
2062/063	101.13	-82.812	6857.83	81.673	-87.017	7571.96	7206.052
2063/064	101.49	-82.472	6801.63	90.774	-77.916	6070.9	6425.89
2064/065	118.17	-65.792	4328.59	103.31	-65.38	4274.54	4301.48
2065/066	306.14	122.178	14927.46	286.122	117.43	13790.27	14347.36
2066/067	292.86	108.898	11858.8	281.56	112.87	12739.64	12291.32
Total	$\sum x = 91$		$\sum x^2 = 447$	$\sum y = 843$		$\sum y^2 = 444$	$\sum xy = 44$

    N = 5

$$\overline{X} = \frac{\sum X}{N} = \frac{919.81}{5} = 183.962$$

$$\overline{Y} = \frac{\sum Y}{N} = \frac{843.439}{5} = 168.69$$

$$r = \frac{\sum xy}{\sqrt{\sum x^2}\sqrt{\sum y^2}} = \frac{44572.1}{\sqrt{44774.28} \times \sqrt{44447.31}} = \frac{44572.1}{211.6 \times 210 \times 825} = 0.99$$

$$r^2 = 0.99^2 = 0.98$$

$$t^* = \frac{r}{\sqrt{\frac{1-r^2}{n-2}}} = \frac{0.99}{\sqrt{\frac{1-(0.98)^2}{5-2}}} = \frac{0.99}{0.08465} = 12.12$$

Test Analysis of Variance of Development Region Wise Actual Loan Investment

X_1 = Disbursement in Eastern Development region

X_2 = Disbursement in Central Development region

X_3 = Disbursement in Western Development region

X_4 = Disbursement in Mid – Western Development region

X_5 = Disbursement in Far – Western Development region

F/Y	X_1	X_2	X_3	X_4	X_5	$(X_1 - \overline{X}_1)^2$	$(X_2 - \overline{X}_2)^2$	(
2062/063	237.23	318.9	307.58	91.15	56.67	12855.48	236497.42	19
2063/064	233.98	312.48	313.24	100.35	54.81	13603.02	242782.85	17
2064/065	278.93	381.68	345.02	107.44	68.64	5138.31	179377.67	10
2005/066	499.92	1564.57	601.39	205.16	190.34	22292.88	576627.61	24
2066/067	503.0	1448.42	633.22	209.05	104.86	23222.10	413719.1	47
Total	$\sum X_1$ 1753.06	$\sum X_2 =$ 4026.05	$\sum X_3 =$ 2230.45	$\sum X_4 =$ 713.15	$\sum X_5 =$ 475.32	$\sum (X_1 - \overline{X}_1)^2$ $= 77111.79$	$\sum (X_2 - \overline{X}_2)^2$ $= 1649004.65$	$\sum$ $=$

$N = 5$

$$\overline{X}_1 = \frac{\sum X_1}{N} = \frac{1753.06}{5} = 350.612$$

$$\overline{X}_2 = \frac{\sum X_2}{N} = \frac{4026.05}{5} = 805.21$$

$$\overline{X}_3 = \frac{\sum X_3}{N} = \frac{2230.45}{5} = 446.09$$

$$\overline{X}_4 = \frac{\sum X_4}{N} = \frac{713.15}{5} = 142.63$$

$$\overline{X}_5 = \frac{\sum X_5}{N} = \frac{745.32}{5} = 95.064$$

Grand Mean $\overline{\overline{X}} = \dfrac{\overline{X}_1 + \overline{X}_2 + \overline{X}_3 + \overline{X}_4 + \overline{X}_5}{N}$

$$= \frac{350.612 + 805.21 + 446.09 + 142.63 + 95.064}{5}$$

$$= 367.92$$

Sum of square between sample (development regions)

$$= nX_1(\overline{x}_1 - \overline{\overline{x}})^2 + nX_2(\overline{x}_2 - \overline{\overline{x}})^2 + nX_3(\overline{x}_3 - \overline{\overline{x}})^2 + nX_4(\overline{x}_4 - \overline{\overline{x}})^2$$
$$+ nX_5(\overline{x}_5 - \overline{\overline{x}})^2$$

$= 5(350.612\text{-}367.92)^2 + 5(805.21\text{-}367.92)^2 + 5(446.09\text{-}367.92)2 + {}^5(142.63\text{-}367.92)^2 + 5(95.064\text{-}367.92)^2$

$= 1497.83 + 956112.72 + 30552.74 + 253778 + 372251.9 + 1614193.274$

Sum of squares within samples

$$= \sum (X_1 - \overline{X}_1)^2 + \sum (X_2 - \overline{X}_2)^2 + \sum (X_3 - \overline{X}_3)^2 + \sum (X_4 - \overline{X}_4)^2 + \sum (X_5 - \overline{X}_5)^2$$
$$= 77111.79 + 1649004.65 + 118312.8 + 14003.75 + 12966.19$$
$$= 1871399.16$$

One way ANOVA table

Source of variation	Sum of squares	Degree of freedom	Mean sum of squares	F-ratio
Between samples	1614193.274	5-1 = 4	$\dfrac{1614193.274}{4} = 403548.32$	$\dfrac{403548.32}{93569.959} = 4.31$
Within samples	1871399.18	25-5 = 20	$\dfrac{11871399.18}{20} = 93569.959$	
Total		24		

The tabulated value of F at 5% level of significant for 4 and 20 degree of freedom is 2.87

Appendix –IV

Test Analysis of Variance of Development Region Wise Actual Loan Investment

X_1 = Collection in Eastern Development region
X_2 = Collection in Central Development region
X_3 = Collection in Western Development region
X_4 = Collection in Mid – Western Development region
X_5 = Collection in Far – Western Development region

F/Y	X_1	X_2	X_3	X_4	X_5	$(X_1 - \overline{X}1)^2$	$(X_2 - \overline{X}_2)^2$
2062/063	191.06	248.72	250.85	77.15	48.95	17289.62	240296.04
2063/064	206.33	279.68	278.88	91.17	51.71	13507.1	210901.38
2064/065	247.48	323.64	308.56	96.51	56.89	5635.5	172457.48
2005/066	479.56	1448.67	559.82	191.69	181.49	24652.14	503745.1
2066/067	488.32	1393.87	621.7	198.76	112.94	27479.69	428959.5
Total	$\sum X_1$ 1612.75	$\sum X_2 =$ 3694.58	$\sum X_3 =$ 2019.81	$\sum X_4 =$ 655.28	$\sum X_5 =$ 451.98	$\sum (X_1 - \overline{X}1)^2$ = 88564	$\sum (X_2 - \overline{X}_2)^2$ = 1556359.5

N = 5

$$\overline{X}_1 = \frac{\sum X_1}{N} = \frac{1612.75}{5} = 322.55$$

$$\overline{X}_2 = \frac{\sum X_2}{N} = \frac{3694.58}{5} = 738.921$$

$$\overline{X}_3 = \frac{\sum X_3}{N} = \frac{201981}{5} = 403.962$$

$$\overline{X}_4 = \frac{\sum X_4}{N} = \frac{655.28}{5} = 131.056$$

$$\overline{X}_5 = \frac{\sum X_5}{N} = \frac{451.98}{5} = 90.396$$

$$\text{Grand Mean } \overline{\overline{X}} = \frac{\overline{X}_1 + \overline{X}_2 + \overline{X}_3 + \overline{X}_4 + \overline{X}_5}{N}$$

$$= \frac{322.5 + 738.92 + 403.962 + 131.056 + 90.396}{5}$$

$$= 337.37$$

Sum of square between sample (development regions)

$$= nX_1(\overline{x}_1 - \overline{\overline{x}})^2 + nX_2(\overline{x}_2 - \overline{\overline{x}})^2 + nX_3(\overline{x}_3 - \overline{\overline{x}})^2 + nX_4(\overline{x}_4 - \overline{\overline{x}})^2$$

$$+ nX_5(\overline{x}_5 - \overline{\overline{x}})^2$$

$= 5(322.5-337.37)^2 + 5(738.92-337.37)^2 + 5(403.962-337.37)^2 + 5(131.056-337.37)^2 + 5(90.396-337.37)^2$

$= 1105.58 + 806212 + 22172.47 + 212827.33 + 304980.78$

$= 1347298.16$

Sum of squares within samples

$$= \sum(X_1 - \overline{X}_1)^2 + \sum(X_2 - \overline{X}_2)^2 + \sum(X_3 - \overline{X}_3)^2 + \sum(X_4 - \overline{X}_4)^2 + \sum(X_5 - \overline{X}_5)^2$$

$= 88564 + 1556359.5 + 119891.88 + 13950.5 + 12133.38$

$= 1790899.27$

One way ANOVA table

Source of variation	Sum of squares	Degree of freedom	Mean sum of squares	F-ratio
Between samples	1347298.16	5-1 = 4	$\frac{1347298.16}{4} = 336824.54$	$\frac{336824.54}{89544.96} = 3.76$
Within samples	1790899.27	25-5 = 20	$\frac{1790899.27}{20} = 89544.96$	
Total		24		

The tabulated value of F at 5% level of significant for 4 and 20 degree of freedom is 2.87

Appendix – V

Calculation Table of Correlation Coefficient of Actual Loan Disbursement and Collection of Agriculture Purpose

Let   X = Loan Disbursement Variable

        Y = Loan Collection Variable

Fiscal year	X	$x = (X - \overline{X})$	x^2	y	$y = (Y - \overline{Y})$
2062/063	112.15	-276.56	76486.54	181.97	-207.1
2063/064	351.37	-37.342	1394.42	326.62	-62.45
2064/065	387.41	-1.305	1.7	362.14	-26.93
2005/066	562.93	174.218	30351.9	595.31	206.24
2066/067	529.7	140.99	19877.62	479.29	90.22
Total	$\sum x = 1943.56$		$\sum x^2 = 128112.2$	$\sum y = 1945.33$	

$$N = 5$$

$$\overline{X} = \frac{\sum X}{N} = \frac{1943.56}{5} = 388.712$$

$$\overline{Y} = \frac{\sum Y}{N} = \frac{1945.33}{5} = 389.07$$

$$r = \frac{\sum xy}{\sqrt{\sum x^2}\sqrt{\sum y^2}} = \frac{108293.56}{\sqrt{128112.2} \times \sqrt{98188.56}} = 0.96$$

$$r^2 = 0.92$$

$$t^* = \frac{r}{\sqrt{\frac{1-r^2}{n-2}}} = \frac{0.96}{\sqrt{\frac{1-(0.99)^2}{5-2}}} = 5.94$$

Appendix – VI

Calculation Table of Correlation Coefficient of Actual Loan Disbursement and Collection of Marketing Purpose

Let   X = Loan Disbursement Variable

        Y = Loan Collection Variable

Fiscal year	X	$x = (X -$	x^2	y	$y = (Y -$	y^2	xy
2062/063	303.53	-310.48	96400.31	236.4	-351.42	123496	109108.9
2063/064	496.52	-117.49	13804.84	442.05	-145.77	21248.9	17126.52
2064/065	560.53	-53.48	2860.54	485.75	-102.07	10418.28	5458.70
2005/066	830.55	216.54	46887.84	894.71	306.89	94181.47	66453.96
2066/067	878.94	264.93	70187.9	880.21	292.39	85491.91	77462.88
Total	$\sum x = 307$		$\sum x^2 = 230$	$\sum Y = 29$		$\sum y^2 = 334$	$\sum xy = 275$

$$N = 5$$

$$\overline{X} = \frac{\sum X}{N} = \frac{3070.07}{5} = 614.014$$

$$\overline{Y} = \frac{\sum Y}{N} = \frac{2939.12}{5} = 587.82$$

$$r = \frac{\sum xy}{\sqrt{\sum x^2}\sqrt{\sum y^2}} = \frac{275610.96}{\sqrt{230141.43} \times \sqrt{334836.56}} = 0.99$$

$$r^2 = 0.98$$

$$t* = \frac{r}{\sqrt{\frac{1-r^2}{n-2}}} = \frac{0.99}{\sqrt{\frac{1-0.98}{5-2}}} = 12.12$$

Calculation Table of Correlation Coefficient of Actual Loan Disbursement and Collection on Tourism and non agricultural sector

Let   X = Loan Disbursement
       Y = Loan Collection

Fiscal year	X	$x = (X - $	x^2	y	$y = (Y - $	y^2	xy
2062/063	24.89	2.38	5.68	16.9	0.166	0.028	0.395
2063/064	10.69	-11.82	139.62	6.97	-9.83	96.71	116.19
2064/065	17.97	-4.536	20.58	11.78	-5.06	25.604	22.95
2005/066	30.59	8.084	65.35	24.35	7.55	56.94	61.034
2066/067	28.39	5.44	29.59	23.95	7.15	51.06	38.9
Total	$\sum x = 112$		$\sum x^2 = 260$	84.02		$\sum y^2 = 230$	$\sum xy = 239.$

$$N = 5$$

$$\overline{X} = \frac{\sum X}{N} = \frac{112.53}{5} = 22.506$$

$$\overline{Y} = \frac{\sum Y}{N} = \frac{84.03}{5} = 16.804$$

$$r = \frac{\sum xy}{\sqrt{\sum x^2}\sqrt{\sum y^2}} = \frac{239.405}{\sqrt{260.82} \times \sqrt{230.35}} = 0.97$$

$$r^2 = 0.95$$

$$t^* = \frac{r}{\sqrt{\frac{1-r^2}{n-2}}} = \frac{0.97}{\sqrt{\frac{1-0.95}{5-2}}} = 7.513$$

Calculation table of correlation coefficient of Actual Loan Disbursement and Collection of different region in total

Let   X = Loan Disbursement Variable
       Y = Loan Collection Variable

Regions	X	$x = (X - \overline{X})$	x^2	y	$y = (Y - \overline{Y})$
Eastern	1753.06	-86.54	7489.17	1612.75	-74.12
Central	4026.05	2186.45	4780563.60	3694.58	2007.71
Western	2230.45	390.85	152763.72	2019.81	332.94
Mid	713..15	-1126.47	1268912.13	655.29	-1031.59

Western					
Far western	475.32	-1364.28	1861259.92	451.98	-1234.95
Total	$\sum x = 9198.03$		$\sum x^2 = 8070988054$	$\sum Y = 8434.34$	

N = 5

$$\overline{X} = \frac{\sum X}{N} = \frac{9198.03}{5} = 1839.60$$

$$\overline{Y} = \frac{\sum Y}{N} = \frac{8434.34}{5} = 1686.87$$

$$r = \frac{\sum xy}{\sqrt{\sum x^2}\sqrt{\sum y^2}} = \frac{7373174.25}{\sqrt{8070988.54} \times \sqrt{6736521.68}} = 0.99$$

$r^2 = 0.98$

Appendix – IX

Calculation table of correlation coefficient of Actual Loan Disbursement and Collection of different in sector wise

Let   X = Loan Disbursement Variable

       Y = Loan Collection Variable

Sectors	X	$x = (X - \overline{X})$	x^2	y	$y = (Y - \overline{Y})$
Agriculture	2043.56	301.5	90902.25	1945.33	289.17
Marketing	3070.07	1328.02	176367.12	2939.12	1282.96
Non Agriculture	112.53	-1629.47	2655172.48	84.02	-1572.14
Total	$\sum x = 5226.16$		$\sum x^2 = 4509711.85$	$\sum Y = 4968.41$	

N = 3

$$\overline{X} = \frac{\sum X}{N} = \frac{5226.16}{3} = 1742.05$$

$$\overline{Y} = \frac{\sum Y}{N} = \frac{4968.47}{3} = 1656.46$$

$$r = \frac{\sum xy}{\sqrt{\sum x^2}\sqrt{\sum y^2}} = \frac{4352736.27}{\sqrt{4509711.85} \times \sqrt{4201229.83}} = 0.99$$

$r^2 = 0.98$