



# Utkarsh

Vol. VII  
2019, 2020

A PEER REVIEWED RESEARCH JOURNAL IN COMMERCE AND ALLIED SUBJECTS OF  
D.H.S.K. COMERCE COLLEGE, DIBRUGARH

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*Editor : Dr. Tanka Prasad Upadhyaya*



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**AN ANALYSIS OF FINANCIAL STATEMENTS OF  
DIBRUGARH UNIVERSITY -  
A STUDY WITH REFERENCE TO THE BALANCE SHEET  
AND INCOME & EXPENDITURE ACCOUNT OF THE  
PERIOD 2008-09 TO 2017-18.**

**Dr. Jacob Konwar<sup>1</sup>  
Bedabrata Baruah<sup>2</sup>**

**1.1. INTRODUCTION:**

Financial statement analysis involves gaining an understanding of an organization's financial situation by reviewing its financial reports (<https://www.accountingtools.com>)<sup>1</sup>. Financial statement analysis is a method or process involving specific techniques for evaluating risks, performance, financial health, and future prospects of an organization (*White, Gerald L; Sondhi, Ashwinpaul; Fried, Dov (1998)*).

The need and requirements of having a proper financial accounting analysis tools and techniques have been largely felt and as such increased to many folds in last the millennium. Education is always treated as a service-based organization in India and hence the need for monitoring its accounts and financial commitments has always taken a back seat. With the advancement of teaching techniques, methodologies, skills and considerable spending on the education projects over the period of time, categorical need has been largely felt to monitor and regulate the funding and spending patterns of the education sector.

In a study conducted by Montanaro (2013)<sup>3</sup> on 'the influence of financial performance on higher education academic quality' in 1,045 public and private not-for-profit U.S. colleges and universities, reveals that there is a positive relationship between the financial performance and perceived academic quality amongst the groups of colleges and universities with a strong financial position. The results of her study also reveals that financial performance may be used as a signal to mark academic performance, reducing information asymmetries and simplifying the techniques of monitoring the institution as a whole. Her work concludes that more reliable information tends to reduce the moral hazards that exist when the information is not readily transferable or available for common public.

Education is on the 'Concurrent list' subject to Entry 66 in the Union List of the Constitution. This makes both Central and State Government responsible to make policies to provide for the planned development of educational institutions, inculcation of healthy educational practice, maintenance and improvement in the

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<sup>2</sup>MBA (Finance) 4th Semester student, KKHSOU, Guwahati.

standards of education and better organisation, discipline and control over educational institutions with a view to fostering the harmonious development of the mental and physical faculties of students. At present, Ministry of Human Resource & Development (MHRD) regulates education in India and operates mainly through two departments, namely Department of School Education & Literacy and Department of Higher Education (Report on IASEI, p - 1)<sup>4</sup>.

In terms of framing the policies for the Higher education the Central Government takes the prime responsibility to do so. The Centre facilitates the sector with the help of various nodal agencies like UGC, RUSA, NAAC, and Ministry of HRD and so on operating to regulate and monitor the operations in the higher education. State Governments are equally responsible for operation and establishment of State universities and colleges, and assist in to provide plan grants for their development and non-plan grants for their maintenance and so on.

Morrill and Morrill (2016)<sup>5</sup>, in a report "Guide to analyzing University and Colleges Financial Statements", reveals that due to lack of adequate reporting practices across the discipline is creating problems as well as keeping wide range of deviations in the financial accounting reporting practices. In their report they reported that improper handling of 'deferred maintenance problems' in the institutions is creating a possibility of diversion of funds which would otherwise available for faculty salaries, research and student support programmes, so on. Such disclosure practices also increase the institution's future operating costs for utility, maintenance, security, and in some cases interest on debt too. Considering such problems their work specifies that 'Knowledge is power' and hence to curb such unexpected prevalence of such behaviours like reducing financial statement disclosures, internally restricting funds, embarking on capital spending sprees while neglecting deferred maintenance, so on, gives faculty associations a compelling reason to read the financial statements of their institution carefully and thereby to educate their members in course of time.

In the environment of various statutes and legislations governing the education sector across India and varied interpretation of certain terms under the related laws by the judiciary, there is no uniformity in preparation and presentation of financial statements. Also, there is an apparent lack of awareness as to the applicability of the Accounting Standards (AS) issued by the Institute of Chartered Accountants of India (ICAI) (Report on IASEI, p - 1)<sup>6</sup>. However, in recent years, with increase in government aid to educational institutions particularly in the form of concessions and incentives, increased fees charged from the students and increased donations by certain donor-agencies, greater need is being felt for accountability of the financial resources used by the educational institutions.

Due to diverse nature of reporting practices adopted by the educational institutions in India, the comparability of financial accounts of educational institutions seems to difficult at the present moment of time. Moreover, the present system of accounting and financial reporting followed by educational institution does not meet the accountability concerns of the donors, including government and other stakeholders such as members/ beneficiaries, governing board, management staff, volunteers and general public as a whole.

A need is, therefore, being felt for improved accountability of the financial resources used by the educational institution. A sound accounting and financial reporting framework acts as an important ingredient for promoting accountability and for development of education sector.

In a research study carried on by Hanover Research in 2014 reveals that in U.S.A. the higher education institutions prepare their annual reports as per the provisions in the GAAP standards for public and private institutions. With this statement these institutions also report unaudited interim financial statements and routine / adhoc financial reports for their own internal management. About 83 percent of the private institutions are preparing management reports on a regular basis as reported by National Association of College and University Business officers (NACUBO)<sup>7</sup>.

In an internship study undertaken by Ahmed (2018)<sup>8</sup>, 'Internship Report on Financial Position Analysis of Secondary School: A case study on an English Medium School in Dhaka', performed a position statement analysis using some profitability and efficiency ratios. The report reveals that the school on which the study has been taken (i.e. Vision Global School), the financial position is not satisfactory and all the ratios have pessimistic results considering lower profit level and higher administrative and operating expenses.

Accounting regulator in India, the ICAI has recommended to the Ministry of HRD that all education institutions should follow a uniform system for maintaining their account books, in order to ensure a 'true and correct picture' of the state of their affairs (<https://economictimes.indiatimes.com>.)<sup>9</sup>

Unfortunately the practice is still far from reality and it will take some good numbers of years to realise such reporting practices in educational institutions statements.

### **1.2. OBJECTIVES OF THE STUDY:**

The paper intends to consider and determine the following objectives:

1. To determine Average Annual Growth Rate (AAGR) of Income & Expenditure Account and Balance Sheet of Dibrugarh University for the last 10 years starting from 2008-09 to 2017-18.
2. To determine the percentage of contributions made by different heads of items using Common Size statement (Vertical) analysis with respect to Income & Expenditure Account and Balance Sheet of Dibrugarh University for the study period.

### **1.3. RESEARCH METHODOLOGY:**

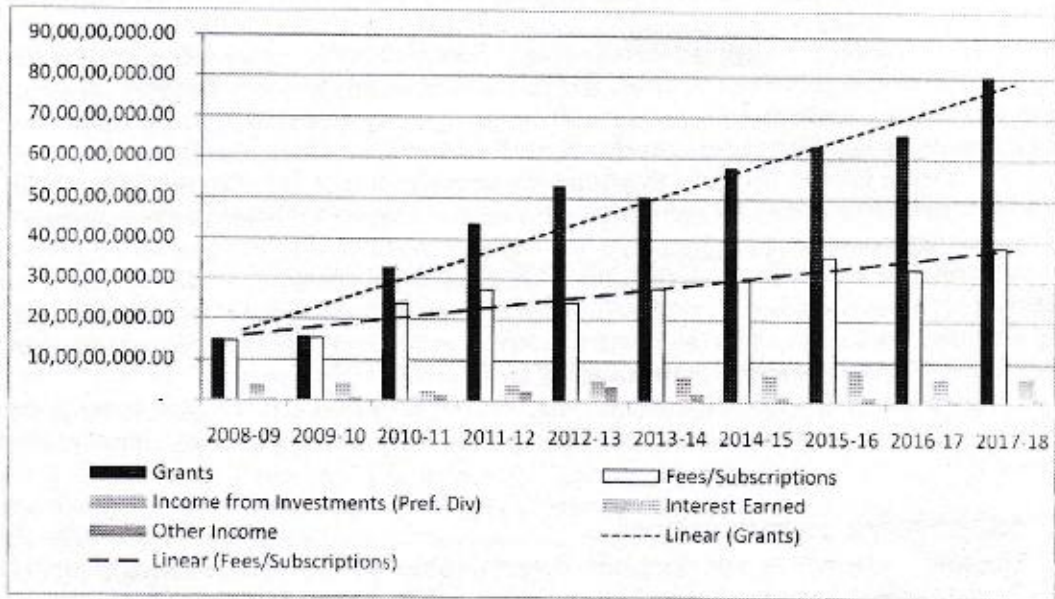
There are several techniques which are commonly used as part of financial statement analysis. Three of the most important techniques include horizontal analysis, vertical analysis, and ratio analysis. Horizontal analysis compares data horizontally, by analyzing values of line items across two or more years. Vertical analysis looks at the vertical affects line items have on other parts of the business and also the business's proportions. Ratio analysis uses important ratio metrics to calculate statistical relationships (<https://www.investopedia.com>)<sup>10</sup>.

The study is based on the secondary data collected from the Financial Statements of Dibrugarh University, particularly the Income & Expenditure Account and Balance Sheet of the University for a period of 10 years starting from 2008-09 to 2017-18. The study extensively reckons the Horizontal and Vertical form of financial statement analysis technique to achieve the objective of the study. Further, considering the nature of the paper entitled, stress on the Ratio analysis technique of financial statement analysis is ignored. Using Average Annual Growth Rate (AAGR) Technique, Horizontal analysis of financial statements has been performed. Common Size

Statement (Vertical) Analysis technique has been followed to determine the composition of items in the financial statements and moreover to locate the difference in the items of books of accounts over the period of time.

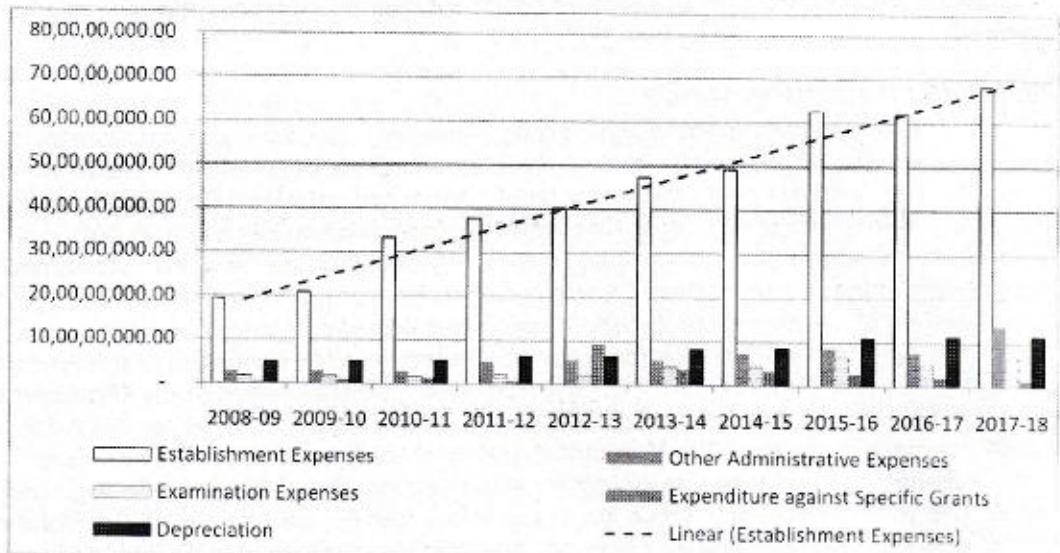
#### 1.4. ANALYSIS AND INTERPRETATION

**Figure 1: Growth of Items under the head Income**



Source: Compiled from Annual Reports (2008-09 to 2017-18)

**Figure 2: Growth of Items under the head Expenditure**

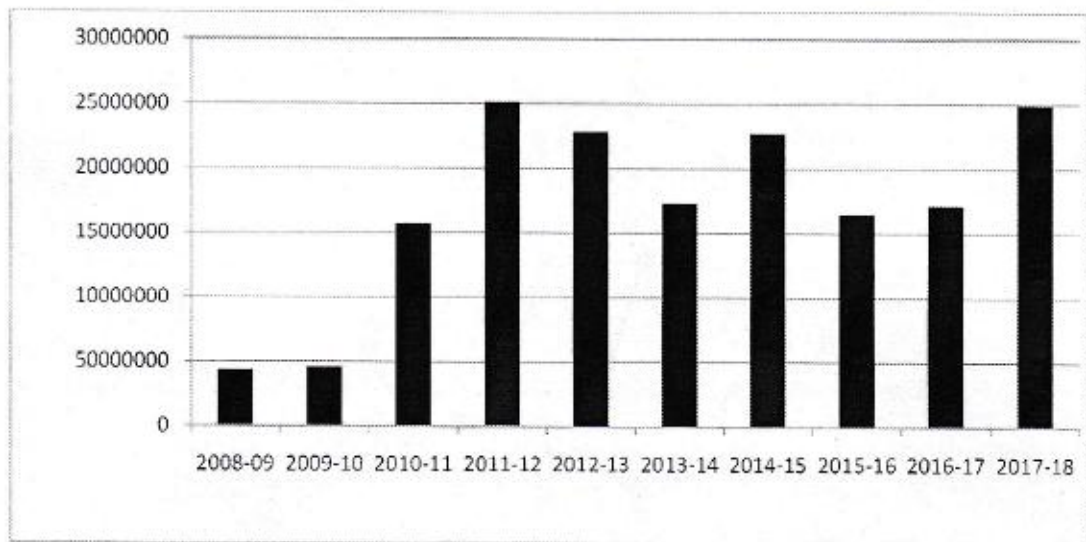


Source: Compiled from Annual Reports (2008-09 to 2017-18)

In Figure 1 after analysis of the Income and expenditure account of the institution (Dibrugarh University) it has been found that the Incomes of the University over the period of time has been increased and it was noticed that such an increase is due to increase in the amount of grants received and fees and subscriptions received over the period of the time. In terms of income from other sources, interest earned and other there is no substantial changes in the final statements over the period of the study.

Analyzing the item head 'Expenditures' of the financial statements (Figure No. 2), it was noticed that there is quantum leap in the expenditure incurred in establishment expenses over the study period. However, some changes are also noticeable in case of other administrative expenses, Examination expenses, expenditure against specific grants and depreciation, but not as like the expenditure incurred on establishment expenses.

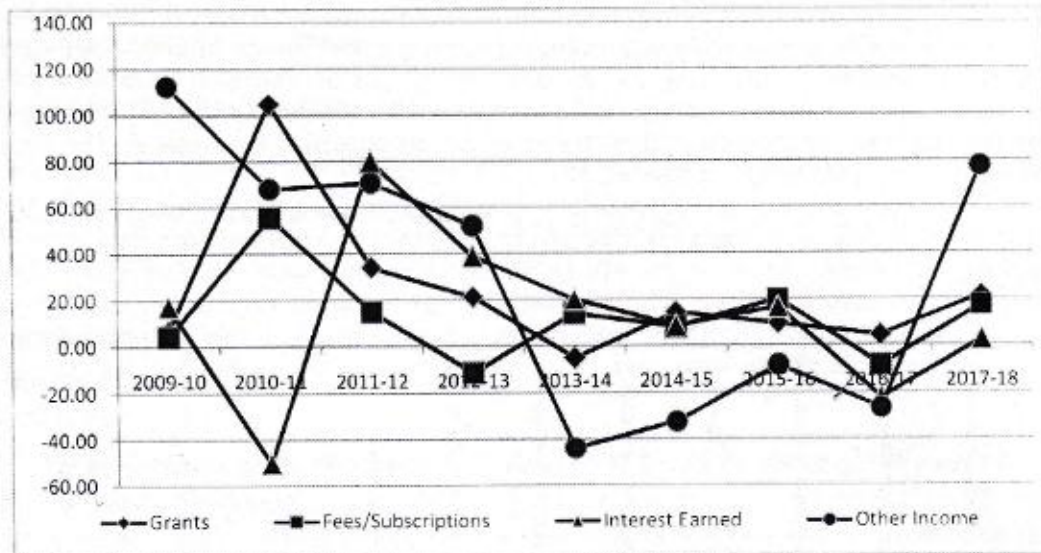
**Figure 3: Income of the Dibrugarh University during study years**



*Source: Compiled from Annual Reports (2008-09 to 2017-18)*

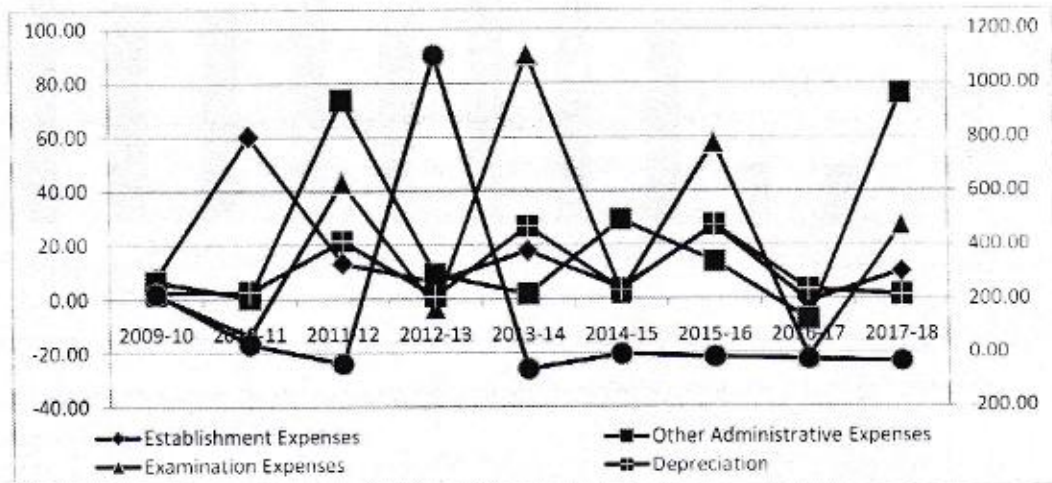
On analysis of the balance difference Income of the University year-wise (difference between Income and Expenditure, Figure No. 3) it has been notice that there is a rise in balance income of the university in 2010-11 and 2011-12 financial year, but reported fall in the balance income in the corresponding years. In 2017-18 again the financial statements reports considerable increase in the balance difference income of the university. The reasons for such decline in the balance income between the years may be attributed to different development projects carried out by the university over the study period years.

**Figure 4: AAGR of Items under the head Income**



Source: Compiled from Annual Reports (2008-09 to 2017-18)

**Figure 5: AAGR of Items under the head Expenditure**

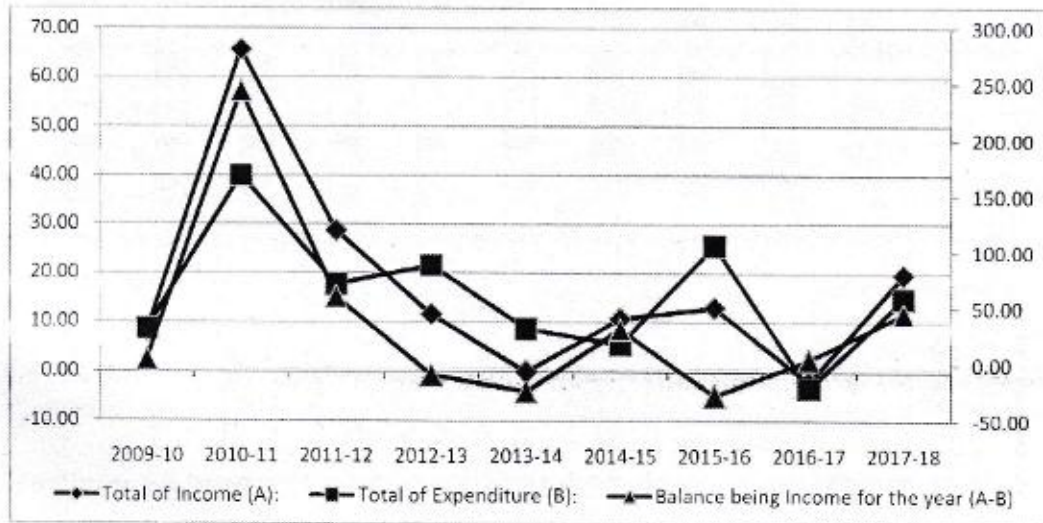


Source: Compiled from Annual Reports (2008-09 to 2017-18)

On analysis of Average Annual Growth Rate (AAGR) of items under the head Income of Income and Expenditure account (Figure No. 4) reveals that there is constant decline the income under the all heads of income i.e. Grants, Fees and subscriptions, Interest earned and Other Income. Though, the financial year 2017-18 noticed improvement in the income for other heads.

In case of Items under the head Expenditure (Figure No. 5), the AAGR reports that other than the item Expenditure against specific grants in the year 2012-13, there is more or less similar pattern of expenditure every year. The financial year 2016-17 reports that there is a decline in the expenditure in almost all items excluding depreciation. The corresponding year i.e. 2017-18 again reports increase in the expenditure under different heads.

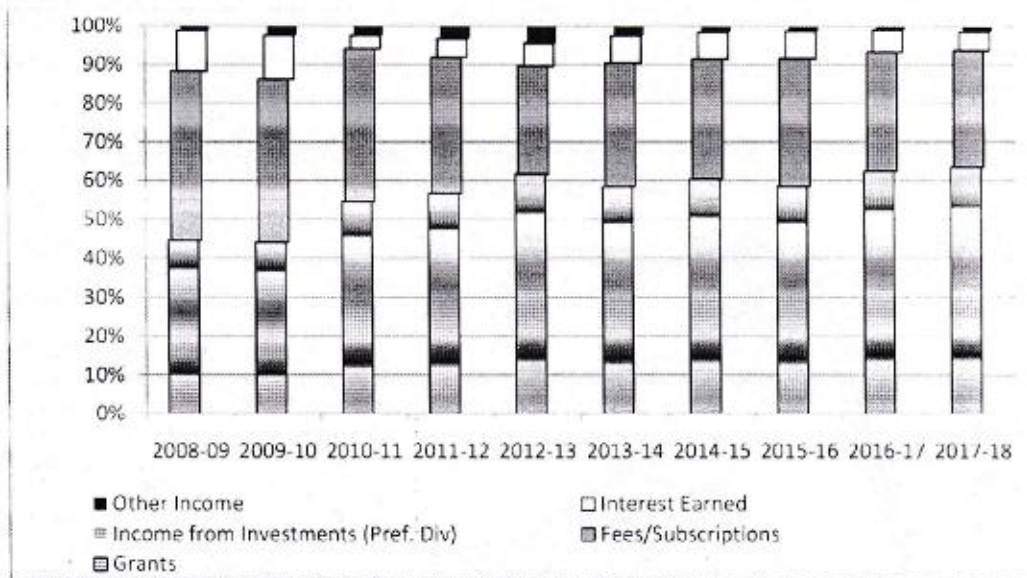
**Figure 6: AAGR of Items under the head Total of Income, Total of Expenditure and Balance of Income for the Year**



Source: Compiled from Annual Reports (2008-09 to 2017-18)

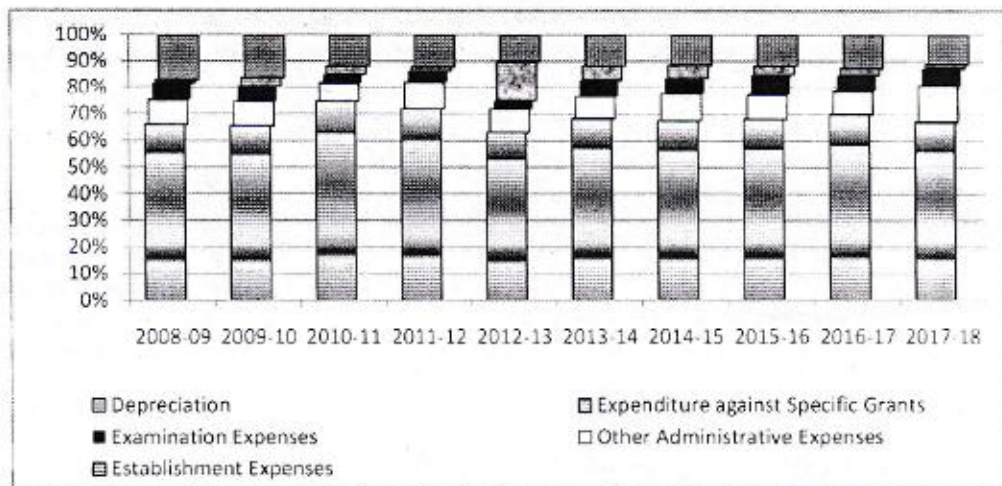
On being analysis of all the items under Income and Expenditure account (Figure No. 6) with the help of AAGR, it has been noticed that there is a decrease in the values of the items in the year 2016-17. Item-wise analysis of the statement reveals that the expenditure against specific grants reports negative AAGR since 2013-14. Moreover, the financial year 017-18 reports increase in the values of the items in all heads in comparison to the financial year 2016-17, irrespective of the items under the head Income or Expenditure. Analysis of AAGR in table no.3 also reveals that the Balance of Income in the year 2017-18 (i.e. 44.91 percent) is the highest in value since the financial year 2011-12.

**Figure 7: Percentage of composition of items under the head Income**



Source: Compiled from Annual Reports (2008-09 to 2017-18)

**Figure 8: Percentage of composition of items under the head Expenditure**



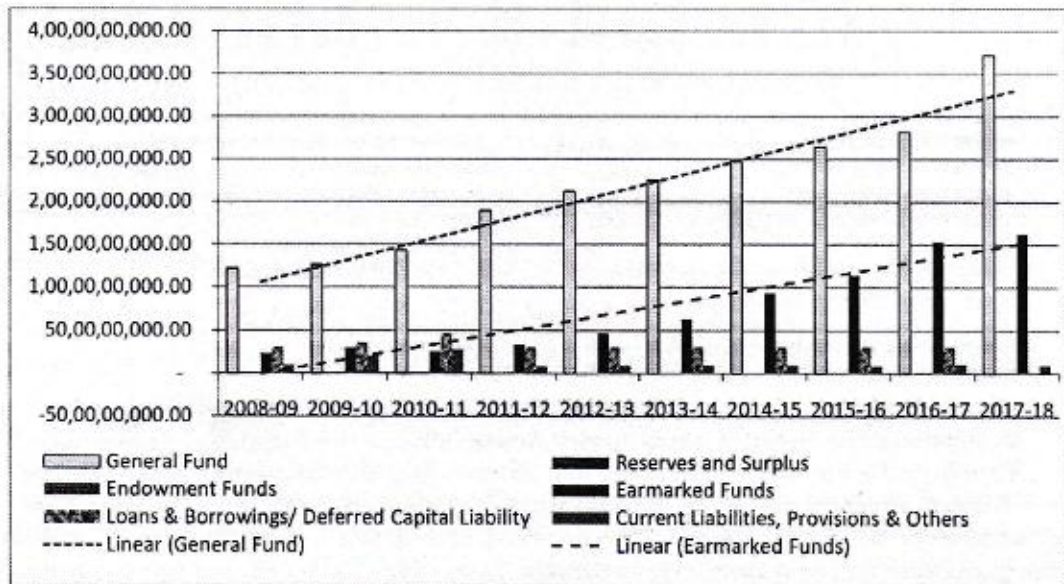
Source: Compiled from Annual Reports (2008-09 to 2017-18)

Common size statement analysis of financial statements of the Dibrugarh University from 2008-09 to 2017-18 reveals that the composition of Income from the head Grants is constantly increasing over the period of time (Figure No. 7). At the same time the income generated from the head of income Fees / subscriptions have

been declining over the period of time. Constant decline in the income is also noticeable in case of interest earned by the institution from different sources.

Analysis of the head of items under Expenditure reflects that there is considerable decline in the amount spent in the year 2016-17, which finally affected the balance of income of the University (Figure No. 8). With respect to Establishment expenses there is a slight increase in the expenditure over the period of time. The results also highlight that in 2017-18 the university has highest percentage of expenditure for Administrative expenses in last ten years. The table also reveals that majority of expenditure of the university is related to Establishment expenses.

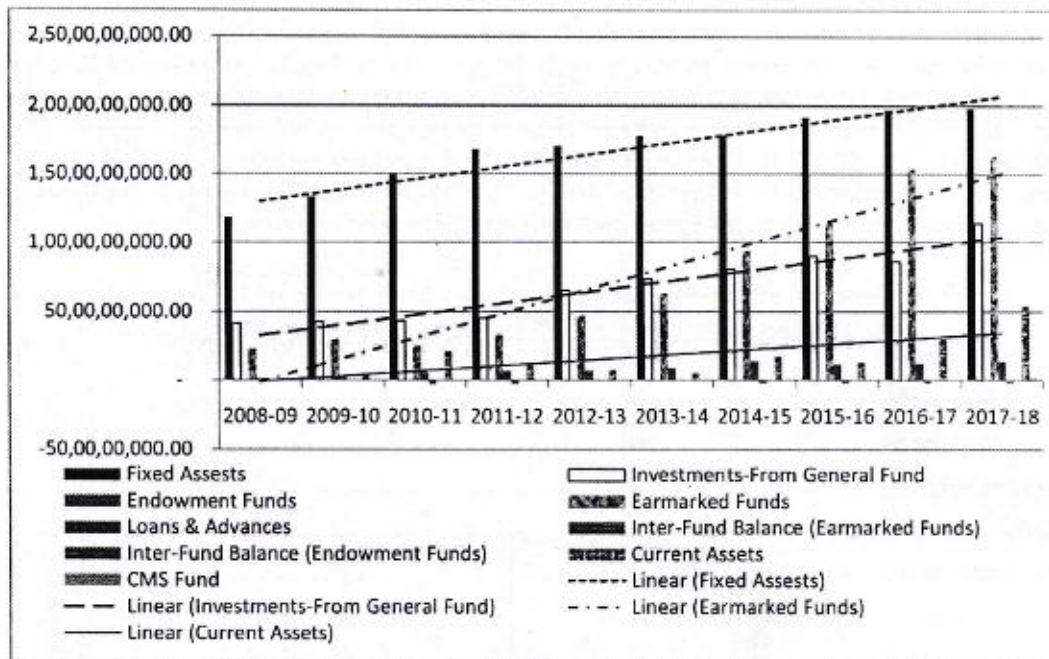
**Figure 9: Growth of Items under the head Liabilities of Balance sheet**



Source: Compiled from Annual Reports (2008-09 to 2017-18)

While considering the head of items under Liabilities side of the Financial Statements of the Dibrugarh University (Figure No. 9), it has been noticed that the General fund of the University has been raised considerably. At the same time during the period of the study there is an increase in the values of Earmarked funds. The annual reports also highlights that current liabilities, provisions and other have been declined over the period of time.

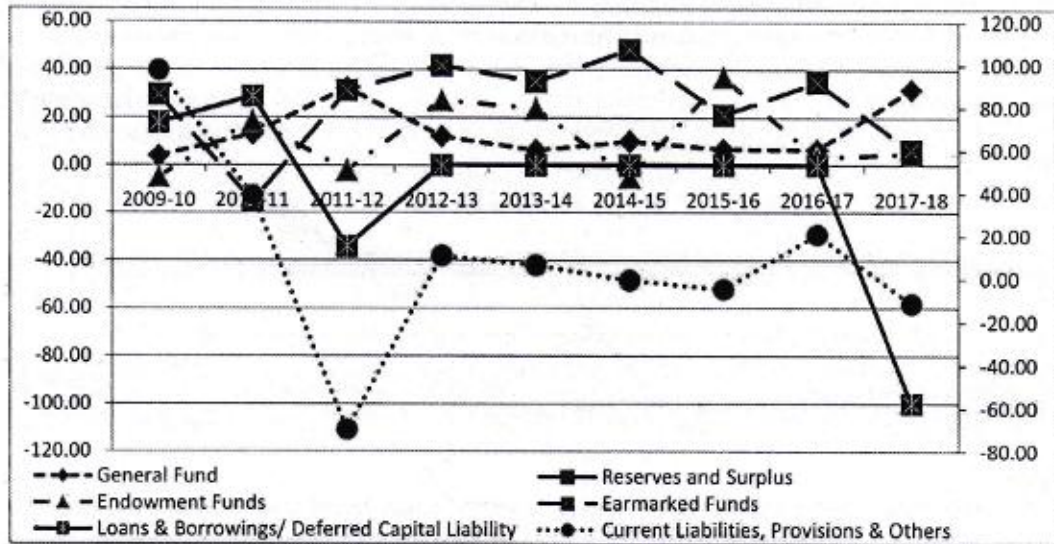
**Figure 10: Growth of Items under the head Assets of Balance sheet**



Source: Compiled from Annual Reports (2008-09 to 2017-18)

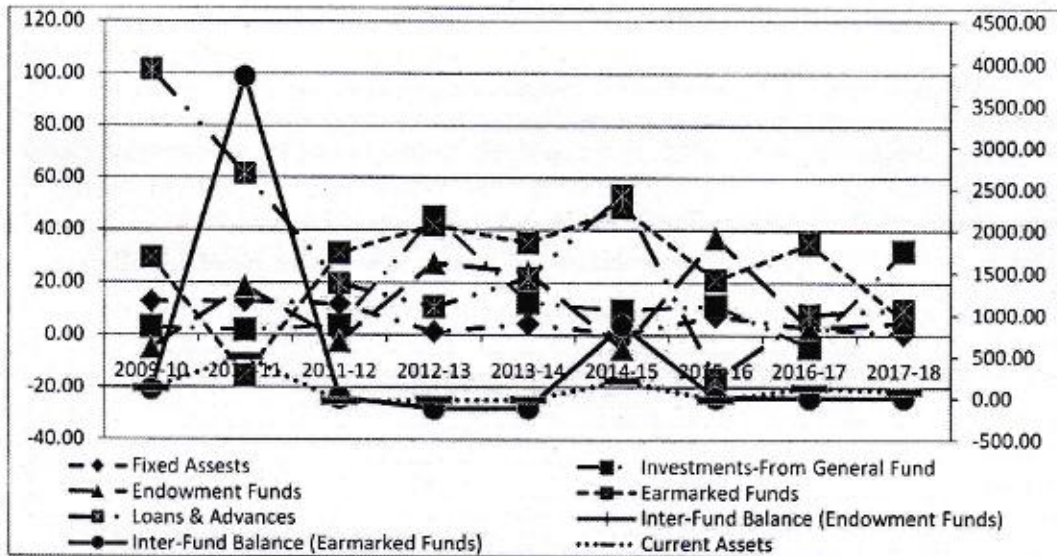
Analysis of the head of items under Assets side of the Financial Statements of the Dibrugarh University (Figure No. 10), it was found that items under the head Fixed Assets, Investments from general fund, Earmarked funds and Current Assets increased over the study period. The analysis also reveals that there is a negative balance of items in the Assets side under the Inter-Fund Balance (earmarked funds). Moreover, a new head is created from the financial year 2017 -18 specifying funds available under CMS fund for Centre for Management Studies, Dibrugarh University.

**Figure 11: AAGR of Items under the head Liabilities**



Source: Compiled from Annual Reports (2008-09 to 2017-18)

**Figure 12: AAGR of Items under the head Assets**

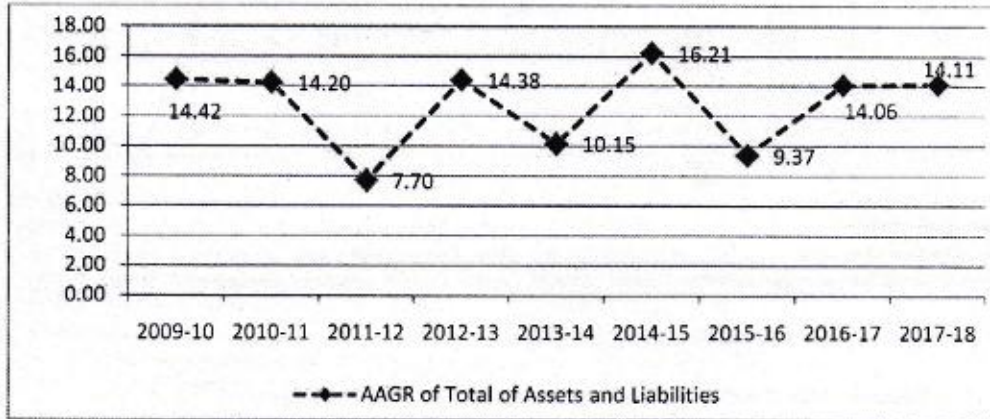


Source: Compiled from Annual Reports (2008-09 to 2017-18)

While analysing the annual reports with Average Annual Growth Rate approach, it has been noticed that the Liabilities side items of the Balance sheet are more or less stable throughout the study period (Figure No. 11). Though there is a considerable change in the growth of items in the financial year 2017-18. The value of general fund increased in the year 2017-18 whereas there is a decline in the values of earmarked funds, Current liabilities, provisions and others and Loans & Borrowings in comparison to the last financial year i.e 2016-17.

Analyzing the AAGR in Figure no. 12 the items of the Assets side of the Balance sheet reveals that there is a decline in the growth of Assets like Fixed Assets, endowment funds, earmarked funds and current Assets in the financial year 2017 - 18 in comparison to 2015-16 period. There is a substantial increase in the growth of Loans and Advances of the university during the FY 2017-18. Though the growth rate under Loans and Advances is lesser than the growth rate it has attained in the FY 2009-10.

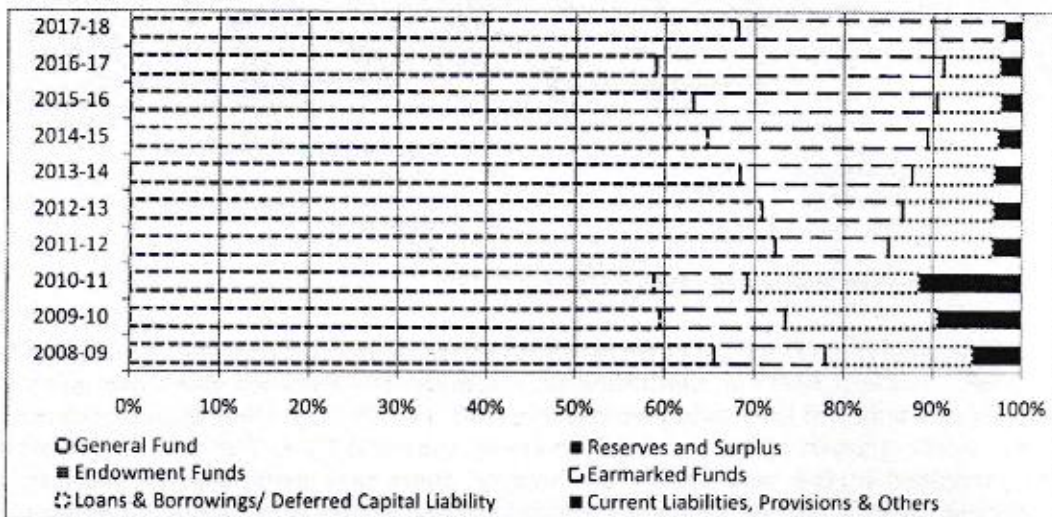
**Figure 13: AAGR of Total of Assets and Liabilities**



Source: Compiled from Annual Reports (2008-09 to 2017-18)

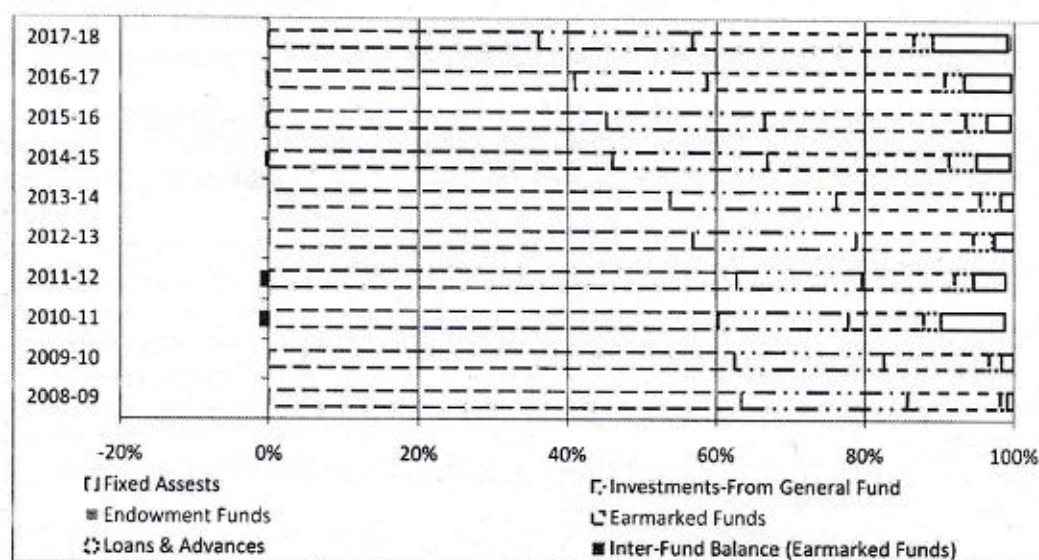
The Average Annual Growth Rate of Total of Assets and Liabilities of the Balance sheet of the Dibrugarh University over the period of time highlights that the Growth rate nearing 14 percent range in 2016-17 and 2017-18 phase (Figure No. 13). AAGR analysis also reveals that the growth during the period 2010-11 to 2015-16 has a ups and downs in the Balance Sheet totals.

**Figure 14: Percentage of composition of items under the head Liabilities**



Source: Compiled from Annual Reports (2008-09 to 2017-18)

**Figure 14: Percentage of composition of items under the head Assets**



Source: Compiled from Annual Reports (2008-09 to 2017-18)

Analysis of figure no. 14 the Liabilities Side of the Balance sheet of the Dibrugarh University indicates that there is a considerable decrease in the Loans and Borrowings / Deferred Capital Liability and Current Liabilities, Provisions and Others over the period of the study. This result indicates better financial stability of the Liabilities side of the Balance sheet of the University. The results also highlight that the Liabilities side of the Balance sheet is more dominated by the items under the head General fund and Earmarked - Endowment funds in 2017-18, which was not the case in 2008-09 financial year balance sheet.

Analysis of the Assets side of the Balance sheet of the Dibrugarh University reveals that there is a decline in the value of fixed assets over the period of time (Figure No. 15). The university is also maintaining Investments in regular intervals within a range of 17 percent to 24 percent. Common size statement analysis also indicates that the value of Earmarked funds have been increased over the period of study. In last two years there is an increase in the values of current assets too. In this period decline has been noticed in the Loans and Advances item of the asset side of the Balance sheet.

### 1.5. FINDINGS OF THE STUDY:

Based on the extensive study work on the topic, some of the major findings from the study are highlighted as below:

- 1) The Final statements of the University is followed uniformly across the study period but still far from complying with the provisions of 'Report on Implementation of Accounting Standards in Educational Institutions of Department of Higher Education, Ministry of Human Resource Development', issued by the Institute of Chartered Accountants of India (ICAI).
- 2) The result of the study indicates that there is an increase in the amount of grants and fees and subscriptions received by the University.

- 3) There is a significant increase in the expenditure incurred on establishment expenses over the study period.
- 4) The university has failed to generate income under the all heads of income i.e. Grants, Fees and subscriptions, Interest earned and Other Income.
- 5) The Pattern of expenditure incurred by the University is nor or less is similar in nature and reporting.
- 6) The financial year 2017-18 reports an increase in the values of the items in all heads in comparison to the financial year 2016-17.
- 7) The Income from the head 'Grants' is constantly increased over the period of time and still going on.
- 8) It has been noticed that the General fund of the University has been raised considerably. At the same time during the period of the study there is an increase in the values of Earmarked funds. The annual reports also highlights that current liabilities, provisions and other have been declined over the period of time.
- 9) From the study it was found that items under the head Fixed Assets, Investments from general fund, Earmarked funds and Current Assets increased over the study period.
- 10) In terms of the Liabilities side items of the Balance sheet there are more or less stable throughout the study period.
- 11) There is a substantial increase in the growth of Loans and Advances of the university during the FY 2017-18.
- 12) The Average Annual Growth Rate of Total of Assets and Liabilities of the Balance sheet of the Dibrugarh University over the period of time highlights that the Growth rate nearing 14 percent range in 2016-17 and 2017-18 phase.
- 13) The Liabilities Side of the Balance sheet of the Dibrugarh University indicates that the there is a considerable decrease in the Loans and Borrowings / Deferred Capital Liability and Current Liabilities, Provisions and Others over the period of the study.
- 14) That there is a decline in the value of fixed assets over the period of time.
- 15) The Balance sheet of the University reveals that it is not maintaining any Reserves and / or surplus account in the books of accounts.

#### **1.6. SUGGESTIONS AND RECOMMENDATIONS:**

1. In preparing the Financial statements of the University, the institute should try to adopt the provisions as laid down in the 'Report on Implementation of Accounting Standards in Educational Institutions of Department of Higher Education, Ministry of Human Resource Development', issued by the Institute of Chartered Accountants of India).
2. The University should try to increase income from other sources like Interest Incomes, Income from investment, etc.
3. There is a significant increase in Establishment expenses over the period of time. So the University should try to control some unnecessary expenses in this regard.
4. Overall Annual Growth Rate on Income heads shows the declining trend. Though recovered in 2017-18, the University should try to take necessary action to mitigate that type of decline.
5. The University should create a Reserve Fund from its sources as the item is shown in the liability side in Balance Sheet but not a single rupee is allocated during the period of the study.

### 1.7. CONCLUSION:

Financial statements are a communication mean in the economic and financial world that surrounds us. Need for financial statements are largely felt by all sections of the society for the greater cause in the form of creating better future decisions. The aim of this paper is to identify the pattern of financial spending of the Dibrugarh University, over the period of time. For this purpose AAGR and Common size statement analysis technique has been used on the Income & Expenditure and on the Balance Sheet of the University. The study reveals that the extensiveness of operation of the University has increased manifold over the years and reporting practices has become more vast and wider in nature. In such a scenario there is no doubt that the financial commitments of the University has also increased to a great extent over the period of the study. The University has followed consistent reporting practices over the period of the study, though there are some grey areas where the university has extensive potentiality of reporting practices for the greater benefit of the society as a whole.

### 1.8. ACKNOWLEDGEMENT:

The authors are thankful to the Dibrugarh University for supporting this study by providing their financial statements for the period of the study. They are also thankful to Krishna Kanta Handiqui State Open University (KKHSOU), Guwahati for accepting the Research Project as a part of MBA degree in Finance.

### 1.9. REFERENCES:

1. <https://www.accountingtools.com/articles/2017/5/14/financial-statement-analysis>.
2. White, Gerald I.; Sondhi, Ashwinpaul; Fried, Dov (1998). *The Analysis and Use of Financial Statements*. John Wiley & Sons, Inc., ISBN 0-471-11186-4.
3. Montanaro, Marilee Kaye, "The Influence of Financial Performance on Higher Education Academic Quality" (2013). *Education Doctoral*. Paper 117.
4. *Report on Implementation of Accounting Standards in Educational Institutions of Department of Higher Education, Ministry of Human Resource Development, Issued by Institute of Chartered Accountants of India (ICAI), New Delhi*. Available at [https://mhrd.gov.in/sites/upload\\_files/mhrd/files/Report\\_IASEI.pdf](https://mhrd.gov.in/sites/upload_files/mhrd/files/Report_IASEI.pdf). Accessed as on 23/09/2019.
5. Morrill, C. and Morrill, J. (2016). *Guide to Analyzing University & College Financial Statements*. Canadian Association of University Teachers. September.
6. *Report on Implementation of Accounting Standards in Educational Institutions of Department of Higher Education*. *Op.cit.* p-1.
7. Hanover Research (2014). *Financial Reporting in Higher Education*. *Academy Administration Practice*. October. [www.hanoverresearch.com](http://www.hanoverresearch.com)
8. Ahmed, M. (2018). *Financial Position Analysis of Secondary School - A Case study on an English Medium School in Dhaka*. An Internship Report. BRAC Business School (BBS), BRAC University.
9. <https://economictimes.indiatimes.com/industry/services/consultancy/-audit/education-institutions-should-follow-uniform-accounting-system-cai/article/11540953.cms?from=mdr>.
10. <https://www.investopedia.com/terms/f/financial-statement-analysis.asp>

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## A STUDY ON COST BENEFIT ANALYSIS OF VERMI-COMPOST PRODUCTION IN DIBRUGARH MUNICIPALITY AREA OF ASSAM

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### Abstract

*With the increasing demand in the organic products especially in relation with the food products vermi-compost have been in great demand by the organic producers. Vermicomposting being a waste management process is used to manufacture vermi-compost at a low cost. Due to the effect of the chemical fertilizer used in the production of different eatables, the use and production of the vermi-compost is also increasing. Vermicompost is a major component of organic manure become popular among the farmers which helps to maintain a balance of soil ecosystem. Also there is no harmful effect on use of this product. It is observed that most of the people are taking entrepreneurial activities with the help of vermi-compost production and marketing. To have a better view of entering into ventures with the help of vermi-compost production and marketing, it is important to have a cost benefit analysis of the same. Thus the present study is an attempt to have a cost benefit analysis of vermi-compost production with special reference to producers and marketers of vermi-compost in operating in Dibrugarh town. The study is based on primary data and data were collected from the Vermicompost manufacturers of Dibrugarh District using structured schedule. Secondary data is also used from different journals, books, research reports, and periodicals etc. in the study to make it more meaningful.*

**Keywords:** *vermi-compost, marketing, cost,*

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### INTRODUCTION

Vermicomposting is a process of recycling the organic waste into the bio-fertilizer with the help of earthworms. Vermicomposting being a waste management process is used to manufacture vermi-compost at a low cost. People becoming more conscious to the effect of chemical fertilizer in different eatables, the use and demand of vermi-compost has been increasing day by day. The various inputs for the production of vermi-compost are largely available in the rural area. This had made the production of vermi-compost an easy task and the growing demand among the farmers had created a ample of opportunity for the young generation to take up entrepreneurial

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activities. It has been observed that many entrepreneurs are producing vermi-compost in various districts of Assam and some of which are funded by the government organization. Vermi-compost production can give the producers a huge income opportunity if they manufacture at large scale. But it is seen that inspite of the growing demand very less number of people have taken it as entrepreneurial activities. Therefore to have a better picture on the commercialization of vermi-compost it is very important to make a cost benefit analysis, which will highlight the importance to know the future prospect on the production and marketing of vermi-compost.

#### **REVIEW OF LITERATURE**

**K.Thiripurasundari, S.V.Divya (2017)**In their article on "Cost and Return structure of vermi-compost production and marketing in Tirunelveli District" has been concluded that vermi-compost technology is highly beneficial and give huge amount of return as compared to the investment or cost. The producers will get a reasonable amount of profit after using the proper marketing channel. Vermicompost is an organic manure which maintain a soil ecosystem and leaves no harmful effect on plant so it is very beneficial than the fertilizer.

**Piper Selden et al (2005)**in their study on "small scale vermin-composting" has explained that vermi-composting is one of the best biotechnology for many waste management applications. Vermi-composting is faster than the traditional composting methods, requires less space for manufacturing at large scale. Vermi-composting is an easy way to make a positive environmental impact by reducing the amount of green waste that finds its way into landfills, incinerators and sometimes the ocean. The end product of vermi-composting is nutrient-rich compost than the chemical fertilizer and the product is also environmentally sound help in enrich soil for plant growth.

**Sharma, P.K. et al (2014)**, In their article on "A study on the efficiency of low cost vermicomposting structure" has mentioned that vermicomposting technology for conversion of solid organic wastes to useful product and this product contains plant nutrients which is very essential for plant growth. Vermi-compost contains more of valuable nutrients than the fertilizer. Small and marginal farmers can adopt low cost vermicomposting structure for producing vermi-compost at a low cost. So low cost vermicomposting need to popularize among the weaker section of the society so that they can produce vermi-compost which help them to earn some amount of profit.

**Swami.R, Sharma.S.(2011)** In their study "A SWOT analysis of vermin-compost- An old wine in new bottle" has concluded that the production of degradable organic waste and its safe disposal becomes the current global problem. To maintain the balance soil quality and maintain solid ecosystem is major issue in international level. With the help of earthworm organic waste can be converted into useful manure which has been great demand in the market and this product also helpful in improving the soil nutrients. This manure has the capability of water holding capacity and also helps in plant growth and maintaining proper environment.

**Devkota.D. et al.(2014)** in their study "Economics of Production and Marketing of Vermi-compost in Chitwan, Nepal" concluded that vermi-compost manufacturing is a profitable business with lots of future potentiality. Direct marketing channel is very beneficial than the other marketing channel. Marketing through the cooperative is more efficient than the marketing through trader because both producers share and marketing efficiency index was higher for former as compared to later. Easy

availability of organic waste and cow dung can attract people to produce vermi-compost on a large scale

**C. Shivskumar et al, (2009)** in their study "Production and marketing of vermi-compost in Dharwad district: An economic analysis" has revealed that the cost of production of vermi-compost is very less as compared to the return on sale of vermi-compost. Vermi-compost producer are getting reasonable amount of return from the low investment on production and marketing. Vermi-compost production is an eco-friendly activity and now a day many entrepreneurs enter in this field which in turn help in improvement of economic condition of the rural people.

#### **RESEARCH GAP**

The above literature review reveals that though studies are conducted in large scale on vermi-composting technology, process of waste management and return on production, comparatively very few studies have dealt with the cost and benefit analysis of vermi-compost production and marketing to have a better view of entering into ventures in this field to manufacture organic fertilizer at a low cost. So we have carried this study on cost benefit analysis of vermi-compost production in the Dibrugarh district of Assam. This study will be beneficial for those future entrepreneurs who want to enter in the field of vermi-compost production.

#### **OBJETIVES OF THE STUDY**

- To study the cost on production and marketing of vermi-compost and benefits they derived from the sales of vermin-compost.
- To study the problems faced by the vermi-compost producers in the Dibrugarh district of Assam.

#### **STATEMENT OF THE PROBLEM**

Due to ill effect of the chemical fertilizer used, consumer preference has been changing towards the organic fertilizer. At present we have seen that general peoples are also taking part of green revolution. Waste management becomes crucial issue now a day in developing country like India. As we know vermi-composting biotechnology helps in converting organic wastes into the organic fertilizer with the help of earthworms. So a cost and benefit analysis is highly essential in the field of production and marketing of vermi-compost to know about the profit margin on production and sale of vermi-compost.

#### **METHODOLOGY**

The study has been conducted on the basis of primary and secondary data. The primary data are collected through the structured schedule. The required secondary data for the study was collected through different journals, websites, articles, books and annual report. For the study Dibrugarh Municipality area is selected purposively as various government projects are running on waste management and vermi-compost production. As the researchers failed to find out the proper recorded of vermin compost producers in Dibrugarh Municipality area, hence Snowball sampling is used to identify the producers. The researcher could contact only 4 numbers of respondents who are associated with the production and marketing of vermi-compost in Dibrugarh municipality area and therefore all four respondents were considered for the study. There are lot many distributors but for the study only the respondents who are both producer and distributor of vermi-compost are considered.

A structured interview schedule was prepared and used for collecting data from the vermi-compost producers. Both open and close ended questions were included in the schedule. Through the telephonic interview and field visit data have been collected from the respondents. To make the study more meaningful secondary data have been collected from the secondary source of information like internet, periodicals and research reports, books, journals and survey reports conducted by various reputed and reliable organizations.

As all the respondents were considered for the study therefore the researchers have used the cost accounting techniques for the interpretation.

#### LIMITATION OF THE STUDY

The study has some limitation as the data for the study have been collected from only 4 vermi-compost producers who are also distributor in the study area. Further the area of the study was confined to the Dibrugarh Municipality area only, due to the ongoing situation of pandemic the researcher was unable to visit the entire district.

#### ANALYSIS AND INTERPRETATION:

The total costs incurred in production and marketing of vermi-compost for a month are given below. The table comprised of 4 numbers of producers.

**Table 1: Table Showing Variable Cost of Vermicompost Production for Each Producer**

<b>I. MATERIAL COST</b>	<b>Producer 1</b>	<b>Producer 2</b>	<b>Producer 3</b>	<b>Producer 4</b>
EARTHWORMS	Rs.2100	Rs.200	Rs.2500	Rs.1,660
BEDDING MATERIAL	Rs.21000	-	Rs.500	Rs.4,160
WORM FEED	Rs. 2600	Rs. 130	Rs.450	Rs.20900
WATERING	Rs. 600		Rs.100	-
<b>Total Material Cost</b>	<b>Rs.26,300</b>	<b>Rs.330</b>	<b>Rs.3,550</b>	<b>Rs.26,900</b>
<b>II. LABOUR COST</b>	<b>Producer 1</b>	<b>Producer 2</b>	<b>Producer 3</b>	<b>Producer 4</b>
FILLING OF PITS	Rs.9,000	Rs.250	Rs.600	Rs.7,000
SEPARATION OF WORMS	Rs.4,000	-	Rs.300	Rs.5,660
WATERING	Rs.2,000	-	-	-
WASTE COLLECTION	Rs.7,000	-	Rs.600	Rs.4,000
SIEVING	Rs.2,000	-	-	-
<b>Total Labour Cost</b>	<b>Rs.24,000</b>	<b>Rs.250</b>	<b>Rs.1,500</b>	<b>Rs.16,660</b>
<b>TOTAL VARIABLE PRODUCTION COST(I+II)</b>	<b>Rs.50,300</b>	<b>Rs. 580</b>	<b>Rs.5,050</b>	<b>Rs.43,560</b>

(Source:- Primary Data)

### Interpretation

From the table 1 it has been interpreted that variable cost comprised of two costs which are material costs and labour costs. Material costs which comprised of Procurement of earthworms, bedding material, worm feed and watering. The material cost of Producer 1 is Rs.26300, material costs of producer 2 is Rs. 330, material costs of producer 3 is Rs.3550, material costs of producer 4 is 26,900. Labor costs incurred for filling of pits, separation of worms, watering, waste collection and sieving. The total labour costs of producer 1 is Rs.24,000 , labour costs of producer 2 is Rs.250, labor costs of producer 3 is Rs.1500 and labour costs of producer 4 is Rs. 16660. The total Production costs incurred for the production of vermi-compost are material costs plus labor costs. Total production costs of producer 1 is amounted to Rs. 50300, total production costs of producer 2 is Rs.580 , total production costs of producer 3 is Rs. 5050, total production costs of producer 4 is Rs. 43560. From the above table it is seen that manufacturer 1 and 4 produce huge quantity of vermi-compost than the producers 2 and producer 3 so producer 1 and producer 4 bear higher amount of production costs than producer 2 and producer 3.

**Table 2:- Table showing Fixed Cost of Production for Each Producer**

<b>FIXED COST</b>	<b>Producer 1</b>	<b>Producer 2</b>	<b>Producer 3</b>	<b>Producer 4</b>
LAND	Own	Own	Own	Own
BUILDING	Rs.60,000	Rs.15,000	Rs.69,000	Rs.265,000
MACHINERY	Rs.12,000	-	Rs.2,400	-
TOOLS AND EQUIPMENT	Rs.8,500	-	Rs.200	Rs.7,000
<b>TOTAL FIXED COST</b>	<b>Rs.80,500</b>	<b>Rs.15,000</b>	<b>Rs.71,600</b>	<b>Rs.272,000</b>

(Source:-Primary Data)

### Interpretation:-

From the table 2 it has been observed that all the respondents use their own land for the purpose of producing vermi-compost. The entire respondent must bear the building costs for the purpose of producing vermi-compost. Building costs of producer 1 is Rs.60000 it includes 30 vermi bags the costs per vermi bag is Rs.2000, Building costs of producer 2 is Rs.15000, Building costs of producer 3 is Rs.69000, Building costs of producer 4 is Rs.265000 which was given by the central government in a project under Swachha Bharat Mission. Machinery costs of producer 1 are Rs.12000 which includes motors and sieving tools. Machinery cost of producer 3 is Rs. 2,400 it is incurred for purchasing electric motors for watering. Producer 1 incurred Rs.8500 for purchasing tools and equipment. Producer 3 incurred Rs.200 for purchasing tools and equipment. Producer 2 has not any expenses regarding the purchase of tools and equipment because he is producing in small scale. Total fixed costs incurred by producer 1 Rs.80500, producer 2 Rs.15000, producer 3 Rs. 71600 and producer 4 Rs.272000 for producing vermi-compost

**Table 3: Table Showing Marketing Cost for Each Producer**

MARKETING COST	Producer 1	Producer 2	Producer 3	Producer 4
STANDARDISATION	-	-	-	-
PACKING	Rs.6,000	-	Rs.190	Rs.4,160
LOADING AND UNLOADING	-	-	-	-
TRANSPORT	Rs.15,000	-	Rs.370	Rs.9,000
STORAGE	-	-	-	-
LABOUR	Rs.12,000	-	-	-
MISCELLANEOUS	Rs.1,000	Rs.20	-	-
TOTAL MARKETING COST	Rs.34,000	Rs.20	Rs.560	Rs.13,160

(Source-primary data)

**Interpretation:-**

The table 3 shows the marketing cost of producing vermi-compost. Marketing costs comprised of standardization, packing, Loading and Unloading, Transport, Storage, Labour and others. No one has incurred the standardization costs for marketing of vermi-compost. Producer 1, 3 and 4 go through packing for marketing of vermi-compost. The packing cost incurred by producer 1 is Rs.6000, the packing cost of producer 2 is Rs. 190 and packing costs of producer 3 is Rs.4160. There are not any loading and unloading costs for marketing of vermi-compost. Transport costs for marketing are borne by producer 1 Rs.15000, producer 3 Rs.370 and producer 4 Rs.9000. No one needs to bear costs for storing the product. They use their own godown for keeping the vermi-compost. Only producer1 has incurred the labor cost of Rs.12000 for marketing of vermi-compost. The expenses borne by producer 1 were Rs.1000 and producer 2 wereRs.20 for miscellaneous purposes. The total marketing costs of producer 1 Rs.34000 which is higher than other producers. The marketing cost of producer 4 Rs. 13,160 and only Rs.20 and Rs.560 borne by producer 2 and producer 3 for marketing of vermi-compost.

**Table4: Table Showing Total Cost of Production for Each Producer**

PARTICULARS	Producer 1	Producer 2	Producer 3	Producer 4
Total Variable cost	Rs.50,300	Rs. 580	Rs.5,050	Rs.43,560
Total Fixed Cost	Rs.80,500	Rs.15,000	Rs.71,600	Rs.272,000
Total Marketing Cost	Rs.34,000	Rs.20	Rs.560	Rs.13,160
<b>Total cost</b>	<b>164800</b>	<b>15600</b>	<b>77210</b>	<b>328720</b>

(Source:-Primary data)

**Interpretation:-**

The table 4 shows the total cost incurred by each producer in carrying out the vermi compost. The cost incurred by each of the producer is being highlighted in the table 4. The total of Rs. 164800 is being incurred by the Producer 1 while for producer B is Rs.15600 while the producer C has incurred Rs. 77210 and for producer D the cost incurred is Rs 328720. The different amount found is due to the difference in the scale of production.

**Calculation of P/V ratio for each of the producer:**

The profit/ volume ratio is one the most important ratios for studying the profitability of operations of a business and established the relationship between contribution and sales. Therefore the ratio will help us to understand the profitability of each of the producer which will also motivate other entrepreneurs to take on the vermin compost as a business activity.

**Formulae for calculation of P/V ratio: Fixed cost+ profit / Sales**

**Table: 5: Table showing the PV ratio for each of the producer**

	Producer 1	Producer 2	Producer 3	Producer 4
Fixed Cost	80500	15000	71600	272000
Profit	195200	4500	9290	157280
Sales	360000	20100	86500	486000
Fixed Cost +Profit	275700	19500	80890	429280
PV ratio	76.583333	97.014925	93.514451	88.329218

Source: Compiled form data

Observation: From table 5 it have been observed that the PV ratio for each of the producer of vermin compost is more than 75%. It can be interpret that activity of vermin compost production and selling provides with good return to the producers. It is because, higher the PV ratio more will be the profit.

**Problems face by the vermi-compost manufacture:**

The study also focused on the problems faced by the vermin-compost producers in relation to the production and marketing and selling and accordingly some of the problems were discussed below.

1. **Long process:** Vermicompost takes three to four months for earthworms to convert the organic matter into the usable manure. So long term maintenance is must for producing vermi-compost organically. Sometimes the manufacturer unable to deliver their product to the customer to fulfill the consumer needs and wants. Through the natural way the production time cannot be reduced by the manufacturer.
2. **Low selling price:** At present many entrepreneurs enter into the field of vermicomposting. The producer have to face strive competition for selling their product in the market. Some small scale producer can't face the tough competition with the large scale manufacturer due to lack of resources. To face the competition producer always reduce the price of vermi-compost to get high demand of their product.
3. **Higher amount of wages:** The rate of wages of labor increases day by day due to inflation of money. So all the manufacture cannot afford the higher amount of

- wages rate because of low profit margin on selling of vermi-compost. Non availability of labour at low wages one of the biggest problems for the producers.
4. **Lack of availability of Cow dung:** Cow dung is essential for producing vermi-compost but in town area this manure is not available as per the requirement of manufacturer. To fulfill the requirement for producing vermi-compost high transportation cost need to bear by the producer for cow dung.
  5. **Low profit margin on small scale production:** We have seen that the small scale producers are getting less amount of margin by selling the vermi-compost to the consumer due high production cost. If they don't get required margin from this business they will face the problem of financial crisis. In the field study researcher has already seen that some manufacture stop producing vermi-compost due to not getting basis profit.
  6. **Standardization:** From the field study we have seen that producer A sometimes facing the problem of getting quality test certificate from the quality test agency when he is going to sell in the foreign market. Because they follow strict norms which are very difficult to follow by the producers of our state due lack of government support.
  7. **Excessive use of chemical fertilizer:** Many farmers of Assam using chemical fertilizer and pesticides for producing agricultural product. Small farmers are not aware about the organic farming at low cost. Also the organic manure is not available in all the seeds shop, but chemical fertilizer is available in everywhere it is one of the drawbacks not using vermi-compost by the farmers at large.
  8. **Lack of awareness among farmers:** Organic farming is the new concept and the people are not so much aware about the benefits of organic farming. Lack of awareness reduces the demand for the vermi-compost which ultimately reduce the amount of sales. As the price of organic manure less than the chemical fertilizer but the people are not conscious about it.
  9. **Pest Attack:** Attack by pest like birds, pigs, flatworms and red ants are also one of the major problem face by the producer in Dibrugarh town. The production has been decrease due to these factors and producers must improve the methods of production to reduce this effect.
  10. **Skilled labor shortage:** Lack of skillful labour decreases the production of vermin-compost. The labour doesn't understand the proper process of production and how to handle the production process. The lack of technical assistance to the labor decrease production.
  11. **No proper marketing channel:** Lack of proper marketing channel is also one of the major problems faced by the producers. As revealed by them there is no structured marketing channel available for which they find it very difficult to sell it into the market.

#### **MAJOR FINDINGS**

The researchers made an attempt to study the cost and benefit of vermin compost production. It has been observed that the cost incurred mainly the variable cost, fixed cost and marketing cost with the production of vermi compost is not homogenous for all the four producers. Also it is observed that no proper classification were done for the cost incurred. Some of the other findings of the study is highlighted below:

- It has been found from the study that vermi-compost manufactures are not maintaining their account properly due to the lack of proper knowledge on accounting. So it becomes difficult for the researchers to know the exact cost on production and marketing.

- Fixed costs on production are costs borne by the manufacturer at beginning of producing vermi-compost.
- From the analysis we can come to know that all the manufactures are able to earn certain amount of profit, large scale manufactures like producer 2 and producer 3 were able to earn more profit than the small scale manufactures. So we can say that large scale manufacture incurred less cost and they are getting higher amount of profit.
- From the study it is found that continuous production indicates low cost on production of vermi-compost. If any manufacture produce vermi-compost without any gap than he will able to get maximum margin than the short term producers.
- The study indicates that the marketing costs incurred for the packing and transportation of vermi-compost. The study also reveals that they are not using any sales promotion method for marketing their product because they are not facing any tough competitors in their business.
- It has been found from the study that except producer 4 other respondent maintain their accounts in traditional system which impact on not getting the accounting information for calculating the proper costs of production and marketing.

### **SUGGESTIONS**

- It is essential for the producers to maintain their accounts in properly so as to ascertain the actual profit and keep track of the financial status of the business.
- It is suggested that pyroduction of vermi-compost must be made in large scale, because large scale production helps them to produce at low cost so that they can earn higher amount of profit. The large scale producers will be able to market their product which in turn helps them to increase their sell and profit.
- The producer should maintain the quality of vermi-compost as per the international standard it will help them to exporting their product. From field survey researchers come to know that producer 1 exporting vermi-compost to European Countries and he get Rs. 150 to Rs.250 from per kg. Vermicompost. If others also take the step of exporting vermi-compost then he will be able get more profit than sales in the national market.
- Cow dung is essential for production ofvermi-compost without cow dung production cannot be possible. We have seen producers sometime stop production for shortage of cow dung. So, it is suggested to producers to tie up with the dairy farms which will help to them to get required cow dung for production of large scale vermi-compost.
- Since the study is confined to the municipal area of Dibrugarh district and only four producer cum distributor were considered, it is suggested that a study widening the geographical area with more respondents will help to generalize the outputs with more convenience.

### **CONCLUSION**

In vermi-composting process organic waste can be safely decomposed with the help of earthworms which is easier process than other method of composting. There is an increase in the potential of vermi-compost not only in country but all over the world. After the study it can be said that manufacturing of vermi-compost is a profitable business and by investing fewer amounts of money unemployed can easily engage themselves in the business. The business is highly beneficial for the producers in the agricultural dependent country like India. As we have seen that although there are

some problems face by the manufacturer but the absence of tough competitors in the market will be the opportunity for the producer to earn more. At last the it can be concluded that the costs of production and marketing is very less compared to the the selling price of vermi-compost and therefore it is highly profitable business with lots of growth opportunities.

#### **REFERENCE**

Devkota, D. et al, (2014). Economics of Production and Marketing of Vermicompost in Chitwan, Nepal. *International Journal of Agricultural and Soil Science*,2(7), 112-117.

K.Thiripurasundari., & S.V. Divya. (2017). Cost and Return structure of vermicompost production and marketing in Tirunelveli District. *International Journal of Economic and Business Review*,5 (1), 120-122.

Mahajanshetti,S.B.,& M., Murthy,C., & shivakumar, C. & Basavaraja,H., & Hawaldar, N., (2009). Production and marketing of vermicompost in Dharwad district: An economic analysis. *Karnataka Journal of Agricultural Sciences*,22 (4),850-853.

Sarma P.K. et al (2014). "A study on the efficiency of low cost vermicomposting structure.",proceeding of the ISOFAR ,Scientific Conference.Building organic Bridges, at the organic world congress,(pp. 663-666). Istanbul,Turkey.

Seldon P, et al, (2005). Small Scale Vermicomposting. In *Home Garden* (pp. 1-4). Hawaii: College of Tropical Agriculture and Human Resource.

Swami,R., & Sharma,S.(2011). A SWOT analysis of vermicompost-An old wine in new bottle.*International journal of Science & Technology*,1(2),83-91.

## CAUSAL RELATIONSHIP AMONG ECONOMIC GROWTH, FOREIGN DIRECT INVESTMENT AND CARBON EMISSIONS: THE INDIAN EVIDENCE

Tulika Mattack

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### **Abstract**

*The purpose of this paper is to explore the relationship between economic growth, foreign direct investment and carbon emissions in India. The study employs unit root tests, Johansen cointegration test and Toda -Yamamoto test of causality with a modified Wald test statistic. The variables under consideration are found to be integrated of the order 1. Since the data under consideration are non stationary, the standard Granger causality test is not applied. Instead, Toda- Yamamoto method is applied with an augmented vector autoregression. The study finds evidence of bidirectional causality between FDI and CO<sub>2</sub> emissions. Unidirectional causality is detected between GDP and FDI running from former to the later. Also, unidirectional causality running from GDP to CO<sub>2</sub> emissions is revealed.*

**Keywords:** carbon emissions, economic growth, FDI, Toda- Yamamoto, cointegration

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### **Introduction**

In 2018- 19 the Industrial Sector contributed 29.73% of India's total Gross Value Added (GVA). It is a known fact that industrial activities lead to environmental pollution. The Environmental Kuznets Curve depicts the relationship between economic growth and environmental quality. The Kuznets curve gives the hypothesis that economic progress initially leads to deterioration in the environment but as economic growth continues, more resources are directed towards environmental quality thereby leading to its improvement. Thus, the crux of EKC is that economic growth leads to betterment of environmental quality. As per the reports of the National Oceanic and Atmospheric Administration and American Meteorological Society, in 2017 global atmospheric carbon dioxide (CO<sub>2</sub>) was 405±0.1 ppm. The rate at which global atmospheric carbon dioxide level has escalated can be gauged from the fact that in 1960s the growth rate of atmospheric carbon dioxide was roughly 0.6±0.1 ppm per year and over the past decade this figure is closer to 2.3 per year. The annual rate of increase in atmospheric carbon dioxide over the past 60 years is about 100 times faster than previous natural increases. The increase in atmospheric carbon dioxide is a matter of concern because it is responsible for about two thirds of the total energy imbalance that is leading to increase in earth's temperature. Also, increase in

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carbon dioxide levels interferes with the ability of marine life to extract calcium from the water to build their shells and skeletons because of ocean acidification.

The policies in developing countries are framed in ways that can attract foreign investment. Foreign direct investment itself leads to increase in national income. Also there are positive multiplier effects in the form of foreign technology, job creation, increase in exports, decline in imports and creation of ancillary industries which further augment economic growth. However, it is an accepted fact that multinational corporations invest in less developed nations primarily to avail cost advantage accruing from low cost of labour and lenient environmental standards. Therefore, there is every chance that foreign direct investment may lead to increased pollution in the host country. However, it is also possible that multinationals using superior technologies are better equipped to control pollution in the production process.

### **Objective**

The basic objective of this study is to determine the causal relationship among GDP, Foreign Direct Investment and CO<sub>2</sub> emissions.

### **Review of Literature**

Abdouli and Hammami (2017) delved into the impact of foreign direct investment inflows and environmental quality and capital stock on economic growth. The study was carried out in 17 Middle East and North African countries. The panel results show that FDI inflows have positive and significant impact on economic growth. They also found evidence of environmental degradation leading to decrease in economic growth.

Ahmad, Du, Lu, Wang, Li and Hashmi (2016) analysed the relationship between CO<sub>2</sub> emissions and economic growth in Croatia. The authors made use of Autoregressive Distributed Lag (ARDL) and VECM model to carry out the analysis. Granger causality test revealed a bidirectional causality between CO<sub>2</sub> emissions and economic growth in the short run and unidirectional causality from economic growth to CO<sub>2</sub> emissions in the long run.

Ahmed and Long (2013) examined the relationship between CO<sub>2</sub> emissions and energy consumption, economic growth, trade openness and population in Pakistan. The study could not find evidence in support of the environmental Kuznets curve hypothesis in the short run. However, EKC hypothesis was confined in the long run between carbon emission and growth, energy consumption, trade openness and population density.

Baksh, Rose, Ali, Ahmad and Shahbaz (2017) investigated the effects of foreign direct investment on environmental pollution and economic growth. The results revealed that physical capital stock and labour have positive and significant impact on gross domestic product. Further, it was found that FDI has negative and significant impact on CO<sub>2</sub> emissions and renewable waste. Pollution was found to have negative effect on growth. Also, economic growth and foreign direct investment have positive and significant effect on stock of capital. Further it was witnessed that increase in pollution level beyond a certain limit leads to decline in economic growth.

Bekhet and Othman (2017) examined the relationship among CO<sub>2</sub> emissions, urbanisation growth, energy consumption, GDP, domestic investment and financial development. The study employed granger causality test in VECM framework. Results showed unidirectional causality running from urbanisation to CO<sub>2</sub> emissions in the short run and bidirectional causality between CO<sub>2</sub> emissions and urbanisation in the long run. Further, bidirectional causality among energy consumption, domestic

investment, GDP, CO<sub>2</sub> emissions and unidirectional causality running from financial development to CO<sub>2</sub> emissions was evident.

Bildirici and Bakirtas (2016) explored the relationship among oil and coal consumption, CO<sub>2</sub> emissions and economic growth in Brazil, Russia, India, China, Turkey and South Africa. Results indicated unidirectional causality running from coal consumption to CO<sub>2</sub> emissions, unidirectional causality from oil consumption to CO<sub>2</sub> emissions in China, India, Turkey and South Africa and bidirectional causality in Brazil and Russia.

Dogan and Aslan (2017) investigated the relationship among CO<sub>2</sub> emissions, real GDP, energy consumption and tourism in EU and candidate countries. The study employed panel unit root test and panel cointegration test. Panel cointegration test revealed existence of long run relationship between the variables. It was found that there exists unidirectional causality from tourism to CO<sub>2</sub> emissions and energy consumption and between real income and CO<sub>2</sub> emissions.

Dogan and Seker (2016) explored the impact of real income, energy consumption, financial development and trade openness on CO<sub>2</sub> emissions for the OECD countries. The Emirmahmutoglu – Kose Granger Causality test results reveal bidirectional causality between CO<sub>2</sub> emissions and energy consumption and between CO<sub>2</sub> emissions and trade openness. Unidirectional causality running from real income to CO<sub>2</sub> emissions and from energy consumption to real income was detected.

Dogan and Turkecul explored the relationship between CO<sub>2</sub> emissions, energy consumption, real output, the square of real output, trade openness, urbanisation and financial development in USA. The variables under consideration are found to be cointegrated. The authors report energy consumption to be the main cause of CO<sub>2</sub> emissions in USA. The Kuznets curve hypothesis does not hold true in the USA. Granger Causality test in the VECM framework revealed strong causal relationship between gas emissions and real output, energy consumption and urbanisation both in the short run as well as long run.

Hao and Liu (2014) examined the relationship between FDI, foreign trade and carbon dioxide emissions in China. The study revealed that FDI helps inhibit the growth of China's carbon dioxide emissions. The study confirmed the existence of EKC hypothesis. Further, the direct effect of FDI on carbon emissions is negative and indirect effect of foreign trade in CO<sub>2</sub> emissions was statistically insignificant.

## **DATA AND METHODOLOGY**

For the purpose of this study annual GDP data from 1990 to 2107 are used. The GDP data have been retrieved from IMF website. The data is in current prices US dollar. The FDI inflows data for the same period is used and has been collected from the UNTCAD website. The CO<sub>2</sub> emissions data are also retrieved for same time period from the Global Carbon Atlas website.

We test for cointegration between the GDP, FDI and CO<sub>2</sub> emissions. If  $\{y_t : t=0, 1, \dots\}$  and  $\{x_t : t=0, 1, \dots\}$  are two I(1) processes, then, in general,  $y_t - \beta x_t$  is an I(1) process for any number  $\beta$ . Nevertheless, it is possible that for some  $\beta \neq 0$ ,  $y_t - \beta x_t$  is an I(0) process, which means it has constant mean, constant variance and auto correlations that depend only on the time distance between any two variables in the series and it is asymptotically uncorrelated. If such a  $\beta$  exists, we say that  $y$  and  $x$  are cointegrated and we call  $\beta$  the cointegration parameter (Woodridge, 2009). If GDP, FDI and CO<sub>2</sub> emissions are found to be cointegrated it means they have a long run relationship

Thereafter, a vector autoregression (VAR) model has been estimated. The structure in a VAR is such that each variable is a linear function of past values of itself and past lagged values of the other variable. A bivariate VAR with 2 variables  $r_t$  and  $n_t$  can be expressed as

$$r_t = \delta_0 + a_1 r_{t-1} + \gamma_1 n_{t-1} + a_2 r_{t-2} + \gamma_2 n_{t-2} + \dots \quad (1)$$

$$n_t = \lambda_0 + \beta_1 r_{t-1} + \rho_1 n_{t-1} + \beta_2 r_{t-2} + \rho_2 n_{t-2} + \dots \quad (2)$$

Equation (1) and (2) would allow us to test whether after controlling for past  $r$ , past  $n$  help to forecast  $r_t$ . It is generally expressed as  $n$  Granger causes  $r$  if

$$E(r_t | I_{t-1}) \neq E(r_t | J_{t-1}) \quad (3)$$

where  $I_{t-1}$  contains past information on  $r$  and  $n$  and  $J_{t-1}$  contains only information on past  $r$ . If equation (3) holds, past  $n$  is useful, in addition to past  $r$ , for predicting  $r_t$ . The study makes use of Toda and Yamamoto (1995) methodology with modified Wald test statistic based on augmented VAR framework. The Toda Yamamoto (1995) approach applies the usual lag selection procedure to a VAR. With the lag length ( $m$ ) being determined and if  $d_{\max}$  be the maximal order of integration in the process, the  $(m + d_{\max})$  th order VAR is estimated.

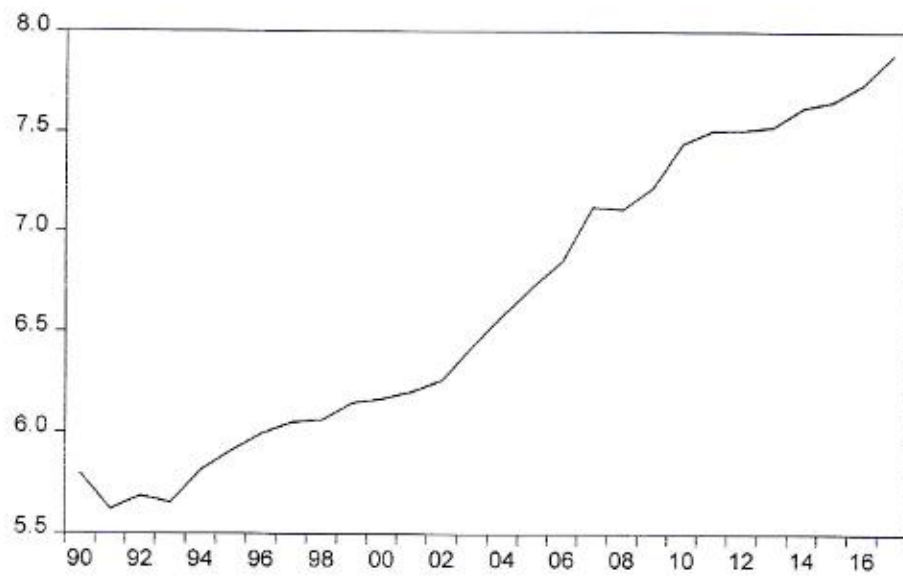
**The Toda and Yamamoto approach involves the following steps:**

1. The three series GDP, FDI inflows and CO<sub>2</sub> emissions are tested to find their order of integration. If the series are integrated of same order, we take that integrated order and if the series are integrated of different order, we take the maximal order of integration. Let that integrated order be  $d_{\max}$ .
2. A VAR model is estimated with the two variables at levels, irrespective of the orders of integration of the series.
3. The appropriate lag length for the variables in the VAR is determined based on some information criteria like Akaike Information Criteria, Schwarz Information Criteria or Hannan Quinn Information Criteria. Let it be  $m$ .
4. If the three series are found to have the same order of integration, then Johansen cointegration test is carried out.
5. Irrespective of the results of cointegration test, an augmented VAR with lag length determined by adding in the maximum integrated order (i.e.,  $d_{\max}$ ) with the lag length chosen on the basis of the information criteria (i.e.,  $m$ ) is estimated.
6. Thereafter, Granger Causality test for non causality using pair wise equations and modified Wald test is applied.
7. The modified Wald test statistic will be asymptotically chi square distributed with  $(m + d_{\max})$  degrees of freedom.
8. If the null hypothesis is rejected, it implies the presence of Granger causality. The causality may be bidirectional or unidirectional.

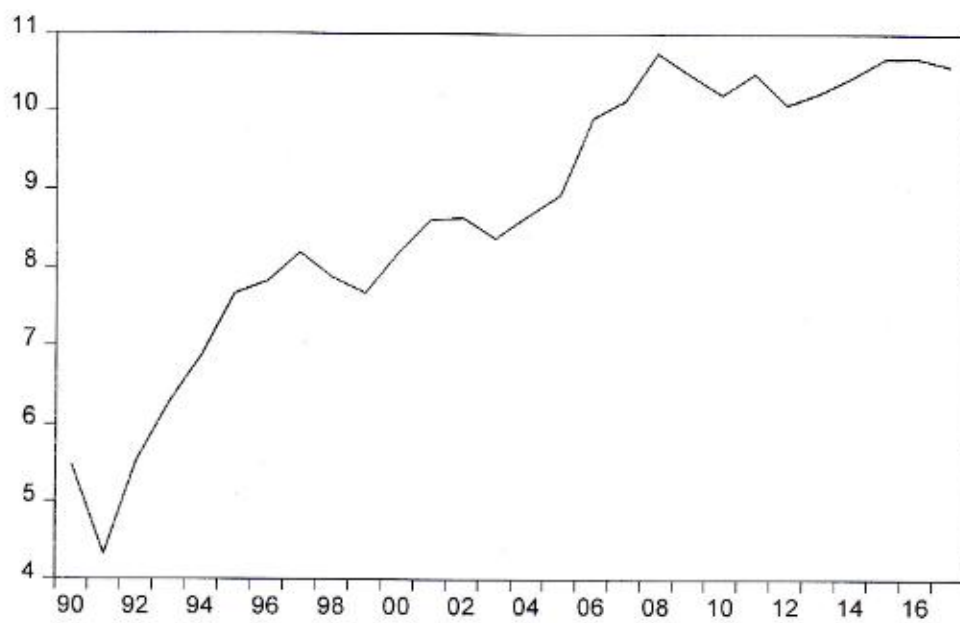
**FINDINGS AND DISCUSSION**

The three series GDP, FDI inflows and CO<sub>2</sub> emissions are converted to their natural logarithm. All the analysis is carried out on the converted log series of the three variables. Time plots of log series of GDP, FDI inflows and CO<sub>2</sub> emissions are shown in Figure 1, Figure 2 and Figure 3.

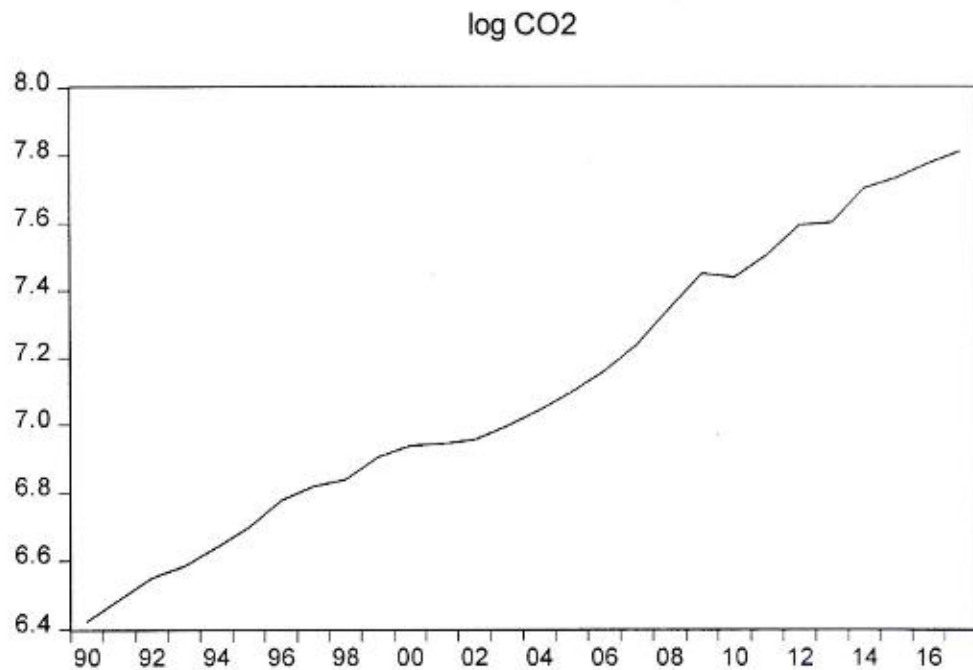
**Figure 1**  
**Time plots of GDP**  
log GDP



**Figure 2**  
**Time plots of FDI inflows**  
log FDI



**Figure 3**  
**Time plots of CO<sub>2</sub> emissions**



Time series analysis is based on the assumption of stationarity. A stationary series allows one to make forecasts and predictions based on the behaviour of the series studied at a point of time. A time series  $r_t$  is weakly stationary or covariance stationary if both the mean of  $r_t$  and the covariance between  $r_t$  and  $r_{t-s}$  are time invariant, where  $s$  is an arbitrary integer. That is

$$E(r_t) = E(r_{t-s}) = \mu \quad (4)$$

$$E[(r_t - \mu)^2] = E[(r_{t-s} - \mu)^2] = \sigma_r^2 \quad \text{or} \quad \text{Var}(r_t) = \text{Var}(r_{t-s}) = \sigma_r^2 \quad (5)$$

$$E[(r_t - \mu)(r_{t-s} - \mu)] = E[(r_{t-j} - \mu)(r_{t-j-s} - \mu)] = \gamma_s$$

$$\text{or } \text{Cov}(r_t, r_{t-s}) = \text{Cov}(r_{t-j}, r_{t-j-s}) = \gamma_s \quad (6)$$

where  $\mu$ ,  $\sigma_r^2$  and  $\gamma_s$  are constants

An Augmented Dickey Fuller test is conducted on GDP series to test for the presence of unit root. The null hypothesis of presence of unit root in GDP series at level could not be rejected. Likewise, FDI inflows and CO<sub>2</sub> series are also tested for presence of unit root and the series were found to be non stationary. The descriptive statistics as well as the results of ADF test for the GDP, FDI inflows and CO<sub>2</sub> series are reported in Table 1.

**Table 1**  
**Summary Statistics, Test Statistics for Jarque Bera Test for Normality and Augmented Dickey Fuller Test for Unit Root of the GDP, FDI inflows and CO<sub>2</sub> series**

Series	Mean	Std. Deviation	Skewness	Kurtosis	JB *	ADF ^
GDP	6.651626	0.754704	0.180980	1.524159	2.693974 <sup>*</sup>	0.937073 <sup>*</sup>
FDI inflows	8.711853	1.811477	-0.722333	2.665719	2.565270 <sup>*</sup>	-1.531625 <sup>*</sup>
CO <sub>2</sub> emissions	7.108422	0.423474	0.158380	1.821089	1.738529 <sup>*</sup>	0.013155 <sup>*</sup>

# Jarque bera test statistic for normality

^ Augmented Dickey Fuller test statistic for unit root at level upto lag 31

2^ Augmented Dickey Fuller test statistic for unit root at first difference upto lag 31

‡ Statistically not significant

The first difference of the three log series, GDP, FDI inflows and CO<sub>2</sub> emissions is taken and stationarity tests are conducted. The null hypothesis of presence of unit root is rejected in all the three series. The descriptive statistics, results of test of normality and test of stationarity of the 3 first differenced series are reported in Table 2.

**Table 2**  
**Summary Statistics, Test Statistics for Jarque Bera Test for Normality and Augmented Dickey Fuller Test for Unit Root of the first differenced GDP, FDI inflows and CO<sub>2</sub> series**

Series	Mean	Std. Deviation	Skewness	Kurtosis	JB *	ADF ^
GDP	0.077570	0.86712	-0.396465	4.325793	2.684773 <sup>*</sup>	-5.560180 <sup>‡</sup>
FDI inflows	0.189918	0.490002	-0.322394	3.712589	1.038975 <sup>*</sup>	-6.002219 <sup>‡</sup>
CO <sub>2</sub> emissions	0.051351	0.030499	-0.006648	2.532559	0.246013 <sup>*</sup>	-5.083078 <sup>‡</sup>

# Jarque bera test statistic for normality

^ Augmented Dickey Fuller test statistic for unit root at level upto lag 31

2^ Augmented Dickey Fuller test statistic for unit root at first difference upto lag 31

\* Statistically significant at 1% level

In order to carry out VAR analysis it is important to identify the correct lag length. The lag length is chosen as per Akaike Information Criteria. However, here the lag length chosen as per Schwarz information criterion as well as Hannan-Quinn information criterion is the same as the one chosen as per Akaike Information Criteria i.e., 5. Since, the Toda and Yamamoto (1995) procedure for testing Granger causality is applied in this study, lag length of 6 (lag length chosen as per information criteria plus the maximum integrated order) is selected for VAR analysis.

Johansen Cointegration test is carried out to test for long run association between GDP, FDI inflows and CO<sub>2</sub> emissions. Two types of tests are carried out and the results are reported in Table 3. The trace statistic for the null hypothesis of r cointegrating relations is derived as

$$LR_{tr}(r|k) = -T \sum_{i=r+1}^k \log(1 - \lambda_i) \quad (7)$$

Where  $\lambda_i$  is the  $i$ th Eigen- value in ascending order

The maximum eigenvalue statistic tests the null hypothesis of r cointegrating relations against the alternative of r+1 cointegrating relations. The test statistic is derived by

$$LR_{max}(r|r+1) = -T \log(1 - \lambda_{r+1}) \quad (8)$$

For  $r = 0, 1, 2, \dots, k-1$

The Trace test as well as Maximum Eigenvalue test suggests two cointegrating relationships between the three variables at 5 % significance level.

**Table 3**  
**Johansen Cointegration Test results**

Hypothesis		Tests
H <sub>0</sub>	H <sub>A</sub>	Trace test statistic
r=0	r≥1	229.4295*
r≤1	r≥2	18.08078**
r≤2	r≥3	0.010565 <sup>~</sup>
		Maximum Eigenvalue test
r=0	r=1	211.3487*
r≤1	r=2	18.07022**
r≤2	r=3	0.010565 <sup>~</sup>

\*Statistically significant at 1% level

\*\*Statistically significant at 5% level

<sup>~</sup>Statistically not significant

The cointegration tests gives evidence of long run relationship between the variables under consideration. We can test for Granger causality by estimating the following VAR model.

$$g_t = \delta_0 + a_1 g_{t-1} + \gamma_1 f_{t-1} + \kappa_1 c_{t-1} + \dots + a_6 g_{t-6} + \gamma_6 f_{t-6} + \kappa_6 c_{t-6} \quad (9)$$

$$f_t = \lambda_0 + \beta_1 f_{t-1} + \rho_1 g_{t-1} + \omega_1 c_{t-1} + \dots + \beta_6 f_{t-6} + \rho_6 g_{t-6} + \omega_6 c_{t-6} \quad (10)$$

$$c_t = \gamma_0 + \nu_1 c_{t-1} + \zeta_1 f_{t-1} + \eta_1 g_{t-1} + \dots + \nu_6 c_{t-6} + \zeta_6 f_{t-6} + \eta_6 g_{t-6} \quad (11)$$

where  $g_t$ ,  $f_t$  and  $c_t$  are the GDP, FDI inflows and CO<sub>2</sub> emissions respectively.

We test the following hypothesis

- a. H<sub>0</sub>:  $\gamma_1 = \gamma_2 = \gamma_3 = \gamma_4 = \gamma_5 = \gamma_6 = 0$  i.e. FDI inflows do not Granger cause GDP
- b. H<sub>0</sub>:  $\kappa_1 = \kappa_2 = \kappa_3 = \kappa_4 = \kappa_5 = \kappa_6 = 0$  i.e. CO<sub>2</sub> emissions do not Granger cause GDP
- c. H<sub>0</sub>:  $\rho_1 = \rho_2 = \rho_3 = \rho_4 = \rho_5 = \rho_6 = 0$  i.e. GDP do not Granger cause FDI
- d. H<sub>0</sub>:  $\omega_1 = \omega_2 = \omega_3 = \omega_4 = \omega_5 = \omega_6 = 0$  i.e. CO<sub>2</sub> emissions do not Granger cause FDI
- e. H<sub>0</sub>:  $\zeta_1 = \zeta_2 = \zeta_3 = \zeta_4 = \zeta_5 = \zeta_6 = 0$  i.e. FDI inflows do not Granger cause CO<sub>2</sub> emissions
- f. H<sub>0</sub>:  $\eta_1 = \eta_2 = \eta_3 = \eta_4 = \eta_5 = \eta_6 = 0$  i.e. GDP do not Granger cause CO<sub>2</sub> emissions

**Table 4**  
**Toda Yamamoto Causality test results**

H <sub>0</sub>	$\chi^2$	P value
FDI inflows do not Granger cause CO <sub>2</sub> emissions	149.7302	0.0015
GDP do not Granger cause CO <sub>2</sub> emissions	12.49543	0.0000
CO <sub>2</sub> emissions do not Granger cause FDI inflows	27.01460	0.0001
GDP do not Granger cause FDI inflows	62.83264	0.0000
CO <sub>2</sub> emissions do not Granger cause GDP	1.731868	0.9426
FDI inflows do not Granger cause GDP	2.781389	0.8357

Therefore, the null hypothesis that FDI inflows do not Granger cause CO<sub>2</sub> emissions is rejected at 1% significance level. Likewise, the null hypothesis that GDP do not Granger cause CO<sub>2</sub> emissions is again rejected at 1% significance level. Also, the modified Wald test statistics are found to be significant thereby rejecting the two null hypothesis t that CO<sub>2</sub> emissions do not Granger cause FDI inflows and GDP do not Granger cause FDI inflows are rejected at 1% significance level. However, the two hypotheses that CO<sub>2</sub> emissions do not Granger cause GDP and FDI inflows do not Granger cause GDP could not be rejected.

## CONCLUSION

Issues like environmental pollution and global warming have become a matter of serious concern in the past few decades. However, for obvious reasons in every economy the major thrust is always on economic growth. Together, less developed economies compete for FDI as it supposedly augments economic growth. Again, economic growth resulting from increased industrialization definitely leads to increased CO<sub>2</sub> emissions. Therefore, in this study the nature of causal relationship among GDP, FDI inflows and CO<sub>2</sub> emissions in Indian have been explored. The Toda Yamamoto

(1995) methodology have been applied to do the same as it overcomes the shortcomings of the standard Granger causality test (Granger, 1969) which arises when the data under consideration are non stationary. Results from the study reveal that there is bidirectional causality among FDI inflows and CO<sub>2</sub> emissions. Unidirectional causality from GDP to CO<sub>2</sub> emissions and GDP to FDI inflows is detected.

### References

1. Ahmad, N., Du, L., Lu, J., Wang, J., Li, H. Z., & Hashmi, M. Z. (2017). Modelling the CO<sub>2</sub> emissions and economic growth in Croatia: is there any environmental Kuznets curve?. *Energy*, 123, 164-172.
2. Ahmed, K., & Long, W. (2013). An empirical analysis of CO<sub>2</sub> emission in Pakistan using EKC hypothesis. *Journal of International Trade Law and Policy*, 12(2), 188-200.
3. Abdouli, M., & Hammami, S. (2017). Exploring links between FDI inflows, energy consumption, and economic growth: further evidence from MENA countries. *Journal of Economic Development*, 42(1).
4. Bakhsh, K., Rose, S., Ali, M. F., Ahmad, N., & Shahbaz, M. (2017). Economic growth, CO<sub>2</sub> emissions, renewable waste and FDI relation in Pakistan: New evidences from 3SLS. *Journal of environmental management*, 196, 627-632.
5. Bekhet, H. A., & Othman, N. S. (2017). Impact of urbanization growth on Malaysia CO<sub>2</sub> emissions: Evidence from the dynamic relationship. *Journal of cleaner production*, 154, 374-388.
6. Bildirici, E. M., & Bakirtas, T. (2016). The relationship among oil and coal consumption, carbon dioxide emissions, and economic growth in BRICTS countries. *Journal of Renewable and Sustainable Energy*, 8(4), 045903.
7. Dogan, E., & Aslan, A. (2017). Exploring the relationship among CO<sub>2</sub> emissions, real GDP, energy consumption and tourism in the EU and candidate countries: Evidence from panel models robust to heterogeneity and cross-sectional dependence. *Renewable and Sustainable Energy Reviews*, 77, 239-245.
8. Dogan, E., & Seker, F. (2016). The influence of real output, renewable and non-renewable energy, trade and financial development on carbon emissions in the top renewable energy countries. *Renewable and Sustainable Energy Reviews*, 60, 1074-1085.
9. Dogan, E., & Turkekul, B. (2016). CO<sub>2</sub> emissions, real output, energy consumption, trade, urbanization and financial development: testing the EKC hypothesis for the USA. *Environmental Science and Pollution Research*, 23(2), 1203-1213.
10. Engle, R. F., & Granger, C. W. (1987). Co-integration and error correction: representation, estimation, and testing. *Econometrica: journal of the Econometric Society*, 251-276.
11. Granger, C. W. (1969). Investigating causal relations by econometric models and cross-spectral methods. *Econometrica: Journal of the Econometric Society*, 424-438.
12. Hao, Y., & Liu, Y. M. (2015). Has the development of FDI and foreign trade contributed to China's CO<sub>2</sub> emissions? An empirical study with provincial panel data. *Natural Hazards*, 76(2), 1079-1091.
13. Toda, H. Y., & Yamamoto, T. (1995). Statistical inference in vector autoregressions with possibly integrated processes. *Journal of econometrics*, 66(1-2), 225-250.
14. Wooldridge, J. M. (2015). *Introductory econometrics: A modern approach*. Nelson Education.

## STATUS OF EMPOWERMENT AND EQUALITY AMONG THE BPL HOUSEHOLDS OF DIBRUGARH DISTRICT OF ASSAM: A HUMAN DEVELOPMENT APPROACH

Dr. Bidisha Mahanta

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### **Abstract**

*The present paper seeks to analyze the status of gender gap, women empowerment and human development among the BPL households of Dibrugarh district of Assam. Data are collected from both villages and tea garden and the compared using suitable statistical tools. Glaring inequality was seen in respect of work participation rate and estimated earned income. Male work participation rate was always higher than female work participation rate. The gap was more pronounced in villages as female work participation rate was very low as compared to tea gardens. Analysis at the block level in the study area showed us that that female estimated earned income, female literacy rate, women's access to media were higher in villages than in tea gardens. Again the indicators like female work participation rate, percentage of women voted independently, women's intra household decision making power, , control over resources were more in tea gardens than in villages. However incidence of domestic violence, attitude towards wife beating was almost same in both villages and tea gardens.*

**Key words:** Gender Gap, Women empowerment, Human development, BPL households, Village, Tea garden.

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### **1.1 Introduction:**

Gender is not synonymous with women. It is also not a zero-sum game implying loss for men. Gender instead refers to both women and men, and to their status, relative to each other. Gender can be defined as a set of characteristics, roles and behavioral patterns that distinguished women from men socially and culturally and relations of power between them (Women Information Centre, 2005). These characteristics, roles, behavior patterns and power relations are dynamic; they vary over time and between different cultural groups because of the constant shifting and variation of cultural and subjective meanings of gender (Hirut, 2004). Gender equality refers to that stage of human development at which the rights, responsibilities and opportunities of individuals are not to be determined by the fact of being born male or female. Achieving gender equality, however, is grindingly a slow process, since it challenges one of the most deeply entrenched of all human attitudes (World Economic Forum, 2005). Despite the intense efforts of many agencies and organizations, and numerous inspiring successes, the picture is still disheartening, as it takes far more

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than changes in law or stated policy to change practices at home. Almost in every country there is a gap between women and men in the achievement of human development. This gap as elaborated in the report of World Economic Forum (WEF) is mostly seen in four different areas viz., (1) economic participation & economic opportunity, (2) political empowerment, (3) access to education and (4) reproductive health. Every gender gap report of WEF emphasizes the need for empowerment of women towards achievement of gender equality. According to Ababa (2008), the process of correcting gender disparity in a society leads us to improving the condition and status of women in all spheres (household as well as community level), which is also termed as women empowerment. And the effort to increase the level of empowerment will lead us to the goal of human development.

Human Development and Women Empowerment both are mutually reinforcing. For instance an educated mother is more likely to take care of her family in issues like health care and sanitation. School dropout rate of girl child will be less if mothers are empowered. Regarding nutritional aspect of a child there is less gender biasness if mothers are empowered. But evidences from Human Development Report show that a high level of human development in terms of HDI is not necessarily linked with highly empowered women. Many countries having high HDI are having low GDI. This reveals the fact that there is a gender gap in achievement in human development.

### 1.2 Status of Gender Inequality, Women Empowerment and Human Development in Dibrugarh District Vis-à-Vis Assam:

To analyze the status of gender gap, women empowerment and human development in Dibrugarh district Vis-à-Vis Assam we are using the broad indicators like employment, health and demographic indicators and political participation. The following table shows the overall position of Dibrugarh district in comparison to the state.

Indicators/State /District	Assam				Dibrugarh			
	Male	Female	Total	Gap	Male	Female	Total	Gap
Literacy Rate	77.8	66.3	72.2	11.5	82.82	68.99	76.05	13.83
Work Participation Rate	53.59	22.46	38.36	31.13	54.4	29.63	42.26	24.77
Main Worker	44.13	10.82	27.84	33.31	42.13	16.41	29.52	25.72
Marginal Worker	9.45	11.63	10.52	-2.18	12.28	13.22	12.74	-0.94
Non Worker	46.41	77.54	61.64	31.13	45.60	70.37	57.74	-24.77
Share in State Assembly	88	12	100	76	57.14	42.86	100	14.28
Sex Ratio at Birth	--	--	954	--	--	--	962	---
0-6 Sex Ratio	--	---	957	--	---	---	961	---
IMR(2010)	56	60	58	(-)4	---	---	55	---

Sources: Assam Statistical Handbook 2014, District Census Hand book 2011, Election commission, 2011

### **1.2 Objective of the study:**

The main objective of the study is to analyze the extent of gender gap, women empowerment and human development among the BPL households of Dibrugarh District

### **1.3 Review of Literature:**

Report of World Economic Forum (2009) talked about gender equality to maximize competitiveness and development potential of any country. It emphasized that any nation should strive for gender equality, i.e., to give women the same rights, responsibilities and opportunities as men enjoy. The economists like George Malina and Mark Purser of UNDP (2010) found that a high level of women empowerment would bring high level of human development through their contribution to the development process. Ranis and Stewart (2005) in their work held the view that empowered women can contribute to human development through household and community activity and at the same time progress in human development was expected to promote women empowerment through improved health, nutrition, education, social security, political freedom, availability of employment and a decent standard of living. According to them, female education was an important input of the production function, i.e., "Human Development Improvement Function" which explained the effectiveness of expenditure directed to human development. Female education had important bearings on child health and their survival. Moreover, a study in Cote de Ivoire revealed that increased female share over household income leads to increased spending on human development enhancing items like food, healthcare etc. and reduced spending on tobacco. Again, according to the 2009 report of WEF, when women have greater say and control over resources, the family and even the entire society would be benefited by improved health status and better education. Again in 2014 report, the founder and executive chairman of WEF wrote that healthy and educated women are more likely to have healthier and more educated children, creating a positive virtuous cycle for the broader population. Moreover, he said that research also shows the benefits of gender equality in politics: when women are more involved in decision making, they make different decisions not necessarily better or worse - but decisions that reflect the needs of more members of the society. From the above review of literature, it is evident that quite a good number of studies have already been undertaken on gender inequality, women empowerment, and human development while some on the linkage among them. The entire gamut of literature has centered mainly around conceptual, methodological and measurement issues and the constraints involved therein. However, no such significant effort has been made to combine these three concepts in one frame. Not a single study we could come across concentrating specifically on poor and under privileged, their development and empowerment in the given methodological framework, particularly in the context of a state like Assam in North East India. It is for this reason we have made an attempt to undertake such a case study of poor households in Dibrugarh District of Assam.

#### **1.4 Data and Methodology**

To analyze the status of gender gap and women empowerment and human development we have used the broad indicators like employment, education, health and women's household decision making as proxy of their political empowerment. To undertake an in-depth study in the district, we randomly selected four out of seven development blocks, viz., Panitola Development Block, Tengakhat Development Block, Lahoal Development Block and Barbaruah Development Block. These blocks were further stratified into villages and tea gardens. From each block we selected five villages and five tea gardens and we collected information from seven households from each village and from each tea garden. Thus, a total of 70 households were surveyed from each development block. All total 280 households from four blocks were selected from the BPL list prepared in 2002 and all those households were surveyed using the method of direct personal interview.

#### **1.5 Profile of the blocks:**

Let us first have a brief introductory profile of the four selected blocks of the study area.

**1.5.1 Barbaruah Block:** Out of the seven development blocks of the Dibrugarh district, location wise Barbaruah block is nearest to the district headquarter. The Barbaruah block covers an area of 306.30 sq. km of which rural area comprises 301.87 sq. km and the remaining 4.43 sq. km belong to urban area. According to 2011 Census, total number of house holds in the block was 34,434. Percentage of BPL households in the block was 33.78% as per BPL survey 2002.

**1.5.2 Lahoal Block:** Lahoal Block occupies an area of 277.57 sq. km of which rural area comprises of 276.94 sq. km and the urban area is less than one sq. km i.e., 0.63 sq. km. The block had 30,765 numbers of householdsof which 30, 139 belonged to rural areas whereas the remaining 626 households were in urban settlement. The percentage of BPL households in the block was 50.09% (BPL Survey 2002).

**1.5.3 Panitola Block:** Panitola Development Block is situated at 30 km distance from the district head quarter. The total area under the block is 205.51 sq. km and the whole of the area falls under rural region. The total number of households in the block was 25470 as per 2011 Census and all were rural households. According to BPL survey 2002, the percentage of BPL households in the block was 34.30%.

**1.5.4 Tengakhat Block:** Tengakhat Block occupies an area of 351.70 sq. km of which 344.69 sq. km are rural and the remaining 7.01 sq. km in urban settlement. According to 2011 Census, the total number of households in the block was 46,801 out of which 37,916 were in rural areas and the remaining 8885 households in urban area. The percentage of BPL families in the Block was 32.76%.

**1.6 Discussion and Results:** To analyze the status of gender inequality, human development and women empowerment separately both in villages and in tea gardens at block level we are using indicators like education, employment, women's household and financial decision making power, freedom of movement, exposure to media, acceptance of unequal gender role, incidence of domestic violence faced by them. In the following paragraphs we have analyzed these indicators one by one.

**1.6.1 Employment:** Employment is one of the important tools of empowerment. Elimination of gender inequality in employment on the one hand can promote human development and on the other facilitate empowerment. Employment was described as a source of empowerment by Kishor and Gupta (2004) in their work. In the present study we are using work participation rate as employment indicators to describe the employment scenario in Dibrugarh District.

In Table 1.6.1 we have presented data on work participation rate at block level. The work participation rate was estimated to be 45.22 per cent in the study area as a whole, but the male work participation rate was 63.29 per cent as against female work participation rate of 26.28 per cent, thus registering a gender gap of 37 per cent. From the table it is observed that work participation rate was the highest in Barbaruah Block (51.79%) followed by Panitola Block and Lahoal Block. It was the lowest in Tengakhat Block (38.61%). This is mainly because the Barbaruah block is nearest to the district headquarters and Tengakhat block is the remotest. The male work participation rate was always higher than female work participation rate. Male work participation rate was the highest for Barbaruah block and it was as high as 71.84 per cent. It was the lowest in Lahoal Block (54.78%). If we look at the female work participation rate we find that it was the highest in Barbaruah block and immediately followed by Lahoal block. It was the lowest in Tengakhat block. Huge gender gap existed and the gap was as high as 50.42 percent in Panitola block. Lahoal registered the lowest gender gap which was 20.55 per cent. The work participation rate in villages and tea gardens showed that it was lower in villages (33.53%) in comparison to tea gardens (56.92%). Gender gap was almost double in villages (47.98%) than in tea gardens (26.69%). Except Barbaruah block, male work participation rate was relatively much higher in tea gardens than in villages. Female work participation rate in villages was very low and ranged from 2.86 per cent in Tengakhat block to 14.75 per cent in Lahoal block. As a result very high gender gap existed and it was as high as 60.91 per cent in Barbaruah block and as low as 37.55 per cent in Lahoal block. Contrary to this female work participation rate was significantly higher in tea gardens (43.19%) in comparison to villages (8.84%). It was the highest in Lahoal block (58 %) and the lowest in Tengakhat block (32.88%). The gender gap in tea gardens varied significantly ranging from 47.49 per cent in Panitola block to zero gap in Lahoal block.

**Table 1.6.1: Work Participation Rate in Dibrugarh District**

Development Block	Village			Tea Garden			Combined					
	M	F	T	M	F	T	M	F	T			
	G	G	G	G	G	G	G	G	G			
Barbaruah	74.47	13.56	40.57	60.91	69.64	54.84	61.86	14.80	71.84	34.71	51.79	37.13
Lahoal	52.31	14.75	34.13	37.55	58.00	58.00	58.00	0.00	54.78	34.23	44.69	20.55
Panitola	61.11	5.08	35.88	56.03	80.82	33.33	58.45	47.49	71.03	20.61	47.62	50.42
Tengakhath	46.25	2.86	26.00	43.39	67.50	32.88	50.98	34.62	56.88	18.18	38.61	38.69
Total	56.82	8.84	33.53	47.98	69.88	43.19	56.92	26.69	63.29	26.28	45.22	37.00

Source: Field Survey; M- male, F- female, T- Total, G- gap between male and female

**1.6.2 Education:** Education is a basic right in itself and an essential prerequisite for reducing poverty, improving the living conditions of the poor, women and marginal groups and building a self-sufficient society (Mandal and Dutta, 2012). However Gender gap also exists in literacy rate and males having been a privileged section in getting access to education. In the following paragraphs we are using the indicators like literacy rate and mean years of schooling to highlight the educational attainment in the Dibrugarh district.

Table 1.6.2 shows the status of literacy rate at block level in Dibrugarh district. From the table it is seen that literacy rate was 72.74 per cent in the study area at the time of survey. The male literacy rate was as high as 78.99 per cent as against female literacy of 66.47 per cent; and thus showing a gender gap of 12.52 per cent. Block wise, the male literacy rate was the highest for Lahoal block (89.19%) followed by Tengakhat and Panitola block. It was the lowest in Barbaruah block (73.12%). Coming to the female literacy, it was also the highest for Lahoal block (74.03%) followed by Tengakhat and Barbaruah block. It was the lowest in Panitola block (56.18%). Gender gap in literacy rate was the highest for Panitola block (18.82%) and the lowest in Tengakhat block. Literacy rate in villages was always higher than the tea gardens in either sex. The literacy rate in villages was 79.07 per cent as against 66.62 per cent in tea gardens. The gender gap in literacy rate was almost double in tea gardens compared to villages. The male literacy rate was the highest in Lahoal block and the lowest in Tengakhat block. Similarly female literacy ranged from 84.62 per cent in Lahoal block to 64.71 per cent in Panitola block. Gender gap was the highest in Panitola and the lowest in Barbaruah block. Within the tea gardens, male literacy rate was the highest in Lahoal block and the lowest in Barbaruah block. Female literacy was as high as 70.97 per cent in Tengakhat block and as low as 48.39 per cent in Panitola block. The gender gap ranged from 21.18 per cent in Panitola block to 8.82 per cent in Tengakhat block.

**Table: 1.6.2 Literacy Rates in Dibrugarh District**

Development Block	Village			Tea Garden			Combined			
	M	F	T	M	F	T	M	F	T	G
Barbaruah	81.58	77.01	79.14	65.48	53.26	59.09	73.12	64.80	68.73	8.32
Lahoal	93.75	84.62	89.24	83.82	63.16	73.61	89.19	74.03	81.79	15.16
Panitola	80.68	64.71	72.00	69.57	48.39	58.92	75	56.18	65.28	18.82
Tengakhath	79.79	73.42	76.88	79.79	70.97	75.94	79.79	72.09	76.39	7.69
Total	83.73	74.77	79.07	74.26	58.76	66.62	78.99	66.47	72.74	12.52

Source: Field Survey; M- male, F- female, T- Total, G- gap between male and female

We have presented data on mean years of schooling at the block level in the Dibrugarh district in Table 1.6.3. The figures for both the villages and tea gardens are not encouraging. The average years of schooling among the BPL Households in the study area was as low as 3.46 years. It was the highest in Lahoal block (6.86) followed by Tengakhat (5.18) and Barbaruah (4.14). It was the lowest in Panitola block. The mean year of schooling at villages (4.75) was relatively higher than that of tea gardens (2.17). Coming to the tea gardens, it was the highest in Tengakhat block (3.06) followed by Lahoal block (3.01) and Panitola block (1.42). It was the lowest in Barbaruah block which was not more than six months. That means on an average no child could continue his/her study just few months after admission.

**Table 1.6.3: Mean Years of Schooling in Dibrugarh District**

Development Block	Village	Tea Garden	Combined
Panitola	2.81	1.42	2.11
Tengakhat	5.18	3.06	4.12
Lahoal	6.86	3.01	4.93
Barbaruah	4.14	0.59	2.67
Total	4.75	2.17	3.46

*Source: Field Survey*

**1.6.3 Health:** To analyze the health and demographic status we use infant survivality rate and sex ratio for the study area. The ISR is measured through total number of infant survived per thousand infant. Table 1.6.4 presents the data on ISR across the development blocks of the study area. From the table it is seen that villages have a high infant survivality rate in comparison to tea gardens. Again block wise it is the highest in Tengakhat block followed by Barbaruah, Panitola and Lahoal.

**Table 1.6.4: Infant Survivality rate in Dibrugarh District**

Development Blocks	Village	T. Garden	Total
Panitola	833	833	833
Tengakhat	1000	1000	1000
Lahoal	800	750	778
Barbaruah	1000	750	857
Total	882	800	844

Again if we analyze the sex ratio in the study area we have found that it is higher in tea garden than in village (Table:1.6.5). Block wise the highest sex ratio is registered in Barbaruah followed by Lahoal, Panitola and Tengakhat.

Development Block	Village	T. E.	Total
Panitola	888	962	926
Tengakhat	867	979	922
Lahoal	954	1234	1085
Barbaruah	1133	1065	1097
Total	954	1049	1001
Source: Field Survey			

**1.6.4: Women's Household Decision Making:** Decision making capacity of women within the household is one of the important steps towards their emancipation. Evidence shows that women with greater autonomy in decision making resulted in improved maternal and child health, greater nourishments at the family level and good education to the children (Rajaram, 2013). Women's low decision making power particularly in developing countries is more pronounced at household level. In the study conducted by Visaria, 1993 (cited in Desai et al, 2005) found that in Gujarat, Western India about 50 per cent of women stated that they do not feel free to take a sick child to a doctor without the approval of their husband and 70 per cent women do not make decisions regarding the purchase of their own or their children's clothing. In the following paragraph we have analyzed women's decision making power within the household using data presented in Table 1.6.5

The data reveals an encouraging picture in this regard in the study area. Although in cases of 8.57 per cent households, the major household decisions were taken by women only as against 12.86 per cent cases by their husbands but in 78.57 per cent cases decisions were made jointly by husband and wife. In majority households, be it in villages or in tea gardens, decisions were jointly taken. This speaks a lot about the decision making power of women and the degree of cooperation between husband and wife. However it is to be noted that the households where decisions were mainly taken by women were female headed households. All other members in the family were not involved in household decision making. Block wise analysis of data revealed that Lahoal block topped the list among the four blocks as regards joint decision making in the villages. This was followed by Tengakhat and Panitola block and at the bottom Barbaruah block. But in tea gardens Lahoal block took the 2<sup>nd</sup> position in this respect. Percentage of households in villages having decisions taken solely by wife was the highest in Lahoal block and the lowest in Tengakhat block. Similar type of situation prevailed in tea gardens. What is worth noting is that in tea gardens of Tengakhat Block not a single household was found where wife was taking decisions alone. When we compared the households in tea gardens where independent decisions were taken by wife and husband they were of equal percentage (9.29%). Within the villages, decisions taken by husband alone ranged from 2.86 per cent in Lahoal block to 28.57 per cent in Tengakhat block. Similarly reverse was true for decision taken by wives alone which ranged from 2.86 per cent in Tengakhat block to 14.29 per cent in Lahoal block. Within tea gardens, Panitola block had the highest and Lahoal block had the lowest percentage of households where husband alone took decisions. Household decision making by wife alone was the highest in Lahoal block. Decisions taken jointly by husband and wife were the highest in Tengakhat and the lowest in Panitola and Barbaruah block. Studies revealed that [Hindin, 2005] education is one factor that contribute to increased decision making

at household level. In this light it may be possible that with the highest literacy rate Lahoal block has the highest decision making power and with relatively low literacy rate Barbaruah block has the lowest decision making power.

**Table 1.6.6: Household Decision Making Power of Women in Dibrugarh District**

Development Block	Decisions taken in households in the									
	Villages by			Tea Gardens by			Combined by			
	Wife Alone	Husband alone	Both	Wife alone	Husband alone	Both	Wife alone	Husband alone	Both	Both
Panitola	8.57	8.57	82.86	8.57	14.29	77.14	8.57	11.43	80.00	80.00
Tengakhat	2.86	28.57	68.57	0.00	8.57	91.43	1.43	18.57	80.00	80.00
Lahoal	14.29	2.86	82.86	17.14	2.86	80.00	15.71	2.86	81.43	81.43
Barbaruah	5.71	25.71	68.57	11.43	11.43	77.14	8.57	18.57	72.86	72.86
Total	7.86	16.43	75.71	9.29	9.29	81.43	8.57	12.86	78.57	78.57

*Source: Field Survey*

**1.6 Summary of Findings:** The major findings from the chapter is that male and female literacy rates, female work participation rate, percentage of women MLA, sex ratio etc. were higher in Dibrugarh district as compared to the corresponding state

averages. IMR of the district was low in comparison to the state. It was one of the high DDP districts of Assam and ranked 4<sup>th</sup> among the 27 districts in the state. However analysis at the block level in the study area showed us that that female literacy rate and mean years of schooling, ISR were higher in villages than in tea gardens. Again the indicators like female work participation rate, sex ratio, women's intra household decision making power were more in tea gardens than in villages. However incidence of domestic violence was almost same in both villages and tea gardens.

Glaring inequality was seen in respect of work participation rate and estimated earned income. Male work participation rate was always higher than female work participation rate. The gap was more pronounced in villages as female work participation rate was very low as compared to tea gardens. Literacy rate in the study area was almost equal to the state average and gender gap was also low and lower than the district average. However, mean years of schooling was very low and less than 4 years. It was even lower in tea gardens than in villages. Incidence of death of children was also more frequent in the tea gardens. Decision making within the household was generally done jointly. In some cases husbands alone took decisions. But the decision making by wife alone occurred only in female headed households. Other members of the family were not involved in household decision making in the study area. Block wise Barbaruah block was doing well in respect of employment at tea garden level. Similarly Lahoal block was doing well in literacy rate, mean years of schooling, decision making at household level, at village level.

### References

- Ababa, A. (2008). Gender Inequality and Women's Empowerment. In Depth Analysis of Ethiopian DHS 2005, Ethiopian society for population studies.
- Govt. of Assam (2006). Dibrugarh District at a Glance, District Statistical Office, Dibrugarh
- Govt. of India (2011). Census Report, Government of India.
- Govt. of India (2011). District Census Handbook, Directorate of Census Operation, Dibrugarh, Assam.
- Govt. of India (2002). BPL Survey, Assam, retrieved from [www.prdassam.nic.in/bpldist.html](http://www.prdassam.nic.in/bpldist.html) on 15<sup>th</sup> June 2012.
- Kishor, S. and K. Gupta (2004). Women's Empowerment in India and Its States: Evidence from the NFHS. *Economic and Political Weekly*, 39(7): 694-712.
- Mandal, R. and B. N. Dutta (2012). Panchayat and Universalization of Elementary Education: A Study of West Bengal. *The Indian Journal of Economics*, XIII (370) Part (III) : 439-471.
- Mathew, G. (2003). Keynote address in the workshop on A Decade of Women's Empowerment through Local Governance. Organized jointly by Institute of Social Sciences and South Asia Partnership, Canada sponsored by International Development Research Centre.
- Rajaram, R. (2013). Women's Autonomy, Maternal and Child Healthcare in India: Are the Women and Children from Poorest Households Particularly Disadvantaged? *Review of Development and Change*, XVIII(1):19-35.
- Ranis, G and F Stewart (2005). Dynamic Links between the Economy and Human Development. Retrieved from <http://www.pnayak.webs.com>. Visited on 14<sup>th</sup> September 2010 at 9.30 pm.
- Tea Directory (1890-91). Assam Chah Mazdur Sangha, Dibrugarh Branch.
- UNFPA (2005). The State of World Population. The Promises of Equality: Gender equity, Reproductive Health and the Millennium Development Goals. Retrieved from <http://www.unfpa.org/swp/2005/presskit/factsheet/facts-gender.htm>
- World Economic Forum (2005—2014). Global Gender Gap Reports.

## **DEVELOPMENT OF TRIBAL ECONOMY THROUGH TRIBAL CO-OPERATIVES: A STUDY ON LAMPS**

**Borsing Hanse**

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### **ABSTRACT**

*Co-operatives exist date back as far as human being have been organizing for mutual benefits. Tribes were organized as co-operation structures, allocating works and jobs and resources among each other. In today's world also trade could only happens or maintained in organized co-operatives to achieve a useful condition of artificial roads.*

*A co-operative is an "Autonomous association of person united voluntarily to meet their common economic, social, and cultural needs and aspirations through a jointly owned and democratically controlled enterprise". It is a jointly owned enterprise engaging in the production or distribution of goods or the supplying of services, operated by its members for their mutual benefits, typically organized by consumers or farmers. Co-operatives principles are guidelines by which they put their values into practice, such guidelines are: Voluntary and open membership, Democratic member control, Economic participation by members, Autonomy and independence, Education, training and information, Co-operation among co-operatives, Concern for community.*

**KEYWORDS:** *Cooperative Societies, Economic, Social, Cultural, Education, Production, Distribution etc.*

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### **GENESIS OF TRIBAL CO-OPERATIVES:**

In the context of tribal development, it is not merely the development of tribal areas but also the development of quality of life of the tribal people making them self-reliant and self sustaining communities. Therefore tribal development implies the development of tribal areas in such a way that each component of tribal life changed in the desired direction. A structural change in the socio-economic condition in the 'a tribal dominated region will be the main factor of development of tribal economy leading to enrichment and better quality of life.

India is a heterogeneous country in terms of language, religion, region, caste, tribe etc. Tribal communities are one of the important segments of this nation. Tribal population in India is second in the world next to Africa representing diverse culture. There is a homogeneity in most of the tribal communities even though they resides in different parts of the country specially in food habits, clothing, sheltering and most

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importantly remaining in groups co-operating with each other.

To improve the operational efficiency of co-operatives in tribal areas a new pattern of tribal co-operatives viz. Integrated Credit-Cum-Marketing co-operative societies or otherwise popularly known as Large Size Multipurpose Co-operative Societies (LAMPS) was set up in the year 1976 as per recommendations of K.S.Bawa and team in the year 1971. The main purpose of LAMPS is to provide production as well as consumption credit, and undertake marketing of tribal produce and distribution of consumers' goods and agricultural inputs.

Thus LAMPS comes into existence with the hope that it would secure all facilities under one roof for the tribal's. Sooner at national level the "Tribal Co-operative Marketing Development Federation of India" (TRIFED) was launched in 1987-88 to lend support to tribal co-operatives in marketing operation including price support incentives. It was hoped that such structure of tribal co-operatives will give a new dimension to the co-operative movement in serving the weaker section of the society in the hill areas.

#### **OBJECTIVES OF THE STUDY:**

- To study and analyze the various co-operative societies in Assam
- To study the development pattern of LAMPS in Assam
- To analyze the comparative development of LAMPS.
- To suggest and recommend various strategies to LAMPS.

#### **REVIEW OF LITERATURE:**

Review of relevant literature provides useful information, direction, and helpful suggestion for proper investigation. A thorough review and survey of related literature forms an important part of research that helps a researcher to explore new areas and suggest points for future actions. An attempt has been made to review the available literature on tribal development, education, health, poverty and important findings of scholars. Few of the literature reviewed are as follows:

**Bhupinder Singh (1990)** in his book "Role of Co-operative Organization in Tribal Economy" importance has been given to co-operatives as a notable institutional framework for development of the hill areas especially tribal dominated areas. He had selected 20 villages within the area of LAMPS in Salem District of Tamil Nadu where he emphasized on the feasibility of upgrading the economic status and quality of life through co-operatives."

**Bishnu Prasad Mohapatra (2015)** in his journal "Decentralized governance and planning -: case study of a tribal district" examines the process of decentralized planning in Odisha. While examining the powers devolved to the local government in such region in the state to formulate plan, and the ground reality of the preparation of such plans in the context of the implementation of the provisions of Panchayat Extension to Scheduled Areas Act (PESA Act). He also argues that decentralized plan should be realistic, based on effective utilization of local resources and the local development issues should be prioritized and implemented accordingly.

**D.K.Gogoi** in his book titled "Hills Areas of Assam Touch New Economic Height" has pointed out few constraints of LAMPS and also suggested measures to overcome

such problems. He is of the view that the Hills areas of Assam have achieved a new height by establishment of tribal co-operative societies.

**K.S.Bawa and study team ( 1973 )** recommended LAMPS should be established in all hills areas covering one block/tehsil with requisite number of branches to provides a package of services to tribal at single point. The committee was of the view that a tribal should not be required to approach too many institutions for assistance. All the required services should be organized in "Haat" (market) level as the tribal comes with their produce to market periodically. Thus according to this committee a suitable well organized structure of tribal co-operatives is necessary for the development of the tribal economy.

**Mahmood Ansari ( 2006 )** in his publication titled " Tribal Economies in Assam " a study of North East India, is of the view that social stratification is posited to be unknown in the tribal society and the only specific types of specialization and differentiation that exist is based on such purely biological factors like age, gender, sex etc.

**Nripendra N. Sarma (2003)** has assessed the role of twenty four Gaon Panchayat Samabay Samities ( GPSS ), four retail outlets of Assam State Co-operative Marketing and Consumers Federation ( STATEFED) and also four primary consumer co-operative from Guwahati and Rangia Sub-Division of Assam in rural marketing, giving emphasis on their trade practices and consumers services.

**S. Mahalingam (1992 )** in his book "Tribal Co-operative System a Study of North East India" is of the view that although large numbers of LAMPS has been functioning in many parts of North Eastern region, the system of functioning in providing integrated services to the tribals is not well organized . Thus it can be seen that it becomes an opportunity for outsiders like mahajans, money lenders etc. to take advantages by exploiting the tribal resources by means of low price of tribal produce , low wages not as stipulated and so on. Therefore such evils and malpractices should be eliminated from the clutches of such private money lenders, small traders etc. by taking intensive policy to strengthen the existing co-operatives in the tribal areas.

#### **METHODOLOGY USED :**

The Present study has been carried out with the help of secondary data only and the methodology adopted for the study is mainly theoretical. The secondary data has been collected from the office of Registrars of cooperative societies at state and district level . Also data were collected from websites of state cooperative societies, through internet and various books, articles, journals and proceedings by various eminent researcher and scholar in this field.

#### **OVERVIEW OF CO-OPERATIVES IN ASSAM IN TERM OF NO.OF SOCIETIES**

As on date there are 9455 Nos. of registered co-operative Societies in Assam. These Societies includes 2177 Nos. of Gaon Panchayat Samabay Samities( GPSS ), 80 LAMPS and 2341 Nos. of Women Multipurpose Co-operative Societies. These Societies have their presence in section like Agriculture, Housing, Fishery, Dairy, Processing, Cottage and Small scale Industries, Labour etc .in the state except for

Handloom co-operatives are being governed by the Handloom & Textile Department.

**List of Primary / District level Co-operative Societies in Assam :**

SL.NO	TYPES OF CO-OPERATIVE SOCIETY	NOS.
1	GPSS	2177
2	LAMPS	80
3	VILLAGE COUNCIL MULTIPURPOSE CO-OPERATIVE SOCIETY	196
4	WHOLESALE CONSUMERS	35
5	WOMEN MULTIPURPOSE	2341
6	PRIMARY MARKETING	30
7	PRIMARY DAIRY	439
8	THRIFT AND CREDIT	803
9	PIGGERY	383
10	POULTRY	373
11	FARMING	370
12	PRIMARY CONSUMERS	245
13	PRIMARY FISHERY	455
14	PRIMARY HOUSING	146
15	INDUSTRIAL	421
16	TRANSPORT	27
17	DISTRICT COOPERATIVE UNION	14
18	PROCESSING COOPERATIVE	15
19	SUGAR MILL	1
20	LABOUR AND CONTRACT COOPERATIVE	32
21	SCHOOL AND COLLEGE COOPERATIVE	23
22	AGRO INDUSTRY COOPERATIVE	6
23	CO-OPERATIVE BANKS	8
24	OTHER CO-OPERATIVES	810
25	STATE LEVEL CO-OPERATIVE	25
	TOTAL	9455

We can see from the above list of Cooperatives societies in Assam, there are altogether 9455 cooperatives societies operating in Assam. Out of which 80 are Large Size Multi-Purpose Society ( LAMPS).It is to be noted that these 80 LAMPS are operating only in the twin Hill District of Assam in Karbi Anglong and Dima Hasao. Whereas the remaining cooperative societies operate in the plain districts of Assam. Out of the total of 80 LAMPS , 45 of them are operating in the District of Karbi Anglong and the remaining 35 of them operates in Dima Hasao District of Assam. In the District of Karbi Anglong, 18 LAMPS are operating in Diphu Sub-Division, 13 are operating in Bokajan sub-division, and 14 are operating in Hamren Sub-division. These LAMPS are engage in various section like agriculture, farming, fishery, dairy, processing, cottage and small scale industries etc.

**SIGNIFICANCE OF THE STUDY**

Study on tribal co-operatives has been done by many eminent researchers

around the world. Especially in India having the second most tribal populous country next to Africa, many such intensive researches on tribal co-operative has been done since the co-operative movement started. The reasons behind such in-depth research in many areas and prospects of tribal co-operatives is due to the unparalleled development of tribal and hills areas of India with the rest of the plains and developed areas. The tribal people in India mostly resides in forest, villages, and hills areas depending mainly on hunting, food gathering, fishing, shifting cultivation and so on. The economic condition of the tribal people in India is far behind as compared with most of the plains and developed areas. The productivity of the tribal produce is less as they lack high yielding varieties seeds, fertilizers, and latest scientific agricultural inputs. These are some major constraints leading to backwardness of tribal areas.

However, socially the tribal people in most part of India are homogeneous in nature. Their culture, food habits, customs, traditions are mostly similar with each other. Due to economic backwardness the Government of India has initiated many such commissions, committees, and expert study teams to study and make intensive survey on the performance of the existing tribal co-operatives. Many such commissions and eminent researcher has studied and evaluated the performances of —any such co-operatives in many parts of the country. Certain constraints like lack of education and awareness, lack of communication, entry and malpractices of outsiders or middlemen like money lenders, small private traders etc has been pointed out and as such numbers of suggestions were given. But still one can see and analyze the pitiable condition of many such LAMPS in many parts of North East region. Existence of LAMPS has been long but yet the result is not productive and fruitful. They either lack knowledge about co-operative or insist to actively care because of illiteracy.

Through this studies , an attempt is made to study the problems and prospects of LAMPS from the grass root level so that positive suggestions and measures can be sorted out which in turn will be helpful to researchers, policy makers, central and state government, co-operative department and authorities to implement new policies for conducting co-operative business in future. An attempt has been made to eliminate the gap of differences in development in respect of co-operative business between tribal co-operatives and plains co-operatives so that both co-operatives and members and societies as well prosper parallel towards progress.

#### **LARGE SIZE MULTI-PURPOSE SCHEME ( LAMPS )**

LAMPS popularly known as Large Size Multi-Purpose Scheme is an integrated credit-cum-marketing co-operatives Societies which aims at production as well as consumption credit, undertake marketing of tribal produce and distribution of consumers goods and agricultural inputs. LAMPS in tribal areas of North East India plays a major role in strengthening the fibre of tribal economy by providing integrated credit marketing and distribution services. One of the main reason LAMPS is suitable in tribal areas is that most of the tribal groups have greater sense of homogeneity as the roots and growth of tribal life is characterized by co-operative nature

#### **FUNCTION OF LAMPS:**

The LAMPS has large number of functions to discharge. These Societies goes

in arranging credit, improving high yielding varieties seeds, agricultural implements, fertilizers, sanitation, health etc. for its members. Normally LAMPS discharges the following functions.

- a) Making arrangement for credit for better and improved agriculture inputs,
- b) Encouraging the improved method of agriculture through supply of high yielding varieties seeds, fertilizers, irrigation, agriculture implements etc,
- c) Set up of subsidiary cottage and small scale industries thereby improving the standard of living,
- d) Marketing of produce and ease of business to members,
- e) Helping members to increase their standard of living with facilities like health, education etc,
- f) Encouraging members for saving for their future needs.

#### **LIMITATIONS OF LAMPS:**

There has been increasing numbers of LAMPS in different parts of tribal region after recommendations of team of expert for co-operative. However regardless of several schemes, policies and measures, there still exist certain loopholes in the function of LAMPS. Some of such societies are merely run by the government without motivations and enthusiasm of their members. Some major factors leading to slow progress or growth of LAMPS are lack of efficient management, manipulation, lack of required funds and resources, restricted coverage's of certain societies, lack of awareness, political intervention, involvement of immoral officials in lending short term credit to non-members or farmers, local body taxes etc. and so on. Such factors are massive reasons behind downfall of such societies prevailing in rural areas.

Many of the LAMPS are still depending on grants and other supports from central and state government. While many of the members of LAMPS appears to be having no commitment to the development of their respective societies. While some members are only interested in using their societies for extracting loans and grants from government and other financing agencies. Meanwhile there is also too much interference by local bodies and government in the day-to-day functioning of such co-operative societies leading to slow pace of progress or no progress at all. On top of that there is always a thirst of leadership among the members of such societies leading to mistrust, lack of faith and loyalty among the members of the society.

#### ***Other limitations are as follows:***

- Limitation of capital.
- Inefficient management.
- Lack of unity and cohesion.
- Inadequate motivation.
- Delay in decision making.
- Delay in decision implementing.
- Excessive government interference.
- Lack of secrecy.
- Lack of public confidence.

#### **SUGGESTION AND RECOMMENDATION:**

Although several and continuous research on tribal co-operative were done in

India by many eminent and prominent researcher, yet there are uncountable and unique constraints and problems to be solved. It is found from reviewing the literature that even though there has been continuous and intensive research on tribal co-operatives sector, there still exist some gap in time and prospects which might be the main reasons as to why tribal co-operatives are still lacking behind comparing to other co-operative societies of the state of Assam.

The major areas where research can be done after reviewing some of the literature are as follows:

- a) Research can be done on the role played by co-operative department of respective state, latest role of Central government in promoting co-operative societies.
- b) Research can be done on assessing the performance of each and every tribal co-operatives societies ( LAMPS ) of a particular tribal region.
- c) Research can also be made on finding out measures for efficient and effective functioning of LAMPS.
- d) Intensive and unexplained problems faced by particular LAMPS can also be sort out
- e) Finding and suggesting the best possible solution to such intensive problems of LAMPS
- f) Issues relating to membership of tribal in LAMPS '
- g) Issues relating to co-operative education and its importance to tribals.
- h) Encouragement to tribals and local bodies to actively and positively participate in co-operative.
- i) Identifying the co-operative structure and its functioning at its grass root level and involvement of tribal leaders.

#### **BIBLIOGRAPHY**

1. Bhuimali A. (2003) "Rural Co-operative and Economic Development" New Delhi, Sarup & Sons Publications.
2. Bawa, K.S, study team on Co-operative Structure in Tribal Development Project Areas, Ministry of Agriculture, Government of India, New Delhi, 1971 accessed on 10<sup>th</sup> May 2018.
3. Bhupinder Singh, "Co-operative in Tribal Areas" Occasional papers on Tribal Development, Ministry of Home Affairs, Government of India, Delhi, 1983, accessed on 10<sup>th</sup> May 2018.
4. Dhabar Commission, (1961) "The Schedule Areas and Scheduled Tribe Commission".
5. Gogoi D.K., "Hills Areas of Assam Touch New Economic Heights," Youjana, Volume XXIV, No. 23, December 16-31-1980.
6. J.R. Batra, "Rural Oriented Co-operative Programme" KhadiGramodyog, Volume XXVI, No. 3, December 1979.
7. Kabra G.D., "Tribal Workers in an Industrial Setting" Vohra Publisher & Distributers, Allahabad, 1987.
8. S.Mahalingam "Role of Co-operative Organization in Developing Tribal Economy" Mittal Publications, New Delhi, 1990.
9. S. Mahalingam, "Tribal Co-operative System a Study of North East India" Rawat Publications Jaipur, Delhi.
10. S.K.Dutta "Co-operative Societies and Rural Development" Mittal Publications

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## CHANGING TRENDS IN BANKING SYSTEM OF INDIA

Prasenjit Gogoi

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### **Abstract**

*Now a day's banks have diversified their activities and are giving into new products and services that include opportunities in credit cards, consumer finance, wealth management, life insurance, general insurance, investment banking, mutual funds, pensions, fund regulations, stockbroking services, custodian services, private equity, etc. Nowday's banks are working using technology like the internet, & mobile devices to carry out transactions and to communicate with customers directly. This paper tries to put some light on these changing trends in the banking system of India and give some concluding opinions on it.*

**Key Terms:** *Financial sector, banking industry, new generation, Electronic funds transfer, Welfare activities, security privacy.*

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### **Introduction**

The banking sector plays a vital role in the development of one country's economy. The growth of the banking sector depends upon the services provided by them to the customers in various aspects. The growing trend of banking services is found significant after the new economic reforms in India. A well-regulated banking system is a key comfort for local and foreign stake-holders in any country. The Banking sector has been immensely benefited from the implementation of superior technology in the recent past, almost in every nation in the world. Productivity enhancement, innovative products, speedy transactions seamless transfer of funds, real-time information system, and efficient risk management are some of the advantages derived through the technology. Information technology has also improved the efficiency and robustness of business processes across the banking sector. India's banking sector has made rapid strides in reforming itself to the new competitive business environment. The Indian banking industry is in the midst of an IT revolution. Technological infrastructure has become an indispensable part of the reform process in the banking system, with the gradual development of sophisticated instruments and innovations in market practices.

Earlier the Indian bank practices very limited power and function to accept deposits and to give loans and advances. Today banking is known as innovative banking. Information technology has given rise to innovations in product designing

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and their delivery in the banking and finance industries. Modern technology is fast, replacing paper with computer files, bank tellers with automated teller machines (ATMs), and file cabinets with server racks. The current banking sector has come up with a lot of initiatives that are oriented to providing better customer services with the help of new technologies. Indian banking sector today has the same sense of excitement and opportunity that is evident in the Indian Economy. The going developments in the global markets offer so many opportunities to the banking sector. In the competitive banking world, improvement day by day in customer services is the most useful tool for their better growth. Bank offers so many changes to access their banking and other services.

### **Objective**

The present study has been made with the following objects:

1. To give a brief introduction to the Indian banking system.
2. To put some light on the changing trends in the banking system in India

### **Research methodology**

The present study is made on changing trends in the Banking System of India. Hence the related information is collected from secondary sources such as books, journals, and the internet, etc. Collected information is analyzed in this study.

### **Historical Background**

In India, the banking system is as old as the early Vedic period. The book of Manu contains references regarding deposit advances, pledge policy of loan, and rate of interest. From the beginning of the 20th-century banking has been so developed that in fact, has come to be called "LIFEBLOOD" of trade and commerce. In India, banking has developed from the primitive stage to the modern system of banking in a fashion that has no parallel in world history. With the dawn of independence, changes of vast magnitude have taken place in India. After independence, India launched a process of planned economic activity to overcome the multitude of problems it faced as an underdeveloped nation.

The origin of the Indian banking industry may be traced to the establishment of the bank of Bengal in Calcutta in 1786. The banking in India was controlled and dominated by the presidency banks, namely, the bank of Bombay, The bank of Bengal, and the bank of Madras which, later on, merged to form the imperial bank of India. India has a long history of both public and private banking. Modern banking in India began in the 18th century, with the founding of the English Agency House in Calcutta and Bombay. In the first half of the 19th Century, three presidency banks were founded. After the 1860 introduction of limited liability, private banks began to appear and foreign banks entered into the markets. The beginning of the 20th Century saw the introduction of Joint-stock banks. In 1935, the presidency banks were merged to form the Imperial Bank of India, which was subsequently renamed the State Bank of India. Also that year, India's Central Bank, The Reserve Bank of India began operation.

At the time of Independence in 1947, the banking system in India was fairly well developed with over 600 commercial banks operating in the country. However soon after independence, the view that the banks from the colonial heritage were biased in favor of working capital loans for trade and large firms and against extending credit to small-scale enterprises, agriculture and commoners, gained prominence. To ensure

better coverage of banking needs of larger parts of the economy and the rural constituencies, the Government of India nationalized the Imperial bank which was established in 1921, and transformed it into the State Bank of India with effect from 1955. Despite the progress in the 1950s and 1960s, it was felt that the creation of SBI was not far-reaching enough since the banking needs of small-scale industries and the agricultural structure were still not covered sufficiently. This was partially due to the existing close ties commercial and industry houses maintained with the established commercial banks, which give them an advantage in obtaining credit. Additionally, there was a perception that banks should play a more prominent role in India's development strategy by mobilizing resources for sectors that were seen as crucial for economic expansion. As a result, the policy of social control over banks was announced. It aimed to cause changes in the management and distribution of credit by commercial banks.<sup>1</sup>

### **Nationalization of Indian Banks: A boost to economic activities**

In July 1969, the Government nationalized all 14 banks whose national wise deposits were greater than Rs. 500 million, resulting in the nationalization of 54 percent more branches in India and bringing the total number of branches under Government control to 84 percent.

The objective of bank nationalization is to 'Control the commanding heights of the economy and to meet progressively the needs of the development of the economy in conformity with the national policy and objectives served to intensify the social objective of ensuring that financial intermediaries fully met the credit demands for the productive purposes. Two significant purposes of nationalization were rapid branch expansion and channeling of credit according to the plan priorities. To meet the broad objective, banking facilities were made available in hitherto uncovered areas, to enable them to not only mop up potential savings and meet the credit gaps in agriculture and small-scale industries, thereby helping to bring large areas of economic activities within the organized banking system.

The Indian banking system progressed by leaps and bounds after nationalization. Under the system of branch licensing, bank branches expanded rapidly both in rural and urban areas. There was a rapid growth in deposits mobilized by the banks, besides credit expansions, especially in the areas designated as a priority sector.

Following the Nationalization Act of 1969 and the nationalization of the 14 largest commercial banks raised the public sector bank's share of deposit from 31% to 86%. The further nationalization of six more banks in 1980, raised the public sector banks' share of deposits to 92%. India's banking system until 1991 was an integral part of the government's spending policy.

### **Post Liberalization Developments**

The year 1991 marked as a blueprint for banking sector reforms in India's economic policy since independence in 1947 that was the report of Narasimham committee in 1991. The Indian approach to financial sector reforms is based on **panchashutra** or five principles- Cautious and proper sequencing; mutually reinforcing measures; Complementarity between reforms in the banking sector and changes fiscal, external, and monetary policies; Developing financial infrastructure; and developing financial markets.

The 1991 report of the Narasimham Committee served as the basis for the initial reforms. In the following years, reforms covered the areas of interest rate deregulation,

directed credit rules, statutory preemptions, and entry deregulation for both domestic and foreign banks. The objective of banking sector reforms was in line with the overall goals of the 1991 economic reforms of opening the economy, giving a greater role to markets in setting prices and allocating resources, and increasing the role of the private sector.

To enhance efficiency in the banking sector, foreign banks and private entrepreneurs are being invited to commence banking operations in India. The entry of foreign banks was restricted earlier, but since 1991 several foreign banks have been allowed to operate in India. India has also made commitments in the WTO to grant eight licenses per year to new and existing foreign banks. The number of foreign banks operating in India increased from 21 in 1990 to 35 in 2003. In January 1993, RBI issued guidelines for the establishment of new banks in the private sector—no new private commercial bank had been licensed since 1972. The number of private banks increased from 23 in 1991 to 31 in 2002. To enhance competition, foreign direct investment was allowed up to 74 percent in nationalized banks. The banks have also been allowed to enter into the insurance business either as joint venture participants or to take up strategic investment for providing infrastructure and services support without any contingent liability.

To ensure balanced growth of the banking sector, the supervisory function has been strengthened within RBI. A board for financial supervision (BFS), set up in November 1994 under the aegis of the Reserve Bank exercises integrated supervision over the financial system.<sup>2</sup>

#### **The autonomy of RBI and Demonetization**

On 8 November 2016, the Prime Minister of India announced that the 500 and 1000 Rs notes will no longer be legal tender. It is often argued that transmission does not work in an economy like India's with a large informal sector. But demonetization has shown the large impact of money supply changes. It may be that tight money market liquidity itself reduced transmission. As liquidity available to the informal sector falls, informal sector rates of interest may arise. This may raise leakage of currency to the informal sector, and growth of currency, reducing broad money growth and transmission.

Questions on the autonomy of the RBI were raised after this note-ban in November 2016. According to a paper published in the International Journal of Central Banking in 2014, RBI was listed as the least independent among 89 central banks considered under the study.

study took four factors into account, (a) Government intervention in appointing central bank's head (b) Government intervention in policy decisions (c) Price stability being the sole or primary goal of the monetary policy (d) Limits on the ability of the government to borrow from the central bank.<sup>3</sup>

These rankings are likely to have improved since the adoption of inflation targeting in February 2015 and the formation of a monetary policy committee in October 2016. However, vacancies in RBI's board and the government's reluctance to fill them up raises questions about the decisions taken and whether proper deliberations on those decisions are being held. Time and again successive governments have tried to curtail RBI's independence by various means. During the previous government, a Financial Sector Legislative Reforms Commission was formed which made various recommendations to cut down RBI's powers. In 2013, a financial sector monitoring body called the Financial Stability Development Council was established

which was to be chaired by the Finance Minister. In essence, the RBI Act does not empower RBI's absolute autonomy. However, it does enjoy some independence when it comes to performing its regulatory and monetary functions.<sup>4</sup>

While the government is not aiming for a cashless society, it would like to move the currency GDP ratio towards the 5% that it is in most economies. It is also part of the global action against tax evasion and has generated data that can trigger action. Although there is a temporary reduction in high-powered money since more savings will come to banks, the money multiplier and broad money will rise over time.<sup>5</sup>

### **SARFAESI Act**

Banks utilize the Securitization and Reconstruction of Financial Assets and Enforcement of Security Interest Act, 2002 (SARFAESI) as an effective tool for NPA recovery. It is possible where non-performing assets are backed by securities charged to the Bank by way of hypothecation or mortgage or assignment. Upon loan default, banks can seize the securities (except agricultural land) without the intervention of the court.

The SARFAESI Act, 2002 gives powers of "seize and desist" to banks.

Banks can give notice in writing to the defaulting borrower requiring it to discharge its liabilities within 60 days. If the borrower fails to comply with the notice, the Bank may take recourse to one or more of the following measures:

1. Take possession of the security for the loan
2. Sale or lease or assign the right over the security
3. Manage the same or appoint any person to manage the same
4. The SARFAESI Act also provides for the establishment of asset reconstruction companies regulated by RBI to acquire assets from banks and financial institutions.
5. The Act provides for the sale of financial assets by banks and financial institutions to asset reconstruction companies (ARCs). RBI has issued guidelines to banks on the process to be followed for the sales of financial assets to ARCs.

SARFAESI gives another window for banks and financial institutions to enforce their security interest without the intervention of the Civil Court or the Debt Recovery Tribunal (DRT). If the lender also holds security through a pledge of any moveable assets or the guarantee of any person, then it can sell the pledged goods or proceed against the guarantor without initiating any action against the secured assets.

Under SARFAESI, the bank or financial institution needs to give a 60-day notice to the defaulter, giving details of the amount payable and the secured asset intended to be enforced by the secured creditor, in the event of non-payment of the secured debt. The effect of this notice is that the borrower is barred from transferring the property mentioned in the notice.

If the dues are not paid during the notice period, then the secured creditor gets the following rights:

1. Take possession of the secured assets, and transfer them by lease, assignment, or sale for the realization of money.
2. Appoint a manager to manage the secured assets that have been repossessed.
3. Takeover management of the secured assets, and transfer it by lease, assignment, or sale for the realization of money.

4. Give notice to any person who has acquired the secured asset from the borrower, and from whom any money is due or may become due to the borrower, to pay the money to the secured creditor. Such payment to the secured creditor will be a valid discharge of the person's dues to the borrower

#### **Banks Merger in India: Is it good for the Indian Economy?**

The largest-ever merger in the public sector banking space in India has taken place on April 1, 2020, when six Public Sector Banks were merged into four large banks in a bid to make them globally competitive. Customers, including depositors of the merging banks, will now be treated as customers of the banks in which they have merged.

Following the consolidation, there are now seven large public sector banks (PSBs), and five smaller ones. There were as many as 27 PSBs in 2017. The total number of public sector banks in the country has come down from 18 to 12 from April 1, 2020. Mergers of banks began in India in the 1960s to bail out the weaker banks and protect the customer interests. After that, in the post-liberalization period, the quest to create an Indian bank that would be in the league of global giants had been continuing since 1990. Moving on the path of creating one of the largest global banks, the government had approved the merger of five associate banks with SBI in February 2017. Later in March, the Cabinet approved the merger of BMB also.

- a) **Merger & Nationalization during the period from 1961-1969:** The period is called the pre-nationalization period because in 1969 the government nationalized 14 private banks. As many as 46 mergers took place mostly of private sector banks to revive the poorly performing banks which proved to be quite a successful move for the underperforming banks.
- b) **The period from 1969-1991:** The period was called the post-nationalization period. It saw six private banks being nationalized in 1980. In this period 13 mergers took place mostly between public and private sector banks.
- c) **The post-liberalization period, which stretches from 1991-2015:** saw major economic reforms initiated by the Government of India. Many new policies were framed. Greater FDI and foreign investment were allowed which saw a resurgence in Indian Banking. As many as 22 mergers took place - some to save weaker banks and some for the sake of synergic business growth.
- d) **Bank Mergers (1993-2004):** The merger of Oriental Bank of Commerce with Global Trust bank in 2004 saved the latter after its net worth had wiped off and also handed OBC a million depositors and a decent market in South India. Mergers of Punjab National Bank (PNB) with the then eroded New Bank of India (NBI) in 1993-94 and that of Benaras State bank Ltd with Bank of Baroda in 2002 also proved to be life-saving for the weaker bank.
- e) **Bank Mergers & Consolidation 2008-2010:** SBI first merged State Bank of Saurashtra with itself in 2008. Two years later in 2010, the State Bank of Indore was merged with it. The board of SBI earlier approved the merger plan under which SBBJ shareholders got 28 shares of SBI (Re.1 each) for every 10 shares (Rs10 each) held. Similarly, SBM and SBT shareholders got 22 shares of SBI for every 10 shares. Post the merger, the SBI was in the process to rationalize its branch network by relocating some of the branches to maximize reach. This,

according to SBI helped the bank optimize its operations and improve profitability. SBI had approved separate schemes of acquisition for the State Bank of Patiala and State Bank of Hyderabad. There was no proposal for any share swap or cash outgo as they were wholly-owned by the SBI.

- f) **Consolidation of Banks (2015-2017):** This phase saw five associates of SBI and Bhartiya Mahila Bank getting merged in SBI. The vision was to have strong banks rather than having a large number of banks. This resulted in SBI being one of the 50 largest banks in the world.

Union Cabinet decided to merge all the remaining five associate banks of State Bank Group with State Bank of India in 2017. After the Parliament passed the merger Bill, the subsidiary banks ceased to exist and the State Bank of India (Subsidiary Banks) Act, 1959 and the State Bank of Hyderabad Act, 1956 was repealed.

Five associates and the Bharatiya Mahila Bank became part of State Bank of India (SBI) beginning April 1, 2017. This has placed the State Bank of India among the top 50 banks in the world. The five associate banks that were merged into State Bank of India were- the State Bank of Bikaner and Jaipur (SBBJ), State Bank of Hyderabad (SBH), State Bank of Mysore (SBM), State Bank of Patiala (SBP), and State Bank of Travancore (SBT). The other two Associate Banks namely State Bank of Indore and State Bank of Saurashtra had already been merged with State Bank of India. After the merger, the total customer base of SBI increased to 37 crores with a branch network of around 24,000 and around 60,000 ATMs across the country.

- g) **The merger of Banks 2018:** The government had merged Dena Bank and Vijaya Bank with Bank of Baroda, creating the third-largest bank by loans in the country in 2018.
- h) **Mega-Merger of Banks 2019:** With the mega-merger, announced on August 30, 2019, ten public sector banks are now reduced into four large banks. The four sets of banks that have been created out of Canara Bank and Syndicate Bank merger; Indian Bank and Allahabad Bank merger; Union Bank of India, Andhra Bank and Corporation Bank merger; and the bank to be created after the merger of Punjab National Bank, Oriental Bank of Commerce and United Bank of India.

As per studies conducted, most of the mergers done in the past, have proved to be an overall success for the weaker banks although there are no concrete parameters to verify this observation. Hence going by the track record merger and acquisition in Indian banking have been fruitful for the Indian Economy.

#### **Trends in the banking system in India**

Financial reforms in the recent trends of the Indian banking system are aimed at making the banking sector more competitive, versatile, efficient, productive to follow international started and to free from the directions and control of the Government. Interest rates have been deregulated and new entrants are allowed in the banking and the securities business. New private banks have emerged that are more customer-oriented.<sup>6</sup>

Few trends in Banking Services in India that are changing the entire scenario are discussed as follows:

### **I. Digitization**

With the rapid growth of digital technology, it became imperative for banking and financial services in India to keep up with the changes and innovate digital solutions for tech-savvy customers. Besides the financial institutions, insurance, healthcare, retail, trade, and commerce are some of the major industries that are experiencing the enormous digital shift. To stay competitive, it is necessary for the banking and financial industry to leap on the digital bandwagon.

In India, it all began not earlier than the 1980s when the banking sector introduced the use of information technology to perform basic functions like customer service, book-keeping, and auditing. Soon, Core Banking Solutions were adopted to enhance the customer experience. However, the transformation began in the 1990s during the time of liberalization, when the Indian economy exposed itself to the global market. The banking sector opened itself for private and international banks which is the prime reason for technological changes in the banking sector. Today, banks and financial institutions have benefitted in many ways by adopting newer technologies. The shift from conventional to conventional banking is incredible.

Modern trends in the banking system make it easier, simpler, paperless, signatureless, and branchless with various features like IMPS (Immediate Payment Service), RTGS (Real Time Gross Settlement), NEFT (National Electronic Funds Transfer), Online Banking, and Telebanking. Digitization has created the comfort of "anywhere and anytime banking." It has resulted in the reduced cost of various banking procedures, improved revenue generation, and reduced human error. Along with increased customer satisfaction, it has enabled the customers to create personalized solutions for their investment plans and improve the overall banking experience.

### **II. Enhanced Mobile Banking**

Mobile banking is one of the most dominant current trends in banking systems. As per the definition, it is the use of a smartphone to perform various banking procedures like checking account balance, fund transfer, and bill payments, without the need of visiting the branch. This trend has taken over the traditional banking systems. In the coming years, mobile banking is expected to become even more efficient and effortless to keep up with customer demands. Mobile banking future trends hint at the acquisition of IoT and Voice-Enabled Payment Services to become the reality of tomorrow. These voice-enabled services can be found in smart televisions, smart cars, smart homes, and smart everything. Top industry leaders are collaborating to adopt IoT-connected networks to create mobile banking technologies that require users' voices to operate.

### **III. UPI (Unified Payments Interface)**

UPI or Unified Payments Interface has changed the way payments are made. It is a real-time payment system that enables instant inter-bank transactions with the use of a mobile platform. In India, this payment system is considered the future of retail banking. It is one of the fastest and most secure payment gateways that is developed by the National Payments Corporation of India and regulated by the Reserve Bank of India. The year 2016 saw the launch of this revolutionary transactions system.

This system makes funds transfer available 24 hours, 365 days unlike other internet banking systems. There are approximately 39 apps and more than 50 banks supporting the transaction system. In post-demonetization India, this system played a significant role. In the future, with the help of UPI, banking is expected to become more "open."

#### **IV. Blockchain**

Blockchain is the new kid on the block and the latest buzzword. The technology that works on the principles of computer science, data structures, and cryptography and is the core component of cryptocurrency, is said to be the future of banking and financial services globally. Blockchain uses technology to create blocks to process, verify and record transactions, without the ability to modify them.

NITI Aayog is creating IndiaChain, India's largest blockchain network, which is expected to revolutionize several industries, reduce the chances of fraud, enhance transparency, speed up the transaction process, lower human intervention, and create an unhackable database. Several aspects of banking and financial services like payments, clearance and settlement systems, stock exchanges and share markets, trade finance, and lending are predicted to be impacted. With its strenuous design, blockchain technology is a force to be reckoned with.

#### **V. Demat Account**

India adopted the de-mat system for electronic storage. According to the depositary act 1996 to maintain shares and securities electronically and eliminating the troubles associated with as per shares. Demat system was introduced to invest shares and securities every investor should have registration. Instead of the investor taking physical possession of certificates a de-mat account is opened. The de-mat account can be provided through stockbrokers. It can be held electronically. For purchase and transfer of shares and their process for sales.

#### **VI. Artificial Intelligence Robots**

Several private and nationalized banks in India have started to adopt chatbots or Artificial intelligence robots for assistance in customer support services. For now, the use of this technology is at a nascent stage, and the evolution of these chatbots is not too far away. Usage of chatbots is among the many emerging trends in the Indian banking sector that is expected to grow.

More chatbots with a higher level of intelligence are forecasted to be adopted by the banks and financial institutions for improved customer interaction personalized solutions. The technology will alleviate the chances of human error and create accurate solutions for the customers. Also, it can recognize fraudulent behavior, collate surveys and feedback and assist in financial decisions.

#### **VII. The rise of Fintech Companies**

Previously, banks considered Fintech companies a disrupting force. However, with the changing trends in the financial services sector in India, fintech companies have become an important part of the sector. The industry has emerged as a significant part of the ecosystem. With the use of financial technology, these companies aim to surpass the traditional methods of finance. In the past few decades, massive investment has been made in these companies and it has emerged into a multi-billion-dollar industry globally.

Fintech companies and fintech apps have changed the way financial solutions are provided to customers. Besides easy access to financial services, fintech companies have led to a massive improvement in services, customer experience, and reduced the price paid. In India, the dynamic transformation has been brought upon by several important elements like fintech startups, established financial institutions, initiatives like "Start-Up India" by the Government of India, incubators, investors, and accelerators. According to a report by the National Association of Software and Services Companies (NASSCOM), the fintech services market is expected to grow by 1.7 times into an \$8 billion market by 2020.

#### **VIII. Digital-Only Banks**

It is a recent trend in the Indian financial system and cannot be ignored. With the entire banking and financial services industry jumping to digital channels, digital-only banks have emerged to create paperless and branchless banking systems. This is a new breed of banking institutions that are overtaking the traditional models rapidly. These banks provide banking facilities only through various IT platforms that can be accessed on mobile, computers, and tablets. It provides most of the basic services in the most simplified manner and gives access to real-time data. The growing popularity of these banks is said to be a real threat to traditional banks.

ICICI Pockets is India's first digital-only bank. These banks are attractive to the customers because of their cost-effective operating models. At the same time, though virtually, they provide high-speed banking services at very low transaction fees. In today's fast lane life, these banks suit the customer needs because they alleviate the need of visiting the bank and standing in a queue.

#### **IX. Cloud Banking**

Cloud technology has taken the world by storm. It seems the technology will soon find its way into the banking and financial services sector in India. Cloud computing will improve and organize banking and financial activities. The use of cloud-based technology means improved flexibility and scalability, increased efficiency, easier integration of newer technologies and applications, faster services and solutions, and improved data security. Besides, the banks will not have to invest in expensive hardware and software as updating the information is easier on cloud-based models.

#### **X. Biometrics**

Essentially for security reasons, a Biometric Authentication system is changing the national identity policies and the impact is expected to be widespread. Banking and financial services are just one of the many other industries that will be experiencing the impact. With a combination of encryption technology and OTPs, biometric authentication is forecasted to create a highly-secure database protecting it from leaks and hackers' attempts. Financial services in India are exploring the potential of this powerful technology to ensure sophisticated security to customers' accounts and capital.

#### **XI. Wearables**

With smartwatch technology, the banking and financial services technology is aiming to create wearables for retail banking customers and provide more control and easy access to the data. Wearables have changed the way we perform daily activities. Therefore, this technology is anticipated to be the future retail banking

trend by providing major banking services with just a click on a user-friendly interface on their wearable device.

These are some of the recent trends in the banking and financial sector of India and all these new technologies are predicted to reshape the industry of business and money. The future is going to bring upon a revolution of sorts with historical changes in traditional models. The massive shift in the landscape has few challenges. Nonetheless, the customers are open to banking innovations and the government is showing great support with schemes like "Jan Dhan Yojana," which aims at providing a bank account to every citizen. Meanwhile, the competition from the foreign and private sector banks has strained the government regulators, nationalized banks, and financial institutions to adopt new technology to stay relevant in the race.

### **Conclusion**

The most direct result of the above reforms is increasing competition and narrowing of spreads and its impact on the profitability of the banks. The challenge for banks is how to manage with thinning margins while at the same time working to improve productivity which remains low to global standards. The major challenges faced by Indian banks are improving profitability, reinforcing better technology, adopting better techniques in risk management, sharpening of skills, greater customer orientation, and introducing internationally followed best practices. The face of Indian banking is changing rapidly. Competition is going to be tough and with the financial liberalization, banks in India will have to benchmark themselves against the best in the world. So for a strong banking and financial system, banks need to go beyond peripheral issues and tackle significant issues like improvement in profitability, efficiency, and technology. These are some of the issues that need to be addressed if banks are to succeed, not just survive, in the changing millennium.

In the days to come, banks are expected to play a very useful role in economic development and the emerging market will provide ample business opportunities to harness. Human Resources Management is assuming to be of greater importance. As banking in India will become more and more knowledge supported, human capital will emerge as the finest assets of the banking system. Ultimately banking is people and not just figures.

To conclude it all, the banking sector in India is progressing with the increased growth in customer base, due to the newly improved and innovative facilities offered by banks. FDI has provided a great fillip to the whole banking sector industry as banks are now competing at a global level.

### **References**

1. A. S. Chawla, K. K. Uppal, K. Malhotra, 'Indian Banking Towards 21st Century', 2nd edition (New Delhi: Deep and Deep Publications,) 1988, p.115
2. Sayuri Shirai, 'Assessment of Indian banking Sector Reforms from the Perspective of the Governance of the banking system', ESCAP-ADB joint workshop, Bangkok, November 2001
3. Ashima Goyal, "Indian Banking Perception and Reality", in Economic & Political Weekly, March 25, 2017, Vol. No. 12, p.81
4. Sarthak Gaurav, Jisha Krishnan, How Efficient Are India's Cooperative Banks? Evidence from DCCBs" in Economic & Political Weekly MARCH 25, 2017 vol.no. 12,p.115
5. Ashima Goyal, "Indian Banking Perception and Reality" in Economic & Political Weekly MARCH 25, 2017 vol.no. 12, p.81

6. Dr. K.C.Biswal, "Emerging Trends in the Indian Banking Sector- Challenges & Opportunities", in International Journal of Advances in Arts, Sciences and Engineering, Volume 3 Issue 6 Jan 2015,p.9
7. Dr. R. Renuka, "Emerging Trends in Banking Sector in India", International Journal of Management, IT & Engineering, Vol. 8 Issue 6, June 2018.
8. <http://en.wikipedia.org/wiki/demat-account>
9. [www.rbi.org.in](http://www.rbi.org.in)
10. [http://www.moneycontrol.com/news/press-release/reporttrendprogressbankingindia-2010-11\\_617218.html](http://www.moneycontrol.com/news/press-release/reporttrendprogressbankingindia-2010-11_617218.html)

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