ISSN: 2249-4804

Business Spectrum

*** Volume – III No. 1 January - June, 2013 ***

The Bi-annual Journal of

Indian Accounting Association

Midnapore Branch, West Bengal

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Editorial

It gives me great pleasure to present June 2013 issue of Business spectrum, the online journal of Indian Accounting Association, Midnapore Branch. This issue contains seven articles on different issues.

The first article by Mr. S.C. Mohanty is entitled, "An Analysis of Working Capital Management in selected Public and Private Organizations in Mining Sector in Orissa". It considers 10 years from 2002-03 to 2011-12 and analyses working capital management of the selected companies in the mining sector.

The second article entitled, "Testing the EMH on Indian Sock Market with special reference to weak form Efficiency" by Hitesh J. Sukla and Ravi H. Sakhareliya examines the random walk hypothesis to determine the validity of weak form efficiency for two major stock markets – BSE and NSE. The study uses daily observations over the time span from 01.01.2003 to 31.12.2012 comprising of 2497 observations each. The random walk hypothesis is examined using several tests. On the basis of empirical tests they come to the conclusion that Indian stock markets are not efficient in the weak form.

The third article by Sanjib Bandyopadhyay is entitled, "The Impact of Different Development Programmes on the Scheduled Tribe People in the Drought-Prone Areas of West Bengal – A Case Study". It considers five tribal groups from drought phone districts. It takes into account different government programmes and performance of NGOs. It also identities the factors accounting for the difference in socio-economic status among different tribal groups.

The fourth article entitled "An overview of the Self-Help Groups in Tribal Inhabited Jangal Mahal and Their Role in Women Empowerment: A Case Study of Ranibandh Block of Bankura District, West Bengal" by Sarkhel and Mondal discusses the impact of SHGs on the empowerment of women with the help of a sample survey. With the help of primary data collected from the sample survey the authors try to test the hypothesis: There is no significant relationship between the period of membership of SHGs of the respondents and women empowerment. They find the hypothesis to be false and get the result there exists a significant relationship.

The fifth article by Baneswar Kapasi has the title, "Sensex and Nifty – A First Hand Idea", It discusses the concepts of Sensex and Nifty and shows how these indices are calculated.

In the article "Interpreting the Behaviour of Investors on their Expected Returns" by Dr. Vinay K. Srivastava discusses the behavior of the investors and the relationship between the clients and the financial advisor. The study aims at understanding and interpreting the behaviour of working employees of private and public sector on their investment decisions.

The last article is entitled "Impact of Industrialization on the well Being of Rehabilitants: An Empirical Study". It considers the impact of growth of industries in Haldia and Durgapur industrial townships on the displaced persons. It comes to the conclusion that industrialization in Haldia and Durgapur has increased the well being of the majority of the respondents of the rehabilitation colonies in these two industrial towns.

In this connection I like to extend my gratitude to the referees to whom the articles were sent for review. I thank the paper writers for their efforts and the executive editors for their whole hearted cooperation in bringing out this edition of Business Insight.

An Analysis of Working Capital Management in Selected Public and Private Organizations in Mining Sector in Orissa

S.C. Mohanty[1]

Abstract

This study examines the working capital management of four mining companies in the state of Odisha. The study uses current ratio, cash as a percentage of current assets, cash as a percentage of total assets, total receivable as a percentage of total assets, inventory as a percentage of total assets, inventory as a percentage of current assets and working capital turnover as measures of efficiency of working capital management. Study results show that current ratio of the sample companies are not satisfactory, cash is always the key consideration out of all the current assets and receivables don't constitute any significant proportion of the total assets. Out of the sample companies, only one company in the form of Orissa Mining Corporation Limited is faring well in terms of managing its working capital.

Key words: *Working Capital, Working Capital Management.*

Introduction

Working Capital is the flow of ready funds necessary for the working of a concern. It comprises funds invested in Current Assets, which in the ordinary course of business can be turned in to cash within a short period without undergoing diminishing in value and without disruption of the organization. Every company has to make arrangements for adequate funds to meet the day-to-day expenditure apart from investment in fixed assets.

A business undertaking requires funds for two purposes: -

- To create productive capacities through purchase of fixed assets, etc.
- To finance current assets required for day to day running of the business.

Working capital refers to the funds invested in current assets i.e., investment in stock, sundry debtors, cash and current assets. Current assets are essential to use fixed assets profitably. It is obvious that a certain amount of funds is always tied up in raw material inventories working progress, finished goods, consumable stores, sundry debtors and day-to-day cash requirements. However, the business also enjoys credit facilities from his suppliers who may give the raw materials on credit. Similarly a businessman may not pay immediately for various expenses. But employees are paid periodically.

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Therefore certain amount of funds is automatically available to finance the current assets requirements. However, the requirements for current assets are usually greater than the amount of funds available through current liabilities. In other words, the current assets are to be kept at higher level than the current liabilities. This difference is known as working capital.

Working capital management is considered to be a very important element to analyze the organizations' performance while conducting day to day operations, by which balance can be maintained between liquidity and profitability. Maintaining liquidity on daily base operation to make sure it's running and meets its commitment is a crucial part required in managing working capital. It is a difficult task for mangers to make sure that the business function running in well-organized and advantageous manner. There are chances of inequality of current assets and current liability during this procedure Firm's growth and profitability will be affected if this occurs and firm manger wouldn't be able to manage it efficiently.

There is no universally accepted definition for working capital. The financiers, accountants, businessmen and economist are giving different explanations for working capital. The working capital is called as circulating capital or revolving capital. In general working capital denotes the current assets. Following are some of the definitions of working capital:

In the words of Shubin, "Working capital is the amount of funds necessary to cover the cost of operating the enterprise". According to Genestenberg, "Circulating capital means current assets of a company that are changed in the ordinary course of business from one form to another, as for example, from cash to inventories, inventories to receivables, receivables into cash".

According to J.S. Mill, "The sum of the current assets is the working capital of a business" .Normally working capital means current assets minus current liabilities. The working capital may be positive or negative.

The Mining Industry plays an important role in the economic development of the country since it provides the basic raw-materials to the core sector Industries. Effective management of working capital in these industries will help in achieving economy in the cost if its operation and optimum financial results with ultimate benefit to the society.

Keeping this background in view an attempt has been made by the Researcher to evaluate the efficiency in working capital management of few selected public sector and private sector industries in Orissa engaged in mining, processing, production and manufacturing activities of products of metals and non- metals , their minerals, ores and alloys. Such an analysis is expected to show and high light the strengths and weaknesses regarding various aspects of its working capital management.

Objectives and Methodology

The study has the following objectives:-

- To appraise the effectiveness of Working Capital Management in selected organizations.
  an effective one.
- To find out the extent of the need and adequacy of the working capital of the firm.
- To evaluate the liquidity position of the company.
- To see the changes in the working capital.
- To analyze the components of working capital

The present study is made for a period of 10 years commencing from 2002-03 to 2011-12. The data used in the study is mainly based on secondary sources of information and has been drawn from the Annual Reports and MIS Reports of Orissa Mining Corporation Limited (OMC), IDCOL Kalinga Iron Works Limited and IDCOL Ferrochrome and Alloys Limited (Wholly Owned Subsidiaries of Industrial Development Corporation of Orissa Limited (IDCOL), and Indian Metals and Ferro Alloys Limited (IMFA).

The Researcher has also collected relevant primary information regarding effectiveness of liquidity management in selected companies to supplement the Secondary information. A questionnaire was designed and administered to collect primary data regarding the approach to liquidity management followed in each of the selected organizations. The questionnaire was supplemented by personal interviews with the respondents to cross check and validate the responses.

Literature Review

Saswata Chatterjee (2010) focused on the importance of the fixed and current assets in the successful running of any organization. It poses direct impacts on the profitability liquidity.

There have been a phenomenon observed in the business that most of the companies increase the margin for the profits and losses because this act shrinks the size of working capital relative to sales. But if the companies want to increase or improve its liquidity, the Unit has to increase its working capital. In the response of this policy the organization has to lower down its sales and hence the profitability will be affected due to this action Dong (2010) reported that the firms' profitability and liquidity are affected by working capital management in his analysis. Another aim of working capital management is to appropriately time the outflows and inflows of cash, generally known as the cash conversion cycle, while simultaneously optimizing process costs and quality (KPMG, 2005).

Cash conversion cycle is another measure of corporate liquidity management (Moss and Stine, 1993). It measures the time lag between cash payments for purchase of inventories and collection of receivables from customers. The CCC is used as a comprehensive measure of working capital as it shows the time lag between expenditure for the purchase of raw materials and the collection of sales of finished goods (Padachi, 2006).

The major reason for poor performance of an undertaking is shortage or inappropriate management of working capital (Siddarth and Das, 1993). Due to lack of a proper plan for working capital requirements most firms often experience excess or shortage of working capital (Agarwal, 1977).

Efficient working capital management is necessary for achieving both liquidity and profitability of a company. A poor and inefficient working capital management leads to tie up funds in idle assets and reduces the liquidity and profitability of a company (Reddy and Kameswari, 2004).

Concept of Working Capital Management

There are two concepts of Working Capital

1. Gross working capital.
2. Net working capital.

The gross working capital is the capital invested in total current assets of the enterprise. Current assets are those assets, which in the ordinary course of business can be converted into cash within a short period of normally one accounting year.

Net working capital is the excess of current assets over current liabilities, or say:

Net working capital = Current assets – Current liabilities

Advantages of adequate working capital

- The firm will be able to proceed with uninterrupted flow of production.
- The company can make prompt payments which help in creating and maintaining goodwill.
- Loan facilities are easily available.
- The company may avails cash discounts and hence reduce costs
- Ability to face crisis

Disadvantages of inadequate working capital

- A concern, which has inadequate working capital, cannot pay its short-term liabilities in time.
- It cannot buy its requirements in bulk and cannot avail of discounts
- It becomes difficult for the firm to exploit favorable market conditions
- The firm cannot pay for day-to-day expenses of its operations and it creates inefficiencies, increases costs and reduces the profits of the business
- It becomes impossible to utilize efficiently the fixed assets due to non-availability of liquid funds

Cash flows in a cycle into, around and out of a business. It is the business life blood and every manager's primary task is to help keep it flowing and to use the cash flow to generate profits. If a business is operating profitably, then it should, in theory, generate cash surpluses. If it doesn't generate surpluses, the business will eventually run out of cash and expire.

The faster a business expands the more cash it will need for working capital and investment. The cheapest and best sources of cash exist as working capital right within business. Good management of working capital will generate cash will help improve profits and reduce risks. Bear in mind that the cost of providing credit to customers and holding stocks can represent a substantial proportion of a firm's total profits.
There are two elements in the business cycle that absorb cash –

- Inventory (stocks and work-in-progress)
- Receivables (debtors owing you money).

The main sources of cash are **Payables** (your creditors) and **Equity and Loans**.

Each component of working capital (namely inventory, receivables and payables) has two dimensions .....TIME ..... and ……..MONEY. When it comes to managing working capital - **TIME IS MONEY**. If you can get money to move faster around the cycle (e.g. collect monies due from debtors more quickly) or reduce the amount of money tied up (e.g. reduce inventory levels relative to sales), the business will generate more cash or it will need to borrow less money to fund working capital. As a consequence, you could reduce the cost of bank interest or you'll have additional free money available to support additional sales growth or

investment. Similarly, if you can negotiate improved terms with suppliers e.g. get longer credit or an increased credit limit; you effectively create free finance to help fund future sales. Working capital management in general refers to the administration of all aspect of current assets viz. cash, marketable securities, debtors and stock and current liabilities. Working capital management policies have a great effect on firm's profitability, liquidity and its structural health. In order to achieve this objective the financial manager has to perform basically following two functions:

(a) Estimating the amount of working capital.

(b) Sources from which these funds have to be raised.

Analytical Study

The liquidity management of the selected Public and Private Sector Organizations in mining sector in Orissa has been studied by analyzing the various components of Liquidity. The analysis has been carried out by calculating certain key ratios which are then used as a benchmark / indicators of trend to arrive at findings and conclusions.

The key ratios which have been calculated and their interpretation/ analysis is as under**:**

Table 1: Current Ratio

	Company	02-03	03-04	04-05	05-06	06-07	07-08	08-09	09-10	10-11	11-12	Average
1	**IDCOL Kalinga Iron Works Ltd**	0.76%	1.63%	1.27%	1.20%	1.41%	1.32%	1.23%	1.06%	0.58%	0.67%	**1.11%**
2	**IDCOL Ferrochrome and Alloys Limited**	0.75%	0.65%	1.31%	1.27%	1.69%	1.54%	1.49%	1.32%	1.90%	2.66%	**1.46%**
3	**The Orissa Mining Corporation Ltd.**	1.30%	1.45%	1.63%	1.65%	1.91%	2.11%	2.22%	5.81%	5.92%	10.02%	**3.40%**
4	**Indian Metals and Ferro Alloys Limited**	1.34%	1.23%	1.61%	1.75%	2.64%	2.23%	1.85%	1.82%	1.80%	1.19%	**1.75%**
AVERAGE (%)		**1.04**	**1.24**	**1.46**	**1.46**	**1.91**	**1.80**	**1.70**	**2.50**	**2.55**	**3.63**	**1.93**

It is the ratio of current assets to current liabilities. It is an important tool for the judgment of short term liabilities and solvency of a firm.

From the analysis, it is found that there was a fluctuating trend in the Current Ratio over the 10 year period in all selected companies. The Average Current Ratio was found to be less than 2:1 in all selected organizations except Orissa Mining Corporation Limited. The Current Ratio analysis reflects poor / less than satisfactory liquidity position in all selected organizations except OMC Limited.

As this ratio indicates the availability of current assets in a firm for every one rupee of current liability, so higher value of this ratio will indicate the better liquidity position of the firm it help the creditor and other short term investor to judge the final position of the firm.

Table 2: Cash as a Percentage of Current Assets

	Company	02-03	03-04	04-05	05-06	06-07	07-08	08-09	09-10	10-11	11-12	Average
1	IDCOL Kalinga Iron Works Ltd	2.07%	5.14%	3.95%	6.75%	9.89%	9.14%	5.44%	1.52%	3.05%	6.42%	**5.34%**
2	IDCOL Ferrochrome and Alloys Limited	8.52%	8.51%	20.30 %	28.13%	11.83%	9.23%	0.66%	0.59%	0.55%	0.71%	**8.90%**
3	The Orissa Mining Corporation Ltd.	9.27%	30.62 %	50.38 %	44.44%	48.81%	57.42%	53.74 %	80.87 %	82.49 %	81.65%	**53.97%**
4	Indian Metals and Ferro Alloys Limited	3.96%	9.82%	3.72%	10.73%	24.36%	9.51%	1.26%	8.36%	3.64%	2.72%	**7.81%**
AVERAGE (%)		**5.96**	**13.52**	**19.58**	**22.51**	**23.72**	**21.33**	**15.28**	**22.83**	**22.43**	**22.88**	**19.00**

This ratio indicates the percentage of current assets is lying as cash in hand. Although, cash in hand indicates the liquidity position of the firm, but it has some holding opportunity cost. So, higher the percentage of this ratio, higher would be the instant liquidity strength of firm and vice versa.

From the analysis, it is found that average cash as a percentage of Current Assets of all selected organizations was ranging between 5.34% to 8.9% excepting for abnormally high 53.97% in case of Orissa Mining Corporation Limited during the period under study.

This ratio does not indicate the efficiency of management in managing cash balance on hand. But it helps to get an idea about the share of cash balance in the composition of the current assets of a firm at a particular point of time. High holding of cash is not desirable even though it may indicate very high liquidity.

Table 3: Cash as a Percentage of Total Assets

	Company	02-03	03-04	04-05	05-06	06-07	07-08	08-09	09-10	10-11	11-12	Average
1	IDCOL Kalinga Iron Works Ltd	2.05%	0.51%	3.95%	6.71%	9.89%	9.06%	5.36%	1.50%	1.51%	3.50%	**4.40%**
2	IDCOL Ferrochrome & Alloys Limited	3.14%	2.66%	6.05%	11.30 %	4.83%	6.33%	0.55%	0.50%	0.46%	0.56%	**3.64%**
3	The Orissa Mining Corporation Ltd.	7.69%	27.45 %	47.57 %	42.27 %	46.86 %	55.94%	52.67 %	78.50%	78.94%	78.12%	**51.60%**
4	Indian Metals & Ferro Alloys Limited	2.88%	7.56%	2.88%	3.42%	8.95%	4.42%	0.63%	3.48%	1.50%	0.93%	**3.67%**
AVERAGE (%)		**3.94**	**9.55**	**15.11**	**15.93**	**17.63**	**18.94**	**14.80**	**20.99**	**20.60**	**20.78**	**15.83**

This ratio indicates the percentage of total assets is lying as cash in hand. From the analysis, it is found that The Orissa Mining Corporation Limited has the highest average which is 51.60% as compared to other organizations during the period under study. All the other selected organizations have a low % of cash in the composition of total assets. As the holding of cash in hand means maintaining an idle asset and it has an implicit cost, so high percentage of cash balance to total assets is not beneficial for a firm apparently. But on the other hand, it

indicates the high level strength of short term liquidity of management in managing the activities of the firm. It implies only the share of cash balance to total assets.

Table 4: Total Receivable as a Percentage of Total Assets

	Company	02-03	03-04	04-05	05-06	06-07	07-08	08-09	09-10	10-11	11-12	Average
1	**IDCOL Kalinga Iron Works Ltd**	23.0%	14.42%	13.92%	19.48%	12.64%	14.03%	13.01%	9.41%	4.70%	4.66%	**12.93%**
2	**IDCOL Ferrochrome & Alloys Ltd.**	14.0%	12.07%	2.81%	1.64%	1.63%	0.73%	2.72%	7.84%	0.16%	0.05%	**4.37%**
3	**The Orissa Mining Corporation Ltd.**	4.0%	5.09%	2.47%	2.31%	3.35%	1.19%	0.32%	1.07%	0.42%	0.25%	**2.05%**
4	**Indian Metals & Ferro Alloys Limited**	9.58%	6.73%	6.50%	4.67%	3.00%	3.06%	3.03%	1.53%	1.42%	1.74%	**4.13%**
AVERAGE (%)		**12.66**	**9.58**	**6.43**	**7.02**	**5.16**	**4.75**	**4.77**	**4.96**	**1.67**	**1.67**	**5.87**

This ratio indicates the share of trade receivable in total amount invested in the assets of the business. This is obvious that the yearly averages of this ratio show a fluctuating trend during the period under study. From the analysis, it is found that Orissa Mining Corporation has the lowest average which is 2.05% as compared to other selected organizations during the period under study. The highest average of this ratio 12.93% is found in case of IDCOL Kalinga Iron Works Limited. Variations in the subject ratio are observed in all the selected organizations over the period under study.

But this is to be kept in mind that this ratio does not indicate the efficiency in managing receivables as well as the rapidity in collecting receivables. This is an absolute figure which only indicates the investment in receivables in relation to the total investment in assets of a firm.

Table 5: Inventory as a Percentage of Total Assets

	Company	02-03	03-04	04-05	05-06	06-07	07-08	08-09	09-10	10-11	11-12	Average
1	**IDCOL Kalinga Iron Works Ltd**	46.9%	54.7%	64.2%	53.8%	56.2%	62.9%	67.8%	69.2%	35.3%	41.0%	**55.21%**
2	**IDCOL Ferrochrome & Alloys Limited**	15.4%	10.5%	15.4%	13.9%	23.6%	17.9%	33.8%	25.8%	18.7%	34.7%	**20.98%**
3	**The Orissa Mining Corporation Ltd.**	11.9%	5.9%	2.4%	2.68%	3.01%	3.2%	4.7%	6.4%	5.8%	5.44%	**5.16%**
4	**Indian Metals & Ferro Alloys Limited**	16.5%	23.9%	27.8%	17.6%	15.8%	22.8%	19.6%	18.9%	19.9%	15.8%	**19.87%**
AVERAGE (%)		**22.69**	**23.79**	**27.44**	**22.01**	**24.65**	**26.73**	**31.48**	**30.08**	**19.95**	**24.23**	**25.30**

This ratio indicates that portion of total assets which is held by a firm in the form of inventory. From the analysis, it is found that IDCOL Kalinga Iron Works Limited has the highest average – 55.21%as compared to other selected organizations during the period under

study. The Orissa Mining Corporation Limited has only 5.16% of the total assets being represented by inventory.

From the overall observation it is found that this ratio more or less indicates a moderately fluctuating trend with a low range. This is a good indicator from a business point of view as a significant increase in investment in inventory the total assets decreases the profitability as well as liquidity if the firm.

Table 6: Inventory as a Percentage of Current Assets

	Company	02-03	03-04	04-05	05-06	06-07	07-08	08-09	09-10	10-11	11-12	Average
1	**IDCOL Kalinga Iron Works Ltd**	47.4%	54.8%	64.2%	54.1%	56.2%	63.5%	68.8%	70.2%	71.2%	75.2%	**62.56%**
2	**IDCOL Ferrochrome and Alloys Limited**	41.8%	33.7%	51.5%	39.6%	57.7%	26.4%	41.1%	30.3%	22.2%	44.3%	**38.85%**
3	**The Orissa Mining Corporation Ltd.**	14.5%	6.7%	2.6%	2.8%	3.1%	3.3%	4.8%	6.6%	6.1%	5.7%	**5.61%**
4	**Indian Metals and Ferro Alloys Limited**	22.6%	31.0%	35.9%	55.3%	43.1%	49.1%	38.3%	45.5%	48.6%	46.3%	**41.63%**
AVERAGE (%)		**31.56**	**31.56**	**38.53**	**37.96**	**40.02**	**35.50**	**38.42**	**38.16**	**37.07**	**42.86**	**37.16%**

This ratio states about the percentage of share of inventory to the total current assets of the sample unit under study. From the analysis, it is found that inventory percentage ranges between 5.61 % in Orissa Mining Corporation Limited to 62.56% in IDCOL Kalinga Iron Works Limited. Wide variations are also noticed in each organization over the 10 year period under study.

From the overall observation it is found that this ratio indicates an increasing trend. This indicates an adverse impact on the profitability and liquidity of the company as substantial part of the total current asset is accounted for by inventory.

Table 7: Working Capital Turnover Ratio

	Company	02-03	03-04	04-05	05-06	06-07	07-08	08-09	09-10	10-11	11-12	Average
1	**IDCOL Kalinga Iron Works Ltd**	-9.3	81.0	9.3	12.9	15.1	9.9	8.0	1 2.7	.07	-1.7	**13.81**
2	**IDCOL Ferrochrome & Alloys Limited**	-9.2	-6.8	-21.1	14.6	11.7	8.9	4.3	3.5	2.8	1.7	**1.05**
3	**The Orissa Mining Corporation Ltd.**	2.9	3.6	2.9	1.5	1.5	1.4	0.9	0.5	0.8	0.5	**1.64**
4	**Indian Metals & Ferro Alloys Limited**	2.5	2.3	2.5	3.2	3.1	3.3	3.9	2.3	3.1	5.6	**3.19**
AVERAGE		**1.36**	**1.47**	**1.33**	**1.17**	**1.16**	**1.17**	**1.21**	**0.71**	**0.95**	**1.56**	**1.21**

Working capital turnover ratio indicates how rapidly total investment in current assets is rotated through sales. It is a ratio of sales to averages holding of current assets of firm at a

particulars point of time. Higher the value of this ratio, higher would be the efficiency of management in managing total investment in current assets.

From the table exhibiting the working capital turnover ratio of the sample units during the period under study, it is evident that the yearly average of this ratio shows a fluctuating trend during the period under study. From the analysis, it is found that IDCOL Kalinga Iron Works Limited has the highest average working capital turnover ratio as compared to other selected organizations. The average of this ratio is quite unsatisfactory in other three organizations.

Findings

After making in depth analysis of the relevant data relating to different components of working capital of the sample organizations, the following are the key findings:

- The average value of inventory as a percentage of current Assets shows fluctuating trend during the period under study.
- Total receivable which includes Trade receivable and Loans and advances collectively constitute a very low percentage of the value of total assets
- Cash is always the key consideration out of all other current assets whenever the instant liquidity of firm is being considered. It indicates the instant ability or strength of the firm to pay off its obligations as and when they arise in the normal course of business. In case of the sample organizations under study, cash in hand as a percentage of current assets is low except in case of OMC Limited where it was found to be significantly high.
- The traditional standard of Current Ratio is 2:1 of the business world, and it is observed from the study that all organizations except OMC Limited have a less than satisfactory current ratio.
- Working capital turnover ratio is very low in case of all the selected organizations except in case of IDCOL Kalinga Iron Works Limited during the period under study.

Conclusions

On the basis of the analysis of the financial statement relating to working capital of sample units under study and from the findings of such analysis, the conclusions drawn are as under:
Orissa Mining Corporation Limited appears to be well placed in terms of liquidity as it has an adequate Current ratio, and well managed inventory position. However a major concern is abnormally high proportion of cash as a component of the total current assets. Idling cash though reflecting high liquidity may be affecting the profitability of the company.

Out of the other selected organizations, IDCOL Kalinga Iron Works Limited needs to improve its liquidity position through better management of Cash, receivables, and inventory. There is scope for improvement in working capital management in all the selected organizations which can act as a catalyst in improving their profitability and sustainability.

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Testing the EMH on Indian Stock Market: with Special Reference to Weak Form Efficiency

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Abstract

This study examines the random walk hypothesis to determine the validity of weak-form efficiency for two major stock markets (BSE & NSE) in India. The study uses daily observation over the span from 01/01/2003 to 31/12/2012 comprising of 2497 observations each. The random walk hypothesis is examined using Normality, Run Test, Kolmogorov-Smirnov (KS) Test, autocorrelation using Q-statistic & Multiple Variance Ratio Test using homoscedastic and heteroscedastic test estimates. On the basis of empirical results given by various tests, we can reject our null hypothesis. This suggests that the Indian stock markets does not show characteristics of random walk and as such are not efficient in the weak form implying that stock prices remain predictable. This implies that the Indian stock markets are not weak form efficient signifying that there is systematic way to exploit trading opportunities and acquire excess profits.

Key words: *Indian Stock Market, Weak-form Efficiency, Random Walk Hypothesis, Efficient Market Hypothesis.*

Introduction

The history of the random walk dates back to the beginning of 20th century, when Bachelier (1900) found Brownian motion in stock prices, implying that stock price movements are random and does not follow any systematic patterns. Following Bachelier's study, Cowels (1933) attempted to study the behavior of stock market prices and supported the findings of Bachelier and observed that their returns were higher than the return of a nominal investor but was poorer than the returns from an outright investment in representative stocks for the periods. In the mid-1960s, Eugene Fama introduced the idea of an "efficient" capital market to the literature of financial economics. Put simply, the idea is that intense competition in the capital market leads to fair pricing of debts and equity securities. Alexander (1961) was consistent to that of Kendall with few variants and stated that a series obtained by cumulating

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random numbers, will for brevity and clarity be called usually a random-difference series, since it is the first difference of the series and not the series itself, which are random number. An **Efficient Capital Market** is one in which security prices adjust rapidly to the arrival of new information and, therefore, the current prices of securities reflect all information about the security. The **Efficient Market Hypothesis** deals with informational efficiency, which is a measure of how quickly and accurately the market digests information.

In his original article, Fama divided the overall efficient market hypothesis (EMH) and the empirical tests of the hypothesis into three sub hypotheses depending on the information set involved: (1) weak-form EMH, (2) semi strong-form EMH, and (3) strong-form EMH. The phrase "efficient market" used to describe the market price that fully reflects all available information was coined by Fama (1970). The efficient market hypothesis (EMH) has a cousin, the semi-efficient market hypothesis (SEMH). The essence of the SEMH is the notion that some stocks are priced more efficiently than others.

In a classic paper published in 1980, Grossman and Stieglitz pointed towards the "impossibility of Informationally efficient markets" Their argument is fairly straightforward and goes as follows: If market prices reflect all information about stocks, no one would indulge into equity research (as it involves cost) and everyone will simply accept market prices as the best estimates of intrinsic values, and if no one does equity research to obtain and analyse information about companies, how can market prices reflect all information about stocks?

Review of Literature

Fama (1965) propounded his famous efficient market hypothesis for US securities, a number of empirical research have been carried out to test its validity, mainly in the developed countries with booming financial markets (Summers, 1986; Fama and French, 1988; Lo and Mackinlay, 1988). Fama classified stock market efficiency into three forms. They are namely 'weak form', 'semi-strong form' and 'strong form'. Porterba and Summers (1988) confirmed the presence of mean reverting tendency and absence of random walk in the U.S. Stocks. The study of rejection of random walk in the share prices due to mean reverting tendency which is a consequence of persistence of one sided volley in share prices was first presented by De Bondt & Thaler (1985).

The efficiency of stock markets is one of the most controversial and well studied propositions in the literature of capital market. Even if there have been a number of researches and journal articles, economists have not yet reached a consensus about whether capital markets are efficient or not. The studies such as Abrosimova et al. (2002), Muslumov et al. (2003), Bizhan (2009), Zhang et al. (2010), Ajao and Osayuwu (2012) supports the weak form efficiency in Foreign Market and Sharma and Kennedy (1977), Gupta (1985), Sharma and Mahendru (2007), Venkatesan (2010), Sapate and Ansari (2011) support the weak form efficiency in Indian market. There have been some studies like Afonso and Teixeira (1998), Li and Xu (2001), Hamid et al. (2010), Shawn et al. (2012) do not support the existence of weak form efficiency in Foreign Market and Rao and Mukherjee (1971), Chaudhuri (1991), Poshakwale (1996), Madhusoodanan (1998), Pant and Bishnoi (2002), Mishra (2009), Sharma and Seth (2011) do not support the existence of weak form efficiency in Indian Market. This disagreement regarding the Efficient Market Hypothesis has generated research interest in this topic.

Methodology

It is a longitudinal survey. For the purpose of this study SENSEX and S&P CNX NIFTY indexes consider to study the stock market in India because of their undoubted popularity across the global so as to represent the Indian stock market. The data for the study consist of daily closing prices from 01/01/2003 to 31/12/2012 comprising of 2497 observations each and collected from the website www.nseindia.com and www.bseindia.com.

- **Objectives of the Study**
  The basic objective of the study is to test weak from efficiency in Indian stock market and specific objective is to determine whether the movement in the stock return series in India is independent, random and follow normal distribution.
- **Research Hypothesis**
  (a) Prime Hypothesis
  Ho: Indian stock market is efficient in weak form
  (b) Sub Hypothesis
  Ho_1: The stock returns in India follow a normal distribution.
  Ho_2: The stock returns in India are random over the time period of the study.
  Ho_3: successive return series are independent.
- **Variables of Study**

Name of Variables	Descriptions
Daily Returns of SENSEX	Natural Log of SENSEX
Daily Returns of NIFTY	Natural Log of NIFTY

- **Log of return**
  The daily closing prices of the Sensex and Nifty are used to arrive at the daily stock return data ignoring the days when there was no trading. Daily stock returns ($Rt_)$ are calculated by the log difference change in the price index:

$$R_t = \log\left(\frac{P_t}{P_{t\text{-}1}}\right)$$

  Where Rt = Daily return for period t
  P_t = Daily stock price for period t.
  Pt-1 = Daily stock price for period t-1.
  Ln = Natural log.

- **Tools Used in Analysis**

(a) ***Descriptive Statistics***
Descriptive Statistics for the stock returns includes the Mean, Standard Deviation Jarque-Bera, Variance, Kurtosis, Skewness and studentized Range. The Jarque-Bera statistics is used to test the normality of the data series.

(b) Non-Parametric Test
Kolmogorov-Smirnov (KS) Test: The One-Sample Kolmogorov-Smirnov Test procedure compares the observed cumulative distribution function for a variable with a specified theoretical distribution, which may be normal, uniform, Poisson, or exponential.
Run Test: Run Test can be used to deter mine whether the change of prices is serial or random. A run is defined as a series of consecutive returns of the same sign. Put

simply, ++, —, 0, indicates five runs where "+" stands for a price increase "-" represents a price decrease, and "0" posits no change in price. A 'run' is defined by (Siegel, 1956), as "a succession of identical symbols which are followed or preceded by different symbols or no symbol at all." Suppose the price changes are independent, the total expected number of runs E(r) can be estimated for large samples as:

$$\mu R \text{ or } E(r) = \frac{2N_1N_2}{N} + 1$$

Where, N= is the total number of observations (price changes or returns) =N1+N2
N1= the number of price changes (sign +)
N2= the number of price changes (sign -)
If the number of observations is large (N > 30), E(r) has nor mal distribution. The Variance of E(r) (σ_r^2) is given by:

$$\sigma_r^2 = \frac{2N_1N_2\,(2N_1N_2 - N)}{(N)^2\,(N-1)}$$

The Standard normal Z-test statistics used to conduct a Run Test is given by:

$Z = (R \pm 0.5) - E(r)/\ \sigma_r$
R = actual number of runs
E(r) = the expected number of runs
σ_r = standard error of the expected number of runs.

(c) Parametric Test

Auto-Correlation Function Tests (ACF): Fama (1965) recommends that serial correlation tests be commonly used to determine whether there is a dependency in the successive values of log-price changes. A serial correlation coefficient, ρ_k, is estimated from the change in two prices, and then compared with zero at a specified significance level. If ρ_k is not significantly different from zero, then the price changes are independent; otherwise, the price changes are dependent.

$$\rho_k = \frac{\sum_{t=1}^{n-k}(a_t - \bar{a})(a_{t+k} - \bar{a})}{\sum_{t=1}^{N}(a_t - \bar{a})^2}$$

ρ_k = ACF of change price of lag k
N = number of observations
a_t = price change over period t
$\bar{a}$ = the sample mean of price change
a_{t+k} = price change over period t+k
K = lag of the period

The null and alternate hypothesis for the serial correlation tests are as follows:

Ho: $\rho_k = 0$ (price changes are independent)

Ha: $\rho_k \neq 0$ (price changes are not independent)

The Ljung-Box Q- statistics are given by:

$$Q_{LB} = N\,(N+2)\,\sum_{j=1}^{k}\frac{\rho_j^2}{N-j}$$

ρ_j = j autocorrelation
N = Number of observations

Multiple Variance Ratio Test: Our parametric procedure for measuring serial dependence is called "a variance-ratio test" which was developed by Lo and MacKinlay (1988, 1989). Chow and Denning (1993) point out that Lo and MacKinlay (1988) fails to control the test size for variance ratio estimates, resulting in large Type I errors.

The null hypothesis is that VR (q) equals one. The hypotheses for Variance Ratio are:

H_0: VR=1
H_a: VR≠1

The variance ratio is computed by dividing the variance of returns estimated form the longer interval by the variance of returns estimated from the shorter interval and then by normalizing this value to one by dividing it by the ratio of the longer interval to the shorter interval as follows:

$$\text{Var}(P_t - P_{t-q}) = {}_q\text{Var}(P_t - P_{t-1}).$$

Where q is any positive integer, the variance ratio, VR (q), is then determined as follows:

$$VR(q) = \frac{\frac{1}{p} Var(p_t - p_{t-q})}{Var(p_t - p_{t-1})} = \frac{\sigma^2(q)}{\sigma^2(1)}$$

For a sample size of nq + 1 observation (P_0, P_1, …., P_{nq}), the formulas for computing $\sigma^2(q)$ and σ^2 (1) are given in the following equations:

$$\sigma^2(q) = \frac{\sum_{t=q}^{nq} (p_t - p_{t-q} - q\mu)^2}{h}$$

Where,

$$h = q(nq+1-q)\left(1 - \frac{q}{nq}\right)$$

And

$$\mu = \frac{1}{nq}\sum_{t=1}^{nq}(p_t - p_{t-1}) = \frac{1}{nq}(p_{nq} - p_o)$$

And

$$\sigma^2(1) = \frac{\sum_{t=1}^{nq} (p_t - p_{t-1} - \mu)^2}{(nq-1)}$$

Under the assumption of homoscedasticity and heteroscedasticity increments, two standard normal test statistics, Z (q) and Z*(q) respectively, developed by Lo and MacKinlay (1988). Z (q) assumes an independent and identical distributed normal error term. Then, the standard normal Z test statistics is computed as follows:

$$Z(q) = \frac{VR(q)-1}{[\phi(q)]^{1/2}} \approx N(0, 1)$$

Z*(q) test statistics, allows for a general heteroscedasticity of error term. The heteroscedasticity consistent standard normal test statistics relaxed the assumption of normality. The formula is given as follows:

$$Z^*(q) = \frac{VR(q)-1}{[\phi(q)]^{1/2}} \approx N(0,1)$$

Where $\phi(q)$ is the asymptotic variance of the variance ratio under the assumption of homoscedasticity, and $\phi^*(q)$ is the asymptotic variance of the variance ratio under the assumption of heteroscedasticity:

$$\phi(q) = \frac{2(2q-1)(q-1)}{3q(nq)}$$

$$\phi^*(q) = \sum_{j=1}^{q-1}\left[\frac{2(q-j)}{q}\right]^2 \partial(j)$$

Where $\partial(j)$ is the heteroscedasticity-consistent estimator and computed as follows:

$$\hat{\partial}(j) = \frac{\sum_{t=j+1}^{nq}(p_t - p_{t-1} - \mu)^2(p_{t-j} - p_{t-j-1} - \mu)^2}{\left[\sum_{t=1}^{nq}(p_t - p_{t-1}\hat{\mu})^2\right]}$$

Note that both standard normal Z-statistics and Z* statistics are approaching N (0, 1).

The rejection of any one or more H0i rejects the random walk null hypothesis. Let $\{\psi(q),.., \psi(q_m)\}$ be the set of z-statistics for RWH1 and let $\{\psi^*(q),.., \psi^*(q_m)\}$ be the set of z-statistics for RWH3. Then, if is denoted by $M\psi = \max |\psi(q_i)|_{i=1...m}$ and by $M\psi^* = \max |\psi(q_i)|_{i=1...m}$ the random walk hypothesis will be rejected if $|M\psi| > SMM(\alpha,m,\infty)$ or $|M\psi^*| > SMM(\alpha,m,\infty)$, where $SMM(\alpha,m,\infty)$ is the asymptotical critical value of the Studentized Maximum Modulus distribution with parameter *m* and ∞ degrees of freedom. In fact, this critical value can be computed by using standard normal distribution:

$$SMM(\alpha, m, \infty) = z_{\alpha^+/2}$$

Where $\alpha^+ = 1-(1-\alpha)^{1/m}$

Data Analysis and interpretation

Figure 1: Daily Return of BSE SENSEX

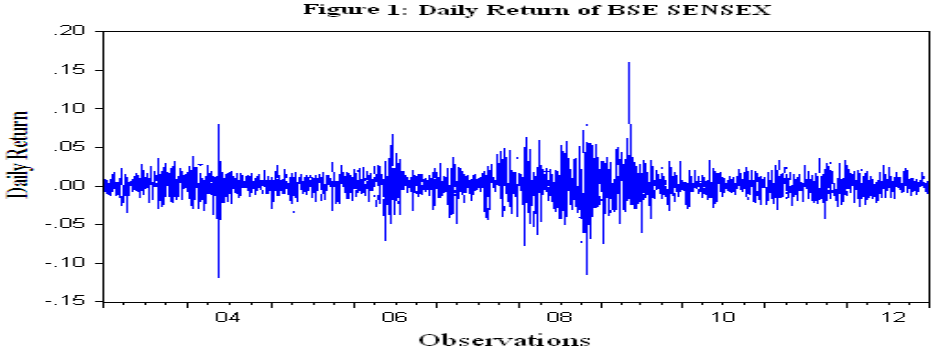
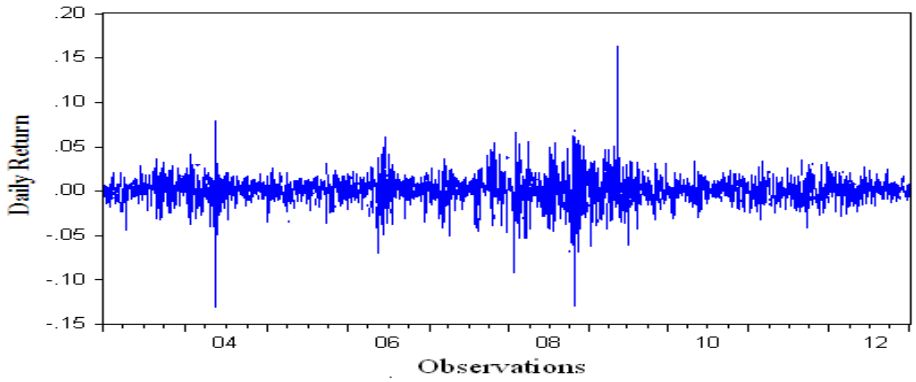


Figure 2: Daily Return of NSE NIFTY



Above figures plot the daily returns on BSE SENSEX and NSE NIFTY and it is very apparent from this that the amplitude of the daily stock returns is changing. The magnitude of the changes is sometimes large and sometimes small.

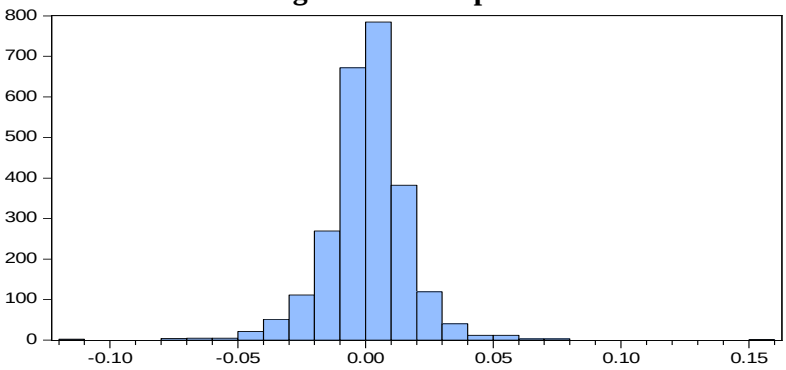
(a) Analysis of Descriptive statistics

Table 1: Descriptive statistics

Description	SENSEX	NIFTY
Number of Observation	2497	2497
Mean	0.000701	0.000675
Median	0.001246	0.001376
Std. Dev	0.016319	0.016525
Minimum	-0.118092	-0.130539
Maximum	0.1599	0.163343
Range	0.28	0.29
Skewness	-0.084376	-0.25955
Kurtosis	10.90983	11.88223
Jarque-Bera	6512.37	8236.309
Studentized Range	17.16	17.55

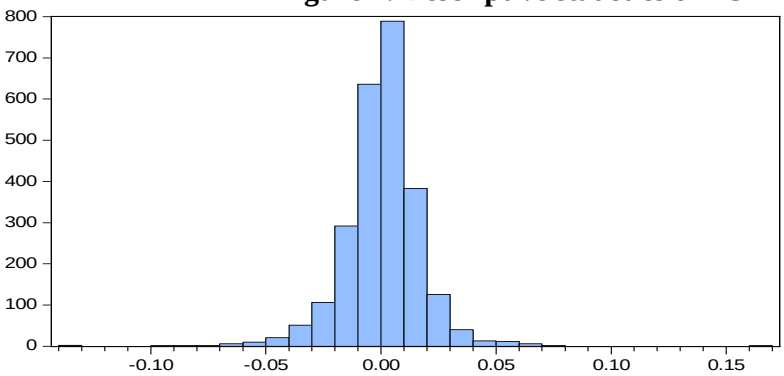
The mean returns for both markets are very close to zero indicating that the series are mean reverting. The result shows that (table 1) the SENSEX and NIFTY has a left tail because both the Index have negative Skewness. Kurtosis values of the market return series for both the indices are much higher than three, indicating that the return distribution is fat-tailed or leptokurtic relative to a normal distribution and sharply peaked about the mean as shown in figure 3 & 4. The reported probability is the probability that a Jarque-Bera statistic exceeds (in absolute value) the observed value under the null hypothesis a small probability value leads to rejection of the null hypothesis of normal distribution. The values of Studentized Range are larger than 6 for the sample period further suggesting that the stock returns on NSE and BSE are not normally distributed.

Figure 3: Descriptive statistics of BSE SENSEX



Series: BSE SENSEX	
Sample 1/01/2003 12/31/2012	
Observations 2497	
Range	0.28
Mean	0.000701
Median	0.001246
Maximum	0.159900
Minimum	-0.118092
Std. Dev.	0.016319
Skewness	-0.084376
Kurtosis	10.90983
Jarque-Bera	6512.370
Probability	0.000000

Figure 4: Descriptive statistics of NSE NIFTY



Series: NSE NIFTY	
Sample 1/01/2003 12/31/2012	
Observations 2497	
Range	0.29
Mean	0.000675
Median	0.001376
Maximum	0.163343
Minimum	-0.130539
Std. Dev.	0.016525
Skewness	-0.259550
Kurtosis	11.88223
Jarque-Bera	8236.309
Probability	0.000000

(b) Result of Non-parametric Test

Table 2: Result of One-Sample Kolmogorov-Smirnov Test

Particular		SENSEX	NIFTY
N		2497	2497
Normal Parameters[a,,b]	Mean	0.0007	0.0007
	Std. Deviatio	0.01632	0.01652
Most Extreme Differences	Absolute	0.072	0.071
	Positive	0.068	0.063
	Negative	-0.072	-0.071
Kolmogorov-Smirnov Z		3.585	3.556
Asymp. Sig. (2-tailed)		0	0

As given in the table, returns of the Indexes, SENSEX and NIFTY do not follow normal distribution as the value of probability is less than 0.05 at 5% level of significance.

Table 3: Result of Run test

a. Mean	SENSEX	NIFTY
Test Value [a]	0.0007	0.0007
Cases < Test Value	1186	1186
Cases >= Test Value	1311	1311
Total Cases	2497	2497
Number of Runs	1176	1192
Z	-2.824	-2.182
Asymp. Sig. (2-tailed)	0.005	0.029

The result of the run test (table 3) for daily observations of both Index show that they do not follow random walk over the time of study and for this reason both NSE and BSE are considered to be weak form inefficient.

(c) Result of Parametric Test

Table 4: Result of Auto-Correlation Function BSE SENSEX

Lag	ACF	T	Ljung-Box	S.E	df	Sig.[b]
1	0.07*	3.5	12.194	0.02	1	0
2	-0.042*	-2.1	16.611	0.02	2	0
3	-0.008	-0.4	16.768	0.02	3	0.001
4	-0.004	-0.2	16.803	0.02	4	0.002
5	-0.027	-1.35	18.618	0.02	5	0.002
6	-0.047*	-2.35	24.073	0.02	6	0.001
7	0.013	0.65	24.506	0.02	7	0.001
8	0.054*	2.7	31.882	0.02	8	0
9	0.018	0.9	32.727	0.02	9	0
10	0.031	1.55	35.197	0.02	10	0
11	-0.008	-0.4	35.351	0.02	11	0
12	0	0	35.351	0.02	12	0
13	0.031	1.55	37.809	0.02	13	0
14	0.047*	2.35	43.297	0.02	14	0
15	-0.004	-0.2	43.338	0.02	15	0
16	0.003	0.15	43.361	0.02	16	0
17	0.049*	2.45	49.506	0.02	17	0
18	-0.012	-0.6	49.89	0.02	18	0
19	-0.006	-0.3	49.99	0.02	19	0
20	-0.042*	-2.1	54.517	0.02	20	0
21	0.001	0.05	54.518	0.02	21	0
22	0.005	0.25	54.582	0.02	22	0
23	-0.036	-1.8	57.847	0.02	23	0
24	0.031	1.55	60.277	0.02	24	0
25	0.033	1.65	62.967	0.02	25	0
26	0.031	1.55	65.339	0.02	26	0
27	0.013	0.65	65.788	0.02	27	0
28	0.014	0.7	66.272	0.02	28	0
29	-0.02	-1	67.297	0.02	29	0
30	-0.03	-1.5	69.511	0.02	30	0

*Signification Autocorrelation at Two Standard Error Limits $\geq 0.02 \times 2 = \pm 0.04$
T-Value Less or Greater ± 1.96 (At 5%Level of Significances)
LB statistics significant at 5% level of significance
Based on the asymptotic chi-square approximation.

Table 5: Result of Auto-Correlation Function NSE NIFTY

Lag	ACF	T	Ljung-Box	S.E	df	Sig.[b]
1	0.066*	3.3	10.841	0.02	1	0.001
2	-0.038	-1.9	14.539	0.02	2	0.001
3	-0.004	-0.2	14.584	0.02	3	0.002
4	0.006	0.3	14.675	0.02	4	0.005
5	-0.027	-1.35	16.49	0.02	5	0.006
6	-0.052*	-2.6	23.28	0.02	6	0.001
7	0.017	0.85	24.02	0.02	7	0.001
8	0.047*	2.35	29.604	0.02	8	0
9	0.015	0.75	30.18	0.02	9	0
10	0.03	1.5	32.464	0.02	10	0
11	-0.014	-0.7	32.977	0.02	11	0.001
12	-0.003	-0.15	33.002	0.02	12	0.001
13	0.035	1.75	36.167	0.02	13	0.001
14	0.052*	2.6	42.884	0.02	14	0
15	-0.002	-0.1	42.897	0.02	15	0
16	0.001	0.05	42.901	0.02	16	0
17	0.05*	2.5	49.15	0.02	17	0
18	-0.019	-0.95	50.026	0.02	18	0
19	-0.004	-0.2	50.074	0.02	19	0
20	-0.049*	-2.45	56.174	0.02	20	0
21	0.002	0.1	56.181	0.02	21	0
22	0.003	0.15	56.206	0.02	22	0
23	-0.033	-1.65	58.965	0.02	23	0
24	0.032	1.6	61.571	0.02	24	0
25	0.028	1.4	63.504	0.02	25	0
26	0.023	1.15	64.79	0.02	26	0
27	0.013	0.65	65.233	0.02	27	0
28	0.01	0.5	65.511	0.02	28	0
29	-0.026	-1.3	67.17	0.02	29	0
30	-0.027	-1.35	69.039	0.02	30	0

*Signification Autocorrelation at Two Standard Error Limits ≥ 0.02 × 2 = ± 0.04
T-Value Less or Greater ± 1.96 (At 5%Level of Significances)
LB statistics significant at 5% level of significance
Based on the asymptotic chi-square approximation.

According to the values of ACF presented in table 4 & 5, the values for NIFTY are found to be significant at lags 1,6,8,14,17 and 20. The behaviour of SENSEX is found to be worse as compared to NIFTY because ACFs are significant at lags 1, 2,6,8,14,17 and 20 twice the standard error. The nonzero auto-correlation of the series is further tested by Ljung-Box Q statistics, which are jointly significant at 5% level at 30 degrees of freedom. . From the Ljung-Box Q Test, we see that there is sufficient evidence to reject the null hypothesis of no autocorrelation at the 95% confidence level for all the daily returns.

(d) Results of Variance Ratio Test

Index	Period (q)	q =2	q =4	q =8	q =16	Max |Z|
SENSEX	VR(q)	0.5605	0.2704	0.1277	0.0677	
	Z(q)	-21.95*	19.48*	-14.73*	-10.58*	21.95*
	Z*(q)	-11.27*	-10.67*	-8.66*	-6.59*	11.27*
NIFTY	VR(q)	0.5563	0.2666	0.1281	0.0676	
	Z(q)	-22.17*	-19.59*	-14.73*	-10.58*	22.17*
	Z*(q)	-11.29*	-10.54*	-8.57*	-6.61*	11.29*

*Probability approximation using studentized maximum modulus with parameter value 4 and infinite degrees of freedom 3.022 (sample sizes>120, m=4, α=0.01)
* Indicates statistically significant from 1 per cent level
VR (q) is variance ratio, z (q) is homoscedasticity test statistic, and Z*(q) is heteroscedasticity test statistic.

Since Max| Z (q) $|_{SENSEX}$ = 21.95 > 3.022 and Max| Z (q) $|_{NIFTY}$ = 22.17 > 3.022, we strongly reject the null hypothesis that the logarithm of the stock price index follows a homoscedastic random walk. Similarly, since, Max| Z*(q) $|_{SENSEX}$= 11.27 > 3.022 and Max| Z*(q) $|_{NIFTY}$ = 11.29 > 3.022, we strongly reject the null hypothesis that the logarithm of the stock price index follows a heteroscedastic random walk and homocadasticity. We can conclude that autocorrelation of daily increments in the natural logarithm of the stock market price index results in the Random Walk Hypothesis being rejected for the Indian equity market.

Conclusion

On the basis of empirical results given by various tests in previous section, we can reject our null hypothesis and accept the following alternate hypothesis:

1. The stock returns in India do not follow a normal distribution.
2. The stock returns in India are not random over the time period of the study.
3. Successive return series are not independent.

By rejecting the null hypothesis and accepting the above alternative hypothesis, we reject our prime null hypothesis and accept the following alternative hypothesis:

Indian stock market is not efficient in weak form.

There are opportunities of predicting the future prices there by earning excess profits in Indian stock markets. Market inefficiency may imply excess price volatility in the short run because prices change by more than the value of the new information People such as corporate officers who have inside information can do better than the market averages, and individuals and organizations that are especially good at digging out information on small, new companies are likely to consistently do so well. Market inefficiency is also, an indicative of sub-optimal allocation of portfolios into capital market of India.

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The Impact of Different Development Programmes on the Scheduled Tribe People in the Drought Prone Areas of West Bengal – A Case Study

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Abstract

India have the second largest concentration of tribal population, after that of African continent. The Scheduled Tribes people have been an important part of the total population of West Bengal. As per 2001 Census there are 38 tribal groups living in the state of West Bengal. The present study attempts to find out the impact of different government programmes on the living of people belonging to scheduled tribes in general and Santal and Munda community in particular. Study results show that the proportion of tribal attending school is very low. It is also found that people from Santal and Munda community are engaging themselves in secondary and tertiary sector much more than what the other communities like Lodhas or Birhors are doing.

Key words: *Investors, Investment, Rate of return, Real investment.*

Introduction

India have the second largest concentration of tribal population. The Indian tribes belong to over 550 communities (though only 427 are officially recognized). About 87% Scheduled Tribe population is concentrated in the central belt covering 8 states in the form of Madhya Pradesh (including Chhattishgarh), Orissa, Bihar (Including Jharkhand), Maharashtra, Gujarat, Rajashthan, Andhra Pradesh and West Bengal.

The Scheduled Tribes people have been grasping an important proportion to the total population of West Bengal since few decades. There are 38 tribal groups as recorded in the 2001 Census of the state. Among them the Santhal (19,97,222), Oraon (5,36,919), Bhumij (2,91,808), Munda (2,89,091), Kora (1,13,564), Lodha (68,095), Mahali (69,542), Bhutia (48,196), Savar (46,216), Bedia (44,875), Mech (29,904) etc. are important. If we concentrate on the population distribution of the Scheduled Tribes throughout the state, we found that in Medinipur (before division), Jalpaiguri, Purulia Bankura, Bardhaman, Dakshin Dinajpur they are largely concentrated.

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The economy of the scheduled Tribe people has been greatly influenced by the variable ecological environment. Despite, the tribal population of W.B. are engaged themselves in various sectors in economy, yet 80.44% are engaged in agricultural sectors of which 29.47% are cultivators and 50.70 % are agricultural labourers. Another important source of livelihood of the tribal people is forests. They collect minor forest products along with various plants, roots, tubers, small animals for their own consumption and also for medical use. Very often they collect fire-woods and sale it to the nearby market or to the people in other communities of the locality.

Objectives of the Study

The major objectives of the present study are -

- To study the impact of different government programmes for the development of scheduled tribes.
- To evaluate the performance of non-government organization in respect of development of the scheduled tribes.
- To identify the factors accounting for the difference in socio-economic status among different tribal groups viz Santal, Munda, Lodha, Savar and Birhor.
- To identify the factors that account for the backwardness of two Primitive Tribal Groups (PTGs) namely Birhor and Lodha as well as that of more advanced tribal groups like Santal and Munda.

Research Gap

- Very few articles have been published that measure the changes of socio economic status due to different governmental and non-governmental developmental programmes.
- Very few articles have identified the proper reasons of backwardness of these tribal communities, particularly Primitive Tribal Groups like Birhor, Lodha.
- Few articles have put emphasis on the educational development as a tool to the socio – economic upliftment of the tribal communities.
- Articles have ignored the role of institution on the socio – economic development of tribal communities.
- No specific comparative study on socio-economic status of two Primitive Tribal Groups viz. Lodha and Birhor communities' vis-à-vis that of the relatively more advanced tribal groups like Santhal and Munda is found.

Data Base and Methodology

The study has been conducted on the five particular tribal groups viz. Santhal, Munda, Lodha, Savar and Birhor within the block areas of Jhargram and Sankrail in West Midnapore district and Bagmundi, Jhalda -I and Balarampur in Purulia district. The Lodha and Birhor are the primitive tribal groups (PTGs) and their socio-economic status is not so advanced in comparison to that of the Santhal community in two blocks in Jhargram sub-division of West Midnapore District, namely, Jhargram and Sankrail whereas the Birhor are only concentrated in three blocks in Purulia district viz. Balarampur, Bagmundi and Jhalda-I. The study uses data taken from three censuses, namely, Census - 1971, Census - 1991 and Census - 2001.

Two stage sampling procedure has been followed for identifying the sample households in rural areas of Jhargram and Sankrail blocks of Paschim Medinipur district and Balarampur, Bagmundi and Jhalda-I blocks of Purulia district. Selecting sample village is the first stage of sampling and selecting sample households is the second stage of sampling. For the study,

four villages have been randomly selected for the Santhals from Jhargram block and one village from each block out of two blocks, namely, Bagmundi and Balarampur of Purulia district on the basis of random sampling.

For the study, two villages have been selected randomly for the Mundas from Jhargram block and one village in each block of Jhargram subdivision viz. Jhargram and Sankrail has been selected randomly for Lodha tribe in Paschim Medinipur district.

Again, two villages have been selected at random for Savar Community from Jhargram block. Similarly, three villages from three blocks of Purulia district viz. Bagmundi, Balarampur and Jhalda-1 have been selected for the present study for Birhor tribal community, and these three villages have high concentration of Birhor community.

From each village requisite number of households has been selected randomly which constitute the sample for study of the socio-econimic condition

Findings

We found that, in West Bengal, the scheduled tribe people had been developing since last decade. Most of the children of the tribal communities tread on the campus of the schools. Various Government initiatives are, definitely, attracting tribal youths towards educational institutions. Nevertheless, a good proportion of tribal people remain outside the periphery of educational institution. It is observed that a significant proportion tribal children particularly those belonging to Lodha, Birhor and Savar communities were not continuing their education beyond primary level or at the middle stage of secondary level education. Generally, they engaged themselves in traditional economic activities or domestic work at home after leaving schools.

The Government had taken initiatives via various development programmes to boost up the socio-economic status of the scheduled tribe people inhabiting in the state. It was observed that literacy rates in the Scheduled Tribe people in West Bengal had increased remarkably during last few decades. But, the literacy rate among the tribal people in the state is far below the national average. Another important point to be noted here is that whatever success is achieved in the matter of improving literacy, that rate is far from being distributed evenly. Comparison of literacy rates in terms of gender suggests that female tribal people are way-to-less literate than their male counterpart.

It was also found from the field study that the proportion of illiteracy among Savar, Lodha and Birhor communities were quite good in the working age group (16 - 55) in comparison with Santal and Munda tribal groups. A significant portion of Scheduled tribe children particularly in Santal and Munda community have not yet gone for schooling. But, the proportion of tribals who had entered college level education (i.e. post madhyamik stage) in Santal and Munda communities were higher than those in Lodha, Birhor and Savar communities. Nevertheless, the proportion of tribal attending colleges in all scheduled tribes within the study areas was very low.

From the study, it was also found that people of Santal and Munda communities were able to engage themselves in secondary and tertiary sectors to earn their livelihood. But, the comparatively weak tribal groups viz. Lodha and Birhor were still depending heavily on forest produces and livestock for subsistence. It was observed from the field study that a very high proportion of tribal people were daily-wage labourers.

The employment scenario for the tribal people was observed to be bleak. A very high proportion of people belonging to those scheduled tribes were unemployed or under-employed. Whatever employment opportunities were created, these were only in primary sector and that too at the subsistence level. The proportion of male unemployed tribal people in working age group (16 - 55), particularly in Munda and Lodha communities, was significantly high in comparison to their female counterpart. Least to say, all the selected tribal people were belonging to below poverty line (BPL). Only a small proportion of Munda and Savar people were doing well in terms of economic activities and earning. Their main sources of earning were different government services.

The Government had been initiating various common developmental programmes for all the scheduled tribes. But, the different scheduled tribes occupy different births in the socio-economic strata. Besides, the same tribal group inhabiting in varied ecological zones in West Bengal are also within the different level of socio-economic status. Whereas the Government initiates same developmental programmes for all scheduled tribes it had some special programmes for the Primitive Tribal Groups (PTGs). Yet, most of the developmental programmes were for all scheduled tribes irrespective of their variedly- inhabiting ecology and the present socio-economic status. During study it was found that the development programmes in connection with the economic status of the tribal people were not properly followed up. After the government organizations stretched their assistance through the developmental programmes to the beneficiaries in tribal communities, they were not properly following these programmes up. It was quite evident that monitoring and management policy of the government agencies regarding the implementation of developmental programmes was not up to the mark and also was not efficient enough to achieve the stated objectives of the programmes. In addition to that, the government agencies seemed to be reluctant in making the people aware of the benefits to be derived from these programmes.

The non –governmental organizations had taken various initiatives on basic education for the children and higher education for the adult, housing, medical facilities, drinking water, supply of cloth and food, launching vocational training, rural entrepreneurship development, agricultural assistance, education for girl child and formation of women club, etc for the socio-economic development of the scheduled tribe communities . They were campaigning the benefits of different schemes available for scheduled tribe people and the ways of getting the benefits of these schemes.

The NGO's were successfully reaching to the scheduled-tribe communities by giving different assistance like supply of books, stipend for education, hostel facilities either at free of cost or on subsidized mode for the students specifically girl-students; free medical facilities; subsidized loan for housing, cottage industries and agricultural activities; supply of cloth and food at free of cost etc.

In comparison with governmental organizations, NGOs were able to reach to the scheduled tribe communities in a better way. But the major stumbling blocks in the way of implementation of the schemes were that general schemes might not be suitable for all scheduled tribe communities. Specific schemes should be launched for specific communities. Their educational, cultural and awareness level should be developed so that they might think beyond traditional forestry and embrace agricultural and\ or service related activities. The effort put in by the NGOs in the matter of socio-economic development of the tribal people is, no doubt, praise-worthy but a lot more is to be done so as to really change the socio-economic status of the these people.

The main occupation for the sample tribal people is found to be wage-labour. A good proportion of Santals and Mundas were engaged in agricultural activities during season for cultivation and rest of the time they were involved in economic activities as daily-wage labourers. It was found that comparatively backward scheduled tribes like Lodha, Birhor and Savar were still depending on pre-agricultural economy. Till date, a large number of Savar, Lodha and Birhor are depending on forest-based economy. On the other hand, the comparatively advanced scheduled tribe like Santal and Munda were able to scatter their economic activities to various sources of livelihoods. A significant proportion of them were engaged in government services also.

A significant proportion of scheduled tribe people, particularly in two Primitive Ttribal Groups (PTGs), were within the clutches of poverty due to their heavy dependence on forest-based economy. Presently the accessibility to the forest areas of these forest-fringe tribal was restricted due to stringent government rules and regulations. On the other hand, forest areas were also steadily depleting in some areas. Consequently, the tribal who were still depending on forest-based economy were facing a lot of economic crisis.

Suggestions

To boost up the development of the Schedule tribe people in tribal-based areas of West Bengal some initiatives may be taken —

- At first, the present socio-economic status of each tribal group in every different socio-economic environment must be identified before implementation of any developmental programme.
- The developmental programmes should be framed separately for each tribe and the programmes should be implemented in different ways due to inhabitance in different socio- economic environment. ‘One-size-fit-all’ strategy is not going to work.
- To control drop-outs from school level education, education orientation camp for the parents must be organized. Besides, some more attention is to be given to the scheduled tribe children. It is found that in many cases parents motivated scheduled tribe children to leave the school and to engage in economic activities so that the earnings of the family could be increased. They are to be made aware that for long-term gains short-term sacrifices are to be accepted.
- Monitoring and management system of the implementing agencies, particularly the government agencies, is to be bolstered for efficient implementation of the different developmental programmes.
- Social audit system may be introduced in every developmental programme separately to prevent the fund from being siphoned off unscrupulously.
- The amount of assistance to aged scheduled tribe people must be increased so that they can meet their basic needs smoothly.
- The Government and Non-government organisations should initiate more economic development oriented programmes in the areas dominated by schedule tribe people so as the make the growth our state and country a really inclusive one.
- Imparting proper knowledge and presenting a transparent system for every development programmes has become all the more important. That issue is to be looked into seriously.
- Different developmental programmes should be clarified to the tribal people in an easiest way through the local people. A proper assessment of their problems should act as a prerequisite for success of any developmental programmes to improve the socio-economic conditions of the tribal people.

Limitations of the Study

The study had been conducted on only five tribal communities, but if the sample size can be enlarged then the impact of the developmental programmes could be more vividly reflected. Again the impact of different developmental programmes on different tribal communities should be studied in respect of different ecological environment. a more recent scenario could be drawn if we add the census data for 2011.

Scope of Further Study

With reference to this study the impact of different development programmes on the health of the tribes could be done by checking death rate, life span, physical weight, diseases etc. Further with this study their attitudinal, cultural and professional development could be measured.

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An Overview of the Self-Help Groups in Tribal Inhabited Jangal – Mahal and Their Role in Women Empowerment: A Case Study of Ranibandh Block of Bankura District, West Bengal

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Abstract

Inequality cannot bring peace and prosperity unless social justice and gender equality are ensured. To ensure peace and prosperity we need social justice and gender equality. To ensure social justice we need the social sector development and to ensure gender equality we need the empowerment of women. Social sector comprises of all parts of the society including the cities and the villages, the rich as well as the poor. One such part of the social sector is the tribal inhabited region of India. The major problem faced by the inhabitants of this area these days is poverty. The status of women in such regions is more deplorable. They generally live in the most deprived conditions of ignorance and poverty, completely unaware of their potential and individuality, leading to unhealthy lives. This paper attempts to explore an idea of the SHGs of tribal inhabited Jangal-Mahal areas, the socio-economic status of the members of the SHGs and the role of SHGs on women empowerment. Result of the study indicated that the Micro finance and SHGs have significant impacts on the members of the SHGs of the study area. Finally the paper also attempts to point out some problems and to suggest some policy measures for socio-economic empowerment of women as well as for the efficient and effective functioning of the SHGs.

Keywords: *Self Help Groups (SHGs), Micro finance, Women Empowerment, Tribal inhabited rural area.*

Introduction

Removal of poverty is the main objective of planning in India since the inception of planning period for the overall development of the country. In order to make the development sustainable and to bring peace and prosperity the poverty alleviation programmes have been given more and more importance in the field of economic development. To ensure

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sustainable development and to bring peace and prosperity we need social justice and gender equality. To ensure social justice we need the social sector development and to ensure gender equality we need the empowerment of women.

Social sector comprises of all parts of the society including the cities and the villages, the rich as well as the poor. One such part of the social sector is the Tribal inhabited region of India. The areas inhabited by the tribal population constitute a significant part of the underdeveloped areas of the country. India has a large tribal population of 85 million, which is about 8 per cent of its total population. They are the much deprived, excluded and neglected segment of the Indian society. The tribals live mostly in isolated villages. A smaller portion of their population has now settled in permanent villages as well as in towns and cities. On the whole, as per rough estimates, the prominent tribal areas constitute about 15 percent of the total geographical area of the country.

Tribal population is now in the midst of new challenges; especially those who reside in rural and forested areas. Tribal inhabited regions of India are economically more backward, workshop for Maoist activities causing various obstacles in the development in the country. The basic reasons for the same are long negligence and deprivation to the region. As a result of this and the armed conflict of Maoists with India's Para-military forces in the conflict zones, thereby impacting on tribal lives in terms of uncertainty and insecurity. The major problem faced by the inhabitants of this area these days is poverty.

The status of women in such regions is more deplorable. They generally live in the most deprived conditions of ignorance and poverty, completely unaware of their potential and individuality, leading to unhealthy lives. But the process of poverty alleviation can be more sustainable when all the members of the family are involved. The Self Help Group (SHG) approach is a new paradigm into the field of rural development whose main objectives are to increase the well-being of the poor people, provide access to resources and credit, increase self-confidence, self-esteem and increase their credibility in all aspects of lives. Self Help Group approach has been contributing significantly in poverty alleviation programme in developing countries especially in India. In India, this approach is more successful than the other group approach. . In this context the present paper will try to highlight the role of self help groups (SHGs) of tribal inhabited forested rural area of Bankura distrist.

This paper attempts to explore the effectiveness of SHGs of tribal inhabited Jangal-Mahal areas for poverty alleviation and women empowerment, particularly the socio-economic status of the members of the SHGs, effectiveness of the SHGs for the eradication of poverty and empowerment of women members; the performance of SHG in income generation. The paper also attempts to suggest some policy measures for socio-economic empowerment of women as well as for the efficient and effective functioning of the SHGs. The paper is arranged as in the next section The objectives and Hypotheses of the study, The area of the study, The Status of women and SHGs in the region, Methodology, data base, sample design and analytical tool of the study, Findings , Conclusions and Limitations of the study.

Objective of the Study

The main objectives of the study are as follows:

- To evaluate the socio-economic status of the women members of the SHGs in Ranibandh Block of Bankura district.
- To examine the role of Micro-finance and Self Help Groups (SHGs) towards the empowerment of women in Ranibandh Block of Bankura District.

- To suggest some policy measures for socio-economic empowerment of women as well as for the efficient and effective functioning of the SHGs.

Hypothesis

Following hypothesis has been empirically tested:
The null hypothesis**,**
H_o = There is no significant relationship between the period of membership of the respondents and women empowerment against the alternative hypothesis,
$H_{1=}$ There is significant relationship between the period of membership of the respondents and women empowerment.

Methodology, Data Base, Sample Design and Analytical Tool of the Study

The present study is based on both primary and secondary data. It is basically an empirical investigation based on sample beneficiaries of women Self Help Groups in Ranibandh Community Development Block of BankuraDistrict, West-Bengal.

The study is based on field survey with a structured interview schedule. The researcher personally conducted the interviews of the members of Self Help Groups with the help of Resource Persons of the SHGs at Gram Panchayet Level. At present there are 1213 Self-help Groups in the Block which were taken as the universe of the study. A sample of 64 Members were chosen using stratified random sampling. A multi stage stratified proportionate random sampling procedure has been adopted to select Block, GPs, villages, and Self Help Groups and its members. 32 women Self Help Groups had been selected from Ranibandh block for the purpose of intensive analysis.

The primary data were collected by conducting a preliminary and a Pilot Survey to identify the groups which fulfill criteria taken to choose the sample such as they must be women SHGs, there must have tribal members, they must be of more than one year old, and initiated some income generating activities. Having identified and understanding the SHGs and its performance through the preliminary survey, a Pilot Survey was conducted from few women Self-help Groups and revision of interview schedule was done in collecting the primary data. The primary data were collected with the help of a structured schedule which were basically administered to the members of SHGs.

The secondary data were also collected from the annual reports of SHGs of Ranibandh Block, various reports of the government, NABARD, SLBC, documents of Self-help groups and other records of the banks.

The sample was collected through two stages stratified random sampling technique for the fulfillment of the objectives of the research work. The total 64 sample members of the SHGs were selected as respondents from the Ranibandh Block.

Descriptive statistical tools like averages, percentages and Pearson's Rank Co relation test were used in order to extract relevant information from both primary and secondary data, to achieve above stated objectives and to draw relevant conclusions. For analysing the data collected simple statistical tools such as average, percentages and Pearson's Rank Correlation test have all been used.

Area of the Study

The study is confined to the Ranibandh Block of Bankura district. The present study was conducted on the role of SHGs for poverty alleviation and women empowerment in Ranibandh Community Development Block. Ranibandh (community development block) is an administrative division in Khatra subdivision of Bankura district in the Indian state of West Bengal. Ranibandh police station serves this block. Headquarters of this block is at Ranibandh. It is one of the tribal inhabited blocks of the Jangal-Mahal located in Bankura district of West Bengal. Ranibandh block is located in the extreme west of the district. This is an important block of the jangal-mahal of the district consisting of rural areas with eight gram panchayats, viz. Ambikanagar, Haludkanali, Rajakata, Rautora, Barikul, Puddi, Ranibandh and Rudra.

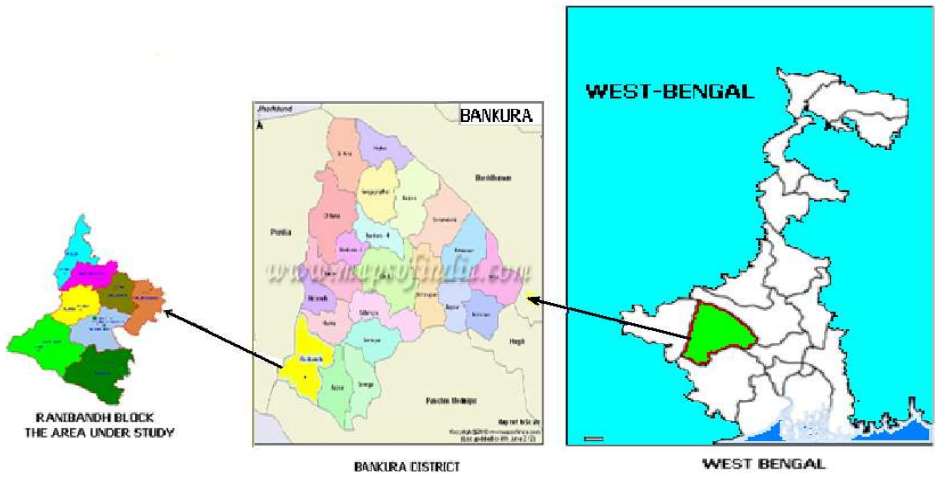


Figure 1: Area under Study

Status of Women and SHGs in the Region

Majority of the women in Ranibandh block, live in the most deprived conditions of ignorance and poverty, completely unaware of their potential and individuality, leading to unhealthy lives. They sow, weed out, transplant, collect and carry the forest produce and agricultural waste from the fields to their homes on the head, often with their child on their back or in the womb. In the proposed study area most of the disadvantaged women work as domestic workers, agricultural laborers, collector of forest products like fire wood or saal-pata for making plates etc, sweepers & cleaners in schools, hospitals, shops and establishments. They do not have permanent, dignified, sustainable livelihoods. They work at the mercy of landlords and owners of shops and establishments. They have uncertain and seasonal wage employment in agriculture fields. Unfortunately, agriculture has become gambling in this area due to persistent drought conditions. Due to lack of skills and regular income generation activities, most of them are illiterate and live below the poverty line. Total numbers of SHGs formed up to March, 2013 in Ranibandh community development block of Bankura district are given in Table No. 1.

Table 1: SHGs Formed in Ranibandh Community Development Block of Bankura District

Sl. No.	Name of G.Ps	No. of SHG up to 2008-2009		No. of SHG up to 2009-2010		No. of SHG up to 2010-2011		No. of SHG up to 2011-2012	
		No.	%	No.	%	No.	%	No.	%
1	Ambikanagar	105	10.48	105	10.24	105	9.89	123	10.14
2	Barikul	94	9.38	102	9.95	106	9.98	135	11.13
3	Haludkanali	110	10.98	110	10.73	111	10.45	145	11.95
4	Puddi	62	6.19	62	6.05	75	7.06	85	7.01
5	Rajakata	103	10.28	103	10.05	103	9.70	136	11.21
6	Ranibandh	136	13.57	136	13.27	137	12.90	136	11.21
7	Routora	287	28.64	287	28.00	296	27.87	325	26.79
8	Rudra	105	10.48	120	11.71	129	12.15	128	10.55
Total		**1002**	**100**	**1025**	100.00	**1062**	100.00	**1,213**	100.00

Source: Ranibandh Block Development Office

The above table shows the SHGs formed in Ranibandh community development block of Bankura district during the period from 2008-2009 to 2011-2012. Among the eight Gram Panchayets (GPs) Routora GP has the highest numbers of SHGs (26.79%) and the Puddi GP has the lowest numbers of SHGs (7.01%).

Findings of the Study

The present study is an attempt to analyse the socio economic status of members and the performance of Women SHGs in Ranibandh Block of Bankura district. The performance of the SHGs has improved. Majority of the women were impacted positively by becoming members of SHGs. Women's participation in SHGs enabled them to discover inner strength, gain self confidence, social, economical, political and psychological empowerment and capacity building. The findings of the study have been categorized in two parts. First part consists of the analysis of the socio-economic factors and the second part consists of the statistical analysis to test the hypothesis whether there is any relationship between the periods of membership in the groups of the respondents and the women empowerment.

(A) Analysis of the Socio-Economic Factors

The following are the various socio-economic factors summarized from the results of the survey conducted in the study area.

- **Promoters of SHGs:** Most of the SHGs are being promoted by the Block level District Resource Person (DRPs) with the help of Resource Persons at Gram Panchayet Level under Swarnjayanti Gram Swarozgar Yojana (SGSY) scheme. About 90 per cent or more of the total SHGs functioning throughout the block have been promoted under SGSY scheme and the remaining 10 percent or less SHGs are running under the facilitation of NGO's and other formal agencies.
- **Group size:** Most of the groups comprise 11-15 members i.e., 75 per cent while about 18.75 per cent SHG's were reported to comprise of more than 15 members whereas only 6.25 per cent groups have up to 10 members.
- **Age groups:** Majority of the respondent belongs to below 40 years of age category and they account for about 76.56 percent whereas only 23.44 percent belong to above 40 years of age category.
- **Caste composition:** As the study area is tribal inhabited so naturally the majority of the respondents belong to S.T category and they account for about 62.50 percent of the total respondents. Among the others 26.56 per cent and 10.94 per cent belong to S.C and O.B.C category and no respondents are found from general category.

- **Education:** Majority of the respondents i.e. about 46.88 percent are educated up to school level i.e. up to class five. Only 12.50 percent of respondents are educated up to class X or above. About 40.63 percent of respondents are educated in between class VI to class IX. One thing that can be significantly noted here that there is no respondent belongs to illiterate category.
- **Family size and types of the respondents:** Family type of the majority of the respondents is nuclear i.e. the family consisting only of the spouse and their siblings and it account for about 62.5 percent whereas the family type of the remaining respondents i.e. is 37.5 percent respondents is joint. About 87.5 percent of the families consist of up to six members and only 12.5 percent of the families consist of more than six members. So, the propensity to become self dependent through the participation into Self Help Groups (SHGs) is very high in case of nuclear type of families as compared to joint families.
- **Marital status:** Majority of the respondents is married and they account for 93.75 percent of the total respondents. Only 6.25 percent are from widow or separated category. One thing which can also be significantly noted here is that there is no respondents belong to unmarried category. This may be due customs and traditions of early marriage of the girl child or may be due to the restrictions imposed on the unmarried girls regarding the joining into the Self Help Groups (SHGs).
- **Training for income generating activities:** About 71.86 percent of the total respondents have taken training for the involvement in the income generating activities out of which 45.31 percent of the total respondents have take single training and the remaining 26.56 percent of the total respondent have successfully undergone two or more trainings for the involvement in the income generating activities. As per data collected 29.69 percent of the total respondents have not taken any training. This is basically applicable to those who have joined later in to the Self Help Groups (SHGs).
- **Annual family income of the respondents:** As per data collected the annual average family income of the 37.5 percent respondents including their own income is only Rs.18000 the same for the 50 percent respondents is about Rs. 30000. Only 12.5 of percent of the total respondent have their annual average family income including their own income above Rs.30000. This indicates the overall financial weakness of almost of all the respondents of the study area.
- **Annual income of the respondents:** About 29.69 percent of the total respondents have no income of their own even after joining the Self Help Groups (SHGs). Annual average personal income of the 59.38 percent respondents is only Rs.6000 i,e. Rs. 500 per month or less. The same for only the 10.94 percent respondents is Rs.6000 or more. This reveals that about 70.34 percent of the total respondents have succeeded in earning their income though it is low.
- **Sources of saving:** Most of the members save very small amount from their income. As the annual family incomes as well as their own income from the income generating activities are very low the respondents have to curtail their expenditure to save fixed amount in terms of thrift. Majority of the members i,e. more than 90 percent of the members save only the required amount as needed by norms and procedures of the Self Help Groups (SHGs).
- **Financial management and Audit of Group activities:** Most of Self Help Groups (SHGs) maintain their books of accounts as prescribed by the SGSY guidelines and in a well disciplined way. Group activities are checked and audited by the Resource Persons at Gram Panchayet Level who are assisted by the Women Development Officer (WDOs) or Block level District Resource Person DRPs in the absence of

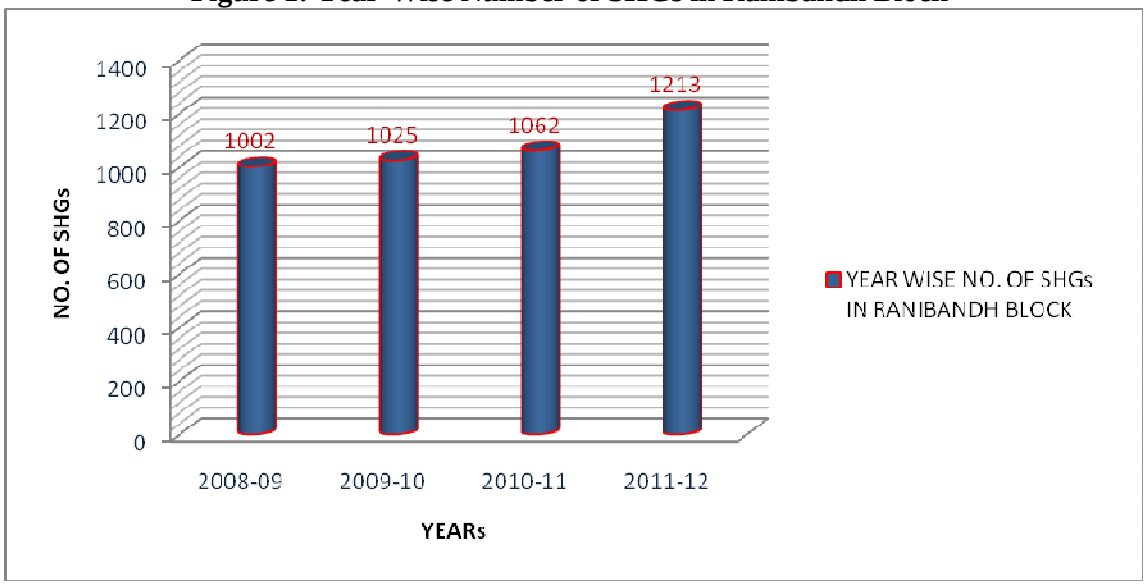
WDOs. Finally, the performance is evaluated by the District Rural Development Cell (DRDC) of the districts.

- **Involvement in income generation activities:** It is the basic objectives of the SHGs to get the members involve involved in income generation activities for the alleviation of poverty. In the study area almost 90.62 percent of the members have involved themselves in such activities while the rest 9.38 percent is not involved in such activities. This is also, most probably, in the cases of new members of the SHGs who are also in the process of initiating such activities. Of the major income generating activities, 40.63 percent are involved in Saal pata (plate) making, 28.13 percent are involved in Babui dari making, 18.75 percent are involved in Goatery farming and the rest 12.50 percent are involved in Poultry farming.
- **Sustainability of group:** As per the data shown in Table No-1, there is increasing trends in number of groups formed in 8 GPs of the study area since 2008-09 to 2011-12. The Resource Persons at Gram Panchayet Level and respondents were asked about the sustainability of groups. More than 90 per cent of the respondents reported that groups are stable for a long periods while the others 10 per cent of the respondents is of the opinion that due to lot of problems some groups are not sustainable for long periods.
- **Problems faced by the members:** The respondents and the Resource Persons were asked about the problems they actually face while running their day to day activities. Majority of the respondents reported different types of problems they practically face. Majority of the respondents reported that they face personal problems like taking care of their children, non cooperation from their husband in spending their time in the groups etc. They also face some social problems like lack of social recognition, inferiority complex as a women going out of home for earning etc. Apart from those internal conflicts among the members also create a major problem that threatens to the sustainability of groups. Extreme poverty of the group members is also a problem. As a result of this, majority of SHG members are forced to use their loans to unproductive purpose that leads them to indebtedness. The members involved in income generating activities reported training and marketing as their main problems. Getting government loan in proper time is also reported as a problem. Internal conflicts among members, lack of proper supervision and guidance in time of needs, lack of proper leadership for the mitigation of litigation among members are some problems that arise every time while organizing income generating activities as a group.

(B) Statistical Analysis and Interpretations of Data

At first, the trends of formation of SHGs in Ranibandh block are studied. Data regarding the total number of SHGs formed and existed in Ranibandh Community Development Block is collected. These have been presented in following diagram (Figure:1). From the following figure, it is quite clear to us that there is an increasing trends in the formation of SHGs in the block. In spite of many problems, there exists a high propensity to join the groups. Though there exist quite variations or fluctuations in the number of SHGs in GP level, the overall or the total numbers of SHGs in the year from 2008-09 to 2011-12 shows an increasing trend. If the problems of the members are removed and some initiatives are taken then SHG approach may be a way out for the inclusion of the tribal poor people in the development process.

Figure 1: Year-Wise Number of SHGs in Ranibandh Block



Source: Ranibandh Block Development Office

Again, to test the hypothesis whether there is any relationship between the periods of membership of the respondents in the groups and the women empowerment all the respondents are grouped into 12 groups according to their tenure of membership in the groups. As per data collected the information regarding the age of the groups and the numbers of respondents in each group are found.

Firstly, the respondents' scores based on their responses to some questions based on five-point scale on empowerment on different dimensions are calculated. Then, the average score obtained by different groups are calculated for each group. Then, both the age of groups of the respondents and the average score obtained by different groups are ranked. Finally the value of rank correlation (R) is calculated. The results are summarized in Table No: 2.

Table 2: Relationship between Period of Membership and Women Empowerment

Age of groups (in years)	1	2	3	4	5	6	8	9	10	12	13	14
No of respondents	02	02	06	04	12	06	10	02	08	08	02	02
Average scores	17	18.5	22.33	44.5	31.91	36.33	33.4	25	30.5	36.12	38	39.5
Rank of age of groups	12	11	10	9	8	7	6	5	4	3	2	1
Rank of average scores	12	11	10	1	7	4	6	9	8	5	3	2
Calculated value of Rank correlation, R =0.608391608												
Calculated Value of test statistic ,t = 2.424160225												
Table value of t at 5% level of significance with 10 degree of freedom =2.228												
Remarks:	The result is statistically significant.											

It is found from the above table that the calculated value of R is 0.61. This indicates that there is a positive relationship between periods of membership in the SHGs of the respondents in the groups and the extent of women empowerment. The computed value of test statistic, t = 2.42 which is greater than the table value of t (2.228) at 5% level of significance with 10 degree of freedom. So, test is said to be statistically significant. From the above analysis, it can be concluded that there is significant relationship between the periods of membership in the SHGs of the respondents in the groups and the extent of women empowerment.

Conclusion

The involvements in the SHGs have brought about economic and social changes among the members in the study area. A large number of the members have reported that their family status has increased by becoming a member of the SHGs. The income level of the SHG members has increased and this has caused improvement in their social status in their area and in the society. Since SHG help women to achieve economic empowerment this policy measures will contribute a lot to the nation. Poverty is generally recognized as a consequence of idleness and lack of availability of income earning foundations. This empirical research established that properly designed and effectively implemented Self Help Groups microfinance programme can not only alleviate poverty but also empower women at the grassroots level. Micro finance is making development in its efforts for reducing poverty and empowering rural women. Micro finance is much more than access to money. It is about women gaining control over means to make living, lifting themselves out of poverty and vulnerability, achieving economic and political empowerment within their homes. Thus promotion of income generation activities through Microfinance and Self Help Groups, no doubt, ensures their economic independence and social status.

Limitations of the Study

A minimum of bias and subjectivity is always present in any research. This study is no exception to it. Since most of the respondents were undereducated, so there is a possibility of data bias and hence the data collected would only be an approximation of actual facts. However, the study carefully minimized such errors by educating the respondents about the scope of the study. The study is also a simple attempt to make an understanding of implications and experience of literature of Self Help Groups and Microfinance on the grounds of reality. Since the study is a part of learning process, the area covered in the study is very small and based on limited sample size too, which forms major limitation of the study. The study was conducted on the selected villages in Ranibandh block of Bankura district in West Bengal. The respondents were from the remote and rural areas of Jungal Mahal and due to their inhibition with lack of communications it was a little bit difficult for the researcher to get precise answers for sensitive queries. The interview schedule was prepared only for the Self-Help Group members exclusively but not for Resource Persons (R.Ps) and Government officials. So, further more comprehensive and similar empirical studies are essential for confirming the results. The study can be extended by including a group of non participants of Self Help Groups and Microfinance programs belong to similar socio economic background. Best efforts had been made to get the most realistic picture on the role of Self Help Groups and Microfinance in women empowerment, within the constraints of time and resources.

Suggestions

As the involvements in Self Help Groups and Microfinance programs have significant impact on the alleviation of poverty and women empowerment the poor people, irrespective of their heterogeneity in their socio economic status, could be attracted towards active involvement in SHGs by enlightening the significance of SHGs. Regional variation might be removed by

identifying the constituent regions on the basis of their level of development so that effective implementation of schemes and programmes in an impartial manner is possible. Women empowerment can be ensured by requiring all the respondents to make the deeds of their houses in their names. The functioning of the SHGs can be strengthened in such a way as to rope in the respondents irrespective of their educational, economical, social, marital, land holding status to involve themselves with dedication in the SHG activities. In consonance with the role of SHGs as a source of rural upliftment, its number and activities could be enlarged, widened and deepened. The NGOs who are creating the awareness among rural women catalysts could be provided with adequate support and protection and incentives by government. Local educated unemployed youth may be trained and appointed as a middleman between the SHG members and the implementing authority to motivate, provide support and to remove conflicts among members. Sometimes, due to the extreme poverty of the group members, they are forced to use their loans to unproductive purpose that leads them to indebtedness. So, initiative will have to be taken to make the participating members financially literate by providing special awareness programme in this regard. The study area is not only a one of the underdeveloped areas in Bankura districts but also a backward block of West Bengal. There are many illiterate women but they are not found in the field of Self Help Groups and Microfinance programs. Initiatives will also have to be taken for their successful participation in the programme.

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SENSEX and NIFTY- A Firsthand Idea

Baneswar Kapasi[α]

Abstract

The stock market is an important parameter of the economic trend of a country. The stock market value or index value of a country is calculated by the generally accepted mathematical formula using on some selected prices of stocks listed and traded in a specific stock exchange. In India there are broad two stock exchanges, namely, National Stock Exchange (NSE) at Delhi and Bombay Stock Exchange (BSE) at Bombay. The SENSEX is the index value or sensitivity value of BSE and calculated on the prices of selected 30 stocks from different industrial segment of the India. The SENSEX is calculated using Free Float Market Capitalization Methodology. On the other hand NIFTY is the stock market value of NSE. The NIFTY is determined on the share prices of fifty stocks listed and traded in NSE. The stocks prices used for calculating SENSEX and NIFTY are not fixed. The representing stocks are selected based on some performance criteria and vary time to time.

Key words: *Sensex, Nifty, Market Capitalisation, BSE, NSE*

Introduction

Stock Market indices of a county belonging to a close economy indicate industrial growth, economic development, inflation pressure, interest rate and market liquidity and political stability of the country. And in an open economy, stock market of a country indicates international industrial growth, sustainable development, inflation, interest, political stability and international liquidity. Stock market volatility or market sensitivity is reflected on the value of stock market indices.

In India there are two broad stock market indices- One is SENSEX and another is NIFTY. Besides these two, there are Large Cap, Mid Cap, Metal Index, Bank Index and FMGC Index etc.

SENSEX

The SENSEX is an "Index" or indicator of the Indian stocks belonging to the 30 listed stocks in the Bombay Stock Exchange (BSE). It is the formulated value of the prices of the listed

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thirty stocks in BSE. Normally, it gives us a general idea about whether most of the stocks have gone up or most of the stocks have gone down in BSE. If the SENSEX goes up, it means that the prices of the stocks of most of the major companies on the BSE have gone up. Similarly, if the SENSEX goes down, it indicates that the stock price of most of the major stocks on the BSE have gone down. Actually the SENSEX represents the weighted average value of the qualified stocks in the Bombay Stock Exchange

SENSEX Formulation

The BSE, pioneer stock market of India, started its broking activities in 1875 with 318 registered members. Since its inception, the Indian capital markets have passed through ups and downs. But there was no index to measure the average degree of ups or down or market volatility. Till the decade of eighties there was no scale to measure the pulses of the market.

The stock exchange introduced stock index namely, SENSEX in 1986 and which become the barometer of the Indian stock market. Due to its wide acceptance among the investors, SENSEX is regarded to be the pulse of the Indian stock market. The growth of the sock markets in India has been phenomenal in the decade gone by. Right from the early nineties the stock market witnessed heightened activities in terms of various bulls and bears run. The SENSEX captured all these events in the most judicial manner. One can identify the booms and bears of the Indian stock market through SENSEX.

SENSEX is scientifically designed by the globally accepted construction and review methodology. It is a formulated price of 30 constituent stocks representing a sample of large, liquid and representative companies.

For calculation of SENSEX, Fully Market Capitalization Method was used up to August, 2003. After that globally accepted Free-float Method is used while calculating SENSEX value.

Index Specification

Base Year- 1978-79
Base Index Value- 100
Date of Launch- 01-01-1986
Number of Scripts- 30
Index Calculation Frequency- Real Time

SENSEX Calculation Methodology

- ***Free- float Methodology:*** At the time of calculating SENSEX value under Fully Market Capitalization Method, the prices of all the 30 companies shares are taking into consideration. But in Free-float method only prices of marketable shares of the 30 companies are taken into account. As per this methodology, the level of index at any point of time reflects the free float market value of 30 component stocks relative to a base period. The capitalization of a company is determined by multiplying the price of its stock by the number of shares issued by the company. This market capitulation is

further multiplied by the free-float factor to determine the free float market capitalization.

- ***SENSEX=Free-float Market Capitalisation/100(The base period index):*** The divisor is the only link to the original base period value of the SENSEX. It keeps the index comparable over time. During trading hours, prices of the index scrip, at which latest trades are executed, are used by the trading system to calculate SENSEX every 15 second and disseminated in real time.

- ***Calculating Free Float Market Capitalization of a Company:***
  Step 1: Full Market Capitalization (FMC) = Market Price of Share x Number of Outstanding shares
  Step 2: Free Float Percentage (FFP) = Number of shares readily available for trade on the market/ Total Number of Outstanding shares
  Step 3: Free Float Market Capitalization (FFMC) = FMC x FFMC

  FFMC=Number of shares held by general public x Value per share in BSE

- ***Calculating the SENSEX:***
  Step 4: Index Divisor (ID) =Previous Day's Total FFMC/Previous Day's SENSEX
  Step 5: Total Free Float Market Capitalization (TFFMC) or Price Lifebuoy (PL) =Sum of individual FFMC for all 30 SENSEX companies
  Step 6: SENSEX= TFFMC/ID

- ***SENSEX – Scrip Selection Criteria:*** Both quantitative and qualitative criteria are taken into consideration for selecting scrip for the SENSEX calculating

(1) Market Capitalization- The scrip should figure in top 100 companies listed by market capitalization. Also market capitalization of each scrip should be more than .5% of the total market capitalization of the Index.
(2) Liquidity:
  (i) Trading Frequency: The scrip should have been traded on each and every trading day for the last one year. Exceptions can be made for extreme reasons like scrip suspension etc.
  (ii) Number of Trades: The scrip should be among the top 150 companies listed by average number of trades per day for the last one year.
  (iii) Value of scrip traded: The scrip should be among the top 150 companies listed by average value of shares traded per day for the last one year.

(3) Continuity: Whenever the composition of the index is changed, the continuity of historical series of the index values is re-established by correlating the value of the revised index to the old index. The back calculation over the last one year period is carried out and correlation of the revised index to the old index should not be less than 0.98.
(4) Industry Representation: Scrip selection would take into account a balanced representation of the listed companies in the universe or BSE. The index companies should be leaders in their industry group.
(5) Listed History: The scrip should have a listing history of at least one year on BSE.
(6) Track Record: In the opinion of the Index Committee, the company should have an acceptable track record.

NIFTY

Like SENSEX in BSE, NIFTY is an index computed from performance of top stocks from different sectors listed on National Stock Exchange (NSE) at Delhi. NIFTY consisted with 50 companies from 24 different sectors. NIFTY stands for National Stock Exchange's Fifty. The companies which form index of NIFTY may vary from time to time based on many factors considered by NSE. India Index service and Products Ltd (IISL) owns NIFTY. IISL is a join venture of NSE and CRISL. CRISIL is a subsidiary of Standard and Poor(S&P). Alternatively, NIFTY is also called as S&P CNX NIFTY.

Conclusion

The SENSEX is the formulated value of 30 stocks' prices from different industrial segments under Free Float Market Capitalization Methodology, listed and traded in Bombay Stock Exchange at Mumbai. It represents the formulated average value of stock prices of the selected 30 stocks in BSE. If the prices of all selected stocks or most of the stocks used for index calculation are increased then, the SENSEX is increased and vice versa. Similarly, NIFTY is the calculated value of the 50 stocks prices listed and traded in National Stock Exchange at Delhi using the same methodology representing from different industrial segment. If prices of all the selected stocks or most of the stocks used for index calculation are increased then NIFTY will be increased and vice versa. So, SENSEX and NIFTY primarily represents the stocks prices movement of the selected stocks used for index calculation.

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Interpreting the Behaviour of Investors on Their Expected Returns

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Abstract

The present study is an attempt to discuss the behavior of the investor, and the relationship between the clients and the financial advisor. The study aims at understanding and interpreting the behavior of working employees of private and public sector on their investment decisions. Such knowledge will be highly useful for financial advisors as it will help them to advise their clients regarding investments that will maximize their expected rate of return. The study shows that how an investment is chosen on the basis of expected rate of return gets affected by demographic variables, which helps to advise the clients better. The clients on the other hand, are being advised to make investment that suits their profile. The present study expects to improve the mutual trust between the advisor and his clients.

Key words: *Investors, Investment, Rate of return, Real investment.*

Introduction

The term "investment" is used differently in economics and finance. Economists refer to a real investment, while financial economists refer to a financial asset, such as money that is put into a bank or the market, which may then be used to buy a real asset. These financial investments include shares, other equity investment, and bonds (including bonds denominated in foreign currencies) are then expected to provide income or positive future cash flows, and may increase or decrease in value giving the investor capital gains or losses. Since the late 1950s, research models in finance were influenced by the seminal work of Modigliani and Miller (1958), which stressed that, under perfect capital market setting; financial decisions had little bearing on the investment decision of firms. This has been challenged by theoretical and empirical studies since the mid-1970s, which produced results inconsistent with studies based on Modigliani and Miller propositions (Gertler, 1988; Stiglitz, 1988; Fazzari, 1992; Fazzari and Athey, 1987; Fazzari and Variato, 1994). These studies focused on how human beings should make their decisions but not on how they make their decisions. It can be said that the questions about how people in general and investors in particular make their decisions is a subject matter of behavioral psychology (Peters, 1996). The aversion of the traditional approach to understand and explain the decision processes of

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the investors was the main reason to trigger the emergence of behavioral finance as an approach which tries to identify and understand the meaning of psychological decision processes for financial markets (Ricciardi and Simon, 2000). The main approach of behavioral finance is that the investors are not rational and they are under influence, as opposed to traditional finance (Matthew, 1998). Therefore, it highlights the need of new approach which does not neglect the decision processes of the investors. The main concepts of behavioral finance can be classified into four groups: Expectations theory, Regret Aversion, Over- Confidence and Cognitive-Dissonance. Based on these concepts, this study presents and the results of a survey aimed at understanding and interpreting the behavior of working employees of private and public sector on their investment decisions. Such knowledge will be highly useful for financial advisors as it will help them to advise their clients regarding investments that will maximize their expected rate of return. The paper is organized as follows. In Section 2, literature pertaining to investors and financial advisor is reviewed. Section 3 provides the objectives and methodology of the study, while Section 4 delineates analysis and interpretation of the data and results. Finally, Section 5 highlights the summary, conclusion and limitations of the study.

Review of Literature

The wide variety of literatures both of academic and non-academic nature are available on the different aspects of the topic discussed in the paper. However, only few major literatures have been covered here to provide a comprehensive idea about the research trends on the different dimensions of current research. Investors' trading activity is often associated with price impacts in general and volatility of stock prices in particular.

Chan and Lakonishok (1995) find that less patient asset managers with higher turnover rates incur larger price impacts. The traditional explanations for the volume-volatility relation are a mixture of distribution hypothesis (Epps and Epps, 1976 and Harris, 1986), asymmetric information (Admati and Pfleider, 1988) and differences in opinion (Varian, 1985; Harris and Raviv, 1993).

Ippolito (1992) and Bogle(1992) have reported that fund selection by investors is based on past performance of the funds, and money flows into winning funds. Harlow and Brown (1990) found that women tend to take less risk than men in case of investment. Women are less likely to invest in riskier but high return assets tham men(McDonald, 1997). Recent studies yield that males and females are equally succesful in taking decisions under condition of risk (Charness and Gneezy, 2004).

Many studies have found similar level of performance for women-owned business as those which are owned by men (Kalleberg and Leicht, 1991). Schubert (2000) in his study found that women are more risk averse than men in domain of gain, while men are more risk averse than women in the frame of loss domain. Women fund managers hold portfoloios which are marginally riskier than those onf men, and their returns also outperform those of men (Bliss and Potter, 2001).

Review of literature also suggests that there are certain other factors like risk tolerance (Riley and Chow, 1992), aversion to realized lossess (Fama and French, 1992), investors confusion (Shefrin and Statman, 1995) also affect individual's investment decision.

Objectives of the Study

The study has the following objectives:

- To analyze the profile of the salaried class investors.
- To analyze the expected rate of return on their investment.
- To analyze the significance difference among the age groups in the average expected rate of return on their investment.
- To analyze the significance difference between male and female investors in the expected rate of return on there investment.
- To analyze the difference among the educational qualification in the average expected rate of return on their investment.
- To analyze the significant difference among the monthly income groups in the average expected rate of return on their investments.
- To analyze the significant difference among the monthly investments in the average expected rate of return on their investments.
- To analyze the significant difference between public and private sector investors in the expected rate of return on there investment.

Research Methodology

This section deals with the testing of hypothesis by using appropriate statistical tools. For the purpose of analyzing responses gathered data we have employed ***SPSS (15.0)*** for Windows. The study employs primary data collected by communicating with the respondents with the help of a structured questionnaire. The data was collected on a combination of simple random and judgment sample of 150 educated and salaried class individual investors. The survey was conducted during December 2007 to February 2008 in Delhi and NCR. The Statistical tool used in the study is ***ANOVA*** and ***t - test***.

Result & Analysis

This section deals with testing of hypothesis by using appropriate statistical tools. The total numbers of responses were 150. Out of 150 respondents 127 (84.7%) were males and 23 (15.3%) were females. Education - wise, 15 were graduates, 106 post graduates and 29 professionals. Profession - wise, 27 (18%) work in public sector and 123 (82%) working in private sector. Working Labels - wise, 3 (2%) at clerical label, 88 (58.7%) at managerial label, 38 (25.3%) are professionals, 6 (4%) teachers and 15 (10%) were others. Income - wise, 32 (21.3%) were in the income group of Rs.5000 – Rs.10000 monthly, 67 (44.7%) were in the monthly income group of Rs.10000 - Rs.20000 and 51 (34%) were in the monthly income group of Rs.20000 and above. Table 1 below gives summary of the demographic details of the respondents.

Table 1: Demographic Profile of the Respondents

	Number	**Percentage (%)**
Gender		
Male	127	84.7
Female	23	15.3
Education		
Graduates	15	10
Post Grduates	106	70.7
Professionals	29	19.3
Working Label		

Clerical	3	2
Managerial	88	58.7
Professional	38	25.3
Teachers	6	4
Others	15	10
Monthly Income		
Rs. 5000- Rs. 10,000	32	21.3
Rs. 10,000- Rs. 20,000	67	44.7
Above Rs. 20,000	51	34
Age (in Years)		
21-30	72	48
31-40	23	15.3
41-50	34	22.7
Above 50	21	14

The respodents were asked to give their choice of investments for various investment avenues, monthly amount invested and their expected rate of return are presented in Table 2.

Table 2: Investment Decision

	Number	Percentage (%)
Investment Choice		
Insurance	30	20
Stock Market	57	38
Mutual Fund	34	23
Post Office	6	4
Bank Deposit	15	10
Others	8	5
Monthly Amount Invested		
Below Rs. 3000	54	36
Rs.3000-Rs. 6000	73	49
Rs.6000-Rs.9000	14	9
Above Rs.9000	9	6
Expected Rate of Return		
Below 9 %	18	12
9-10 %	25	17
11-12%	31	21
13-14 %	41	27
15% and Above	35	23

The result reveals that maximum investors are likely to invest in Stock Market and Mutual Fund. The result also shows that 48.7% investors are investing Rs.3000- Rs 6000 to increase their earnings with an expected return between 9% to 12%.

Age and Expected Rate of Return

Age of investors influence the investors to expect a particular rate of return. The role of age of investors with respect to expected rate of return was analysed and the relevant particulars are presented in the Table 3 and 4.

Table 3: Age and Expected Rate of Return

Age	Return					Total
	Below 9%	9 – 10%	11 - 12%	13 - 14%	15% & above	
21 - 30	12	9	3	22	26	72
31 - 40	0	7	13	0	3	23
41 - 50	0	9	0	19	6	34
above 51	6	0	15	0	0	21
Total	18	25	31	41	35	150

H_0: there is no significance difference among the age groups in the average expected rate of return on their investment.

H_1: there is a significance difference among the age groups in the average expected rate of return on their investment.

Table 4: ANOVA

	Sum of Squares	DF	Mean Square	F	Sig.
Between Groups	3.822	3	1.274	.797	.08
Within Groups	233.517	146	1.599		
Total	237.339	149			

One way ANOVA is applied to find whether there is any significance difference among the age group in the average expected rate of return on investment. The ANOVA result shows that the calculated F ratio value is 0.797 and significance is .08 which is greater than the p-value of 0.05, and hence the hypothesis is accepted. Hence there is no significance difference among the age groups in the average expected rate of return on their investment.

Gender and Expected Rate of Return

Gender influences the expected rate of return. A general opiniobn is that men expect a higher return then women. An analysis is made to find out whether the men and women show any significant association in expected treturn on investment in the Table 5.

Table 5: Gender and Expected Rate of Return

		Return					Total
		Below 9%	9 – 10%	11 - 12%	13 - 14%	15% & Above	
Gender	**Male**	12	22	23	41	29	127
	Female	6	3	8	0	6	23
Total		18	25	31	41	35	150

From the above table it is ascertained that 18 percent male and 34 percent female investors expected 11-12 percent of return on their investment and 22.8 percent male and 26 percent females expect rate of return above 15 percent. The t test is applied to find whether there is significant difference betwwen males and females in their expected rate of return. The calculated t value is .845, which is less than the table value of 1.96 at 5% level of significance. Since, the calculated value is less than the table value it is concluded that there is no significant difference between the males and females in the expected rate of return on their investments.

Education and Expected Rate of Return

To test whether education level affects the expected rate of return in making choice of investments, ANOVA is applied. The results of the test are given in Tables 6 and 7. The result shows that the calculated F ratio value is .266 and significance is .531 which is greater than the tabulated value of .05 and hence the hypothesis is accepted. Hence there is no difference among the educational qualification and the average expected rate of return on their investment of an investor.

Table 6: Education and Expected Rate of Return

		Return					Total
		below 9%	**9 - 10%**	**11 - 12%**	**13 - 14%**	**above 15%**	
Education	**Graduate**	6	3	3	3	0	15
	Post - graduate	12	16	20	38	20	106
	Professional	0	6	8	0	15	29
Total		18	25	31	41	35	150

Table 7: ANOVA

	Sum of Squares	**DF**	**Mean Square**	**F**	**Sig.**
Between Groups	.850	2	.425	.266	.531
Within Groups	234.915	147	1.598		
Total	235.765	149			

Monthly Income and Expected Rate of Return

To test whether Monthly Income affects the expected rate of return, ANOVA is applied. The results of the test are given in Table 8 and 9. The results show that that the calculated F ratio value is 0.600 and significance is .550 which is greater than p value of .05 so the hypothesis is accepted. Hence there is no significant difference among the monthly income groups in the average expected rate of return on their investments.

Table 8: Monthly Income and Expected Rate of Return

		Return					Total
		Below 9%	9 - 10%	11 - 12%	13 - 14%	Above 15%	
Income	10 000 - 15 000	0	0	26	6	0	32
	15 000 - 20 000	12	12	0	19	24	67
	Above 20 000	6	13	5	16	11	51
Total		18	25	31	41	35	150

Table 9: ANOVA

	Sum of Squares	DF	Mean Square	F	Sig.
Between Groups	2.115	2	1.058	.600	.550
Within Groups	259.218	147	1.763		
Total	261.333	149			

Monthly Investment and Expected Rate of Return

To test whether Monthly Investment affects the expected rate of return, ANOVA is applied. The results of the test are given in Table 10 and 11. The result shows that the calculated F ratio value is.106 and significance is .125 which is greater than the tabulated value of .05 and hence the hypothesis is accepted. Hence, there is no significant difference among the monthly investments in the average expected rate of return on their investments.

Table 10: Monthly Investment and Expected Rate of Return

		Return					Total
		below 9%	9 – 10%	11- 12%	13 - 14%	Above 15%	
Investment	below 3000	6	3	8	16	21	54
	3000 - 6000	12	13	15	22	11	73
	6000 - 9000	0	6	8	0	0	14
	above 9000	0	3	0	3	3	9
Total		18	25	31	41	35	150

Table 11: ANOVA

	Sum of Squares	DF	Mean Square	F	Sig.
Between Groups	.516	3	.172	.106	.125
Within Groups	236.517	146	1.620		
Total	237.033	149			

Working Sector and Expected Rate of Return

To test whether working sector affects the expected rate of return, ANOVA is applied. The results of the test are given in Table 12 and 13. The results show that the calculated F - ratio value is.659and significance is 0.564 which is greater than the tabulated value of .05 and hence the hypothesis is accepted. Hence, there is no significant difference among the monthly investments in the average expected rate of return on their investments.

Table 12: Working Sector and Expected Rate of Return

		Return					Total
		below 9%	9 - 10%	11- 12%	13 - 14%	above 15%	
Working Sector	**Public**	12	12	0	3	0	27
	Private	6	13	31	38	35	123
Total		18	25	31	41	35	150

Table 13: ANOVA

	Sum of Squares	DF	Mean Square	F	Sig.
Between Groups	2.324	2	1.162	.659	.564
Within Groups	259.218	147	1.763		
Total	261.542	149			

Conclusion

As the data suggests people who mostly invest in the market are service class person who don't have enough time to keep continuous watch on the market fluctuation, they need regular assistance from their relationship manager who is assigned to them. Therefore, every company is suggested to enforce their relationship managers to stay in contact with their clients. There is no significance difference among the age groups in the average expected rate of return on their investment. Furthermore, there is no significance difference between male and female investors in the expected rate of return on there investment. There is no difference among the educational qualification in the average expected rate of return on their investment. Moreover, there is a significant difference among the monthly income groups in

the average expected rate of return on their investments. There is no significant difference among the monthly investments in the average expected rate of return on their investments. There is no significance difference between government and private sector investors in the expected rate of return on their investment. The study has a special relevance for the financial advisors and consultants. The insight of how an investment is chosen on the basis of expected rate of return gets affected by demographic variables, which helps to advise the clients better. The clients on the other hand, are being advised to make investment that suits their profile. The present study expected to improve the mutual trust between the advisor and his clients. In spite of the bleak and grim outlook, the future of capital market it is growing at a very high pace. Taking this things into consideration there are lots of opportunity for the broker house which already exist and which are ready to enter into the Indian capital market. There is little awareness regarding equity and mutual funds among the Indian investors. As people entered in this particular investment avenue they lost there money due to fluctuations in the market which is below the par value and consequently this has shaken the faith of investor in this particular avenue. In addition to these factors, there are some other factors such as poor performance of different sectors and the regular scams happening in the capital, which reduces the faith in Indian capital market. Once the investor know about the benefit offered by it, capital market will become one the sought after investment avenue. It is however emphasized that the capital market should have a strong marketing strategy to avail the quick service and forms availability to the investors in a short notice rather keeping the traditional base of marketing which is a price sensitive. Besides these facts, the study reveals that most of the respondents in this study are male who have invested their money in the market and expected for better returns as the Indian capital market is still a male dominated sector.

However, the present study is not free from *limitations*. First, the sample size is limited to 150 educated and salaried class individual investors in Delhi and NCR, which may not adequately represent the national market. Second, we have undertaken the random sampling and judgment sampling technique due to time and financial constraints. Finally, the study does not consider movements of stock market which has an impact in investor's decision.

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Impact of Industrialization on the Well Being of the Rehabilitants: An Empirical Study

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Abstract

Based on the data from an ICSSR Sponsored Research Project on 'Assessment of Impact of Industrialization on the Rehabilitants of Haldia and Formulation of Future Rehabilitation Strategy' conducted between February, 2011 and April, 2012, by the author, this paper argues that industrialization in Haldia and Durgapur is able to increase the well being of the majority of the respondents of the rehabilitation colonies.

Key words: *Industrialization, Investors' Destination, Compensation, Rehabilitation.*

Introduction

In our country, at present, industrialization is considered as a major component of development and poverty reduction after sustained squeezing of agriculture. Both the Central and the State Governments has recognized the role of industrialization for achieving higher growth of national income and reduction of poverty. But the greatest hurdle of industrialization in India is unavailability of proper land. Industrialization is absolutely essential but it cannot be pulled out of thin air. Industrialization involves not only building up factories but also of infrastructure, roads, bridges, seaports, airports, townships, shopping malls and entertainment centres for the emerging professional class. No investor would consider investing in the state if the basic infrastructure is not available. A recent review shows that almost seventy per cent of industrial project is delayed due to land acquisition problem. The economy and society have not been able to cope with the increasing relative scarcity of land because of various reasons. Out of them the most important is there is a general belief in common mass that those who suffer due to land acquisition will not be adequately compensated or rehabilitated. During the course of land acquisition, the son of the soil becomes minority in their own land after losing their houses, land and economic activities. They are losing everything in lieu of mere compensation, even not enough to carry on any future profession. Industrialization is essential but at the same time we should not forget the responsibility and accountability in implementing industrialization.

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The land-industry controversy remains one of the most vexed issues in the country and in the state as the decade turns. Every state has to acquire land for encouragement of private investment but in most cases fails to face the issue of affected people's improvement, food security and the right to a life with dignity. Expectations, uncertainties and protests related to land acquisition on the part of the displaced have become the most significant bottleneck for investment. The Indira Sagar Pariyojana (ISP) is one of several large dams being built on the river Narmada in Madhya Pradesh. According to the government estimates made during the time of dam construction, the ISP was to submerge 248 villages and one town named Harsud and displaces 80,572 people. The living standard of people has deteriorated as incomes of most families have fallen by more than half as compared to the pre-displacement years. Sharma (2005) reported absence of a rehabilitation plan, inadequate compensation, and loss of livelihoods and lack of alternative employment.

Overview of Literature

There is no dearth of availability of literature on the subject of industrialization and its possible impact especially on the Indian context with special reference to West Bengal. Scattered materials relating to Haldia's industrialization are available. In spite of best effort we hardly found any book or comprehensive research work on this topic. The following books have been primarily consulted and used.

P.K.Dasgupta (1978) has thoroughly investigated the impact of industrialization on the tribes of South Bihar. The author critically assesses the social problems faced by the Ethnic groups, Minorities, Tribes, etc. in his book entitled 'Impact of industrialization on a Tribe in South Bihar'. In the same spirit, A.K.Das (1962) has tried to give an idea on the changing pattern of life of the tribes of West Bengal affected by the industrialization in the book captioned 'Impact of industrialization on the life of the tribes of West Bengal'. Sukumar Banerjee (1981) dealt with the impact of industrialization on the tribal population of Jharia-Raniganj Coal Field Areas and also the social problems, ethnic group and minorities in that particular locality. M.M.P.Sinha (1980) has discussed on urban sociology and land use in Patna due to urbanization in Patna, Bihar. J.F. Balsara (1964) had detected the problems faced by the Indian society due to rapid urbanization in his book "Problems of Rapid Urbanization in India". He also suggested some remedial measures that could be adopted to tackle such problems.

M.R. Chowdhury (1977) has vividly discussed the industrialization process in India and he has successfully correlated the process of industrialization with urbanization in the book captioned "Industrialization & Urbanization in India". K.L. Gupta (1989) has discussed on the industrialization process and employment situation in the developing countries. According to his opinion, there should be a balanced approach between industrialization and employment. E.J. Hobsbawn (1968) in his book "Industry & Empire" has emphasized on the need of industrialization and he has also suggested the way how industrialization creates the resources of a country.

H.E. Hoelscher and M.C. Hawk (1969) in their book "Industrialization and Development" elaborately discussed the relation between industrialization and development. Moreover, they emphasized on the industrialization for the development of a country. In the same spirit Ray Kiely (1998) gives an idea about the mutual relationship between industrialization and development. K.M.Kapadia (1972) has observed the industrialization process in Atul-Bulsar Region and its impact on the rural society. He has also noticed the changes in attitudes of rural people due to industrialization. A.B. Mountjoy (1982) had expressed his scholastic view

towards industrialization process initiated in various developing countries in the book captioned "Industrialization & Developing Countries". He has also given an idea about the social transformation process of the developing countries due to industrialization.

S.Y. Thakur (1985) gives an idea about the role of industrialization in the development of an economy in the book entitled "Industrialization & Economic Development". He also proposed for the acceptance of some strategies by the developing nations. W.F. Whyte (1946) in his book "Industry & Society" focuses on the issues of reciprocal relationship between social order and industrialization in general. H.B. Newbold (1942) has identified the rapid changing rural life styles due to industrialization in the book "Industry & Rural Life". He has also pointed out the conflicts arising due to industrialization in rural lives.

Biswanath Ray (1996) had vividly discussed the socio-economic transformation in India in last few decades in the book captioned "Socio- Economic transformation in India". He has also raised some questions on the transformation process due to industrialization. R.K.Ray (1979) has pointed out the increasing role of private corporate sector in the industrialization process of India in the book entitled "Industrialization in India: Growth & Conflict in the Pvt. Corporate Sector".

Kuntala Lahiri-Dutt, Radhika Krishnan, Nesar Ahmad (2012) in their article "Land Acquisition and Dispossession Private Coal Companies in Jharkhand" have presented an investigation into strategies employed by privately-owned companies to gain access to land for resource extraction in Jharkhand where much of the land being put under the shovel is inalienable '*adivasi*' or 'tribal' land and deedless commons. They concluded that although policy reforms are welcome, cosmetic changes in mineral governance laws are inadequate to protect the interests of the poor. They suggested for an alternative vision, a complete overhaul of mineral ownership to allow the poor to share the revenue benefits.

Background of the Study

Once obscure in rural cluster, called Haldia in erstwhile undivided Medinipur District some 120 kilometers away from Kolkata, transformed to an industrial area and became the destination for a large number of industrialists within a span of 40 years. Active facilitation from the Government of West Bengal has accelerated the process of industrialization in Haldia. The industrialization process has tried to transform the hitherto rural economy to a modern, vibrant industrial economy with extended opportunities for livelihood to a large section of stakeholder class. Increased educational facilities, enhanced infrastructure, improved health care system, increased economic opportunities with an uninterrupted supply of low cost skilled and unskilled labour have made Haldia as the 'investor's destination' particularly in the 90's. Till the first half of the 20th Century the name of Haldia was totally unknown to the outer world. Historical evidences prove that the place was under water and it has emerged from the Bay of Bengal in the last part of the 19th century. Gradually, people from adjoining areas came and settled there. Agriculture and fishing was their livelihood. With the establishment of the Haldia Port in 1972, a large number of core industries promoted by leading corporate houses came up and is called today the "Haldia Industrial Region" having an area of 326 square kilometers. Haldia's exciting prospects, industrial base, infrastructural facilities, transportation linkage make this region a good choice for further growth of industries. Within a span of 40 years an obscure rural pasture oblique by the traditional agriculture and fishery became an urban expansion with the aid of industrialization.

Haldia's 40 years of journey towards industrialization has accompanied by huge number of people who became victims of land acquisition for the industrial process. In Haldia, land acquisition process started in the year 1959 when the government acquired 9,000 acres of land for the introduction of Port Complex Project. In this process, more than 12,000 peoples of 68 villages were affected and uprooted after getting mere compensation. Some of them, after getting small amount of compensation, left Haldia and moved towards an unknown address with the expectation of better life. The rests preferred to take shelter in the rehabilitation centers, with a hope of getting some meaningful livelihood in the industrialization process. In last 40 years, 10 rehabilitation colonies have been set up to provide more than 4,800 families who have sacrificed their homestead and land for providing place to industries. The evictees after losing their ancestral occupations, land and houses were forced to take shelter in the rehabilitation colonies. The rehabilitants started a new phase of life in the rehabilitation colonies in Haldia. Since Haldia Industrial Region was predominantly rural, industrialization creates huge changes on the socio-economic life of its people. Industrialization not only changes the economic activities but also changes habit, customs, behavior as well as social status of the rehabilitants. With the passage of time, industrialization starts playing a more important role on the socio-economic life of the rehabilitants. Thus habit, customs, culture, living style intermingles with economy and commerce and undergoes a revolutionary change.

In West-Bengal, Durgapur is another industrial center where Durgapur Steel Plant has been constructed over the sacrificed land of the evictees. Industrialization has created huge impact on the evicted people of Durgapur. In comparison with Durgapur, the problem of rehabilitation in Haldia is far wide and has become complicated. After independence, the Government of India and all the State Governments went on rapid industrial development throughout the country. In these days Durgapur was projected as an ideal place for industrialization for some favourable reasons, such as availability of land, electricity, raw materials, transportation etc. Since 1960, number of industries like DSP, ASP and MAMC etc. were established here and marked the name of Durgapur as a promising industrial centre. It is a notable fact that in Durgapur, there was enough barren land which was acquired for industries without affecting huge number of people. In the year 1957, when Durgapur Steal Plant (DSP) was proposed to be established, 16,225 acres of land were acquired that affected 1,953 families of 15 villages. 5,735 acres of land was required for construction of factory and 10490 acres for construction of township. The evictees were provided with new settlements in three colonies named Gopalmath (966 families), Benachity (825 families) and Dhandabag (162 families).

Objectives of the Study

The industrialization process which was initiated earlier with the commissioning of a sea-port in Haldia has received a progressive surge after 1990. Industrialization of this area expedites the process of development. In Durgapur also industrialization process has accelerated the process of development. During the last four decades, commercial activity of the rehabilitants in these areas has dramatically changed. To be more precise, there are some positive indications of upward movement in terms of income, employment opportunity, education and basic amenities of life. Briefly, it may be said that there has been an improvement in the quality of life. On the other hand, they became landless because vast area of land covering agriculture, residences, fisheries, pasture, etc. was acquired and converted into industrial zone. Naturally, the ancestral livelihood of the large number of inhabitants have already vanished and have gradually been substituted by different types of occupations related

directly or indirectly with the process of establishment of industries from time to time. Under the above perspective, the study has been designed to assess the impact of industrialization on the rehabilitants in the above two areas by analyzing the Well Being Index before and after displacement.

Methodology of the Study

In order to address the broad objectives, in the initial stage the study has examined the theoretical understanding of the process. After thorough literature survey and consulting books and journals relevant to this topic, the study has formulated the theoretical aspect of industrialization and rehabilitation. In the next stage in order to empirically examining the objectives of the study, a survey has been conducted among the selected respondents of the rehabilitation colonies of Haldia and Durgapur. The survey has been undertaken through a structured and guided enquiry schedule. A uniform five per cent of sample has been drawn from each colony following the method of Simple Random Sampling Without Replacement using random number series. In this study the total number of respondents are 344 out of which 244 respondents have been chosen from 10 colonies of Haldia and 100 respondents has been chosen from 3 colonies of Durgapur. Data has been collected from the respondents in relation to occupation pattern, per capita income & expenditure, access to educational facilities, access to health care, facilities of potable water and sanitation etc. For base year information, data has been collected from the respondents and other secondary sources available for the period of 1970s and 1980s. A comparative analysis has been made between data collected from Haldia and Durgapur. In order to assess the impact of industrialization by acquisition of land upon the evictees, we have constructed a Well Being Index of the evictees on the basis of field data. The Index is developed by the methodology of Human Development Index (HDI) as constructed by the UNDP. Following this we have used level of education of head of the families, income level and access to health care facilities for both pre and post acquisition period as components of our Well Being Index. In this regard, we have calculated dimension indices using the following formula:

$$\text{Dimension Index} = \frac{(Actual - Minimum\ Value)}{(Maximum - Minimum\ Value)}$$

In case of health related data, we have used access to health and sanitation facilities as proxy variable for health related index. Using this we have developed a composite sub index for health. In case if income, we have collected monthly income of the families and by dividing them with the number of family members we have developed per capita income of the respondents. Then we have developed sub index by using suitable natural logarithm for both levels. For Composite Well Being Index at Pre and Post acquisition period we have used the following formula.

i) Education Sub –Index (ESI) = $\frac{(Actual\ Value - 0)}{(100 - 0)}$

ii) Health Sub-index (HIS)= Access to Health + Access to Sanitation Facilities

$$= \frac{(Actual - Minimum\ Value)}{(Maximum - Minimum\ Value)} + \frac{(Actual - Minimum\ Value)}{(Maximum - Minimum\ Value)}$$

For income we used monthly income of families. By dividing them with the number of family members we have developed per capita income of the respondents. Then we have developed sub index by using suitable natural logarithm for both levels. We have given equal

weight to the constructors as education, income and health care are the most important factors for human subsistence.

Normalized value of Access to sanitation = $\frac{(Actual-Minimum Value)}{(Maximum-Minimum Value)}$

Normalized value of $Distance\ of\ the\ house\ from\ hospital,nursing\ home,PHC$ = $\frac{(Actual-Minimum Value)}{(Maximum-Minimum Value)}$

Health Sub Index (HIS) = $\frac{(Access\ to\ Sanitation)+(Distance\ of\ the\ house\ from\ hospital nursing\ home PHC)}{2}$

Normalized value of Income Sub Index (ISI) = $\frac{(Actual-Minimum Value)}{(Maximum-Minimum Value)}$

Well Being Index (WBI) = $\frac{(ESI+HSI+ISI)}{3}$

We have given equal weight to the constructors as education, income and health care because these are the most important factors for human subsistence. To consider different views regarding the issue of industrialization and displacement, there was some discussion with the industry representatives, local administrators, beneficiary groups and officials of different government agencies. For undertaking this type of statistical analysis and data processing Microsoft Excel and SPSS has been used. The following two tables depicts the rehabilitation colonies of Haldia and Durgapur with year of formation, total number of population, number of sample taken, etc.

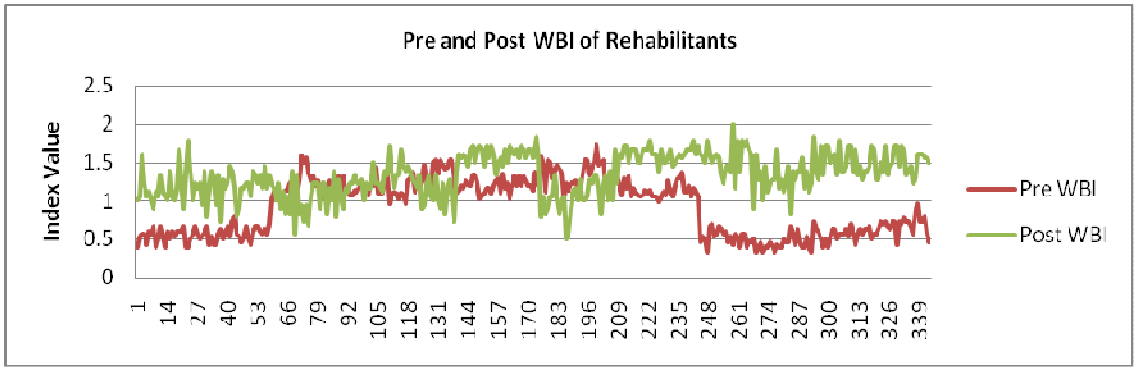
Analysis of Well Being Index

Agriculture and fishery was the major source of income for the rehabilitants before displacement in both the areas. At present salary or wages is the major source income for the respondents in both the areas. Some of them are engaged in the factories or offices and are working as skilled/semi skilled workers or office staff. Some people are doing business directly or indirectly associated with the industries. The percentage of agriculturists and fishermen has been reduced drastically which signifies the changing pattern of livelihoods of the rehabilitants due to industrialization.

At present, monthly income of majority of the respondents is between Rs. 3001 to Rs. 7000. This is possible because of greater employment opportunities in secondary and tertiary sector for the people of the adjacent areas. Nearly 22% of the respondents in Haldia and 26% of the respondents in Durgapur falls in the income group of Rs. 7000 and above.

Industrialization has changed the occupational pattern of the rehabilitants. Industrialization has opened up an array of new occupations to the displaced people. It is a never denying fact that the people who have uprooted overnight are mainly rural people. So they had not enough skill and knowledge required for the industrial jobs. But with the passage of time the people have tried to adjust themselves with the requirement of the industries. The distribution of WBI in the pre and post displacement period has been shown in the following figure

Figure 1
Compound Bar Diagram showing Well Being Index in pre & post displacement era



It is noteworthy in this respect that from sample 1 to 244 has been collected from Haldia and the rest from Durgapur. It has been found that the Average Value of Pre WBI is 0.918014 and Post WBI is 1.33301. It is very much evident from the figure that in most cases there has been some positive indication on the well being of the people due to industrialization. The amount of compensation that was offered to the evictees was mere, which could not able to compensate their losses. Otherwise the difference of WBI between pre and post displacement era would be much more than what has been found. It is noteworthy in this respect that WBI has been increased by a large amount in case of the respondents who has been evicted from their land particularly during pre seventies. Industrialization has created a huge positive impact on the well being of the evictees.

In Haldia and Durgapur, in the initial stage of industrialization, land has been acquired for setting up of industries like Haldia Port Complex, Indian Oil Corporation and Durgapur Steel Plant. At the time of land acquisition the socio-economic condition of the evictees was very poor. They have very limited scope of economic opportunities and the facilities of education and health care were very limited. Industrialization in these two places has created a lot of employment opportunities for them and the education and health care facilities have improved a lot. That is why WBI has been improved by a good margin. WBI has been decreased in the case of particularly three rehabilitation colonies namely Khudiramnagar HDA colony, Khudiramnagar Phalguny Block Debhog colony and Geonkhali colony. It is interesting to note that all the three colonies were established during the period of 1992-2002. The study has also found that index has been decreased in particularly three colonies namely Geonkhali, Debhog and Khudiramnagar. The people, in three colonies were displaced during 1992-2000 when they were staying comfortably in the heart of Haldia. They were getting the benefits from industrialization through different types of jobs and they could avail the benefits of developing city life. But when they were rehabilitated in the colonies located in the outskirts of Haldia, they lost the opportunities of getting easily available jobs in the industries. At the same time they had to face a completely new environment in the colonies. Unfortunately they were evicted at the time when Haldia was in the path of progress. The saddest thing is that those city dwellers were shifted to the outskirts of Haldia. It is noteworthy in this respect that compensation offered to the displaced was inadequate in terms of the amount of compensation and considering inflation rate. The amount of compensation was so mere that the evictees were not able to raise their standard of living on the contrary their standard of living was relegated to a lower level. Eventually their standard of living had a drastic fall. The following table shows the derived value of Well Being Index, Standard Deviation and Skewness of the WBI.

Table 1
Temporal Evaluation of Statistical Indices

Parameter	Pre Displacement	Post Displacement
Well Being Index	0.918014	1.33301
Standard Deviation	0.358657	0.280341
Skewness	0.007016	-0.33261

The Standard Deviation of WBI in pre displacement period is found to be 0.358657 and post WBI is found to be 0.280341. It has been found that the value has been decreased which is a very good sign. It reveals inequalities in the three dimensions used in this study among the evictees have reduced in post accusation period. In order to get a more specific outlook in the later stage the skewness of the WBI has been done. Skewness is used to denote the extent of asymmetry in the data. When the frequency distribution is not symmetrical, it is said to be 'skew'. Skewness literally denotes 'asymmetry' or 'lack of symmetry', and 'skew' denotes 'assymmetrical'. In case of symmetrical distribution the value of skewness is zero. This implies equal mean median and mode. In case of positive skewness (Mean>Median>Mode) and for negative skewness (Mean<Median<Mode). The value of skewness of WBI in the pre displacement period is 0.007016 and in the Post displacement period is -0.33261. It has been observed that in the pre displacement period the value is 0.007016 which signifies that the value of mode is higher than median and mean. It signifies that most of the respondents are corresponding to the lower values of the Well Being Index. In the post displacement period, the value is -0.33261 which signifies that the value of mean is higher than median or mode. It means that most of the respondents are corresponding to the higher values of the WBI. This clearly signifies that industrialization has created a lot of positive impact on the well being of the most of the rehabilitants. Industrialization directly and indirectly influences changes in employment and income opportunities in the colonies. In most cases such changes constitute a permanent change in the employment and income profile of the community. Assessing these types of changes is an important component of social impact analysis because growth in employment places additional demands on community services and resources.

Conclusion

Industrialization in Haldia and Durgapur has been able to achieve a stirring growth in manufacturing sector and this has led to an increase in employment and income generation process of these areas. In the near future more land will be required in Haldia and Durgapur for setting up of industries and creation of infrastructure and eventually some people will be displaced. The people who will be evicted are mostly farmers including landless agricultural workers all of whom will lose their sources of income as well as homestead lands. It is true that they will get compensation. But adjustment to new type of life will be difficult for them, specifically for the people in higher age groups, say beyond 40/45 years, who will find themselves ill-equipped to cope with an altered lifestyle. The younger people are likely to opt for the jobs offered by the industries. Technical training including basic educational programmes has to be formulated to make them suitable for such jobs. For the old people, it may be necessary to offer opportunities for primary sector activities, such as animal husbandry, setting up of poultry, pisciculture, etc. It is expected that a detailed survey will be done among the possible evicted families in the near future to find out their qualifications and aptitudes for future jobs. Simultaneously, the need of skilled, semi-skilled and unskilled

labour force for the proposed industries are to be ascertained so that an adequate training programme could be evolved to train the older people in primary sector activities. The rest may be provided opportunities in establishing commercial and service facilities for which necessary bank loan and orientation training are to be arranged. Another important thing is that the rehabilitation colonies must be located adjacent to the core industrial area so that the rehabilitants may get the opportunities of getting jobs within their adjacent areas. It will also be helpful for getting the facilities of basic amenities of life of a developed industrial area. Otherwise they may miss the socio-economic benefits created in the process of industrialization. Finally the study concludes that when there are so many instances in all over the country that land acquisition for industrialization has deteriorated the standard of living of the numerous evicted people, the case of Haldia and Durgapur may be considered as an exception where well being of living of most of the evictees were improved due to industrialization.

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