

A Study on Investment and Collection of Loan by Agriculture Development Bank

A THESIS

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T.U. Reg. No: 7-2-25-145-2001

MBS Symbol No.: 1774/063

Nepal Commerce Campus

Submitted to:

Office of the Dean
Faculty of Management
Tribhuvan University

in partial fulfillment of the requirements for the Degree of
Master of Business Studies (M.B.S.)

New Baneshwor, Kathmandu
August, 2008

RECOMMENDATION

This is to certify that the thesis

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has been prepared as approved by this department in the prescribed format of Faculty of Management. This thesis is forwarded for examination

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DECLARATION

I hereby declare that the work reported in this thesis entitled "**A Study on Investment and Collection of loan by Agriculture Development Bank**" submitted to Nepal Commerce Campus, Faculty of Management, Tribhuvan University, is my original work done in the form of partial fulfillment of the requirement for the Master of Business Studies under the supervision of **Dr. Bihari Binod Pokharel**, Reader and **pMr. Rajesh Gurung**, Teaching Assistant of Nepal Commerce Campus.

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ACKNOWLEDGEMENTS

In any success, there are many peoples effort from behind. No success can be achieved without the helping hands of many people. Similarly there are many people behind the successfully completion of this research/thesis. This thesis would have never been complete without the help of many people. I would like to thank to all the people for their valuable effort in preparing this thesis and during the study period.

First of all I would like to thank Nepal Commerce Campus and Tribhuvan University family, Research department for allowing me to conduct research in this subject as partial requirement of the degree of Masters of Business Studies (MBS).

I would like to thank Dr. Bihari Binod Pokharel and Mr. Rajesh Gurung for their supervision and guidance as supervisor and assistant supervisor respectively. The help, suggestions, and guidance provided them have brought the study into a fruitful end.

I would like to share my success with the family members as well as for providing a good environment for the study and their continuous support without which no work can be concluded in success.

Special thank goes Agricultural Development Bank, for providing me a lot of relevant information. Nepal Rastra Bank (NRB) also is the candidate of special appraisal. I would like to thank the employees of the banks for their help, loud support and answering to the research queries.

Finally, I would like to thank to Global Books and Stationery Campus Road, Minbhawan and all the people who have provided me valuable support, help and guidance.

Khadak Bahadur Kathayat
Dipayal, Doti

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LIST OF ABBREVIATIONS

ADB	Asian Development Bank
ADB/N	Agricultural Development Bank
BRI	Bank Rakyat Indonesia
DGM	Deputy General Manager
Ed.	Education
FM	Frequency Modulation
GDP	Gross Domestic Product
GTZ	German Technical Cooperation
H/O	Head Office
HMG/N	His Majesty's Government Nepal
KNND	Kantipur Nepali National Daily
Mgmt.	Management
MIS	Management Information System
MOF	Ministry of Finance
NCC	Nepal Commerce Campus
NGOs	Non-government Organizations
NPLs	Non Performing Loan(s)
NRB	Nepal Rastra Bank
RMDC	Rural Micro Finance Development Center
SACCOPs	Saving and Credit Cooperatives
SFCLs	Small Farmers Cooperatives Limited(s)
SFDP	Small Farmers Development Programme
SKBB	Sana Kissan Bikas Bank
T.U.	Tribhuvan University
WTO	World Trade Organization

CHAPTER-I

INTRODUCTION

Loan investment of development banking of ADB/N refers agricultural credit/loan provided by ADB/N in agricultural sector to promote and develop this sector. Agriculture loan is provided such as term wise, objective wise, and region wise development in Urban and rural areas to farmers. The purpose of providing loan to former is to increase in the quality of their life standard by income generating activities, to be independent and to alleviate poverty through social mobilization activities. Likewise, loan recovery of ADB indicates that the collection of loan amount (Principle + interest) which is granted from ADBN to farmers based on different purposes.

1.1 Background information

Nepal is landlocked and mountainous & kingdom lies in the south Asia between large and big two nations named India and China. The area of Nepal is 147,181 square Km. Nepal territory is covered by India in three spheres i.e. east west south and china in one north. Based on the World Bank report, Nepal is the 12th poorest country in the world. And the poorest in seven south Asia nations with a per capita income of us \$250 per annum.

The country has the total of capita income of 23.2 million populations of which 85.8% (19.9m) lives in rural areas and the rest 14.2% (3.3m) only live in urban areas as of the census of 2001. More than two third of land area of Nepal is covered by Himalayas, hill and forest and most of rural areas lies in this area. The rest of country areas lie in southern part bordering the India having plane and fertile field / land.

Politically/Administratively Nepal is divided into five development regions, 14 zones and 75 districts.

- a) Eastern development region.
- b) Central development region.
- c) Western development region.
- d) Mid western development region.
- e) Far- western development region.

The main purpose of administrative division of Nepal is to develop equally in all development regions and distribute the return to the people of that region proportionately.

In most of urban areas one can notice the development of roads, transport system, telecommunication, electricity, trade and financial institution health care facility. But in rural area except few village lack of infrastructure people in those area are living life based on traditional agriculture and allied occupation like animal rearing, poultry farming, agro based cottage industry. Most of people live in rural areas where the agriculture is not basis occupation. The Nepalese economy is agro base. However, most of the people who adopt the agriculture and lives in rural apply the traditional method for agriculture business, are among the poor. The nearly one third of population are marginal poor and fall below the poverty line. According the World Bank one who earns less than a dollar each day falls under the poverty line. By the end of 9th five year plan, the people under the poverty line are nearly 42%. The study made by central bureau of statistic under the assistance of world bank indicated that the person who falls under the poverty line earns Rs. 6400 yearly. Poverty reduction rate is low due to low per capita income, urban concentrated growth rate, high population growth rate, the poverty is uneven, high in rural areas compared with urban due to unfair distribution of National income.

Economy is agro-based. The rural people, nearly 86% lives in rural area adopting the agriculture as a basis occupation. The country is largely rural and an agrarian with 98% of country's geographical area identified as rural. And majority of the rural population depending upon the agriculture products for meeting their livelihood. However the high portion of poor are in rural area in addition, the representation of agriculture sector in gross domestic product nearly 40% with almost 80 to 85 percent people involvement is agriculture. This is enough to prove the agriculture is in primitive stage and require higher attention in this regard for advancements development. To uplift the living standard of rural people and to make agriculture sector more scientific technique, advance farming along with rural credit demand should be fulfilling. The rural people have no ready liquidity to finance not only various enterprises but also the consumption and other emergency needs. There basis needs more or less along with socio-economic needs fulfill by agriculture.

With realizing the facts and figure that the Nepalese economy in rural area is lagged, the primary focus should go for infrastructure development as well as the requirement fulfillment of rural people. Until and unless the rural economy will transform to developed, the Nepalese economy remains under developed. The development of Nepal remains unchanged until the development of agriculture will be possible. Hence to uplift and develop

and to provide the rural credit for agriculture and infrastructure development, government felt urgent to establish the development bank that directly work is favor of rural people. With this concept the establishment of agriculture development bank is possible in 1968 with the ADB/N Act 1967.

Only few studies have been conducted on “Loan investment and collection Analysis of development banking of ADB/N.” Except than ADB/N, there are other development bank and micro finance institution operating in Nepal but the financing problem especially in the field of development credit sector is not yet solved. So, the necessity of study is felt and done. This study may be a milestone in Nepalese context especially in the field of development credit having significance and value to society in general.

Background of ADB/N

With the main objective of proving institutional credit for enhancing the production and productivity of the agricultural sector is the country, the agricultural development bank, Nepal was established is 1968 under the ADB/N Act 1967, as success or to the co-operative bank. The land reform saving corporation was merged with ADB/N in 1978. Subsequent amendments to the act empowered the bank to expend credit to small farmers under group liability and expand the scope of financing to promote cottage industries. The amendments also permitted the bank to engage in commercial banking activities for the mobilization of domestic resources.

Agriculture development bank limited (ADBL) is an autonomous organization largely owned by government of Nepal. The bank has been working as a premier rural credit institution since the last there decades, contribution a more than 67% of institutional credit supply in the country. Hence, rural financing is the principle operational areas of ADB/N.

Besides it has also been executing small farmer development program (SFDP), the major poverty alleviation program launched is the country.

In 1975, the small farmers development program (SFDP) was initiated fro financing small farmers on group liabilities in order to boost up the socio-economic condition of rural populace. The credit goes to ADB/N for first time introducing the concept of micro finance by establishing the small farmer development program. The loan is provided to those people who are marginal poor on the basis of group liabilities as well as collateral base up to NRs.

Thirty thousands. In 1984 the amendment of act also permitted ADB/N to extend its wings in commercial banking activities so as to mobilize urban resource for meeting the increasing demand of the rural credit in the rural areas of country. In 1993, the ADB/N initiated farmer's co-operative approach by transferring ownership of SFDP into the small farmers co-operative limited (SFCL). ADB is a one and only such institution in the country for executing its activities by three major windows namely development financing, commercial financing and small farmer development program. Through those sectors it is meeting the more than 79% of institutional credit to the rural populace by strengthening its network in the entire geographical region mountain, the hills and the Terai.

Objectives of ADB/N

The main objectives of ADB/N is to provide quality banking and financial services to clients adopting market driven strategy delivering sustained and competitive return on investment. It has also objectives is to initiate effective approaches to rise economic life standard/condition of Nepalese farmers and ensure overall agriculture development by granting agriculture credit and capital inputs in easy and smooth manner.

Main Functions of ADB/N

- Provide short term, medium term and long term agriculture loans to individual farmers, corporate bodies and village committees.
 - Provide loan and technical services for the purchase of inputs and capital items such as fertilizers, insecticides, feed, farm machinery, irrigation equipment, canal construction, boring, pump set and sprinkles.
 - Provide loans for the purchase of livestock.
 - Finance for small and cottage industry.
 - Finance for cold storage, ware busing and other marking facilities.
 - Finance for capital goods necessary for the development of alternative source of energy.
 - Supervise small farmer's development programs to uplift the socio-economic condition/status of farmers.
 - Under take banking functions to generate resources.
 - Providing training to the beneficiaries and the bank staff. Organization of ADB/N.
- Organization of ADB/N

Board of Directors of ADB/N

The Board of directors of ADB/N is the apex body of the bank organization. BOD formulates policies and provides guideline to management. The Board of director of ADB/N constitute following members.

1) Representative	Ministry of Finance	Chairman.
2) Representative	Ministry of Agriculture	Chairman.
3) Representative	Ministry of land reform Management and NRB.	Member.
4) Representative	Co-operative organization	Member.
5) Representative	GM of ADB/N	Member.
6) Representative	Individual shareholders	Member.

Functional department of ADB/N.

Head office of ADB/N is located in Katmandu. The functional departments of ADB/N are as follows.

- 1) Management information system department.
- 2) Internal Audit and Inspection department.
- 3) Planning and project department.
- 4) Account and financial management department.
- 5) General Service department.
- 6) HRM department.
- 7) Agriculture credit training institute.
- 8) Small farmers and micro finance department.
- 9) Legal department.
- 10) Policy research department.
- 11) Loan investment and collection department.
- 12) Commercial and bank policy and loan department.

Capital Resource of ADB/N

ADB/N started its operation with as authorized capital of Rs.50 million. Now in present ADB/N's authorized capital is Rs.12 Billion and the paid up capital stands at Rs.9.28 Billion up to July 2006/07 .As per governing act of bank, the HMG/N holds/ is obliged to purchase shares amounting to a minimum of 51% of paid up capital. The remaining ownership in shares are left belongs to NRB, individuals, co-operatives and others.

Categories of Loan

ADB/N grants loan to farmers term wise such as short term, medium and long term in different purposes such as cereal and cash crop marketing, housing and hand development, agri-tools and irrigation, bio- gas and power development, live stock, go-down and cold storage, agro and cottage industry, tea and coffee and non-agriculture and tourism. To raise/uplift economic condition/life standard of farmer in urban and rural areas.

1.2 Statement of the Problem

ADB/N is an oldest bank of Nepal and committed for economic and industrial development of the country. ADB/N is responsible for agriculture reforms of the country, by financing new tools and methods on farming and banking.

But ADB/N has not successful results and operation. Due to tough competition and lack of pace and political instability, the bank is facing problems on loan investment and recovery patterns due to lack of supervision. The loan granted by the bank for one purpose is used for another. Same way, the lending procedures are languages are unfamiliar to the general people.

There has been a negative impact on overall production, supply price deposit mobilization, credit disbursement and implementation of development projects due to several problems arising from conflict and unfavorable security situation.

ADB/N provides 80% agricultural credit by support for the different sectors i.e. agro-industry, tea and coffee, livestock etc. loan outstanding is increasing day by day because of outreach over due loan, non performing loan and investment of development credit on priority sector which is fixed by HMG/N. if investment and collection don't occur timely, each and every organization can't be operationally and economically sound and viable. Current political insurgency and instability, proper reporting system of data of ADB/N are also affecting rural agricultural sectors loan investment and collection as well as ultimately performance of ADB/N. So, the study mainly focuses of loan investment and collection procedure of ADB/N.

The problems of study are directed to find solution of following questions:

- i) Purpose and sector: For what purpose and in which sector the loan of ADB/N is mobilized? Does there exist a relationship on loan disbursement and repayment of ADB/N.
- ii) Process: What process is adopted by ADB/N for providing and collecting the loan?
- iii) Relationship: Does there existing a relationship between the principle amount collection and out standing loan on invested loan?

1.3 Objectives of the Study

The major objectives of this study can be presented as follows:

- i) To examine the achievements of agriculture development bank with purpose, term and development region wise of loan investment and collections.
- ii) To analyze the relationship between targeted and achievement of loan investment and collection.
- iii) To study and assess lending as well as loan recovery procedures.
- iv) To evaluate the interest rebate, interest discount and different interest rate charged by ADB/N.
- v) To provide valuable suggestion to ADB/N on the basis of finding.

1.4 Scope, Need and Significance of the Study

Banking development is a must for the development of nation. Banks are back bone of economy. Our country is a developing country with agro-based country. The distribution of hand is not efficient actual farmers don't have sufficient land. Peoples who do not mud have lot of land. Most land are uncultivated in the urban and sub urban areas. Farmers hesitate to involve to economic activities. Corporate and institutional farming is unknown is out context. Farmers feel banking requirement and loan taking process is difficult and lengthy. It such a scenario, it is very difficult to analyze the banking activities with agricultural performance. There should be a proper and rationale relationship between agricultural sector and banking sector for the healthy economic development of a nation. Farmers must be familiar with interest rate, loan procedures and repayment method etc.

The main significance lying behind this research is that May lending agencies are working present in Nepal but agricultural financing problem is not solved yet all. This

research represents problem existing in this areas and gives future directions to solve over come these problems. Non-institutional financing plays vital role still is rural areas. For the protection of farmers from being changed high interest rate by non-institutional money lender, this research gives direction to ADB/N to improve lending policy and loan recovery etc. interested persons, researcher, policy maker institutions and government agencies may be benefited from such a study.

1.5 Limitations of the Study

Every research has to be conducted with in certain period, so existing limitation o this research are:

- i) The research will be conducted only development banking transactions of ADBN. So, the study excludes the transaction of commercial banks and other development banks.
- ii) This study will be mainly based on secondary data which is derived from annual reports, magazine, articles and other in formations provided though different division of Bank.
- iii) This study includes period of five year from fly 2002/03 to 2006/07.

1.6 Research Questions and Hypothesis

For the fulfillment of above mentioned objective and for facilitating the research the study mainly 2 questions are designed.

- i) Whether there is a significant relationship between loan investment and recovery?
- ii) Whether there is a significant relationship between investment and outstanding loan?

1.7 Organization of the Study

The whole study has been divided into 5 chapters. First is introduction chapter which includes what actually loan investment and collection is, background of study, statement of problem objective of the study, significance of study research questions, and limitation of the study and organization of the study.

Second chapter deals with review of available literature in the field the study being conducted. This includes review of the theories of the concerned topic, review of books and various empirical studies.

Third chapter explains the research methodology employed to conduct the study and tools and techniques used in analysis of the data as well. This chapter includes research design, source of data, population and samples, methods of data analysis and various figures and statistical tools of analysis data.

Presentation and analysis of data is the 4th chapter where data are presented in relevant table, fact and figures data is analyzed by using proper statistical tools and major finding and recommendation for further improvement.

Beside these, bibliography and appendices are also presented at the end of the thesis. Similarly acknowledgement, table of contents, list of tables, list of diagrams, abbreviations are included in the front of the thesis report.

CHAPTER-2

REVIEW OF LITERATURE

After selecting the topic, the next step of researcher is to develop concept and idea about the selected topics by reviewing all the relevant materials. Review of literature begins with a search for suitable topic and continues through out the duration of the researches work. It deals with a literature survey of the existing volumes of similar or related subjects.

Review of literature is concerned with reviewing research studies of other relevant proposition in the related area of the study. So, that all the past studies, their conclusions and deficiencies may be known and further research can be conducted. It is an integral and mandatory process in research works.

2.1 Theoretical Framework of Lending and Recovery Policy and Procedure of ADB/N

ADB/N is the bank of framers. ADB/N grants development agriculture credit in a subsidized interest for socio-economic upliftment of people. The following theoretical reviews give snapshot of guideline of effective lending and recovery policy and procedure of ADB/N.

2.1.1 Lending policies and procedure

Lending policies and procedure of ADB/N under different consideration is given below:-

-) Price water house coopers report.
-) NRB's supervision and direction.
-) Eligible barrowers of ADB/N.
-) Loan list/ line of credit.
-) Pocket area group loan and total production loan.
-) Green card.
-) Interest rate of ADB/N.
-) Security and margin policy.
-) Procedures of lending.

The water house coopers report:-

Through Asian development bank, price water house coopers completed 'Financial and operational review' of ADB/N. ADB has kept precondition to ADB/N to give capital and technical support for financial restructuring according to the approval report of HMG/N. The major pre-conditions are given below:-

-) To do improve in organizational structure.
-) To do financial re-structuring.
-) Non-performing loan assets management.
-) Human resources management.
-) Preparation of three year corporate planning.
-) Implementation of transitions in integrated way in bank offices.
-) Right management of portfolios and to center loan investment on small and medium scale enterprises.
-) Classification of office into business center and cost control and starting employee's work reasonability centre.
-) Transparent accounting system and provisions of internal audit committee to control internal regulations.
-) Provision of assets and loan management committee to risk management.
-) Enlargement of quality of MIS division.
-) To give emphasis on work capacity of credit appraisal for loan quantity.

NRB's supervision and direction:-

NRB is the bank. NRB supervise and give direction to other banks. NRB's direction to development bank and given below:-

-) Adequate provision on core capital and subsidiary capital.
-) Loan classification and loan loss provision.
-) Financial source of collection limit.
-) Compulsory stock and working capital management.
-) Provision on sector wise loan limit.
-) Provision on investment.
-) Provision on audit and audit committee.
-) Provision on accounting policy and financial statements.
-) Provision on non-performing assets.
-) Provision of effective monitoring, follow up and supervision for loan utilization.

) Provision on bank's right sizing.

Eligible borrowers of ADB/N:-

Such application to obtain a loan must satisfy the following requirement to qualify him as an eligible borrower.

-) Must be a Nepalese citizen, if the applicant is a co-operative of co-operation body, it must be registered in the related government offices.
-) Must have necessary knowledge, experience and skill to operate enterprise.
-) Must be socially and financially characteristic nature.
-) Must not be arrears in repayment of principal or interest on any existing loan except for reasons behind their reasonable reasons.
-) Must be willing to meet the equity contributions for the project as required by ADB/N's rule and regulation.

Loan limits:-

Depending upon the purpose and type of the loan, ADB/N provides loan ranging from 80% to 100% of total project cost. The remaining part of the project cost of 10 to 20% will be bared by borrower himself. Limits have also been set according to the amount loan that can be sanctioned at a time and amount that can be left outstanding.

Pocket area group loan and total production loan:-

The lending policy of ADB/N is broadly based on two considerations. If the bank official classify loan according to geo-geographical structure such as climate, condition on natural resources, physical infrastructure facility, marketability etc. to provide agricultural credit within his work center's different place, then it is called pocket area group loan. ADBIN generally follows this approach to provide agriculture loan in easy and smooth manner to people for balanced economic development of the country. Pocket area loan group includes 5 to 20 members. Under total production loan, ADB/N approves total requirement of credit to borrowers in different purpose such as rice, millet, mustard etc. within one year at a time for maximum three purposes. Generally, the problems of submitting documents to get loan on different purpose in different time with in one year are reduced and farmers will get advantages from it.

Green card

If the borrowers of the ADB/N have been taking loan from ADB/N since three years ago and taking advantage from project and also paying loan's principal and interest in time to the bank, "Green Card" is given to those farmers. The borrowers have to pay less one percent interest rate on current prime lending rate.

Interest rates of ADB/N

The bank has followed discriminatory interest rate, Policy depending upon the borrowers and purpose of the loans. Loans for co-operative are cheaper as against loans for individual borrowers. Similarly, loans for irrigations, bio-gas, horticulture, tea and coffee, land development and housing, go down and cold storage etc. are cheaper as compared to other loans provided by the banks:-

Table No.1
A 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	10%
	1.2 Cash crop	10%
	1.3 Special crop	10%
	1.4 Agri-tools	10%
	1.5 Irrigation	10%
	1.6 Tea and coffee	10%
	1.7 Horticulture	12%
	1.8 Fruits	10%
	1.9 Fishery and livestock	12% & 11 %(respectively)
2.	Industry	
	2.1 All types of Industries	10%
	2.2 Industry and service and business (Banking side)	9.50%
	2.3 Cold stores	9.50%
3.	Wholesale and rental trade	
	3.1 Trade (Banking)	10.50%
	3.2 Agri-tools and non-agriculture loan	11%
	3.3 Export/import loan and term loan	11%
4.	Hire purchase (with auto loan) and land development	10%
	Consumers loan	11%
	Other service industry	10%
	Deprived sector/ priority sector	
	Sana Kisan Bikas Bank	7%
	Co-operative and other	10%

Source: - ADBN program and budget for 2006/07.

Note: - a) The rule of green card (1% discount is allowed to holders of green card) will not be followed on the interest rate of less than 8%

- i) Prime interest rate will be charged if interest is paid monthly and 20% interest discount is removed.
- ii) Additional 1% and 3% medium term interest will be charged on deprived class credit and other credit respectively if interest is not paid monthly.
- iii) 2% and 4% high interest rate will be charged in medium term interest on deprived class credit and other credit respectively

b) Commercial banking with effective from 2064/9/1

**Table 2
Deposits**

S.N	Types of deposit	Interest Rate
1.	Saving	2.50%
2.	Fixed	
	Up to one month	2%
	Up to three month	2.50%
	Up to six month	3%
	Up to one year	3.5%
	Above 1 year up to 2 years	3.75%
	Above 2 year up to 3 years	4.00%
	Above 3 years and Akshaya Kosh	4.25%

Source: - ADBN program and budget.

Table 3
Lending

S.N	Purpose	Interest rate (%)
		General
1.	Overdraft/Institutional	11%
	Others	12%
2.	Demand, contract	10.50%
3.	Housing Loan	12%
4.	Education Loan (Individual)	10.50%
5.	Construction	10%

Source: - ADBN program and Budget

Security and Margin Policy

ADB/N has following provision on security and margin policy. ADB/N requires either immovable or movable property such as land building, car, bus, etc.

Table No.4
Security and margin policy

S.N	Property	Maximum loan granted%	Margin deducted%
1.	Land	80%	20%
2.	Cement house/go down and cold storage	70%	30%
3.	Machinery/Equipment	50%	50%

Source: - ADB/N loan division 2006/07

Procedure of lending:-

Every bank has its own set of procedures to be followed before providing loan. Similarly, ADB/N has also its own procedures to be followed while providing loan. Individuals, co-operative or corporate body willing to obtain the loan from ADB/N should fill up the prescribed loan application provided by the bank. The application from should be accompanied with the supporting documents such as certificate of land ownership, receipt of

land revenue payment, receipt of rent payment, or certificate of government registration for corporate and, cooperative organization.

After getting the receipt of the complete loan application form filled by the customers, the bank employee visit the borrower's in their places and inspect about the project site and security of assets, the suitability or the project and also gather information crucial to the economic analysis of the project.

The bank advances loan given only to those borrowers, whose project seems to appear technically feasible and economically viable as per the decision made by the loan committee.

2.1.2 Recovery policies and procedures of ADB/N

The ADB/N not only has its lending policies and procedure but also its own set of recovery policies and procedures. ADB/N provides the loan for many purpose to the small farmers and there are different terms of loan of which are mostly collected in their maximum lending period. The collections of loan made by ADB/N from borrowers very much depends on the purpose they have spent. The loan installment payment periods may be extended depending upon some specific circumstances. ADB/N has a loan recovery manual 1993 which was issued in 1993 under the ADB/N loan recovery rules and regulation act 1976, and ADB/N act 1967. This loan recovery manual 1993 help to collect the loan amount effectively within its loan installment period

The policies and procedures of loan recovery of ADB/N has taken into different consideration like

-) Objective of loan recovery manual 1993.
-) Authority of bank, if breaking the agreement.
-) Provision for interest, penalty and relegate.
-) Provision for memorandum letter.
-) Punishment stage of recovery.
-) Provision for sick project.
-) Correction of payment period.
-) Pre-notice for publication of borrower's name in magazines.
-) Provision of action of collateral.

-) Doubtful loan.
-) Remission of loan.
-) Provision for bank list.

Objective of loan recovery manual 1993

The main objectives of loan recovery manual are as follows:-

-) Officials are mobilized for conducting the program to recover loan. Timely monitoring direction and providing them about the importance of loan recovery will helpful for the loan collection.
-) To conduct the programmed of recovery loan before the loan collection.
-) To conduct loan recovery collection program continuously.
-) To determine the failure project as per pre-determined payment program to amend the date of loan recovery. If there id no possibility of recovering such loan, then to determine it as make required provision.
-) To make provision of keeping borrower's file up to date by the help of information system.
-) To give advice, suggestion and direction to borrowers for successful projects by continuously monitoring and supervision.

Authority of bank, if breaking the agreement:-

The ADB/N has an authority under the ADB/N act 1967 of article 20. If the borrower breaks their agreement, rules and regulations:

-) The bank has the authority of to sell or auction the collateral to recover the loan amount and interest.
-) If the collateral valuation of the borrower decreases bank has authority to receive other property from the borrower or to sell and auction the property to collect the principal and interest.
-) If the ADB/N is unable to collect the loan amount from the selling or auction of collateral, bank has authority to recover loan amount from the other property of borrowers.
-) Bank has authority to transfer the title of collateral to the third party, the third party has the same legal validity of their property title which is transfer by the bank is same as well as by the borrowers.

-) Bank collects their loan amount by the selling auction or any other process from the collateral. Bank also change legal other expenses to the borrowers from the selling or auction of collateral. If the amount is received is higher than the loan amount and other charge, bank should be returned to the borrowers, which is more from their recovery amount.
-) Bank may be requested to the land registration office by the way of Nepalese law, for the registration to transfer the collateral title with itself or other third party, which from the selling auction of any other process.
-) If the bank requested to the related registration or property transfer office for the collateral title transfer and registration, related office will do.
-) Collateral is not possible for selling or auctions, the bank has authority to take the title of collateral from the related government office.

Provision for interest, penalty and rebate:-

ADB/N has charged the interest rate which is shown in the prevailing interest rate schedule:-

-) ADB/N has charged 1% service charge and 0.25% comminutes fee if the loan amount is more than Rs.50, 000.
-) ADB/N has different interest rates. Generally, cooperatives organization has to pay less interest rather than the individual borrowers.
-) ADB/N has charged 4% penalty interest to those borrowers, who fail to repay the loan amount within the installment period.
-) ADB/N has charged 21% interest to those borrowers who mis-utilize the bank loan.
-) Borrowers must deposit the 5% of their sanctioned amount in their saving account named "Client security fund-CSF" before taking loan.
-) Sometime ADB/N introduce notice of rebate especially file closing time 75% to 85% rebate is given on non-performing loan's interest to farmers.

Provision for Memorandum letter:-

There are three types of memorandum letter issued by the bank, which are as follows:-

-) First memorandum: - It is provided the borrower before one month from the expiry of loan installment period or due date.

- J Second memorandum: - This letter is issued, if the borrowers have not paid the loan amount within the loan installment period after expiry of one month from the loan installment period.
- J Pre-notice for the publication the name list of the borrowers: - After 60 days of second memorandum letter is issued the notice for publication the name of borrower will be dispatched to concerned borrower.

Punishment stage for recovery:-

There are two stages for punishment, first is general and second is critical.

General Punishment: - It is primary stage applied for the purpose of security recovery. Bank issued first memorandum letter before the one month from the due date and second letter is issued after one month from the loan installment period. If the borrowers are not ready to pay their loan bank publishes their name and title of collateral in the publication.

Critical or legal punishment stage: - It is that stage when the borrowers are failed to repay loan amount. Bank publish the name of borrower in the public newspaper to pay their loan within 35 days, otherwise collateral will be sold of it will auction to collect the loan amount through the legal processes.

Provision for sick project:-

Under the following condition projects are consideration as sick projects:-

-) Partial or absolute loss from natural calamities such as earthquake, flood, landslide, fire etc.
-) After project entrepreneur's death, if other people and family members are not to operate project.
-) If project is operated for some year and after that project can't be run through lack of raw materials, market, increases in tax, electricity charge etc.
-) If ADB/N unable to grant credit on time, less loan is approved and not get grace period according the requirement.

Correction of payment period:-

Loan installment or payment period may be corrected under the following special condition

-) If the project failed or going on loss by the cause of natural calamities such as heavy rain, earthquake, flood, landslide etc.
-) If the project is affected by different diseases.
-) Due to the systematic cause that is bear by the borrowers, project will not started in time.
-) Destroyed or damage the product of project / or product can not be sold by the lack of market. If product is to be stored in go down or cold storage.
-) If the borrower's family requested after death of main proprietor. When project may not be operating successfully or it will be difficult to operate.

Pre-notice of publication borrowers name in magazine:-

If the borrowers fail to repay loan to ADB/N, ADB/N send memorandum letter and does timely supervision on lending project. After this situation bank takes legal provision for recovering loan amount by selling collateral through auction or any other legal procedures. Bank publishes the borrower's name with the title of collateral in local and national daily for the payment of loan within 35 days.

Provision of auction of collateral:-

For this purpose collateral will be sold to the different persons, who agree to receive that property under his commitment.

The bank publishes notice on the different national level publication itself for the auction of collateral, when failure to recover loan amount itself of by the borrower.

The bank has decentralized the auction power for different level of offices, which are shown below

-) If the loan amount is up to Rs.500, 000 including interest district level auction committee has decision power.
-) If the principle and interest amount is more than Rs.500, 000 and up to 700,000 regional office has auction power.
-) If the principle and interest amount is more than Rs.700, 000 and up to Rs. 10, 00,000 decision power transfer to the DGM level committee.
-) If the principle and interest amount is more than Rs. 15, 00,000 decision power goes to the GM level committee or board of the bank.
-) The bank has authority for publishing of this decision 7 days after passing the information about to the borrowers.

Doubtful loan:-

ADB/N announces the doubtful loan, if the loan amount will not be possible to recover.

Doubtful loan is considered under the following conditions

-) If the collateral value is less through the causes of natural climates, other accident and not possible to collect loan from borrower's other property.
-) To recover loan amount is not possible after selling or auction of collateral and there is no other property of the borrowers in the kingdom of Nepal.
-) If the borrower did not found by bank and collateral may not be determined.
-) If the loan amount may not be possible to recover when lending is made from the security and insurance of loan amount.
-) In case of loan provide under the security of the project, if the project is failure.
-) If the borrower succeed to take loan from the bank by submitting duplicate document i.e. cheating and bank fails to find out the borrower or may not get success to recover the loan by legal process.

Remission of loan:-

The board of ADB/N has a right to grant remission of principle and interest of loan provided by the bank. Of the board provided remission of principle and interest of loan, it has to be done accordingly. The GM has a right to grant remission of capitalized interest of capitalized amount.

The following loan committee has authority for providing the remission on of loan amount

Table No. 5

S.N.	Offices	Remission of loan for one purpose
1.	Depot loan committee	Up to Rs. 800
2.	Sub branch loan committee	Up to Rs. 1200
3.	Branch loan committee	Up to Rs. 2000
4.	Main branch loan committee	Up to Rs. 3000
5.	Regional office First grade loan committee Special grade loan committee	Up to Rs. 4000 Up to Rs. 5000
6.	H/O recovery department- Recovery committee	Up to Rs. 8000
7.	Chairmanship of DGM committee	Up to Rs. 10000
8.	As per authority of BOD remission given through GM	Up to Rs. 10001

Provision for black list

Borrower's name are kept under the backlist on the following conditions

-) In the case the borrowers do not complete the project which they have to complete and misused of loan.
-) The name of the following person is kept in blacklist, who can't take the loan from the bank thereafter
 1. In case of a person submit the documents belong to others.
 2. In case of a person applies the application with wrong name.
 3. In case of a person shows collateral to other to take loan.
 4. In case of person sell the collateral without prior permission, sells the project, divides it or transfer to other name before taking permission from the bank.

5. In case of persons provide collateral to other, which was already collateral into the bank.
6. In case of a person submit the duplicate documents as an original document.
7. The blacklist obtained from credit information center also to be kept in the above list.

Note: ADB/N has established in 1968 under the agriculture development bank act 1967 but it will be incorporated with umbrella act called "Bank and Financial institution ordinance 2004" within 2 year. All of financial transaction of ADB/N and operation of bank will be guiding this ordinance. This has also effective policy and procedure of loan investment and collection of such invested loan from borrowers.

Above mentioned policies and procedure are guiding ADB/N present. Effective policies and procedure of loan investment and collection makes sound to bank as well as farmers/borrowers ADB/N has introduced first phase and second phase reform program in f/y 1997 and f/y 2001 respectively adjust with the change environment.

Loan investment and collection is part and parcel of every financial institution. If collection is not effective gradually overdue loan increase and non performing loan also increases. Overdue loan appears as major problems of recycling of fund. Then, banks can't be operationally viable and financially sustainable.

2.2 Review of Journals and Articles

Some of relevant review of literature from journal, newspaper and textbook are presented below within periphery of this research to know enough ness of this original work.

Agriculture is the most important occupation in Nepal and plays a vital role in economic development. It is generally acknowledged that an efficient system of agricultural credit is necessary to sustain, stimulate and strengthen agriculture. The prime moneylenders took advantage of the situation and expected various rate of interest. The high of interest, coupled with the borrowing for meeting day by day family expenses, resulted in a mounting volume of indebt ness. Untimely, this resulted in the transfer of land to the creditors. The outcome of indebt ness of land to the creditors. The outcome of indebt mess was not only the loss of land for the actual tiller but also resulted in large scale emigration of people, from one part of the country to another and also outside the country especially to India. Slow progress of cooperative movement in Nepal may be attributed mainly to the lack of sufficient and administrative difficulty in making and recovering loans. Thus, all other Nepal credit and indebt ness were urgent problems, most of the farmers are not able to save anything from their farm incomes and they are perpetually in debt with result that the condition of land cultivated by an average farmer in Nepal stands hardly any chance of improvement. (*Jha, 1978: 1-2*).

One if main problems of Nepalese agriculture are its productivity. One of the main factors responsible for the low productivity are the inadequate supply of various essential inputs, fertilizers, improved varieties of seeds, lack of adequate irrigation facilities insecticides and lack if 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. (*Pant and Jain, 1969: 22*).

Rural banks will largely serve the credit need of small and marginal farmers, artisans and landless laborers. The bank 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*).

Loan disbursement is not development. Defaulters in or non-repayment of loan by borrowers variously described as credit delinquencies or overdue in India. One of major causality was the quality of loan portfolio has been evident from the mounting over dues. The nineties would therefore need, to be a decade devoted for being lent out. Bank deposits are subject to a continuous process of turnover, the banker will not be in a position to meet demands for withdraw of deposits and consequently, will be forced out of business (*Mitra, 1966:239*).

The basic concept development banking is that credit is continuously used as a level of development. It is different from lending against individual applications as and then they come. Development banking assumes anticipations and adoption of plan of action. It calls for initiative and energetic involvement of the bank in developing the potential opportunities of the developed and undeveloped sections or sectors, through selective and strategic input of credit (*Rayudu and Naik, 1991:40*)

Bank Rakyat Indonesia experiences shows that micro lending is an effective way to access enormous, understand market. Banks in developing countries look to expand their lending portfolio, especially in their vast rural markets, BRI offers lessons that some are seeking out. Indeed, BRI's (success may show that offers lessons that micro credit can help maintain a bank's long term stability in times of crisis.) at the height of the Asian crisis, in 1998, BRI's micro lending unit still recorded a pretax profit of \$89 million, while its corporate and rental banking until posted losses of \$3.4 billion. The bank was restructuring the crisis to focus on micro credit and retail banking. Its micro lending branches collect twice as much in deposits as they lend out and transfer the balance to the bank's full service branches at a profitable internal transfer rate. So the micro lending unit is an important source of liquidity for BRI's retail and cooperate banking units. A profit linked pay scheme encourages staff to take responsibly for their branch's performance. "We have low NPL's because there is trust, from the bank, from the community" says Vijay, BRI's micro banking head. "In the village, they are awake:" if I don't use it well, this is a lost opportunity (*Pristay and Cioms, 2003: 36-37*).

2.3 Review of previous Theses

This section attempts to review the previous theses conducted by different researcher during the passage of the time in the subject matter of agriculture developments. This

review of previous studies given below is to justify this researcher's agreement by referencing previous research. One study has been conducted on "Role of Agriculture Development Bank in Nepal" by Santosh Kumar Karki in 2005 with following major objectives.

-) To analyze the achievement under various headings such as loan investment, loan collection, outstanding loan, loan due and repayment rate of loan.
-) To examine the problem and remedies of rural finance.
-) To examine the performance and financial soundness of ADB/N.

His major findings with respect to the analysis were:

-) In the case of borrowers who are able but not interested to pay their due loans. The bank must examine the borrowers' past repayment record and corrective action must be taken immediately.
-) Recovery policy and procedure must be exercised strictly and political interference and pressure must be neglected.
-) The ADB/N should expand branches in the rural parts of the country and finance farmers directly and also through cooperative societies.

Another study made by Uma Nath found on his study "Agriculture Financing in Nepal", institutional agriculture credit facilities help to increase the rate of agriculture development. Therefore adequate credit should be extended to small and medium size farmers by well organized agricultural credit institutions. ADB/N being a single institutionalized credit agency must be able to help the farmers of rural areas in maximum to raise the farm productivity. His major recommendations are as follows.

-) To expand the institutional credit services to the needy farmers in rural areas to save them from the exploitation of money lenders. ADB/N should open branches in rural parts of the country.
-) ADB/N financing is more concentrated especially in the mid region, but this will not fulfill the national goal of regional balance development. So, it needs to be diverted to the less developed areas of the country especially to the western and far western development region.
-) ADB/N is required to formulate such as regarding security that the majority of farmers should get credit facilities and credit must be provided not merely to those with assets but to the community in general.
-) The process of loan disbursement by ADB/N is more complex and lengthy but requires formalities also should not be vague and the borrowing process should be quick as well as simplified.

Rajan Khatri found in his study "A study on effectiveness of investment policy adopted by Agriculture Development Bank". The bank has charged little bit in its lending policy. On a purchase-wise basis it had laid much emphasis on agro-industry, marketing and warehousing. ADB/N loans advanced for cereal and cash crop production have not been in what it should be for increasing their production. His major objectives and recommendations are as follows:-

Objectives:-

-) To show the contribution of ADB/N in the development of the agriculture sector in Nepal.
-) To examine how far ADB/N is effective in allocating funds at different agriculture sectors.
-) To examine the investment policy and its effective application incorporated by ADB/N.

The researcher had mentioned the following recommendations on his study:

-) The interest rate for agricultural sector must be reduced. The commitment and service charges must be reduced because poor farmers can not pay.
-) Equal priorities must be given to all opportunities sector of ADB/N.
-) Main thing is that an unnecessary legal formality has badly affected the ADBI/N. Bank is unable to catch this opportunities due to these formalities. Bank should be free from these formalities. If so, bank able to attract the valuable borrowers.

Maha Prasad found in his study “An evaluation of loan Disbursement and collection of ADB/N”, the economic condition of the farmers as well as farmers who are dealing in agriculture sector are too much poor because of the low productivity of land can be increased by increased by introducing new technology of farming but major of people engaged in this sector are too poor and can't purchase the tools, technology, fertilizer, insecticides and improved seeds. There is more requirement of agricultural credit in agriculture sector. So, the government emphasizes to fulfill financial requirements to borrowers. His major recommendations are as follows.

- a) ADB/N should minimize the variance between targeted loan disbursement and collection.
- b) Mid-western and central development region seem to be poor as compared to the central development region from the view point of flow of agriculture finance in these areas. Hence, Efforts must be given its loan disbursement.
- c) At the time of targeting loan disbursement and collection, the bank must take loan outstanding into consideration.
- d) Poor recovery is the cause of weak supervision, high interest and other charges laid by the bank. Political interference, poor liquidity power of borrowers, Political interference should be neglected and to improve farmer's liquidity, the bank must help to find out the marketing place for the farmers product.
- e) The bank must reduce the interest for lending on agriculture sector. Loan supervision should be continuous each and every office conducted. Supervisor must visit at the lending filed whether the borrower utilize the total loan amount for concerned people. Supervisor must motivate the borrower to utilize the full amount in loan purpose.

Mr. Karki in his theses entitled “A study on Investment and Collection of Loan by ADB/N” explain as poor recovery is the cause of weak supervision, high interest and other charges laid by the bank, political interference and poor liquidity of the borrower. So he further added as recovery policy and procedures must be exercise strictly. Political interference and pressure must be neglected. And the case of borrower who are able but not interest to pay their due loans, the bank examines the borrower past repayment records and corrective action must be taken immediately. In the case on borrower who is really unable to repay their loans, repayment schedule must be-arranged after finding the exact cause of inability.

The development of an economy in fact depends upon the development of the financial institutions to a substantial extend. The mission of such financial institutions in significant not only in mobilizing saving but also in making investment for the development of different sectors of an economy which consequently helps in reducing inequality, raising employment opportunities and minimizing disparity in the wealth and opportunities between richer and poor sections of the society.

Chhabindra Nath found in his study “Analysis of Loan Disbursement of ADB/N of Nepal”, that the role of agriculture in the economic development of Nepal is very important. Agriculture credit is one of the most vital factors for increasing agriculture production. His major recommendations are as follows:

- a) The amount of the banks loan disbursement is largely depending upon the amount of loan repayment in each year. So the bank should encourage to farmers by various policy such as subsidy as loan, interest etc. for the repayment of loan.
- b) The bank should provide the facilities of supervision for the effective utilization of resources.
- c) The ADB/N should help to fulfill the maximum credit gap between small & big farmers.
- d) Small and marginal farmers are facing the problem of improved seeds, fertilizers and pesticides due to their low income and saving so the bank should apply easy loan policy on agriculture.

Above presented review of literature from different sources show the relevancy and enoughness of this research with them. Through clear referencing enable those reading of this research thesis to find the work of the investigator.

CHAPTER-3

RESEARCH METHODOLOGY

3.1 Introduction

A research design is the specification of methods and procedures for acquiring the information needed. It is the overall operational pattern or framework for the project that stipulates what information is to be collected from which source and by what procedures. (Kothari, C.R. 1994). In other words, research methodology refers to the various sequential steps (along with rationale of each step) to be adopted by a researcher in studying a problem with a certain object/objects in a view. It would be appropriate to maintain that research projects are not susceptible to be studied will determine the following steps provide a useful procedural so far as research methodology is concerned. Research in common parlance refers to a search for knowledge. One can also define search of data. On this regard the research design followed for this study is descriptive and analytical.

3.2 Research Design

Research design is the plan, strategy of investigation conceived so as to obtain answer of research question and to control variance or research design is a plan structure and strategy of the investigation so as to obtain and answer to research questions. A research is the arrangement of conditions for collection and analysis of data in a manner that aims to combine relevance to research purpose with economy in procedure. Research design is the main part of any research work the structure of the research should be more specific. It is a line scheme and the design of the operating of variables. Both descriptive and analytical research designs are used in this research study.

3.3 Data Collection Procedures

For this study mainly secondary data are used secondary data are collected from annual report of ADB/N from F/Y 2002/03 to F/Y 2006/07, Journal, and MIS division etc. of ADB/N through regular field visit in ADB/N. Some valuable information is also collected from personnel interaction with managerial level employees of ADB/N.

Primary data are collected from farmers and officials by the help of structural question are through structural interview personnel face to face interview. Focus group

discussion is done to formers of ADB/N to know the impact of politics especially on loan investment collection and outstanding.

Data are collected to draw inference and conclusions for this research. A comprehensive method is followed to get 100% data (i.e. primary and secondary data and both sources). Both quantitative and qualitative techniques are used to find out/ascertain and describe what is happening by asking questions and describe the characteristics of the variables of interest in a situation. Primary raw data are analyzed through qualitative analysis.

3.4 Population and Sample

All of development banks and development institution such as cooperatives, NGOs i.e. Micro finance institutions are considered a population and only ADB/N is taken as a sample for research purpose.

Loan investment and collection data of ADB/N from the data of its establishment is considered as the population of the study. Out of these fly 2002/03 to 2006/07 period is taken as only sample for this research purpose.

ADB/N H/Q, Singha Durbar, loan division of SFDP and microfinance division, loan division and loan collection division's section chief and loan officer are considered as a population for official's survey. Like wise, total Doti districts farmer who take loan from ADB/N are considered the population primary data for farmer's survey. Sample random sampling no tables out of these 14 officials and 50 farmers are taken as sample for primary data.

3.5 Nature and Sources of Data

This research is based on secondary as well as primary data is received from annual report, bank news MIS division, loan division, project planning division, other publication of ADB/N etc.

Like wise, primary data are collected from Doti district's Dipayal Silgadi Nagarpalika's word No.9, 10 and 11 respectively from those who have received loan from ADB/N by the help of scheduled questionnaire. For focus group discussion on "Current political insurgency and instability impact to ADB/N and farmer's with special reference to loan investment, collection and outstanding" is done with those farmers.

3.6 Statistical Tools of Analysis

Financial and statistical analysis/procedure is used in this research to see current trend of loan investment and collection and to process raw data and analysis the relationship. Karl Pearson's coefficient of correlation, percentage F- test and t-test are used to find out ADB/N'S loan investment and collection such as purpose wise, term wise and development region wise is different or not, whether is it increasing or decreasing trend and to see what type of relationship exist among these various and to draw in references studied by the help of statistical methods / tools.

3.6.1 Statistical Tools

1) Karl Pearson's Coefficient of Correlation: The relationship between (i.e. one dependent and one independent) variable is called simple correlation. The most important method of measuring the correlation between two variables is "Karl Pearson's Co-efficient of correlations". This method of measuring correlation is also called 'Pearsonian Co-efficient of correlation. This is the mathematical method of measuring the degree association between two variables.

The formulae for calculating simple correlation coefficient (i.e. r) by Karl Pearson's method are:

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

Where, r = co-efficient of correlation.

$$n = (\sum x - \bar{x})$$

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

x = independent variable.

Y= dependent variable

Significance:-

If r = -1 (Perfect negative)

r = 0 (Perfect independence)

r = +1 (Perfect positive)

2. T-test: Statistic is used for the test of significance of each correlation co-efficient.

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

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 significant, otherwise insignificant.

3. 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

(H₀): $\sim X_3$ $X \sim X_2$ $X \sim X_3$ $X \sim X_4$ $X \sim X_5$ (There is no significant difference of loan investment of ADB/N among the development regions)

(H_A): $\sim X_1$ | $\sim X_2$ | $\sim X_3$ | $\sim X_4$ | $\sim X_5$ (There is significant difference loan investment of ADB/N among the development region)

b) Hypothesis Second

(H₀): $\sim X_1 X \sim X_2 X \sim X_3 X \sim X_4 X \sim X_5$ (There is no significant difference of loan outstanding of ADB/N among the development regions)

(H_A): $\sim X_1 | \sim X_2 | \sim X_3 | \sim X_4 | \sim X_5$ (There is significant difference loan outstanding of ADB/N among the development region)

c) Hypothesis Third

(H₀): $\sim X_1 X \sim X_2 X \sim X_3 X \sim X_4 X \sim X_5$ (There is no significant difference of loan collection of ADB/N among the development regions)

(H_A): $\sim X_1 | \sim X_2 | \sim X_3 | \sim X_4 | \sim X_5$ (There is significant difference loan collection of ADB/N among the development region)

d) Hypothesis Fourth

(H₀): $\sim X_1 X \sim X_2$ (There is no significant difference between the mean ratios of targeted loan investment and actual loan investment)

(H_A): $\sim X_1 | \sim X_2$ (There is significant difference between the mean ratios of targeted loan investment and actual loan investment)

e) Hypothesis Fifth

(H₀): $\sim X_1 X \sim X_2$ (There is no significant difference between the mean ratios of targeted loan collection and actual loan collection)

(H_A): $\sim X_1 | \sim X_2$ (There is significant difference between the mean ratios of targeted loan collection and actual loan collection)

The reason is conducted without the periphery of this research methodology which is the crucial part of this research to find out finding of the study.

CHAPTER-IV

PRESENTATION AND ANALYSIS OF DATA

4.1 Introduction

Data presentation is the organization and classification of the data of loan investment and collection for analysis. Organization and processing of data include editing, coding, classification and tabulation of raw data. Tabulation is the process of transferring classified data from data gathering tools to the tabular form in which they may be/are 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 loan investment and collection is to change it from an unprocessed form to an understandable presentation. The analysis of data consists of organizing, tabulating, performing statistical analysis and drawing inferences about ADB/N. Data is analyzed by using proper statistical tools such as correlation coefficient, t-test and F-test to find answer of research questions or to fulfill the objectives of this research. To test the significant/insignificant of correlation coefficient t-test is used. In the basis of several data regarding ADB/N's loan investment and collection, it focuses to present an overall investment/collection situation of the loan granted by ADB/N to different purposes of an agricultural development in Nepal. In this research, it is also tried to study and know some possible causes of non and delayed repayment of loan by farmers, whether the loan investment is in increasing or decreasing trend, whether ADB/N's loan investment, outstanding and collection of loan or different purposes is different or not in five development regions and problems and prospects of ADB/N by analyzing secondary as well as primary data within the whole periphery of this chapter.

4.2 Targeted loan investment and collection

Planning and project department of ADB/N determines targeted loan investment and collection for each and every year. This is basic standard to flow agricultural credit and to collect such granted agricultural credit.

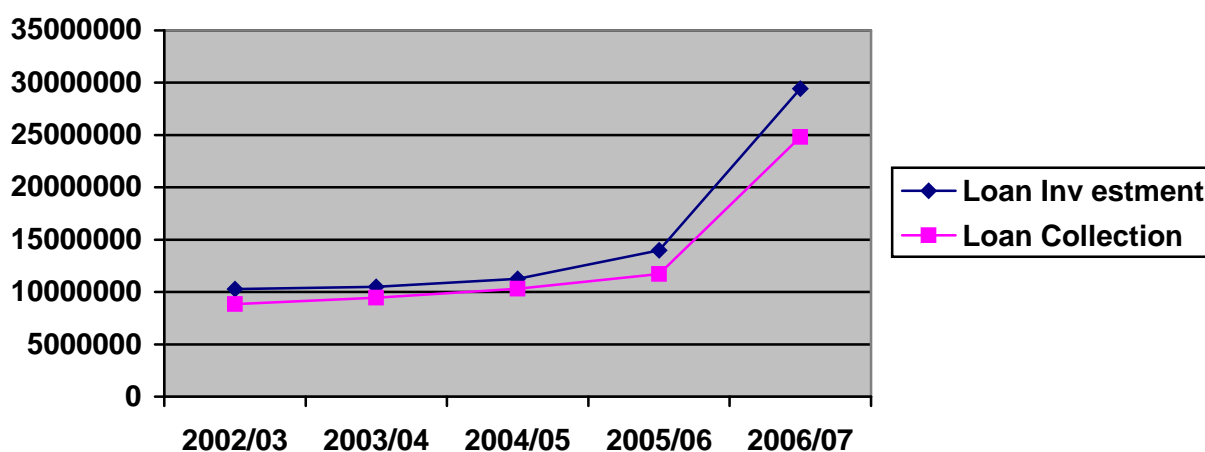
Table 4.1
Targeted Loan Investment & Collection

Rs in '000'

F/Y	Loan Investment			Loan Collection			percent of Collection to Investment
	Amount	Index	Growth Rate percent	Amount	Index	Growth Rate percent	
2002/03	10290000	100	-	8830000	100	-	85.81
2003/04	10500000	102.04	2.04	9460000	107.13	7.13	90.10
2004/05	11270000	109.37	7.33	10310000	116.12	8.98	91.48
2005/06	13980000	133.42	24.05	11720000	129.79	13.68	83.83
2006/07	29440000	244.01	110.59	24810000	241.48	111.69	84.27

Source: ADB/N annual program and budget from F/Y 2002/03 to 2005/06.

Figure 4.1
Line diagram of targeted loan investment & collection



In Table 4.1, it is found that targeted loan investment is increasing in every year. The lowest target loan investment amount is Rs 10,290,000 thousand in the F/Y 2002/03 and the highest targeted loan investment amount is Rs 29,440,000 thousands. The growth rate in the loan

investment is also in increasing trend with highest positive growth rate of 110.59 percent in F/Y 2006/07. Like loan investment amount, the targeted loan collection amount is increased each year. The minimum target loan collection amount is Rs 8830000 thousands in F/Y 2002/03 where as the highest targeted loan collection amount is Rs 24810000 thousand in F/Y 2006/07. The growth rate in collection ranges from 7.13 percent to 111.69 percent representing to F/Y 2002/03 and 2006/07 respectively.

Although the increase in targeted loan investment and collection amount in every year but there is fluctuating trend in percentage of collection to target loan investment. It is increasing up to F/Y 2002/03 to 2004/05 at increasing rate, than it is decreased and increased at decreasing rate thereafter. It may be the causes of violence and political instability in the country. The highest loan collection in investment is 91.48 percent in F/Y 2004/05 and lowest is 83.88 percent in F/Y 2005/06.

The co-efficient of correlation value calculated between targeted loan investment and collection is +0.99, which has been shown in appendix-v. Coefficient of determination of $r^2 = 0.98$ indicated that 98 percent of total variation is dependent variable (Y) i.e. targeted loan collection explained by the independent variable (X) i.e. targeted loan investment.

The tabulated critical value of t at 5 percent level of significance for two tailed test at 3 degree of freedom is 3.182, which is less than calculated value of $t^* = 12.19$. This poses that there is significant relationship between targeted loan investment & collection i.e. increase in investment also come to increase in collection and vice-versa. So, collection of loan also play positive role in the success of Bank.

4.3 Actual Loan Investment and Collection

The Actual loan investment and collection of ADB/N during the study period has been presented in Table 4.2.

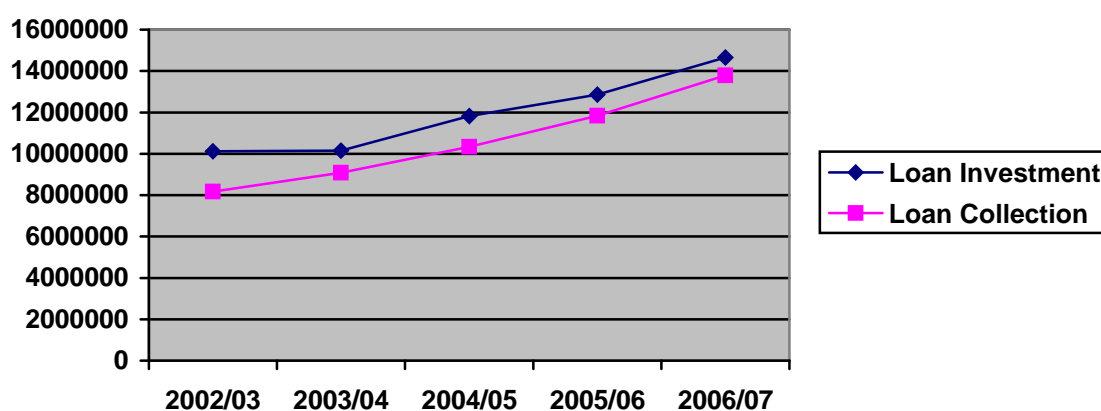
Table 4.2
Actual Loan Investment and Collection

Rs in '000'

F/Y	Loan Investment			Loan Collection			percent of Collection to Investment
	Amount	Index	Growth Rate percent	Amount	Index	Growth Rate percent	
2002/03	10115271	100	-	8173332	100	-	80.80
2003/04	10148569	100.33	0.33	9077415	111.06	11.06	89.45
2004/05	11817057	116.77	16.44	10330873	124.87	13.81	87.42
2005/06	12855543	125.56	8.79	11841604	139.49	14.62	92.11
2006/07	14650200	139.52	13.96	13788900	155.93	16.44	94.12

Source: ADB/N annual program and budget from F/Y 2002/03 to 2005/06.

Figure 4.2
Line diagram of actual loan investment & collection



According to Table 4.2 unlike the projected loan investment amount the actual loan amount is found different. It is increased at increasing rate in first two years then it is increased at decreasing rate. It is because the high interest rate fixed by ADB/N on agricultural loan and political instability in the country. From F/Y 2003/04 to F/Y 2004/05, the actual loan investment is increased by the growth rate of 16.44 percent where as from 2004/05 to 2005/06 the growth rate on actual loan investment is very low i.e. 8.79 percent. The highest growth rate on actual loan investment is 16.44 percent which belongs to F/Y 2004/05 & lowest growth is 0.33 percent which is corresponding to F/Y 2003/04.

In the same way of loan investment, the actual loan collection is also increased each year. It is increasing trend from F/Y 2002/03 to F/Y 2006/07. This indicates that the bank emphasized equally on loan collection as well as loan investment. The minimum loan collection amount is Rs 8173332 thousands in F/Y 2002/03 and the maximum collection amount is Rs 13788900 thousand which belongs to F/Y 2006/07. The maximum positive growth rate on collection in F/Y 2006/07 is 16.44 percent.

Despite of positive growth in both loan investment and collection, percentage of collection to investment is increased first two years and then it is decreased in F/Y 2004/05 i.e. 87.42 percent which is due to political instability. The maximum and minimum percent of collection to investment are 94.12 percent and 80.80 percent belongs to 2006/07 and 2002/03 respectively.

The co-efficient of correlation value calculated between actual loan investment and collection is +1.03, which has been shown in appendix VI. Co-efficient of determination $r^2 = 0.0609$ indicated that all 100 percent of the total variation in dependent variable (Y) is explained by independent variable (X). The tabulated critical value of t at 5 percent level of significance for two tailed test at 3 degree of freedom is 3.182, which is less than the calculated value if $t^* 7.23$. This indicates that there is significant or shows significant relationship between targeted loan investment and collection i.e. increase in investment also come to fully increase in collection.

4.4 Actual Loan Outstanding and Collection

ADB/N collects loan amount regularly but its outstanding is increasing day-by-day because of market out reach as well as over due loan.

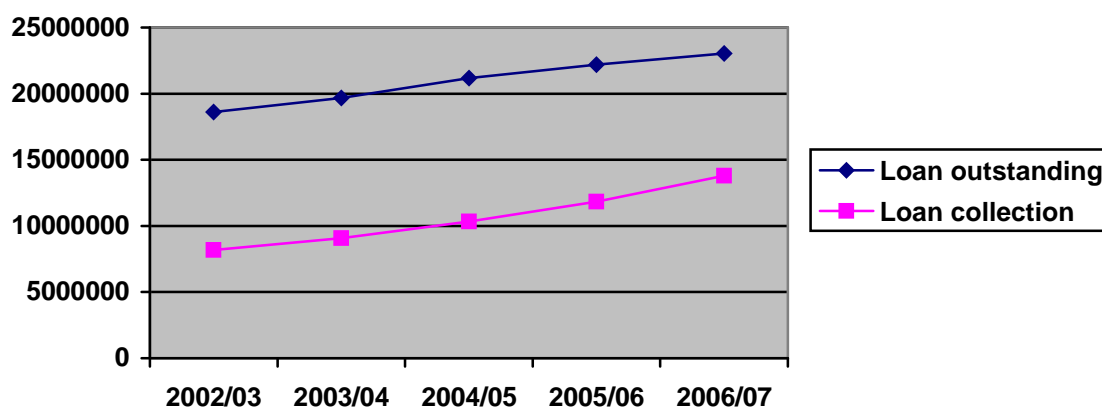
Table 4.3
Actual Loan Outstanding and Collection

In Rs '000'

F/Y	Loan Investment			Loan Collection			percent of Collection to Investment
	Amount	Index	Growth Rate percent	Amount	Index	Growth Rate percent	
2002/03	18615675	100	-	8173332	100	-	43.91
2003/04	19686829	105.75	5.75	9077415	111.06	11.06	46.11
2004/05	21173013	113.30	7.55	10330873	124.87	13.81	48.79
2005/06	22186952	118.09	4.79	11841604	138.49	14.62	53.37
2006/07	23048252	121.97	3.88	13788900	155.93	16.44	59.83

Source: ADB/N Accounting Division

Figure 4.3
Actual Loan Outstanding and Collection



By following the Table 4.3 we found that Loan Outstanding amount is increased each and every year. The minimum loan outstanding amount is Rs 18615675 thousand in F/Y 2002/03 and the maximum loan outstanding amount is Rs 23048252 in F/Y 2006/07. But we can see that despite of regularly collection of loan by ADB/N, its outstanding is increasing day-by-

day because of market out reach and as well as over due loan. The amount of loan collection is increased in each year up to F/Y 2006/07. The highest growth rate on collection of loan is 16.44 percent in F/Y 2006/07 and lowest is 11.06 percent in F/Y 2002/03.

The percentage of actual loan collection to outstanding is increasing trend but in a slow rate. The lowest percent of actual loan collection to outstanding is 43.91 percent in F/Y 2002/03 whereas in F/Y 2006/07 it is 59.83 percent. It is better for bank (ADB/N) to be loan outstanding in a decreasing trend but the decreasing percentage is very low. ADB/N has to reduce loan outstanding up to certain level.

The coefficient of correlation value calculated between loan outstanding and collection is +0.99, which has been shown in appendix-VII, which is highly positively correlated. Co-efficient of determination $r^2=0.98$ of the total variation is actual loan collection is explained by the actual collection actual loan outstanding. The tabulated critical value of t at 5 percent level of significance for two tailed test at 3 degree of freedom is 3.182, which is less than the calculated value of $t^*=12.09$. Therefore, the co-efficient of correlation is significant or shows significant relationship between actual loan outstanding and collection.

4.5.1 Achievement of Purpose wise Loan Investment, Outstanding and Collection

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

1. Cereal and cash production loan
2. Marketing
3. Agri-tools and irrigation
4. Livestock
5. Agro and cottage industry
6. Bio-gas and power development
7. Housing and loan development
8. Horticulture
9. Go-down and cold storage
10. Tourism and non agricultural credit
11. Tea and coffee

4.5.2 Actual Loan Investment, Outstanding and Collection of Cereal and Cash Crop Production Purpose

ADB/N grants cereal and cash crop production loan on such as rice, wheat, millet, maize, sugarcane, potatoes, almond, mustard, etc. to farmers.

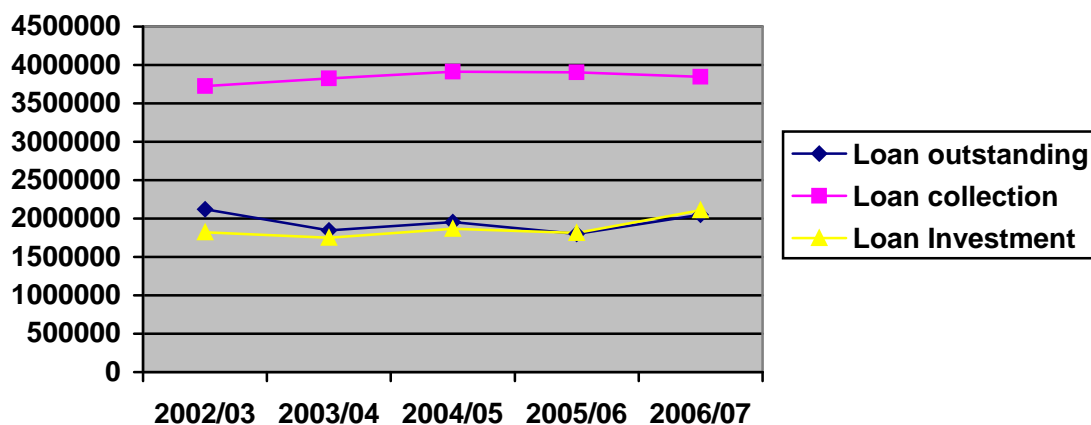
Table 4.4
Actual loan investment, outstanding and collection of cereal and cash crop

(Rs in '000)

F/Y	Loan investment			Loan outstanding			Loan collection			percent of collection	
	Amount	Index	Growth Rate percent	Amount	Index	Growth Rate percent	Amount	Index	Growth Rate percent	To loan investment	To loan outstanding
2002/03	2121509	100	-	3726689	100	-	1819676	100	-	85.77	48.83
2003/04	1845621	87	-13	3823565	102.60	2.60	1748745	96.10	-3.90	94.75	45.74
2004/05	1956143	93	5.99	3913996	104.97	2.37	1865712	102.79	6.69	95.38	47.67
2005/06	1799488	85	-8	3902936	104.69	-0.28	1810548	99.83	-2.96	100.61	46.39
2006/07	2050699	98.96	13.96	3845351.6	103.21	-1.47	2108284	116.27	16.44	102.81	54.83

Source: - ADB/N accounting division

Figure 4.4
Actual loan investment, outstanding and collection of cereal and cash crop



In Table 4.4, we found that loan investment of ADB/N is cereal and cash crops are in fluctuating trend. As comparing to investment of F/Y 2002/03, it is decreasing each year up to F/Y 2006/06. The minimum loan investment amount of is Rs 1799488 thousand whereas the highest is Rs 2121509 in F/Y 2002/03. the cause behind the decreased in loan investment amount may be the growth rate of financial institution in Nepal and high growth rate charged by ADB/N for cereal and cash crop purpose. We can also see in the table that the highest growth rate on loan investment is only 13.96 percent in F/Y 2006/07.

Like Loan investment amount, loan outstanding amount is in also fluctuating trend. It is increased up to F/Y 2004/05 and then starts decline at increasing rate. In F/Y 2002/03 the amount of loan outstanding was Rs 3726689 thousands but in F/Y 2006/07 it becomes Rs 3845351.68 thousand. It is due to collection of over due loan of previous years

Actual loan collection amount is in also fluctuating trend. The minimum growth rate on actual loan collection is 6.69 percent in 2004/05 where the highest growth rate is 16.44 percent in F/Y 2006/07. The minimum loan collection amount is Rs 1748745 thousands in F/Y 2003/04 and the highest amount is Rs 2108284 thousands in F/Y 2006/07. The fluctuating in loan collection amount is due to misuse of loan by farmers and lack of market for agricultural product.

The percentage of loan collection for cereal and cash crop purpose are 85.77 percent, 94.75 percent, 95.38 percent, 100.61 percent and 102.81 percent from F/Y 2002/03 to 2006/07 respectively. The lowest percentage of collection to investment is 85.77 percent in 2002/03 and highest percent of collection to investment is 102.81 percent in F/Y 2006/07.

The percentage of loan collection to loan outstanding is 48.83 percent, 45.74 percent, 47.67 percent, 46.39 percent and 54.83 percent from F/Y 2002/03 to 2006/07 respectively. The lowest percentage of collection to outstanding is 45.74 percent in F/Y 2003/04 and highest percentage of collection to outstanding is 54.83 percent in F/Y 2006/07.

The co-efficient of correlation value calculated between loan investment and collection is +0.49, which has been shown in appendix-VIII. Co-efficient of determination (i.e. $r^2 = 0.24$) indicates that 24 percent of total variation in loan collection of cereal and cash crop purpose is explained by the loan investment of cereal and cash crop. The tabulated critical value of t at 5 percent level of significance for two tailed test at 3 degree of freedom is 3.182, which is greater than calculated value of $t^*0.9739$. Therefore the coefficient of correlation shows insignificant relationship between loan investment and collection. It means increase/decrease in loan investment comes to decrease /increase in collection amount.

The co-efficient of correlation value calculated between loan outstanding and collection is +0.12 (see appendix IX), which is positively correlated but not highly. Co-efficient of determination (i.e. $r^2 = 0.0144$) indicates that 1.44 percent of total variation in loan collection of cereal and cash crop purpose is explained by the loan investment of cereal and cash crop X. The tabulated critical value of t at 5 percent level of significance for two tailed test at 3 degree of freedom is 3.182, which is greater than calculated value of $t^*0.2094$. It means increase/decrease in loan outstanding comes out decrease/increase in loan collection amount.

4.5.2 Actual Loan Investment, Outstanding and Collection of Marketing Purpose

Agriculture credit is granted on marketing purpose to buy and sell agriculture goods such as chemical, fertilizer, improved seeds, pesticides, rice, millet, potato, mustard etc for one year period.

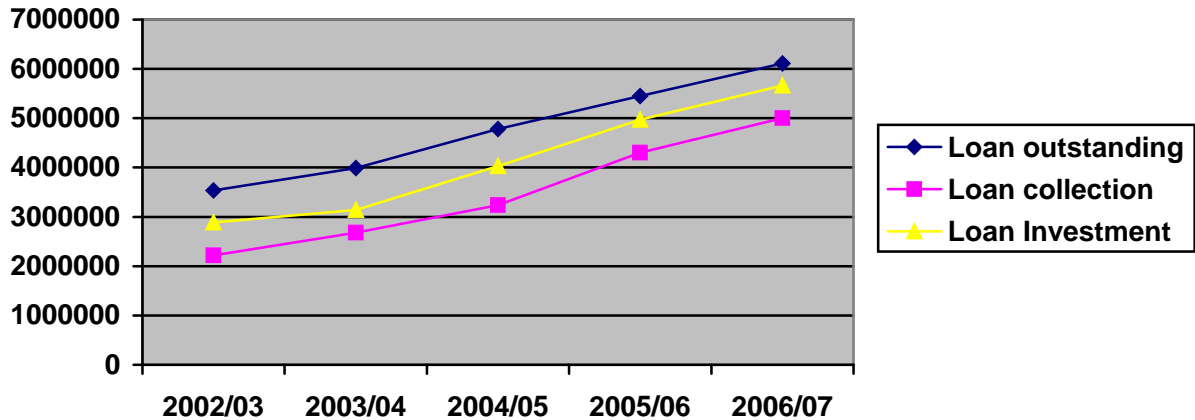
Table 4.5**Actual loan investment, outstanding and collection of marketing***(Rs in '000)*

F/Y	Loan investment			Loan outstanding			Loan collection			percent of collection	
	Amount	Index	Growth Rate percent	Amount	Index	Growth Rate percent	Amount	Index	Growth Rate percent	Total Investment	To loan outstanding
2002/03	2889373	100	-	3533371	100	-	2218121	100	-	76.77	62.78
2003/04	3139002	108.64	8.64	3991532	112.97	12.97	2680841	120.86	20.86	85.40	67.16
2004/05	4026215	136.90	28.26	4779619	132.71	19.74	3238128	141.65	20.79	80.43	67.75
2005/06	4970247	160.35	23.45	5451825	146.77	14.06	4298041	174.38	32.73	86.48	78.84
2006/07	5664102	174.31	13.96	6111093 .852	158.86	12.09	5004834	190.82	16.44	88.36	81.90

Source: - ADB/N accounting division

Figure 4.5

Actual loan investment, outstanding and collection of marketing



In above table, the loan investment amount on marketing purpose is found increasing in every year. The minimum loan investment amount is Rs 2889373 thousands in F/Y 2002/03 and the highest loan amount is Rs 5664102 in F/Y 2006/07. The loan investment amount is increased at increasing rate each year throughout F/Y 2002/03 to 2006/07 because the farmers are more attractive to use modern technologies in agriculture i.e. quality fertilizer, chemicals improved seeds etc. The growth rate on loan investment amount for marketing purpose is 8.64 percent, 28.26 percent, 23.45 percent and 13.96 percent from F/Y 2002/03 to F/Y 2006/07 respectively.

Like, loan outstanding amount, the loan outstanding amount is also in increasing trend. It is due to market outreach and over due loan of previous year. The positive growth rates on loan outstanding amounts are 12.97 percent, 19.74 percent, 14.06 percent and 12.09 percent from F/Y 2002/03 to 2006/07. The lowest loan outstanding amount is Rs 35533371 thousand in F/Y 2002/03 and Rs 6111093.852 thousand as highest in F/Y 2006/07.

In the same way of loan investment and loan outstanding, the loan collection amount is increasing trend each year. It is in increasing trend from F/Y 2002/03 to 2006/07. It means that the ADB/N is more committed to achieve target loan collection. In another way it may be due to that modern technologies is beneficial for farmer. The minimum loan collection amount is Rs 2218121 thousands in F/Y 2002/03 and maximum is Rs 5004834 thousands is F/Y 2006/07. The lowest growth rate is loan collection for marketing purpose is 16.44 percent in F/Y 2006/07 and the highest is 20.79 percent in F/Y 2004/05.

The percentage of loan collection to loan investment is also in increasing trend except F/Y 2004/05. It may be the market outreach. The lowest percentage of loan collection to loan investment is 76.77 percent in F/Y 2002/03 and the highest is 88.36 percent in F/Y 2006/07

Likewise the percentage of loan collection to loan outstanding is 52.78 percent, 67.16 percent, 67.75 percent, 78.84 percent and 81.90 percent from the F/Y 2002/03 to 2006/07 respectively, It is also in increasing trend cause that over due loan of previous year. Where the lowest is 62.78 percent in F/Y 2002/03 and highest is 81.30 percent in F/Y 2006/07.

The co-efficient of correlation value calculated between investment and collection is +0.99 (see appendix X), which is highly positively. Co-efficient of determination (i.e. $r^2 = 0.98$) indicates that 98 percent of total variation in loan collection of marketing Y is explained by the loan investment of marketing purpose X. The tabulated critical value of t at 5 percent level of significance for two tailed test at 3 degree of freedom is 3.182, which is less than calculated value of $t^*12.19$. Therefore the coefficient of correlation shows significant relationship between loan investment and collection. It means that increased/decrease in loan investment comes out increase/decrease in loan collection also.

The co-efficient of correlation value calculated between loan outstanding and collection is +0.99 (see appendix XI), which is highly positively correlated. Co-efficient of determination (i.e. $r^2 = 0.98$) indicates that 98 percent of total variation in loan collection of marketing Y is explained by the loan investment of marketing purpose X. The tabulated critical value of t at 5 percent level of significance for two tailed test at 3 degree of freedom is 3.182, which is less than calculated value of $t^*12.19$. Therefore the coefficient of correlation is significant or shows significant relationship between loan outstanding and collection of marketing purpose. It means that increase/decrease in Loan outstanding results also increase/decrease in Loan collection.

4.5.3 Actual Loan Investment Outstanding and Collection of Agri-Tools and Irrigation Purpose

Loan is granted in agri-tools and irrigation purpose such as tractor, farm machine, pump-set, boring etc to increase productivity of farming which helps to achieve the objectives of balanced production of growth.

Table 4.6

Actual loan investment, outstanding and collection of agri-tools and irrigation

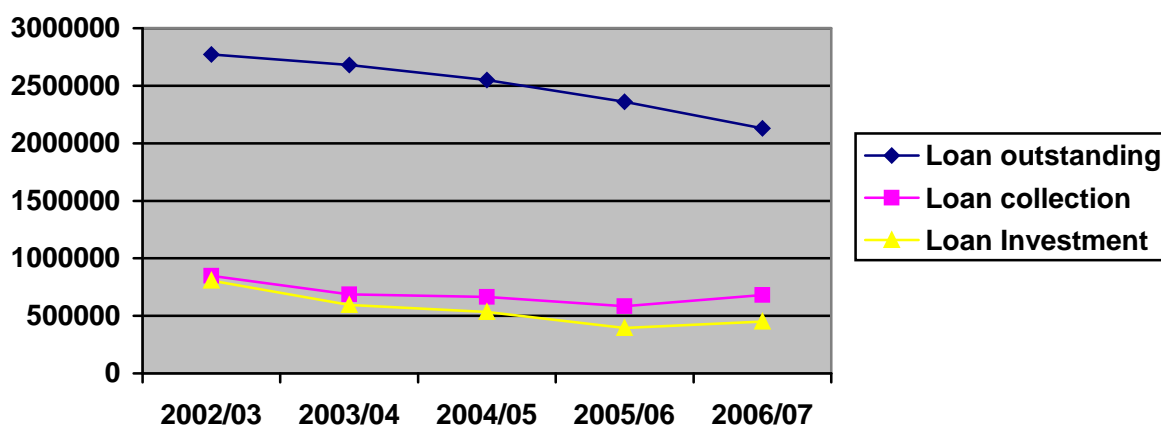
(Rs in '000)

F/Y	Loan investment			Loan outstanding			Loan collection			percent of collection	
	Amount	Index	Growth Rate percent	Amount	Index	Growth Rate percent	Amount	Index	Growth Rate percent	To loan investment	To loan outstanding
2002/03	806600	100	-	2772365	100	-	846706	100	-	104.97	30.55
2003/04	594741	73.73	-26.27	2680896	96.70	-3.30	686210	81.04	-18.96	115.38	25.60
2004/05	535122	63.71	-10.02	2550883	91.85	-4.85	665135	77.97	-3.07	124.30	26.07
2005/06	395758	37.67	-26.04	2361492	84.43	-7.42	585149	65.94	-13.03	147.86	24.78
2006/07	451006	51.63	13.96	2131124	74.67	-9.76	681374	82.38	16.44	151.08	31.97

Source: - accounting and planning division

Figure 4.6

Actual loan investment, outstanding and collection of agri-tools and irrigation



The loan investment amount in agri-tools and irrigation is decreased in each year frequently except 2006/07. The maximum amount of loan granted under in this topic is Rs 806600 thousands where as the minimum amount of loan is Rs 395758 thousand. It is due to highest interest charged by bank, increase in no. of financial institution and geo-geographical difficulties. The lowest growth rate (negative) is -10.02percent in F/Y 2004/05 and the highest growth rate is 13.96 percent in F/Y 2006/07.

Total loan outstanding amount is also decreased every year. The lowest loan outstanding amount is Rs 2131124.53 thousands in F/Y 2006/07 and the highest is Rs 27772365 in F/Y 2002/03. The growth rate on actual loan outstanding is -3.30 percent, -4.85 percent where lowest is -9.76 percent in F/Y 2006/07 and highest negative growth is -3.30 percent in F/Y 2003/04.

Likewise, loan investment amount the loan outstanding amount is also decreased each year. It is in decreasing trend because of smoothly collection of previous due loan by ADB/N. The negative growths loan outstanding amounts from 2003/04 to 2006/07 are -3.30 percent, -4.85 percent, -7.42 percent and -9.76 percent respectively. The lowest amount of loan outstanding was Rs 2772365 thousands in F/Y 2002/03 but now it is Rs 2131124 thousands (decreasing by 23.13percent).

Loan collection amount in agri-tools and irrigation purpose is in decreasing trend up to F/Y 2005/06 and moves in increasing trend thereafter. It is due to political stress and misuse of loan by farmers as well as increase in previous due loan also. The maximum amount of loan collection under this purpose is Rs 585149 thousand in F/Y 2005/06 whereas the maximum amount of collection is Rs 846706 thousands in F/Y 2002/03. The growth rates on collection are -18.96 percent, -3.07 percent, -13.03 and 16.44 percent respectively from 2003/04 to 2006/07.

The percentage of loan collection to investment is 104.97 percent, 115.38 percent, 124.30 percent, 147.86 percent and 151.08 percent from F/Y 2002/03 to 2006/07 respectively whereas lowest growth rate is 104.97 percent in F/Y 2002/03 and highest is 151.08 percent in F/Y 2006/07.

Likewise, The percentage of loan collection to loan outstanding amount is 30.55 percent, 25.60 percent, 26.07 percent, 24.78 percent and 31.97 percent from F/Y 2002/03 to 2006/07 respectively where the lowest percentage of loan collection to loan outstanding amount is 24.78 percent in F/Y 2005/06 respectively where the lowest percentage of loan collection to loan outstanding amount is 24.78 percent in F/Y 2005/06 and highest is 31.97 percent in F/Y 2006/07.

The coefficient of correlation value calculated between loan investment and collection is +1.10 (see appendix XII) which is perfectly positively correlated. Co-efficient of determination (i.e. 1.21percent) indicates that 1.21 percent of total variation in loan collection of agri-tools and irrigation purpose (y) is explained by the loan investment of agri-tools and irrigation purpose (X). The tabulated critical value of t at 5 percent level of significance R or two tailed test at 3 degree of freedom is 3.182, which is less than the calculated value $t^*4.1572$. Therefore the co-efficient of correlation is significant or shows the significant relationship between loan investment and collection of agri-tools and irrigation purpose. It means increase/decrease in loan investment amount brings also increase/decrease in loan outstanding amount.

Likewise, the coefficient of correlation value calculated between loan outstanding and collection is +0.60 (Positively correlated) which has been shown in appendix-XIII. Co-efficient of determination (i.e. $r^2 = 0.36$) indicates that 36 percent pf the total variation in loan collection of agri-tools and irrigation purpose Y is explained by the loan outstanding of agri-tools and irrigation purpose X. the tabulated critical value of t at 5 percent level of significance for two tailed test at 3 degree of freedom is 3.182 which is greater than the calculated value of $t^* 1.30$. Therefore, co-efficient of correlation is insignificant or shows insignificant relationship between loan outstanding and collection of agri-tools and irrigation purpose. It means increase/decrease in loan outstanding amounts occurs decrease/increase in collection amount.

4.5.4 Actual loan investment, outstanding and collection of live stock purpose

Most of the Nepalese farmers have less than one hectors of land. ADB/N grants loan in livestock purpose such as poultry farming, fisheries sericulture, beekeeping, buffalos and goat keeping etc to farmers who don't have land as well as land. Livestock loan is provided short-term as well as medium.

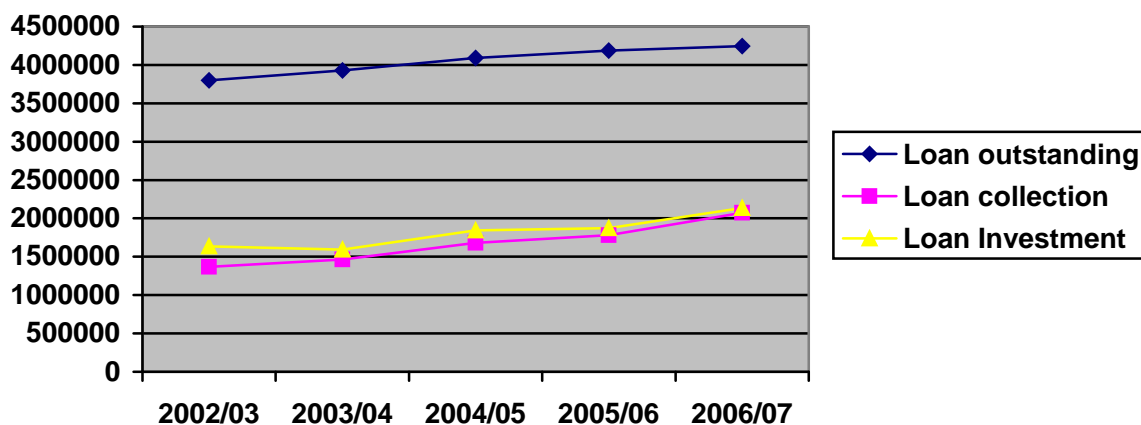
Table 4.7**Actual investment, outstanding and collection of livestock***(Rs in '000)*

F/Y	Loan investment			Loan outstanding			Loan collection			percent of collection	
	Amount	Index	Growth Rate percent	Amount	Index	Growth Rate percent	Amount	Index	Growth Rate percent	To loan investment	To loan outstanding
2002/0	1634038	100	-	3798031	100	-	1367918	100	-	83.72	36.01
2003/0	1594604	97.59	-2.41	3929584	103.46	3.46	146305	106.9	6.95	91.75	37.23
2004/0	1842769	113.15	15.56	4092586	107.61	4.15	167976	121.7	14.81	91.15	41.04
2005/0	1872723	114.78	1.63	4185559	109.88	2.27	177975	127.7	5.95	95.04	42.52
2006/0	2134159	128.74	13.96	4247296	111.36	1.48	207242	144.1	16.44	97.11	48.79

Source: accounting and planning division

Figure 4.7

Actual investment, outstanding and collection of livestock



In Table 4.7, the loan investment amount for livestock purpose is in increased trend except in F/Y 2003/04. In F/Y 2003/04, the loan investment amount is decreased by 2.41 percent. The maximum amount of loan granted under this purpose is Rs 2134159 thousand & in F/Y 2006/07 and lowest amount granted is Rs 1594604 thousands in F/Y 2003/04. The growth rates on loan investment amount from 2002/03 to 2006/07 are -2.41 percent, 15.16 percent, 1.63 percent and 13.96 percent respectively where the highest growth in loan investment is 13.96 percent and lowest growth is 1.63 percent in F/Y 2005/06. The cause behind the increasing trend of loan investment amount for livestock purpose is suitable environment of investment peace and political stability in country.

The loan outstanding amount is increased each year but the nature of increasing pace is different in each fiscal year. Loan outstanding amount is increased in increasing rate up to F/Y 2004/05 but latest 2 fiscal year loan outstanding amount is increased at decreasing rate. For example, in F/Y 2004/05 the growth rate on loan outstanding was 4.15 percent but it is only 1.48 percent in F/Y 2006/07. From bank side, decrease in loan outstanding amount is indicates that the bank becomes success in collection of previous due loan amount. The maximum loan outstanding amount is Rs 4247296.40 thousands in F/Y 2006/07 and lowest is Rs 3798031 thousands in F/Y 2002/03.

The loan collection amount in livestock purpose is also in increasing trend because the bank is success in collection of loan according to targeted loan collection as well as able to collect

previous loan outstanding amount. The minimum loan collection amount in livestock purpose is Rs 1367918 thousands in F/Y 2002/03 and the highest loan collection is Rs 2007422 thousands in F/Y 2006/07. The growth rate on collection is 6.95 percent, 14.81 percent, 5.95 percent and 16.44 percent from 2003/04 to 2006/07 respectively. In which the highest growth rate on collection is 16.44 percent in F/Y 2006/07 and lowest growth is 5.95 percent in F/Y 2005/06

The percentage of loan collection to investment is 83.72 percent, 91.75 percent, 91.15 percent, 95.04 percent and 97.11 percent from F/Y 2002/03 to F/Y 2006/07 respectively. The highest percentage of loan collection to investment is 97.11 percent in F/Y 2006/07 and lowest is 83.72 percent in F/Y 2002/03.

Likewise, the percentage of loan collection to outstanding is 36.01 percent, 37.23 percent, 41.04 percent, 42.52 percent and 48.79 percent from F/Y 2002/03 to F/Y 2006/07 respectively. The highest percentage of loan collection to outstanding is 48.79 percent in F/Y 2006/07 and lowest is 36.01 percent in F/Y 2004/05.

The co-efficient of correlation value calculated between loan investment and collection is +0.98 (see appendix XIV), which is highly positively correlated. Co-efficient of determination (i.e. $r^2 = 0.96$) indicates that 96 percent of total variation in loan collection of livestock purpose Y is explained by the loan investment of livestock purpose X. The tabulated value of t at 5 percent level of significance for two tailed test at 3 degree of freedom is 3.192 which is less than the calculated value of $t^* 8.53$. Therefore, the coefficient of correlation is significant. It means increase/decrease in loan investment amount brings increase/decrease in collection amount in the same way.

Likewise, coefficient of correlation value calculated between loan outstanding and collection is +0.95 (see appendix XV), which is highly positively correlated. Coefficient of determination (i.e. $r^2 = 0.90$) indicates 90 percent of the total variation in loan collection of livestock purpose Y explained by the loan outstanding of livestock purpose X. The tabulated critical value at 5 percent level of significance for two tailed test at 3 degree of freedom is 3.182, which is less than the calculated value of $t^* 5.27$. Therefore, the coefficient of correlation is significant or shows significant relationship between outstanding and collection

of livestock purpose. It means increase/decrease in loan outstanding amount brings increase/decrease in collection amount also.

4.5.5 Actual Loan Investment, Outstanding and Collection of Agro and Cottage Industry Purpose

ADB/N grants, credit on agro and cottage, industry purpose such as processing industry i.e. mills, clay production etc for short term as well as medium term.

Table 4.8

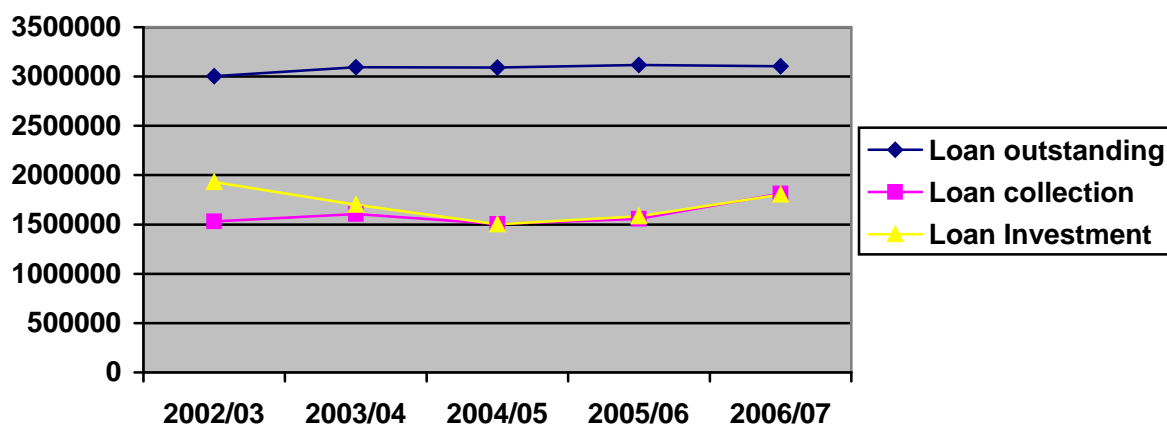
Actual loan investment, outstanding and collection of agro and cottage industry

Rs in "000"

F/Y	Loan investment			Loan outstanding			Loan collection			percent of collection	
	Amount	Index	Growth Rate percent	Amount	Index	Growth Rate percent	Amount	Index	Growth Rate percent	To loan investment	To loan outstanding
2002/03	1929612	100	-	3002434	100	-	1531321	100	-	79.35	51percent
2003/04	1698831	88.04	-11.96	3095088	103.09	3.09	1606177	104.89	4.89	94.55	51.89
2004/05	1500261	76.35	-11.69	3091187	102.96	-0.126	1504162	98.54	-6.35	100.26	48.66
2005/06	1581416	81.76	5.41	3116021	103.76	0.80	1556582	102.02	3.48	98.43	49.95
2006/07	1802185	95.72	13.96	3105650	103.43	-0.33	1812555	118.46	16.44	100.58	58.36

Figure 4.8

Actual loan investment, outstanding and collection of agro and cottage industry



In Table 4.8, the loan investment amount granted for cottage and industry purpose is in fluctuating trend. After F/Y 2002/03, first two years it is decreased by 11.96 percent and 11.69 percent respectively in F/Y 2003/04 and 2004/05. It is due to that biggest interest rate is charged by ADB/N fro granting loan in this sector. The loan investment amount is increased by 5.41 percent in F/Y 2005/06 and 13.96 percent in F/Y 2006/07. The maximum loan investment amount is granted under this purpose is Rs 1802185 thousands in F/Y 2006/07.

Likewise the loan investment amount, the loan outstanding amount is in fluctuating trend. In F/Y 2003/04 ad 2005/06 the loan outstanding amount has growth rate of 3.09 percent and 0.80 percent respectively but it is decreased by -0.126 percent in F/Y 2004/05 and by -0.33 percent in F/Y 2006/07. The causes behind variability in loan outstanding amount is always depend as collection of previous due loan by bank. The minimum amount of loan outstanding is Rs 3002434 thousands in F/Y 2002/036 and the maximum loan outstanding amount is Rs 3116021 thousands in F/Y 2005/06 for the purpose of agro and cottage industry.

The lowest collection amount in agro and cottage industry purpose is Rs 1504162 thousands in F/Y 2004/05 and highest amount of loan collection is Rs 1812555 thousands in F/Y 2006/07. the growth rate on loan collection is 4.89 percent, -6.35 percent, 3.48 percent and 16.44 percent from F/Y 2003/04 to 2006/07 respectively where the lowest growth rate in collection is 3.48 percent in F/Y 2005/06 and the highest growth rate is 16.44 percent in F/Y 2006/07.

The percentage of loan collection to investment is also in increasing trend. It means that the bank has good collection of loan as well as increase in loan investment according to target loan investment. The percentage of loan collection to investment is 79.35 percent, 64.55 percent, 100.26 percent, 98.43 percent and 100.58 percent from F/Y 2002/03 to 2006/07 respectively where the lowest percentage of loan collection to loan investment is 79.35 percent in F/Y 2002/03 and highest percentage is 100.50 percent in F/Y 2006/07.

The percentage of loan collection to outstanding is 51 percent, 51.89 percent, 48.66 percent, 49.95 percent and 58.36 percent from F/Y 2002/03 to 2006/07 respectively where highest percentage of loan collection to outstanding is 56.36 percent in F/Y 2006/07 and lowest percentage of collection to outstanding is 49.95 percent in F/Y 2005/06.

The coefficient of correlation values calculated between loan investment and collection is +0.36 (see appendix XVI), which is low positively correlated. Co-efficient of determination (i.e. $r^2 = 0.1296$) indicates that 13 percent of total variation in loan collection of agro and cottage industry purpose Y is explained by loan investment of the agro and cottage industry purpose X. The tabulated critical value of t at 5 percent level of significance for two tailed test at 3 degree of freedom is 3.182 which is greater than the calculated value of $t^*0.6684$. Therefore the co-efficient of correlation is insignificant. It means increase/decrease in loan investment brings reverse effect decrease/increase in loan collection amount.

Likewise, co-efficient of correlation value calculated between loan outstanding and collection is also +0.36 (see appendix XVII) which is weak positively correlated coefficient of determination (i.e. $r^2 = 0.1296$) indicates that 13 percent of total variation in loan collection Y is explained by the loan outstanding X. The tabulated critical value of t at 5 percent level of significance for two tailed test at 3 degree of freedom is 3.182, which is greater than the calculated value of $t^*0.67$. Therefore, the co-efficient of correlation is insignificant & insignificant relationship between loan outstanding and collection of agro and cottage industry purpose. It means increase/decrease in loan investment brings decrease/increase in loan outstanding amount.

4.5.6 Actual Loan Investment, Outstanding and Collection of Bio-Gas and Power Development Purpose

ADB/N grants credit in alternative or renewable source such as bio-gas plant, solar panel etc. to the farmers for medium term.

Table 4.9

Actual loan investment, outstanding and collection of bio-gas and power development

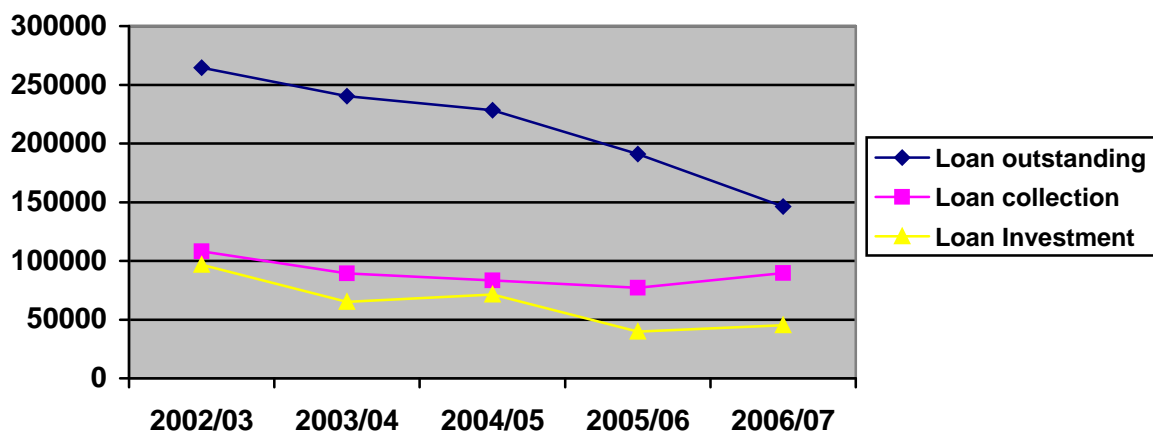
Rs in '000

F/Y	Loan investment			Loan outstanding			Loan collection			percent of collection	
	Amount	Index	Growth Rate percent	Amount	Index	Growth Rate percent	Amount	Index	Growth Rate percent	To loan investment	To loan outstanding
2002/03	96847	100	-	264672	100	-	108130	100	-	111.65	40.85
2003/04	65075	67.09	-32.81	240343	90.81	-9.19	89404	82.68	-17.32	137.39	37.20
2004/05	71414	76.93	9.74	228320	85.81	-5	83437	76.01	-6.67	116.84	36.54

2005/06	39670	32.48	-44.45	190946	69.44	-16.37	77044	68.35	-7.66	194.21	40.35
2006/07	45208	46.44	13.96	146440.4807	46.13	-23.31	89714	84.80	16.45	198.45	61.26

Figure 4.9

Actual loan investment, outstanding and collection of biogas and power development



In Table 4.9, the loan investment amount in bio-gas and power development purpose is in fluctuating trend. It is decreased by -32.81 percent in F/Y 2003/04 and 44.45 percent in F/Y 2005/06. It is increased at lower rate i.e. 9.74 percent in F/Y 2004/05 and 13.96 percent in F/Y 2006/07. It is due to highest interest rate charged by bank for this purpose and the bank not able to grant sufficient loan under this purpose according to the targeted amount because of geo-graphical difficulty. The minimum loan investment amount granted under this purpose is Rs 39670 thousands in F.Y 2002/03. The highest growth rate on investment is 13.96 percent in F/Y 2006/07 and 9.74 percent in F/Y 2004/05.

The loan outstanding amount is in decreasing trend. The minimum loan outstanding amount is Rs 146440.4807 thousand in F/Y 2006/07 and the highest amount of loan outstanding is Rs 264672 thousands in F/Y 2002/03. From bank side, decreased in loan outstanding amount is good because it indicates that the bank becomes success in collection of previous due loan amount. The highest decreased rate in outstanding amount is 23.81 percent in F/Y 2006/07 whereas the lowest is -85 percent in F/Y 2004/05.

The lowest loan collection amount in biogas purpose is Rs 77044 thousands in F/Y 2005/06 and highest amount provided under this purpose is Rs 101830 thousands in F/Y 2002/03. The loan collection amount is decreased each year except in F/Y 2006/07 due to misuse of loan by consumer and political stress. The growth rates on loan collection are -17.32 percent, -6.67 percent, -7.66 percent and 16.44 percent from F/Y 2003/04 to 2006/07.

The percentage of loan collection to investment is 111.65 percent, 137.39 percent, 116.34 percent, 194.21 percent and 198.45 percent from F/Y 2002/03 to 2006/07 respectively where the lowest percentage of loan collection to investment is 111.65 percent in F/Y 2002/03 and the highest is 198.45 percent in F/Y 2006/07.

Likewise, the percentage of loan collection to outstanding is 40.85 percent, 37.20 percent, 36.54 percent, 40.35 percent and 61.26 percent respectively from F/Y 2002/03 to 2006/07. Lowest percentage of loan collection to outstanding is 36.54 percent in F/Y 2004/05 and the highest is 61.26 percent in 2006/07.

The coefficient of correlation value calculated between loan investment and collection is +0.80 which had been shown in appendix-XVIII. Co-efficient of determination (i.e. $r^2 = 0.64$) indicates that 64 percent of total variation in loan collection of bio-gas purpose Y is explained by the loan investment of bio-gas purpose X. The tabulated critical value of t at 5 percent level of significance for two tailed test at 3 degree of freedom is 3.182 which is greater than calculated value $t^*2.31$. Therefore the coefficient of correlation is insignificant. It means that increase/decrease in loan investment comes out decreased/increase in loan collection amount.

Likewise, co-efficient of correlation value calculated between loan outstanding and collection is +0.50 which has been shown in an appendix-XIX. Coefficient of determination (i.e. $r^2 = 0.25$) indicates that 25 percent of total variation in loan collection of bio-gas purpose Y is explained by the loan outstanding of bio-gas purpose X. The tabulated critical value of t at 5 percent level of significance for two tailed test at 3 degree of freedom is 3.182 which is greater than the value of calculated t^*1 . Therefore, the coefficient of correlation is insignificant or shown the insignificant relationship between loan outstanding and collection of biogas purpose.

4.5.7 Actual Loan Investment Outstanding and Collection of Housing and Land Development Purpose

ADB/N grants this type of loan for medium term to farmers, if natural calamities occur. His majesty Government directs to invest this type of loan to bank.

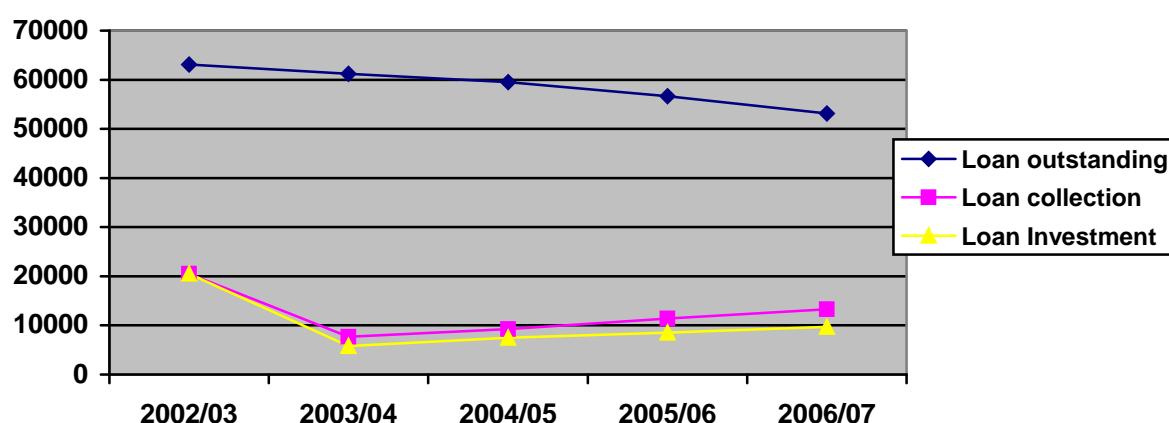
Table 4.10
Actual loan investment, outstanding and collection of housing and land development purpose

Rs in '000

F/Y	Loan investment			Loan outstanding			Loan collection			percent of collection	
	Amount	Index	Growth Rate percent	Amount	Index	Growth Rate percent	Amount	Index	Growth Rate percent	To loan investment	To loan outstanding
2002/03	20502	100	-	63105	100	-	20538	100	-	100.18	32.55
2003/04	5819	28.38	71.62	61229	97.03	-2.97	7695	37.47	-62.53	132.24	12.57
2004/05	7483	56.98	28.60	59491	94.19	-2.84	9221	57.30	19.83	123.23	15.50
2005/06	8529	70.96	13.98	56638	89.39	-4.80	11382	80.74	23.44	133.45	20.09
2006/07	9720	84.92	13.96	53103.9	83.15	-6.24	13254	97.19	16.45	136.36	24.96

Figure 4.10

Actual loan investment, outstanding and collection of housing and land development purpose



In table 4.10, we found that the loan investment amount for the purpose of housing and land development purpose is in fluctuating trend. Comparing with the F/Y 2002/03, loan investment amount is decreasing by 71.62 percent in F/Y 2003/04. The cause behind the huge

reduction in loan amount for housing and land development purpose is that the higher interest rate charged by bank for granting loan under this purpose. The maximum amount of loan granted under this purpose is Rs 20502 thousand where lowest amount of loan investment provided is Rs 5819 thousands. The highest positive growth in loan investment is 28.66 percent in F/Y 2004/05 and lowest growth is 13.96 percent in F/Y 2006/07.

The loan outstanding amount is decreased each year. It is good for bank. We can say that the previous due loan of bank is decreasing per year. The lowest decreasing growth rate in F/Y 2004/05 is -2.84 percent and highest rate decreasing in loan outstanding is -6.24 percent in F/Y 2006/07. The maximum amount of loan outstanding for housing and land development purpose is Rs 63105 thousands in F/Y 2002/03 where lowest amount of loan outstanding is Rs 53103.90 thousands in F/Y 2006/07.

Loan collection amount is increasing each year except decreased by -62.53 percent in F/Y 2003/04. As a result of increase in pervious loan, loan collection amount is decreased each year. The minimum amount of loan collection is Rs 7695 thousands in F/Y 2003/04 where the highest amount of loan collection is Rs 20538 thousands is F/Y 2002/03. The positive growth rates on collections are 19.33 percent, 23.44 percent and 16.45 percent respectively from F/Y 2004/05 to 2006/07.

The highest percent of loan collection to loan investment is 136.36 percent in F/Y 2006/07 and lowest percent of loan collection to investment is 100.18 percent in F/Y 2002/03. Likewise, the percent of loan collection to loan outstanding is 32.55 percent, 12.57 percent, 15.50 percent, 20.09 percent and 24.09 percent from 2002/03 to 2006/07 respectively. In which the lowest percent of loan collection to outstanding is 12.57 percent and highest is 32.55 percent in F/Y 2002/03.

The co efficient of correlation value calculated between loan investment and collection is +0.99 which has been shown in appendix-XX. Coefficient of determination (i.e. $r^2 = 0.98$) indicates that 98 percent of total variation in loan collection of housing and land development purpose Y is explained by the loan investment of housing and land development purpose X. The tabulated critical value of t at 5 percent level of significance of 3 degree of freedom is 3.182 which is less than the calculated value of $t^*12.19$. Therefore the co-efficient of

correlation is significant. It means that increase/decrease in loan investment brings increase/decrease in loan collection same way.

The co-efficient of correlation value calculated between loan outstanding and collection is +0.27 (see appendix XXI) which is low weak positively correlated coefficient of determination (i.e. $r^2 = 0.0729$) indicates that 7.29 percent of total variation in dependent variable Y is explained by independent variable X. The tabulated value of t at 5 percent level significance of 3 degree of freedom is 3.182 which is greater than 0.49. Therefore, correlation of coefficient is insignificant. It means that increase/decrease in loan outstanding amount brings decrease/increase in loan collection.

4.5.8 Actual Loan Investment, Outstanding and Collection of Horticulture

ADBIN growing grants loan on horticulture, purpose to farmers such as orange, pineapple, apple, papaya, mango etc for short term medium and long term as well.

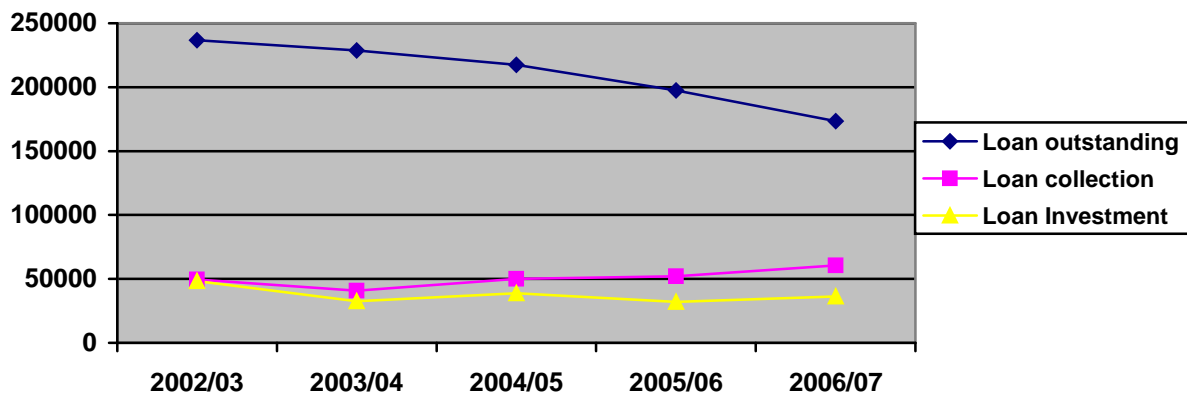
Table 4.11
Actual Loan Investment, Outstanding and Collection of Horticulture

Rs in '000

F/Y	Loan investment			Loan outstanding			Loan collection			percent of collection	
	Amount	Index	Growth Rate percent	Amount	Index	Growth Rate percent	Amount	Index	Growth Rate percent	To loan investment	To loan outstanding
2002/03	48227	100	-	236802	100	-	49486	100	-	102.61	20.90
2003/04	32633	67.67	-32.33	228751	96.60	-3.40	40684	82.21	-17.79	124.67	17.79
2004/05	38710	86.29	18.62	217473	91.67	-4.93	49988	105.08	22.87	129.13	22.99
2005/06	31909	68.72	-17.57	197452	82.46	-9.21	51930	108.96	3.88	162.74	26.30
2006/07	36364	82.68	13.39	173345	70.25	-12.21	60470	125.41	16.45	166.29	34.88
				.9101							

Figure 4.11

Actual Loan Investment, Outstanding and Collection of Horticulture



From Table 4.11, we found that actual loan investment of horticulture purpose is in fluctuating trend. Growth rate on loan investment is also in fluctuating trend. The maximum amount of loan investment granted under this purpose is Rs 48227 thousands in F/y 2002/03 where as the lowest loan investment amount is Rs 31909 thousands in F/Y 2005/06. This is only due to the growth of financial institutions in high pace and their competition for providing loan on reasonable rate of interest. The highest growth rate on loan investment under this horticulture purpose is 18.62 percent in F/Y 2004/05 and the minimum growth rate is 13.39 percent which is belonging to F/Y 2006/07.

The loan outstanding amount for the horticulture is also in decreasing trend. It is decreased every year because the loan collection amount is increased every year except decreased in F/Y 2003/04 by 17.79 percent and previous due loan collection by bank. The highest decrease in loan outstanding amount is by -12.21 percent in F/Y 2006/07 where lowest decrease in loan outstanding amount is by -3.40 percent in F/Y 2003/04. The highest amount of loan outstanding amount for horticulture is Rs 236802 thousands in F/Y 2002/03 whereas the lowest amount is Rs 173345.9101 thousands in F/Y 2006/07.

Loan collection amount is increased every year except F/Y 2003/04. The lowest loan collection amount in horticulture purpose is Rs 40684 thousands and the highest amount is Rs 60470 thousands in F/Y 2006/07. Decrease in loan outstanding amount means that good recovery in previous due loan every year, it helps to increase loan collection amount. The lowest growth in loan collection is 63.88 percent in F/Y 2005/06 and the highest is 22.87 percent in F/Y 204/05.

The percentage of loan collection to loan investment is 102.61 percent, 124.67 percent, 129.13 percent, 162.74 percent and 166.2 percent from F/Y 2002/03 to 2006/07 respectively where the lowest is 102.61 percent in F/Y 2002/03 and highest is 166.29 percent in F/Y 2006/07, which seems very good.

Likewise, the percentage of loan collection to outstanding is 20.90 percent, 17.79 percent, 22.99 percent, 26.30 percent and 34.88 percent from F/Y 2002/03 to F/Y 2006/07. The highest is 34.88 percent in F/Y 2006/07 and the lowest is 17.79 percent in F/Y 2003/04. In F/Y 2003/04, the percentage of loan collection to outstanding is getting low because of deficiency in collection of previous due loan.

The co-efficient of correlation value, calculated between loan investment and collection is +0.017 (see appendix XXII), which is low/weak positively correlated. Coefficient of determination (i.e. $r^2 = 0.03$ percent) indicates that 0.03 percent of total variation in loan collection of horticulture purpose Y is explained by the loan investment of horticulture purpose X. The tabulated critical value of t at 5 percent level of significance for two tailed test at 3 degree of freedom is 3.182, which is greater than the tabulated value of $t^*0.0295$. Therefore, the correlation of coefficient is insignificant. It means that increase/decrease in loan investment brings that reverse action in loan collection of horticulture purpose.

The co efficient of correlation value calculated between loan outstanding and collection is - 0.84 (see appendix XXIII) which is negatively correlated. Coefficient of determination (i.e. $r^2 = 0.7056$ percent) indicates that 70.56 percent of total variation in dependent variable Y is explained by independent variable X, if the correlation coefficient is negative to that extent and till. Increased in the value of loan outstanding has decreased the value of loan collection. The tabulated critical value of t at 5 percent of significance F or two tailed test at 3 degree of freedom is 3.182 which is greater than the calculated value of $t^*-2.6820$. Therefore the coefficient if correlation is insignificant. It means there is always reverse relationship between loan outstanding & loan collection amount.

4.5.9 Actual Loan Investment Outstanding and Collection of Go-down and Cold Storage Purpose

ADB/N grants loan to farmers to build modern go-down of cold storage to collect agricultural inputs or products for medium term.

Table 4.12

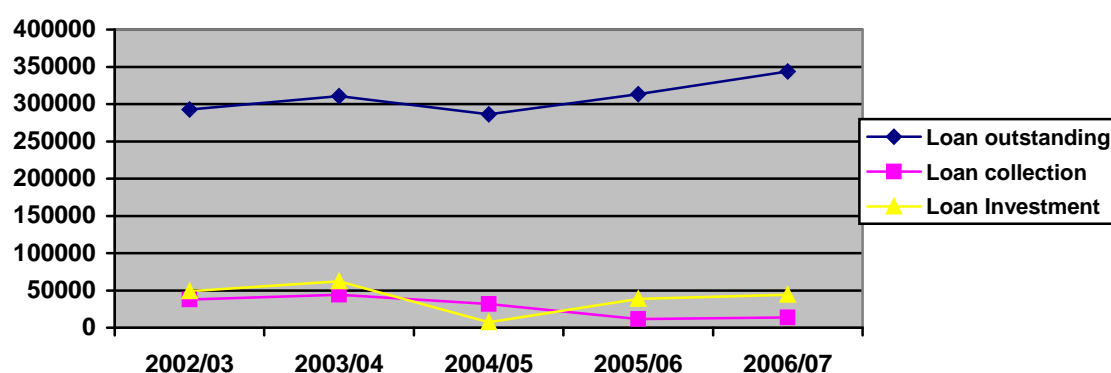
Actual Loan Investment, Outstanding and Collection of Go down and Cold Storage

Rs in '000

F/Y	Loan investment			Loan outstanding			Loan collection			percent of collection	
	Amount	Index	Growth Rate percent	Amount	Index	Growth Rate percent	Amount	Index	Growth Rate percent	To loan investment	To loan outstanding
2002/03	49090	100	-	292529	100	-	37744	100	-	76.89	12.90
2003/04	62282	126.87	26.87	310707	106.20	6.21	44104	116.8	16.85	70.81	14.19
2004/05	7405	38.76	-88.11	286368	98.38	-7.83	31744	88.83	-28.02	428.68	11.09
2005/06	38714	461.57	422.81	313354	107.8	9.42	11728	25.78	-63.05	30.29	3.74
2006/07	44119	475.53	13.96	3438815 .9299	117.52	9.72	13657	42.23	16.45	30.25	3.57

Figure 4.12

Actual Loan Investment, Outstanding and Collection of Go down and Cold Storage



The loan investment amount for the purpose of go down and cold storage is increasing in high pace each year except decreased by 88.11 percent in F/Y 2004/05. Unsuitable environment for investment due to political instability is the main cause of large decrease in loan investment for go down and cold storage purpose in F/Y 2004/05. The highest growth

rate in loan investment is 422.81 percent in F/Y 2005/06 due to more attraction of farmer towards modern go down and cold storage technology. Whereas lowest growth rate on loan investment is 13.96 percent in F/Y 2006/07. The maximum amount of loan investment provided under this purpose is Rs 62282 thousands in F/Y 2003/04 and the lowest is Rs 7405 thousands in F/Y 2004/05.

Likewise loan investment amount loan outstanding amount is also decreased each year except decreased by -7.83 percent in F/Y 2004/05. It is because by 88.11 percent. The minimum amount of loan outstanding is Rs 286368 thousands in F/Y 2004/05 and the maximum amount of loan outstanding is Rs 343881.9209 thousands in F/Y2006/07. The growth rates on loan outstanding are 6.21 percent, -7.83 percent, 9.42 percent and 9.74 percent from 2003/04 to 2006/07 respectively.

Loan collection amount is in also fluctuating trend. It is some times up and down. In F/Y 2004/05 and 2005/06, loan collection amount is decreased by 28.02 percent and 63.05 percent respectively. It is due to that in F/Y 2004/05 loan investment amount is decreased by 88.22 percent and loan outstanding amount is increased by 9.42 percent ion F/Y 2005/06. Variability in loan investment and outstanding amount brings also fluctuation in loan collection amount. The highest growth on collection is 16.45 percent in F/Y 2006/07 & the lowest growth is 16.85 percent in F/Y 2003/04.

The percentage of loan collection to investment is in fluctuating trend. The highest percentage of loan collection to investment is 428.68 percent in F/Y 2004/05. It seems very good for bank. It is because of huge recovery of bank on previous due loan & current loan whereas the lowest percentage of loan to investment is 30.29 percent in F/Y 2005/06.

The percentage of loan collection to outstanding is in decreasing trend except in F/Y 2003/04. The highest percentage of loan collection to outstanding is 14.19 percent in F/Y 2003/04 and the lowest is 3.74 percent in f/Y 2005/06 which is not in favor of bank.

The co-efficient of correlation value calculated between loan investment and collection is +0.23 low positively correlated which has been shown in appendix-XXIV. Coefficient of determination (i.e. $r^2 = 0.0529$) indicated that 5.29 percent of total variation in the dependent variable Y is explained by independent variable X. The tabulated value of t at 5 percent level

of significance for two tailed test at 3 degree of freedom is 3.182, which is greater than the calculation value of $t^*0.41$. Therefore the coefficient of correlation is insignificant. It means that increase/decrease in loan investment brings decrease/increase in decrease/increase in loan collection.

Likewise, the coefficient of correlation value calculated between loan outstanding and collection is -0.61 (see appendix XXV), which is low weak negatively correlated coefficient of determination (i.e. $r^2 = 0.3721$) indicates that 37.21 percent of total variation independent variable Y is explained by independent variable X. Even for negative correlation coefficient, the value of loan collection is found increased. The tabulated critical value of t at 5 percent level of significance for two tailed test at 3 degree of freedom is 3.182, which is greater than the calculated value of $t^*-1.33$. Therefore the coefficient of correlation is insignificant. There is reverse relationship between loan outstanding and collection.

4.5.10 Actual Loan Investment, Outstanding and Collection of Tea and Coffee Purpose

ADB/N grants loan to farmers' tea and coffee purpose for long term by looking climate condition and topography.

Table 4.13

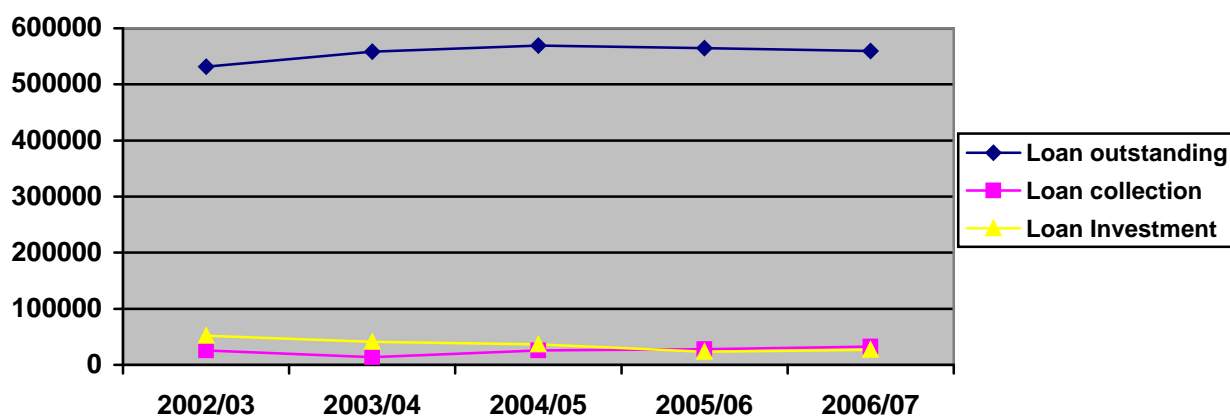
Actual Loan Investment, Outstanding and Collection of Tea and Coffee

Rs in '000

F/Y	Loan investment			Loan outstanding			Loan collection			percent of collection	
	Amount	Index	Growth Rate percent	Amount	Index	Growth Rate percent	Amount	Index	Growth Rate percent	To loan investment	To loan outstanding
2002/03	52119	100	-	531467	100	-	25877	100	-	49.65	4.87
2003/04	40804	78.29	-21.71	558541	105.09	5.09	13730	53.06	-46.94	33.65	2.46
2004/05	36499	67.74	-10.55	569107	106.98	1.89	25933	141.94	88.88	71.05	4.56
2005/06	23560	32.29	-35.45	564854	106.24	-0.74	27813	149.19	7.25	118.05	4.92
2006/07	26849	46.25	13.96	559316	105.26	-0.98	32387	165.64	16.45	120.63	5.79

Figure 4.13

Actual Loan Investment, Outstanding and Collection of Tea and Coffee



In Table 4.13, we found that the loan investment for the tea and coffee purpose is decreased each F/Y except F/Y 2006/07. In F/Y 2006/07, it is increased by 13.96 percent. The cause behind the decrement in loan investment each year is the high interest rate charged by ADB/N for granting loan under this purpose and favorable climate condition with topography. The lowest loan investment for tea and coffee purpose is Rs 23560 thousands in F/Y 2005/06 and the highest is Rs 52119 is 3\13.96 percent in F/Y 2006/07 and the lowest negative growth in investment is -10.55 percent in F/Y 2004/05.

Loan outstanding amount is increasing up to F/Y 2004/05 then it starts to decrease till F/Y 2006/07. The highest growth rate in loan outstanding amount is 5.09 percent in F/Y 2003/04. Increase in previous due loan helps to increase in loan outstanding amount. The lowest and highest decreasing rate on loan outstanding are -0.74 percent and -0.98 percent in F/Y 2005/06 and 2006/07 respectively. The maximum amount of loan outstanding under this purpose is Rs 559316.3017 thousands belongs to F/Y 2006/07.

The percentage of loan collection to loan investment is 49.65 percent, 33.65 percent, 71.05 percent, 118.05 percent and 120.63 percent form F/Y 2002/03 to F/Y 2006/07 where the highest is 120.63 percent in F/Y 2006/07 and the lowest is 33.85 percent in F/Y 2003/04. Which seems percentage of loan collection to loan investment is very good.

Likewise the percentage of loan collection to loan outstanding is 4.87 percent, 2.46 percent, 4.56 percent, 4.92 percent and 5.79 percent from F/Y 2002/03 to F/Y 2006/07. The highest growth is 5.79 percent in F/Y 2006/07 and the lowest is 2.46 percent in F/Y. Which does not seems percentage of loan collection to loan investment is favorable.

The coefficient of correlation value calculated between loan investment and collection is - 0.45 (see appendix XXVI) which is low/weak negatively correlated coefficient of determination (i.e. $r^2 = 0.2025$) indicated that 20.25 percent of the total variation is dependent variable Y is explained by independent variable X, if the correlation coefficient is negative to that extent still. Increased in the value of loan investment has decreased the value of loan collection. The tabulated critical value of t at 5 percent level of significance for two tailed test at 3 degree of freedom is 3.182, which is greater than the calculated value of $t^* - 0.87$. Therefore the coefficient of correlation is insignificant or shows insignificant relationship between loan investment and collection of tea and coffee purpose.

The coefficient of correlation value calculated between loan outstanding and collection is +0.0649 (see appendix XXVII), which is low/weak positively correlated coefficient of determination (i.e. $r^2 = 0.0042$) indicates that 0.42 percent of total variation in dependent variable Y is explained by independent variable X. The tabulated critical value of t at 5 percent level of significance for two tailed test at 3 degree of freedom is 3.182, which is greater than the calculated value of $t^* 0.1127$. Therefore the coefficient of correlation is significant. It means that increase/decrease in loan outstanding brings increase/decrease in loan collection.

4.5.11 Actual Loan Investment, Outstanding and Collection of Non-agriculture Credit

This is possible line of business of ADB/N, which is identified in F/Y 2001/02. The bank grants this kind of loan to various sectors up to 2006/07.

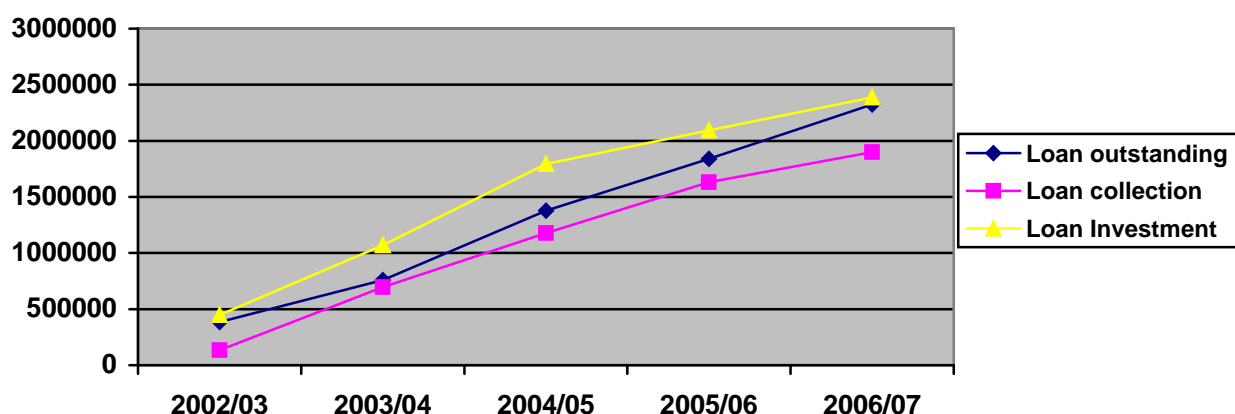
Table 4.14
Actual Loan Investment, Outstanding and Collection of Non Agricultural Credit

Rs in '000

F/Y	Loan investment			Loan outstanding			Loan collection			percent of collection	
	Amount	Index	Growth Rate percent	Amount	Index	Growth Rate percent	Amount	Index	Growth Rate percent	To loan investment	To loan outstanding
2002/03	446582	100	-	386381	100	-	134872	100	-	30.20	34.91
2003/04	1069157	239.41	139.41	758764	196.37	96.38	696774	516.62	416.62	65.17	91.83
2004/05	1795036	307.30	67.89	1376154	277.74	81.87	1177646	585.63	69.01	65.61	85.58
2005/06	2093529	323.93	16.63	1838046	311.30	33.56	1631637	624.18	38.55	77.94	88.77
2006/07	2385789	387.89	13.96	2323883	337.73	26.43	1899952	640.62	16.44	79.64	81.76

Figure 4.14

Actual Loan Investment, Outstanding and Collection of Non Agricultural Credit



Loan investment amount non agricultural credit purpose is increasing each year. But the pace of increase in investment amount is different each year. The highest growth rate on loan investment is 139.41 percent in F/Y 2003/04 whereas the minimum growth in investment is 13.96 percent in F/Y 2006/07. The maximum amount of loan granted for this purpose is Rs

2385789 thousands in F/Y 2006/07 and lowest amount of loan investment is Rs 446582 thousands belongs to F/Y 2002/036. Under this purpose the bank is success to flow loan according to targeted structure of loan.

Like loan investment amount the loan outstanding amount is in also increasing trend. It is because of higher increase in loan investment and previous due loan. The maximum amount of loan outstanding is Rs 2323883 thousands in F/Y 2006/07 where the lowest amount of outstanding loan is Rs 386381 thousands belongs to F/Y 2002/03. The growth rates on loan outstanding are 96.38 percent, 81.87 percent, 33.56 percent and 26.43 percent respectively through F/Y 2003/04 to 2006/07.

As a result of increase in both loan investment and outstanding loan, loan collection amount is increasing each year. The highest growth rate on collection amount is 416.62 percent in F/Y 2003/04, whereas the lowest growth rate collection is 16.44 percent in F/Y 2006/07. The maximum amount of loan collection is Rs 1899952 thousands in F/Y 2006/07 and Rs 134872 thousands is recorded as lowest collection amount belongs to F/Y 2002/036.

Likewise the percentage of loan collection to loan investment are 30.20 percent, 65.17 percent, 65.61 percent, 77.94 percent and 79.64 percent from F/Y 2002/03 to F/Y 2006/07. It is in increasing trend. The highest percentage of loan collection to loan investment is 79.64 percent in F/Y 2006/07 and the lowest is 30.20 percent in F/Y 2002/03. This seems very good for bank.

The percentage of loan collection to loan outstanding is 34.91 percent, 91.83 percent, 85.58 percent, 88.77 percent and 81.76 percent from F/Y 2002/03 to F/Y 2006/07 respectively where the lowest is 34.91 percent in F/Y 2002/03 and the highest is 91.83 percent in F/Y 2003/04. It seems also very optimistic.

The coefficient of correlation value calculated between loan investment and collection is +0.99 (positive correlated) this has been shows appendix XXIX. Coefficient of determination (i.e. $r^2 = 0.98$) indicates that 98 percent of total variation dependent variable Y is explained by independent variable X. The tabulated critical value of t at 5 percent level of significance for two tailed test at 3 degree of freedom is 3.182, which is less than the calculated value of $t^*12.19$. Therefore the coefficient of correlation is significant.

Likewise, the coefficient of correlation value calculated between loan outstanding and collection is +0.99 (see appendix XXIX), which is highly positively correlated coefficient of determination (i.e. $r^2 = 0.98$) indicates that 98 percent of total variation dependent variable Y is explained by independent variable X. The tabulated critical value of t at 5 percent level of significance for two tailed test at 3 degree of freedom is 3.182, which is less than the calculated value of $t^*12.19$. Therefore there is significant relationship between loan outstanding and collection of loan of non-agri purpose. It means increase/decrease in outstanding loan brings increase/decrease also in loan collection.

4.5.12 Actual Loan Investment, Outstanding and Collection of Tourism Purpose

These types of possible line of business of ADB/N are identified in F/Y 2002/03. The ADB/N grants loan Rs 20772 thousands in F/Y 2002/03 only but thereafter bank did not grants loan in this areas till today. ADB/N outstanding loan to related sector is Rs 7829 thousands till 2006/07 and collection is zero form 2003/04 to 2006/07.

4.6 Actual Loan Investment, Outstanding and Collection of term-wise

ADB/N grants different purpose of loan in different terms such as short term, medium-term and long term.

4.6.1 Short Term Loan Investment, Outstanding and Collection

Generally, short-term loan is granted to the farmers of ADB/N in different purpose, such as cereal crop, cash crop and marking ranging 1 to 2 years

Table 4.14
Short Term Loan Investment, Outstanding and Collection

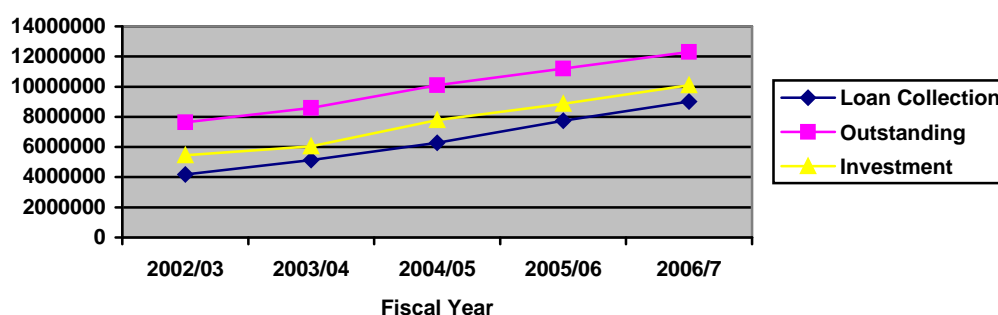
Rs. In '00'

F/Y	Loan Investment	Loan Outstanding	Loan Collection	percent of collection	
				To loan investment	To loan outstanding
2002/03	5457464	7646441	4172669	76.46	54.57
2003/04	6053780	8590747	5126360	84.68	9.67
2004/05	7777394	10086655	5281486	80.77	62.28
2005/06	8863264	11209693	7740226	87.33	69.05
2006/07	10100590	12297214.94	9013070	89.23	73.29

(Source: ADB/N Annual Report from F/Y 2002/03 to 2006/07)

Figure 4.14

Line Diagram of Short Term Actual Loan Collection, Outstanding and Investment



Especially the lowest short-term loan investment account is Rs 5457464 thousands and the highest loan investment amount is Rs 10100590 thousands in F/Y 2006/07. The minimum amount of loan outstanding is Rs 7646441 thousands in F/Y 2002/03 where the highest amount of outstanding is belonging to F/Y 2006/07. Likewise, the highest amount of loan collection is Rs 9013070 thousands in F/Y 2006/07 and the lowest loan collection amount is Rs 4172669 thousands in F/Y 2002/03.

The percent of loan collection to loan investment is 76.46 percent, 84.68 percent, 80.77 percent, 87.33 percent and 89.23 percent from the F/Y 2002/03 to F/Y 2006/07 respectively where the lowest percent of loan collection to loan investment is 76.46 percent in F/Y 2002/03 and the highest is belonging to F/Y 2006/07 i.e. 89.23 percent.

Likewise, the percent of loan collection to loan outstanding is 54.57 percent, 59.67 percent, 62.28 percent, 69.05 percent and 73.29 percent, from F/Y 2002/03 to 2006/07 respectively, where the lowest is 54.57 percent in F/Y 2002/03 and highest is 73.29 percent belongs to F/Y 2006/107.

4.6.2 Medium-Term Loan Investment, Outstanding and Collection

Medium term loan is granted generally for 2 to 10 years period of different purpose such as agro-tools and irrigation, agri-business agro industry and bio-gas. This type of loan helps to purchase such as tractor, pump-set, farm equipment and to do poultry farming, beekeeping sericulture etc.

Table 4.15

Medium-Term Loan Investment, Outstanding and Collection

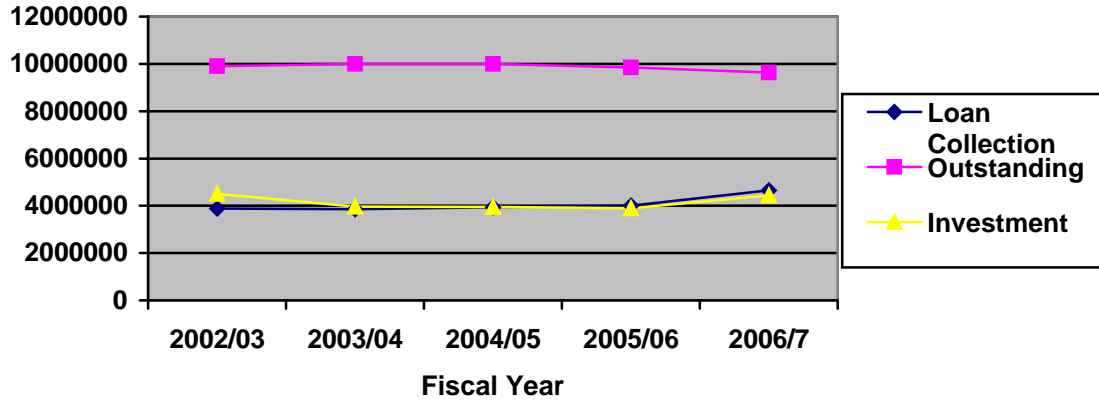
Rs. In '00'

F/Y	Loan Investment	Loan Outstanding	Loan Collection	percent of collection	
				To loan investment	To loan outstanding
2002/03	4508371	98899379	3887446	86.23	39.27
2003/04	3959070	9998083	3852537	97.31	38.53
2004/05	3947049	10003410	3941722	99.87	39.40
2005/06	3889567	9854018	3998525	102.80	40.57
2006/07	4432558	9630511.97	4656065	105.04	48.35

(Source: ADB/N Annual Report from F/Y 2002/03 to 2006/07)

Figure 4.14

Line Diagram of Medium-Term Loan Investment, Outstanding and Collection



The loan investment amount is found in fluctuating trend. It is sometimes up and down. It is decreased till F/Y 2005/06 and then starts to increase. The lowest loan investment is Rs 3889567 thousands in F/Y 2005/06 and highest amount of loan is Rs 4432558 thousands belongs to F/Y 2006/07 for medium term. Similarly, the lowest loan outstanding amount is Rs 9630511.97 thousands in F/Y 2006/07 and highest amount of loan outstanding is Rs 10003410 thousands in F/Y 2004/05. Likewise the lowest loan collection is Rs 3852537 thousand in F/Y 2002/03. The highest amount is found Rs 4656065 thousand in F/Y 2006/07.

The percentage of loan collection to loan investment is 86.23 percent, 97.814 percent, 99.87 percent, 102.80 percent, and 105.04 percent from F/Y 2002/03 to 2006/07 respectively. Where lowest is 86.23 percent in F/Y 2002/03 & highest is 105.04 percent in F/Y 2006/07. Likewise, the percentage of loan collection to outstanding is 39.27 percent, 38.53 percent, 39.40 percent, and 40.57 percent 48.35 percent from F/Y 2002/03 to 2006/07 respectively, where the lowest is 39.53 percent in F/Y 2003/04 and highest is 48.35 percent in F/Y 2006/07.

4.6.3 Long Term Loan Investment, Outstanding and Collection

Generally, long- term is granted for maximum 20 years periods on different purposes such as horticulture, god own and cold storage, tea & coffee, housing and hand development.

Table 4.16
Long Term Loan Investment, Outstanding and Collection.

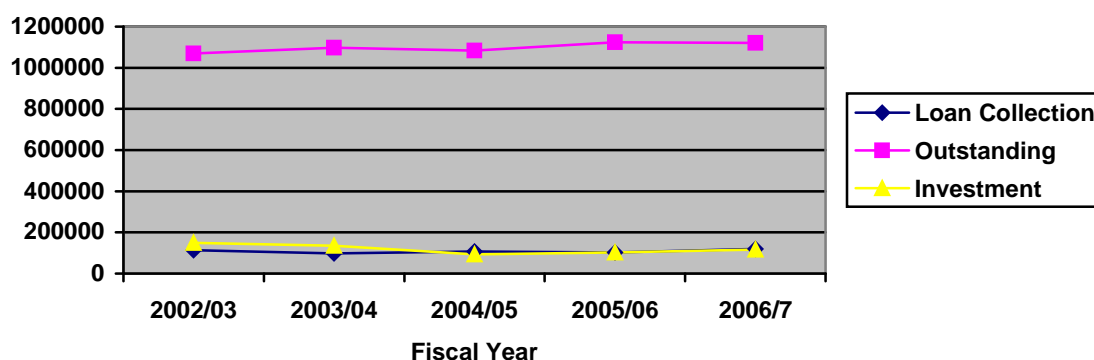
Rs. In '00'

F/Y	Loan Investment	Loan Outstanding	Loan Collection	percent of collection	
				To loan investment	To loan outstanding
2002/03	149436	1069855	113217	75.76	10.58
2003/04	135719	1097999	98518	72.59	8.97
2004/05	92614	1082948	107665	116.25	9.94
2005/06	102712	1123241	102853	100.13	9.15
2006/07	117052	1120525.08	1197768	102.32	10.68

(Source: ADB/N Annual Report from F/Y 2002/03 to 2006/07)

Figure 4.16

Long Term Loan Investment, Outstanding and Collection.



The loan investment of long term is fluctuating trend because in same year it has increased as well as decreased. The lowest investment amount is Rs 92614 thousand in F/Y 2004/05 and the highest loan investment amount in Rs is 149436 thousand in F/Y 2002/03. Similarly, the loan outstanding amount is fluctuating trend. The lowest loan outstanding is Rs 1082948 thousand in F/Y 2004/05 where the highest loan outstanding is Rs 1123241 thousands in F/Y 2005/06. In the same way, the lowest amount is Rs 98518 thousands in F/Y 2003/04 where the highest amount of loan collection is Rs 119768 thousands is belonging to F/Y 2006/07.

The percent of loan collection to loan investment is 75.76 percent, 72.59 percent, 116.25 percent, 100.13 percent and 102.32 percent from F/Y 2002/03 to F/Y 2006/07 respectively. Where the lowest is 72.59 percent in F/Y 2003/04 and the highest is 116.25 percent in F/Y 2004/05.

Likewise, the percent of loan collection to loan outstanding is 10.50 percent, 80.97 percent, 9.94 percent, 9.15 percent and 10.68 percent respectively from F/Y 2002/03 to F/Y 2006/07 where the lowest percent of loan collection to loan outstanding is 8.97 percent in F/Y 2003/04 where the highest percent of loan collection to loan outstanding is 10.50 percent in F/Y 200/03.

4.7 Actual Loan Investment, Outstanding and Collection of Development Region-wise

ADB/N grants loan in different purpose to farmers of all five-development regions. The purpose of division of five development regions is to develop all regions equally to achieve sustainable economic growth rate and distribute, return equally people of

that are by granting agricultural rural credit and also to reduce reasonable economic imbalances. Actual loan investment, outstanding and collection of eastern development region, central development region, western development region, mid western development region and far-western development region are given below.

Table 4.17**Actual Loan Investment, Outstanding and Collection of Development Region-wise**

Rs '000'

Development Region	Loan	2002/03	2003/04	2004/05	2005/06	2006/07
Eastern	Investment	2372278 (23.45)	2339831 (23.06)	2789283 (23.60)	4999218 (15.33)	5030036 (17.17)
	Outstanding	5245537 (28.18)	5522328 (28.05)	5836848 (27.57)	6989485 (20.99)	7136314 (20.74)
	Collection	1910608 (23.38)	2063032 (22.73)	2474763 (23.96)	4795504 (16.77)	4883207 (17.35)
Central	Investment	3189000 (31.52)	3124758 (30.79)	3816766 (32.30)	15645662 (51.11)	14484187 (49.46)
	Outstanding	6152271 (33.05)	6480242 (32.92)	7060573 (33.35)	14703278 (44.14)	15248786 (44.27)
	Collection	2487181 (30.43)	2796789 (30.81)	3236433 (31.33)	14486704 (50.63)	13938679 (49.50)
Western	Loan (Investment)	3075772 (30.40)	3132392 (30.87)	3450185 (29.20)	6013935 (19.64)	6632210 (22.65)
	Outstanding	4105875 (22.05)	4449513 (22.60)	4814048 (22.74)	6337092 (19.02)	6752276 (19.60)
	Collection	2508526 (30.7)	2788754 (30.72)	3085650 (29.87)	5598201 (19.56)	6217026 (22.08)
Mid-Western	Investment	911539 (9.03)	1003476 (9.89)	1074437 (9.09)	2051629 (6.70)	2090470 (7.14)
	Outstanding	1537433 (8.260)	1629213 (8.28)	1738521 (8.21)	2416372 (7.25)	2519226 (7.31)
	Collection	777481 (9.51)	911696 (10.04)	965129 (9.34)	1916874 (6.70)	1987616 (7.06)
Far Western	Investment	566682 (5.6)	548112 (5.40)	686386 (5.81)	1903445 (6.22)	1048619 (3.58)
	Outstanding	1574565 (8.46)	160553 (8.16)	1723021 (8.14)	2864519 (8.60)	2783767 (8.08)

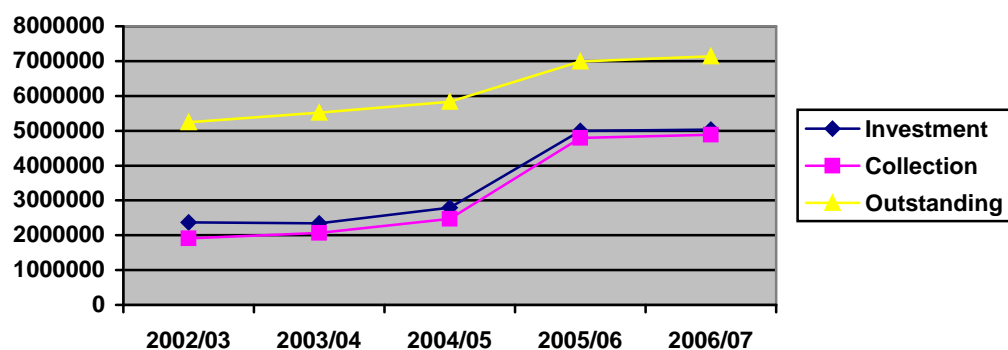
	Collection	489536 (5.99)	0517144 (5.70)	568890 (5.51)	1814934 (6.34)	1129371 (4.01)
Total	Investment	10115271 (100)	10148569 (100)	11817057 (100)	30613889 (100)	29285522 (100)
	Outstanding	18615675 (100)	19686829 (100)	21173013 (100)	33310746 (100)	34440369 (100)
	Collection	8173332 (100)	9077415 (100)	10330873 (100)	28612217 (100)	28155899 (100)
Eastern	percent of Loan Collection to investment	80.53	88.17	88.72	95.92	97.08
	percent of Loan Collection to Outstanding	36.42	37.36	42.40	68.61	68.43
Central	percent of Loan Collection to investment	78	89.50	84.80	92.59	96.23
	percent of Loan Collection to Outstanding	40.42	43.16	45.84	98.53	91.41
Western	percent of Loan Collection to investment	81.55	89.03	89.43	93.08	93.74
	percent of Loan Collection to Outstanding	61.10	62.68	64.10	88.34	92.07
Mid Western	percent of Loan Collection to investment	85.30	90.85	89.83	93.43	95.08
	percent of Loan Collection to Outstanding	50.57	55.96	55.51	79.33	78.89

Far Western	percent of Loan Collection to investment	86.38	94.35	82.88	95.35	107.70
	percent of Loan Collection to Outstanding	31.10	32.21	33.02	63.36	40.56

4.7.1 Eastern Development Region

Figure 4.17

Line Diagram of Actual Loan Investment, Outstanding and Collection of Eastern Development Region.



Loan investment of eastern development region is in increasing trend the lowest loan investment amount is Rs 2339831 thousands in F/Y 2003/04 where the highest investment amount Rs 5030036 thousands in F/Y 2006/07. The percentage of investment of eastern development region to total investment is 23.45 percent, 23.06 percent, 16.33 percent and 17.17 percent from F/Y 2002/03 to 2006/07 respectively, where the lowest is 16.38 percent in F/Y 2005/06 and the highest is 23.60 percent in F//Y 2004/05.

The loan outstanding amount is also increased every year. The lowest loan outstanding amount is Rs 5245531 thousands in F/Y 2002/03 and the maximum outstanding of eastern development region to total outstanding is 28.18 percent, 28.05 percent, 27.57 percent, 20.99 percent and 20.74 percent from F/Y 2002/03 to 2006/07 respectively, where the lowest is 20.74 percent in F/Y 2006/07 and the highest is 28.18 percent in F//Y 2002/03.

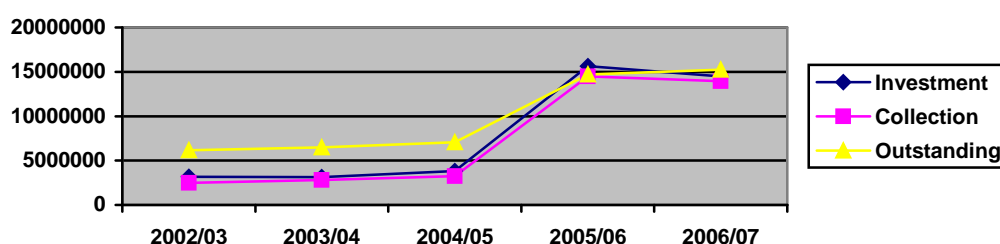
Total loan collection amount is also increased each and every year. The lowest actual collection amount is Rs 191608 thousands in F/Y 2002/03 and the highest amount is Rs

4883207 in F/Y 2006/07. The percentage of actual loan collection to total actual loan collection is 23.38 percent, 22.73 percent, 23.96 percent, 16.77 percent and 17.35 percent from F/Y 2002/03 to F/Y 2006/07 respectively, where the lowest is 16.77 percent in F/Y 2005/06 and the highest is 23.96 percent in F/Y 2005/05.

The percentage of loan collection to investment is 80.53 percent, 88.17 percent, 88.72 percent, 95.92 percent and 97.00 percent from F/Y 2002/03 to F/Y 2006/07 respectively where the lowest is 80.53 percent in F/Y 2002/03 and the highest is 97.08 percent in F/Y 2006/07. Likewise, the percentage of loan collection to outstanding is 36.42 percent, 37.36 percent, 42.40 percent, 68.61 percent and 658.43 percent from F/Y 2002/03 to F/Y 2006/07 where the lowest is 36.42 percent in F/Y 2002/03 and highest is 68.61 percent in F/Y 2005/06.

4.7.2 Central Development Region

Figure 4.18
Line Diagram of Actual Loan Investment, Outstanding and Collection of Central Development Region.



Loan investment of central development region is increasing trend. The lowest loan investment amount is Rs 3124758 thousand in F/Y 2002/03 and the highest investment amount is Rs 15645662 thousand in F/Y 2005/06. The percentage of investment of central development region to total investment is 31.52 percent, 30.79 percent, 32.30 percent, 51.11 percent & 49.46 percent from F/Y 2002/03 to 2006/07 respectively, where the lowest is 30.79 percent in F/Y 2003/04 and the highest is 51.11 percent in F/Y 2005/06.

Loan outstanding amount is increased every year. The lowest loan outstanding amount is Rs 6152271 thousand in F/Y 2002/03 and the highest outstanding amount is Rs 15248786 thousand is F/Y 2006/07. The percentage of outstanding central development region to total loan outstanding is 33.05 percent, 32.92 percent, 33.35 percent, 44.14 percent and 44.27

percent, from F/Y 2002/03 to 2006/07 respectively, where the lowest is 32.92 percent in F/Y 2003/04 and the highest is 44.27 percent in F/Y 2006/07.

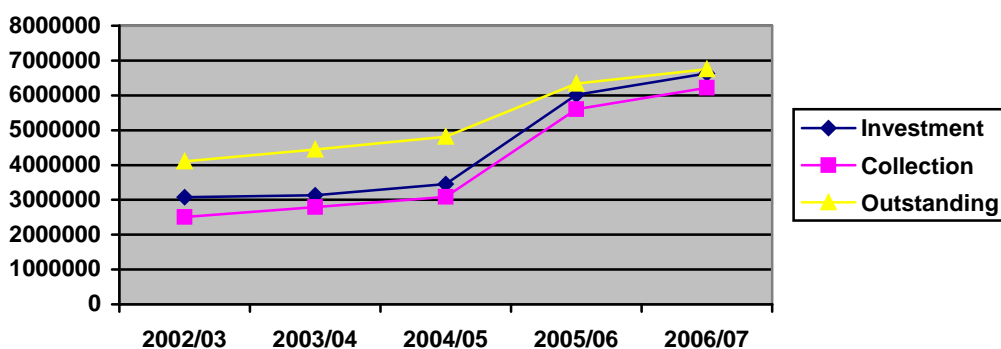
Loan collection amount is increased every year. The lowest loan collection amount is 2487181 thousand in F/Y 2002/03 and the highest collection amount is Rs 14486704 thousand in F/Y 2005/06. The percentage of actual loan collection of central development region to total collection of all development regions is 30.43 percent, 80.81 percent, 31.33 percent, 50.63 percent from F/Y 2002/03 to 2006/07 respectively, where the lowest is 30.43 percent in F/Y 2002/03 and the highest is 50.63 percent in F/Y 2005/06.

The percentage of loan collection to total loan investment of central development region of 78 percent, 89.50 percent, 92.59 percent & 96.23 percent from F/Y 2002/03 to 2006/07 respectively, where the lowest is 78percent in F/Y 2002/03 and the highest is 96.28 percent in F/Y 2006/07. Likewise, the percentage of loan collection too outstanding of central development region is 40.42 percent, 43.16 percent, 45.84 percent, 98.50 percent & 91.41 percent from F/Y 2002/03 to 2006/07 respectively, where the lowest is 40.42 percent in F/Y 2002/03 and the highest is 98.53 percent in F/Y 2005/06.

4.7.3 Western Development Region

Figure 4.19

Line Diagram of Actual Loan Investment, Outstanding and Collection of Western Development Region.



Loan investment amount is increased every year. The lowest loan investment amount of western development region is Rs 3075772 thousand in F/Y 2002/03 and the highest investment amount is Rs 6632210 thousand in F/Y 2006/07. The percentage of investment of western development region to total investment is 33.40 percent, 30.87 percent, 29.20

percent, 19.64 percent & 22.65 percent from F/Y 2002/03 to 2006/07 respectively, where the lowest is 19.64 percent in F/Y 2005/06 and the highest is 30.87 percent in F/Y 2003/04.

Loan outstanding amount is increased every year. The lowest loan outstanding amount of western development region Rs 4105875 thousand in F/Y 2002/03 and the highest loan outstanding amount is Rs 6752276 thousand in F/Y 2006/07. The percentage of outstanding western development region to total loan outstanding of all five development regions is 22.05 percent, 22.60 percent, 22.74 percent, 19.02 percent and 19.60 percent, from F/Y 2002/03 to 2006/07 respectively, where the lowest is 19.02 percent in F/Y 2003/04 and the highest is 22.74 percent in F/Y 2004/05.

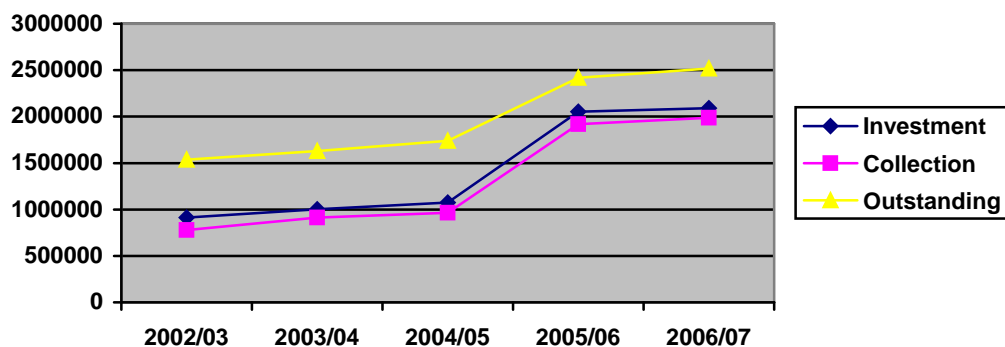
Loan collection amount is also in increased trend. The lowest loan collection amount of western development region is Rs 2508526 thousand in F/Y 2002/03 and the highest loan amount is Rs 6217026 thousand in F/Y 2006/07. The percentage of actual loan collection of western development region to loan collection is 30.7 percent, 30.72 percent, 29.67 percent, 19.56 percent and 22.08 percent from F/Y 2002/03 to 2006/07 respectively, where the lowest is 19.56 percent in F/Y 2005/06 and the highest is 30.72 percent in F/Y 2003/04.

The percentage of loan collection to total loan investment is 81.55 percent, 89.03 percent, 93.08 percent & 93.74 percent from F/Y 2002/03 to 2006/07 respectively, where the lowest is 81.55 percent in F/Y 2002/03 and the highest is 93.74 percent in F/Y 2006/07. Likewise, the percentage of loan collection to outstanding of western development region is 61.10 percent, 62.68 percent, 64.10 percent, 88.34 percent & 92.07 percent from F/Y 2002/03 to 2006/07 respectively, where the lowest is 61.10 percent in F/Y 2002/03 and the highest is 92.07 percent in F/Y 2006/07.

4.7.4 Mid-Western Development Region

Figure 4.20

Line Diagram of Actual Loan Investment, Outstanding and Collection of Mid Western Development Region



Loan investment amount of mid-western development region is in fluctuating trend. The lowest loan investment amount is Rs 911539 thousand in F/Y 2002/03 and the highest loan investment amount is Rs 2090470 thousand in F/Y 2006/07. The percentage of investment of mid-western development region to total investment of all regions is 9.03 percent, 9.89 percent, 9.09 percent, 6.70 percent & 7.14 percent from F/Y 2002/03 to 2006/07 respectively, where the lowest is 6.70 percent in F/Y 2005/06 and the highest is 9.89 percent in F/Y 2003/04.

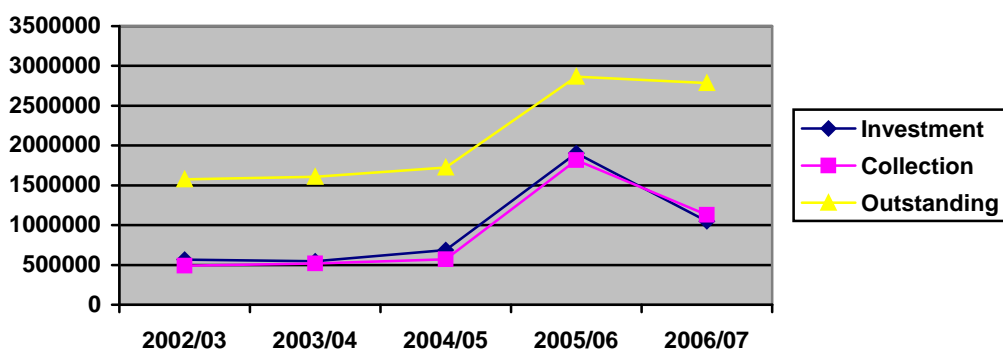
Loan outstanding amount is increased every year. The lowest loan outstanding amount is Rs 1537433 thousand in F/Y 2002/03 and the highest loan outstanding amount is Rs 2519226 thousand in F/Y 2006/07. The percentage of outstanding mid-western development region to total loan outstanding of all five development regions is 8.26 percent, 8.28 percent, 8.21 percent, 7.25 percent and 7.31 percent, from F/Y 2002/03 to 2006/07 respectively, where the lowest is 7.25 percent in F/Y 2005/06 and the highest is 8.28 percent in F/Y 2003/04.

Loan collection amount is also in increased trend. The lowest loan collection amount is Rs 777481 thousand in F/Y 2002/03 and the highest collection amount is Rs 1987616 thousand in F/Y 2006/07. The percent of actual loan collection of mid-western development region to loan collection is 9.51 percent, 10.04 percent, 9.34 percent, 6.70 percent and 7.06 percent from F/Y 2002/03 to 2006/07 respectively, where the lowest is 6.70 percent in F/Y 2005/06 and the highest is 10.04 percent in F/Y 2003/04.

The percentage of loan collection to total loan investment of mid-western development region is 85.30 percent, 90.85 percent, 89.83 percent, 93.43 percent and 95.08 percent from F/Y 2002/03 to 2006/07 respectively, where the lowest is 85.30 percent in F/Y 2002/03 and the highest is 95.08 percent in F/Y 2006/07. Likewise, the percentage of loan collection to total loan outstanding of mid-western development region is 50.57 percent, 55.96 percent, 56.51 percent, 79.38 percent & 78.89 percent from F/Y 2002/03 to 2006/07 respectively, where the lowest is 50.57 percent in F/Y 2002/03 and the highest is 79.33 percent in F/Y 2005/06.

4.7.5 Far-western Development Region

Figure 4.21
Line Diagram of Actual Loan Investment, Outstanding and Collection of Far Western Development Region



Loan investment of far-western development region is in fluctuating trend. The lowest loan investment amount is Rs 548112 thousand in F/Y 2003/04 and the highest investment amount of loan investment is Rs 1903445 thousand in F/Y 2005/06. The percentage of investment of far-western development region to total loan investment of all development regions is 5.6 percent, 5.40 percent, 5.81 percent, 6.22 percent & 3.50 percent from F/Y 2002/03 to 2006/07 respectively, where the lowest is 3.50 percent in F/Y 2006/07 and the highest is 6.22 percent in F/Y 2005/06.

Loan outstanding amount is increased every year. The lowest loan outstanding amount of is Rs 1574505 thousand in F/Y 2002/03 and the highest outstanding amount is Rs 2864519 thousand in F/Y 2005/06. The percentage of outstanding far-western development region to total loan outstanding is 8.46 percent, 8.16 percent, 8.14 percent, 8.60 percent and 8.08 percent, from F/Y 2002/03 to 2006/07 respectively, where the lowest is 8.08 percent in F/Y 2006/07 and the highest is 8.60 percent in F/Y 2005/06.

Loan collection amount is also fluctuating trend. The lowest loan collection amount is Rs 489536 thousand in F/Y 2002/03 and the highest collection amount is Rs 1814934 thousand in F/Y 2005/06. The percentage of actual loan collection of far-western development region to loan collection of all development regions is 5.99 percent, 5.70 percent, 5.51 percent, 6.34 percent and 4.01 percent from F/Y 2002/03 to 2006/07 respectively, where the lowest is 4.01 percent in F/Y 2006/07 and the highest is 6.34 percent in F/Y 2005/06.

The percentage of loan collection to total loan investment of far-western development regions is 86.38 percent, 94.35 percent, 82.88 percent, 95.35 percent & 107.70 percent from F/Y 2002/03 to 2006/07 respectively, where the lowest is 86.38 percent in F/Y 2002/03 and the highest is 107.70 percent in F/Y 2006/07. Likewise, the percentage of loan collection to total loan outstanding of far- western development region is 31.10 percent, 32.21 percent, 33.02 percent, 63.36 percent & 40.56 percent from F/Y 2002/03 to 2006/07 respectively, where the lowest is 31.10 percent in F/Y 2002/03 and the highest is 63.36 percent in F/Y 2005/06.

4.7.6 F-test Analysis of Variance of Development Regions

Loan Investment

a. Hypothesis First

(H₀) = $\sim X_1 \quad X \sim X_2 \quad X \sim X_3 \quad X \sim X_4 \quad X \sim X_5$ (There is no significant different of loan Investment of ADB/N among the development regions).

(H_A) = $\sim X_1 \mid \sim X_2 \mid \sim X_3 \mid \sim X_4 \mid \sim X_5$ (There is no significant different of loan Investment of ADB/N among the development regions).

Under test H₀, statistics is

$$F = \frac{\text{Mean Sum of Squares Between Samples}}{\text{Mean Sum of Squares with in Samples}}$$

$$= \frac{3974.12}{985.712} \times 4.25 \quad (\text{See appendix-XXVIII})$$

Critical Value

The tabulated value of F at 5percent level of 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 hypothesis (H_0) is rejected and the alternative hypothesis (H_A) is accepted. In other words, there is significant difference of loan investment of ADB/N among the development regions.

Loan Investment

b. Hypothesis Second

(H_0) = $\sim X_1 \ X \sim X_2 \ X \sim X_3 \ X \sim X_4 \ X \sim X_5$ (There is no significant different of loan investment of ADB/N among the development regions).

(H_A) = $\sim X_1 \ | \ \sim X_2 \ | \ \sim X_3 \ | \ \sim X_4 \ | \ \sim X_5$ (There is no significant different of loan investment of ADB/N among the development regions).

Test Statistics, under H_0

$$F = \frac{\text{Mean Sum of Squares between Samples}}{\text{Mean Sum of Squares with in Samples}}$$
$$= \frac{5399.89}{483.0295} \times 11.18 \text{ (See appendix-XXIX)}$$

Critical Value

The tabulated value of F at 5percent level of 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 hypothesis (H_0) is rejected and the alternative hypothesis (H_A) is accepted. In other words, there is significant difference of loan investment of ADB/N among the development regions.

Loan Investment

c. Hypothesis Third

Test Statistics, under H_0 :

$$F = \frac{\text{Mean Sum of Squares between Samples}}{\text{Mean Sum of Squares with in Samples}}$$

$$= \frac{849.72}{131.01} \times 6.48 \text{ (See appendix-XXX)}$$

Critical Value

The tabulated value of F at 5percent level of 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 hypothesis (H₀) is rejected and the alternative hypothesis (H_A) is accepted. In other words, there is significant difference of loan investment of ADB/N among the development regions

4.8 Targeted and Actual Loan Investment and Collection

Agricultural development bank determines targeted loan investment and collection for each and every year. Actual loan investment and collection occurs during the course of business.

Table 4.18
Targeted and Actual Loan Investment and Collection

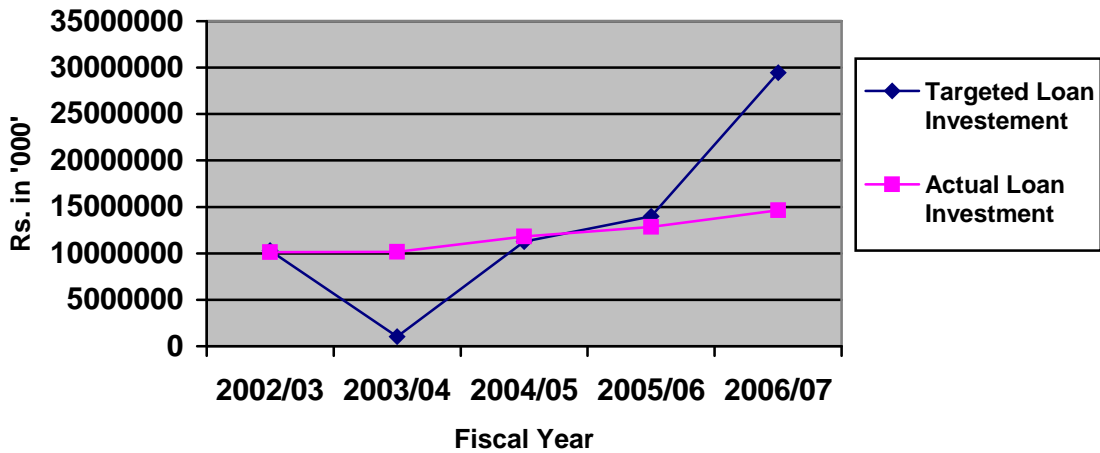
In Rs '000'

F/Y	Loan Investment		Percent Change	Loan Collection		Percent Change
	Targeted	Actual		Targeted	Actual	
2002/03	10290000	10115271	-1.69	8830000	8173332	-7.43
2003/04	1050000	10148569	-3.35	9460000	9077415	-4.04
2004/05	11270000	11817057	4.85	10310000	10330873	0.20
2005/06	13980000	12855543	-8.04	11720000	11841604	1.03
2006/07	29440000	14650200	-50.23	24810000	13788900	-44.42

Source: ADB/N annual report and annual program budget.

Figure 4.22

Line Diagram of Targeted and Actual Loan Investment

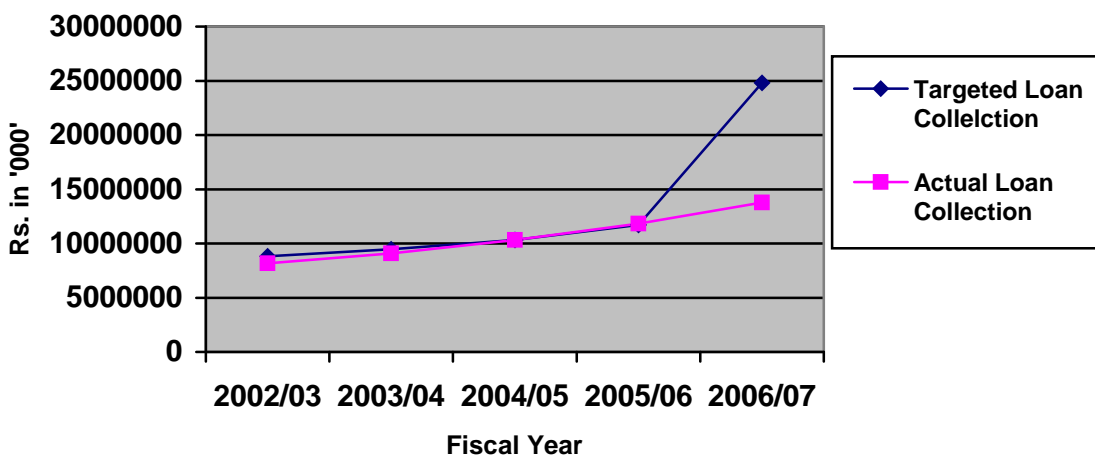


Targeted and actual loan investment amount is increased every year. The lowest targeted loan investment is Rs 102900000 thousands in F/Y 2002/03 where the highest targeted investment amount is Rs 294400000 in F/Y 2006/07. The lowest actual loan investment amount is Rs 10115271 thousands in F/Y 2002/03 and the highest actual loan investment amount Rs 14650200 thousands in F/Y 2006/07.

The different or percentage change between target loan investment and actual loan investment is -1.69 percent, -3.35 percent, 4.85 percent, -8.04 percent and -50.28 percent from F/Y 2002/03 to 2006/07 respectively.

Figure 4.23

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 8830000 thousands in F/Y 2002/03 and the highest targeted loan collection amount is 24810000 thousands in F/Y 2006/07. Likewise, the lowest actual loan collection amount is Rs 8173332 thousands in F/Y 2002/03 where the highest actual loan collection is Rs 13788900 thousands in F/Y 2006/07.

The difference or percentage change between targeted loan collection and actual loan collection is -7.43 percent, -4.04 percent, and 0.20 percent, 1.03 percent and 44.42 percent from F/Y 2002/03 to 2006/07.

The difference or percentage change between targeted loan and actual loan investment and collection shows error in setting of targeted loan investment and collection because there is greater deviation.

4.8.1 t-test Targeted and Actual Loan Investment and Collection

(d) Hypothesis Fourth

(H₀): $\sim X_1 \sim X_2$ (There is no significant difference between the ratios of targeted loan investment and actual loan investment)

(H_A): $\sim X_1 \mid \sim X_2$ (There is significant difference between the mean ratios of targeted loan investment and actual loan investment).

Table 4.19
Targeted and Actual Loan Investment

Where ,

X_1 X Targeted Loan Investment

X_2 X Actual Loan Investment

F/Y	X_1	$(X_1 - \bar{X}_1)^2$	X^2	$(X_2 - \bar{X}_2)^2$
2002/03	102.90	2309.76	101.15	324.72
2003/04	105	2112.32	101.49	312.58
2004/05	112.70	1463.83	118.17	1
2005/06	139.80	124.54	128.55	87.98
2006/07	294.40	20575.03	146.50	746.93

	X_1 754.80	X_1^2 36585.48	X_2 595.86	X_2^2 1473.21
--	--------------	------------------	--------------	-----------------

$N = 5$

$$\bar{X}_1 = \frac{X_1}{n} = \frac{754.80}{5} = 150.96$$

$$\bar{X}_2 = \frac{X_2}{n} = \frac{595.86}{5} = 119.17$$

$$S^2 = \frac{X_1^2}{n_1} - \frac{X_1^2}{n_2} = \frac{26585.48}{5} - \frac{1473.21}{5} = 3507.33$$

Test Statistic, Under H_0 ,

$$t = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{S^2 \left(\frac{1}{n_1} + \frac{1}{n_2} \right)}} = \frac{150.96 - 119.17}{\sqrt{3507.33 \left(\frac{1}{5} + \frac{1}{5} \right)}} = \frac{31.79}{\sqrt{1402.932}} = \frac{31.79}{37.45} = 0.85$$

$$|t| = 0.85$$

Critical value: The tabulated value of t at 5 percent level of significance 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 is (H_0) accepted. In other words there is no significant difference between the targeted and actual loan investment of ADB/N.

T-test for targeted and actual loan collection

(e) Hypothesis Fifth:

(H_0): $\sim X_1 \sim X_2$ (There is no significant difference between the ratios of targeted loan investment and actual loan investment)

(H_A): $\sim X_1 \mid \sim X_2$ (There is significant difference between the mean ratios of targeted loan investment and actual loan investment).

Table 4.20

Targeted and Actual Loan Investment

Where X_1 X Targeted Loan Investment

X_2 X Actual Loan Investment

F/Y	X_1	$(X_1 - \bar{X}_1)^2$	X_2	$(X_2 - \bar{X}_2)^2$
2002/03	88.3	1760.64	81.73	609.59
2003/04	94.60	1271.64	90.77	244.92
2004/05	103.10	737.66	103.31	9.67
2005/06	117.20	170.56	118.42	144
2006/07	248.10	13886.27	137.89	990.36
	$\sum X_1 = 651.30$	$\sum (X_1 - \bar{X}_1)^2 = 17826.77$	$\sum X_2 = 532.12$	$\sum (X_2 - \bar{X}_2)^2 = 1998.54$

$N = 5$

$$\bar{X}_1 = \frac{\sum X_1}{n} = \frac{651.30}{5} = 130.26$$

$$\bar{X}_2 = \frac{\sum X_2}{n} = \frac{532.12}{5} = 106.42$$

$$S^2 = \frac{\sum (X_1 - \bar{X}_1)^2 + \sum (X_2 - \bar{X}_2)^2}{n_1 + n_2 - 2} = \frac{17826.77 + 1998.54}{5 + 5 - 2} = 2978.16$$

Test -Statistics under H_0

$$t = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{S^2 \left(\frac{1}{n_1} + \frac{1}{n_2} \right)}} = \frac{130.26 - 106.42}{\sqrt{2978.16 \left(\frac{1}{5} + \frac{1}{5} \right)}}$$

$$= \frac{23.84}{\sqrt{991.264}} = \frac{23.84}{31.48} = 0.75$$

Critical Value: The tabulated value of t at 5percent level of significance for two-tailed test at 2 degree of freedom 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 significant different between targeted and actual loan collection of ADB/N.

4.9 Analysis of Primary Data

Descriptive qualitative analysis is used to describe and analyze primary raw data obtained from farmers, focus group discussion and officials of ADB/N. Opinion & views are expressed in percentage to show result obtained from primary data.

4.9.1 Analysis of Primary Data Obtained from Farmers

Primary data is collected from farmers by the help of scheduled structural questioner through personnel face to face interview. Seventeen questions are asked to the 40 farmers of Doti districts Dipyal, Silgadhi Nagarpalika's ward No. 9, 10 and 11 who have received loan from ADB/N. Most of the loan takers understood about loan from ADB/N, through their neighbors, then after the officials' friends and relatives among 40 respondents, 22 respondents (55 percent) replied that they are simulated to take loan from ADB/N by income and saving, 10 respondent 25 percent by employment, respondent 10 percent by poverty and respondent 10 percent from all above.

Among the 40 respondent, only 21 respondents (52.50 percent) replied that they have utilized agricultural loan taken from ADB/N for agriculture purpose and remaining 19 respondents (47.50 percent) did not utilize in agriculture purpose i.e. they have misused of loan. Agricultural purpose loan is misused by paying other loan and fulfilling basic needs.

Table 4.21

Utilization of Loan in Agricultural Purpose

Utilization of Loan	No. of People	Percent
Yes	21	52.50
No	19	47.50
Total	40	100

Loan Payment Schedule

After providing loan ADB/N shows loan amortization schedule to the borrower. Among 40, only 24 respondents (60percent) replied that they are familiar with their loan payment schedule and remainders of 16 respondents (40 percent) are to be found that they are unknown about the payment schedule.

Table 4.22
Loan Payment Schedule

Loan Schedule	No. of People	Percent
Yes	24	60
No	16	40
Total	40	100

Payment of Loan Amount

After taking loan from ADB/N, the borrowers must have to paid loan to bank. Among 40 respondent, (47.5 percent), 19 respondent replied that they have to paid their loan amount two times .i.e. half yearly, 7 respondent (17.5 percent) paid their loan amount four time i.e. 3 monthly (17 percent) respondent paid their loan amount one time i.e. yearly and 7 respondent (17.5 percent) did not paid any installment at all.

Table 4.23
Payment of Loan Amount

Installment period	No. of People	Percent
Two time (Half yearly)	19	47.5
Four time (Quarterly)	7	17.5
One time (Yearly)	7	17.5
No	7	17.5
Total	40	100

Modern Technology

The majority of only 30 percent farmers are using have used modern technology and remaining 70 percent did not use. They have used only, modern technology of improved seeds, insecticides and fertilizer. Among 40 respondents, only 12 respondents (30 percent) replied that they have used seeds, insecticides and fertilizer and remainders of 28 respondents (70 percent) did not use modern technology.

Table 4.24
Application of Technology

Use of Technology	No. of People	Percent
Seeds, insecticides & fertilizer	12	30
No	28	70
Total	40	100

Reasonable Place of Market

The majority of the people know their market to sell their agricultural product. Among 40 respondents, 35 respondents (87.5 percent) sell their agricultural product in local market and there is no respondent to sell agricultural product in international market.

Table 4.25
Reasonable Place of Market:

Market	No. of People	Percent
Local	35	87.5
National	5	12.5
International	0	0
Total	40	100

Priority for expenditure of agricultural income

Priority for expenditure of agriculture income also affects agricultural business. Among 40, 28(70 percent) respondent, replied that they give priority for expenditure of agricultural income to fulfill family requirement, 4 respondent (10 percent) use in rest in own business, 4 respondent (10 percent) used to save for future and 4 respondent use to in used in other business of their agricultural income.

Table 4.26

Priority for expenditure of agricultural income

Priority on expenditure	Frequency	Percent
To fulfill family requirement	28	70
Reinvest in your own business	4	10
Saving for future	4	10
To invest in other business	4	10
Total	40	100

Commitment and Service Charges of ADB/N

ADB/N charges commitment and service charges to farmers who take loan greater than 50000. All 40 respondents, 100 percent replied that the commitment and service charged by ADB/N is not satisfactory and no respondent in favor of such charges. Respondent suggested that remove the commitment and a service charge because this types of charges increase cost of production.

Table 4.27

Commitment and Service Charges of ADB/N

Reasonable	No. of People	Percent
Yes	0	0
No	40	100
Total	40	100

Problem of Taking/Paying Loan from ADB/N

Among 40 respondent, 25 respondent (62.5 percent) replied that they did not face any problem while taking, paying loan from ADB/N and remaining is respondent (37.5 percent) replied that they face problem while taking loan from ADB/N.

Table 4.28

Problem of Taking/Paying Loan from ADB/N

Problem	No. of People	Percent
----------------	----------------------	----------------

Yes	25	62.5
No	15	37.5
Total	40	100

Received Letters or Notice from ADB/N

ADB/N send letters or notice to the borrowers before due date and after crossing such due date. Among 40 candidates, 30 percent (12 respondents) replied they received three times letters, 20 percent (8 respondents) received letter two times, 40 percent respondent received no letter and remaining only 4percent received letter one time from ADB/N.

Table 4.29

Received Letters or Notice from ADB/N

Letter From ADB/N	Frequency	Percent
Three times	12	30
Two times	8	20
No	16	40
One time	4	10
Total	40	100

Current Interest Rate Charges by ADB/N

ADB/N charged different interest rate on loan taken by farmers Among 40 respondent, 32 respondent (80 percent) replied that they did not satisfied by current interest rate charged by ADB/N and remaining 20 percent respondent (8 respondent) are satisfied by the interest rate charges by ADB/N.

Table 4.30

Current Interest Rate Charges by ADB/N

Satisfied	Frequency	Percent
Yes	8	20
No	32	80
Total	40	100

Interest Discount of ADB/N

Interest rate is given by ADB/N to farmers who pay monthly interest to bank. I found most of the respondent (95 percent) knew about the discount of ADB/N and due to the discount they are motivated to pay interest in time.

Table 4.31

Interest Discount of ADB/N

Discount	Frequency	Percent
Yes	38	95
No	2	5
Total	40	100

Not to or Delayed Payment of Loan

Many times, farmers taking loans from ADB/N are not able to repay loan in time. Among 40 respondent, 50 percent (20 respondent) replied that they are unable to pay loan in time because of inadequate income from the agriculture, 15 percent (6 respondent) none problems of payment of loan and remaining 35 percent (14 respondent) lack of market for the agricultural product.

Table 4.32

Not to Delayed Payment of Loan

Cause of not to/delayed payment of loan	Frequency	Percent
Inadequate income from agriculture	20	50
Misuse of Loan	6	15
Lack of Market	14	35
Because of Overvaluation of Loan	0	0
None	0	0
Total	40	100

Improvement of Life Standard

ADB/N grants loan to customer for improving the life standard to Nepalese citizens. Among 40 (80 percent) 32 respondent answered that their life standard is approved and remaining 20 percent replied that their life standard is not improved by taking loan from ADB/N.

Table 4.33

Improvement of Life Standard

Improvement of Life Standard	Frequency	Percent
Yes	32	80
No	8	20
Total	40	100

4.9.2 Focus Group Discussion with Farmers of ADB/N

Focus group discussion in conducted with the 12 farmers ADB/N, sampled from Dipayal Silgadhi Nagarpalikas, Doti. The objectives of focus group discussion here is to find problems raised due to politics on loan investment, collection and outstanding and find out problem existing this and find problem solving technique in this area.

Focus group discussion is conducted in "Current political insurgency and instability Impact of ADB/N farmers with special reference to loan investment, collection and outstanding." All 12 participants are given ten minutes time to speak and through the discussion with the farmers it is found that,

- a. Bank branches and depots are merged in districts, there in no contact between farmers and officials. It has created a problem to get loan in time from ADB/N, as well as to repayment of loan and its interest to ADB/N.
- b. Most of farmers are ready to repay loan but the pressure is given not to pay their loan to bank. So politicization increased the tolerance for loan defaults, waivers and postponements
- c. Farmers have to pay interest monthly in their loan but bank deposits and branches are merged into districts and they have to go 12 times in district, due to this cost of production in increasing.

The conclusion from focus group discussion is that the politics & market has greater impact to bank as well as farmers especially on loan investment, collection and outstanding . Most of farmers are uneducated, so the bank officials keep good public relation to them. More than 80 percent of problems of bank and farmers are found to relate to political problems of nation. All the concerned parties including policy of country is responsible in problem solving.

4.9.3 Analysis of Primary Data Obtained from Officials

Primary data is collected from the officials of the ADB/N by the help of scheduled structural questionnaire. Altogether 11 questions were asked to the officials SFDP and other different divisions such as finance division, loan division, loan collection, accounting division of ADB/N head office. The research questionnaire were placed to 14 section chiefs and loan officers

Utilization of Loan in Agricultural Purpose

All the respondents taken under study response that majority of loan taken was utilized fully for the agricultural purpose. The success percentages of loan taken through various branch offices were found 75 percent, 80 percent, 90 percent, and 95 percent. This indicates that the bank is not able to utilize 100 percent loan and the misuse of loan was found 5 percent, 10 percent, 20 percent, and 25 percent, which was granted by different branches of ADB/N.

Table 4.34

Utilization of Loan in Agricultural Purpose

Improvement of Life Standard	Frequency	Percent
Yes	14	100
No	0	0
Total	40	100

Foreign/Indigenous Subsidy

All of 14 respondents (100 percent) replied that there is foreign/ indigenous subsidy to ADB/N for the purpose to develop farmers and the subsidy is for biogas and power development. In addition to this subsidy, some projects also enjoy interest subsidy.

Table 4.35
Foreign/Indigenous Subsidy

Subsidy	Frequency	Percent
Yes	14	100
No	0	0
Total	40	100

Promotion Policy for Poor and Ultra Poor

All the respondents taken under study replied that ADB/N has adopted the promotion policy to grass root level farmers focusing to basically poor peoples. According to respondents, small farmer development program, small farmers' cooperative limited as small finance are examples of promotion policy to uplift the poor.

Table 4.36
Promotion Policy for Poor and Ultra Poor

Promotion Policy	Frequency	Percent
Yes	14	100
No	0	0
Total	40	100

Regular Payment of Installment

Majority of respondents (75 percent) replied that the debtors/farmers of ADB/N repay their installment in regular way whereas remaining respondents (25 percent) fails to repay their regular installment. The success rates of payment of debt under various branches are found 60 percent, 75 percent, 80 percent, and 90 percent. The natural calamities, lack of proper market, political disturbances, lack of perfect harmony between farmers and bank are factors responsible to make failure and irregularity in repayment of debt amount.

Table 4.37

Regular Payment of Installment

Payment of Installment	Frequency	Percent
Yes	11	75
No	3	25
Total	40	100

Lending Policy and Procedure of ADB/N

Regarding to lending policy and procedure of ADB/N, 40 percent respondents replied easy, 50 percent respondents replied difficult and remaining 10 percent respondents replied moderate to implement this policy and procedures.

Table 4.38

Lending Policy and Procedure of ADB/N

Lending Policy and Procedure	Frequency	Percent
Easy	6	40
Difficult	6	50
Moderate	2	10
Total	14	100

Commitment and Service Charges of ADB/N

All the respondents taken as sampled replied that commitment and service charged by ADB/N are higher, which would be used as an additional amount in agriculture field if it were not charged so high. However, farmers were found not in fully against the higher commitment and service charges imposed by ADB/N.

Table 4.39

Commitment and Service Charges of ADB/N

Reasonable	Frequency	Percent
Yes	0	0
No	14	100
Total	14	100

Supervision and Monitoring of ADB/N

The officials of ADB/N makes detailed about pre-feasibility study of agri-projects for big projects and conducts the general study for projects having small in size before granting loan to users. All respondents replied that supervision and monitoring is carried out by the officials of ADB/N after making loan to agricultural project. Frequency supervision and monitoring is performed for both big and small projects.

Table 4.40

Supervision and Monitoring of ADB/N

Supervision and Monitoring	Frequency	Percent
Yes	14	100
No	0	0
Total	14	100

Status of Outstanding Loan of ADB/N

According to respondents, outstanding loan is in increasing trend. This is because of creditability of ADB/N market outreach and increasing demand of agricultural/rural credit. In addition to this reason, increasing of such outstanding loan is because of political instability. But regarding to rural areas, as banks are more concentrated in providing their services for their clients located at central places of district, banks are fail to make loan as investment.

Table 4.41

Status of Outstanding Loan of ADB/N

Status of Outstanding	Frequency	Percent
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Increasing	14	100
Decreasing	0	0
Total	14	100

4.10 Major Findings of the Study

Findings Obtained from Secondary Data

1. Findings from targeted/actual loan investment, outstanding and collection

Targeted loan investment and collection is increased every year and weight-age growth rate is fluctuating. Percentage of collection to investment is in fluctuating trend. This indicates that there is some error in standard setting. The positive calculated value of correlation between these two variables proves that increased in targeted loan investment also caused to increase in targeted loan collection.

Actual loan investment and collection are found increased every year but weight age growth rate with fluctuating trend. Percentage of loan collection to investment is in increasing trend. This has proved by value of correlation coefficient, which is found positive with 0.99.

Actual loan outstanding and collection is observed in increasing each year. The highest percentage of collection to outstanding loan ratio is 59.83 percent in F/Y 2006/07. This percentage of outstanding loan to collection ratio is not satisfactory. This contradicts the significance test of relationship of increasing outstanding loan to increasing collection.

2. Findings from Actual Loan Investment, Outstanding and Collection in Purpose Wise

Actual loan investment of cereal and cash purpose is in fluctuating trend and showed negative growth rate of 13 percent. Actual loan collection is increased every year and weight age growth rate is in fluctuating trend. The lowest percentage of loan

collection to investment is 85.77 percent in F/Y 2002/03 percentage of loan collection to investment seems favorable The highest percentage of loan collection to outstanding is 54.83 percent in F/Y 2006/07. Percentage of collection to outstanding ratio is very low. This is because of the existence of insignificance in relationship causing increase in loan investment/outstanding decrease in loan collection and vice versa.

Actual loan investment, outstanding and collection in terms of the purpose of marketing is increased every year and weight age growth rate is found fluctuating in trend. Percentage of loan collection to investment decreased to 80.43 percent in F/Y 2004/05 and afterwards it is found increasingly. Likewise, the highest percent of loan collection to outstanding is 81.90 percent in F/Y 2006/07. Because of significant relationship existed, increase in loan investment/outstanding increases loan collection.

Actual loan investment and its growth rate for agri-tools and irrigation under purpose wise study is found not in similar. Actual loan collection is increased every year and weight age growth rate is fluctuating trend. Percentage of loan collection to investment fluctuates from 104.97 percent to 151.86 percent in F/Y 2002/03 and 2006/07 respectively. Because of significant relationship existed, increased in loan investment increase in loan collection. Loan outstanding amount and growth rate is in fluctuating trend. The highest percent of loan collection to outstanding is 24.78 percent in F/Y 2005/06 which shows very poor collection to outstanding ratio. Because of significant relationship existed, increase in outstanding increases loan collection.

Actual loan investment, outstanding and collection in the livestock area is increased every year and weight age growth rate is in a fluctuating trend. The lowest percent of loan collection to investment is 83.72 percent. Percentage of loan collection to outstanding 48.79 percent in F/y 2006/07, which seems to be very poor percentage of collection to outstanding ratio. Because of significant relationship existed, increase in loan investment/outstanding increases loan collection.

Actual loan investment, outstanding and collection made in agro and cottage industry is found increasing every year and weight age growth rate is in fluctuating trend. The lowest percent of loan collection to investment is 79.35 percent and percentage of loan collection to outstanding is lower with 58.36 percent in F/Y 1006/07. Because of significant relationship existed, increase/decreased in loan investment/outstanding decrease/increases in loan collection.

Whereas in the case of bio-gas and power development, the actual loan investment, the outstanding, the collection growth rates are found in fluctuating trend. Percent of loan collection to investment is fluctuating 111.65 percent to 198.45 percent in F/Y 2002/03 and 2006/07 respectively. Because of insignificant relationship existed, increase/decrease in investment decreased/increase in collection. Likewise, the highest percentage of loan collection to outstanding is 61.26 percent in F/Y 2006/07. Because insignificant relationship existed, increase/decrease in loan outstanding decrease/increase loan collection.

In the housing and land development purpose, actual loan investment, outstanding, collection and weight age growth rate is in fluctuating trend. Percentage of loan collection to investment is also fluctuating 100.18 percent to 136.36 percent in F/Y 2002/03 and 2006/07 respectively. The highest percentage of loan collection to outstanding is 32.55 percent in F/Y 2002/03 which seems very low and in other year very poor. Because of insignificant relationship existed, increase/decrease in loan outstanding decrease/increase in loan collection.

Actual loan investment, outstanding growth rate of horticulture purpose is in fluctuating trend. Loan collection is increased every year and weight age growth rate is in fluctuating trend. Percent of loan collection to investment is fluctuating 102.61 percent to 166.29 percent in F/Y 2002/03 and 2006/07 respectively. The highest percent of loan collection to outstanding is 2002/03 in F/Y 2006/07. So, this ratio is very poor. Because of insignificant relationship existed, increase/decrease in loan investment and outstanding decrease/increase in loan collection.

Actual loan investment, collection and growth rate in the heading of go dam and cold storage is not in similar trend. Loan outstanding amount if increased every year and growth rate is increase in a decreasing trend percent of loan collation to investment fluctuate, 76.89 percent to 30.95 percent in F/Y 2002/03 and 2006/07 respectively, the highest percent of loan collection to outstanding is 14.19 percent in F/Y 2006/07. The collection of loan as compare to outstanding loan is poor. Loan investment and collection has insignificant relationship whereas the loan outstanding has significant relationship with collection

Growth rate of actual loan investment, outstanding loan and the loan collection in tea and coffee sector is found ups and down for each year. Percentage of loan collection to investment is also fluctuating 49.65 percent to 120.63 percent in F/Y 2002/03 and 2006/07 respectively. Likewise percent of loan collection to outstanding is fluctuating 4.87 percent to 5.79 percent in F/Y 2002/03 and 2006/07 respectively, so percent of collection to O/S ratio is very poor. Because of insignificant relationship existed, increase/decrease in loan investment and outstanding decrease/decrease in loan collection.

3. Findings from Actual Loan Investment, Outstanding and Collection in Term wise

Actual loan investment, outstanding and collection made for short-term is increasing each year. The lowest percent of loan collection to investment is 76.46 percent in F/Y 2002/03 and the highest is 89.28 percent in F/Y 2006/07. It seems very good. Loan outstanding amount for short term wise is also increased each year due to increase in due loan each year and increased in investment. Likewise, the loan outstanding, loan collection amount is increasing each year because of smoothly collection of previous due loan as well as increase in investment.

Actual investment, outstanding and collection of medium term is infiltrating trend. Loan investment amount of loan provided under the medium term purpose is Rs

4432558 thousands. Like loan investment, loan outstanding and collection amounts are in fluctuating trend. But percent of loan collection to loan investment is increasing each year. It seems very good. The highest percent of loan collection to loan outstanding is 48.35 percent in F.Y. 2006/07, which seems satisfactory.

Actual loan investment, outstanding and collection of long-term wise is in fluctuating trend. The highest amount of loan provided under the long-term is Rs 149436 thousands in F.Y. 2004/05. Percent of loan collection to loan investment is increasing each year. The highest percent of loan collection to loan investment is 102.32 percent in F.Y. 2006/07. But the highest percent of loan collection to loan outstanding is 10.68 percent in F.Y. 2006/07 where the lowest is 8.97 percent belonging to F.Y. 2003/04.

4. Findings from Actual Loan Investment, Outstanding and Collection of Development Region-Wise

The highest actual loan investment of eastern, central, western, mid-western and far western development regions are 23.60 percent, 51.11 percent, 30.87 percent, 9.89 percent and 6.22 percent in F.Y. 2004/05, 2005/06, 2003/04, 2003/04 and 2005/06 respectively. Loans made for far western development regions have found lesser as comparing to other development regions. Through F-test it is found that there is significant difference of loan investment of ADB/N among the five development regions.

The highest actual loan outstanding of eastern, central, western, mid-western another western development regions are 28.18 percent, 44.27 percent, 22.74 percent, 8.28 percent and 8.60 percent in F.Y. 2002/03, 2006/07, 2004/05, and 2005/06 respectively. Through F-test it is found that there is significant difference of loan outstanding of ADB/N among the 5 development regions. The highest actual loan collection of eastern, central, mid-western and 8.28 percent and 8.34 percent in F.Y. 2004/05, 2005/06, 2003/04, 2003/04, and 2005/06 respectively in total of 100 percent loan collection. Through F-test it is found in total there is significant difference of loan collection of ADB/N among the five development regions. The lowest percent of loan collection to investment of eastern, Central, Western, Mid western and far western development regions are 97.08 percent, 96.28 percent, 93.74 percent, 95.08 percent and 107.70 all in 2006/07. This seems very good. Likewise, the highest, percent of

loan collection to loan outstanding development regions are 68.61 percent, 98.56 percent, 92.07 percent, 79.38 percent and 63.36 percent in F.Y. 2005/06, 2005/06, 2006/07, 2005/06 and 2005/06 respectively in total of 100 percent loan collection and above figure shows very low and percent of collection to outstanding ratio of development regions seems satisfactory.

Findings from Primary Data

1. Findings from Primary Data Obtained From Farmers

52.50 percent of farmers have utilized agricultural loan taken from ADB/N for agricultural purpose and remaining 47.50 percent did not utilize in agricultural purpose i.e. they have misused the loan by paying other loan and fulfilling family requirement.

60 percent of the farmers of ADB/N are found to know about loan payment schedule and remaining 40 percent did not know their loan payment schedule.

47.50 percent of farmers paid their loan amount half-yearly, 17.5 percent paid installment at all.

The majority of farmers i.e. 70 percent of them have not used modern technology and rest of them did use it.

The farmers selling their agricultural product in local market are found 87.5 percent and 12.5 percent of total farmers are found selling their product in national market and no farmers were found in international market to launch their product produced.

The majority of farmers (70 percent) use their income receive from selling products in household purpose, 10 percent of them found to use to expand their own business, 10 percent were savings for future needs and remaining were using in other businesses.

A few farmers with 20 percent of total sampled taken under study were found satisfied and 80 percent of them were not satisfied by the current interest rate charged by ADB/N.

All the farmers under sampled taken were not satisfied by the commitment and service charged of ADB/N.

62.50 percent of the farmers did not face any problem while taking paying loan from ADB/N and remaining 37.50 percent face problem while taking loan.

The farmers receiving informed letters by three times were 30 percent, 20 percent of them were receiving two times, 10 percent of them by one time and 40 percent received no letter from DB/N because of paying their debt in time

Among the farmers, 95 percent of them were known and understood interest discount of ADB/N. Farmers are motivated by the interest discount.

50 percent farmers unable delayed to pay loan because of inadequate income from agricultural, 15 percent farmers because of misused of loan, 15percent lack of marketability of product.

80percent farmer's life is improved/uplifted and 20 percent farmers life if not improved by taking agricultural/rural credit.

2. Findings from Focus Group Discussion with the Farmers of ADB/N

Following findings were concluded from focus group discussion:

Due to merging the bank depots and branches in district level, farmers were found difficulties in meeting with officials. This has created problem in taking and paying loan to ADB/N.

Many farmers with ability to repay their debt amount were found to not paying their dues due to political influences.

Due to the system of paying their interest in monthly basis, the cost has found to increase to farmers after merging depots and branches in district level.

As many seasonal cash crops have limited life of not more than 15 days needs to have immediate market to sell. Otherwise the products go decaying and being worthless investment to farmers. These reasons were also found to failing to repay the loan by farmers

3. Findings from Primary Data Obtained From Officials

According to ADB/N officials, utilization of loan under various headings ranges from 70 to 80 percent and some areas with 90 to 95 percent of the loan made by ADB/N. This showed the misuse of loan ranging from 20 to 30 percent and 5 to 10 percent

The bank officials also explored about the foreign indigenous subsidy to ADB/N for the further development in biogas and power sectors.

Information based of ADB/N officials, the bank was facing problems for making policies such as SFDP and micro finance, SFCL to poor and ultra poor.

75 percent of total officials taken under sample answered that farmers were paying regular installment and remaining of 25 percent answered that farmers were not paying regular installment due to several reasons like natural calamities, political instability in country as well as difficulties in timely meeting with bank officials.

40 percent of total sampled officials of ADB/N thought to be easy to implement policies and procedures of ADB/N regarding to the lending and collection, whereas 50 percent believed that it is difficult and 10 percent is in favored of in between.

All 100 percent official of ADB/N replied the commitment and service charged by ADB/N is reasonable because ADB/N has to maintain overhead cost, to be financially

and operationally viable and to give quality service by in producing new modern banking technologies.

All cent percent officials of ADB/N replied that supervision and monitoring of project is done before and after investment, detailed study in big projects and general study done small project.

All sampled officials responded that the status of outstanding loan is increasing. The reason behind of increasing such as loan is creditability of ADB/N market outreach and increasing demand of agricultural credit. The negative reason of increasing such outstanding loan is because of politics, loan defaulter has been increased, most of depots of ADB/N merged into districts, and the access bank of rural area is lacing. In rural areas there is more requirement of credit but banks are centered in districts and ADB/N is lacking investment in rural areas it has negative impact to farmers

The existing political influences have found negative impact in the overall performance of bank. This has damaged in many areas of the bank such as increasing overdue, lower growth rate of collection, pressure in loan investment as well as misuse in other bank properties, etc. The merging of depots and branches in district level is responsible to set gap between bank and farmers

CHAPTER-V

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Summary

Agriculture is the backbone of Nepalese economy as more than 80 percent of the population are still relying on agriculture. The majority of people of the country (i.e. 86 percent) are still living in rural areas and 38 percent of Nepalese people are living below poverty line. Contribution on GDP by agricultural sector is 39 percent in F/Y2006/07.

ADB/N is established in 1968, granting around 80 percent formal institutional agricultural credit to farmers. The total requirement of agricultural/rural credit of Nepal is estimated at Rs. 18 billion while the total supply from formal banking sector is Rs.5 billion.

Loan investment of development banking of ADB/N refers agricultural credit granted by ADB/N under many headings as: purpose-wise, term-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 by creating employment and self-employment opportunities and thus to reduce poverty through social mobilization.

Ignorance of credit taking procedure of banking, 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 financing Nepalese farmers and his generation born in debt, live in debt; and die in debt.

Poverty alleviation is the main objective of Nepal since 8th plan to this current 10th plan. Agriculture is the chief support to poverty alleviation and to achieve sustainable economic development in rural economy. Nepal becomes full member of WTO by 23 April, 2004. Being member of least developed country, Nepal is a food exporting country. Nepal has threats as well as opportunities. Nepalese agricultural sector/economy should be restructured. Many portfolios on agriculture should be created and have to identify possible line of

agricultural opportunities. This requires excessive homework, capital and technology in Nepal.

The general objectives of this research are to study target/actual loan investment and collection of development region wise. Specific and supportive objectives are kept to fulfill the general objectives and incorporated in the first chapter.

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

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

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

5.2 Conclusion

1. Conclusions obtained from secondary data:

ADB/N since its inception in 1968, has been implementing its activities to boost up economic deployment in the various fields such as agricultural development including cereal crops, horticulture & livestock and industrial developments which includes the bio-gas, solar, micro hydro etc. The research has found that the area covered by the study has effective progress especially in lending, collection & outstanding portfolio of the bank, proving that there has been positive impact on the national economy. The credit delivery has reached almost Rs. 230.48 crore in F/Y 2006/07, where as the collection of Rs. 137.89 crore has found in same fiscal year. Likewise, loan outstanding amount of Rs. 146.50 crore has been made in F/Y 2006/07.

In Nepal without development of agriculture, it is not possible to develop the country. Most of the people are rely on agriculture. Nepal agriculture development bank was established in 40 years ago with main purpose to facilitate the agriculture. It provides financial assistance,

technical and managerial consultancy services to develop the agriculture in Nepal. So, many developing and developed countries of the world like Nepal have tried to establish and develop agriculture. Agriculture development bank may have an important role to play in agricultural development.

The study found that the pattern of investment in different region of the country has found different. The total loan investment in agricultural sectors in F/Y 2006/07 was found Rs292.85 crore. The investment allocation in central region is found 49.46 percent, where as lowest percentage in far western was found with 7.06 percent. The rest with 17.17 percent, 22.65 percent and 9 percent were observed in eastern development region, western development region & mid western development region. This indicates that the agriculture development bank has found to be given more priority in central development region & less priority in far western development region.

Nepal agriculture development bank has found to loan in three different maturities with short term, medium term and long term loan. The research has also explored the bank has given more priority for short term loan and comparatively lesser amount for long term purpose. This is Rs. 101 crore, Rs. 44.32 crore and 1.17 crore in F/Y 2006/007 for short term, medium term and long term respectively. This is due to the nature of the produce as most of the agricultural products belong to seasonal nature.

Short term collection is found to increase every year but long term loan has decreased in F/Y 2003/04 and 2005/06. This proves that bank is successful in collecting short term loan. The collection amount in short term and long term is Rs. 90.13 crore and Rs. 11.97 crore in F/Y 2006/07 respectively.

Along with increase in loan & collection of short term loan, the outstanding of short term loan has also found in increasing trend. This might be due to the increase volume of loan as well as over due loan. The outstanding amounts are Rs. 122.97 crore Rs. 96.30 crore and Rs. 11.20 crore in F/Y 2006/07 for short term, medium term and long term respectively.

The overall conclusion is that there is no doubt about the contribution of ADB/N in helping in the development of agriculture in Nepal, but it is not quite enough. ADB/N should require providing more incentives to people who are beyond the less focus of the bank in order to reduce the regional imbalance.

Conclusions Obtained from Primary Data

2. Conclusion of Primary Data Obtained from Farmers:

19 farmers did not utilize agricultural loan taken from ADB/N for agricultural purpose and loan is misused by paying other loan and by fulfilling family requirement.

40 percent of farmers did not know their loan payment schedule.

70 percent of farmers of ADB/N did not use modern technology.

87.50 percent of farmers sell their agricultural product in local market, 12.5 percent sell in national market and no farmers sell their agricultural product in international market. This shows no access of farmer in international market.

70 percent of farmers spend their agricultural income to fulfill family requirement, 10 percent used to save for future and only 10 percent use reinvest in own business.

80 percent of the farmers are not satisfied by the current interest rate charged by ADB/N.

100 percent of farmers did not satisfy by the commitment and service changes of ADB/N because farmers said that it increases cost of production.

Most of farmers received notice or letters from ADB/N to pay their due loan and interest. This system of ADB/N appears very good.

All of 95 percent farmers of ADB/N knew and understand current interest discount of ADB/N and are motivated through this.

50 percent farmers unable/delayed to pay loan because of in an adequate income from agriculture, 15 percent farmers because of misuse of loan, 35 percent is lack of market.

Only 20 percent farmer's life is not uplifted by taking agricultural/rural credit.

3. Conclusions from focus group discussion with the farmers of ADB/N

From focus group discussion with the farmers of ADB/N it is found that bank deposit and branches are merged into districts, there is no contact between farmers and officials of ADB/N. It has created problem to take loan from ADB/N. Cost of production is increasing. Farmers did not get required credit in time. They have to throw their product on road still availability of loan from ADB/N, being reasonable place of market and the correct utilization of loan by farmers. Loan waiver, defaulter and postponement are increasing due to politics.

4. Conclusions from primary data obtained from officials

100 percent officials replied that loan is utilized in agricultural sector but the utilization of loan range is fluctuating. Misuse of loan was found to ranging from 5 to 10 percent, 10 to 20 percent and 20 to 30 percent.

Subsidy is given bio-gas and power development.

Hundred percent officials replied that ADB/N has promotion policy and other many programs such as SFDP and micro finance and SFCLs to uplift life standard of ultra poor.

25 percent officials replied that farmers did not pay regular installment due to natural calamities, impact of politics and non contact among officials and farmers.

Officials replied that service charge is reasonable to maintain overhead cost, to give quality service by in producing new banking techniques.

All 100 percent of ADB/N officials of ADB/N replied that supervision and monitoring is done before and after investment. Detailed study frequently monitoring is done in big project and general study and sometimes monitoring is done in small projects.

100 percent officials said that politics has negative impact to bank is in overall performance and question is marked in operation successfully in all areas of country. Impacts of politics are such as increase in over due, low growth of collection, political pressure on loan investment, destruction of physical and cash assets of bank, merging of depots in district level offices has been increasing gap between bank and farmers.

All Cent percent officials replied that the status of outstanding loan is increasing. Positive reason of increasing such outstanding loan is creditability if ADB/N, market out research of ADB/N and increasing demand of rural credit. The negative reason of increasing such outstanding loan is because of politics, loan defaulter, postponement and waivers have been increased, most of depots of ADB/N are merged into districts and the access of bank in rural area is lacking. In rural areas there is more requirement of credit but banks are centered in districts and ADB/N lacks investment in rural areas and loan outstanding is increasing in decreasing trend. Outstanding loan consists overdue loan and overdue consists non-performing loan. And it has negative impact to farmers as well as bank. Through primary data such as utilization of loan, status of outstanding and non-payment is loan is found that ADB/N has more than 25percent of overdue loan and among this overdue loan non-performing loan is more than 16percent.

5.3 Recommendation

From the analysis of the findings and conclusions of the study, following recommendations are prescribed to improve the present lending and collection procedure and change the present management system of the bank.

-) In every year and sector, collection is slow than disbursement and increasing outstanding is the major problem of the bank. This is happened due to the flexible lending and collection policy of the bank. Therefore, the bank is recommended to give certain consciousness towards than loan disbursement, collection policy and procedures. The most important thing is that the bank must improve its present supervision and controlling department by providing them necessary powers, the officials must visit the field before investment to find out the viability, feasibility and after investment to find out the progress.
-) The bank is recommended to identify the true borrowers while lending loan. Bank ignores the borrower of mid and far western development region. So the bank is suggested to give equal priority to all development regions by providing suitable programmes according to the economic conditions, climate, living standard and culture of the people.
-) It is widely accepted that agriculture needs adequate credit from an effective credit institution for its development but both the borrower and non-borrower have

complain regarding higher interest rate, service and commitment charges, strictly security rules and difficulties in securing loan when needed. So, ADB/N should reduce its interest rate, service and commitment charge and make it easier to attract and motivate the small farmers.

-) If it seems that the bank gives more priority in short term and medium term but it is not enough. The bank must give the priority in long term mortgages not only to develop present position but also introduce modern techniques.
-) Only the investment of loan is not sufficient to change the living standard of rural poor. They can be uplifted if the bank provides technical facilities along with the loan investment, in order to make their investment more effective & productive.
-) Bank should not remain only in loan investment but there is equally important to provide other numerous services like marketing and selling the product, transport facilities, ware house and go-down facilities to store the good for long purpose as well as to help to set suitable price of the products produced.
-) Political influences in decision making process must be discarded. Otherwise the lending to good borrower will not be possible, resulting excessive amount of bad debt of bank.
-) The bank should make its access to rural people by opening new branches in rural areas. So that their potential clients can benefit through services of the bank.
-) The bank must identify the loan to be given on the basis of its suitability of products in any particular region. For example, the livestock may not be possible in all region of the country, and it may not be the rational decision to the bank to grant loan for all the clients from the entire region for the purpose of livestock.

Finally, the active financial program is necessary for the economic development of the country. ADB/N is only institution, which plays a vital role to uplift the people engaging in agriculture by providing agriculture credit and so as to develop the nations. But the bank alone cannot fulfill the entire objectives. The government should provide power to the bank so that the bank can make its crucial decisions independently. Therefore all the parties, the government, the bank, the farmers and the every stakeholder are equally responsible to achieve the national objectives.

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Appendix –I
Request Letter

Dear Respondent/Participant

I am a student of Nepal Commerce Campus. "A study on Investment and Collection of Loan by Agriculture Development Bank " is conducted in partial fulfillment of the requirements for the degree of Master of Business Studies. Your reply will be kept secret and used for only research purpose. Your information is treated as confidentially in this research. Your participant will be as a volunteer.

This research is conducted to know effectiveness, problems and prospects of development credit of ADB/N to ADB/N and Nepalese farmers. This academic research has findings of significance and value to society in general.

.....
Researcher's Name & Signature

.....
Date

Scheduled and Structural Questionnaire to Official

District :

V.D.C :

Ward No. :

Farmer's Name:

1. In which channel, you know about loan from ADB/N?
.....
2. What factor motivated you to take loan from ADB/N?
Poverty Employment
Income and saving All of above
3. Do you have promotion policy for development credit to grass root level farmers?
Yes No
4. Did debtors repay regular installment?

Yes No

If no, what may be the cause?

5. How is the lending policy & procedure of ADB/N and its implementation?

Easy Difficult

6. Is the service and other charges by ADB/N on farmers are reasonable?

Yes No

If yes/no, why?

7. Does the ADB/N study pre-feasibility of the agri-projects submitted for acceptance?

Yes No

If no, why?

.....

8. Do the officials of ADB/N supervise and monitor agricultural project after investment?

Yes No

If yes,

Frequently Sometimes Quite often Never

9. What is the status of the outstanding loan?

Increasing Decreasing

If increasing, what are the reasons?

10. What is the impact of politics & its instability upon the banks performance?

.....

.....

Appendix-II
Request Letter

Dear Respondent/Participant

I am a student of Nepal Commerce Campus. ” A study on Investment and Collection of Loan by Agriculture Development Bank” is conducted in partial fulfillment of the requirements for the degree of Master of Business Studies. Your reply will be kept secret and used for only research purpose. Your information is treated as confidentially in this research. Your participant will be as a volunteer.

This research is conducted to know effectiveness, problems and prospects of development credit of ADB/N to ADB/N and Nepalese farmers. This academic research has findings of significance and value to society in general.

.....
Researcher’s Name & Signature Date

Scheduled and Structural Questionnaire to Official

Name :
Department :
Post :

1. What type of clients you usually deal with?
Farmers Traders Community/Organizations
2. Do you feel that loan is utilized for the purpose it is actually taken?
Yes No
3. Is there any foreign or indigenous grant/subsidy to ADB/N for the purpose of farmer’s development?
Yes No
4. Are you satisfied from the current interest rate changed by ADB/N?
Yes No
If no, what have to do?

5. Is service and other charges by ADSB/N to farmers are reasonable?
 Yes No
 If no, what have to do?
6. Do you face any problems from the officials of the ADB/N while taking/paying loan?
 Yes No
7. How many times you are noticed to repay your due loan?
time(s).
8. Do you familiar about the interest discount of ADB/N?
 Yes No
9. Do you know current interest rebate of ADB/N?
 Yes No
10. Which one of the following factor lead you not to pay the loan taken from ADB/N?
 Because of inadequate income from agri-business
 Because of political influence
 Because of misuse of loan
 Lack of marketability of product
 Because of overvaluation of loan
11. Does loan from ADB/N improved your life standard?
 Yes No
12. Do you utilize entire agricultural loan, taken from ADB/N, for agriculture purpose?
 Yes No
 If yes,percent.
 If no, for which purpose did you use it?

13. Are you sincere/Familiar about your loan repayment schedule?
 Yes No

14. How many times per year have you to pay your loan amount?
times or installment.
15. Do you use modern technology in your business?
 Yes No
 If yes, what type pf modern technology?.....
16. Where is your market for agricultural product?
 Local market National Market
 International Market
17. Which if the following topic do you expend of your agricultural income?
 Reinvest in your own agri-business
 To fulfill family requirement
 To invest in other business
 Saving for future
18. Do the officials of ADB/N supervise and monitor your agricultural business?
 Yes No
 If yes, how often do they visit?
 Frequently Sometimes Quite often Never

Appendix –III

Focus Group Discussion with Officials of ADB/N

Introduction: All the particulars officials of ADB/N will be told focus group discussion and its objectives.

Areas of focus group discussion:

“Current political insurgency and instability’s impact to ADB/N and farmers with special reference to loan investment, collection and outstanding.”

At last thank you so much is given to all of participant and focus group discussion will be end.

Appendix-IV

Profile of Agriculture Development Bank Nepal

Background of ADB/N

ADB/N was established in 1968 under the Agricultural Development Bank Act. 1967. ADB/N is the first development bank of Nepal established as an autonomous organization under the supervision of the Ministry of Finance of His Nepal Government of Nepal. ADB/N has been working as a premier rural credit organization last three decades contributing more than 80% share meeting institutional agricultural credit needs of Nepal. ADB/N will also be incorporated within two year, under the “Bank and Financial Institutions Ordinance 2003.

Objectives of ADB/N

The main objectives of ADB/N is to initiate effective approaches to uplift/raise economic life standard/condition of Nepalese farmers and ensure overall agricultural development by granting agricultural credit and capital inputs in easy and smooth manner.

Main Functions of ADB/N

- Provide short term, medium term and long term agricultural loans to individual farmers, corporate bodies and village committees.
- Provide loan and technical services for the purchase of inputs and capital items such as fertilizers, insecticides, feed, farm machinery, irrigation equipment, canal construction, boring, pump-set and sprinklers.
- Provide loans for the purchase of livestock.
- Finance for small and cottage industries.
- Finance for cold storage, warehousing and other marketing facilities.
- Finance for the capital goods necessary for the development of alternative sources of energy.
- Supervise small farmers development programmes to uplift the socio-economic condition/status of farmers.
- Undertake banking functions to generate resources.
- Provide training to the beneficiaries and the bank staff.

Organization of ADB/N:

Board of Directors of ADB/N:

The Board of Directors of ADB/N is the apex body of the bank organization. BOD formulates policies and provides guideline to the management. The Board of Director of ADB/N constitutes following members:

1. Representative Ministry of Finance Chairman
2. Representative Ministry of Agriculture Chairman
3. Representative Ministry of Land Reform Management and NRB Member
4. Representative Cooperative Organization Member
5. Representative GM of ADB/N Member
6. Representative Individual Shareholders Member

Functional Department of ADB/N

Head office of ADB/N is located in Kathmandu. The functional departments of ADB/N are as follows:

1. Planning and project department.
2. Internal Audit and Inspection Department.
3. Management Information System Department.
4. Human Resource Management Department
5. General Service Department.
6. Account and Financial Management Department.
7. Agricultural Credit Training Institute.
8. Small Farmers and Micro Finance Department.
9. Commercial and Banking Policy and Loan Department
10. Loan Investment and Collection Department.
11. Legal Department.
12. Policy Research Department.

No of Offices of ADB/N

The total no of offices of ADB/N at the end of fiscal year 2002/03 were 511.

			<i>Offices of ADB/N</i>
	S.No	Branch/Office/Units	No. of Offices
1		Head Office	1
2		Supervision and Control	13
3		Main Branches	2
4		Branches	104
5		Sub-branches	127
6		Depots	11
7		SFDP Projects	153
8		Regional Training Center	5
9		District/SEDP Units	28
10		Banking Branches/Sub-branches	53
11		Integrated Banking Branch/Sub branches	9
12		Sub-center	5
Total			511

Capital Sources of ADB/N

ADB/N started its operation with an authorized capital of Rs. 50 million. Now, in present ADB/N authorized capital of Rs. 12 billion and the paid up capital stands at 9.28 billion up to July 2006/07. As per governing act of bank, the HMG/N holds/is obliged to purchase shares amounting to a minimum of 51% of paid up capital. The remaining ownership in shares are left to/belongs to NRB, individuals, cooperatives and others.

Categories of Loan:

ADB/N grants loan to farmers term wise such as short term, medium term and long term in different purposes such as cereal and cash crop, marketing, housing and land development, agri-tools and irrigation, bio-gas and power development, livestock, go-down and cold storage, agro and cottage industry, tea and coffee and non-agriculture and tourism. To raise/uplift economic condition/life standard of farmers in urban and rural areas

Appendix- V

Targeted Loan Investment & Collection:

Let, X = Loan investment Variable

F/Y	X	$x=(X - \bar{X})$	x^2	Y	$y=(Y - \bar{Y})$	y^2	xy
2002/03	102.90	-48.06	2309.76	88.3	-41.96	1760.64	2016.60
2003/04	105	-45.96	2112.32	94.60	-35.66	1271.64	1638.93
2004/05	112.70	-38.26	1463.83	103.10	-27.16	737.66	1039.14
2005/06	139.80	-11.16	124.54	117.20	-13.06	170.56	145.75
2006/07	294.40	143.44	20575.03	248.10	117.84	13886.27	16902.97
	X=754.80		x²=26585.48	Y=651.30		y²=17826.77	xy=21743.39

Y = Loan Collection Variable

Rs. In crore

N = 5

$$\bar{X} = \frac{\sum X}{N} = \frac{754.80}{5} = 150.96 \quad \bar{Y} = \frac{\sum Y}{N} = \frac{651.30}{5} = 130.26$$

$$r = \frac{\sum xy}{\sqrt{\sum x^2} \sqrt{\sum y^2}} = \frac{21743.39}{\sqrt{26585.48} \sqrt{17826.77}} = \frac{21743.39}{163.05 \times 133.52} = \frac{21743.39}{21770.44} = 0.99$$

$$r^2 = 0.98$$

$$t^* = \frac{r}{\sqrt{\frac{1 - r^2}{n - 2}}} = \frac{0.99}{\sqrt{\frac{1 - (0.99)^2}{5 - 2}}} = \frac{0.99}{\sqrt{\frac{0.0199}{3}}} = \frac{0.99}{0.0812} = 12.19$$

Appendix- VI

Actual Investment and Collection

Let, **X = Loan investment Variable**

Y = Loan Collection Variable

Rs. In Crore

F/Y	X	$x=(X - \bar{X})$	x^2	Y	$y=(Y - \bar{Y})$	y^2	xy
2002/03	101.15	-18.02	324.72	81.73	-24.69	609.59	444.91
2003/04	101.49	-17.68	312.58	90.77	-15.65	244.92	276.69
2004/05	118.17	-1	1	103.31	-3.11	9.67	3.11
2005/06	128.55	9.38	87.98	118.42	12	144	112.56
2006/07	146.50	27.33	746.93	137.89	31.47	990.36	860.07
	X=595.86		x²=1473.21	Y=532.12		y²=1855.98	xy=1697.34

N = 5

$$\bar{X} = \frac{\sum X}{N} = \frac{595.86}{5} = 119.17 \quad \bar{Y} = \frac{\sum Y}{N} = \frac{532.12}{5} = 106.42$$

$$r = \frac{\sum xy}{\sqrt{\sum x^2} \sqrt{\sum y^2}} = \frac{1697.34}{\sqrt{1473.21} \sqrt{1855.98}} = \frac{1697.34}{38.38 \times 43.08} = \frac{1697.34}{1653.4104} = 1.03$$

$$r^2 = 1.0609$$

$$t^* = \frac{r}{\sqrt{\frac{1-r^2}{n-2}}} = \frac{1.03}{\sqrt{\frac{1-1.0609}{5-2}}} = \frac{1.03}{\sqrt{\frac{-0.0609}{3}}} = \frac{1.03}{\sqrt{-0.0203}} = 7.23$$

Appendix – VII

Actual loan outstanding and collection

Let, X = Loan investment variable

Y = Loan collection variables

Rs. in crore

F/Y	X	$x = x - \bar{x}$	x^2	y	$y = y - \bar{y}$	y^2	xy
2002/03	186.15	-23.27	541.49	81.73	-24.69	609.60	574.54
2003/04	196.87	-12.55	157.50	90.77	-15.65	244.92	496.41
2004/05	211.73	2.31	5.34	103.31	-3.11	9.67	7.186
2005/06	221.87	12.45	155	118.42	12	144	149.40
2006/07	230.48	21.06	443.52	137.89	31.47	990.36	662.76
	$\sum x = 1047.10$		$\sum x^2 = 1302.85$	$\sum y = 532.12$		$\sum y^2 = 1998.55$	$\sum xy = 1590.29$

$$\bar{X} = \frac{1047.10}{5} = 209.42$$

$$\bar{Y} = \frac{532.12}{5} = 106.42 \quad N=5$$

$$r = \frac{\sum xy}{\sqrt{\sum x^2} \sqrt{\sum y^2}} = \frac{1590.29}{\sqrt{1302.85} \sqrt{1998.55}} = \frac{1590.29}{36.095 \times 44.71} = \frac{1590.29}{1613.81} = 0.99$$

$$r^2 = (0.99)^2 = 0.98$$

$$t^* = \frac{r}{\sqrt{\frac{1-r^2}{n-2}}} = \frac{0.99}{\sqrt{\frac{1-0.98}{5-2}}} = \frac{0.99}{\sqrt{0.0812}} = 12.19$$

Appendix – VII

Actual cereal and cash crop production loan investment collection

Let, X = Loan investment variable

Y = Loan collection variables

Rs. in crore

F/Y	x	$x = x - \bar{X}$	x^2	y	$y = y - \bar{Y}$	y^2	xy
2002/03	21.21	1.67	2.79	18.19	-0.52	0.27	-0.87
2003/04	18.45	-1.09	1.19	17.49	-1.22	1.49	1.33
2004/05	19.56	0.02	0.0004	18.66	-0.05	0.0025	-0.001
2005/06	17.99	-1.55	2.40	18.11	-0.60	0.36	0.93
2006/07	20.51	0.97	0.94	21.08	2.37	5.62	2.30
	$\sum x = 97.72$		$\sum x^2 = 7.3204$	$\sum y = 93.53$		$\sum y^2 = 7.7425$	$\sum xy = 3.689$

$$\bar{X} = \frac{\sum x}{n} = \frac{97.72}{5} = 19.54$$

$$\bar{Y} = \frac{\sum y}{n} = \frac{93.53}{5} = 18.71$$

$$N=5$$

$$r = \frac{\sum xy}{\sqrt{\sum x^2} \sqrt{\sum y^2}} = \frac{3.689}{\sqrt{7.3204} \sqrt{7.7425}} = \frac{3.689}{2.7050 \times 2.7825} = \frac{3.689}{7.5283} = 0.49$$

$$r^2 = (0.49)^2 = 0.24$$

$$t^* = \frac{r}{\sqrt{\frac{1 - r^2}{n}}} = \frac{0.49}{\sqrt{\frac{1 - 0.24}{5}}} = \frac{0.49}{\sqrt{0.2533}} = \frac{0.49}{0.5083} = 0.9739$$

Appendix – IX

Actual cereal and cash crop production loan outstanding collection

Let, X = Loan outstanding variable

Y = Loan collection variables

Rs. in crore

F/Y	x	$x = x - \bar{x}$	x^2	y	$y = y - \bar{y}$	y^2	xy
2002/03	37.26	-1.16	1.3456	18.19	-0.52	0.27	0.5916
2003/04	38.23	-0.19	0.0361	17.49	-1.22	1.49	0.2299
2004/05	39.14	0.72	0.5184	18.66	-0.05	0.0025	-0.0288
2005/06	39.03	0.61	0.3721	18.11	-0.60	0.36	-0.3599
2006/07	38.45	0.03	0.0009	21.08	2.37	5.62	0.0716
	$\sum x = 192.11$		$\sum x^2 = 2.2731$	$\sum y = 93.53$		$\sum y^2 = 7.7383$	$\sum xy = 0.504$

$$\bar{X} = \frac{192.11}{5} = 38.42$$

$$\bar{Y} = \frac{93.53}{5} = 18.71 \quad N=5$$

$$r = \frac{\sum xy}{\sqrt{\sum x^2} \sqrt{\sum y^2}} = \frac{0.5042}{\sqrt{2.2731} \sqrt{7.7383}} = \frac{0.5042}{1.5077 \times 2.7818} = \frac{0.5042}{4.1941} = 0.12$$

$$r^2 = (0.12)^2 = 0.144$$

$$t^* = \frac{r}{\sqrt{\frac{1-r^2}{n-2}}} = \frac{0.12}{\sqrt{\frac{1-0.144}{5-2}}} = \frac{0.12}{\sqrt{0.3285}} = \frac{0.12}{0.5731} = 0.2094$$

Appendix – X

Actual Loan investment and collection of marketing purpose

Let ,Y = Loan collection variables

Y = Loan collection variables

Rs. in crore

F/Y	x	x = X Z \bar{X}	x ²	y	y = y Z \bar{y}	y ²	xy
2002/03	28.89	-12.49	156	22.18	-12.70	161.29	158.62
2003/04	31.39	-9.99	99.80	26.81	-8.07	65.12	80.62
2004/05	40.26	-1.12	1.25	32.38	-2.50	6.25	2.80
2005/06	49.70	8.32	69.22	42.98	8.10	65.61	67.39
2006/07	56.64	15.26	232.87	50.05	15.17	230.13	231.43
	x X206.88		$\phi X^2 = 559.14$	y X174.40		$y^2 X528.40$	$\phi xy X540.9$

$$\bar{X} = \frac{206.88}{5} = 41.38$$

$$\bar{Y} = \frac{174.40}{5} = 34.88 \quad N=5$$

$$r = \frac{\phi xy}{\sqrt{\phi x^2} \sqrt{\phi y^2}} = \frac{540.92}{\sqrt{559.14} \sqrt{528.40}} = \frac{540.92}{23.65 \times 22.99} = \frac{540.92}{543.71} = 0.99$$

$$r^2 = (0.99)^2 = 0.98$$

$$t^* = \frac{r}{\sqrt{\frac{1 - r^2}{n - 2}}} = \frac{0.99}{\sqrt{\frac{1 - 0.99^2}{5 - 2}}} = \frac{0.99}{0.0812} = 12.19$$

Appendix – XI

Actual Loan outstanding and collection of marketing purpose

Let, X = Loan investment variable

Y = Loan collection variables

Rs. in crore

F/Y	x	$x = x - \bar{x}$	x^2	y	$y = y - \bar{y}$	y^2	xy
2002/03	35.33	-12.40	153.76	22.18	-12.70	161.29	157.48
2003/04	39.91	-7.82	61.15	26.81	-8.07	65.12	63.11
2004/05	47.80	0.07	0.0049	32.38	-2.50	6.25	-0.175
2005/06	54.52	6.79	46.10	42.98	8.10	65.61	55
2006/07	61.11	13.38	179.02	50.05	15.17	230.13	202.97
	$\sum x = 238.67$		$\sum x^2 = 440.03$	$\sum y = 174.40$		$\sum y^2 = 528.40$	$\sum xy = 478.38$

$$\bar{x} = \frac{\sum x}{n} = \frac{238.67}{5} = 47.73$$

$$\bar{y} = \frac{\sum y}{n} = \frac{174.40}{5} = 34.88 \quad n=5$$

$$r = \frac{\sum xy}{\sqrt{\sum x^2} \sqrt{\sum y^2}} = \frac{478.38}{\sqrt{440.03} \sqrt{528.40}} = \frac{478.38}{20.98 \times 22.99} = \frac{478.38}{480.3302} = 0.99$$

$$r^2 = (0.99)^2 = 0.98$$

$$t^* = \frac{r}{\sqrt{\frac{1-r^2}{n-2}}} = \frac{0.99}{\sqrt{\frac{1-0.98}{5-2}}} = \frac{0.99}{\sqrt{0.0812}} = 12.19$$

Appendix – XII

Actual loan investment and collection of agri-tools and irrigation purpose

Let, X = Loan investment variable

Y = Loan collection variables

F/Y	x	$x = x - \bar{x}$	x^2	y	$y = y - \bar{y}$	y^2	xy
2002/03	8.06	2.49	6.20	8.46	1.53	2.374	3.8
2003/04	5.95	0.38	0.14	6.86	-0.07	0.0049	-0.03
2004/05	5.35	-0.22	0.05	6.65	-0.28	0.08	0.06
2005/06	3.96	-1.61	2.59	5.85	-1.08	1.17	2.69
2006/07	4.51	-1.06	1.12	6.81	-0.12	0.01	0.13
	$\sum x = 27.83$		$\sum x^2 = 10.10$	$\sum y = 34.63$		$\sum y^2 = 3.60$	$\sum xy = 6.66$

$$\bar{x} = \frac{\sum x}{n} = \frac{27.83}{5} = 5.57$$

$$\bar{y} = \frac{\sum y}{n} = \frac{34.63}{5} = 6.93$$

$$N=5$$

$$r = \frac{\sum xy}{\sqrt{\sum x^2} \sqrt{\sum y^2}} = \frac{6.66}{\sqrt{10.10} \sqrt{3.60}} = \frac{6.66}{3.18 \times 1.90} = \frac{6.66}{6.042} = 1.10$$

$$r^2 = 1.21$$

$$t^* = \frac{r}{\sqrt{\frac{1 - r^2}{n - 2}}} = \frac{1.10}{\sqrt{\frac{1 - 1.21}{5 - 2}}} = \frac{1.10}{\sqrt{0.2646}} = 4.1572$$

Appendix – XIII

Actual loan outstanding and collection of agri-tools and irrigation purpose

Let, X = Loan outstanding variable

Y = Loan collection variables

(Rs. in crore)

F/Y	x	$x = x - \bar{x}$	x^2	Y	$y = y - \bar{y}$	y^2	xy
2002/03	27.72	2.79	7.45	8.46	1.53	2.3409	4.18
2003/04	26.81	1.82	3.31	6.86	-0.07	0.0049	-0.13
2004/05	25.51	0.52	0.27	6.65	-0.28	0.0784	-0.15
2005/06	23.61	-1.38	1.90	5.85	-1.08	1.1664	1.49
2006/07	21.31	-3.68	13.54	6.81	-0.12	0.0144	0.44
	$\sum x = 124.96$		$\sum x^2 = 26.47$	$\sum y = 34.63$		$\sum y^2 = 3.605$	$\sum xy = 5.83$

$$\bar{X} = \frac{124.96}{5} = 24.99 \qquad \bar{Y} = \frac{34.63}{5} = 6.93 \qquad N=5$$

$$r = \frac{\sum xy}{\sqrt{\sum x^2} \sqrt{\sum y^2}} = \frac{5.83}{\sqrt{26.47} \sqrt{3.605}} = \frac{5.83}{5.14 \times 1.90} = \frac{5.83}{9.7660} = 0.60$$

$$r^2 = (0.60)^2 = 0.36$$

$$t^* = \frac{r}{\sqrt{\frac{1 - r^2}{n - 2}}} = \frac{0.60}{\sqrt{\frac{1 - 0.36}{5 - 2}}} = \frac{0.60}{0.4618} = 1.30$$

Appendix (XIV)

Actual loan investment and collection of livestock purpose

Let, X = Loan investment variable

Y = Loan collection variables

(Rs. in crore)

F/Y	x	$x = x - \bar{x}$	x^2	y	$y = y - \bar{y}$	y^2	xy
2002/03	16.34	-1.82	3.31	13.67	-3.05	9.30	5.55
2003/04	15.85	-2.21	4.88	14.63	-2.09	4.37	4.62
2004/05	18.43	0.27	0.07	16.80	0.08	0.0064	0.0216
2005/06	18.73	0.57	0.32	17.80	1.08	1.17	0.62
2006/07	21.34	3.18	10.11	20.72	4.02	16.16	12.72
	$\sum x = 90.79$		$\sum x^2 = 18.69$	$\sum y = 83.62$		$\sum y^2 = 30.85$	$\sum xy = 23.53$

$$\bar{X} = \frac{\sum x}{N} = \frac{90.79}{5} = 18.16$$

$$\bar{Y} = \frac{\sum y}{N} = \frac{83.62}{5} = 16.72$$

$$N=5$$

$$r = \frac{\sum xy}{\sqrt{\sum x^2} \sqrt{\sum y^2}} = \frac{23.53}{\sqrt{18.69} \sqrt{30.85}} = \frac{23.53}{4.32 \times 5.55} = \frac{23.53}{23.98} = 0.98$$

$$r^2 = (0.98)^2 = 0.96$$

$$t^* = \frac{r}{\sqrt{\frac{1-r^2}{n-2}}} = \frac{0.98}{\sqrt{\frac{1-0.96}{5-2}}} = \frac{0.98}{\sqrt{0.0132}} = \frac{0.98}{0.1149} = 8.53$$

Appendix (XV)

Actual loan investment and collection of livestock purpose

Let, X = Loan investment variable

Y = Loan collection variables

(Rs. in crore)

F/Y	x	$x - x Z \bar{X}$	x^2	y	$y - y Z \bar{y}$	y^2	xy
2002/03	37.98	-2.53	6.40	13.67	-3.05	9.30	7.72
2003/04	39.30	-1.21	1.46	14.63	2.09	4.37	2.53
2004/05	40.93	0.42	0.18	16.80	0.08	0.0064	0.0336
2005/06	41.86	1.35	1.82	17.80	1.08	1.17	1.458
2006/07	42.47	1.96	3.84	20.72	4	16	7.84
	$\sum x = 202.54$		$\sum x^2 = 13.70$	$\sum y = 83.62$		$\sum y^2 = 30.85$	$\sum xy = 19.58$

$$\bar{X} = \frac{202.54}{5} = 18.16 \qquad \bar{Y} = \frac{83.62}{5} = 16.72 \qquad N=5$$

$$r = \frac{\sum xy}{\sqrt{\sum x^2} \sqrt{\sum y^2}} = \frac{19.58}{\sqrt{13.70} \sqrt{30.85}} = \frac{19.58}{3.70 \times 5.55} = \frac{19.58}{20.5350} = 0.95$$

$$r^2 = (0.95)^2 = 0.9025$$

$$t^* = \frac{r}{\sqrt{\frac{1 - r^2}{n - 2}}} = \frac{0.95}{\sqrt{\frac{1 - 0.9025}{5 - 2}}} = \frac{0.95}{\sqrt{0.0325}} = \frac{0.95}{0.1803} = 5.27$$

Appendix XVI

Actual loan investment and collection of agro and cottage industry purpose

Let, X = Loan investment variable

Y = Loan collection variables

in crore

F/Y	x	$x - x - \bar{X}$	x^2	y	$y - y - \bar{Y}$	y^2	xy
2002/03	19.29	2.27	5.15	15.31	-0.71	0.50	-1.61
2003/04	16.99	-0.03	0.0009	16.06	0.04	0.0016	-0.0012
2004/05	15	-2.02	4.08	15.04	-0.98	0.96	1.98
2005/06	15.81	-1.21	1.46	15.56	-0.46	0.21	0.56
2006/07	18.02	1	1	18.12	2.10	4.41	2.10
	$\sum x = 85.11$		$\sum x^2 = 11.6909$	$\sum y = 80.09$		$\sum y^2 = 6.0816$	$\sum xy = 3.03$

$$\bar{X} = \frac{\sum x}{n} = \frac{85.11}{5} = 17.02$$

$$\bar{Y} = \frac{\sum y}{n} = \frac{80.09}{5} = 16.02$$

$$N=5$$

$$r = \frac{\sum xy}{\sqrt{\sum x^2} \sqrt{\sum y^2}} = \frac{3.03}{\sqrt{11.6909} \sqrt{6.0816}} = \frac{0.03}{3.42 \times 2.47} = \frac{3.03}{8.45} = 0.36$$

$$r^2 = (0.36)^2 = 0.1296$$

$$t^* = \frac{r}{\sqrt{\frac{1 - r^2}{n - 2}}} = \frac{0.36}{\sqrt{\frac{1 - 0.1296}{5 - 2}}} = \frac{0.36}{\sqrt{0.2901}} = \frac{0.36}{0.5386} = 0.6684$$

Appendix XVII

Actual loan outstanding and collection of agro and cottage industry purpose

Let, X = Loan outstanding variable

Y = Loan collection variables

F/Y	x	x = x Z \bar{X}	x ²	y	y = y Z \bar{y}	y ²	xy
2002/03	30.02	-0.80	0.64	15.31	-0.71	0.50	0.57
2003/04	30.95	0.13	0.02	16.06	0.04	0.0016	0.0052
2004/05	30.91	0.09	0.0081	15.04	-0.98	0.96	-0.09
2005/06	31.16	0.34	0.12	15.56	-0.46	0.21	-0.16
2006/07	31.06	0.24	0.06	18.12	2.10	4.41	0.504
	x X 154.10		ϕx^2 X 0.85	y X 80.09		y ² X 6.0816	ϕxy X 0.83

$$\bar{X} = \frac{154.10}{5} = 30.82 \qquad \bar{Y} = \frac{80.09}{5} = 16.02 \qquad N=5$$

$$r = \frac{\phi xy}{\sqrt{\phi x^2} \sqrt{\phi y^2}} = \frac{0.83}{\sqrt{0.85} \sqrt{6.0816}} = \frac{0.83}{0.922 \times 2.47} = \frac{0.83}{2.2773} = 0.36$$

$$r^2 = (0.36)^2 = 0.1296$$

$$t^* = \frac{r}{\sqrt{\frac{1 - r^2}{n - 2}}} = \frac{0.36}{\sqrt{\frac{1 - 0.1296}{5 - 2}}} = \frac{0.36}{\sqrt{0.2901}} = \frac{0.36}{0.5386} = 0.67$$

Appendix XVIII

Actual loan investment and collection of Biogas and power development purpose

Let, X = Loan investment variable

Y = Loan collection variables

Rs in crore

F/Y	x	$x = x - \bar{x}$	x^2	y	$y = y - \bar{y}$	y^2	xy
2002/03	0.96	0.33	0.1089	1.08	0.19	0.0361	0.0627
2003/04	0.65	0.02	0.0004	0.89	0	0	0
2004/05		0.08	0.0064	0.83	-0.06	0.0036	-0.0048
2005/06	0.40	-0.23	0.0529	0.77	-0.12	0.0144	0.0276
2006/07	0.45	-0.18	0.0324	0.90	0.01	0.0001	-0.0018
	$\sum x = 3.17$		$\sum x^2 = 0.2010$	$\sum y = 4.47$		$\sum y^2 = 0.0542$	$\sum xy = 0.0837$

$$\bar{X} = \frac{\sum x}{n} = \frac{3.17}{5} = 0.63$$

$$\bar{Y} = \frac{\sum y}{n} = \frac{4.47}{5} = 0.89$$

$$N=5$$

$$r = \frac{\sum xy}{\sqrt{\sum x^2} \sqrt{\sum y^2}} = \frac{0.0837}{\sqrt{0.2010} \sqrt{0.0542}} = \frac{0.837}{0.4483 \times 0.2328} = \frac{0.837}{0.1044} = 0.80$$

$$r^2 = (0.80)^2 = 0.64$$

$$t^* = \frac{r}{\sqrt{\frac{1-r^2}{n-2}}} = \frac{0.80}{\sqrt{\frac{1-0.64}{5-2}}} = \frac{0.80}{\sqrt{0.12}} = \frac{0.80}{0.3464} = 2.31$$

Appendix XIX

Actual loan outstanding and collection of Biogas and power development purpose

Let, X = Loan outstanding variable

Y = Loan collection variables

Rs in crore

F/Y	X	$x = x - \bar{X}$	x^2	y	$y = y - \bar{y}$	y^2	xy
2002/03	2.64	0.50	0.25	1.08	0.19	0.0361	0.095
2003/04	2.40	0.26	0.07	0.89	0	0	0
2004/05	2.28	0.14	0.02	0.83	-0.06	0.0036	-0.00084
2005/06	1.91	-0.23	0.0529	0.77	-0.12	0.0144	0.0276
2006/07	1.46	-0.68	0.46	0.90	0.01	0.0001	-0.0068
	$\sum x = 10.69$		$\sum x^2 = 0.8529$	$\sum y = 4.47$		$\sum y^2 = 0.0542$	$\sum xy = 0.1074$

$$\bar{X} = \frac{10.69}{5} = 2.14$$

$$\bar{Y} = \frac{4.47}{5} = 0.89$$

$$N=5$$

$$r = \frac{\sum xy}{\sqrt{\sum x^2} \sqrt{\sum y^2}} = \frac{0.1074}{\sqrt{0.8529} \sqrt{0.0542}} = \frac{0.1074}{0.9235 \times 0.2328} = \frac{0.1074}{0.2150} = 0.50$$

$$r^2 = (0.50)^2 = 0.25$$

$$t^* = \frac{r}{\sqrt{\frac{1-r^2}{n-2}}} = \frac{0.50}{\sqrt{\frac{1-0.25}{5-2}}} = \frac{0.50}{\sqrt{0.25}} = \frac{0.50}{0.50} = 1$$

Appendix XX

Actual loan investment and collection of housing and land development purpose

Let, X = Loan investment variable

Y = Loan collection variables

Rs. in crore

F/Y	x	$x - x \bar{X}$	x^2	y	$y - y \bar{Y}$	y^2	xy
2002/03	0.20	0.10	0.01	0.20	0.08	0.0064	0.008
2003/04	0.06	-0.04	0.0016	0.08	-0.04	0.016	0.0016
2004/05	0.07	-0.03	0.0009	0.09	-0.03	0.0009	0.009
2005/06	0.08	-0.02	0.0004	0.11	-0.01	0.0009	0.0002
2006/07	0.10	0	0	0.13	0.01	0.0001	0
	$\Sigma x = 0.51$		$\Sigma x^2 = 0.0129$	$\Sigma y = 0.61$		$\Sigma y^2 = 0.0091$	$\Sigma xy = 0.0107$

$$\bar{X} = \frac{0.51}{5} = 0.10$$

$$\bar{Y} = \frac{0.61}{5} = 0.12$$

$$N=5$$

$$r = \frac{\phi_{xy}}{\sqrt{\phi_{x^2}} \sqrt{\phi_{y^2}}} = \frac{0.0107}{\sqrt{0.0129} \sqrt{0.0091}} = \frac{0.0107}{0.1136 \times 0.0954} = \frac{0.0107}{0.0108} = 0.99$$

$$r^2 = (0.99)^2 = 0.98$$

$$t^* = \frac{r}{\sqrt{\frac{1 - r^2}{n - 2}}} = \frac{0.99}{\sqrt{\frac{1 - 0.98}{5 - 2}}} = \frac{0.99}{\sqrt{0.0066}} = \frac{0.99}{0.0812} = 12.19$$

Appendix XXI

Actual loan outstanding and collection of housing and land development purpose

Let, X = Loan investment variable

Y = Loan collection variables

Rs. in crore

F/Y	x	$x - x \bar{X}$	x^2	y	$y - y \bar{Y}$	y^2	xy
2002/03	0.63	0.04	0.0016	0.20	0.08	0.0064	0.0032
2003/04	0.61	0.02	0.0004	0.08	-0.04	0.016	-0.0008
2004/05	0.59	0	0	0.09	-0.03	0.0009	0
2005/06	0.57	-0.02	0.0004	0.11	-0.01	0.0009	0.0002
2006/07	0.53	-0.06	0.0036	0.13	0.01	0.0001	0.0006
	$\sum x = 2.93$		$\sum x^2 = 0.006$	$\sum y = 0.61$		$\sum y^2 = 0.0091$	$\sum xy = 0.002$

$$\bar{X} = \frac{\sum x}{n} = \frac{2.93}{5} = 0.59$$

$$\bar{Y} = \frac{\sum y}{n} = \frac{0.61}{5} = 0.12$$

$$N=5$$

$$r = \frac{\sum xy}{\sqrt{\sum x^2} \sqrt{\sum y^2}} = \frac{0.002}{\sqrt{0.006} \sqrt{0.0091}} = \frac{0.002}{0.0775 \times 0.0954} = \frac{0.002}{0.0074} = 0.27$$

$$r^2 = (0.27)^2 = 0.0729$$

$$t^* = \frac{r}{\sqrt{\frac{1 - r^2}{n - 2}}} = \frac{0.27}{\sqrt{\frac{1 - 0.0729}{5 - 2}}} = \frac{0.27}{\sqrt{0.309}} = \frac{0.27}{0.5559} = 0.49$$

Appendix XXII

Actual loan Investment and Collection of Horticulture Purpose

Let, X = Loan investment variable

Y = Loan collection variables

Rs. in crore

F/Y	x	$x - x \bar{X}$	x^2	y	$y - y \bar{Y}$	y^2	xy
2002/03	0.48	0.10	0.010	0.49	-0.01	0.0001	0.001
2003/04	0.33	-0.05	0.0025	0.41	-0.09	0.0081	0.0045
2004/05	0.39	-0.01	0.0001	0.50	0	0	0
2005/06	0.32	-0.06	0.0036	0.52	0.02	0.0004	0.0012
2006/07	0.36	-0.02	0.0004	0.60	0.10	0.01	-0.0020
	$\sum x = 1.88$		$\sum x^2 = 0.0166$	$\sum y = 2.52$		$\sum y^2 = 0.0186$	$\sum xy = 0.0003$

$$\bar{X} = \frac{\sum x}{n} = \frac{1.88}{5} = 0.38$$

$$\bar{Y} = \frac{\sum y}{n} = \frac{2.52}{5} = 0.50$$

$$N=5$$

$$r = \frac{\sum xy}{\sqrt{\sum x^2} \sqrt{\sum y^2}} = \frac{0.0003}{\sqrt{0.0166} \sqrt{0.0186}} = \frac{0.0003}{0.1288 \times 0.1364} = \frac{0.0003}{0.0176} = 0.017$$

$$r^2 = (0.017)^2 = 0.0003$$

$$t^* = \frac{r}{\sqrt{\frac{1 - r^2}{n - 2}}} = \frac{0.017}{\sqrt{\frac{1 - 0.0003}{5 - 2}}} = \frac{0.017}{\sqrt{0.3332}} = \frac{0.017}{0.5772} = 0.0295$$

Appendix XXIII

Actual Loan Outstanding and Collection Horticulture Purpose

Let, X = Loan outstanding variable

Y = Loan collection variables

Rs. in crore

F/Y	x	$x = x - \bar{x}$	x^2	y	$y = y - \bar{y}$	y^2	xy
2002/03	2.36	0.00676	0.49	0.49	-0.01	0.0001	-0.0026
2003/04	2.28	0.0324	0.41	0.41	-0.09	0.0081	-0.0162
2004/05	2.17	0.0049	0.50	0.50	0	0	0
2005/06	1.97	0.0169	0.52	0.52	0.02	0.0004	-0.0026
2006/07	1.73	0.1369	0.60	0.60	0.10	0.01	-0.037
	$\sum x = 10.51$		$\sum x^2 = 2.587$	$\sum y = 2.52$		$\sum y^2 = 0.0186$	$\sum xy = -0.0584$

$$\bar{X} = \frac{\sum x}{n} = \frac{10.51}{5} = 2.10$$

$$\bar{Y} = \frac{\sum y}{n} = \frac{2.52}{5} = 0.50$$

$$N=5$$

$$r = \frac{\sum xy}{\sqrt{\sum x^2} \sqrt{\sum y^2}} = \frac{-0.0584}{\sqrt{2.587} \sqrt{0.0186}} = \frac{-0.0584}{0.5086 \times 0.1364} = \frac{-0.0584}{0.0694} = -0.84$$

$$r^2 = (-0.84)^2 = 0.7056$$

$$t^* = \frac{r}{\sqrt{\frac{1 - r^2}{n - 2}}} = \frac{-0.84}{\sqrt{\frac{1 - 0.7056}{5 - 2}}} = \frac{-0.84}{\sqrt{0.0981}} = \frac{-0.84}{0.3132} = -2.6820$$

Appendix XXIV

Let, X = Loan investment variable

Y = Loan collection variables

Rs. in crore

F/Y	x	$x = x - \bar{x}$	x^2	y	$y = y - \bar{y}$	y^2	xy
2002/03	0.49	0.09	0.0081	0.37	0.10	0.01	0.009
2003/04	0.62	0.22	0.0484	0.44	0.17	0.0289	0.0374
2004/05	0.07	-0.38	0.1089	0.32	0.05	0.0025	-0.0165
2005/06	0.38	-0.02	0.0004	0.11	-0.16	0.0256	0.0032
2006/07	0.44	0.04	0.0016	0.13	-0.14	0.0196	-0.0056
	$\sum x = 2.00$		$\sum x^2 = 0.1674$	$\sum y = 1.37$		$\sum y^2 = 0.0866$	$\sum xy = 0.0275$

$$\bar{x} = \frac{\sum x}{n} = \frac{2}{5} = 0.40$$

$$\bar{y} = \frac{\sum y}{n} = \frac{1.37}{5} = 0.27$$

$$n = 5$$

$$r = \frac{\sum xy}{\sqrt{\sum x^2} \sqrt{\sum y^2}} = \frac{0.0275}{\sqrt{0.1674} \sqrt{0.0866}} = \frac{0.0275}{0.4091 \times 0.2943} = \frac{0.0275}{0.1204} = 0.23$$

$$r^2 = (0.23)^2 = 0.0529$$

$$t^* = \frac{r}{\sqrt{\frac{1 - r^2}{n - 2}}} = \frac{0.23}{\sqrt{\frac{1 - 0.0529}{5 - 2}}} = \frac{0.23}{\sqrt{0.03157}} = \frac{0.23}{0.5619} = 0.41$$

Appendix XXV

Actual Loan Outstanding and Collection of Godown and Cold Storage Purpose

Let, X = Loan investment variable

Y = Loan collection variables

Rs. in crore

F/Y	x	$x - x \bar{X}$	x^2	y	$y - y \bar{Y}$	y^2	xy
2002/03	2.92	-0.16	0.0256	0.37	0.10	0.01	-0.016
2003/04	3.10	0.02	0.004	0.44	0.17	0.0289	0.0034
2004/05	2.36	-0.22	0.0484	0.32	0.05	0.0025	-0.01
2005/06	3.13	0.05	0.0025	0.11	-0.16	0.0256	-0.008
2006/07	3.43	0.35	0.1225	0.13	-0.14	0.0196	-0.049
	$\Sigma x = 15.44$		$\Sigma x^2 = 0.1994$	$\Sigma y = 1.37$		$\Sigma y^2 = 0.0866$	$\Sigma xy = -0.0806$

$$\bar{X} = \frac{\Sigma x}{n} = \frac{15.44}{5} = 0.40$$

$$\bar{Y} = \frac{\Sigma y}{n} = \frac{1.37}{5} = 0.27$$

$$N=5$$

$$r = \frac{\Sigma xy}{\sqrt{\Sigma x^2} \sqrt{\Sigma y^2}} = \frac{0.0806}{\sqrt{0.1994} \sqrt{0.0866}} = \frac{0.0806}{0.4465 \times 0.2943} = \frac{0.0806}{0.1314} = -0.61$$

$$r^2 = (-0.61)^2 = 0.3721$$

$$t^* = \frac{r}{\sqrt{\frac{1 - r^2}{n - 2}}} = \frac{0.61}{\sqrt{\frac{1 - (0.61)^2}{5 - 2}}} = \frac{0.61}{\sqrt{0.2093}} = \frac{0.61}{0.4575} = -1.33$$

Appendix XXVI

Actual Loan Investment, Outstanding and Collection of Tea and Coffee Purpose

Let, X = Loan investment variable

Y = Loan collection variables

Rs. in crore

F/Y	x	$x = x - \bar{x}$	x^2	y	$y = y - \bar{y}$	y^2	xy
2002/03	0.52	0.17	0.0289	0.25	0.01	0.0001	0.0017
2003/04	0.41	0.06	0.0036	0.13	-0.11	0.0121	-0.0066
2004/05	0.36	0.01	0.0001	0.26	0.02	0.0004	0.0002
2005/06	0.23	-0.12	0.0144	0.27	0.03	0.0009	-0.0036
2006/07	0.27	-0.08	0.0064	0.32	0.08	0.0064	-0.0064
	$\sum x = 1.79$		$\sum x^2 = 0.0534$	$\sum y = 1.23$		$\sum y^2 = 0.0199$	$\sum xy = -0.0147$

$$\bar{X} = \frac{\sum x}{n} = \frac{1.79}{5} = 0.40$$

$$\bar{Y} = \frac{\sum y}{n} = \frac{1.23}{5} = 0.27$$

$$N=5$$

$$r = \frac{\sum xy}{\sqrt{\sum x^2} \sqrt{\sum y^2}} = \frac{-0.0147}{\sqrt{0.0534} \sqrt{0.0199}} = \frac{-0.0147}{0.2311 \times 0.1411} = \frac{-0.0147}{0.0326} = -0.45$$

$$r^2 = (-0.45)^2 = 0.2025$$

$$t^* = \frac{r}{\sqrt{\frac{1-r^2}{n-2}}} = \frac{-0.45}{\sqrt{\frac{1-0.2025}{5-2}}} = \frac{-0.45}{\sqrt{\frac{0.7975}{3}}} = \frac{-0.45}{\sqrt{0.2658}} = \frac{-0.45}{0.5156} = -0.87$$

Appendix XXVII

Actual Loan Investment, Outstanding and Collection of Tea and Coffee Purpose

Let, X = Loan outstanding variable

Y = Loan collection variables

Rs. in crore

F/Y	x	$x = x - \bar{x}$	x^2	y	$y = y - \bar{y}$	y^2	xy
2002/03	5.31	-0.25	0.0625	0.25	0.01	0.0001	-0.0025
2003/04	5.58	0.02	0.0004	0.13	-0.11	0.0121	-0.0022
2004/05	5.69	0.13	0.0169	0.26	0.02	0.0004	0.0026
2005/06	5.64	0.078	0.0064	0.27	0.03	0.0009	0.0024
2006/07	5.59	0.03	0.0009	0.32	0.08	0.0064	0.0024
	$\sum x = 27.81$		$\sum x^2 = 0.0871$	$\sum y = 1.23$		$\sum y^2 = 0.0199$	$\sum xy = -0.0027$

$$\bar{X} = \frac{\sum x}{N} = \frac{27.81}{5} = 5.56$$

$$\bar{Y} = \frac{\sum y}{N} = \frac{1.23}{5} = 0.24$$

$$N = 5$$

$$r = \frac{\sum xy}{\sqrt{\sum x^2} \sqrt{\sum y^2}} = \frac{0.0027}{\sqrt{0.0071} \sqrt{0.0199}} = \frac{0.0027}{0.2951 \times 0.1411} = \frac{0.0027}{0.0416} = 0.0649$$

$$r^2 = (0.0649)^2 = 0.0042$$

$$t^* = \frac{r}{\sqrt{\frac{1 - r^2}{n - 2}}} = \frac{0.0649}{\sqrt{\frac{1 - (0.0649)^2}{5 - 2}}} = \frac{0.0649}{\sqrt{0.3319}} = \frac{0.0649}{0.5761} = 0.1127$$

Appendix XXVIII

Actual Loan Investment, Outstanding and Collection of Non Agri Purpose

Let, X = Loan investment variable

Y = Loan collection variables

Rs. in crore

F/Y	x	$x = x - \bar{X}$	x^2	y	$y = y - \bar{Y}$	y^2	xy
2002/03	4.46	-11.11	123.43	1.34	-9.73	94.67	108.10
2003/04	10.69	-4.88	23.81	6.96	-4.11	16.89	20.05
2004/05	17.95	2.38	5.66	11.77	0.70	0.49	1.60
2005/06	20.93	5.36	28.73	16.31	5.24	27.45	28.08
2006/07	23.85	8.28	68.56	19	7.98	62.88	65.66
	$\Sigma x = 77.88$		$\Sigma x^2 = 250.19$	$\Sigma y = 55.38$		$\Sigma y^2 = 202.38$	$\Sigma xy = 223.55$

$$\bar{X} = \frac{\Sigma x}{n} = \frac{77.88}{5} = 15.57$$

$$\bar{Y} = \frac{\Sigma y}{n} = \frac{55.38}{5} = 11.07$$

$$n = 5$$

$$r = \frac{\Sigma xy}{\sqrt{\Sigma x^2} \sqrt{\Sigma y^2}} = \frac{223.55}{\sqrt{250.19} \sqrt{202.38}} = \frac{223.55}{15.8174 \times 14.2260} = \frac{223.55}{225.0183} = 0.99$$

$$r^2 = (0.99)^2 = 0.98$$

$$t^* = \frac{r}{\sqrt{\frac{1 - r^2}{n - 2}}} = \frac{0.99}{\sqrt{\frac{1 - (0.99)^2}{5 - 2}}} = \frac{0.99}{\sqrt{0.0066}} = \frac{0.99}{0.0812} = 12.19$$

Appendix XXIX

Actual Loan Investment Outstanding and Collection of Non Agri Purpose

Let, X = Loan investment variable

Y = Loan collection variables

Rs. in crore

F/Y	x	$x - \bar{x}$	x^2	y	$y - \bar{y}$	y^2	xy
2002/03	3.86	-9.50	90.25	1.34	-9.73	94.67	92.43
2003/04	7.58	-5.78	33.41	6.96	-4.11	16.89	23.75
2004/05	13.76	0.40	0.16	11.77	0.70	0.49	0.28
2005/06	18.36	5.02	25.20	16.31	5.24	27.45	26.30
2006/07	23.24	9.88	97.61	19	7.98	62.88	78.35
	$\Sigma x = 66.82$		$\Sigma x^2 = 246.63$	$\Sigma y = 55.38$		$\Sigma y^2 = 202.38$	$\Sigma xy = 221.11$

$$\bar{X} = \frac{\Sigma x}{n} = \frac{66.82}{5} = 13.36$$

$$\bar{Y} = \frac{\Sigma y}{n} = \frac{55.38}{5} = 11.07$$

$$n = 5$$

$$r = \frac{\Sigma xy}{\sqrt{\Sigma x^2} \sqrt{\Sigma y^2}} = \frac{221.11}{\sqrt{246.63} \sqrt{202.38}} = \frac{221.11}{15.704 \times 14.2260} = \frac{221.11}{223.4122} = 0.99$$

$$r^2 = (0.99)^2 = 0.98$$

$$t^* = \frac{r}{\sqrt{\frac{1-r^2}{n-2}}} = \frac{0.99}{\sqrt{\frac{1-(0.99)^2}{5-2}}} = \frac{0.99}{\sqrt{0.0066}} = \frac{0.99}{0.0812} = 12.19$$